DRAFT

ENVIRONMENTAL IMPACT REPORT

GILMAN GATEWAY REZONE PROJECT

BERKELEY, CALIFORNIA

SCH# 2022120549



LSA

October 2024

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GILMAN GATEWAY REZONE PROJECT

BERKELEY, CALIFORNIA

SCH# 2022120549

Submitted to:

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/m^3	micrograms per cubic meter
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ACCWP	Alameda County Clean Water Program
ACM	asbestos-containing materials
Air Basin	San Francisco Bay Area Air Basin
APN	Assessor's Parcel Number
APS	Alternative Planning Strategy
ASTs	above-ground storage tanks
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Basin Plan	Water Quality Control Plan for the San Francisco Bay Basin
Bay	San Francisco Bay
BCE	Before Common Era
BenMAP	Environmental Benefits Mapping and Analysis Program
BMC	Berkeley Municipal Code
Bulletin 15	*Bulletin 15: How to Apply the National Register Criteria for Evaluation*
CAAQS	California Ambient Air Quality Standards
CAFE	corporate average fuel economy
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model version 2022.1
CalEPA	California Environmental Protection Agency
CALGreen Code	California Green Building Standards Code
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation

CAP	Climate Action Plan
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation program
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CE	Common Era
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
City	City of Berkeley
Clean Air Plan	BAAQMD's 2017 Bay Area Clean Air Plan
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COA	Conditions of Approval
CPUC	California Public Utilities Commission
CRE	Cultural Resources Evaluation
CUPA	Certified Unified Program Agency
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EBP	East Bay Plain
EIR	Environmental Impact Report
Emission Plan	Construction Emission Minimization Plan
EO	Executive Order
EOP	Emergency Operations Plan

ESA	Environmental Site Assessment
ESLs	Environmental Screening Levels
FCAA	federal Clean Air Act
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GSAs	groundwater sustainability agencies
GSPs	groundwater sustainability plans
GWh	gigawatt-hours
GWP	Global Warming Potential
HFCs	hydrofluorocarbons
HMBPs	Hazardous Materials Business Plans
HMTA	Hazardous Materials Transportation Act of 1975
HRA	Health Risk Assessment
HRAs	High-Resource Areas
HRE	Historical Resource Evaluation
I-80	Interstate 80
I-580	Interstate 580
Industrial General Permit	NPDES) General Permit for Stormwater Discharges Associated with Industrial Activities (Order 2014-0057-DWQ as amended by Order 2015-0122-DWQ)
kWh	kilowatt-hours
LBP	lead-based paint
LCFS	low carbon fuel standard
LHMP	Local Hazard Mitigation Plan
LID	low-impact development
LUST	leaking underground storage tank
MLD	Most Likely Descendant
MMT CO_2e	million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
MRP	San Francisco Bay Municipal Regional Stormwater Permit

MT CO_2e	metric tons of carbon dioxide equivalent
MTBE	methyl-tert-butyl-ether
MTC	Metropolitan Transportation Commission
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NAVD 88	North American Vertical Datum of 1988
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
O_3	ozone
OEHHA	State Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OU	operable unit
Pb	lead
PCBs	polychlorinated biphenyls
PCE	perchloroethylene
PDAs	Priority Development Areas
PFCS	perfluorocarbons
PG&E	Pacific Gas & Electric Company
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
POTW	publicly owned treatment works

PPAs	Priority Production Areas
PRC	Public Resources Code
project	Gilman Gateway Rezone Project
RCRA	Resource Conservation and Recovery Act of 1976
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	San Francisco Bay Regional Water Quality Control Board
SB	Senate Bill
SCA	Standard Conditions of Approval
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
T-BACTs	best available control technologies for toxics
TCE	trichloroethylene
TDM Plan	Transportation Demand Management Plan for the Gilman Gateway Rezone Project
TDS	total dissolved solids
TIUGA	tank(s) in an underground area
TMD	City of Berkeley Toxics Management Division
TMDL	total maximum daily load
TPH	total petroleum hydrocarbons
TRAs	Transit-Rich Areas
TSCA	Toxic Substances Control Act of 1976

UPRR	Union Pacific Railroad
USEPA	United States Environmental Protection Agency
USTs	underground storage tanks
VDECS	Verified Diesel Emission Control Strategies
VMT	vehicle miles traveled
WDRs	Waste Discharge Requirements
ZEV	zero-emission vehicle
ZNE	zero net energy

1.0 INTRODUCTION

This chapter provides an overview of the Gilman Gateway Rezone Project (herein referenced as the "proposed project"), and a conceptual project (herein referred to as the "Potential Berkeley Forge Development" or "conceptual development project"), outlines the purpose and scope of the Environmental Impact Report (EIR), and identifies the report's organizational structure. Implementation of the Gilman Gateway Rezone Project would facilitate the Potential Berkeley Forge Development; accordingly, this EIR evaluates the proposed project and the conceptual development project.

1.1 PROPOSED PROJECT

The proposed project evaluated in this EIR consists of the following.

1.1.1 Proposed Gilman Gateway Rezone Project

The City of Berkeley (City), as the lead agency for environmental review pursuant to the California Environmental Quality Act (CEQA) and the project proponent, proposes to adopt and implement the Gilman Gateway Rezone Project (proposed project). The 11.54-acre project site is composed of 18 parcels of developed land in West Berkeley, Alameda County. The proposed project would:

1. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

2. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the M-RD zoning district.

3. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD zoning district to the Manufacturing land use designation.

Implementation of the proposed amendments to the BMC, the Berkeley General Plan, and the West Berkeley Plan would facilitate future buildout of up to 1,005,266 square feet, on 11.54 acres, of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and associated development standards at a programmatic level.

1.1.2 Potential Berkeley Forge Development

In addition to the new M--RD zoning district, this EIR evaluates the Potential Berkeley Forge Development (conceptual development project) that could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses. No application for the conceptual development project has been received; however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in this EIR at the project level to the extent feasible.

The proposed zoning and General Plan amendments are subject to action by the City's Planning Commission and City Council. The conceptual development project would require discretionary permits and approvals, which are subject to action by the Zoning Adjustments Board and its Design Review Committee, pursuant to the BMC. Specific requirements would be determined once an application for the conceptual development project is received. The proposed project, including the conceptual development project, is fully described in Chapter 3.0, Project Description, of this EIR.

1.2 PURPOSE OF THIS EIR

In compliance with CEQA, this EIR describes the potential environmental impacts of the proposed project, which collectively includes the proposed new zoning district, rezoning, General Plan amendment, West Berkeley Plan amendment, and the reasonably foreseeable conceptual development project. This EIR is both a program EIR under *State CEQA Guidelines* Section 15168 and a project EIR under *State CEQA Guidelines* Section 15161.[1] A program EIR is an EIR that may be prepared on a series of actions that can be characterized as one large project and are related (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of continuing a program; or (4) as individual actions carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

Later activities in the program must be examined in light of the program EIR to determine whether an additional environmental document must be prepared. The conceptual development project is evaluated at a project level to the extent feasible, given that no formal application has been submitted and that project plans are not yet available. It is anticipated that once a formal application is submitted for the conceptual development project, the conceptual development project would be more fully evaluated in a subsequent environmental document that could tier from this program EIR, as appropriate. The appropriate level of environmental review will be determined at the time that the City receives a formal application.

The purpose of this EIR is to inform City decision-makers, responsible agencies, and the general public about the proposed project and the potential physical environmental consequences of project implementation. This EIR also examines alternatives to the proposed project and recommends mitigation measures to reduce or avoid potentially significant physical environmental impacts to the extent feasible. This EIR will be used as an informational document by the City's decision-makers, responsible agencies, and the public in their review of the proposed project and associated approvals described in more detail in Chapter 3.0, Project Description.

1.3 EIR SCOPE

The City circulated a Notice of Preparation (NOP) informing responsible and trustee agencies and interested parties that an EIR would be prepared for the proposed project and indicated the environmental topics anticipated to be addressed in the EIR. The NOP was published on December 21, 2022, and was mailed to public agencies, organizations, and individuals likely to be interested in the potential impacts of the proposed project. The NOP was also submitted to the

[1] California Environmental Quality Act (State CEQA) Guidelines, 2024. California Code of Regulations, Title 14, Division 6, Chapter 3.

State of California Governor's Office of Planning and Research (OPR). Scoping sessions were held as public hearings before the Planning Commission on February 1, 2023, and the Landmarks Preservation Commission on February 2, 2023, to solicit feedback regarding the scope and content of the EIR. Verbal comments received during the scoping session from the Planning Commission, Landmarks Preservation Commission, members of the public attending commission meetings, and the three written comment letters provided by agencies and organizations on the NOP were considered during preparation of this EIR. Copies of the NOP, the comment letters, and a summary of the verbal comments received are included in Appendix A.

Based on the preliminary analysis, consultation with City staff, and review of the comments received during the scoping process, the following environmental topics are addressed in Chapter 4.0, Setting, Impacts, and Mitigation Measures, of this EIR:

- 4.1, Land Use and Planning
- 4.2, Cultural Resources
- 4.3, Tribal Cultural Resources
- 4.4, Transportation
- 4.5, Air Quality
- 4.6, Greenhouse Gas Emissions
- 4.7, Energy
- 4.8, Noise
- 4.9, Hazards and Hazardous Materials
- 4.10, Hydrology and Water Quality
- 4.11, Biological Resources

It was determined that the following potential environmental effects of the proposed project would be less than significant or have no impact, and these topics are therefore "scoped out" and not studied further in full detail in this EIR: aesthetics, agricultural and forestry resources, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire. Each of these topic areas is summarized in Chapter 6.0, Other CEQA Considerations, of this EIR.

1.4 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- **Chapter 1.0, Introduction:** Provides a summary of the proposed project, discusses the overall purpose of the EIR, describes the EIR scope, and summarizes the organization of the EIR.

- **Chapter 2.0, Summary:** Provides a summary of the impacts that would result from implementation of the proposed project, describes mitigation measures recommended to reduce or avoid potentially significant environmental impacts, and describes the alternatives to the proposed project.

- **Chapter 3.0, Project Description:** Provides a description of the project site, project objectives, proposed project, and uses of this EIR.

- **Chapter 4.0, Setting, Impacts, and Mitigation Measures:** Describes the following for each technical environmental topic: existing conditions (setting), potential environmental impacts of the proposed project and their level of significance, and mitigation measures recommended to reduce or avoid identified potential impacts. Potential cumulative impacts are also addressed in each topical section. Potential adverse impacts are identified by levels of significance as significant impact, less than significant impact, less than significant with mitigation, and significant and unavoidable impact. The significance of each potential impact is categorized before and after implementation of any recommended mitigation measure(s).

- **Chapter 5.0, Alternatives:** Provides an evaluation of three alternatives to the project including: the CEQA-required no project alternative referred to as the No Action Alternative, a General Plan Compliant Alternative, and a Reduced Development Alternative.

- **Chapter 6.0, Other CEQA Considerations:** Provides an analysis of effects found not to be significant, growth-inducing impacts, unavoidable significant environmental impacts, and significant irreversible changes.

- **Chapter 7.0, Report Preparation:** Identifies preparers of the EIR and the references cited.

- **Appendices:** The following appendices are referenced in this Draft EIR and are available online at: https://aca.cityofberkeley.info/CitizenAccess/Default.aspx.

  Click on Zoning tab; enter permit number PLN2022-0079; select permit PLN2022-0079; click on the "Record Info" drop down menu; click on Attachments for a list of all project materials.

  - Appendix A: Notice of Preparation and Comment Letters
  - Appendix B: Cultural Resource Evaluation
  - Appendix C: Historical Resources Evaluation
  - Appendix D: Native American Heritage Commission Response Letter
  - Appendix E: Transportation Impact Analysis
  - Appendix F: CalEEMod Results
  - Appendix G: Health Risk Assessment
  - Appendix H: Energy Calculations
  - Appendix I: Noise Measurements
  - Appendix J: FHWA Noise Model
  - Appendix K: Water Supply Assessment

2.0 SUMMARY

This chapter provides an overview of the Gilman Gateway Rezone Project (herein referenced as the "proposed project") and the Potential Berkeley Forge Development (herein referenced as "conceptual development project") and discusses the findings identified in this Environmental Impact Report (EIR), prepared pursuant to the California Environmental Quality Act (CEQA), including a discussion of project alternatives and approach to cumulative impacts analysis.

2.1 PROJECT UNDER REVIEW

This Environmental Impact Report (EIR) has been prepared to evaluate the potential environmental consequences of implementation (i.e., construction and operation) of the Gilman Gateway Rezone Project and the Potential Berkeley Forge Development.

2.1.1 Proposed Gilman Gateway Rezone Project

The proposed Gilman Gateway Rezone Project (project), which would be adopted and implemented by the City of Berkeley (City) as both the lead agency under CEQA and project proponent and would:

a. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

b. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the newly established M-RD zoning district.

c. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation.

Implementation of the proposed amendments to the BMC, Berkeley General Plan, and West Berkeley Plan would facilitate future buildout of up to 1,005,266 square feet on an 11.54-acre site (the project site), of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and associated development standards at a programmatic-level.

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The project site includes one property, 1306 Third Street, that meets the criteria for listing in the California Register of Historical Places, meets the criteria for designation as a City of Berkeley Landmark, and meets the definition of an historical resource pursuant to *State CEQA Guidelines* Section 15064.5. Vegetation on the site is limited to sparse street and ornamental trees. Of the 18 parcels, 9 are associated with the former Pacific Steel Casting site and total 8.13 acres. The remaining parcels include five that are associated with the former Berkeley Forge and Tool, which total 1.94 acres, and four other parcels totaling 1.47 acres.

2.1.2 Potential Berkeley Forge Development

The Potential Berkeley Forge Development (conceptual development project), submitted by Spur Capital, LLC (project sponsor), would be facilitated by adoption and implementation of the Gilman Gateway Rezone Project. The Potential Berkeley Forge Development is a conceptual project that could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses.

The City has not received an application for the conceptual development project; however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in this EIR at the project level to the extent feasible.

2.2 POTENTIAL AREAS OF CONTROVERSY

A total of two commenters submitted written responses to the Notice of Preparation (NOP), in addition to the verbal comments received at the public scoping session held on February 1, 2023. The NOP, comments received, and as summary from the scoping session are included in Appendix A. Comments in response to the NOP generally identified the following areas of potential concern:

- Archaeological and tribal cultural resources (addressed in Section 4.2, Cultural Resources, and Section 4.3, Tribal Cultural Resources)
- Water supply and conservation (addressed in Section 4.9, Hydrology and Water Quality)
- Wastewater service capacity, recycled water infrastructure and service, and utilities improvements (addressed in Chapter 6.0, Other CEQA Considerations)
- Potential for contaminated soils or groundwater at the project site (addressed in Section 4.8, Hazard and Hazardous Materials and Section 4.9, Hydrology and Water Quality)

2.3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained in the Chapter 4, Setting, Impacts, and Mitigation Measures, of this EIR.

2.3.1 Significant Impacts

CEQA defines a significant impact on the environment 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." As discussed in more detail in Chapter 4.0 of this EIR, impacts in the following areas would be potentially significant, but would be reduced to a less than significant level with implementation of the mitigation measures recommended in this report:

- Cultural Resource (archaeological resources and human remains)
- Tribal Cultural Resources (tribal cultural resources)
- Transportation (transportation hazards and emergency access)
- Noise (operational noise)
- Hazards and Hazardous Materials (release of hazardous materials into the environment, significant hazard to the public or the environment due to listing on a hazardous materials sites compiled pursuant to Government Code §65962.5)
- Hydrology and Water Quality (surface and ground water quality, alteration of drainage patterns, risk release of pollutants due to project inundation, conflict with water quality control plan or sustainable groundwater management plan)
- Biological Resources (special status species)

Impacts related to Land Use and Planning would be less than significant and no mitigation measures would be required.

2.3.2 Significant Unavoidable Impacts

Implementation of the proposed project would result in the following significant and unavoidable impacts related to Cultural Resources, Air Quality, and Greenhouse Gas Emissions:

2.3.2.1 Cultural Resources

- **Historic Architectural Resources.** The proposed project would cause a substantial adverse change in the significance of a historic resource as defined in *State CEQA Guidelines* section 15064.5, because implementation of the proposed project would facilitate the demolition of the existing building at 1306 Third Street, which is eligible for listing as a City of Berkely landmark. (Impact CUL-1)

2.3.2.2 Air Quality

- **Project Construction Air Quality Emissions.** Construction associated with full buildout of the project site (proposed project) would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations with implementation of identified mitigation measures. However, construction associated with any future projects under the proposed project that would occur prior to demolition of the structure located at 1306 Third Street (a sensitive receptor), such as the conceptual development project, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. (Impact AIR-3a)
- **Project Operation Air Quality Emissions.** Operation of future projects at the project site, including the conceptual development project, may expose nearby sensitive receptors to

substantial pollutant concentrations associated with increased truck traffic and could result in potential health risks that would cumulatively contribute to elevated health risks in the city. (Impact AIR-3b)

2.3.2.3 Greenhouse Gas Emissions

- **Project Operation Greenhouse Gas Emissions.** If future development at the project site includes natural gas, the proposed project would be inconsistent with a greenhouse gas (GHG) reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). Inconsistency with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b) would result in a significant impact related to GHG emissions. (Impact GHG-1)

- **Inconsistency with Plans, Policies or Regulations Adopted for the Purpose of Reducing Greenhouse Gas Emissions.** If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets in Assembly Bill (AB) 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. As such, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. (Impact GHG-2)

2.3.3 Cumulative Impacts

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited, but cumulatively significant. These impacts can result from the proposed project when combined with other past, present, or reasonably foreseeable future projects. As described in Section 4.0 of this EIR, the cumulative impacts analysis in this EIR is based on information provided by the City on currently planned, approved, or proposed projects and regional projections for the area.

2.3.4 Alternatives to the Project

In accordance with CEQA and the *State CEQA Guidelines* (Section 15126.6), an EIR must describe a reasonable range of alternatives to the project, or to the project's location, that could attain most of the project's basic objectives while avoiding or substantially lessening any of the significantly adverse environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

The three alternatives to the proposed project discussed and analyzed in Chapter 5.0 of this EIR are:

- The **No Action Alternative** is a version of the "no project" alternative (CEQA Guidelines Section 15126.6(e)) that assumes the project site would remain unchanged from existing conditions. The existing buildings would not be demolished and would instead remain in place, unchanged from

existing conditions. The existing Manufacturing land use and zoning designations would remain, and the City of Berkeley General Plan and West Berkeley Area Plan would not be amended.

- The **General Plan Compliant Alternative** is a version of the "no project" alternative (*State CEQA Guidelines* Section 15126.6(e)) that assumes the project site would be redeveloped pursuant to the current land use and zoning designations. Implementation of the General Plan Compliant Alternative would allow for the development of approximately 1,005,365 square feet of manufacturing and industrial uses on the 11.54-acre project site. Under this alternative, the maximum height would be limited to 45 feet.

- The **Reduced Development Alternative** assumes the project site would be limited to the Pacific Steel Casting site, consistent with the City Council referral. The Pacific Steel Casting zoning boundary would include nine parcels totaling 354,317 square feet. These parcels are currently developed with 250,606 square feet of industrial buildings, the majority of which are vacant (see Table 3.A for details). This alternative would also require a minimum 100-foot buffer between any existing residential use and proposed new non-residential use, include surface parking lots or structures. Accordingly, future development on the project site would need to be setback from the existing building at 1306 Third Street. Focusing development on the Pacific Steel Casting site with a required buffer would reduce the overall buildout potential of the project site by 50 percent; resulting in up to 566,300 square feet of non-residential space and a minimum of 566 off-street automobile parking spaces.

2.4 SUMMARY TABLE

Information in Table 2.A, Summary of Impacts and Mitigation Measures from the EIR, has been organized to correspond with environmental issues discussed in Chapter 4. Table 2.A is arranged in four columns: (1) impacts, (2) level of significance without mitigation, (3) mitigation measures, and (4) level of significance with mitigation. Levels of significance are categorized as follows:

LTS	Less Than Significant
LTSM	Less Than Significant with Mitigation
S	Significant
SU	Significant Unavoidable

For a complete description of potential impacts and recommended mitigation measures, please refer to the specific topical discussions in Chapter 4.

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Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
4.1: LAND USE AND PLANNING						
Impact LU-1: The proposed project, including the conceptual development project, would not physically divide an established community.	LTS	No mitigation required.	-	-	-	-
Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.	LTS	No mitigation required.	-	-	-	-
4.2: CULTURAL RESOURCES						
Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 as implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to CEQA Guidelines Section 15064.5.	S	**Mitigation Measure CUL-1: Documentation.** Prior to the issuance of a demolition permit for the existing structure at 1306 Third Street, the project sponsor shall obtain a qualified Historic American Building Survey (HABS) photographer to document the existing structure at 1306 Third Street and its setting. Generally, this documentation shall be done in accordance with the HABS "Outline" format, which includes: • **Photographs:** HABS standards require large-format, black-and-white photography with large-format safety film negative (4" x 5", 5" x 7", or 8" x 10") and a contact print, archivally processed, on fiber-based paper. The HABS photographer must be familiar with the recordation of historical resources in accordance with current HABS guidelines. Photographs should include context views of the general environment to illustrate setting, including landscaping, adjacent building(s), and roadways, views of character-defining features, exterior elevations of significant façades, views of interior spaces, and detailed views of specific materials or elements. Overgrowth, board-up plywood, and other obstacles shall be removed by the project sponsor prior to photography at the direction of the professional HABS photographer. Photographs must include a photo index, photo sketch plans, and field notes, and be identified and labeled using HABS standards outlined in Preparing HABS/HAER/HALS Documentation – Transmittal Guidelines. • **Measured Drawings or 3D Laser Scanning "As-Builts":** Measured drawings for HABS are considered "as-built" drawings. Accordingly, they illustrate the existing condition of a building at the time of documentation, including additions, alterations, and demolitions which have occurred since the building was first constructed. Where sufficient knowledge exists concerning the sequence of changes to a building over time, it may be useful to provide appropriate notation on the drawings. Alternatively, delineators may wish to produce additional interpretive drawings illustrating the building at an earlier date, to explain its historic significance more fully. In lieu of measured architectural drawings, 3D laser scanning and 2D CAD documentation can be done to create as-built drawings from the scanned data in AutoCAD to provide archival-quality printed and digital images that can be utilized for future exhibits, documentation, and research associated with the 1306 Third Street building. The 3D images can then be printed as measured drawings and will also be available digitally. • **Historical Background Information:** An architectural historian, meeting the Secretary of the Interior's Professional Qualification Standards, shall assemble historical background information, drawings, maps, and historic photographs relevant to the 1306 Third Street building and its setting using the HABS "Outline" format to produce a HABS historical report. The historical report will be formatted to HABS Guidelines for Historical Reports (updated January 2020). • **Public Access to Documentation:** HABS documentation must be prepared using specific archival materials and archival processes to comply with the permanence standards that govern the collection. By adhering to these standards, even the very earliest HABS records from the 1930s are still available for researchers and will be in the future. Non-archival material deteriorates for two principal reasons: harmful substances in the environment attack it, and/or the physical and chemical composition is such that it will deteriorate regardless of how it is stored. Accordingly, it is recommended that one archival set of the HABS documentation is submitted to the Library of Congress or the Berkeley Architectural Heritage Association (BAHA). Digital copies are also recommended to be submitted to the Northwest Information Center (NWIC)/ California Historic Resources Information System (CHRIS), the City of Berkeley, the City of Berkeley Library, the Berkeley Historical Society, the California State Library, and the California Historical Society. This mitigation would create a collection of preservation materials that would be available to the public and inform future research.	Yes	SU	No	-
Impact CUL-1b: The conceptual development project would not cause a substantial adverse change in the significance of a historical resources as defined in *State CEQA Guidelines* Section 15064.5.	LTS	No mitigation required.	-	-	-	-

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in the significance of a unique archaeological resources, as defined in State CEQA Guidelines Section 15064.5.	S	**Mitigation Measure CUL-2a: Archaeological Testing Plan for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (i.e., basement slab removal, topsoil removal, mass excavation, and grading) individual project proponents shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to conduct a non-invasive archaeological study of the project area initially, including an analysis of historical maps and aerial imagery, systematic surface reconnaissance, and ground-penetrating radar. This non-invasive phase of work may be followed by more invasive testing where necessary, following consultation with the Confederated Villages of Lisjan Nation, which may include archaeological borings and/or shovel test pits, in accordance with a pre-construction archaeological testing program as recommended in the Cultural Resources Evaluation (CRE) prepared by Archeo-Tec (pages 25 and 26 of the report). As described in the CRE, the only way to determine if the known midden site, or any other as-yet-unidentified subsurface cultural resources, extend into the project site is to carry out additional testing. Archaeological monitoring of building demolition followed by the implementation of a target pre-construction archaeological testing plan would be required, and demolition-related excavation (such as basement slab removal, topsoil removal, mass excavation, and grading) would be monitored by a qualified archaeologist. Individual project sponsors shall submit the pre-construction archaeological testing program to the City of Berkeley's Planning and Development Department for review and approval.	Yes	LTSM	Yes	LTSM
		Mitigation Measure CUL-2b: Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development. Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (e.g., building foundation removal), all personnel involved in project-related, ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The WEAP training shall be conducted before any project-related, ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The WEAP training shall be presented by an archaeologist and a representative from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. Individual project sponsors shall maintain a record of all construction personnel that have received the WEAP training and provide the record to the City of Berkeley. WEAP training recipient records shall be maintained by the individual project sponsor throughout the duration of construction. A final WEAP training recipient record shall be submitted to the City prior to issuance of a certificate of occupancy.	Yes	LTSM	Yes	LTSM
		Mitigation Measure CUL-2c: Cultural Resources Monitoring Plan for Future Site Development. Prior to issuance of any permit that involves ground disturbance (i.e., grading or construction permits), individual project sponsors shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring: ● Person(s) responsible for conducting archaeological monitoring ● Person(s) responsible for Native American monitoring. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or other Tribal Cultural Resources be identified during monitoring ● Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation) ● Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 50 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced from full-time to part-time based on the conditions and only if the designated tribal representative and the qualified archaeologist agree.				
		Mitigation Measure CUL-2d: Accidental Discovery Measures for Future Site Development. Should an archaeological deposit be encountered during project construction activities while an archaeological or tribal monitor is not on site, all ground-disturbing activities within 50 feet shall be redirected, and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and a tribal representative contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the project sponsor shall be responsible for funding and implementing appropriate mitigation measures.	Yes	LTSM	Yes	LTSM
Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin.	S	**Mitigation Measures CUL-2a through CUL-2d.** (see above)	Yes	LTSM	Yes	LTSM
4.3: TRIBAL CULTURAL RESOURCES						
Impact TCR-1: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	S	**Mitigation Measures CUL-2a through CUL-2d.** (see above)	Yes	LTSM	Yes	LTSM
4.4: TRANSPORTATION						
Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LTS	No mitigation required.	-	-	-	-
Impact TRA-2: The proposed project, including the conceptual development project, would not result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).	LTS	No mitigation required.	-	-	-	-
Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.	S	**Mitigation Measure TRA-1: Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.	Yes	LTSM	Yes	LTSM
Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.	S	**Mitigation Measure TRA-1.** (see above)	Yes	LTSM	Yes	LTSM
4.5: AIR QUALITY						
Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.	LTS	No mitigation required.	-	-	-	-
Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}).	S	**Mitigation Measure AIR-1: BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors.** Consistent with BAAQMD recommendations, the following controls are required to be included as specifications for future development projects and implemented at the construction site: ● Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. ● Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		• Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. • Minimize the amount of excavated material or waste materials stored at the site. • Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.				
Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.	S	**Mitigation Measure AIR-2: Architectural Coatings.** To address the impact related to reactive organic gas (ROG) emissions, all interior and exterior paints and other architectural coatings shall be limited to 50 grams per liter or less of volatile organic compounds (VOCs). The project sponsor's construction contractor shall procure architectural coatings from a supplier in compliance with the requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings).	Yes	LTSM	No	-
Impact AIR-2b.2: Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD.	LTS	No mitigation required.	-	-	-	-
Impact AIR-2c: Implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards.	LTS	No mitigation required.	-	-	-	-
Impact AIR-3a.1: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations.	LTS	No mitigation required.	-	-	-	-
Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations.	S	**Mitigation Measure AIR-3: Off-Road Construction Equipment Requirements.** The project contractor shall comply with the following requirements: • All off-road diesel-powered construction equipment of 25 horsepower or more used for project construction shall have engines that meet or exceed the California Air Resources Board Tier 4 Final emissions standards. • Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps. • Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions and safe operating conditions). The contractor shall post legible and visible signs in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. • The project sponsor shall instruct construction workers and equipment operators in the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications. • Before starting onsite construction activities, the project contractor shall submit a construction emissions minimization plan (plan) to the City for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the engine requirements. o The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used. o The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan. o The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign	No	-	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. • Alternatively, once project-specific construction information is available, prior to the start of construction activities, the project contractor may submit documentation to the City demonstrating that construction of the project would not exceed expose sensitive receptors to toxic air contaminants resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient PM2.5 increase greater than 0.3 micrograms per cubic meter (µg/m3).				
		Mitigation Measure AIR-4: Temporary Relocation of 1306 Third Street Residents During Construction. Prior to approval of any ground disturbing activity on the project site, the City shall require the project sponsor to provide detailed construction plans, a project specific technical Air Quality Assessment, and Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the Bay Area Air Quality District (BAAQMD) in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units located at 1306 Third Street. The project sponsor shall be given an opportunity to prepare a technical Air Quality Assessment that identifies the specific time intervals during which constructions activities would generate an excess of pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD in use at the time of recalculation. The moving and relocation assistance shall be provided by the project sponsor during those specific time intervals. However, if specific time intervals are not clearly identified, moving and relocation assistance shall be provided for the entire duration of ground disturbing activity on the project site. Once the City reviews the technical Air Quality Assessment, HRA, and time intervals identified therein, the City shall require the sponsor to do the following: • Provide the four residential households at 1306 Third Street with a notice of temporary relocation that clearly identifies the City approved time interval(s) for relocation, a copy of Mitigation Measure AIR-4, and a copy of the City's Request for Relocation Payment from Property Owner form (Relocation Form) - for temporary relocations lasting 30 days or longer. These documents shall be provided to individual households at 1306 Third Street at least sixty (60) days in advance of the required relocation (i.e., prior to the start of ground disturbing activities). If interested in relocation assistance, the households residing in the four residential units at 1306 Third Street shall provide completed copies of the Relocation Form to the project sponsor and the City of Berkeley within thirty (30) days of receipt. • Households to be relocated shall be entitled to relocation payments that include the following: o A one-time dislocation allowance to help defray incidental relocation expenses. The amount of the dislocation allowance shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution. o The household's choice of reimbursement for actual moving and storage expenses or a fixed payment, subject to the following requirements: ▪ If a fixed payment is chosen, no documentation of expenses is necessary. The amount of the fixed payments shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution. ▪ Reimbursement for actual documented moving and storage expenses shall include both moving costs to the replacement unit(s) and moving costs back to the original unit. Moving costs shall consist of actual reasonable costs of moving, including transportation of personal property, packing and unpacking, insurance of personal property while in transit, compensation for any damage occurring during moving, storage of personal property, disconnection and reconnection of utility services and any additional reasonable costs associated with the required moving. Payments for a one-way move shall not exceed rates established in the fixed residential moving cost schedule approved by the Federal Highway Administration and published in the federal register on a periodic basis. o If the rental costs incurred by the household during the period of relocation exceed the amount of rent being paid on the unit at 1306 Third Street, the household shall be eligible for a rent differential payment. The rent differential payment shall be equal to the difference between the rent paid on the unit at 1306 Third Street and the rent paid for a unit temporarily leased during the period of relocation, with the following restrictions:	No	-	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		▪ The rent differential payment shall not exceed a ceiling established annually by the City based on the average market rent statistics gathered and published by the rent stabilization program for the prior calendar year. ▪ The ceiling for the rent differential payment shall be based on the bedroom size of the unit to be vacated at 1306 Third Street. ▪ The rent differential payment for a household receiving a rental subsidy shall be based on the amount of rent paid by the household for the unit at 13063 Third Street by the tenant household during the period of relocation. o Reimbursement for the documented utility cost(s) that the household incurs in their replacement housing, if the owner of 1306 Third Street had been paying that particular utility cost for the vacated unit. • The project sponsor shall make the initial relocation payment directly to the household within ten (10) days after receipt of a completed Relocation Form, the payment shall include: o The dislocation allowance; o The fixed payment for moving and storage costs if applicable, or payment for moving costs based on a reasonable estimate from a qualified professional mover; or o The rent differential payment for one month or, if the relocation is anticipated to exceed ninety (90) days, then the initial payment shall include the rent differential payment for the first three-month period. • Subsequent payments for rent differential, utilities and storage costs, when applicable, shall be made on a monthly basis thereafter. Such payments shall be made at least seven (7) days in advance of when the tenant household's monthly rental payment is due. Instead of monthly payments the project sponsor may make one lump sum payment for the full amount due for the rent differential payments to the household over the period of relocation. If the tenant household qualifies for reimbursement for monthly storage or utilities costs, these payments shall continue on a monthly basis or upon receipt by the owner of documentation that verifies the household's expenses. • Relocation payments shall continue until constructions activities on the project site would no longer exceed pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD, as evidenced in the technical Air Quality Assessment and HRA, prepared by the project sponsor and approved by the City of Berkeley. Based on the information in the technical Air Quality Assessment and HRA, the City of Berkeley shall monitor on-site construction at the expense of the project sponsor, to confirm when on-site construction activities no longer exceed the cancer risk levels established by BAAQMD. The relocation payments shall stop and the households shall return to the unit from which the household was relocated, when the City of Berkeley clears the site for reoccupation. • The project sponsor shall send a formal notice to the relocated households thirty (30) days prior to the end of the relocation interval. If the household does not notify the project sponsor and the City of Berkeley within fifteen (15) days of its intent to reoccupy the previously vacated unit and seeks to remain in its alternate unit, it thereby surrenders its right to reoccupy the unit from which it has relocated and terminates its tenancy of that unit, the rental assistance outlined in this mitigation measure shall cease. • A household that is relocated for thirty (30) days or more shall continue to be responsible for any rent due on the unit from which it was relocated during the period of relocation. Therefore, relocation shall not constitute relinquishment of tenancy rights. The project sponsor shall directly furnish the tenant household with an amount equal to the monthly rent payments at least seven (7) days in advance of when the tenant household's monthly rental payment is due for the unit from which the tenant household was relocated.				
Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city.	S	**Mitigation Measure AIR-5: Health Risk Assessments for Future Development Projects.** For projects that require discretionary approval, prior to approval by the City, the City Land Use Planning Division staff shall evaluate new development proposals for new industrial or warehousing land uses that (1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 500 feet of an existing or proposed sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Land Use Planning Division. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the BAAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not	Yes	SU	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		limited to, restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.				
Impact AIR-4: Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people.	S	**Mitigation Measure AIR-*6*: Odor Control Plan for Future Development Projects.** If future development facilitated under the proposed (M-RD) zoning district would include any of the following uses, preparation of an odor control plan would be required: Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants. The project sponsor shall develop the odor control plan detailing all methods of nuisance odor control as it applies to operation of the proposed uses prior to issuance of grading or building permits, and shall submit it to the Bay Area Air Quality Management District (BAAQMD) and the City Land Use Planning Division for review and approval, to be issued prior to the City's approval of certificate of occupancy. The odor control plan shall be made available to all employees and shall be used as a training aid for new employees.	Yes	LTSM	Yes	LTSM
4.6: GREENHOUSE GAS EMISSIONS						
Impact GHG-1a: If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	S	**Mitigation Measure GHG-1**: **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs.	Yes	SU	Yes	SU
Impact GHG-1b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	S	**Mitigation Measure GHG-1.** (see above)	Yes	LTSM	Yes	LTSM
Impact GHG-2a: If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	S	**Mitigation Measure GHG-1.** (see above)	Yes	SU	Yes	SU
Impact GHG-2b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	S	**Mitigation Measure GHG-1.** (see above)	Yes	LTSM	Yes	LTSM
4.7: ENERGY						
Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	LTS	No mitigation required.	-	-	-	-
Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	S	**Mitigation Measure GHG-1.** (see above)	Yes	LTSM	Yes	LTSM
4.8: NOISE						
Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds.	S	**Mitigation Measure NOI-1: Develop a Loading and Operations Plan (DLOP).** Future project sponsors shall prepare and submit a DLOP to the City of Berkeley Planning and Development Department showing compliance with design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322 Parking and Loading. The DLOP shall include details requiring the location, quantity, dimensions, and access for off-street and on-street loading facilities. The DLOP shall be developed incrementally, with a stand-alone plan developed and approved for each building or phase of project construction. A project phase	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		may not begin construction until its DLOP has received City approval. The DLOP shall include data showing that loading operations would not exceed established City noise thresholds. BMC Section 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours.				
Impact NOI-2: Construction and operation of the proposed project, including the conceptual development project, would not expose persons to or generation of excessive ground borne vibration or ground borne noise levels.	LTS	No mitigation required.	-	-	-	-
4.9: HAZARDS AND HAZARDOUS MATERIALS						
Impact HAZ-1: The proposed project, including the conceptual development project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation.	LTS	No mitigation required.	-	-	-	-
Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.	S	**Mitigation Measure HAZ-1**: **Testing for Potential PCB-Contaminated Concrete.** The hazardous building materials survey that is required by existing regulations and *COA: Toxics*(E) prior to renovation or demolition activities shall include sampling and analysis for polychlorinated biphenyls (PCBs) in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1), (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB-containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids), and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB-containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). Removal/management of PCBs-contaminated concrete, if identified, shall be performed in accordance with the Response Plan, which shall be approved by the appropriate regulatory agency (e.g., the TMD, RWQCB, or DTSC) prior to issuance of any building permit, as required by *COA: Toxics* (C).	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2a: Additional Site Characterization for Methane and Public Right-of-Ways. All Phase II ESAs performed for parcels at the project site as required by *COA: Toxics* (A and B) shall include investigation of methane in soil vapor and investigation of potential subsurface contamination in the adjacent public right-of-way if the development project would require grading/excavation activities in the public right-of-way. The environmental clearance issued by the City's TMD and SGMPs required for development on the project site by *COA: Toxics* (C and D) shall address elevated methane in soil vapor (if present) and proposed grading/excavation activities in the public right-of-way.	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2b: Additional Site Characterization for the Potential Berkeley Forge Development. The sponsor of the conceptual development project shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of the conceptual development project. The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental concerns identified by Phase I and II ESAs that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops. If determined to be necessary by DTSC, additional investigation and characterization of the conceptual development project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required for the conceptual development project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.	No	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2c: Subsurface PCBs Contamination at the Potential Berkeley Forge Development Site. The Response Plan for conceptual development project shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the Potential Berkeley Forge Development site. As part of the environmental clearance required for the conceptual development project *by COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.	No	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		Mitigation Measure HAZ-2d: Vapor Mitigation System (VMS) Design. Any development on the project site that includes a vapor mitigation system (VMS) as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater and flooding conditions in the VMS design. The remediation plans shall include a detailed hydraulic analysis to estimate future groundwater levels and flooding conditions that could be expected at the development site based on future sea level rise projections which shall be discussed with and agreed upon by the City. If groundwater or flooding could interfere with sub-slab venting systems of a VMS, the VMS designs shall be modified to account for such conditions (e.g., thicker vapor barrier membranes, epoxy coating the top of floor slabs, fresh air inlets that close automatically during flooding, drainage/cleanout features for sub-slab venting systems, or increased ventilation or positive pressurization inside buildings). Regulatory agency review and approval of any VMS design shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2e: Utility Designs. Any Response Plan for remediation of the site prior to development of the project site shall include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) to address potential risks to future utility workers, and to ensure that new utilities would not create a preferential pathway for migration of subsurface contamination or methane (e.g., through installation of utility trench dams). Regulatory agency approval of such utility installation procedures shall be required as part of the environmental clearance required for development by *COA: Toxics* (C)	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2f: Avoidance of Petroleum Fuel Pipelines. Prior to issuance of any City permit approving ground-disturbing activities, the sponsor of the conceptual development project shall submit documentation for City approval demonstrating that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.	Yes	LTSM	Yes	LTSM
Impact HAZ-3: The proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	No mitigation required.	-	-	-	-
Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant.	S	**Mitigation Measures HAZ-2a through HAZ-2f.** (see above)	Yes	LTSM	Yes	LTSM
Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	S	**Mitigation Measure TRA-1.** (see above)	Yes	LTSM	Yes	LTSM
4.10: HYDROLOGY AND WATER QUALITY						
Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination.	S	**Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f.** (see above)	Yes	LTSM	Yes	LTSM
		Mitigation Measure HYD-1: Existing Drainage Systems. Individual project sponsors for future development projects, including the conceptual development project, shall hire a qualified environmental professional to prepare a study evaluating existing drainage features. The study shall document the presence and condition of existing drainage features on the development site including groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that connect to off-site storm drain systems. The study shall document testing of sediment/sludge and liquid/water contained in the existing drainage features to evaluate whether they contain hazardous materials. The study shall provide recommendations for appropriate cleanup of the sediment/sludge and liquid/water contained in the existing drainage features (e.g., pressure washing and removal by vacuum truck for off-site disposal), decommissioning of the existing drainage features (e.g., removal or filling with cement slurry), or improvement of existing drainage features (e.g., lining or repair) to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. The study shall be submitted to the City for review and approval prior to the project sponsor performing cleanup, decommissioning, or improvement of existing drainage features. A report documenting the cleanup, decommissioning, or improvement of existing drainage features shall be submitted to the City for review and approval prior to the City issuing demolition, grading, or building permits for developments on the project site.	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		Mitigation Measure HYD-2: **Contaminated Groundwater Migration and Discharge Prevention.** If known or potential groundwater contamination is identified at a development site or surrounding property as part of the required Phase I and II ESAs for future developments on the project site, and construction dewatering or operational dewatering (including groundwater drainage systems for structures) is proposed as part of the development, the project sponsor shall evaluate whether proposed dewatering could exacerbate (i.e., increase or change the direction of) the migration of groundwater contamination towards the proposed dewatering area(s). This evaluation shall include the following: ● A detailed analysis of hydrogeologic conditions that would be affected by construction or operation dewatering activities, including an analysis of potential preferential pathways for groundwater flow such as utility trenches. ● A detailed description of proposed dewatering systems, including dewatering locations, shoring/ground structure designs, flow rates, and durations that would be required based on the hydrogeologic conditions that are present. ● Hydraulic modeling based on proposed dewatering systems to evaluate the changes to groundwater conditions (e.g., levels and flow directions) and the potential movement of contaminated groundwater. ● Analysis of whether operational dewatering (including groundwater drainage systems for structures), if proposed, could cause the discharge of contaminated groundwater into the storm drain system. If the evaluation indicates that project dewatering could exacerbate the migration of groundwater contamination towards the proposed dewatering area(s) or result in operational discharge of contaminated groundwater into the storm drain system, the project designs shall be modified as necessary to ensure that project dewatering would not exacerbate the migration of groundwater contamination or result in the operational discharge of contaminated groundwater into the storm drain system. Such modifications may include the use of interlocking sheet piles or soil-cement cut-off walls that can reduce construction dewatering requirements, and use of waterproofing and buoyancy/hydrostatic pressure resistant construction methods rather than use of operational dewatering/groundwater drainage systems for structures. The project sponsor shall submit the hydraulic evaluation and dewatering plans for review and approval to the regulatory agency providing oversight of the development, as part of the regulatory agency clearance required by *COA: Toxics(C).*	Yes	LTSM	Yes	LTSM
Impact HYD-2: The proposed project, including the conceptual development project, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.	LTS	No mitigation required.	-	-	-	-
Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding.	S	**Mitigation Measure HAZ-1.** (see above)	Yes	LTSM	Yes	LTSM
		Mitigation Measure HYD-3: Hydraulic Study of Drainage during Construction and Operation for the Potential Berkeley Forge Development. The project sponsor for the conceptual development project shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of the project, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that the project would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), the project design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.	No	LTSM	Yes	LTSM
Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site.	S	**Mitigation Measure HYD-4: Flooding and Sea Level Rise Assessment and Flood-Proof Hazardous Materials Storage**. During construction on the project site, contractors shall store hazardous materials in appropriate containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak because of flooding inundation. A plan describing flood-proof hazardous materials storage practices shall be prepared by the project sponsor and submitted to the City for review and approval prior to the City approving of demolition, grading, or building permits for future developments on the project site.	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		During operation of the project, hazardous materials storage areas that would be used shall be designed to avoid inundation from flooding (e.g., have appropriate finished floor elevations or flood proofing construction measures) or shall store hazardous materials in containers that are appropriately designed, located, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. A Flooding and Sea Level Rise Assessment shall be performed by the project sponsor to evaluate existing and future flooding conditions for developments at the project site to support the design of hazardous materials storage areas to be used during operation. The Flooding and Sea Level Rise Assessment shall evaluate potential flooding conditions relate to both storm flooding and tsunami inundation. The Flooding and Sea Level Rise Assessment and designs for hazardous materials storage areas shall be provided to the City for review and approval prior to the City approving of grading or building permits for developments on the project site.				
Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin.	S	**Mitigation Measures HYD-1, HYD-2, HAZ-1, and HAZ-2a through HAZ-2f.** (see above)	Yes	LTSM	Yes	LTSM
4.11: BIOLOGICAL RESOURCES						
Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats.	S	**Mitigation Measure BIO-1a: Roosting Bat Habitat Assessment and Surveys.** Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30), the project sponsor shall retain a qualified biologist to conduct a presence/absence survey to evaluate the site for the occurrence of bats and bat roosts. The surveys shall be scheduled to allow sufficient time to implement mitigation if bats are found during the survey. The project sponsor shall submit a memorandum with the demolition permit application identifying the qualified biologist retained to conduct the survey and the date of the survey. A second memorandum detailing the findings shall be prepared by the qualified biologist and submitted to the City after completion of the survey.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1b: Common Bat Species Evacuation and Mitigation Plan. If a bat roost is found in any onsite buildings, the species of bat using the roost shall be identified. If the roost is occupied by common species and is not used as a maternity roost, as determined by a qualified biologist, then methods to encourage the bats to leave the roost or to prevent them from returning to the roost shall be implemented prior to roost removal. A mitigation plan shall be developed by the qualified biologist to specify the methods to be used and the timing of the activities. These methods could include removal of roosting sites 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. This mitigation plan shall be submitted to the City for review and approval prior to the initiation of demolition or tree removal activities.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1c: Preconstruction Survey for Common Species of Roosting Bats. If only common species are observed during the survey of the site and the site is not found to be used as a maternity roost, the project sponsor shall retain a qualified biologist to conduct preconstruction surveys for bat roosts in existing buildings prior to construction activities. The survey shall take place no more than 30 days prior to construction/demolition/removal activities. Preconstruction surveys shall be repeated if demolition or construction activities are delayed more than 30 days.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1d: Artificial Roosting Plan for Special-Status Bats. If special-status bats are found onsite, and the roost would be disturbed or destroyed during development, an artificial roost shall be provided. The roost shall be constructed and placed onsite or at a City- and CDFW-approved off-site mitigation area prior to removal of the original roost. Materials from the roost site shall be salvaged, when feasible, to be used in the construction of artificial roosts. A mitigation plan specifying the construction details and siting of the structure shall be prepared by the qualified biologist and approved by the City and CDFW prior to removal of the existing roost. The project sponsor shall provide a secure source of funding for the monitoring of the artificial roost for a period of 5 years and for implementing actions to remediate the artificial roost if it does not attract bats. A report documenting the implementation of the plan shall be provided to the City and CDFW within 1 month of completion of the artificial roost. Annual monitoring reports shall be provided to the City and CDFW by the project sponsor by November 30 of each year, for the 5-year period. The mitigation plan shall be completed and implemented prior to the issuance of the demolition permit.	Yes	LTSM	Yes	LTSM

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		Mitigation Measure BIO-1e: Tree Removal and Roost Protection. If bat roosts are identified for protection as a result of surveys conducted as part of Mitigation Measure BIO-1, pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to removal.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1f: Protection of Maternity Roosts. Removal of maternity roosts for any species of bats either common or special-status shall be coordinated with CDFW prior to removal. Maternity roosts for any species of bat, either common or special-status, shall not be demolished until a qualified biologist has determined that the young are able to fly independently of their mothers.	Yes	LTSM	Yes	LTSM

Source: Compiled by LSA (2024).

AB = Assembly Bill
AST = above-ground storage tank
BAHP = Bureau of Architecture and Historic Preservation
BAAQMD = Bay Area Air Quality Management District
BMC = Berkeley Municipal Code
CEQA = California Environmental Quality Act
City = City of Berkeley
CHRIS = California Historical Resources Information System
dBA = A-weighted decibels
DTSC = California Department of Toxic Substances Control
EBP = Santa Clara Valley Groundwater Basin, East Bay Plain
EIR = Environmental Impact Report
EO = Executive Order
ESA = Environmental Site Assessment
GHG = greenhouse gas
LTS = Less Than Significant
LTSM = less than significant with mitigation incorporated
NWIC = Northwest Information Center
PCB = polychlorinated biphenyls
PM_{10} = particulate matter 10 microns or less in diameter
PRC = Public Resources Code
project = Gilman Gateway Rezone Project
S = Potentially Significant
SB = Senate Bill
SGMP = Soil and Groundwater Management Plan
SU = Significant and Unavoidable
TAC = toxic air contaminant
TMD = City of Berkeley Toxics Management Division
UST = underground storage tank

3.0 PROJECT DESCRIPTION

Pursuant to Section 15124(c) of the *State CEQA Guidelines*, this chapter includes a description of the Gilman Gateway Rezone Project (herein referenced as the "proposed project") and a conceptual project (herein referred to as the "Potential Berkeley Forge Development" or "conceptual development project"). As outlined in this chapter and Draft EIR, the Gilman Gateway Rezone Project would not result in direct physical changes to the environment, but would facilitate development in the project area, including the Potential Berkeley Forge Development. As such, the Potential Berkeley Forge Development is included in the proposed project evaluated in this Draft EIR.

The location, objectives, and technical, economic, and environmental characteristics, a summary of the intended uses of the Environmental Impact Report (EIR), including a list of agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the proposed project, and a list of related environmental review and consultation requirements required by federal, State, or local laws, regulations, or policies.

3.1 PROPOSED PROJECT

This EIR has been prepared to evaluate the potential environmental consequences of implementation (i.e., construction and operation) of the following two elements.

3.1.1 Proposed Gilman Gateway Rezone Project

The Gilman Gateway Rezone Project (proposed project), which would be adopted and implemented by the City of Berkeley (City) as both the lead agency under the California Environmental Quality Act (CEQA) and the project proponent, would:

a. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

b. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the newly established M-RD zoning district.

c. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation.

Implementation of the proposed amendments to the BMC, Berkeley General Plan, and West Berkeley Plan would facilitate future buildout of up to 1,005,266 square feet on an 11.54-acre site (project site) of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and associated development standards at a programmatic level.

3.1.2 Potential Berkeley Forge Development

The Potential Berkeley Forge Development (conceptual development project) would be facilitated by adoption and implementation of the proposed project. The conceptual development project is a

conceptual project that could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses.

The City has not received an application for the conceptual development project; however, the City anticipates the submittal of a formal application for the conceptual development project. It is therefore a reasonably foreseeable project and is evaluated in this EIR at the project level to the extent feasible.

3.2 PROJECT LOCATION

The following describes the precise location and boundaries of the project site, including its geographic context, and provides a brief overview of the existing land uses within and in the vicinity of the project site.

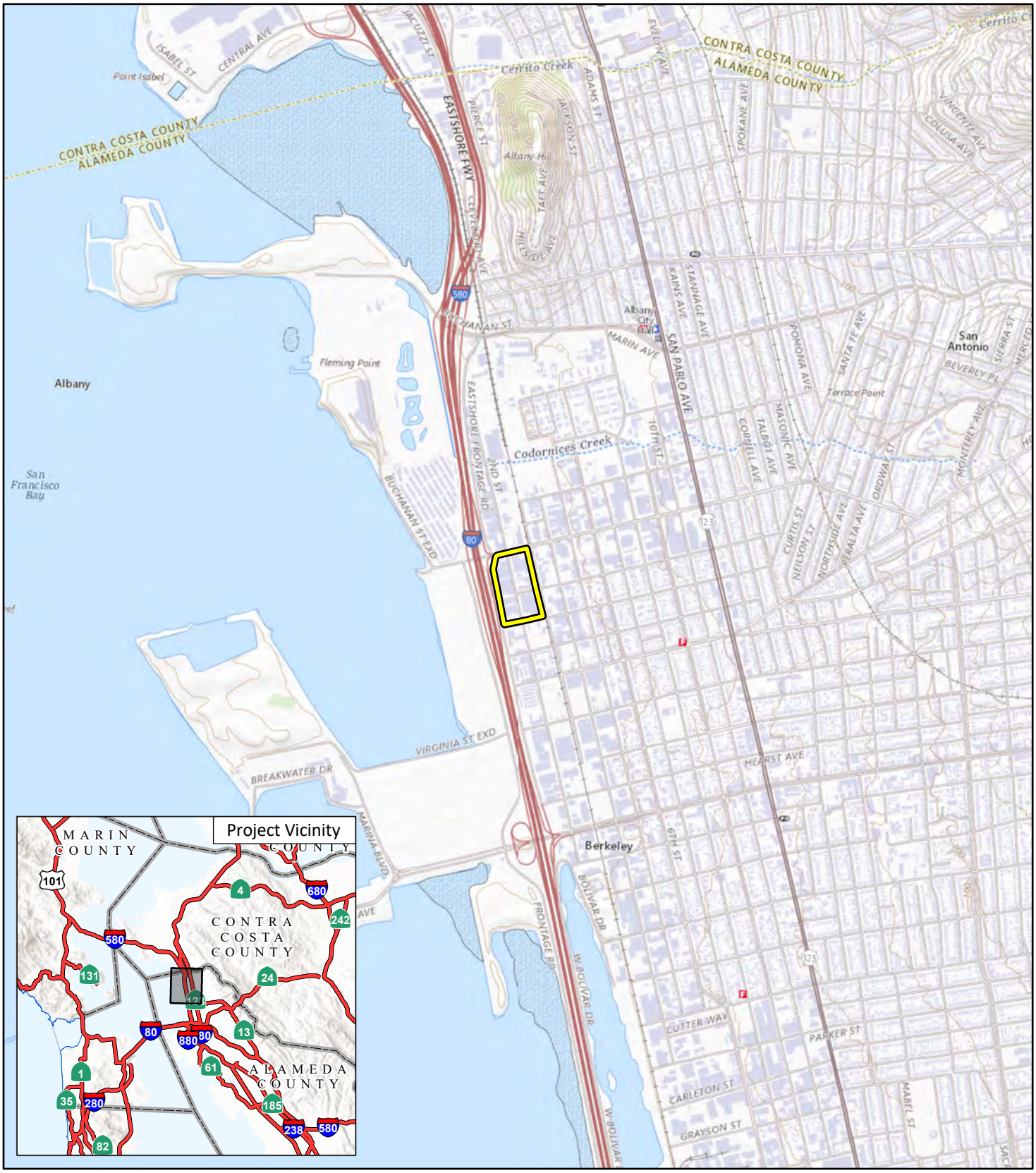
3.2.1 Regional Location and Access

The 11.54-acre project site is in West Berkeley, Alameda County. The project site is bisected by Second Street and bordered by Gilman Street to the north, the Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and Interstate 80 [I-80]/Interstate 580 [I-580]) to the west. Figure 3-1 shows the site's regional and local context.

The project site is east of the I-80/I-580 corridor,[1] which traverses the San Francisco Bay (Bay) shoreline in a north-south direction. Land uses east and south of the project site generally consist of a mix of manufacturing, warehouse, office, and commercial uses. Recreational facilities, including a sports complex, parks, and marina are located to the west of I-80/I-580, along the Bay. Figure 3-2 shows an aerial photograph of the project site and surrounding land uses in the vicinity.

Regional vehicular access to the project site is provided by I-80/I-580 and the Gilman Street freeway ramp, west of the project site. Transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit (BART). AC Transit operates two routes (12 and 72) that provide service to the project site with the closest bus stop at Gilman Street and Sixth Street, approximately 900 feet east of the project site. The nearest BART station is the North Berkeley Station at 1750 Sacramento Street, 1.06 miles east of the project site. Local roadways providing access to the project site include Gilman Street, I-80/I-580, and Camelia Street.

[1] The I-80/I-580 freeway corridor is sometimes referred to as the Eastshore Freeway. The roadway along the western boundary of the project site, its predecessor, is Eastshore Highway.



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Project Location

FIGURE 3-1

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SOURCE: USGS The National Map (2017)

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Gilman Gateway Rezone Project EIR

Project Location and Regional Vicinity

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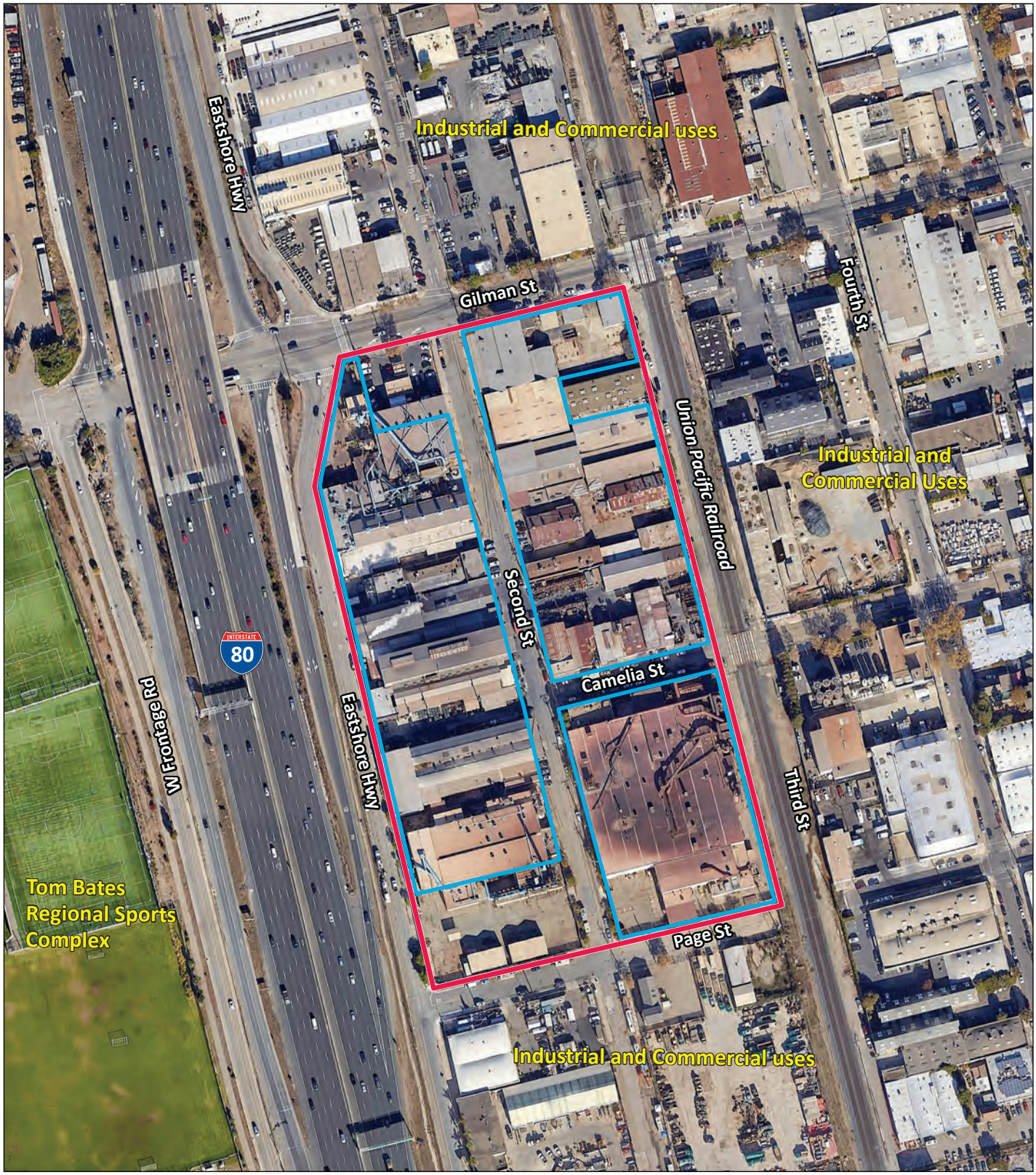


FIGURE 3-2

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Project Site Boundary

Potential Berkeley Forge Development Site

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SOURCES: Google Earth, 8/6/2020; LSA, 2022

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Gilman Gateway Rezone Project EIR

Aerial Photograph of the Project Site and Surrounding Land Uses

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3.2.2 Site Characteristics and Current Site Conditions

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The project site includes one property, 1306 Third Street, that meets the criteria for listing in the California Register of Historical Places (California Register), meets the criteria for designation as a City of Berkeley Landmark, and meets the definition of an historical resource pursuant to *State CEQA Guidelines* Section 15064.5. Vegetation on the site is limited to sparse street and ornamental trees. Of the 18 parcels, nine are associated with the former Pacific Steel Casting site and total approximately 8.13 acres. The remaining parcels include five that are associated with the former Berkeley Forge and Tool, which total 1.94 acres, and four other parcels totaling 1.47 acres. Figure 3-3 shows parcel ownership boundaries. Photos of select viewpoints of the project site and surrounding area were taken to depict the existing conditions of the area. The locations of the viewpoints are shown on Figure 3-4, and the existing views from the select viewpoints are depicted on Figure 3-5.

Pacific Steel Casting was established in 1934 and operated as a manufacturer of custom industrial-use metal products until 2018. Berkeley Forge and Tool has been in operation since at least 1957, providing custom metal products to a variety of customers, and is currently in the process of closing operations.

The project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials, including total petroleum hydrocarbon products, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs). There are multiple leaking underground storage tank (LUST) sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List").

The properties located at 600 Gilman Street (a former gas station in the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site in the central portion of the project site) are identified on GeoTracker as LUST sites. Although the LUST site for the former Pacific Steel Casting site is listed on GeoTracker under the address of 1333 Second Street, which is the address associated with the former Pacific Steel Casting site office, the LUSTs were actually located on other properties within the project site, including a property in the northeast portion of the project site with the address of 640 Gilman Street (Assessor's Parcel Number [APN] 59-2345-1); a property in the southwest corner of the project site with the address of 1433 Eastshore Highway (APN 59-2341-3-2); and a property in the central portion of the project site with the address of 1320 Second Street (APN 59-2344-4-1).

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Gilman Gateway Rezone Project Site (proposed project)
Former Berkeley Forge and Tool
Former Pacific Steel Casting
Other Parcels

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FIGURE 3-3

Gilman Gateway Rezone Project EIR
Project Site Parcel Ownership Boundaries

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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LSA

Project Site Boundary

Potential Berkeley Forge Development Site

1 Photo Viewpoints

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FIGURE 3-4

Gilman Gateway Rezone Project EIR
Viewpoint Locations

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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Photo 1: Camelia St. at Second St., east. Photo taken November 2022.



Photo 2: Camelia St., south. Photo taken November 2022.

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FIGURE 3-5
Page 1 of 9

Gilman Gateway Rezone Project EIR
Representative Site Photographs

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Photo 3: Camelia St. at Third St., west. Photo taken November 2022.



Photo 4: Third St. at Camelia St., north. Photo taken November 2022.

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Photo 5: Third St., South. Photo taken November 2022.



Photo 6: 1306 Third St. Photo taken November 2022.

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Photo 7: Third St. at Gilman St., south. Photo taken November 2022.



Photo 8: Gilman St. at Third St., west. Photo taken November 2022.

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Photo 9: Gilman St. at Second St., east. Photo taken November 2022.



Photo 10: Second St. at Gilman St., south. Photo taken November 2022.

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Photo 11: Second St. and Berkeley Steel Building, north. Photo taken November 2022.



Photo 12: Second St. at Camelia St., south. Photo taken November 2022.

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Photo 13: Second St. at Page St., north. Photo taken November 2022.



Photo 14: Page St. at Second St., east. Photo taken November 2022.

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Photo 15: Second St. at Page St., south. Photo taken November 2022.



Photo 16: Eastshore Hwy and Interchange, north. Photo taken November 2022.

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Photo 17: Eastshore Hwy, north. Photo taken November 2022.

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The project site is also immediately adjacent to the approved I-80/Gilman Interchange Project, which is currently under construction.[2] The I-80/Gilman Interchange Project, expected to be completed in 2024, would include the following improvements that are considered existing conditions for purposes of this EIR:

- Activation of the third rail line on Third Street and an 18-foot-wide, gravel fire lane that would be one-way from Gilman Street to Camelia Street with a fence along the railroad. South of Camelia Street, Third Street is a dirt railroad operating easement. The right-of-way belongs to the City and does not include any barriers such as a wall or fence.

- Closure/removal of the at-grade railroad crossing at Camelia Street. With this closure, Camelia Street would terminate at the railroad tracks instead of Second Street.

- Conversion of Second Street to a one-way roadway between Gilman Street and Camelia Street, and conversion to a two-way street with a sidewalk south of Camelia Street.

- Creation of a two-way cycle track on the south side of Gilman Street between the eastern I-80/Gilman Street ramps and Fourth Street.

As shown in Table 3.A, the existing buildings on the project site, the majority of which are currently vacant, total 320,070 square feet. Approximately 56 persons are employed on the project site, and the 1306 Third Street building (APN 58-2345-2-1) contains seven commercial tenant spaces and four residential units, three of which are occupied by 11 individuals, the fourth is currently vacant. Residential units are not allowed in the underlying zoning district; therefore, the use is considered non-conforming.

3.2.3 Regulatory Setting

The project site is currently designated as Manufacturing in the Berkeley General Plan and is zoned Manufacturing (M) pursuant to the Berkeley Zoning Ordinance and West Berkeley Area Plan. The purpose of the M district is to encourage development dedicated to manufacturing and industrial uses, including "heavy manufacturing"; encourage the creation and continuation of well-paid (often unionized) industrial jobs for people without advanced degrees; retain the stock of manufacturing and industrial buildings wherever possible; support the development of industrial businesses that contribute to the maintenance and improvement of the environment; maintain and improve the quality of the West Berkeley environment while allowing operation of the full range of manufacturers; support the development of retail automobile sales uses; and provide opportunities for vehicle sales. Table 3.B shows the development standards for the M district.

[2] California Department of Transportation and Alameda County Transportation Commission. 2019. *Interstate 80/Gilman Street Interchange Improvement Project Final Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact.* June.

Table 3.A: Existing Parcel and Building Summary

Assessor's Parcel Number	Street Address	Building Use	Lot Size (square feet)	Building Size (square feet)
Pacific Steel Casting				
59-2344-1-2	1305 Eastshore Highway	Vacant - Former Industrial/Manufacturing	7,657	1,010
59-2341-4	1401 Eastshore Highway		40,022	26,217
59-2340-8-2	1421 Second Street		102,399	73,640
59-2341-5	1420 Second Street		27,995	19,942
59-2344-4-1	1320 Second Street		54,496	44,343
59-2344-3-1	1314 Second Street		14,000	12,504
59-2345-9	1333 Second Street		36,581	14,840
59-2345-2-2	1310 Third Street		26,604	26,550
59-2345-1	1311 Second Street; 630 Gilman Street; 640 Gilman Street		44,563	31,560
Berkeley Forge and Tool				
59-2344-7	1331 Eastshore Highway	Industrial/Manufacturing	39,186	31,092
59-2344-5-1	1330 Second Street		12,076	12,030
59-2345-8-1	1337 Second Street	Industrial/Manufacturing	14,632	2,432
59-2345-6-1	635 Camelia Street	Industrial/Manufacturing	13,002	9,024
59-2345-4	643 Camelia Street	Industrial/Manufacturing	5,501	Undeveloped land* current uses include storage of materials; no permanent structures are on the site
Other Ownership				
58-2345-2-1	1306 Third Street	4 dwelling units and 7 commercial tenant spaces	6,651	7,524
59-2344-2-1	600 Gilman Street	Vehicle Rental	11,624	1,008
59-2341-3-2	1433 Eastshore Highway	Approved Recycled Materials Processing use no longer operational. Property currently used for storage of materials.	37,543	1,944
59-2345-7	631 Camelia Street 625 Camelia Street	Industrial/Manufacturing (Clearflow Valves)	8,101	5,730
		Total	**502,633**	**321,390**

Source: City of Berkeley Planning Department Staff (2022).

Table 3.B: Manufacturing Zone Development Standards

Basic Standards		Supplemental Standards
Lot Area, Minimum	20,000 square feet	BMC 23.304.020 – Lot Requirements
Usable Open Space Per Dwelling Unit, Minimum	N/A	–
Floor Area Ratio, Maximum	2.0	–
Main Building Height, Maximum	45 feet	BMC 23.304.050 – Building Height
Lot Line Setbacks, Minimum		BMC 23.304.030 – Setbacks
Front	No minimum	
Rear	No minimum	
Interior Side	No minimum	
Street Side	No minimum	
Building Separation, Minimum	No minimum	–
Lot Coverage, Maximum	100 percent	–

Source: Table 23.206-10, Berkeley Municipal Code (City of Berkeley 2023).
BMC = Berkeley Municipal Code
N/A = not applicable

3.2.4 Surrounding Land Uses

The project site is in West Berkeley, which is generally characterized by a mix of uses, including manufacturing, light industrial, office, residential, and commercial/restaurant uses. The project site is bounded by Gilman Street to the north, the UPRR and Amtrak heavy rail corridor to the east, Page Street to the south, and the Eastshore Highway and I-80/I-580 freeway corridor to the west. The site is surrounded by a mix of manufacturing, warehouse, office, and commercial uses. Residential uses are to the northeast and the southeast. Figure 3-2 shows an aerial photograph of the project site and surrounding land uses in the vicinity.

- **North of the Project Site:** The project site is bordered to the north by Gilman Street and various light industrial, vehicle service, and heavy commercial uses. These land uses extend 0.6 mile north to Buchanan Street. Recreational fields and open space areas are 0.18 mile northeast of the project site. University Village, a residential community, is 0.3 mile northeast. Golden Gate Fields,[3] a horse racing track in Albany (the venue's horse stables are in West Berkeley) that closed in June 2024 is 0.35 mile northwest along the Bay.

- **East of the Project Site:** The project site is bordered to the east by a UPRR and Amtrak heavy rail corridor (rail tracks), various heavy and light industrial and commercial uses, and several dwelling units. Food and entertainment uses are east of the project site between Fourth Street and San Pablo Avenue, beyond which are residential land uses. Additional residential land uses are south of Camelia Street, 0.2 mile to the east.

- **South of the Project Site:** The project site is bordered to the south by Page Street and heavy and light industrial and heavy commercial uses. These land uses extend to Virginia Street, across from which are commercial uses, including food service and retail uses. The Berkeley Amtrak Station is located approximately 0.6 mile south of the project site. An industrial campus is located at 600 Addison Street, approximately 0.7 mile south of the project site, with approximately 500,000 square feet of combined R&D and office uses. A linear 100-acre aquatic park is located approximately 0.7 mile south of the project site.

- **West of the Project Site:** The project site is directly bordered to the west by I-80/I-580. A Caltrans-Alameda County project (i.e., a recently constructed pedestrian and bicycle overcrossing of I-80/I-580) is 0.02 mile west of the project site. The Tom Bates Regional Sports Complex is west of I-80/I-580, 0.08 mile west of the project site. The McLaughlin Eastshore State Seashore, the Caesar E. Chavez Park, and the Berkeley Marina are 0.12 mile, 0.60 mile, and 0.70 mile southwest of the project site, respectively.

3.3 PROJECT BACKGROUND AND OBJECTIVES

The purpose of the current zoning designation on the project site—Manufacturing (M)—is to encourage heavy manufacturing uses, whereas development interest for the project area is shifting

[3] Stumes, Larry. 2023. "Golden Gate Fields horse racing track gets approval for major redevelopment." *San Francisco Chronicle*. September 24. Website: https://www.sfchronicle.com/sports/article/golden-gate-fields-horse-racing-track-gets-18384837.php.

toward biotechnology laboratories, warehouse and commercial uses, and office space. Accordingly, in 2021, the City Council referred to the Planning Commission the creation of a zoning overlay at the project site to enable all MU-LI uses and override existing constraints on MU-LI uses on the property in order to facilitate redevelopment that would contribute to the City's tax base and the vitality of the local economy. Typically, a zoning overlay is applied to multiple underlying districts to provide additional regulations that serve a public purpose (e.g., airport noise, creek setbacks). Also, since the objective is to remove constraints on MU-LI uses to facilitate redevelopment, re-zoning to MU-LI with exceptions would be insufficient. Therefore, the proposed Gilman Gateway Rezone Project was developed by the City to provide a new set of zoning regulations as part of a new district that meet the Council objective and revitalize the underutilized project site. The creation of a new zoning district would further enable the City to invest in environmental clean-up costs, which are unique to the project site.

For the purposes of this EIR, the objectives of the proposed project are to:

- Reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing land use designation that adds significantly to the City's economic base and facilitates job creation.

- Establish an M-RD zoning district with land use and development standards that are consistent with the General Plan Manufacturing land use designation and policies of the West Berkeley Plan to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, R&D, laboratory, and office.

- Facilitate future development by adopting zoning standards that permit construction of buildings that accommodate allowable uses.

- Improve mobility at an entry corridor to West Berkeley by encouraging and supporting current and future transit use and transportation demand management strategies that reduce vehicle miles traveled, while providing sufficient parking to meet the needs of employment-generating uses.

- Clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

3.4 PROPOSED PROJECT

The project described in this section and evaluated in this EIR consists of two elements: (1) the proposed Gilman Gateway Rezone Project (proposed project), which is evaluated at a programmatic level, and (2) the Potential Berkeley Forge Development (conceptual development project), which is evaluated at a project level to the extent feasible.

The proposed project would aim to facilitate the future development of up to 1,005,266 square feet of non-residential space and a minimum of 1,300 off-street automobile parking spaces on the approximately 11.54-acre project site, with adoption and implementation of:

1. A newly established zoning district – M-RD in BMC Chapter 23.206, which would permit development of light manufacturing, R&D, laboratory, and/or office uses.
2. Rezoning the project site from the M district to the M-RD zoning district.
3. Amendments to the Berkeley General Plan and West Berkeley Plan to add the M-RD zoning district to the Manufacturing land use designation, which would also include development standards for the project site.

The Potential Berkeley Forge Development consists of a conceptual future development plan, which would be facilitated by adoption and implementation of the Gilman Gateway Rezone Project. The City anticipates the submittal of a formal application for the conceptual development project , and it is therefore a reasonably foreseeable project. The conceptual development project would include the construction and operation of up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses and 1,900 automobile parking spaces on a 10.26-acre portion of the project site.

In this EIR, the most intensive future uses that could occur with implementation of the proposed project are evaluated at the programmatic level, while the conceptual development project is evaluated to determine if the potential project would fit within the programmatic development assumptions at the project level, to the extent that project details are available. Future development of the project site, including the conceptual development project, would be subject to further environmental review to determine if the future program of development fits within the development assumptions and conclusions identified in this EIR.

Individual elements of the proposed project and the conceptual development project are described below. The proposed project and conceptual development project site boundaries are depicted in Figure 3-6.

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FIGURE 3-6

Gilman Gateway Rezone Project Site (proposed project)

Potential Berkeley Forge Development Site (conceptual development project)

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SOURCES: Google Earth, 8/6/2020; LSA, 2022

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Gilman Gateway Rezone Project EIR

Proposed Project and Conceptual Development Project Site Boundaries

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3.4.1 Proposed Manufacturing, Research and Development Zoning District

The purpose of the proposed M-RD zoning district is to support a mix of industrial and heavy commercial uses that can provide high-quality employment and add significantly to the tax base, such as light manufacturing and R&D; allow office and laboratory uses that support light industrial and R&D uses; provide flexibility to facilitate the development and reuse of large sites with an urban campus-like environment, demonstrating high-quality design and site planning that includes amenities for employees and customers; and support the development of industrial uses that would comply with environmental protection standards.

While the proposed rezoning and General Plan/West Berkeley Plan amendments would not result in any physical alterations to the project site, implementation of the proposed M-RD zoning district would facilitate development of the entire project site and assumes demolition of all existing structures on the site. Chapter 23.206 of the BMC would be amended to include the proposed M-RD zoning district to establish regulations for any potential redevelopment project. Accordingly, Table 23.206-1 and Table 23.206-2 of the BMC would be amended as shown in <u>double-underlined</u> text below in Table 3.C. As shown in Table 3.C, the M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D.

Table 3.D provides the new floor area permit requirements for the manufacturing districts, including the M-RD zoning district. A summary of the development standards for the proposed M-RD zoning district are included in Tables 3.E and 3.F.

As shown in Table 3.G, with a 2.0 floor area ratio, full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would also require approximately 1,300 off-street automobile parking spaces. Approximately 470 bicycle parking spaces would be required. The maximum building height within the M-RD zoning district would be 55 feet, unless a modification is sought via a Use Permit (UP), in which case the maximum building height would be 105 feet.

Table 3.C: Allowed Uses in Manufacturing Districts

Land Uses	Manufacturing Districts					Use Specific Standards (BMC)
	M	MM	MU-LI	MU-R	M-RD	
Residential Uses						
Accessory Dwelling Unit	NP	NP	NP	See 23.306	NP	
Dwellings						
Single-Family	NP	NP	NP	AUP*	NP	23.206.090.B.8
Two-Family	NP	NP	NP	AUP*	NP	23.206.090.B.8
Multi-Family	NP	NP	NP	UP(PH)*	NP	23.206.090.B.7&8
Group Living Accommodation	NP	NP	NP	UP(PH)*	NP	23.206.090.B.8
Hotel, Residential	NP	NP	NP	NP	NP	
Mixed-Use Residential	NP	NP	NP	UP(PH)*	NP	23.206.090.B.8&9
Senior Congregate Housing	NP	NP	NP	See 23.302.070.H	NP	
Public and Quasi-Public Uses						
Child Care Center	NP	NP	AUP*	UP(PH)*	AUP*	23.206.040.C&D
Cemetery/Crematory/Mausoleum	NP	NP	NP	NP	NP	
Club/Lodge	UP(PH)*	UP(PH)*	UP(PH)*	UP(PH)	UP(PH)	23.206.040.F
Columbaria	NP	NP	NP	--	NP	
Community Care Facility	NP	NP	NP	ZC*	NP	23.206.090.B.3
Community Center	NP	NP	NP	UP(PH)	NP	
Emergency Shelter	NP	NP	NP	--	NP	
Hospital	NP	NP	NP	NP	NP	
Library	NP	NP	NP	UP(PH)	NP	
Mortuaries and Crematories	NP	NP	NP	UP(PH)*	NP	23.206.090.B.6
Municipal Animal Shelter	UP(PH)	UP(PH)	UP(PH)	--	UP(PH)	
Nursing Home	NP	NP	NP	UP(PH)	NP	
Park/Playground	NP	NP	NP	UP(PH)*	NP	23.206.040.C
Public Safety and Emergency Service	UP(PH)	UP(PH)	UP(PH)	UP(PH)	UP(PH)	
Public Utility Substation/Tank	UP(PH)	UP(PH)	UP(PH)	UP(PH)	UP(PH)	
Religious Assembly	NP	NP	NP	UP(PH)	NP	
School	NP	NP	NP	UP(PH)*	NP	23.206.040.Q
School, Vocational	NP	NP	ZC*[1]	UP(PH)	ZC*[1]	23.206.080.B.12
Supportive Housing	NP	NP	NP	ZC*	NP	23.302.070(I) Supportive Housing
Retail Uses						
Alcoholic Beverage Retail Sale	NP	NP	UP(PH)*[2]	NP*	NP	23.206.080.B.3; 23.206.090.B.2; 23.310
Firearm/Munitions Business	NP	NP	NP	NP	NP	
Industrial and Mining Products	AUP[2]	AUP[2]	AUP[4]	NP	NP	
Pawn Shop/Auction House	NP	NP	NP	NP	NP	
Pet Store	NP	NP	NP	NP	NP	
Retail, General	NP	NP	AUP*[5]	AUP*[3]	AUP*	23.206.040.G; 23.206.090.B.4
Smoke Shop	NP	NP	NP	NP	NP	
Personal and Household Service Uses						
Personal and Household Services, General	NP	NP	NP	AUP	NP	
Kennels and Pet Boarding	NP	NP	NP	UP(PH)	NP	
Laundromats and Cleaners	NP	NP	NP	AUP	NP	
Veterinary Clinic	NP	NP	NP	UP(PH)	NP	
Video Tape/Disk Rental	NP	NP	NP	NP	NP	
Office Uses						
Business Support Services	NP	NP	AUP[6]	AUP[3]	AUP[6]	
Banks and Financial Services, Retail	NP	NP	--	NP	NP	
Insurance Agents, Title Companies, Real Estate Agents, Travel Agents	NP	NP	--	--	NP	
Medical Practitioners	NP	NP	NP	AUP[3]	NP	

Table 3.C: Allowed Uses in Manufacturing Districts

Land Uses	Manufacturing Districts					Use Specific Standards (BMC)
	M	MM	MU-LI	MU-R	M-RD	
Non-Chartered Financial Institutions	NP	NP	--	--	NP	
Office, Business and Professional	NP	ZC*	AUP[4]	AUP[3]	AUP[4]	23.206.070.B.2
Food and Alcohol Service, Lodging, Entertainment, and Assembly Uses						
Adult-oriented Business	--	--	NP	NP	NP	
Amusement Device Arcade	NP	NP	ZC	ZC	NP	See 23.302.070.B
Bar/Cocktail Lounge/Tavern/Tap Room/Wine Tasting	NP	NP	NP	See 23.306	NP	
Commercial Recreation Center	NP	NP	--	NP	NP	
Entertainment Establishment	NP	NP	--	UP(PH)	NP	
Food Service Establishment under 5,000 sq ft	--	--	AUP*	AUP*	AUP*	See 23.302.070.E
Food Service Establishment 5,000 sq ft larger	--	--	UP(PH)*	UP(PH)*	UP(PH)*	See 23.302.070.E
Group Instruction	ZC	ZC	--	ZC	ZC	
Health and Fitness Facilities	NP	NP	--	NP	NP	
Hotel, Tourist	NP	NP	NP	NP	NP	
Motel, Tourist	NP	NP	NP	NP	NP	
Theater	NP	NP	UP(PH)*	NP	NP	23.206.080.B.4
Vehicle Service and Sale Uses						
Alternative Fuel Station	AUP[4]	AUP[4]	AUP[4]	AUP	AUP[4]	
Gasoline/Vehicle Fuel Station	NP	NP	NP	NP	NP	
Large Vehicle Sales and Rental	--	NP	AUP[4]	NP	AUP[4]	
Small Vehicle Sales and Rental	--	NP	NP	NP	NP	
Tire Sales and Service	--	--	--	NP	NP	
Vehicle Parts Store	NP	NP	NP	UP(PH)	NP	
Vehicle Repair and Service	UP(PH)	UP(PH)	UP(PH)	UP(PH)	UP(PH)	
Vehicle Rentals	NP	--	--	NP	NP	
Vehicle Sales, New	AUP*[7]	NP	NP	NP	NP	23.206.060.B.3
Vehicle Sales, Used	AUP*[7]	NP	NP	NP	NP	23.206.060.B.3
Vehicle Wash	NP	NP	NP	NP	NP	
Vehicle Wrecking	AUP*[7]	AUP[4]	AUP[4]	NP	NP	23.206.080.B.5
Industrial and Heavy Commercial Uses						
Bus/Cab/Truck/Public Utility Depot	AUP[8]	AUP[8]	AUP*[4]	UP(PH)	AUP*[4]	23.206.040.B
Commercial Excavation	UP(PH)	UP(PH)	UP(PH)	NP	NP	
Contractors Yard	AUP[7]	AUP[7]	AUP[4]	UP(PH)	AUP*[4]	
Dry Cleaning and Laundry Plant	ZC*[9]	ZC[9]	ZC[1]	UP(PH)	NP	23.206.060.B.2
Laboratory						
Commercial Physical or Biological	NP	AUP[4]	UP(PH)*	NP	AUP[4]	23.206.040.S
Cannabis Testing	NP	AUP[4]	UP(PH)	NP	AUP[4]	
Manufacturing						
Construction Products	ZC*[9]	ZC*[9]	UP(PH)*	NP	UP(PH)*	
Light Manufacturing	ZC*[7]	ZC*[7]	ZC*[1]	AUP*[3]	ZC*[1]	23.206.040.H; 23.206.090.B.5
Pesticides/Herbicides/Fertilizers	NP	NP	NP	--	NP	
Petroleum Refining and Products	NP	NP	NP	--	NP	
Pharmaceuticals	AUP[4]	AUP[4]	AUP*[4]	--	AUP*[4]	23.206.040.J
Primary Production Manufacturing	AUP[4]	AUP[4]	NP	NP	NP	
Semiconductors	UP(PH)	UP(PH)	NP	--	UP(PH)	
Material Recovery Enterprise	--	--	UP(PH)	--	UP(PH)	
Media Production	ZC[10]	ZC[10]	ZC[10]	AUP[11]	ZC[10]	
Mini-storage	NP	NP	NP	NP	NP	
Recycled Materials Processing	ZC*[9]	ZC*[9]	UP(PH)*	--	UP(PH)*	23.206.040.L; 23.206.040.M
Recycling Redemption center	AUP[7]	ZC[9]	UP(PH)*	AUP	UP(PH)*	23.206.040.M
Repair Service, Non-Vehicle	ZC*[9]	ZC*[9]	ZC*[1]	AUP	ZC*[1]	23.206.040.I
Research and Development	--	ZC[12]	ZC[12]	--	ZC[13]	

Table 3.C: Allowed Uses in Manufacturing Districts

Land Uses	Manufacturing Districts					Use Specific Standards (BMC)
	M	MM	MU-LI	MU-R	M-RD	
Services to Buildings and Dwellings	AUP	AUP	AUP	AUP	AUP	
Warehouse	ZC[9]	ZC[9]	ZC[1]	UP(PH)	ZC[1]	
Warehouse-Based Non-Store Retailer	ZC[9]	ZC[9]	ZC[1]	--	ZC[1]	
Wholesale Trade	ZC[9]	ZC[9]	ZC*[1]	AUP[3]	ZC*[1]	23.206.040.R
Incidental Uses						
Amusement Devices	NP	NP	AUP	AUP	AUP	
Alcoholic Beverage Service	See 23.310					
Cafeteria, On-Site	ZC[2]	AUP[2]	ZC[2]	AUP	ZC[2]	
Child Care Center	NP	NP	See 23.203.040.B			
Columbaria	--	--	--	--	NP	
Food Service Establishment Under 20,000 sq. ft.	AUP*	AUP*	AUP*	AUP*	AUP*	23.302.070 (E
Food Service Establishment 20,000 sq. ft. larger	NP	AUP*	NP	AUP*	NP	23.302.070 (E)
Home Occupations	NP	NP	NP	See 23.302.040	NP	
Live Entertainment Unamplified	NP	NP	ZC	UP(PH)*	ZC	
Live Entertainment Amplified	NP	NP	AUP	AUP	AUP	
Retail Sales of Goods Manufactured On-Site	AUP*[14]	AUP*[15]	AUP*[15]	AUP*	AUP*[15]	23.206.040.N
Storage of Goods Manufactured On-Site (>25 percent gross floor area)	ZC	ZC	ZC	AUP	ZC	
Wholesale Activities	ZC	ZC	ZC	AUP	ZC	
Other Miscellaneous Uses						
Art/Craft Studio	ZC*[10]	ZC*[10]	ZC*[10]	AUP[11]	ZC*[10]	23.206.040.A
ATM, Exterior and Attached to Bank	AUP	AUP	--	AUP	NP	
ATM, Interior or Exterior and Not With Bank	AUP	AUP	AUP	AUP	AUP	
Circus/Carnival	NP	NP	UP(PH)*	AUP(PH)	UP(PH)*	23.206.040.E
Drive-In Uses	NP	NP	NP	NP	NP	
Live/Work	NP	NP	See 23.312		NP	
Parking Lot/Structure	See 23.302.070.G					
Public Market, Open Air	--	--	UP(PH)*[16]	--	UP(PH)*[16]	23.206.040.K
Public Market, Enclosed	--	--	AUP[5]	--	AUP[5]	
Short-Term Rental	--	--	--	ZC*	NP	23.314
Urban Agriculture, Low-Impact	ZC	ZC	ZC	ZC	ZC	
Urban Agriculture, High-Impact	AUP	AUP	AUP	AUP	AUP	

Source: City of Berkeley (2024).

Note: An asterisk (*) applied to a line entry in the columns under Manufacturing Districts means that the information in the Use Specific Standards column applies to that line entry.

1 Requires an AUP for uses 20,000 sf to 30,000 sf. Requires a Use Permit for uses more than 30,000 sf.
2 Not permitted for 20,000 sf or more.
3 Requires a Use Permit if 5,000 sf or more
4 Requires a Use Permit for uses more than 20,000 sf.
5 Requires a Use Permit for more than 5,000 sf of floor area
6 Not permitted over 3,000 sf.
7 Requires a Use Permit for uses more than 40,000 sf.
8 Requires a Use Permit for uses 20,000 sf to 40,000 sf.
9 Requires an AUP for uses 20,000 sf to 40,000 sf. Requires a Use Permit for uses more than 40,000 sf.
10 Requires an AUP for uses 10,000 sf to 20,000 sf. Requires a Use Permit for uses more than 20,000 sf.
11 Allowed with Zoning Certificate if under 1,000 sf. Requires Use Permit if over 20,000 sf.
12 Requires an AUP for uses more than 20,000 sf.
13 Requires an AUP for uses 60,000 sf to 100,000 sf. Requires a Use Permit for uses 100,000 sf or more.
14 Not permitted for 1,500 sf or more.
15 Requires a Use Permit for sales area 1,501–3,000 sf. Not permitted over 3,000 sf.
16 Requires Use Permit for markets over 5,000 sf.
16 Requires Use Permit for markets over 5,000 sf.

-- = Permitted with an AUP, see 23.206.020(B)
[#] = Floor Area Permit Requirement
AUP = Administrative Use Permit
BMC = Berkeley Municipal Code
M = Manufacturing
MM = Mixed Manufacturing
M-RD = Manufacturing, Research and Development
MU-LI = Mixed Manufacturing-Light Industrial
MU-R = Mixed Manufacturing-Residential
NP = Not Permitted
sf = square feet
UP(PH) = Use Permit
ZC = Zoning Certificate

Table 3.D: New Floor Area Permit Requirements

District/New Gross Floor Area	Permit Required for New Floor Area
M, MM	
Less than 20,000 sf	ZC
20,000 to less than 40,000 sf	AUP
40,000 sf or more	UP(PH)
MU-LI	
Less than 10,000 sf	ZC
10,000 to less than 20,000 sf	AUP
20,000 sf or more	UP(PH)
MU-R	
Less than 5,000 sf	ZC
5,000 to less than 10,000 sf	AUP
10,000 sf or more	UP(PH)
M-RD	
Less than 60,000 sf	ZC
60,000 to less than 100,000 sf	AUP
100,000 sf or more	UP(PH)

Source: City of Berkeley (2024).
AUP = Administrative Use Permit
M = Manufacturing
MM = Mixed Manufacturing
M-RD = Manufacturing, Research and Development
MU-LI = Mixed Manufacturing-Light Industrial
MU-R = Mixed Manufacturing-Residential
sf = square feet
UP(PH) = Use Permit
ZC = Zoning Certificate

Table 3.E: Manufacturing, Research and Development Zoning District Development Standards

Basic Standards		Supplemental Standards
Lot Area, Minimum	No minimum	BMC Section 23.304.020 – Lot Requirements
Usable Open Space Per	–	–
Dwelling Unit, Minimum	N/A	–
Floor -Area Ratio, Maximum	2.0	–
Lot Line Setbacks, Minimum		BMC Section 23.304.030 - Setbacks
Front	No minimum	
Rear	No minimum	
Interior Side	No minimum	
Street Side	No minimum	
Building Separation, Minimum	No minimum	–
Lot Coverage, Maximum	80 percent	BMC Section 23.304.120 - Lot Coverage
Non-Residential Bicycle Parking	1 per 2,000 sf	BMC Section 23.322.090 - Bicycle Parking

Source: City of Berkeley (2024).
Note: Maximum Main Building Height of 105 feet may be allowed pursuant to Section 23.206.100(D)(1) (Modification of Development Standards on Large Sites).
BMC = Berkeley Municipal Code
N/A = not applicable
sf = square feet

Table 3.F: Manufacturing, Research and Development Zoning District Off-Street Parking Standards

Land Use	Minimum Required Parking Spaces
Non-Residential Uses	
All non-residential uses except uses listed below	1 per 1,000 sf
Art/Craft Studio	1 per 1,000 sf
Food Service Establishment	1 per 300 sf
Laboratories	1 per 1,000 sf
Manufacturing	1 per 1,000 sf for spaces less than 10,000 sf; 1 per 1,500 sf for spaces 10,000 sf or more
Storage, warehousing, and wholesale trade	1 per 1,000 sf for spaces less than 10,000 sf; 1 per 1,500 sf for spaces 10,000 sf or more

Source: City of Berkeley (2024).
sf = square feet

Table 3.G: Proposed Project Maximum Allowable Buildout Summary

Assessor's Parcel No.	Street Address	Lot Size (sf)	Maximum Allowable Gross Floor Area (sf)
Formerly Pacific Steel Casting			
59-2344-1-2	1305 Eastshore Highway	7,657	15,314
59-2341-4	1401 Eastshore Highway	40,022	80,044
59-2340-8-2	1421 Second Street	102,399	204,798
59-2341-5	1420 Second Street	27,995	55,990
59-2344-4-1	1320 Second Street	54,496	108,990
59-2344-3-1	1314 Second Street	14,000	28,000
59-2345-9	1333 Second Street	36,581	73,162
59-2345-2-2	1310 Third Street	26,604	53,208
59-2345-1	1311 Second Street, 630 Gilman Street, 640 Gilman Street	44,563	89,126
Formerly Berkeley Forge and Tool			
59-2344-7	1331 Eastshore Highway	39,186	78,372
59-2344-5-1	1330 Second Street	12,076	24,152
59-2345-8-1	1337 Second Street	14,632	29,264
59-2345-6-1	635 Camelia Street	13,002	26,004
59-2345-4	643 Camelia Street	5,501	11,002
Other Ownership			
58-2345-2-1	1306 Third Street	6,651	13,302
59-2344-2-1	600 Gilman Street	11,624	23,248
59-2341-3-2	1433 Eastshore Highway	37,543	75,086
59-2345-7	631 Camelia Street, 625 Camelia Street	8,101	16,202
	Total	**502,633**	**1,005,266**

Source: City of Berkeley (2024).
Note: Maximum allowable building area was determined by multiplying the maximum floor-area ratio (FAR) by the lot size for each parcel and does not consider site-specific limiting factors, such as setbacks or parking requirements. Additionally, existing parcels could be merged in the future to exceed the total FAR shown for each parcel. However, the average 2 FAR would not be exceeded across the entire future development area.
sf = square feet

3.4.2 Potential Berkeley Forge Development

The conceptual development project would include the redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the proposed M-RD zoning district. The Potential Berkeley Forge Development would include the redevelopment of all but the following three parcels shown in Table 3.G: 1306 Third Street, 600 Gilman Street, and 1433 Eastshore Highway.

3.4.2.1 Conceptual Building Program

The conceptual development project would include redevelopment of 15 of the 18 parcels on the conceptual development project site consisting of the Pacific Steel Casting and Berkeley Forge and Tool parcels, and the parcels located at 631 and 652 Camelia Street (Clearflow Valves, indicated in the orange outline on Figure 3-3). The conceptual development project would consist of eight new buildings, all of which could contain a mix of R&D, laboratory, and office uses, as well as three parking structures, for a total of 11 new structures. The buildings would be split into three blocks (Blocks A, B, and C), each of which would include separate parking structures and/or open space. Collectively, the three individual blocks would comprise up to 900,000 square feet of development. The following includes a brief summary of each block:

- Block A would be at the northeast corner of the project site, bounded by Gilman Street to the north, Second Street to the west, Camelia Street to the south, and the railroad tracks to the east. Block A would include all parcels bounded by Gilman Street, Second Street, Camelia Street, and the railroad tracks except the existing building at 1306 Third Street (APN 58-2345-2-1), which would not be redeveloped as part of the conceptual development project.

- Block B would be located south of Block A across Camelia Street, bounded by Page Street to the south, as well as Second Street and the railroad tracks to the east and west, respectively.

- Block C would be located on the west side of Second Street, bounded by Gilman Street and Page Street to the north and south, and Eastshore Highway to the east. The existing buildings at 600 Gilman Street (APN 59-2344-2-1) and 1433 Eastshore Highway (APN 59-2341-3-2), which are located immediately north and south of Block C, respectively, are not part of Block C and would not be redeveloped as part of the conceptual development project.

In addition, the existing building located at 1331 Eastshore Highway, one of the Berkeley Forge and Tool buildings, would be reconstructed as an amenity space to serve users of the conceptual development project site.

3.4.2.2 Conceptual Open Space and Landscaping

Each project block would include open space between the buildings. A total of approximately 130,000 square feet of open space would be provided throughout the project site. The open spaces would include approximately 97,000 square feet of walkways, concrete curbs and hardscape, approximately 24,000 square feet of landscaping, and a portion of the 31,092-square-foot existing building at 1331 Eastshore Highway would be reconstructed as an amenity space on the Potential Berkeley Forge Development site.

A total of 56 existing trees would be removed, and approximately 100 to 140 new trees would be planted throughout the project site. Approximately 70 to 100 new street trees would be planted around the perimeter of the project site. In addition, other groundcover and shrub landscaping would be provided throughout the project site in the open space areas described above.

3.4.2.3 Conceptual Access, Circulation, and Parking

The conceptual development project would refinish and widen all sidewalks along the proposed project frontages to meet City standards. No other changes to the roadway system are proposed at this time. Once a formal application for the conceptual development project is received, circulation plans will be designed to meet City standards.

A total of approximately 1,900 parking spaces would be provided throughout the conceptual development project site. Each block would include a parking structure that would be seven stories in height.

Pedestrian sidewalks and pathways would be provided throughout the conceptual development project site and would connect to the existing sidewalks along Gilman Street.

3.4.2.4 Utilities and Infrastructure

The conceptual development project site is in an urban area with existing utilities and infrastructure. The conceptual development project would require installation of the following utility connections: water, wastewater, stormwater drainage, electric, and telecommunications services. Connections to existing infrastructure would be within the adjacent public rights-of-way. Up to seven generators could be located on the conceptual development project site ranging from 200 to 500 kilowatts. Block A would include three generators, and Blocks B and C would include two generators each. As part of the formal application process, the conceptual development project would need to submit a utilities and infrastructure plan that would show how the proposed development would comply with applicable regulations.

Most of the existing 10.26-acre conceptual development project site is covered by impervious surfaces, including existing buildings, roadways, and other paved surfaces. Development of the conceptual development project would result in a reduction in impervious surfaces on the site. Runoff would be treated in accordance with the terms of the applicable Municipal Regional Permit and C.3 requirements before flowing to the City's storm drain.

3.4.2.5 Demolition, Grading, and Construction

The conceptual development project would require demolition of approximately 311,000 square feet of building area and asphalt lots on the site. Construction debris, such as old foundations, pavements, and structures, would be collected and hauled off site for disposal. However, further site investigation and remediation will be required prior to initiation of any ground-disturbing activity. Refer to Section 4.9, Hazards and Hazardous Materials, of this EIR for more information.

The conceptual development project would require approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of materials,

including imported soil and fill. The average depth of excavation across the site would be 4 feet, while the maximum depth of excavation would be approximately 12 feet for sewer connections.

If approved, construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2026–2033. It is anticipated that construction would take place in three phases as follows:

- Phase 1 (Block A) would consist of construction in and adjacent to the block bound by Gilman Street to the north, UPRR tracks to the east, Camelia Street to the south, and Second Street to the west.

- Phase 2 (Block B) would consist of construction in and adjacent to the block bound by Camelia Street to the north, UPRR tracks to the east, Page Street to the south, and Second Street to the west.

- Phase 3 (Block C) would consist of construction in and adjacent to the block bound by Gilman Street to the north, Second Street to the east, Page Street to the south, and Eastshore Highway to the west, excluding the northernmost and southernmost parcels in the block.

3.5 PERMITS AND APPROVALS

The proposed zoning and General Plan/West Berkeley Plan amendments are subject to action by the City's Planning Commission and City Council. If the proposed project is approved, future development projects, including the conceptual development project, would be evaluated for consistency with the newly established zoning and General Plan/West Berkeley Plan designation and for consistency with the development assumptions evaluated in this EIR. Future development projects could be subject to further environmental review, which would be determined at the time that individual applications are received.

The conceptual development project would require discretionary permits and approvals, which are subject to action by the Zoning Adjustments Board, pursuant to the BMC. Specific requirements will be determined once an application for the conceptual development project is received. It is anticipated that once a formal application is submitted for the conceptual development project, the conceptual development project would be more fully evaluated in a subsequent environmental document, which could tier from this program EIR, as appropriate. The appropriate level of environmental review will be determined at the time that the City receives a future application.

Other public agencies may have some authority related to the proposed project and its approvals. Table 3.H provides a list of federal, State, regional, and local agencies that are expected to use the EIR in their decision-making and the required permits and approval actions, including discretionary actions. Please note that the list included in in Table 3.H is not exhaustive; additional permits may be required.

Table 3.H: Anticipated Discretionary Approvals and Required Actions for Project Implementation

Responsible and Other Approving Agencies/Entities	Permit/Approval
California Department of Transportation	● Review of traffic circulation effects and consultation on potential traffic improvements that may affect State highway facilities, ramps, and intersections
San Francisco Bay Regional Water Quality Control Board	● Approval of NPDES permit for stormwater discharge
City/County Association of Governments	● Review of potential effects on Routes of Regional Significance
Bay Area Air Quality Management District	● Permits for on-site generators, boilers, and other utility equipment
California Department of Toxic Substances Control	● Approval of Remedial Action Workplan

Source: Compiled by LSA (2024).
NPDES = National Pollutant Discharge Elimination System

4.0 SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter presents an analysis of the potentially significant environmental impacts that could result from implementation and future development of the project described in Chapter 3.0, Project Description. As described, the project consists of two elements: (1) the proposed Gilman Gateway Rezone Project (proposed project) which would be implemented across the entire 11.54-acre project site, and (2) the Potential Berkeley Forge Development (conceptual development project) which is a reasonably foreseeable future development that could occur on a 10.26-acre portion of the project site. The following describes (1) how a determination of significance is made, (2) the environmental issues addressed in this chapter, (3) the context for the evaluation of cumulative effects, (4) the format of the topical issue sections, and (5) an evaluation of each potentially significant impact in Sections 4.1 through 4.10.

DETERMINATION OF SIGNIFICANCE

The California Environmental Quality Act (CEQA) defines a significant effect as a substantial, or potentially substantial, adverse change in the environment (Public Resources Code (PRC) Section 21068). The "environment" means the physical conditions, which exist in the area including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (PRC Section 21060.5). Each impact evaluation in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance are based on the *State CEQA Guidelines*, applicable City of Berkeley (City) policies, and other applicable regulations.

As Lead Agency for environmental review of the proposed project, the City has the discretion to formulate project-specific thresholds of significance and to identify quantitative and qualitative standards, as appropriate, for the evaluation of potential environmental effects.[1,2] Given the environmental setting, the location of the project area, and the scale and complexity of the proposed project, the City has chosen to develop project-specific thresholds, which are adapted from Appendix G of the *State CEQA Guidelines* using relevant local and regional regulatory, planning, and policy documents (e.g., the City's General Plan) modified as appropriate to the local setting for the resource topic being evaluated and the potential environmental effects of the proposed project. Appendix G checklist questions that are not relevant to the project location or proposed actions are not included as significance thresholds for specific topic areas.

In determining whether a project's impacts are significant, an Environmental Impact Report (EIR) ordinarily compares the environmental conditions of a proposed project with existing environmental conditions, which are referred as the "baseline" for the impact analysis. With the exception of the I--80/Gilman Interchange Project, this EIR compares the potential environmental impacts of the proposed project with the baseline environmental conditions in existence at the time that the Notice of Preparation was published on December 21, 2022. Because the I-80/Gilman Interchange

1 *State CEQA Guidelines*. 2023. Section 15064.7.
2 *Rominger v. County of Colusa* 226 Cal. App. 4th 690 (2014).

Project was under construction as of December 21, 2022 and construction is ongoing, the baseline environmental conditions described in this EIR consider the improvements as an existing condition.

In determining the significance of potential environmental impacts compared to baseline conditions, the City's Standard Conditions of Approval (COAs) are first applied. The City's COAs are routinely required conditions applicable to development projects throughout the City and are implemented to reduce or avoid potential environmental effects. Applicable COAs are identified in the Regulatory Framework subsections for each environmental issue topic and prior to the impact determination.

ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.8 of this chapter describe the project's environmental setting as evaluated in the EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate. This chapter addresses the following environmental issues:

- 4.1, Land Use and Planning
- 4.2, Cultural Resources
- 4.3, Tribal Cultural Resources
- 4.4, Transportation
- 4.5, Air Quality
- 4.6, Greenhouse Gas Emissions
- 4.7, Energy
- 4.8, Noise
- 4.9, Hazards and Hazardous Materials
- 4.10, Hydrology and Water Quality
- 4.11, Biological Resources

It has been determined that the following potential environmental effects of the proposed project would be less than significant or have no impact; therefore, these topics are not evaluated in this chapter: aesthetics, agricultural and forestry resources, mineral resources, population and housing, public services, recreation, utilities and service systems, wildfire. Each of these topic areas is evaluated at a level of detail appropriate to the applicable resource topic in Chapter 6.0, Other CEQA Considerations, of this EIR.

Section 4.1 discusses consistency with the City's land use and planning policies, including the General Plan and the Zoning Ordinance. It should be noted that, according to CEQA, policy conflicts are considered environmental impacts only when they result in direct environmental effects (*State CEQA Guidelines* Section 15382). Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. Any such associated physical environmental impacts are discussed in the appropriate sections of this EIR.

CUMULATIVE ANALYSIS CONTEXT

CEQA defines a "cumulative impact" as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. These impacts can result from a combination of the proposed project together with other projects causing related impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects (*State CEQA Guidelines* Section 15355).

The cumulative discussions in Sections 4.1 through 4.11 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, citywide, regional). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. *State CEQA Guidelines* Section 15130 requires that cumulative impacts be discussed using either 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, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This analysis employs both the list-based and projection-based approaches, depending on which approach best suits the resource topic being analyzed.

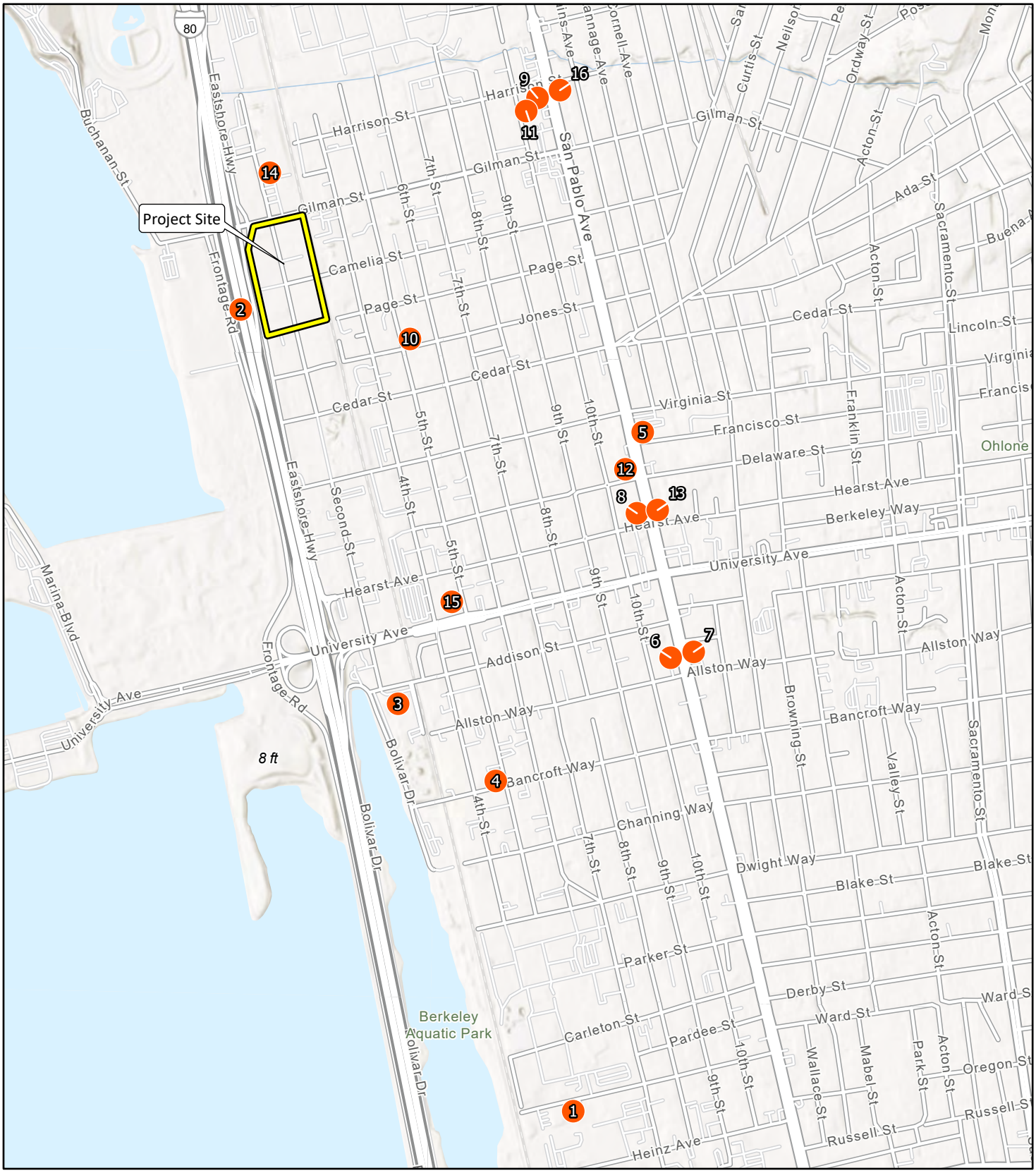
The cumulative land use assumptions include projections for year 2050 by the Association of Bay Area Governments and the Metropolitan Transportation Commission with refinements to reflect development projects under construction, approved, and pending in the city. Cumulative development in the project vicinity (within a 0.25-mile radius of the project site) includes the projects listed in Table 4.A and shown in Figure 4-1. These projects are either projects for which the City has a project application on file or projects that have been approved but were not yet operational at the time that the EIR analysis began (December 2022). Refer to the appropriate discussion in each topical section for further discussion of the cumulative assumptions relevant to each issue topic.

FORMAT OF ISSUE SECTIONS

The environmental topical section is composed of two primary parts: (1) Setting, and (2) Impacts and Mitigation Measures. The following provides an overview of the general organization and the information provided in those two parts:

- **Setting:** The Setting section for each environmental topic generally provides a description of the applicable physical setting (e.g., existing land uses, existing traffic conditions) for the project site and its surroundings in the city. It also provides an overview of regulatory considerations that are applicable to each specific environmental topic.

- **Impacts and Mitigation Measures:** The Impacts and Mitigation Measures section for each environmental topic presents a discussion of the potential impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which are the thresholds used to determine whether an impact is potentially significant. These thresholds are adapted from Appendix G of the *State CEQA Guidelines* and apply local and regional criteria applicable to the project area, as described above. The latter part of this section presents the potential impacts from the proposed project and mitigation measures, if necessary. The potential impacts of the proposed project are organized into separate categories based on the criteria listed in each topical section. Cumulative impacts are also addressed.



LSA

Project Site

Cumulative Projects

1. 742 Grayson Street
2. I-80 Gilman Interchange Improvement
3. 600 Addison Street
4. 787 Bancroft Way/ TheLAB
5. 1701 San Pablo Avenue
6. 2136 San Pablo Avenue
7. 2147 San Pablo Avenue
8. 1820 San Pablo Avenue
9. 1200 San Pablo Avenue
10. 805 Jones Street
11. 1207 10th Street
12. 1740 San Pablo Avenue
13. 1835 San Pablo Avenue
14. 1201 Second/669 Gilman Transfer Station
15. 1914 Fifth Street
16. 1201 San Pablo Avenue

0 650 1300
FEET

SOURCE: Esri World Terrain Base (2024)

J:\CBE1906.09\GIS\Pro\Gilman Gateway Rezone Project EIR\Gilman Gateway Rezone Project EIR.aprx (4/16/2024)

FIGURE 4-1

Gilman Gateway Rezone Project EIR

Cumulative Projects Map

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Table 4.A: Cumulative Projects in the Vicinity of the Project Site

Project (Permit #)	Project Description	Project Status (Date)
I-80 Gilman Interchange Improvement	Construction of two roundabouts at Gilman Street intersections on both sides of Interstate 80/Interstate 580 (I-80/I-580), a new bicycle/pedestrian overcrossing over I-80/I-580, and bicycle facilities at and near the interchange. The project would also provide a connection to the Bay Trail from Gilman Street and create a dedicated two-way cycle track along Gilman Street from the interchange to Fourth Street.	Under Construction
805 Jones Street (ZP2022-0162 and DRCP2022-0019)	Construct three, 2-story duplexes for a total of six units (5,510 sf) with a height of 26 feet and a 455 sf second-story (22 feet) addition to the existing 1,750 sf commercial building.	Approved (1/25/2024)
1201 Second/669 Gilman Transfer Station (ZP2021-0215)	Demolish existing commercial buildings and construct new commercial buildings/structures and new recycling equipment at the City of Berkeley Transfer Station.	Under Review

Source: Compiled by the City of Berkeley (2024).
sf = square feet

Under each category, evidence is presented to show the cause-and-effect relationship between the proposed project and potential changes in the environment. In accordance with *State CEQA Guidelines* Section 15126.2(a), this EIR is required to "identify and focus on the significant effects of the proposed project on the environment." The magnitude, duration, extent, frequency, and range or other parameters of a potential impact are ascertained to the extent feasible to determine whether impacts may be significant. In accordance with CEQA, potential project impacts, if any, are classified as follows for each of the environmental topics discussed in this EIR:

- **Significant Impact:** This classification refers to impacts that are identified as potentially significant because the established threshold would be exceeded with implementation of the proposed project. This determination is made prior to identification of mitigation measures.

- **Less than Significant Impact:** Less than significant impacts are environmental impacts that have been identified but are not potentially significant. If the proposed project is approved, the decision-making body is required to make findings pursuant to *State CEQA Guidelines* Section 15091 that no significant impacts would occur.

- **Less than Significant Impact with Mitigation:** Less than significant impacts are environmental impacts that have been identified but can be feasibly mitigated to a level of insignificance. If the proposed project is approved, the decision-making body is required to make findings pursuant to *State CEQA Guidelines* Section 15091 that significant impacts have been mitigated to the extent feasible through implementation of mitigation measures, if required.

- **Significant and Unavoidable Impact:** This classification refers to impacts that are significant, cannot be mitigated with implementation of feasible mitigation measures, and that cannot be avoided with implementation of the project as proposed. If the proposed project is

approved with significant and unavoidable impacts, the decision-making body is required to adopt a statement of overriding considerations pursuant to *State CEQA Guidelines* Section 15093 explaining why the project's benefits outweigh those significant and unavoidable environmental impacts.

Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively and begin with an acronymic or abbreviated reference to the impact section (e.g., TRA). The following acronyms are used for their respective individual topics:

- LU Land Use and Planning
- CUL Cultural Resources
- TCR Tribal Cultural Resources
- TRA Transportation
- AIR Air Quality
- GHG Greenhouse Gas Emissions
- EN Energy
- NOI Noise
- HAZ Hazards and Hazardous Materials
- HYD Hydrology and Water Quality
- BIO Biological Resources

4.1 LAND USE AND PLANNING

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes the existing land uses on and around the project site. It identifies potential impacts related to land use and planning that could result from implementation of the proposed project and the conceptual development project and recommends mitigation measures, as appropriate.

This section also evaluates the proposed project's consistency with applicable planning policies. Although this section contains a discussion of the consistency of the project with relevant land use policies, policy conflicts, in and of themselves, do not constitute a significant environmental impact. Policy conflicts are considered to be environmental impacts when they would result in adverse physical effects on the environment. Therefore, this section discusses land use policies for informational purposes only. All other associated physical impacts are discussed in this Draft Environmental Impact Report (EIR) in specific topical sections, as applicable.

4.1.1 Setting

The following subsections provide an overview of the project location, the project site, and adjacent existing and planned land uses.

4.1.1.1 Overview

Berkeley is in northwest Alameda County, one of the nine counties that make up the San Francisco Bay Area. Berkeley is bounded by Albany, El Cerrito, and Richmond to the north, Tilden Regional Park and Contra Costa County to the east, Emeryville and Oakland to the south, and the San Francisco Bay to the west. Berkeley encompasses 17.7 square miles, 10.43 of which are land, and 7.27 of which are water.[1]

The 11.54-acre project site is in West Berkeley, adjacent to the Interstate 80/Interstate 580 (I-80/I-580) freeway corridor and 0.2 mile from the San Francisco Bay shoreline. Figure 3-1 in Section 3.0, Project Description, depicts the site's regional and local context. Historically, the project site was the site of the former Pacific Steel Casting and the former Berkeley Forge and Tool. Pacific Steel Casting was established in 1934 and operated as a manufacturer of custom industrial-use parts until 2018. Berkeley Forge and Tool has been in operation since at least 1957, providing custom metal products

[1] United States Census Bureau. 2020. QuickFacts, Berkeley City, California. Website: httpd://www.census.gov/quickfacts/berkeleycitycalifornia (accessed January 25, 2023).

to a variety of customers. Berkeley Forge and Tool ended operations in 2022, and Pacific Steel Casting closed in 2018.

The site is bisected by Second Street and generally bounded by Gilman Street to the north, the Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and the Eastshore Highway and I-80/I-580 (Eastshore Freeway) corridor to the west. The site is surrounded by a mix of manufacturing, warehouse, office, and commercial uses. Residential uses are to the northeast and southeast. Figure 3-2 in Section 3.0, Project Description, is an aerial photograph of the project site and surrounding land uses in the vicinity. The I-80/I-580 freeway corridor and Gilman Street I-80/I-580 ramp, west of the project site, provide regional vehicular access to the project site.

4.1.1.2 Existing Land Uses

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Existing buildings range in height from one to three stories and were likely constructed in the mid-1900s. Vegetation on the site is limited to sparse street trees and ornamental trees. Of the 18 parcels, nine are associated with the former Pacific Steel Casting site and total 8.13 acres. The remaining parcels include five that are associated with the former Berkeley Forge and Tool, which total 1.94 acres, and four other parcels, including the Clearflow Valves parcel at the corner of Second Street and Camelia Street, the building at 1306 Third Street, a vehicle rental business, and 1433 Eastshore Highway, totaling 1.47 acres. Refer to Table 3.A in Chapter 3.0, Project Description, for a summary of the parcels and existing buildings on the project site.

The project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials including total petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls. There are multiple leaking underground storage tank (LUST) sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List"). The properties at 600 Gilman Street (a former gas station in the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site in the central portion of the project site) are identified on GeoTracker as LUST sites. There are multiple LUST sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5.[2] The properties at 600 Gilman Street (a former gas station on the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site on the central portion of the project site) are identified on GeoTracker[3] as LUST sites.[4]

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2 California Environmental Protection Agency (CalEPA). 2024. Cortese List Data Resources. Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed February 21, 2024).

3 Geotracker is the SWRCB's environmental database of hazardous materials release sites and permitted hazardous materials facilities.

4 State Water Resources Control Board (SWRCB). 2024. Geotracker. Website: http://geotracker.waterboards.ca.gov/ (accessed February 22, 2024).

Table 3.A in Chapter 3.0, Project Description, describes the existing buildings and uses on the project site. As shown in Table 3.A, the existing buildings on the project site, the majority of which are currently vacant, total 320,070 square feet. Approximately 75 persons are employed on the project site, and the 1306 Third Street building (APN 58-2345-2-1) contains seven commercial tenant spaces and four residential units, three of which are occupied by 11 individuals, the fourth is currently vacant. Residential units are not allowed in the underlying zoning district; therefore, the use is considered non-conforming.

Figure 3-2 in Section 3.0, Project Description, depicts an aerial view of the project site. Photographs of existing site conditions are depicted in Figure 3-5 in Section 3.0, Project Description.

4.1.1.3 Existing Land Uses in the Vicinity of the Project Site

The following provides a description of the existing land uses within the vicinity of the project site. Land uses adjacent to the site are generally identified in Figure 3-2 in Chapter 3.0, Project Description.

Areas to the North. The project site is bordered to the north by Gilman Street and various light industrial, vehicle service, and heavy commercial uses. These land uses extend 0.6 mile north to Buchanan Street. Recreational fields and open space areas are 0.18 mile northeast of the project site, and University Village, a residential community, is 0.3-mile northeast. Golden Gate Fields, a horse racing track in Albany (the venue's horse stables are in West Berkeley) which closed in June 2024, is 0.35 mile northwest of the project site along the Bay.

Areas to the East. The project site is bordered to the east by a UPRR and Amtrak heavy rail corridor (rail tracks), various heavy and light industrial and commercial uses, and a building containing four residential units and seven commercial tenant spaces, which are non-conforming. Food and entertainment uses are east of the project site between Fourth Street and San Pablo Avenue, beyond which are residential land uses. Additional residential land uses are south of Camelia Street, 0.2 mile to the east.

Areas to the South. The project site is bordered to the south by Page Street and heavy and light industrial and heavy commercial uses. These land uses extend to Virginia Street, across which are commercial uses, including food service and retail uses. The Berkeley Amtrak Station is 0.6 mile south of the project site. An industrial campus is at 600 Addison Street, 0.7 mile south of the project site, with approximately 500,000 square feet of combined R&D uses including offices. Aquatic Park, a linear 100-acre park, is 0.7 mile south of the project site.

Areas to the West. The project site is directly bordered to the west by I-80/I-580. The Caltrans-Alameda County I-80/Gilman Interchange project, a pedestrian and bicycle overcrossing of I-80/I-580, is 0.02 mile west of the project site. The Tom Bates Regional Sports Complex is west of I-80/I-580 0.08-mile west of the project site. The horse stables associated with Golden Gate Fields are 0.11 mile west of the project site along the Bay. The McLaughlin Eastshore State Seashore, Cesar E. Chavez Park, and the Berkeley Marina are 0.12 mile, 0.60 mile, and 0.70 mile southwest of the project site, respectively.

4.1.1.4 Regulatory Framework

The following section provides a brief description of the regulations affecting land use and planning at the state, regional, and local level.

State Regulations. State regulations applicable to the proposed project include California State Planning and Zoning Law and the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375).

California State Planning and Zoning Law. This law, which is codified in California Government Code Sections 65000–66037, delegates most of the state's local land use and development decisions to cities and counties. The California Government Code establishes specific requirements pertaining to the regulation of land uses by local governments, including general plan requirements, specific plans, subdivisions, and zoning. California Government Code Section 65302 requires that all California cities and counties include the following seven elements in their general plans: (1) land use, (2) circulation, (3) housing, (4) conservation, (5) open space, (6) noise, and (7) safety. Cities and counties that have identified disadvantaged communities must also address environmental justice in their general plans, including air quality.[5]

Sustainable Communities and Climate Protection Act of 2008 (SB 375). This statute requires California's regional planning agencies to include a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) in their Regional Transportation Plans (RTP). SB 375 was enacted to reduce greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation, land use, housing, and environmental planning. The SCS provides a plan for meeting the regional emissions reduction targets established by the California Air Resources Board (CARB). If the emission reduction targets cannot be met through the SCS, an APS may be developed that shows how the targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. SB 375 also offers local governments regulatory and other incentives to encourage more compact new development and transportation alternatives.

The requirements of SB 375 are reflected in Plan Bay Area 2050[6] which was adopted by the Association of Bay Area Governments and the Metropolitan Transportation Commission and serves the regional planning agencies in the nine-county region composed of Alameda, Contra

[5] Senate Bill 1000 (SB 1000), adopted in 2016, requires both cities and counties that have disadvantaged communities to incorporate environmental justice (EJ) policies into their general plans, either in a separate EJ element or by integrating related goals, policies, and objectives throughout the other elements. This update, or revision if the local government already has EJ goals, policies, and objectives, must happen "upon the adoption or next revision of two or more elements concurrently on or after January 1, 2018."

[6] Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2021. Plan Bay Area 2050, A Vision for the Future. October 21. Website: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf (accessed December 2023).

Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties. Plan Bay Area 2050 is further discussed below.

Regional Regulations. The following regional regulations related to land use and planning that would be applicable to the project are described below.

Plan Bay Area 2050. Plan Bay Area 2050 [7], adopted October 2021, is a State-mandated, integrated long-range transportation and land use plan for the San Francisco Bay Area created by the Association of bay Area Governments and the Metropolitan Transportation Commission in collaboration with Bay Area residents, partner agencies, and nonprofit organization. As required by SB 375, all metropolitan regions in California must complete an SCS as part of an RTP. This strategy integrates transportation, land use, and housing to meet GHG reduction targets set by the CARB. Plan Bay Area 2050 meets those requirements. In addition, the plan sets a roadmap for future transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

To meet the GHG reduction targets, the plan identifies four growth geographies where future growth in housing and jobs should be focused: Priority Development Areas (PDAs), Priority Production Areas (PPAs), Transit-Rich Areas (TRAs), and High-Resource Areas (HRAs). The agencies estimate more than 80 percent of housing growth would occur within TRAs and nearly 30 percent would be within HRAs, and more than 60 percent of job growth would be within walking distance of high-quality transit between 2015 and 2050.[8]

A PDA is a funding and planning tool. If a local jurisdiction voluntarily nominates an area for PDA designation, the designation provides the local jurisdiction with access to funds and grants to develop and adopt area plans to plan for, design, and regulate future growth of the area as well as construct needed and/or planned infrastructure improvements. The project site is not within a PDA, PPA, TRA, or HRA.

The plan primarily discusses strategies to improve housing, the economy, transportation, and environment within the nine-county Bay Area. The plan aims to make the region more affordable, connected, diverse, healthy and vibrant, with particular attention paid to the needs of residents living in identified Equity Priority Communities (previously termed “Communities of Concern”). The identification of Equity Priority Communities is based upon eight demographic variables: people of color, low-income, limited English proficiency, seniors 75 years and over, zero-vehicle households, single parent families, people with a disability, and rent-burdened households. If an area exceeds both threshold values for low-income household and people of color shares or exceeds the threshold for low-income household and also exceeds the threshold values for three or more demographic variables, the area is considered an Equity Priority

7 Ibid.

8 Growth projections do not sum to 100 percent because PDAs, TRAs, and HRAs are not mutually exclusive.

Community. According to Plan Bay Area 2050 and the Equity Priority Communities map, the project site is within a region of Berkeley identified as an Equity Priority Community.[9]

Local Plans and Regulations. The following describes local plans and regulations related to land use and planning that would be applicable to the project.

Berkeley General Plan. The Berkeley General Plan, adopted in April 2002,[10] is a comprehensive and long-range statement of community priorities and values developed to guide public decision-making for the City of Berkeley (City) in future years. It established the basis for zoning regulations and provides guidance in the evaluation of development proposals. The General Plan consists of 11 chapters that cover issues including land use, transportation, housing, disaster preparedness and safety, open space and recreation, environmental management, economic development and employment, urban design and preservation, citizen participation, and implementation of goals and policies.

The project site is currently designated as Manufacturing in the General Plan. The Manufacturing designation represents an area devoted to manufacturing enterprises and encourages a range of development dedicated to manufacturing and industrial uses, including "heavy manufacturing". The proposed project includes a General Plan Amendment to add a description of a new zoning district - Manufacturing, Research and Development (M-RD) – to the existing Manufacturing Land Use Designation.

West Berkeley Plan.The West Berkeley Plan, adopted in December 1993 as an amendment to the General Plan and amended in 2011,[11] sets forth the City's key land use, environmental, economic development, transportation, housing, social services, and physical form policies for the West Berkeley Plan area. The West Berkeley Plan aims to reinforce the dynamic mix of industrial, office, arts and crafts, residential, retail, and institutional activities in the City's western district.

The project site is in West Berkeley and is zoned Manufacturing (M) pursuant to the Zoning Ordinance (see below) and the West Berkeley Plan.

City of Berkeley Conditions of Approval for Development Projects.The City has established standard conditions of approval (COA) for all development projects. The following COAs address land use and planning:

> COA: Compliance Required (BMC Section 23.102.050). All land uses and structures in Berkeley must comply with the Zoning Ordinance and all applicable City ordinances and regulations. Compliance with the Zoning Ordinance does not relieve an applicant from

9 Association of Bay Area Governments. 2021. *Plan Bay Area 2050, Equity Priority Communities: American Community Survey 2014-2018 Tracts Within Urbanized Area*. October.

10 City of Berkeley. 2002. *Berkeley General Plan: A Guide for Public Decision Making*.

11 City of Berkeley. 1993. *West Berkeley Plan* (as amended 2011).

requirements to comply with other federal, State, and City regulations that also apply to the property.

COA: Conformance to Approved Plans (BMC Section 23.404.060[B][4]). All work performed under an approved permit shall comply with the approved plans and any conditions of approval.

City of Berkeley Zoning Ordinance. The Zoning Ordinance consists of a Zoning Map that delineates the boundaries of zoning designations within the City and regulations that govern the use of land and placement of buildings and improvements within the various classes of districts. The purpose of the Zoning Ordinance is to protect the health, safety, peace, morals, comfort, convenience, and general welfare of the people of Berkeley, and to serve as an instrument for implementation of the General Plan.

The project site is currently zoned Manufacturing (M) pursuant to the Zoning Ordinance. The purpose of the M district is to encourage development dedicated to manufacturing and industrial uses, including heavy manufacturing; encourage the creation and continuation of well-paid (often unionized) industrial jobs for people without advanced degrees; retain the stock of manufacturing and industrial buildings wherever possible; support the development of industrial businesses that contribute to the maintenance and improvement of the environment; maintain and improve the quality of West Berkeley environment while allowing operation of the full range of manufacturers; support the development of retail automobile sales uses; and provide opportunities for vehicle sales. The development standards for the M district are shown in Table 3.B. in Chapter 3.0, Project Description.

The proposed project would create a new zoning district – M-RD – to facilitate future development of up to 1,005,266 square feet of non-residential space, which would require approximately 1,300 off-street automobile parking spaces. The purpose of the M-RD zoning district would be to support a mix of industrial and heavy commercial uses, such as light manufacturing and R&D, particularly those uses that can provide high--quality employment and add significantly to the tax base; allow office and laboratory uses that support light industrial and R&D uses; provide opportunities for an urban campus-like environment with high-quality design and site planning that includes amenities for employees and customers; and support the development of industrial uses which satisfy performance standards that protect the environment. Chapter 23.206 of the Berkeley Municipal Code (BMC) would be amended to include the new district. The M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D.

4.1.2 Impacts and Mitigation Measures

The following describes potential impacts related to land use that could result from development of the proposed project. This section begins with the criteria of significance, establishing the thresholds to determine whether an impact is significant. The latter part of this section describes the land use impacts from the proposed project and the conceptual development project and identifies applicable COAs and/or mitigation measures, as appropriate.

As noted earlier, conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves; therefore, the proposed project's consistency with applicable policies is discussed separately from the physical land use impacts associated with the proposed project. Policy inconsistency is considered to be 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 when evaluated against the established significance criteria. The proposed project's consistency with regional policies related to physical environmental topics (e.g., air quality, transportation, and noise) is analyzed and discussed in those topical sections of the EIR.

4.1.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact on the environment related to land use and planning if it would:

Threshold LU-1: Physically divide an established community; or

Threshold LU-2: Result in a conflict between the proposed project and the provisions of the following plans, policies or regulations, adopted for the purpose of avoiding or mitigating an environmental effect, due to any of the significant impacts identified in this EIR:

- Berkeley General Plan
- West Berkeley Plan
- Zoning Ordinance
- Plan Bay Area 2050

4.1.2.2 Project Impacts

The following describes the potential impacts related to land use according to the significance criteria described above. Impacts associated with the zoning and General Plan/West Berkeley amendments (i.e., proposed project) are evaluated at a programmatic level, whereas the potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible given that specific details related to construction and excavation are not fully known at this time.

Impact LU-1: The proposed project, including the conceptual development project, would not physically divide an established community. (*Less than Significant*)

The division of an established community would typically involve the construction of a barrier to neighborhood access (such as a new freeway segment) or the removal of a means of access (such as a bridge or roadway) that would impair mobility within an existing community, or between a community and outlying areas. For example, the construction of an interstate highway through an existing community could constrain travel from one side of the community to another. Similarly, such construction could also impair travel to areas outside of the community.

The project site is in an urban, industrial area of West Berkeley. Development surrounds the project site on all four sides, including various light industrial and commercial uses to the north and south,

rail tracks and additional light industrial and commercial uses to the east, and the I-80/I-580 corridor to the west. The proposed project would create a new zoning district – M-RD – and incudes associated zoning, General Plan, and West Berkeley Plan amendments to facilitate future buildout of up to 1,005,266 square feet of non-residential space, including a mix of light manufacturing, R&D, and laboratory or office uses on an 11.54-acre site. Although the proposed rezoning and General Plan/West Berkeley Plan amendments would not result in any direct physical changes to the project site, implementation of the proposed zoning district would facilitate the demolition of all existing on-site structures and the development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory or office uses on the project site. However, development of the project site under the proposed project would be consistent with the surrounding uses. Therefore, future development facilitated by the proposed project would not physically divide an established community and impacts would be **less than significant**.

Additionally, the conceptual development project would include redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the M-RD district. The conceptual development project would include redevelopment of the Pacific Steel Casting and Berkeley Forge and Tool parcels, and the Clearflow Valves parcel (15 of the 18 parcels on the project site, collectively referred to herein as the "conceptual development project site") that could consist of eight new buildings, all of which could contain a mix of R&D, laboratory, and office uses, and three parking structures, for a total of 11 new structures. The buildings would be split into three blocks (Block A, B, and C), each of which would include separate parking structures and/or open space. Collectively, the three individual blocks would comprise up to 900,000 square feet of development. The conceptual development project also includes utility and infrastructure, and approximately 130,000 square feet open space/landscaping improvements on the project site. In addition, the existing building at 1331 Eastshore Highway would be reconstructed as amenity space as part of conceptual development project.

The conceptual development project would maintain the segment of Second Street between Gilman and Camelia streets as one-way southbound and narrow the segment from two to one automobile lanes. The conceptual development project would also convert the segment of Second Street between Camelia and Page streets from one-way southbound to two-way operations, consistent with current conditions. In addition, the conceptual development project would use Third Street between Gilman and Camelia streets to allow truck and emergency vehicle access and allow passenger vehicles to turn right out of a proposed parking garage and would create a private street on the east side of the development site between Camelia and Page streets. All sidewalks along the conceptual development project frontages would be refinished and widened to meet City standards. No other changes to the roadway system are proposed at this time. Once a formal application for conceptual development project is received, circulation plans will be developed in coordination with the City and required to conform to City standards and policies. Pedestrian sidewalks and pathways would also be provided throughout the conceptual development project site and would connect to the existing sidewalks along Gilman Street. As a result, the conceptual development project would improve, not limit or impede, access to the site and adjacent uses and impacts would be **less than significant**.

Impact LU-1 Summary: Implementation of the proposed project, including the conceptual development project, would not eliminate or reduce existing levels of connectivity within the City such that an existing community would become physically separated from another, or existing residents or employees would have substantially diminished access to transit, commercial centers, employment areas, schools, parks or other facilities. This impact would **less than significant**.

Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050. (*Less than Significant*)

The following sections address the proposed project's compliance and compatibility with the applicable land use regulations and policies of the General Plan, West Berkeley Plan, the Zoning Ordinance, and Plan Bay Area 2050.

Berkeley General Plan. The proposed project would establish a new zoning district (M-RD) in Chapter 23.206 of the BMC, rezone the 11.54-acre project site from M to M-RD, and amend the Berkeley General Plan to add the M-RD district to the Manufacturing land use designation. The proposed zoning and General Plan amendments are subject to action by the City of Berkeley's Planning Commission and City Council. The conceptual development project would require discretionary permits and approvals, which are subject to action by the Zoning Adjustments Board and its Design Review Committee, pursuant to the BMC. Specific requirements will be determined once an application for the conceptual development project is received. In addition, the conceptual development project would be subject to a complete General Plan consistency analysis as part of the permitting actions.

City decision-makers will evaluate the proposed project in the context of the General Plan, and, as part of the development review process for the conceptual development project, will consider potential policy conflicts.

The proposed project, including the conceptual development project, would be generally consistent with the land use and planning related policies in the City's General Plan, and no adverse physical environmental effects would result from any policy inconsistencies. The proposed project would be generally consistent with the policies found in the Land Use Element by maintaining the community character of the surrounding (predominantly industrial) area consistent with Policy LU-1 and Objective 4, encouraging infill development consistent with Policy LU-3, and undergoing discretionary review consistent with Policy LU-4, and would be generally consistent with the policies found in the Transportation Element because compliance with the City's COAs, as described further in Section 4.4, would y encourage the use of alternative transportation and transit consistent with Policy T-10, including a transportation demand management program, and would encourage] the maintenance of streets, sidewalks, and other public infrastructure to reduce long term replacement costs consistent with Policy T-25. Encouraging improvements to transit, bicycle, disabled, and pedestrian access in the vicinity of the project site consistent with Policy T-29 would also render the proposed project generally consistent with the Open Space Element and maintaining the community character of the area and site would render the proposed project generally consistent with the

Urban Design and Preservation Element. The proposed project would also be generally consistent with the policies found in the Disaster Preparedness and Safety Element through identifying, avoiding, and minimizing natural and human-caused hazards in the development of property consistent with state and local building regulations, and would be generally consistent with the policies found in the Environmental Management Element through compliance with City and State-mandated Green Building Standard Codes and federal, State and local regulations protecting groundwater water quality. Therefore, the proposed project and the conceptual development project would result in a **less than significant** impact related to consistency with General Plan policies adopted to mitigate adverse environmental impacts.

West Berkeley Plan. The proposed project would amend the West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. The proposed project, including the conceptual development project, would be generally consistent with the West Berkeley Plan, as it would maintain the community character of the surrounding (predominantly industrial) area, provide an increase in employment opportunities for West Berkeley residents, adequately mitigate impacts on traffic, and meet applicable environmental laws and standards. However, City decision-makers would evaluate the proposed project in the context of the West Berkeley Plan and consider any potential policy conflict. Should the proposed project be approved by the City Council, any future development project would also be required to undergo a policy consistency analysis by the decision-making body.

The proposed project, including the conceptual development project, would be consistent with the land use and planning related policies in the City's West Berkeley Plan for the reasons stated above, and no adverse physical environmental effects would result from any policy inconsistencies; therefore, the proposed project and the conceptual development project would result in a **less than significant** impact related to consistency with West Berkeley Plan policies adopted to mitigate adverse environmental impacts.

City of Berkeley Zoning Ordinance. The project site is currently zoned Manufacturing (M) pursuant to the City's Zoning Ordinance. The proposed project would create a new zoning district – M-RD – to facilitate future development of up to 1,005,266 square feet of non-residential space. In addition to the new zoning district, the proposed project includes buildout of the conceptual development project for up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses on a 10.26-acre portion of the site.

The purpose of the M-RD zoning district would be to support a mix of industrial and heavy commercial uses, such as light manufacturing and R&D, particularly those which can provide high quality employment and add significantly to the tax base; allow office and laboratory uses that support light industrial and R&D uses; provide opportunities for an urban campus-like environment with high-quality design and site planning that includes amenities for employees and customers; and support the development of industrial uses which satisfy performance standards that protect the environment. The M-RD Zoning district would permit a variety of uses, including office, industrial, and heavy commercial, laboratory, and light manufacturing, and R&D, as provided in Table 3.C in Chapter 3.0, Project Description. The development standards and allowed uses for the proposed M-RD zone would be similar to the City's existing Mixed-Use Light Industrial (MU-LI) zoning district. A

summary of the development standards for the proposed M-RD zoning district is shown in Table 3.E in Chapter 3.0, Project Description.

As a result of regulations built into the M-RD zoning district (i.e., zoning and design standards that must conform with the intent of the General Plan), and compliance with those regulations with implementation of the conceptual development project, the proposed rezoning and development standard changes do not represent significant land use policy impacts. This impact would be **less than significant.**

Plan Bay Area 2050. Plan Bay Area 2050 is a long-range plan that primarily discusses strategies to improve housing, the economy, transportation, and environment within the Bay Area. Throughout the plan, four types of Growth Geographies, which are geographic areas used to guide where future growth in housing and jobs would be focused, have been identified. The project site is within an area designated as a TRA and is adjacent to areas that have been identified as Transit-Rich and High-Resource Areas. This indicates that the project site is an appropriate location for infill development and employment-generating land uses. The project site is also within a region of Berkeley identified as an Equity Priority Community. Plan Bay Area does not directly govern land uses within the city and the proposed project would not conflict with any of the strategies discussed in Plan Bay Area 2050. Therefore, the proposed project and conceptual development project would not be inconsistent with Plan Bay Area 2050, and this impact would be **less than significant**.

Impact LU-2 Summary: The proposed project, including the conceptual development project, would be consistent with the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050. Therefore, impacts associated with potential conflicts with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation an environmental effect would be **less than significant**.

4.1.2.3 Cumulative Impacts

The cumulative geographic context for land use, planning, and policy considerations for development consists of the project site in addition to the surrounding areas (within 0.25 mile of the project site) and uses abutting the project site.

The area surrounding the project site is largely developed with a mix of manufacturing, light industrial, office, residential, and commercial/restaurant uses. Project development would increase the intensity of office use and light industrial development within the vicinity of the project site; however, other development projects are dispersed geographically throughout the city and would not combine with the project to result in cumulative impacts related to physical division of an established community.

In addition, all other cumulative development has been, or will be, subject to development guidance, including programs, policies, and implementation strategies, contained within the General Plan, and requirements prescribed by zoning and other applicable land use plans to avoid conflicting with plans adopted to avoid or mitigate environmental effects. Based on the information in this land use section and for the reasons summarized above, development of the proposed project would not

contribute to any significant adverse cumulative land use impacts when considered together with other cumulative development, and this impact would be **less than significant.**

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4.2 CULTURAL RESOURCES

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing cultural resources conditions within the project site and vicinity. It identifies potentially significant impacts to such resources that may result from implementation of the proposed project and the conceptual development project and recommends mitigation measures to reduce the severity of potentially significant impacts.

Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value for their historical significance. Examples of cultural resources include precontact (Native American) and historic-period archaeological sites, and historic buildings and bridges of architectural significance. The California Environmental Quality Act (CEQA) requires agencies that are considering projects that are subject to discretionary action to consider the potential impacts on cultural resources that may occur from project implementation (see Section 15064.5 and Appendix G of the *State CEQA Guidelines*). Section 4.3, Tribal Cultural Resources, of this Environmental Impact Report (EIR) addresses the topic of tribal cultural resources.

In addition to the references listed in this section, a Preliminary Cultural Resources Evaluation (CRE)[1] and Historical Resource Evaluation (HRE)[2] were prepared for the project site and built environment resources located within the project site. The CRE and HRE were used in the analysis provided in this section and are included as Appendices B and C to the Draft EIR. The HRE was peer reviewed by LSA as a consultant to the City of Berkeley (City).[3]

4.2.1 Setting

To characterize the setting for cultural resources at the project site, the following tasks were completed as part of the CRE and HRE: (1) in-person records searches of the California Historic Resources Information System (CHRIS) archives were conducted at the Northwest Information Center (NWIC); (2) geotechnical borings and soil samplings were completed to identify the potential presence of cultural resources; and (3) the existing buildings on the project site were evaluated to determine their eligibility for listing in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), and the City of Berkeley Landmark

1 Archeo-Tec. 2022. *Preliminary Cultural Resources Evaluation of the 2nd and Gilman Street Project, City of Berkeley, Alameda County, California.* June.

2 Bridget Maley, architecture + history llc, Caitlin Himba, Left Coast Architectural History. 2023. *Gilman Gateway Historic Resources Evaluation.* May.

3 LSA Associates, Inc. 2023. *Peer Review of the Gilman Gateway Historic Resource Evaluation, Berkeley, California (LSA Project No. CBE1906.09).* March 24.

and Structure of Merit criteria. The results of these tasks are summarized below. This section also includes an overview of the applicable regulatory context related to cultural resources.

4.2.1.1 Records Searches

The results of the records searches at the NWIC are discussed below.

Northwest Information Center. The NWIC records search was conducted on April 19, 2022. The NWIC, an affiliate of the State of California Office of Historic Preservation, is the official State repository of cultural resource records and reports for Alameda County. The NWIC database indicates there are no previously recorded cultural resource studies of the project site. The NWIC database also indicates that there are 14 recorded cultural resources located within the 0.5-mile radius. Of these resources, there are prehistoric sites that include a midden site, the Schoolhouse Creek site, and the West Berkeley Shellmound Complex, as well as 11 historic resources, including a portion of the Union Pacific Railroad (UPRR) track and a historic trash deposit. Seven are built environmental resources, and two are undated and unidentified resources. Of the seven built environmental resources identified during the records search, three are located within the boundaries of the project site. These three are Berkeley Steel, General Petroleum, and Pacific Steel Casting.

The Schoolhouse Creek site and West Berkeley Shellmound complex are considered highly significant prehistoric resources. In 2000, a prehistoric-period shell midden deposit (the Schoolhouse Creek site) was identified during archaeological monitoring of trench excavation for the installation of fiber optic cables. The site was left in place. Based on the proximity of the site to disturbances associated with the railroad line, combined with the established history of using shellmound deposits for surface leveling and fill during development of the area, it is possible that the Schoolhouse Creek site was deposited as fill displaced from a nearby shellmound. However, no study of the site integrity was completed.

Standing as tall as 15 feet above the surrounding area, the primary West Berkeley Shellmound was a prominent feature of the landscape in the vicinity of the proposed project until well into the 20th century. It was located only a short distance from the north bank of Strawberry Creek, in close proximity to the stream's entrance into San Francisco Bay. The first documented study of the West Berkeley Shellmound occurred in 1902 by E.L. Furlong, and the limited excavation yielded 265 artifacts and many burials. Intensive investigation of the West Berkeley Shellmound took place in the mid-20th century. By this time, however, most of the West Berkeley Shellmound had been systematically demolished by development and related ground disturbance. It is estimated that the West Berkeley Shellmound measured approximately 300 yards north-south and roughly 100 yards east-west. Numerous nearby archaeological investigations have identified cultural resources that have been associated with the West Berkeley Shellmound.

During a 2016 program of geotechnical borings, both intact and displaced prehistoric-period buried midden soil deposits were identified in a location adjacent to the project site. Intact midden deposits were identified at a depth of between 4.6 and 6.1 feet below the ground surface. Cultural materials included burned and unburned wood, charcoal, flaked stone, marine shell fragments, faunal bone, and lignite coal pieces. Radiocarbon testing of marine shell indicated that the midden

deposit was contemporaneous with the early phases of the occupation of the West Berkeley Shellmound complex. Due to the close proximity, it is possible that intact and/or displaced portions of this known midden deposit extend into the project site.

4.2.1.2 Fieldwork

As part of the CRE, qualified archaeologists accompanied a field technician to monitor the excavation and recovery of 13 direct push geotechnical borings placed through the project site. The borings were analyzed in the field and select soil samples were collected for further analysis in the laboratory. The findings of the boring examinations and soil sampling are discussed below.

Fieldwork. Qualified archaeologists examined each boring on April 20, 2022, and April 21, 2022. Each boring was carefully opened longitudinally so that soils could be examined, photographed, and described. Few culture constituents, primarily consisting of modern and historic material found within disturbed/artificial fill nearest the ground surface, were noted during boring recovery and field analysis.

No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials were identified during boring excavation. One fragment of burned bone of potential prehistoric-period archaeological interest was recovered. However, in the absence of any cultural context or association, the bone fragment cannot be interpreted as a cultural resource. Coal and charcoal associated with the adjacent midden deposits were sampled from fill layers. The CRE determined that the recovered coal and charcoal have no prehistoric cultural associations and are most likely historic. However, due to the project site's proximity to a midden site, the possibility that they represent displaced midden could not be ruled out entirely.

Laboratory. Selected soil samples were brought to and investigated in a laboratory. No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials were identified in the targeted soil analysis.

4.2.1.3 Geomorphology

The project site is located on a low-lying plain that is underlain by Quaternary (primarily Holocene) alluvial fan and levee deposits. The West Berkeley area is a zone of bajada development that began during the Pleistocene, and west of San Pablo Avenue and extending to the Bay shoreline, creeks and slough have deposited levee and overbank sediments since at least the Pleistocene. The source material for this bajada and levee development was the stratigraphic sequence of the Berkeley Hills, from which the headwaters of the Schoolhouse and Strawberry creeks originate. The stratigraphic sequence of the Berkeley Hills is largely confined to middle and upper Miocene age units that are clearly distinct, including the Sobrante Formation, the Claremont Chert, the Orinda Formation, the Moraga Formation, the Siesta Valley Formation, and the Bald Peak Basalt. In addition to this Miocene package, creeks cut through fragments of Jurassic to Late Cretaceous age rocks of the Franciscan and Great Valley Complexes.

A previous geomorphological study, based on cores recovered from near the project site, determined that the project vicinity exhibits "extensive horizontal variability of soils" with "tidal

beach sands and estuarine marsh deposits with pockets of discrete stable landforms."[4] Small portions of an intact, prehistoric site identified in that study area were located superior to just one such stable landform "island". The dynamism of the geomorphological processes and soils means that predicting where remnants of stable alluvial depositions, and therefore possible remnants of prehistorical cultural resources, may lie beneath the current ground surface of the project site is extremely difficult.

Although now situated approximately 300 meters inland, almost half of the project site was once an estuarine marsh of San Francisco Bay. In the early 20th century, the marsh and its slough appear to have been choked and partially filled such that the project site now lays almost directly along the Bay shoreline. In the late 1930s, construction of the Eastshore Highway included extensive infilling of the Bay shallows west of the project site. The result is that the shoreline was artificially shifted to the west. Therefore, all ground surfaces between the current shoreline and the western portions of the project site are composed of imported, artificial fill overlaying geologically recent shoreline sands and marshy clays.

4.2.1.4 Prehistoric and Historical Background

The prehistoric and historical context of the project site is discussed below.

West Berkeley. Studies and analysis of archaeological materials uncovered in the San Francisco Bay Area (Bay Area) indicate that native peoples have occupied the Bay region for over 11,000 years. The area of West Berkeley where the project site is located was originally inhabited by the indigenous Ohlone people, who maintained villages, hunted and gathered, and created shellmounds along the Bay shore and inland from approximately 500 CE (Common Era) until the coming of European settlers in 1776.

Originally called "Costanoans" after the Spanish derivative for "coastal people," the terms Ohlone/Costanoan imply a loose linguistic affiliation encompassing six or seven distinct dialect clusters. The Costanoan languages derived from Penutian Stock, a theoretical linguistic construct which appears to have its origins in the northwestern Great Basin. Penutian-speaking peoples presumably slowly migrated into Central California as early as 2500 BCE (Before Common Era). As Penutian-speaking peoples continued to spread west, they would have come in contact with existing Hokan populations. The fusion of Hokan and Penutian-speaking peoples may have become the Miwok and Ohlone cultures. By 300–500 CE, proto-Ohlone speakers of Penutian stock were firmly ensconced in the San Francisco Bay region.

At the time of the European settlement in the Bay Area, the project site was part of the Huchiun Ohlone territory, where the Chochenyo Ohlone dialect was spoken. The Ohlone were semi-sedentary collectors and hunters of fish and game. In 1770, it is estimated that the Ohlone population was at most around 10,000, perhaps fewer. Forty years later, by 1810, much of the native population and their traditional culture and languages had been subjected to the disastrous

[4] Archeo-Tec. 2022. *Preliminary Cultural Resources Evaluation of the 2nd and Gilman Street Project, City of Berkeley, Alameda County, California.* June.

effects of European encroachment, primarily disease and displacement due to the California mission system.

Post-contact history for the State is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period begin with the establishment of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769–1822). Despite early exploration of the San Francisco Bay by British explorer Sir Francis Drake, the first Spanish explorer to arrive to the San Francisco Bay was Gaspar de Portolo and his party in 1769. By 1770, the Fages Expedition had reached the East Bay and made it as far north as Oakland or Emeryville, opposite the Golden Gate. The East Bay was again explored in 1772 during the Fages-Crespi Expedition.

Beyond exploration, a major emphasis during the Spanish Period in California was the construction of missions and associated presidios to convert the Native American population to Christianity and integrated communal enterprise. Mission San Francisco de Asís, commonly known as Mission Dolores, was established in San Francisco in 1776. Beginning in the first decade of the 19th century and continuing until 1822, the lands encompassing the project site were part of the extensive East Bay ranch holdings of Mission Dolores in present-day San Francisco and later Mission San Jose in what is now Fremont.

Outside of the Mission sites, several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. In 1783, Pedro Fages served as the fifth Governor of Alta California and was given permission from the King of Spain to make land grants in California as an incentive to settlers to form pueblos or towns. The majority of these Spanish-era land grants were presented to Spanish military officers following the conclusion of their life-long military service.

Mexican Period (1822-1848). After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade and decreed that California ports be open to foreign merchants. In addition to eliminating the system of Spanish nobility in California, the Spanish missions across the territory were secularized during this period. The secularization of the Spanish Missions meant that all communal mission property was placed in a trust with the intention of being eventually returned to the local Native American population.

Extensive land grants called ‘Ranchos’ during the Mexican period were established in part to increase the population inland from the more settled coastal areas where the Spanish first concentrated their colonization efforts. During the supremacy of the ranchos in the Mexican Period, landowners largely focused on the cattle industry and devoted large tracts to grazing.

The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants.

By the end of 1823, the Castro and Peralta families, whose heads of family were ranking members of the Spanish military, had taken control of the entire eastern bay shore north of San Leandro Creek. Peralta's 43,000-acre Rancho San Antonio included all of present-day Albany, Berkeley, Emeryville, Oakland, Piedmont, and Alameda, as well as part of San Leandro. In 1842, Don Peralta subdivided his ranch between his four sons. The project site fell within the portion of Rancho San Antonio, which was given to his fourth son, Jose Domingo Peralta. In 1841, the first known structure in the area, Jose Domingo Peralta's residence, was constructed in the vicinity of what is today the intersection of Hopkins Street and Albina Avenue in the city, just over one mile east of the project site. The Peralta family most likely utilized the project site for cattle grazing.

American Period (1848-Present). Mexican control of California was brief, and the territory became part of the United States following the end of the Mexican-American War with the Treaty of Guadalupe Hidalgo in 1848. This ushered California into its American Period. Prior to California becoming a state in 1850, the discovery of gold in 1848 prompted a massive influx of fortune seekers who steadily flooded into the rural counties throughout Northern California. The first intensive settlement of the East Bay region during the historical era occurred in what is today downtown Oakland. The city of Oakland was formally named and incorporated in 1852 and Alameda County was created in 1853. The earliest known historical-period settlement in the vicinity of the project site dates to the 1850s, when Captain James Jacobs first anchored his ship at the mouth of Strawberry Creek. This unincorporated town, now the West Berkeley neighborhood in the city, was originally called Ocean View until it was absorbed into the newly incorporated City of Berkeley in 1878. The industries that developed around the wharf demanded many workers, which generated an early center of population. Ocean View was characterized by a diverse demographic mix that included both white-collar factory owners and blue-collar laborers, both immigrants and second-generation Americans.

Despite the settlement of nearby areas, the project site and surrounding area, which lay along a marshy shoreline estuary/slough, remained undeveloped through the 1850s. The first documented topographic modification of the project site occurred during the 1860s, when tracks for the Central Pacific Railroad were laid along the eastern edge of the project site. The completion of the transcontinental railroad in 1869 resulted in a population and productivity boom in West Berkeley and in 1877, the Southern Pacific Railroad established its transcontinental mainline along Third Street, along the eastern edge of the project site.

In 1885 and into the 1890s, West Berkeley's industry was primarily focused on heavy manufacturing, including planing mills and lumber yards, soap factories, cement works, mine reduction works, lubricating oil and kerosene works, gunpowder factories, acid works, and paraffin paint works. Lighter industries included cigar manufacturing, blacksmithing, brewing, and the sale of raw building materials such as plaster, cement, and hardware. Continuing into the 20th century, West Berkeley developed as both an industrial district and a residential neighborhood, with workers and their jobs existing side by side.

The 1906 earthquake that struck the entire Bay Area resulted in relatively little damage in the city compared to San Francisco. Following the earthquake, refugees fled San Francisco to Berkeley, which resulted in a population increase in the city. Between 1910 and 1930, West Berkeley supported 173 manufacturing businesses and 3,400 workers. The Great Depression of the 1930s brought a downturn in the City's economy and West Berkeley suffered substantial job losses. However, in 1941 with the United States' entry into World War II, workers were in high demand and poured in from out of state to fill positions at shipyards and other local industrial enterprises. Berkeley played a significant role in war-time industries and West Berkeley, situated on the shoreline and almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

West Berkeley Redevelopment. In 1956, the City made zoning refinements, with the land west of Sixth Street zoned as "special industrial." This change was intended to concentrate heavy industry toward the highway and waterfront, while lighter industry and mixed-uses were to create a buffer for the rest of Berkeley to the east.

In 1970, the West Berkeley Redevelopment Project was initiated to revitalize the area. This effort involved the demolition of 42 residential buildings deemed "blighted." Local concern, and some federal assistance, halted the demolitions and created the Delaware Street Historic District, located between Fourth Street and Sixth Street, where a cluster of residential building dating from 1875 to 1910 were preserved. Through the 1970s and 1980s, Berkeley citizens continued to support less development and redevelopment along the Bay shore. Remaining industrial facilities have predominantly been repurposed for lighter industrial and commercial uses such as research and development labs, specialized retail, restaurants, and live-work spaces. Currently, a few small clusters of heavy industrial uses, similar to those that characterize the project site, remain.

4.2.1.5 Regulatory Framework

The following describes the federal, State and local regulatory and policy requirements for cultural resources that are relevant to the proposed project.

Federal Regulations. The following federal regulations related to historic resources that would be applicable to the proposed project are described below.

National Register of Historic Places (National Register). The National Register was first established in 1966, with major revisions in 1976. The register is set forth in 36 Code of Federal Regulations (CFR 60) which establishes the responsibilities of the State Historic Preservation Officers (SHPOs), standards for their staffs and review boards, and describes the statewide survey and planning process for historic preservation. Within these regulations, guidelines are set forth concerning the National Register (36 CFR 60.6). In addition, further regulations are found in 36 CFR 63-66, -800, and 1982 *Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Bulletin 15)[5], which define procedures for determination of eligibility, identification of historic properties, recovery, reporting, and protection procedures. The

[5] U.S. Department of the Interior National Park Service (NPS). 1982. *Bulletin 15: How to Apply the National Register Criteria for Evaluation*.

National Register was established to recognize resources associated with the accomplishments of all peoples who have contributed to the country's history and heritage. Guidelines were designed for federal and State agencies in nominating cultural resources to the National Register. These guidelines are based upon integrity and significance of the resource. Integrity applies to specific items such as location, design, setting, materials, workmanship, feeling, and association. Quality of significance in American history, architecture, archaeology, engineering, and culture is present in resources that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the following criteria:

- **Criterion A:** Associated with events that have made a significant contribution to broad patterns of our history
- **Criterion B:** Associated with the lives of persons significant in our past
- **Criterion C:** Embodies distinctive characteristics of type, period, or method of construction, or that represent the work of master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- **Criterion D:** Have yielded, or are likely to yield, information important in prehistory or history

Integrity is defined in the United States Department of the Interior National Park Service (NPS) Bulletin 15 as "…the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. If a property retains the physical characteristics it possessed in the past then it has the capacity to convey association with historical patterns or persons, architectural or engineering design and technology, or information about a culture or peoples." There are also seven aspects of integrity that are used: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association.

State Laws and Regulations. The following State regulations related to cultural and historic resources that would be applicable to the proposed project are described below.

California Environmental Quality Act (CEQA). CEQA, codified in Public Resources Code [PRC] Sections 21000 et seq., applies to all discretionary projects undertaken or subject to approval by the State's public agencies (14 California Code of Regulations [CCR] Section 15002(i)). Pursuant to the *State CEQA Guidelines*, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (14 CCR Section 15064.5(b)).

State CEQA Guidelines Section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (as defined under California PRC, Section 5024.1; 14 CCR Section 4850, et seq.)

- Listed in a local register of historical resources (as defined at PRC Section 5020.1(k))
- Identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g)
- Determined to be a historical resource by a project's lead agency (14 CCR Section 15064.5(a))

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (14 CCR Section 15064.5(a)(3)).

If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (14 CCR Section 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project would have on the resource. Generally, a project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* shall be considered mitigated to a level of a less than significant impact on the historical resource (14 CCR Section 15064.5(b)(3)). As stated in Section 15126.4(b)(2) of the *State CEQA Guidelines,* "In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment will occur." Finally, CEQA requires that all feasible mitigation be undertaken even if the mitigation does not reduce impacts to less than significant levels (14 CCR Section 15126.4(a)(1)).

California Register of Historical Resources (California Register). PRC Section 5024.1 established the California Register. The requirements for listing in the California Register, including the criteria for listing and having integrity, are similar to those of the National Register. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register (14 CCR Section 15064.5(a)(3)). For a cultural resource to qualify for listing in the California Register, it must be significant under one or more of the following criteria:

- **Criterion 1:** Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- **Criterion 2:** Associated with the lives of persons important in our past
- **Criterion 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

- **Criterion 4:** Has yielded, or may be likely to yield, information important in prehistory or history

In addition to being significant under one or more of these criteria, a resource must retain enough of its historic character and appearance to be recognizable as a historical resource and be able to convey the reasons for its significance (14 CCR Section 4852(c)). Generally, a cultural resource must be 50 years or older to be eligible for the California Register (14 CCR Section 4852(d)(2)).

In addition to meeting one or more of the significance criteria, a cultural resource must retain its historical integrity to be considered eligible for listing in the California Register. Historical integrity is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance."[6] The evaluation of integrity must be grounded in an understanding of a resource's physical features and its environment, and how these relate to its significance. There are seven aspects of integrity to consider when evaluating a cultural resource (i.e., location, design, setting, materials, workmanship, feeling, and association), which are described as follows:[7]

1. ***Location*** is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.

2. ***Design*** is the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

3. ***Setting*** is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. Physical features that constitute the setting of a historic property can be either natural or manmade, including topographic features, vegetation, paths or fences, or relationships between buildings and other features or open space.

4. ***Materials*** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

5. ***Workmanship*** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of the artisan's labor and skill in constructing or altering a building, structure, object, or site.

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6 California Office of Historic Preservation. n.d. California Office of Historic Preservation Technical Assistance Series #6. *California Register and National Register: A Comparison.* California Office of Historic Preservation. California Office of Historic Preservation, Sacramento.

7 National Park Service. 1997. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*. U.S. Department of the Interior, Washington, D.C.

6. ***Feeling*** is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character.

7. ***Association*** is the direct link between an important historic event or person and an historic property.

California PRC Section 5097.98. Section 5097.98 of the PRC states that the Native American Heritage Commission (NAHC), upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5 (discussed below), shall immediately notify those persons (i.e., the Most Likely Descendant or "MLD") it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

California Health and Safety Code Section 7050.5. Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Local Plans and Regulations. The City plans and regulations related to cultural and historic resources that would be applicable to the proposed project are described below.

City of Berkeley General Plan. The following policies of the Berkeley General Plan Urban Design and Preservation Element pertaining to cultural resources would be applicable to the proposed project:

- **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-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 an aggregation of historically and architecturally significant buildings. *(Also see Land Use Policies LU-3, LU-4, LU-7, LU-17, and LU-21.)*

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

West Berkeley Plan.The following Urban Design Goals and Policies of the West Berkeley Plan[8] pertaining to cultural resources would be applicable to the proposed project:

> **Goal 7:** Preserve West Berkeley's existing architectural and historic resources in the context of the district goals, permitted uses, and other goals of the West Berkeley Plan. Seek to develop the built environment as a whole in a way consistent with this goal.
>
> > **Policy 7.3:** To improve the economic feasibility of preserving historic buildings, the City should creatively use the tools which the West Berkeley Plan Preferred Land Use Concept provides, and should explore the possibilities for changes in development standards, fees, or placement of uses, without, however, violating Plan policies, district purposes, or district permitted uses. In situations where a whole building cannot be preserved, preservation of facades should be explored. In very exceptional cases, where all variance findings can be made—with particular reference to the finding that the variance not be detrimental to people working in the neighborhood or to property in the neighborhood—allow use variances.
> >
> > **Policy 7.4:** The City should encourage infill development to be sensitive to the character and scale of existing development in areas which are architecturally or historically cohesive.
>
> **Goal 8:** Preserve West Berkeley's architecturally and historically valuable buildings.
>
> > **Policy 8.1** The City should encourage building maintenance and rehabilitation in West Berkeley and if possible, offer financial incentives or assistance.
> >
> > **Policy 8.2** The City should encourage the sensitive reuse of existing buildings in West Berkeley and offer incentives such as permit-streamlining and other assistance.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address cultural resources:

> <u>COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction).</u> Pursuant to *CEQA Guidelines* Section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore:

[8] Berkeley, City of. 1993. West Berkeley Plan. Amended 2011.

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

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

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

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

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

COA: Human Remains(Ongoing Throughout Demolition, Grading, and/or Construction). In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and follow the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State 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 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.

City of Berkeley Municipal Code Section 3.24.110 – Landmarks, Historic Districts, and Structures of Merit Designation, Criteria for Consideration. The following set of criteria is applied by the Landmarks Preservation Commission and by the City Council in designating buildings, places, and areas as historic landmarks, historic districts, or structures of merit:

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

1. Architectural Merit:

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

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

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

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

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

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

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

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 § 1 (part), 1985: Ord. 4694-NS § 3.1, 1974)

4.2.1.6 Historical Evaluations

This section is based on the HRE prepared for the proposed project. The project site is located in the West Berkeley neighborhood and consists of approximately four city blocks (2340, 2341, 2344, and 2345) bounded by Gilman Street to the north, Third Street and the railroad right-of-way to the east, Page Street to the south, and Eastshore Highway/Interstate 80 (I-80) to the west. Twelve (12) properties within the project site area were surveyed, and the summary of the findings related to each property-specific analysis are provided in Table 4.2.A. The HRE indicated that only one property, 1306 Third Street, meets the criteria for listing in the California Register and as a City of Berkeley Landmark. Therefore, this property meets the definition of a historical resource pursuant to CEQA, while the remainder of the properties on the project site are not considered historic resources for the purposes of this analysis or otherwise.

Table 4.2.A: HRE Summary of Findings

Property Address(s)	APN(s)	Historic Name	California Register Status Code	City of Berkeley Landmark or Structure of Merit?[2]
1331, 1441 Eastshore Highway; 1330 Second Street	59-2344-7 59-2344-4 59-2344-5-1	Berkeley Steel Construction Company/Berkeley Forge and Tool	6Z[1]	No
1305 Eastshore Highway; 1314, 1320, and 1420 Second Street; 600 Gilman Street	59-2344-3-1 59-2344-4-1 59-2341-5 59-2344-1-2 59-2344-2-1	Pacific Steel Casting Company	6Z[1]	No
1421 Second Street	59-2340-8-2	Pacific Steel Casting Company	6Z	No
1333 Second Street	59-2345-9	NA	6Z	No
1337 Second Street	59-2345-8-1	NA	6Z	No
1310 Third Street	59-2345-2-2	NA	6Z	No
1306 Third Street	59-2345-2-1	NA	3CS	Yes
631 Camelia Street	59-2345-7	NA	6Z	No
635 Camelia Street	59-2345-6-1	NA	6Z	No
643 Camelia Street	59-2345-4	NA	6Z	No

Table 4.2.A: HRE Summary of Findings

Property Address(s)	APN(s)	Historic Name	California Register Status Code	City of Berkeley Landmark or Structure of Merit?[2]
640 Gilman Street	69-2345-1	Gilmore Oil Company/General Petroleum Company, Pacific Steet Casting Company	6Z	No
648 Page Street	59-2323-1	NA	6Z	No

Source: Bridget Maley, architecture + history llc, Caitlin Himba, Left Coast Architectural History. 2023. Gilman Gateway Historic Resources Evaluation. May

[1] Determination made by the "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project."

[2] Eligible as a City of Berkeley Landmark and/or Structure of Merit

6Z = Found ineligible for National Register, California Register, or Local designation through survey evaluation.

3CS = Appears eligible for California Register as an individual property through survey evaluation.

A number of the properties within the project site share common early owners (prior and in addition to the dominant Pacific Steel Casting Company and Berkeley Steel Construction Company), including Ray W. Van Deusen and the Chemical Packaging Company. Many of the existing buildings also share common designers and builders, such as architect Alben Froberg and contractors Christensen and Lyons. However, the HRE indicated that none of these owners constitute significant historical figures and none of the designers or builders constitute important creative individuals. Photos of each of the 12 surveyed properties within the project site area are provided in Appendix 4 of the HRE, which is provided as Appendix C of this Draft EIR.

California Register of Historical Resources. The existing 1306 Third Street building was found eligible under Criterion 2 (Persons) for its association with American master artist and sculptor Peter Voulkos. The eligibility criteria for 1306 Third Street as required by the California Register are discussed below.

Criterion 1 (Event): No specific events of historical importance are known to have occurred at the property. Historically, the property was used by various small light-industrial businesses, primarily for warehousing purposes. This is consistent with the industrial context of the area; however, the property is not outstanding or influential within the industrial context that dominates the West Berkeley area and East Bay shoreline. In addition, although the building was briefly used by American master artist and sculptor Peter Voulkos, no significant historical events are known to have occurred on the property during his presence. Therefore, the property is not eligible for listing in the California Register under Criterion 1.

- **Criterion 2 (Persons):** The existing 1306 Third Street building is associated with American master artist and sculptor Peter Voulkos, an innovative, prolific expressive ceramicist and metallurgist who taught at the University of California, Berkeley. His works are found in almost every major American art museum that has a significant sculpture collection and in other museums worldwide. Therefore, the property appears eligible for listing in the California Register under Criterion 2 at the local level for its long association (1963–2002) with Peter Voulkos, who created significant works of art in this space.

- **Criterion 3 (Architecture):** The existing 1306 Third Street building is industrial in character and utilitarian in architectural aesthetic. As a utilitarian industrial building, it was designed and constructed strictly to fulfill its intended warehousing functions and has no definable architectural style or artistic value. The building is common and unremarkable within the context of West Berkeley with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. Further, the building was modified in 1991. Architect Alben Froberg and builders Christensen and Lyons were involved in the original design and construction in 1946; however, neither professional is considered an important creative individual. Therefore, the property is not eligible for listing in the California Register under Criterion 3.

- **Criterion 4 (Information Potential):** Criterion 4 is typically concerned with archaeological investigation. Where buildings or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which the 1306 Third Street building is not an example. Therefore, the property is not eligible for listing in the California Register under Criterion 4.

City of Berkeley Landmark. Structures that have a Landmark status are designated historical resources within the city. Resources may be designated as Landmarks if they meet one of more of the five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of the 1306 Third Street building according to local significant criteria:

- **Architecture Merit:** As previously discussed, the existing 1306 Third Street building is industrial in character and utilitarian in architectural aesthetic, and neither the architect nor builders are considered an important creative individual. Therefore, the property provides no exceptional architectural value to the neighborhood and does not qualify as a City of Berkeley Landmark under this criterion.

- **Cultural Value:** As previously discussed, the existing 1306 Third Street building is associated with American master artist and sculptor Peter Voulkos. Therefore, the property appears to have high cultural value that would qualify it as a City of Berkeley Landmark under this criterion.

- **Educational Value:** The existing 1306 Third Street building does not have any use as an educational tool as it not outstanding as an example of industry or commerce in the city. Therefore, the property would not qualify as a City of Berkeley Landmark under this criterion.

- **Historic Value:** The property does not reflect the industrial or commercial growth of Berkeley. The existing building's construction in 1946 occurred after World War II and does not reflect West Berkeley's initial industrial development nor its war-era boom. However, the building's association with Peter Voulkos is historically significant within the area of culture and art at the local and national level. Therefore, the building possesses high historic value that would qualify it as a City of Berkeley Landmark under this criterion.

- **National Register Listing:** The 1306 Third Street building is not listed in the National Register and therefore does not qualify as a City of Berkeley Landmark under this criterion.

- **City of Berkeley Structure of Merit:** City of Berkeley Structures of Merit are designated historical resources within the city. Resources may be designated as Structure of Merit if they meet general and/or specific criteria. If the Landmarks Preservation Commission determines that a structure does not currently meet the criteria for designation as a Landmark, but is worthy of preservation as part of a neighborhood, a block or street frontage, or as part of a group of buildings that includes landmarks, the structure may be designated a Structure of Merit. Although 1306 Third Street was determined to be a City of Berkeley Landmark based on its cultural and historical association with Peter Voulkos, the existing building associated with 1306 Third Street does not qualify as a Structure of Merit.

- **Integrity:** In order to qualify for historic designation, a property must possess significance under the aforementioned criteria and have historic integrity. The existing building at 1306 Third Street appears to possess the historic significance for its association with the work of innovative American sculptor and ceramicist Peter Voulkos. Although the front façade of the building has been altered, and its integrity of design, materials, and workmanship have been slightly altered from the period of significance, it retains its integrity of location and setting, its integrity of association with Peter Voulkos, and the feeling of an industrial building converted to artist use.

Based on the above analysis, the property at 1306 Third Street appears to be eligible for listing in the California Register and as a City of Berkeley Landmark. Therefore, it qualifies as a historic resource under CEQA. Actions that result in the diminishment of any of the features of the property located at 1306 Third Street, such as removal or alteration, could result in a significant impact under CEQA.

The HRE also examined the West Berkeley area around the project site and indicated there is not a historically significant industrial historical district present. The industrial development in this area was piecemeal, dependent on the slow filling of the salt marshes, which began in the 19th century and continued into the 1980s. While there are many industrial buildings in the area, these structures are not temporally linked to a specific important period of development, and none are associated with historically significant contributions to their various industries. Further, none of the businesses evaluated in the surrounding area date to the pioneering period of metal-working industries and none were demonstrably important individually, which does not support identification of a historic district. Moreover, the diverse businesses and construction types now present in the area prevent a visual linkage among the current industries in the surrounding area. Therefore, the HRE determined that the area would not be considered a historic district.

4.2.2 Impacts and Mitigation Measures

As described above, the presence of and potential for significant cultural resources was determined by assessing previously documented cultural resources through archival background research, geotechnical borings and soil sampling, and an evaluation of cultural resources in the project site to determine their eligibility for listing in the California Register. These findings were then compared to the *State CEQA Guidelines'* cultural resource significance criteria to determine if the proposed project would have the potential to result in significant impacts to specific categories of cultural resources.

The following describes the proposed project's potential impacts on cultural resources, consisting of historical resources, archaeological resources, and human remains. This section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies mitigation measures, as appropriate.

4.2.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to cultural resources if it would:

Threshold CUL-1: Cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5;

Threshold CUL-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to *State CEQA Guidelines* Section 15064.5; or

Threshold CUL-3: Disturb any human remains, including those interred outside of formal cemeteries.

For the proposed project to have "a substantial adverse change" in the significance of a historical resource, it would have to demolish, destroy, relocate, or alter the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*State CEQA Guidelines* Section 15064.5(b)). Archaeological sites may qualify as historical resources under CEQA (*State CEQA Guidelines* Section 15064.5(c)(1)).

Generally, for purposes of CEQA, the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register or an officially recognized local register of historical resources, or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g).

4.2.2.2 Project Impacts

The following section discusses the potential impacts to cultural resources associated with implementation of the proposed project and conceptual development project according to the significance criteria described above. Potential impacts associated with the proposed project are evaluated at a programmatic level, while potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible.

As defined in the *State CEQA Guidelines*, "historical resources" can include both significant built-environment resources and archaeological sites. *State CEQA Guidelines* Section 15064.5(a)(3) defines a "historical resource" as any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. *State CEQA Guidelines* Section 15064.5(c) states that if an

archaeological site does not meet the criteria defined in *State CEQA Guidelines* Section 15064.5(a), the resource may still meet the definition of a "unique archaeological resource" described in PRC Section 21083.2. Potential impacts to these two types of historical resources are discussed under the separate threshold discussions below.

Impact CUL-1: The impact discussion for Threshold 1 above is split into two parts: Impact CUL-1a – discussing potential impacts and mitigation measures as they pertain to the proposed project; and Impact CUL-1b for impacts associated with the conceptual development project. The discussion is followed by a CUL-1 Impact Summary to summarize the EIR findings.

Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5 because implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to *State CEQA Guidelines* Section 15064.5. *(Significant and Unavoidable)*

The properties within the project site area were evaluated for their eligibility for listing in the California Register and potential for classification as City of Berkeley Landmarks and Structures of Merit. As shown in Table 4.2.A above, only one property within the project site area, 1306 Third Street, meets the criteria for listing in the California Register and as a City of Berkeley Landmark. A number of the properties within the project site area share common early owners (prior and in addition to the dominant Pacific Steel Casting Company and Berkeley Steel Construction Company), including Ray W. Van Deusen and the Chemical Packaging Company. Many of the existing buildings also share common designers and builders, such as architect Alben Froberg and contractors Christiensen and Lyons. However, the HRE indicated that none of these owners constitute significant historical figures, and none of the designers or builders constitute important creative individuals.

The proposed rezoning would not result in any physical alterations to the project site; however, implementation of the proposed rezoning would facilitate future development of the entire project site. The existing on-site industrial buildings are unlikely to be suitable for rehabilitation due to their age and deterioration. Regarding the existing building at 1306 Third Street, pursuant to BMC Chapter 3.24, a project applicant can apply to demolish or substantially alter a City of Berkeley Landmark site, Structure of Merit, or an initiated landmark site. Therefore, it is reasonable to assume the potential for demolition of all existing structures on the project site, including the existing building at 1306 Third Street. Actions that result in the diminishment of any of the features of the property located at 1306 Third Street, such as removal or alteration, could result in a significant impact under CEQA. This is a **potentially significant** impact.

Based on *State CEQA Guidelines* Section 15064.5(b), 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 National Register, the California Register, or a local register or survey of historical resources, including designation as a City of Berkeley Landmark and/or Structures of Merit. In addition, as described in *State CEQA Guidelines* Section 15064.5, "substantial 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." Demolition is considered a material impairment of the historical resource, and other than avoiding demolition, no feasible mitigation measures are available to fully mitigate the demolition of the historical resource to a less than significant level. However, implementation of mitigation measures could reduce significant adverse impacts. If the historical significance of the building is thoroughly documented, well photographed, and publicly available, the demolition of the building would have a reduced impact on the historical significance of the building. Implementation of Mitigation Measure CUL-1, below, which requires documentation of the historic resource in accordance with the Historic American Building Survey (HABS) standards, would reduce, but not avoid, adverse impacts to the historical resource.

Mitigation Measure CUL-1 would apply to potential future projects that propose the demolition of the structure located at 1306 Third Street or modification to the structure to the extent that it would not retain its eligibility for the California Register or as a City of Berkeley Landmark.

Mitigation Measure CUL-1

Documentation. Prior to the issuance of a demolition permit for the existing structure at 1306 Third Street, the project sponsor shall obtain a qualified Historic American Building Survey (HABS) photographer to document the existing structure at 1306 Third Street and its setting. Generally, this documentation shall be done in accordance with the HABS "Outline" format, which includes:

- **Photographs:** HABS standards require large-format, black-and-white photography with large-format safety film negative (4" x 5", 5" x 7", or 8" x 10") and a contact print, archivally processed, on fiber-based paper. The HABS photographer must be familiar with the recordation of historical resources in accordance with current HABS guidelines. Photographs should include context views of the general environment to illustrate setting, including landscaping, adjacent building(s), and roadways, views of character-defining features, exterior elevations of significant façades, views of interior spaces, and detailed views of specific materials or elements. Overgrowth, board-up plywood, and other obstacles shall be removed by the project sponsor prior to photography at the direction of the professional HABS photographer. Photographs must include a photo index, photo sketch plans, and field notes, and be identified and labeled using HABS standards outlined in Preparing HABS/HAER/HALS Documentation – Transmittal Guidelines.

- **Measured Drawings or 3D Laser Scanning "As-Builts":** Measured drawings for HABS are considered "as-built" drawings. Accordingly, they illustrate the existing condition of a building at the time of documentation, including additions, alterations, and demolitions which have occurred since the building was first constructed. Where sufficient knowledge exists concerning the sequence of changes to a building over

time, it may be useful to provide appropriate notation on the drawings. Alternatively, delineators may wish to produce additional interpretive drawings illustrating the building at an earlier date, to explain its historic significance more fully. In lieu of measured architectural drawings, 3D laser scanning and 2D CAD documentation can be done to create as-built drawings from the scanned data in AutoCAD to provide archival-quality printed and digital images that can be utilized for future exhibits, documentation, and research associated with the 1306 Third Street building. The 3D images can then be printed as measured drawings and will also be available digitally.

- **Historical Background Information:** An architectural historian, meeting the Secretary of the Interior's Professional Qualification Standards, shall assemble historical background information, drawings, maps, and historic photographs relevant to the 1306 Third Street building and its setting using the HABS "Outline" format to produce a HABS historical report. The historical report will be formatted to HABS Guidelines for Historical Reports (updated January 2020).

- **Public Access to Documentation:** HABS documentation must be prepared using specific archival materials and archival processes to comply with the permanence standards that govern the collection. By adhering to these standards, even the very earliest HABS records from the 1930s are still available for researchers and will be in the future. Non-archival material deteriorates for two principal reasons: harmful substances in the environment attack it, and/or the physical and chemical composition is such that it will deteriorate regardless of how it is stored. Accordingly, it is recommended that one archival set of the HABS documentation is submitted to the Library of Congress or the Berkeley Architectural Heritage Association (BAHA). Digital copies are also recommended to be submitted to the Northwest Information Center (NWIC)/ California Historic Resources Information System (CHRIS), the City of Berkeley, the City of Berkeley Library, the Berkeley Historical Society, the California State Library, and the California Historical Society. This mitigation would create a collection of preservation materials that would be available to the public and inform future research.

Implementation of the proposed project could facilitate the demolition of the structure at 1306 Third Street and therefore would result in a substantial adverse change to a historic architectural resource under CEQA. Implementation of Mitigation Measure CUL-1 would require documenting

this resource, but it would not avoid demolition of the resource; therefore, impacts to built-environment historic resources as defined in *State CEQA Guidelines* Section 15064.5 would be **significant and unavoidable.**

Impact CUL-1b: The conceptual development project would not cause a substantial adverse change in the significance of a historical resource defined in *State CEQA Guidelines* Section 15064.5. *(Less than Significant)*

As explained above, the conceptual development project would not include redevelopment of the 1306 Third Street parcel and would not result in the demolition of the existing building at 1306 Third Street; however, it would include development on the parcels that surround the property and existing structures to the north, south, and west.

The 1306 Third Street property was found eligible for listing in the California Register under Criterion 2 (Persons) for its association with American master artist and sculptor Peter Voulkos and is therefore considered a historical resource under CEQA. The 1306 Third Street structure was not found eligible for listing in the California Register under any other criteria. Because this resource was found eligible based on its association with the work of Peter Voulkos, the character of the surrounding area does not influence the property's eligibility for listing. Therefore, redevelopment of the surrounding parcels would not substantially affect the 1306 Third Street property or its eligibility for listing in the California Register. Further, because the conceptual development project would redevelop the surrounding parcels with light industrial uses, which are similar to the existing industrial uses present on the parcels, implementation of the conceptual development project would result in **less than significant** impacts to 1306 Third Street as a historical resource. Therefore, Mitigation Measure CUL-1 does not apply to the conceptual development project.

Impact CUL-1 Summary: Potential demolition of the 1306 Third Street building that may result from implementation of the proposed project would result in a significant and unavoidable impact on a historical resource as defined in *State CEQA Guidelines* Section 15064.5. Implementation of Mitigation Measure CUL-1, which requires documentation of the historic resource in accordance with HABS standards, would reduce, but not avoid, adverse impacts to the historical resource, therefore impacts would be **significant and unavoidable** (CUL-1a).

The conceptual development project would not include the demolition of the existing building at 1306 Third Street, and redevelopment of the surrounding parcels under the conceptual development project would not substantially affect the 1306 Third Street property eligibility for listing in the California Register. Therefore, the conceptual development project would result in a **less than significant impact** on the historical resource, and Mitigation Measure CUL-1 does not apply to the conceptual development project (CUL-1b).

Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in the significance of unique archaeological resources, as defined in PRC 21083.2(g). *(Less than Significant with Mitigation)*

As described above, no traces of intact or disturbed midden, or any other conclusively prehistoric cultural materials were identified during boring excavation or subsequent soil sampling. However, given the project site's proximity to known prehistoric sites, including a midden site, the Schoolhouse Creek site, and the West Berkeley Shellmound complex, and the project site's location atop alluvial deposits, the project site is considered sensitive for buried prehistoric cultural resources, and some areas of the site are to be considered extremely sensitive for intact and disturbed prehistoric resources that may extend into untested soils within the project site. It is also possible that small pockets of displaced midden material may be mixed with the modern fill (secondary deposits). This is because, historically, shellmound (midden) deposits were used for surface leveling and fill. Such secondary midden deposits could be found at any level below the ground surface and have been reported within the proposed project's area. It is also possible that historic-era deposits associated with past residential and industrial use of the site could be encountered. Therefore, there is a high potential for the discovery of prehistoric archaeological resources during any ground-disturbing activities at the project site. Ground-disturbing activity associated with project implementation has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in the significance of a unique archaeological resource, as defined in *State CEQA Guidelines* Section 15064.5. This is a **potentially significant impact**.

While rezoning of the project site to the newly created M-RD zoning district would not result in any direct physical alterations to the project site, these actions would facilitate potential demolition of on-site structures and construction of new buildings. For example, the conceptual development project would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site. Approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of materials including imported soil and fill, would be required. The average depth of excavation across the site would be 4 feet, while the maximum depth of excavation would be approximately 12 feet for sewer connections. If significant archaeological deposits or resources were to be unearthed during future ground-disturbing activities associated with future construction, a substantial adverse change in the significance of an archaeological resource could occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired through loss of information important in understanding Berkeley's prehistory (*State CEQA Guidelines* Section 15064.5(b)(1)). Accordingly, potential ground-disturbing activity associated with implementation of the proposed project, including the conceptual development project, would result in a **potentially significant impact** to archaeological resources.

Compliance with *COA: Archaeological Resources* and *COA: Human Remains,* and implementation of Mitigation Measures CUL-2a through 2d would reduce impacts associated with implementation of the proposed project, including the conceptual development project. *COA: Archaeological Resources* and *COA: Human Remains,* included below, incorporate text revisions provided by the Confederated Villages of Lisjan Nation during the consultation process as required by Assembly Bill (AB) 52 and Senate Bill (SB) 18 (these revisions are denoted via underline). The City hereby incorporates the COAs as revised.

COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction). Pursuant to *State 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. In the event that these resources are of Native American origin, all work within 50 feet of the resources shall be halted and the lead agency shall consult with a Tribal representative of the Confederated Villages of Lisjan Nation to assess the significance of the find. The archaeologist will stake the area of discovery, placing stakes no more than 10 feet apart, forming a circle around the point of discovery.

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. If the resource is determined to be a Tribal Cultural Resource and thus significant under CEQA, the project proponent and/or lead agency shall retain a qualified archaeologist and a Tribal monitor, at the applicant's expense, to prepare a mitigation plan, which shall be implemented by the appropriate entity in accordance with State CEQA guidelines and in consultation with the consulting Tribe. 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. For Tribal Cultural Resources, avoidance is always preferred.

d. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. For Tribal Cultural Resources, data recovery is never an appropriate mitigation. If avoidance is not feasible, the mitigation plan shall outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for Tribal Cultural Resources include, but are not limited to, protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidentiality of the resources, and/or heritage recovery. 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 NWIC.

COA: Human Remains(Ongoing Throughout Demolition, Grading, and/or Construction).In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the City shall contact the NAHC, pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects. There shall be no pictures taken or testing done on any Native American human remains, and all bone, if not identifiable as human or animal, shall be treated as human remains and the appropriate protocols followed. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and time frame required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously. A report containing this information should be submitted to the lead agency, project proponent, the NWIC, and the consulting Tribe. Tribal representatives will rebury the Native American human remains and associated funerary objects with the appropriate dignity either in accordance with the recommendations of the MLD if available, or in the project vicinity at a location agreed upon between the Tribe and the lead agency where the reburial would be accessible to Tribal members in perpetuity and would not be subject to further disturbance. The discovery and reburial are to be kept confidential and secure to prevent any further disturbance.

Mitigation Measure CUL-2a **Archaeological Testing Plan for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (i.e., basement slab removal, topsoil removal, mass excavation, and grading) individual project proponents shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to conduct a non-invasive archaeological study of the project area initially, including an analysis of historical maps and aerial imagery, systematic surface reconnaissance, and ground-penetrating radar. This non-invasive phase of work may be followed by more invasive testing where necessary, following consultation with the Confederated Villages of Lisjan Nation, which may include archaeological borings and/or shovel test pits, in accordance with a pre-construction archaeological testing program as recommended in the Cultural Resources Evaluation (CRE) prepared by Archeo-Tec (pages 25 and 26 of the report). As described in the CRE, the only way to determine if the known midden site, or any other as-yet-unidentified subsurface cultural resources, extend into the project site is to carry out additional testing. Archaeological monitoring of building demolition followed

by the implementation of a target pre-construction archaeological testing plan would be required, and demolition-related excavation (such as basement slab removal, topsoil removal, mass excavation, and grading) would be monitored by a qualified archaeologist. Individual project sponsors shall submit the pre-construction archaeological testing program to the City of Berkeley's Planning and Development Department for review and approval.

Mitigation Measure CUL-2b **Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (e.g., building foundation removal), all personnel involved in project-related, ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.

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

The WEAP training shall be presented by an archaeologist and a representative from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. Individual project sponsors shall maintain a record of all construction personnel that have received the WEAP training and provide the record to the City of Berkeley. WEAP training recipient

records shall be maintained by the individual project sponsor throughout the duration of construction. A final WEAP training recipient record shall be submitted to the City prior to issuance of a certificate of occupancy.

Mitigation Measure CUL-2c **Cultural Resources Monitoring Plan for Future Site Development.** Prior to issuance of any permit that involves ground disturbance (i.e., grading or construction permits), individual project sponsors shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring:

- Person(s) responsible for conducting archaeological monitoring
- Person(s) responsible for Native American monitoring. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or other Tribal Cultural Resources be identified during monitoring;
- Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation); and
- Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur.

The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 50 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced from full-time to part-time based on the conditions and only if the designated tribal representative and the qualified archaeologist agree.

Mitigation Measure CUL-2d **Accidental Discovery Measures for Future Site Development.** Should an archaeological deposit be encountered during project

construction activities while an archaeological or tribal monitor is not on site, all ground-disturbing activities within 50 feet shall be redirected, and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and a tribal representative contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the project sponsor shall be responsible for funding and implementing appropriate mitigation measures.

The proposed project and the conceptual development project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains,* and implementation of Mitigation Measures CUL-2a through CUL-2d to ensure that: (1) if archaeological cultural resources are identified during excavation, these would be evaluated, documented, and studied in accordance with standard archaeological practice, and (2) archaeological deposits and human remains would be treated in a culturally appropriate manner and in accordance with appropriate State codes and regulations. Therefore, implementation of these mitigation measures would reduce potential impacts to archaeological historical resources to **less than significant with mitigation**.

Impact CUL-2 Summary: Implementation of the proposed project would facilitate future development of the project site under the newly created M-RD zoning district, including the conceptual development project, which would include ground-disturbing activities during construction. Ground disturbance associated with future development of the project site, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources. Accordingly, both the proposed project and the conceptual development project would require implementation of Mitigation Measures CUL-2a through CUL-2d and compliance with *COA: Archaeological Resources* and *COA: Human Remains*, as revised through tribal consultation; therefore, potential impacts to archaeological resources would be **less than significant with mitigation**.

Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin. *(Less than Significant with Mitigation)*

There are no known human remains on the project site. However, the site is known to be sensitive for the presence of Native American burials due to the proximity of the West Berkeley Shellmound complex.

In the event that human remains are identified during future ground-disturbing activities, these remains would be treated in accordance with Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98, as described below.

Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify an MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

PRC Section 5097.98 states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons it believes to be descended from the deceased (i.e., the Most Likely Descendant or "MLD"). With permission from the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site. Additionally, development projects that require a use permit are required to comply with the City's *COA: Human Remains* that addresses potential impacts to human remains (refer to Section 4.2.1.5, Regulatory Framework).

The proposed project and the conceptual development project would be required to comply with the appropriate procedures required under State law, *COA: Human Remains*, as revised through tribal consultation, for the treatment of Native American remains, and implementation of Mitigation Measures CUL-2a through CUL-2d in order to ensure that descendant communities have significant input in the treatment and final disposition of human remains, if encountered at the project site during future development activities. The impact would be **less than significant with mitigation.**

Impact CUL-3 Summary: Implementation of the proposed project would facilitate future development of the project site under the newly created M-RD zoning district, including the conceptual development project, which would include ground-disturbing activities during construction. Ground disturbance associated with future development of the project site, including the conceptual development project, has the potential to unearth human remains. Both the proposed project and the conceptual development project would be required to comply with *COA: Human Remains*, as revised through tribal consultation, and implement Mitigation Measures CUL-2a through CUL-2d. Therefore, the impact to human remains would be **less than significant with mitigation**.

4.2.2.3 Cumulative Impacts

For cultural resources, the scope for assessing cumulative impacts encompasses other past, current, or probable future projects under review by the City. The proposed project would have a significant effect on the environment if it would contribute to a significant cumulative impact on cultural resources.

As discussed above, it is assumed for the purposes of this analysis that implementation of the proposed project would result in the demolition of the structure located at 1306 Third Street, a

historic resource under CEQA. Similar to the proposed project, other development that would impact historic resources would implement mitigation measures similar to Mitigation Measure CUL-1, which requires documentation of the 1306 Third Street structure in compliance with HABS standards. As described above, implementation of Mitigation Measure CUL-1 would not avoid the demolition of the historic resource; therefore, the impact of the proposed project on built-environment historic resources would be significant and unavoidable**.** The structure at 1306 Third Street is an individual historic resource, however, and is not part of a historic district, it does not share a historic context or use with other historic built resources in the cumulative projects within 0.25 mile of the project site, including 805 Jones Street and 1201 Second/669 Gilman Transfer Station. Therefore, the proposed project would not result in a cumulatively considerable contribution to a **significant and unavoidable impact**.

Similar to the proposed project, ground disturbance associated with cumulative projects could result in **potentially significant impacts** on previously unidentified archaeological sites and associated human remains that may be unearthed. However, impacts on resources accidentally discovered during implementation of these projects would be mitigated to **less than significant** levels with appropriate mitigation measures and conditions of approval. Proposed projects in the area would also be required to comply with the City's *COA: Archaeological Resources*, or more specific measures through the environmental review process, similar to project Mitigation Measures CUL-2a through CUL-2d, developed according to the particular sensitivity of an individual site. Collectively, recent past, approved, and probable future projects that may occur in the vicinity—including the proposed project—would not result in a cumulative increase in impacts on archaeological historical resources, archaeological resources, or human remains because these resources would be avoided or otherwise removed, analyzed, and documented (i.e., by a qualified archaeologist).

When the City considers future development proposals, these proposals would undergo environmental review pursuant to CEQA and, when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project mitigation measures, conditions of approval and relevant policies of the General Plan would ensure that significant impacts on cultural resources would be avoided or otherwise mitigated to **less than significant** levels. Based on the information in this Cultural Resources section, and for the reasons summarized above, implementation of the proposed project would not make a cumulatively considerable contribution to significant adverse cumulative impacts related to cultural resources when considered together with other cumulative development. Therefore, the cumulative impact on cultural resources would be **less than significant**.

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4.3 TRIBAL CULTURAL RESOURCES

As described in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section identifies the known tribal cultural resources on the project site and vicinity, evaluates potentially significant impacts to such resources that may result from implementation of both the proposed project and the conceptual development project, and recommends mitigation measures to reduce the severity of potentially significant impacts. California Public Resources Code (PRC) Section 21074 defines "tribal cultural resources" as:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either: (A) included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register); or (B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1 or

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

Information in this section is based on the Preliminary Cultural Resources Evaluation (CRE)[1] prepared for the proposed project (and included as Appendix B), Native American consultation efforts pursuant to Senate Bill (SB) 18 and Assembly Bill (AB) 52, and the City of Berkeley General Plan.

4.3.1 Setting

4.3.1.1 Prehistory

Studies and analysis of archaeological materials uncovered in the San Francisco Bay Area indicate that native peoples have occupied the Bay region for more than 11,000 years. The area of West Berkeley where the project site is located was originally inhabited by the indigenous Ohlone people who maintained villages, hunted and gathered, and created shellmounds along the Bay shore and inland from approximately 500 CE (Common Era) until the coming of European settlers in 1776.

Originally called "Costanoans" after the Spanish derivative for "coastal people," the terms Ohlone/Costanoan imply a loose linguistic affiliation encompassing six or seven distinct dialect clusters. The Costanoan languages derived from Penutian Stock, a theoretical linguistic construct that appears to have its origins in the northwestern Great Basin. Penutian-speaking peoples presumably slowly migrated into Central California as early as 2500 BCE (Before Common Era). As

[1] Archeo-Tec. 2022. *Preliminary Cultural Resources Evaluation of the 2nd and Gilman Street Project, City of Berkeley, Alameda County, California.* June.

Penutian-speaking peoples continued to spread west, they would have come in contact with existing Hokan populations. The fusion of Hokan and Penutian-speaking peoples may have become the Miwok and Ohlone cultures. By 300–500 AD, proto-Ohlone speakers of Penutian stock were firmly ensconced in the San Francisco Bay region.

At the time of the European settlement in the Bay Area, the project site was part of the Huchiun Ohlone territory, who spoke the Chochenyo Ohlone dialect. The Ohlone were semi-sedentary collectors and hunters of fish and game. In 1770, it is estimated that the Ohlone population was at most around 10,000, perhaps fewer. Forty (40) years later, by 1810, much of the native population and their traditional culture and languages had been subjected to the disastrous effects of European encroachment, primarily disease and displacement from the California mission system.

4.3.1.2 Project Site

Although now situated approximately 300 meters (984 feet) inland, almost half of the project site was once an estuarine marsh of San Francisco Bay. The first documented topographic modification of the project site's immediate vicinity took place during the 1860s, when tracks for the Central Pacific Railroad were laid along the eastern edge of the subject property. In the early 20th century, the marsh and its slough appear to have been choked and partially filled such that the project site now lays almost directly along the Bay shoreline. By 1903, the project site was developed with mixed residential and commercial uses. In the late 1930s, construction of the Eastshore Highway included extensive infilling of the bay shallows west of the project site. The result is that the shoreline was artificially shifted to the west. Therefore, all ground surfaces between the current shoreline and the western portions of the project site are composed of imported, artificial fill overlaying geologically recent shoreline sands and marshy clays. The dynamism of the geomorphological processes and soils means that predicting where remnants of stable alluvial depositions, and therefore possible remnants of prehistorical cultural resources, may lie beneath the current ground surface of the project site is extremely difficult.

Today, the 11.54-acre project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The site is almost entirely covered by buildings and surface pavements. Vegetation on the site is limited to sparse street trees and ornamental trees.

As further described in Section 4.2, Cultural Resources, the project site has been the subject of a records search and limited archaeological testing. No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials have been identified on the site. However, the site is close to the Schoolhouse Creek site and West Berkeley Shellmound complex, both of which are considered highly significant prehistoric resources. In addition, during a 2016 program of geotechnical borings, both intact and displaced prehistoric-period buried midden soil deposits were identified in a location adjacent to the project site. Intact midden deposits were identified at a depth of between 4.6 and 6.1 feet below the ground surface. Cultural materials included burned and unburned wood, charcoal, flaked stone, marine shell fragments, faunal bone, and lignite coal pieces. Radiocarbon testing of marine shell indicated that the midden deposit was contemporaneous with the early phases of the occupation of the West Berkeley Shellmound Complex. Due to the close

proximity, it is possible that intact and/or displaced portions of this known midden deposit extend into the project site.

4.3.1.3 Regulatory Framework

The following discusses applicable laws, standards, and policies related to tribal cultural resources, including those from State and local agencies.

State Laws and Regulations. The following State regulations, related to tribal cultural resources that would be applicable to the project, are described below.

California Health and Safety Code Section 7050.5. California Health and Safety Code Section 7050.5 states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the Coroner's authority. If the human remains are of Native American origin, the County Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Public Resources Code (PRC) Section 5097.5. Section 5097.98 of the PRC states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5 (discussed above), shall immediately notify those persons (i.e., the MLD) it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site. See also *State CEQA Guidelines* Section 15064,5(d) and (e).

Assembly Bill 52 Tribal Consultation. California PRC Sections 21080.3.1 and 21080.3.2 and Chapter 532, Statutes 2014 (i.e., AB 52), require that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. AB 52, specifically PRC Section 21080.3.1(d), requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether an Environmental Impact Report (EIR) (among other types of environmental documents) is required for a project. The bill specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. The bill makes the above provisions applicable to projects that have a Notice of Preparation (NOP) filed on or after July 1, 2015. By requiring the lead agency to consider these effects relative to

tribal cultural resources and to conduct consultation with California Native American tribes, this bill imposes a State-mandated local program.

Senate Bill 18. SB 18 (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to "provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places."[2]

Local Plans and Regulations. The City of Berkeley General Plan policies, programs, and other applicable requirements related to tribal cultural resources that would be applicable to the project are described below.

City of Berkeley General Plan.The following policies of the City of Berkeley General Plan Urban Design and Preservation Element pertaining to tribal cultural resources would be applicable to the proposed 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.

A. Identify and protect historically significant structures, sites, districts, and neighborhoods. (Also see Land Use Policy LU-2.)

B. Develop a comprehensive program that will indicate, in more detail, needed in-depth surveys and other actions to protect Berkeley's built environment and cultural heritage.

C. Conserve and update the Landmarks Preservation Ordinance.

D. Encourage widespread public participation in the identification and designation of historically or culturally important buildings, sites, and areas.

E. Review and revise the Zoning Ordinance, in general, as appropriate to further the protection of historic and cultural resources.

F. Take full advantage of all State of California preservation programs such as the Certified Local Government program.

G. Through code enforcement and other activities, provide early intervention to promote timely upkeep of historic and cultural resources, and thereby avoid continued neglect that could eventually make such resources unsavable.

[2] Governor's Office of Planning and Research. 2005. Tribal Consultation Guidelines. November 14, Website: https://opr.ca.gov/docs/011414_Updated_Guidelines_922.pdf (accessed August 19, 2022).

Policy UD-4: Inventory. On an ongoing basis, maintain, expand, and update the inventory of historic and cultural resources.

A. Actively expand the inventory of historic and cultural resources, with particular attention to areas where development pressure is expected, and make the inventory results prominently available to citizens and potential developers.

B. Fully incorporate the identity of inventoried historic and cultural resources into the City's Geographic Information System and permit system.

C. Acquire and maintain generalized information on what parts of Berkeley, and which types of sites, are sufficiently likely to contain notable archaeological materials as to warrant further, site-specific investigation.

City of Berkeley Conditions of Approval for Development Projects. The City of Berkeley (City) has established standard conditions of approval (COA) for all development projects. The following COAs address cultural resources:

COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction). Pursuant to *State CEQA Guidelines* Section 15064.5(f), a lead agency should make "provisions for historical or unique archaeological resources accidentally discovered during construction." Therefore:

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

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

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

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

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

COA: Human Remains (Ongoing Throughout Demolition, Grading, and/or Construction).In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State 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 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 time frame required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously.

4.3.2 Impacts and Mitigation Measures

This section discusses potential tribal cultural resources impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and identifies mitigation measures, as appropriate.

4.3.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to tribal cultural resources if it would:

Threshold TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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: (i) listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k); or (ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of 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.

4.3.2.2 Project Impacts

The following section discusses the potential impacts associated with implementation of the proposed project and the conceptual development project to tribal cultural resources according to the significance criteria described above. Potential impacts associated with the proposed project are evaluated at a programmatic level, while potential impacts associated with the conceptual development project are evaluated at a project level to the extent feasible.

Impact TCR-1: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074. *(Less Than Significant with Mitigation)*

The City consulted with tribal representatives traditionally or culturally affiliated with the project site pursuant to the requirements outlined in AB 52 and SB 18. On February 28, 2023, the City sent outreach letters to the tribal contacts for tribes that have requested notice pursuant to PRC Section 21080.3.1 and formally invited each representative to consult with the City on the proposed project. Appendix D provides the NAHC's response letter, including the results of the Sacred Lands File search and the list of recommended tribal contacts.

No response to the tribal outreach letters were received within the 30-day and 90-day time periods provided by AB 52 and SB 18, respectively. On February 14, 2024, the City again reached out to tribal contacts to offer the opportunity for consultation. On February 17, 2024, the Ohlone Indian Tribe requested to initiate consultation, and the City responded with a request to schedule a meeting. As of the time of this writing, the City has not received any additional response or communication from the Ohlone Indian Tribe. On February 20, 2024, the Confederated Villages of Lisjan Nation requested to initiate consultation. A meeting took place with the Confederated Villages of Lisjan Nation on May 8, 2024, and again on July 3, 2024. On May 30, 2024, the Confederated Villages of Lisjan Nation requested text additions to Mitigation Measures CUL-2a through CUL-2d, *COA: Archaeological Resources*, and *COA: Human Remains* to better address potential impacts on tribal cultural resources. These requested revisions have been incorporated into Mitigation Measures CUL-2a through CUL-2d, described in Section 4.2, Cultural Resources, and *COA: Archaeological Resources* and *COA: Human Remains,* as discussed further below.

As discussed above, even though no trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials have been identified on the project site, the project site is close to the Schoolhouse Creek site and West Berkeley Shellmound complex, both of which are considered highly significant prehistoric resources. Given the project site's proximity to known sites, including a midden site, the Schoolhouse Creek site, and the West Berkeley Shellmound complex, and the project site's location atop alluvial deposits, the project site is considered sensitive for buried prehistoric cultural resources and undiscovered tribal cultural resources. Some areas of the site are to be considered extremely sensitive for intact and disturbed resources, which may extend into untested soils within the project site. It is also possible that small pockets of displaced midden material may be mixed with the modern fill (secondary deposits). This is because, historically, shellmound (midden) deposits were used for surface leveling and fill. Such secondary midden deposits could be found at any level below the ground surface and have been reported within the project area. It is also possible that historic-era deposits associated with past residential and industrial use of the site could be encountered.

The proposed rezoning of the project site to the newly created M-RD zoning district, including amendments to the General Plan, and West Berkeley Plan, to add the M-RD district to the Manufacturing land use designation would not result in any direct physical alterations to the project site; however, these actions would facilitate future development, including demolition of site structures and construction of new buildings.

For example, the conceptual development project would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site. Approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of materials, including imported soil and fill, would be required. The average depth of excavation across the site would be 4 feet, while the maximum depth of excavation would be approximately 12 feet for sewer connections. Therefore, the proposed project could result in a **potentially significant** impact to tribal cultural resources if previously undiscovered tribal cultural resources were to be unearthed during ground-disturbing activity, including human remains of Native American origin. Therefore, the proposed project and conceptual development project shall implement Mitigation Measures CUL-2a through CUL-2d, as identified below and in Section 4.2, Cultural Resources.

Mitigation Measure CUL-2a **Archaeological Testing Plan for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

Mitigation Measure CUL-2b **Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

Mitigation Measure CUL-2c **Cultural Resources Monitoring Plan for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

Mitigation Measure CUL-2d **Accidental Discovery Measures for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

In addition to the Mitigation Measures CUL-2a through CUL-2d, the proposed project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains,* included below, incorporate text revisions provided by the Confederated Villages of Lisjan Nation during the consultation process as required by AB 52 and SB 18. The City hereby incorporates the COAs as revised. Revisions proposed through the AB 52 consultation process are <u>underlined</u> in the text below.

> <u>COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction).</u> Pursuant to *State 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. In the event that these resources are of Native American origin, all work within 50 feet of the resources shall be halted and the lead agency shall consult with a Tribal representative of the Confederated Villages of Lisjan Nation to assess the significance of the find. The archaeologist will stake the area of discovery, placing stakes no more than 10 feet apart, forming a circle around the point of discovery.

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. If the resource is determined to be a Tribal Cultural Resource and thus significant under the California Environmental Quality Act (CEQA), the project proponent and/or lead agency shall retain a qualified archaeologist and a Tribal monitor, at the applicant's expense, to prepare a mitigation plan that shall be implemented by the appropriate entity in accordance with State CEQA guidelines and in consultation with the consulting Tribe. 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. For Tribal Cultural Resources, avoidance is always preferred.

d. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. For Tribal Cultural Resources, data recovery is never an appropriate mitigation. If avoidance is not feasible, the mitigation plan shall outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for Tribal Cultural Resources include, but are not limited to, protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidentiality of the resources, and/or heritage recovery. 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 NWIC.

COA: Human Remains(Ongoing Throughout Demolition, Grading, and/or Construction). In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt, and the Alameda County Coroner shall be contacted to evaluate the remains following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the City shall contact the NAHC, pursuant to subdivision

(c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects. There shall be no pictures taken or testing done on any Native American human remains, and all bone, if not identifiable as human or animal, shall be treated as human remains and the appropriate protocols followed. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and time frame required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously. A report containing this information should be submitted to the lead agency, project proponent, the NWIC and the consulting Tribe. Tribal representatives will rebury the Native American human remains and associated funerary objects with the appropriate dignity either in accordance with the recommendations of the MLD if available, or in the project vicinity at a location agreed upon between the Tribe and the lead agency, where the reburial would be accessible to Tribal members in perpetuity and would not be subject to further disturbance. The discovery and reburial are to be kept confidential and secure to prevent any further disturbance.

The proposed project and the conceptual development project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains* and implement Mitigation Measures CUL-2a through CUL-2d in order to ensure that: (1) if tribal cultural resources are identified during excavation, and avoidance is not feasible, a mitigation plan shall be prepared and outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist, and (2) human remains would be treated in a culturally appropriate manner and in accordance with the consulting Tribe. Therefore, implementation of these mitigation measures would reduce potential impacts to tribal cultural resources to **less than significant with mitigation**.

Impact TCR-1 Summary: Implementation of the proposed project would facilitate future development of the project site under the newly created M-RD zoning district, including the conceptual development project, which would include ground-disturbing activities during construction. Future ground-disturbing activity has the potential to unearth previously undiscovered tribal cultural resources. Both the proposed project and the conceptual development project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains* and implement Mitigation Measures CUL-2a through CUL-2d. Therefore, the potential impacts to tribal cultural resources would be **less than significant with mitigation**.

4.3.2.3 Cumulative Impacts

As defined in Section 15130 of the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and reasonably foreseeable projects causing related impacts. Potential impacts of the proposed project, including any actions required for the conceptual development project, to unknown tribal cultural resources, when combined with other past, current, and reasonably foreseeable projects in the city and on land traditionally used by culturally affiliated tribes, could contribute to a cumulatively significant impact due to the overall loss of tribal cultural resources in the region. However, each

development proposal received by the City is required to undergo individual environmental review pursuant to CEQA, including AB 52 outreach. Furthermore, impacts of other projects on tribal cultural resources are generally site-specific because they result from ground -disturbing activities that would require a site-specific impact analysis to determine the nature and extent of the resources and identify appropriate mitigation measures that would reduce or avoid significant impacts. Thus, there is no potential for the proposed project to contribute to a significant cumulative impact associated with the significance of a tribal cultural resource pursuant to California Code of Regulations (CCR) Section 15064.5.

Similar to the proposed project, ground disturbance associated with these projects could result in potentially significant impacts on previously unidentified archaeological sites and associated human remains that may be unearthed. However, impacts on resources that may be inadvertently discovered during implementation of these projects would be mitigated to less than significant levels with appropriate mitigation measures adopted as conditions of approval. Proposed projects in the area would also be required to comply with the City's *COA: Archaeological Resources* and *COA: Human Remains*, or more specific measures through the environmental review process, similar to Mitigation Measures CUL-2a through CUL-2d. Collectively, recent past, approved, and probable future projects that may occur in the vicinity—including the proposed project—would not result in a cumulative increase in impacts on tribal cultural resources or human remains, because these resources would be avoided or otherwise removed, analyzed, and reported (i.e., by a qualified archaeologist). In addition, through required tribal consultation, additional mitigation measures for ensuring tribal cultural resources are not significantly impacted would also be developed and prescribed on a project-specific basis.

When the City considers future development proposals, both on the project site and citywide, these proposals would undergo environmental review pursuant to CEQA and when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project conditions of approval and relevant policies of the General Plan would ensure that significant impacts on tribal cultural resources would be avoided or otherwise mitigated to less than significant levels. Based on the information in this section (Section 4.3, Tribal Cultural Resources), and in Section 4.2 Cultural Resources, and for the reasons summarized above, the proposed project would not contribute to significant adverse cumulative impacts related to tribal cultural resources when considered together with other cumulative development. Therefore, this cumulative impact would be **less than significant**.

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4.4 TRANSPORTATION

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes the existing and future transportation and circulation conditions on the project site and its vicinity, describes the analysis methodology and regulatory framework, identifies potential transportation-related impacts of the proposed project and conceptual development project, and identifies the recommended mitigation measures for identified potentially significant impacts. Topics evaluated in the analysis include an assessment of vehicle miles traveled (VMT), site access and circulation, hazards, and emergency vehicle access.

For purposes of determining potentially significant environmental impacts related to transportation, this analysis focuses only on VMT as the threshold of significance. Information in this section is provided by the Transportation Impact Analysis[1] (TIA) (Appendix E) prepared for the proposed project, including the proposed M-RD zoning, General Plan, and West Berkeley Plan amendments and the conceptual development project. The analyses were conducted in accordance with the current standards and methodologies required by law and set forth by the City. The TIA includes a discussion of the existing circulation systems in the vicinity of the project site, trip generation analysis, VMT screening assessment and project VMT estimate, Transportation Demand Management Plan (TDM Plan), congestion management program analysis, and a discussion of site access, circulation, and parking.

4.4.1 Setting

This section describes the existing transportation conditions, including the roadway network, bicycle facilities, pedestrian facilities, and transit service within the study area. In addition, the I-80/Gilman Street Interchange Project, currently under construction, is described in this section and the proposed changes are considered part of baseline conditions as detailed in the TIA (Appendix E). The applicable regulatory framework is also described, below.

4.4.1.1 Existing Transportation and Circulation System

Existing Roadway Network. Regional highways, arterials, major collectors, collectors, and local streets run throughout the project area. Regional access to the project site is provided by the Interstate 80/Interstate 580 (I-80/I-580) freeway corridor and Gilman Street. Descriptions of roadways in the project area are provided below using roadway classifications defined in the City of Berkeley General Plan Land Use and Transportation Element.[2]

1 Fehr & Peers. 2024. Transportation Impact Analysis, Gilman Gateway Rezone Project. January.
2 City of Berkeley. 2002. *Berkeley General Plan, Transportation Element.*

- **I-80/I-580** is a 10-lane, north-south freeway facility with a high-occupancy vehicle lane in each direction.[3] I-80/I-580 is on the western edge of the city. The freeway has a dual designation (I-80 and I-580) through Berkeley and splits just to the north and south of the Berkeley city limits. The freeway connects Berkeley to southern Alameda County to the south, San Francisco and the Peninsula to the west, the Sacramento region to the east, and Marin County to the north. I-80 is also designated with I-580 between Albany and Emeryville. Access between I-80/I-580 and the project site is provided primarily through the interchange at Gilman Street. I-80/I-580 is designated as a Freeway in the City 's General Plan.

- **San Pablo Avenue/State Route 123 (SR 123)** is a divided, four-lane, north-south major street that extends between Rodeo in the north and downtown Oakland in the south. The divided roadway has a center median and left turn pockets at major intersections in the city. San Pablo Avenue also has sidewalks and metered parallel parking on both sides of the street near the project site. San Pablo Avenue is designated as a Major Street[4] in the City's General Plan.

- **Eastshore Highway** is a two-lane, two-way, north-south road that runs parallel to I-80/I-580 and bounds the project site to the west. This roadway serves as an access road to several residential and collector streets. It extends between Buchanan Street in the north and Hearst Avenue in the south, and forms the west border of the project area. Within the project area, Eastshore Highway provides an intermittent sidewalk and parallel parking on the east side of the street. Eastshore Freeway is designated as a Collector Street[5] in the City's General Plan.

- **Gilman Street** is a two-lane, east-west street that bounds the project site to the north and extends between Golden Gate Fields in the west and Hopkins Street in the east. It provides access to I-80/580 through an interchange at the northwest corner of the project site. Gilman Street is designated as a Major Street in the City's General Plan. Gilman Street is also designated as a bikeway, Secondary Transit Route, and Emergency Access and Evacuation Route for the City.

- **Cedar Street** is a two-lane, east-west street that extends between Eastshore highway in the west and La Loma Avenue in the east. In the project vicinity, it generally has unrestricted on-street parking and sidewalks along both sides of the street, except for the block between Second Street and the railroad tracks, which does not have a sidewalk on the south side of the street. Cedar Street is designated as a Collector Street in the City's General Plan.

- **Page Street** is a two-lane, east-west street that bounds the project site to the south and extends between Eastshore Highway in the west and Cornell Street in the east with a discontinuous segment between Second and Fourth streets due to the railroad tracks. Page Street has

[3] The I-80/I-580 freeway corridor is sometimes referred to as the Eastshore Freeway. The roadway along the western boundary of the project site, its predecessor, is Eastshore Highway.

[4] Major Streets serve the movement of vehicles, pedestrians and bicycles across the city, connecting to the regional transportation network or other jurisdictions.

[5] Collector Streets serve the movement of automobiles, buses, pedestrians, and bicycles between neighborhoods and across the City.

unrestricted on-street parking and intermittent sidewalks on both sides of the street within the project area. Page Street is designated as a Local Street[6] in the City's General Plan.

- **West Frontage Road** is a two-lane, north-south street west of and parallel to I-80/I-580. It extends between Gilman Street in the north and Emeryville in the south. In the project vicinity, parking is prohibited along the roadway, and a paved bicycle/pedestrian path (San Francisco Bay Trail) is provided west of the roadway. West Frontage Road is designated as a Collector Street in the City's General Plan.

- **Camelia Street** is a two-lane, east-west street that bisects the project site and extends between Second Street in the west and Santa Fe Avenue in the east. Within the project area, Camelia Street has unrestricted on-street parking and sidewalks on both sides of the street. Camelia Street is designated as a Local Street in the City's General Plan. Camelia Street between Fifth and Ninth streets, east of the project site, is also considered a bikeway in the City's General Plan.

- **Second Street** is a two-lane, north-south street that bisects the project site and extends between Codornices Creek in the north and Addison Street in the south. The segment of Second Street between Gilman and Harrison streets is currently one-way northbound, and the segment between Cedar and Virginia streets is closed to the public. Within the project area, Second Street has intermittent sidewalks and on-street parking on both sides of the street. Second Street is designated as a Local Street in the City's General Plan. Improvements to Second Street are currently under construction as part of the I-80/Gilman Interchange Project, discussed later in this section.

- **Third Street** is a two-lane, north-south street that bounds the project site to the east. Third Street is designated as a Local Street in the City's General Plan.

- **Fourth Street** is a two-lane, east-west street that bisects the project site and extends between Harrison Street in the north and Dwight Way in the south. In the project vicinity, Fourth Street has unrestricted on-street parking and continuous sidewalks on both sides of the street. Fourth Street is designated as a Collector Street in the City's General Plan.

- **Sixth Street** is a two-lane, north-south street that extends between the Albany University Village in the north and Dwight Way in the south. In the project vicinity, it has unrestricted on-street parking and continuous sidewalks on both sides of the street. Sixth Street also has dedicated bicycle lanes on both sides of the street south of Gilman Street. Sixth Street is designated as a Collector Street in the City's General Plan.

Existing Pedestrian Facilities. Pedestrian facilities consist of a combination of paved and unpaved sidewalks or shoulders. The streets within the project vicinity, including Second, Camelia, and Page Streets and Eastshore Highway, generally do not have continuous paved sidewalks with curbs on both sides of the street. Gilman Street has sidewalks on both sides of the street, including under the I-80/I-580 overcrossing, with marked crosswalks across the side street and a marked unprotected

6 Local Streets serve local, slow traffic, bicycles, and pedestrians.

crosswalk across Gilman Street just east of Eastshore Highway. The I-80/Gilman Street Interchange Project, which is currently under construction, will provide sidewalks with curbs and gutters on both sides of Second Street and on the east side of Eastshore Highway and improve the pedestrian facilities on both sides of Gilman Street.

Existing Bicycle Facilities. Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the Highway Design Manual (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary types of bikeway facilities: Class I, Class II, Class III, and Class IV. In addition, the Alameda County Transportation Commission (CTC) has adopted a set of sub-classifications for each Caltrans classification. These facility types are described below.

- **Class I Bikeways** (Multi-Use Paths) provide a completely separate right-of-way, are designated for the exclusive use of bicycles and pedestrians, and minimize vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed. **Class IA Bikeways** are paved paths and **Class IB Bikeways** are unpaved paths.

- **Class II Bikeways** (Bicycle Lanes) are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally 5 feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. When grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separate Bikeways. **Class IIA Bikeways** are conventional bicycle lanes. **Class IIB** are upgraded bicycle lanes that include either a striped bike lane with striped buffer between the bike lane and the traffic lane, or bike lanes with green conflict markings. **Class IIC** are climbing bike lanes (a bike lane in the uphill or downhill direction), and **Class IID** are contraflow bike lanes[7].

- **Class III Bikeways** (Bicycle Routes) are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to (a) provide continuity to other bicycle facilities or (b) designate preferred routes through high-demand corridors. Bicycle routes are implemented on low-speed (less than 25 mile-per-hour) and low-volume (fewer than 3,000 vehicles per day) streets. **Class IIIA** are signage-only routes, **Class IIIB** have a wide curb lane or shoulder, **Class IIIC** are routes with standard shared lane markings or other pavement stenciling, **Class IIID** are routes with green-backed shared lane markings (also known as “super sharrows”), and **Class IIIE** are Bicycle Boulevards.

- **Class IV Bikeways** (Cycle tracks), also known “protected bike lanes”, provide a right-of-way designated exclusively for bicycle travel within a roadway and that are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts,

[7] Contraflow bicycle lanes are bicycle lanes designed to allow bicyclists to ride in the opposite direction of motor vehicle traffic.

inflexible physical barriers, or parked cars. **Class IVA** are one-way cycle tracks or protected bikeways, and **Class IVB** are two-way cycle track or protected bikeways.

- **Bicycle Boulevards (Class IIIE)** are mostly installed along residential streets with low traffic volumes and prioritize bicycle travel. Assignment of right-of-way to the route, traffic calming measures and bicycle traffic signal actuation are used to prioritize through-trips for bicycles.

Table 4.4.A, below, shows the existing Bicycle Boulevard Network in the City, including the total miles of bicycle facilities with Caltrans classification and Alameda CTC subclassifications as indicated. Table 4.4.B provides the existing and proposed bicycle facilities in the project vicinity.

Table 4.4.A: Existing Bicycle Boulevard Network

Bikeway Type	Mileage
Class I	
Class IA: Paved Paths	13.9 miles
Ohlone Greenway	1.2 miles
San Francisco Bay Trial	7.4 miles
Aquatic Park Path	2.5 miles
9th Street Path	0.1 mile
West Street Path	0.5 mile
Other Paths	2.2 miles
Class IB: Unpaved Paths	5.3 miles
Class II	
Class IIA: Standard Bicycle Lane	11.7 miles
Class IIB: Upgraded Bicycle Lane	0.3 mile
Buffered Bicycle Lanes	0.3 mile
Class IID: Contraflow Bicycle Lane	0.4 mile
Class III	
Class IIIA: Signage-only Bicycle Route	4.5 miles
Class IIIC: Standard Sharrows	2.7 miles
Class IIIE: Bicycle Boulevard	1.9 miles
Class IV	
Class IVA: One-way Cycle Track/Protected Bikeway	0.1 mile
Total	**50.8 miles**
Berkeley Bicycle Boulevard Network[1]	15.8 miles

Source: *Berkeley Bicycle Plan, Table 3-5: Existing Bicycle Boulevard Network* (City of Berkeley, May 7, 2017).

[1] Berkeley's Bicycle Boulevard network comprises segments of Class I, II, and II facilities.

Table 4.4.B: Existing and Proposed Bicycle Facilities in the Project Vicinity

Bikeway Type	Description and Location Relative to Project Vicinity
Existing	
Class I multi-use path	West side of West Frontage Road, which is part of the Bay Trail.
Class II dedicated bike lane	Both sides of Gilman Street between I-80/I-580 and San Pablo Avenue.
Class II dedicated bike lane	Both sides of Sixth Street south of Gilman Street.
Bicycle Boulevard and Class III bike route	Eighth Street between Albany University Village and Camela Street, Camelia Street between Eighth and Ninth Streets, and Ninth Street south of Camelia Street.
Planned	
Class I multi-use path	Bicycle/pedestrian bridge on the Gilman Street overcrossing over the I-80 freeway to connect the Bay Trail west of the freeway and Gilman Street east of the freeway.
Class II bike lanes	Upgrades to the existing Class II bike lanes on Sixth Street, including the provision of striped buffers.
Class IV cycletrack	On Gilman Street from Eastshore Freeway to Hopskins Street and San Pablo Avenue from Dartmouth Street to Folger Avenue.
Bicycle Boulevard	Extension of the bicycle boulevard on Camelia Street east to Santa Fe Avenue, including a new pedestrian hybrid beacon at the Camelia Street/San Pablo Avenue intersection.

Sources: Transportation Impact Analysis, Gilman Gateway Rezone Project (Fehr and Peers, January 2024); Bicycle Plan (City of Berkeley, 2017).

Existing Transit Services and Facilities. Transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit), Bay Area Rapid Transit (BART), and passenger rail services along the Union Pacific Railroad (UPRR) corridor is provided by Amtrak.

AC Transit. AC Transit operates five local routes (12, 52, 72, 72M, and 72R), one night route (800), and one transbay route (G) that provide service to the project site, with the closest bus stops at Gilman Street and Sixth Street, approximately 0.4 mile east of the project site, and San Pablo Avenue at Gilman Street, approximately 0.7 mile east of the project site. The Gilman Street/Sixth Street bus stop provides service for Route 12 and the San Pablo Avenue/Gilman Street bus stop provides service for Routes 52, 72, 72M, 72R, 800, and G. Existing transit routes in the study area are described below.

- **Route 12** is a north-south local line that provides service between Northwest Berkeley and the Amtrak Station at Jack London Square in Oakland. The route serves Berkeley, Oakland, and Piedmont, and the following transit centers: Ashby BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Amtrak, and Oakland Jack London Square Ferry Terminal.

- **Route 52** is a northwest-southeast local that provides service between Albany University Village to the University of California, Berkeley campus. The route serves Albany and Berkeley and the following transit centers: Berkeley BART and North Berkeley BART.

- **Route 72** is a north-south local line that provides service between Hilltop Mall/Contra Costa College and Jack London Square in Oakland. The route serves Albany, Berkeley, El Cerrito, El Sobrante, Emeryville, Oakland, Richmond, and San Pablo, and the following transit centers:

El Cerrito Plaza BART, El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Ferry Terminal, Hilltop Mall, and Contra Costa College.

- **Route 72M** is a north-south local line that provides service between Point Richmond and Jack London Square in Oakland. The route serves Albany, Berkeley, El Cerrito, Emeryville, Oakland, and Richmond and the following transit centers: El Cerrito Plaza BART, El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Ferry Terminal, and Richmond BART/Amtrak.

- **Route 72R** is a north-south local line that provides service between Contra Costa College and Jack London Square. The route serves Albany, Berkeley, El Cerrito, Emeryville, Oakland, Richmond, and San Pablo and the following transit centers: El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Ferry Terminal, and Contra Costa College.

- **Route 800** is a north-south all-night line that provides service between Richmond BART and San Francisco. The route serves Albany, Berkeley, El Cerrito, Oakland, Richmond, and San Francisco and the following transit centers: Ashby BART, Berkeley BART, El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, MacArthur BART, West Oakland BART, Civic Center BART, Montgomery Street BART, Powell Street BART, and Salesforce Transit Center.

- **Route G** is a north-south transbay line that provides service between Salesforce Transit Center in San Francisco to El Cerrito Plaza BART. The route serves Albany, Berkeley, El Cerrito, Kensington, and San Francisco and the following transit centers: El Cerrito Plaza BART and Salesforce Transit Center.

BART. BART is the regional rapid transit provider and connects Berkeley to other parts of Alameda County, Contra Costa County, San Francisco, and northern San Mateo County. The BART system operates trains along five routes: (1) Richmond-Fremont, (2) Richmond-Daly City/San Francisco Airport (SFO)/Millbrae, (3) SFO/Millbrae-Dublin/Pleasanton, (4) SFO/Millbrae-Pittsburg/Bay Point, and (5) Fremont-Daly City. The nearest BART station is the North Berkeley Station at 1750 Sacramento Street, 1.06 miles east of the project site.

Amtrak Capital Corridor and Union Pacific Railroad. Amtrak's Capitol Corridor and San Joaquin services provide intercity rail service to the Berkeley Amtrak station at University Avenue and Third Street, below the University Avenue overpass. Capitol Corridor service connects Berkeley to San Jose, Oakland, Davis, and Sacramento, and smaller communities along the route. In total, passenger operations contribute to 44 daily trains running through the station, with four to five trains per hour in both the weekday AM and PM peak-hours. The UPRR mainline tracks through West Berkeley, east of the project site, provide a key link for freight and passenger activity in the Bay Area.

The I-80/Gilman Street Interchange Project, currently under construction, primarily consists of installing two roundabouts at the intersections of the I-80/I-580 Ramps on Gilman Street. The

roundabouts would replace the existing stop-signs on the I-80/I-580 Northbound and Southbound Off-Ramps, West Frontage Road, and Eastshore Highway. Construction of the I-80/Gilman Street Interchange Project is expected to be completed by 2025. The interchange project is part of the baseline conditions because it would be completed prior to proposed project implementation. The following improvements are part of the I-80/Gilman Street Interchange Project and are also considered to be baseline conditions:

- Provide a two-way cycletrack (separated bikeway) on the south side of Gilman Street between the I-80/I-580 Interchange and Fourth Street.
- Provide a non-motorized overcrossing of I-80/I-580 about 500 feet south of the Interchange that will connect to the Bay Trail west of I-80/I-580 and the Gilman Street cycletrack east of I-80/I-580 through a path between the freeway and Eastshore Highway.
- Improve the at-grade railroad crossing on Gilman Street, including installation of medians with bollards on both directions of Gilman Street.
- Remove most on-street parking on Gilman Street between I-80/I-580 and Fourth Street.
- Repave Second Street and provide sidewalk, curb, and gutter on both sides of the street.
- Convert Eastshore Highway between Harrison and Gilman streets to one-way southbound.
- Convert about 150 feet of Eastshore Highway south of Gilman Street to one-way northbound.
- Convert Second Street to one-way southbound between Gilman and Camelia streets and prohibit left-turns from westbound Gilman Street onto Second Street.
- Open Third Street just west of the railroad tracks to emergency vehicles only, and local access to the existing 1306 Third Street building. This segment of Third Street will be designed as a one-way southbound street between Gilman and Camelia streets with access at the Gilman Street/Third Street intersection limited to right-turns only from eastbound Gilman Street to southbound Third Street.
- Signalize the Gilman Street/Fourth Street intersection and the at-grade railroad crossing with a signal interconnect to minimize the potential for queues on Gilman Street to spill back onto the railroad tracks.
- Close the existing at-grade railroad crossing on Camelia Street and provide a fence west of the railroad tracks along the project frontage between Gilman and Camelia Streets.

As described above, the I-80/Gilman Street Interchange Project would modify vehicular access to and from the north and the east for the project area. Vehicles would only be able to turn right from eastbound Gilman Street to Second Street to access the project area. Thus, vehicles from the east would either travel westbound on Gilman Street and navigate through the east roundabout to

access eastbound Gilman Street and turn right onto southbound Second Street, or use westbound Cedar Street and turn right onto northbound Second Street or Eastshore Highway. Vehicles leaving the project area to the north would use northbound Eastshore Highway and either use the roundabouts to access the freeway ramps or travel eastbound on Gilman Street.

4.4.1.2 Regulatory Framework

The following state, regional, Alameda County and local transportation plans, policies, and regulations guide transportation planning in the city.

State Regulations. This section summarizes applicable state regulations guiding transportation planning in the city.

California Department of Transportation. Caltrans is responsible for the maintenance and operation of state routes/highways. In the city, Caltrans facilities include I-80/I-580 and State Route 123. Caltrans maintains a volume monitoring program and reviews local agencies planning documents (such as this Environmental Impact Report [EIR]) to assist in its forecasting of future volumes and congestion points. The Guide for the Preparation of Traffic Impact Studies published by Caltrans is intended to provide a consistent basis for evaluating traffic impacts to State facilities. The City recognizes that "Caltrans endeavors to maintain a target level of service at the transition between level of service (LOS) C[8] and LOS D[9] on State highway facilities"; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans states that, for existing state highway facilities operating at less than the target LOS, the existing LOS should be maintained. In addition, according to Caltrans' Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance, queue spillovers on freeway off-ramps are considered significant impacts only if the speed differential between the off-ramp and the mainline freeway is more than 30 miles per hour.

Caltrans released a VMT-Focused Transportation Impact Study Guide (May 20, 2020) that recommends use of the Governor's Office of Planning and Research (OPR) recommendations for land use projects and plans. For transportation projects, Caltrans has suggested that any increase in VMT would constitute a significant impact for transportation projects. This has been referred to as the "Net Zero VMT threshold."

Senate Bill 375. As a means to achieve the Statewide emission reduction goals set by Assembly Bill 32 ("The California Global Warming Solutions Act of 2006"), Senate Bill (SB) 375 ("The Sustainable Communities and Climate Protection Act of 2008") directs the CARB to set regional targets for reducing GHG emissions from cars and light trucks. Using the template provided by the state's Regional Blueprint program to accomplish this goal, SB 375 seeks to align

[8] LOS C is defined as: Driver speeds are near the free-flow speed, and maneuvering requires driver focus and care. Negative conditions regarding service quality will impact drivers, and any significant blockages or incidents are likely to cause queues.

[9] LOS D is defined as: Density increases faster, and speed begins to decline. There is limited ability for drivers to maneuver, and drivers experience reduced comfort. Traffic is unable to absorb disruptions, and minor incidents will cause queueing.

transportation and land use planning to reduce VMT through modified land use patterns. There are five basic directives of the bill: (1) creation of regional targets for GHG emission reduction tied to land use, (2) a requirement that regional planning agencies create a sustainable communities strategy (SCS) to meet those targets (or an Alternative Planning Strategy if the strategies in the SCS would not reach the target set by CARB), (3) a requirement that regional transportation funding decisions be consistent with the SCS, (4) a requirement that the Regional Housing Needs Allocation numbers for municipal general plan housing element updates must conform to the SCS, and (5) California Environmental Quality Act (CEQA) exemptions and streamlining for projects that conform to the SCS. Plan Bay Area is the implementation mechanism for SB 375 that applies to land use in the city.

Senate Bill 743. Until July 1, 2020, roadway congestion or LOS was used as the primary metric for planning and environmental review purposes in the city. However, SB 743 required the OPR to establish a new metric for identifying and mitigating transportation impacts under CEQA in an effort to meet the State's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation. SB 743 was signed into law in 2013 and fundamentally changed the way transportation impacts under CEQA are analyzed. It required the OPR to "prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the [CEQA] guidelines …establishing criteria for determining the significance of transportation impacts of projects" to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Public Resources Code (PRC) Section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts pursuant to PRC Section 21099(b)(1), automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA. OPR identified VMT as the required CEQA transportation metric for determining potentially significant environmental impacts.[10]

On December 28, 2018, the Natural Resources Agency adopted *State CEQA Guidelines* Section 15064.3, which establishes specific criteria for evaluating a project's transportation impacts and states that "vehicle miles traveled is the most appropriate measure of transportation impacts". It gives agencies the "discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure" provided that "[a]ny assumptions used to estimate vehicle miles traveled…should be documented and explained in the environmental document prepared for the project."

Section 15064.3 further states that, except for certain transportation projects, "a project's effect on automobile delay shall not constitute a significant environmental impact." See *Citizens for Positive Growth & Preservation v. City of Sacramento* (2019) 43 Cal. App. 5th 609, 626 (holding that a general plan's impact on LOS, which effectively measures automobile delay, can no longer

[10] Governor's Office of Planning and Research (OPR). 2016. *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013)*. January 20.

constitute a significant environmental impact). OPR developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA,* which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.[11] As of July 1, 2020, VMT (not LOS) is the only legally acceptable threshold for analyzing the transportation-related environmental impacts of land use projects pursuant to CEQA. The technical advisory memorandum recommends evaluating VMT impacts using an efficiency-based version of the metric, such as VMT per resident for residential developments or VMT per worker for office or other employment-based developments. Consistent with OPR's guidelines, the City uses the metric of home-work VMT per worker for evaluating the impacts of employment-based uses, such as the proposed project. The home-work VMT per worker measures all of the worker commute VMT by a motor vehicle on a typical weekday between homes and workplaces and divides that VMT by the number of workers. Based on the City's guidelines, the following significance threshold is applicable to the proposed project:

- An employment-generating project's VMT impact is considered less than significant if its home-work VMT per worker is at least 15 percent below the regionwide average home-work VMT per worker.

The VMT analysis performed for this EIR uses the latest version of the Alameda CTC Countywide Travel Demand Model (May 2019), as recommended by City guidelines, as the tool to estimate VMT for the proposed project. The Alameda CTC Model, which covers the entire nine-county Bay Area, is a regional travel demand model that uses socioeconomic data and roadway and transit network assumptions to forecast traffic volumes, transit ridership, and VMT. The Model is based on the Metropolitan Transportation Commission (MTC) Plan Bay Area 2040 (i.e., Sustainable Communities Strategy) transportation network and land use for 2020 and 2040. For these reasons, the Model was used to estimate home-work VMT per worker for the project and the entire nine-county Bay Area region under 2020 and 2040 conditions.

Regional Regulations. This section summarizes applicable regional regulations guiding transportation planning in the region.

Metropolitan Transportation Commission. The MTC is responsible for planning, coordinating, and financing transportation projects in the nine-county Bay Area. The local agencies that comprise these nine counties help the MTC prioritize projects based on need, feasibility, and conformance with federal and local transportation policies. In addition to coordinating with local agencies, the MTC distributes State and federal funding through the Regional Transportation Improvement Program.

Plan Bay Area. Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete an SCS as part of a Regional Transportation Plan. This strategy integrates transportation, land use and housing to meet greenhouse gas reduction targets set by the CARB. Plan Bay Area meets the requirements for an SCS. In addition, the plan sets a roadmap for future

[11] OPR. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA.* December 18. Website: opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed March 2024).

transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

The MTC and the Association of Bay Area Governments adopted Plan Bay Area 2050 in October 2021. To meet the GHG reduction targets, the plan identifies four Growth Geographies where future growth in housing and jobs should be focused: priority development areas (PDAs), priority production areas, transit-rich areas (TRAs), and high-resource areas (HRAs). The agencies estimate that more than 80 percent of housing growth would take place within TRAs, nearly 30 percent would be within HRAs, and more than 60 percent of job growth would be within walking distance of high-quality transit between 2015 and 2050.[12] The project site is not within a Growth Geography.

Alameda County Congestion Management Program Land Use Analysis Program. The Alameda CTC as part of the Alameda County Congestion Management Program (CMP) Land Use Analysis Program, requires the assessment of development-driven impacts on the Metropolitan Transportation System (MTS) roadways. The Alameda CTC requires that projects that would generate more than 100 net new PM peak-hour trips over existing conditions use the Countywide Travel Demand Model to assess the impacts on nearby regional roadways.

Local Plans and Regulations. This section summarizes applicable local plans and regulations guiding transportation planning in the city.

City of Berkeley General Plan. The City adopted the Transportation Element of the Berkeley General Plan in December 2001. The applicable circulation goals, policies, and programs related to transportation impacts related to the construction of the project are included below.

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 (General Plan Figure 7: Transit Map, page T-31).

Policy T-6 Transportation Service Fee: Ensure that new development does not impact existing transportation services and facilities. (*Also see Land Use Policy LU-28*).

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, such as:

- Participation in a citywide Eco-Pass Program.
- Participation in the Commuter check Program.
- Carpooling and provision of carpool parking and other necessary facilities.

[12] Note: Growth projections do not sum to 100 percent because PDAs, TRAs, and HRAs are not mutually exclusive.

- Telecommuting programs.
- "Free bicycle" programs and electric bicycle programs.
- "Car-sharing" programs.
- Use of pedal-cab, bicycle delivery services, and other delivery services.
- 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.
- Programs to reward Berkeley citizens and neighborhoods that can document reduced car use.
- Limitations on the supply of long-term commuter parking and elimination of subsidies for commuter parking.
- No-fare shopper shuttles connecting all shopping districts through the city.

Policy T-14 Private Employers: Encourage private employers to reduce the demand for automobile travel through transportation demand management programs that include elements such as:

- Trip reduction incentives such as Commuter Check and Eco-Pass.
- Flexible work hours and telecommuting to reduce peak-hour commute congestion.
- Carpool and vanpool incentives to reduce single-occupancy vehicle use.
- Provision of mass transit pass/credit instead of free employee parking (parking "cash-out" programs).
- Providing bicycle facilities.
- Market pricing mechanisms for employee paring to reduce automotive use and discourage all-day parking.
- Local hiring policies.
- Numerical goals for trip reduction.

Policy T-18 Transportation Impact Analysis and Vehicle Miles Traveled: When considering transportation impacts under CEQA, 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. (Reso. 69,618-NS (Exh. A), 2020).

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-25 Street Maintenance: Maintain streets, sidewalks, and other public infrastructure to reduce long term replacement costs.

Policy T-26 City Streets: Do not widen local, collector, or major streets unless necessary to allow passage of emergency vehicles or remove parking from residential streets for the purpose of expanding automobile traffic lanes. (*Also see Disaster Preparedness and Safety Policy S-22).*

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.

Policy T-33 Disabled Parking and Passenger Zones: Ensure adequate disabled parking and passenger drop-off zones.

Policy T-42 Bicycle Planning: Integrate the consideration of bicycle travel into City planning activities and capital improvement projects, and coordinate with other agencies to improve bicycle facilities and access within and connecting Berkeley.

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.

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 crossing through the city.

City of Berkeley Bike Plan. On May 2, 2017, the City approved the Berkeley Bicycle Plan 2017. The vision of the Bicycle Plan is to make Berkley a model bicycle-friendly city where bicycling is a safe, attractive, easy, and convenient form of transportation and recreation for people of all

ages and abilities. The Plan recommends a core network of "Low Stress" bikeways, a continuous and connected system of safe and comfortable bikeways that serve all types of people riding bicycles in the city. The core Low Stress network is part of a larger overall bikeway system in the city that is supported by wayfinding signage, bike parking, a high standard of maintenance, and education, encouragement, and outreach programs.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address transportation:

> COA: Nonresidential Electric Vehicle (EV) Charging (*prior to issuance of any building [construction] permit*). At least 10 percent of project parking spaces for nonresidential use shall have installed Level 2 (40 amp) electric vehicle (EV) charging stations and/or DC Fast Charging Stations, and least 40 percent shall be "EV Capable" equipped with raceway, electrical panel service capacity, and an electrical system to support future Level 2 (40 amp) EV charging stations, or any more stringent EV charging requirements, as specified by the Berkeley Green Code (Berkeley Municipal Code [BMC] Chapter 19.37). EV charging station installations and EV Capable spaces shall be noted on the construction plans. Public access parking spaces shall provide any applicable mandatory accessibility provisions. (A project is required to meet applicable code at time of building permit application, if different from above.)
>
> COA: Transportation Construction Plan (*prior to demolition or start of construction*). The applicant and all persons associated with the project are hereby notified that a Transportation Construction Plan (TCP) may be required, particularly for the following activities:
>
> a. Alterations, closures, or blockages to sidewalks, pedestrian paths or vehicle travel lanes (including bicycle lanes);
>
> b. Storage of building materials, equipment, dumpsters, debris anywhere in the public ROW;
>
> c. Provision of exclusive contractor parking on-street; or
>
> d. Significant truck activity.
>
> Please contact the Office of Transportation at (510) 981-7010, or 1947 Center Street, and ask to speak to a traffic engineer. In addition to other requirements of the Traffic Engineer, this plan shall include the locations of material and equipment storage, trailers, worker parking, a schedule of site operations that may block traffic, and provisions for traffic control. The TCP shall be stamped and signed by a registered engineer prior to submittal. The TCP shall be consistent with any other requirements of the construction phase. A current copy of this Plan shall always be available at the construction site for review by City Staff.

COA: Construction/No Parking Permits (*prior to demolition or start of construction*).Contact the Permit Service Center (PSC) at 1947 Center Street or 981-7500 for details on obtaining Construction/No Parking Permits (and associated signs and accompanying dashboard permits). Please note that the Zoning Officer and/or Traffic Engineer may limit off-site parking of construction-related vehicles if necessary to protect the health, safety or convenience of the surrounding neighborhood.

COA: Transportation Demand Management (*at all times*). A Transportation Demand Management compliance report shall be submitted to the Zoning Officer, on a form acceptable to the City, prior to occupancy, and on an annual basis for ten years thereafter, which demonstrates that the project complies with the applicable requirements. After three years of timely compliant submittals, staff has the option to accept less frequent submittals (minimum one every three years). Property owners may be required to pay administrative fees associated with compliance with this Condition, pursuant to BMC Section 23.334.040(B).

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

COA: Required Bike Parking (*at all times*). Secure and on-site bike parking shall be provided for the life of the building.

4.4.2 Impacts and Mitigation Measures

The following describes the project's potential impacts on the transportation network. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the conceptual development project and identifies applicable COAs and/or mitigation measures, as appropriate.

4.4.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to transportation if it would:

Threshold TRA-1: Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;

Threshold TRA-2: Conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b);

Threshold TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

Threshold TRA-4: Result in inadequate emergency access.

To apply the significance criteria listed above, the analysis in this section uses the following significance thresholds, which are based on federal, state, and local regulations.

Threshold TRA-1: Conflict with Applicable Plans, Ordinances, or Policies. The following thresholds are used to determine whether the proposed project would conflict with an applicable plan, ordinance, or policy, including the congestion management program.

Transit. Based on General Plan Policy T-4 and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to transit would be considered significant if the project would:

a. Disrupt existing transit services or facilities. This includes disruptions caused by project access points or staging areas near streets used by transit and transit stops/shelters; or

b. Interfere with planned transit services or facilities; or

c. Conflict or create inconsistencies with adopted transit system plans, guidelines, policies, or standards.

Roadway System. Per SB 743, transportation impacts related to vehicle delay or LOS are no longer considered significant environmental impacts. Based on General Plan T-18 and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance, or policy related to the roadway system would be considered significant if the project would exceed the applicable VMT threshold of significance (see Threshold 4.4.2).

Bicycle and Pedestrian Facilities. Based on General Plan Policies T-42, T-43, T-49, T-50, T-51, T-52, and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance, or policy related to bicycle and pedestrian facilities would be considered significant if the project would:

a. Disrupt existing or planned bicycle or pedestrian facilities (e.g., Berkeley Bike Plan); or

b. Create inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards.

Threshold TRA-2: Vehicle Miles Traveled. Based on thresholds adopted by the City, impacts related to VMT would be considered significant if the project would:

a. Generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker.

Threshold TRA-3: Hazards and Incompatible Uses. Based on CEQA Appendix G, impacts related to hazards would be considered significant if the project would:

a. Substantially increase hazards due to a geometric design feature; or
b. Result in an incompatible land use.

Threshold TRA-4: Emergency Access. Based on CEQA Appendix G, impacts related to emergency access would be considered significant if the project would:

a. Limit emergency vehicle access routes or roadway facilities; or
b. Create a project site that is inaccessible to emergency vehicles.

4.4.2.2 Project Impacts

This following describes the project's potential impacts to the transportation and circulation network in the study area according to the significance criteria described above. Impacts associated with the proposed project (i.e. zoning and General Plan/West Berkeley Plan amendments) are evaluated at a programmatic level, whereas the impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible given that specific details related to construction and excavation are not fully known at this time.

Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. (*Less than Significant*)

As discussed in more detail below, for CEQA purposes, future development facilitated by the proposed project, including the conceptual development project, would be required to comply with applicable plans, ordinances, and policies that address the circulation system. In addition, Section 4.1, Land Use and Planning, of this EIR evaluates the proposed project and the conceptual development project's consistency with applicable planning policies, including those that regulate transportation and the circulation system. As discussed in Section 4.1 (Impact LU-2), the proposed project and the conceptual development project would be consistent with applicable plans, ordinances, and policies that address the circulation system; therefore, impacts would be **less than significant**.

Transit. As previously discussed, transit service in the vicinity of the project site is provided by AC Transit, BART, and Amtrak. Based on the current proximity of various transit services to the project area, minimal transit ridership is expected, and most people are expected to arrive by automobile to the project site. Therefore, future development facilitated by the proposed project, including the conceptual development project, is not expected to generate a substantial number of new transit trips that would cause any transit route to require additional capacity. However, the TDM Plan required for the conceptual development project (*COA: Transportation Demand Management*) includes the provision of a shuttle service to connect the project site to BART and/or Amtrak, and coordination with AC Transit to potentially extend bus service closer to or through the project area. The proposed project and the conceptual development project would not include features that would disrupt existing or planned transit routes or facilities but would instead support AC Transit to potentially expand transit routes and facilities. The project site's driveways would not cause disruptions to existing or planned transit service or transit stops. Therefore, the proposed project and the conceptual development project would not conflict with any adopted transit system plans, guidelines, policies, or standards and impacts to transit facilities would be **less than significant**.

Roadway System. As part of the proposed project and the conceptual development project, it is expected that all sidewalks along the project frontages would be refinished and widened to meet City standards. No other changes to the roadway system are proposed at this time. As previously mentioned, no formal application for development on the project site has been submitted at this time. During the project review process, final circulation plans would be refined in coordination with the City and designed to meet City standards, including for the conceptual development project.

Pursuant to SB 743, transportation impacts related to vehicle delay or LOS are no longer considered significant environmental impacts. Therefore, conflicts with a program, plan, ordinance, or policy related to the roadway system would be considered significant if the project would exceed the applicable VMT threshold of significance. As discussed in further detail below, implementation of the required TDM Plan (*COA: Transportation Demand Management*) would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Therefore, with implementation of the proposed TDM Plan, the VMT generated by the proposed project and the conceptual development project would result in a **less than significant impact.**

The Alameda CTC, as part of the Alameda County CMP Land Use Analysis Program, requires the assessment of development-driven impacts on the MTS roadways. Since the conceptual development project would generate more than 100 net new PM peak-hour trips over existing conditions, the Alameda CTC requires the use of the Countywide Travel Demand Model to assess the impacts on nearby regional roadways.

The CMP analysis performed as part of the TIA used volume-to-capacity (V/C) ratios to assess the impact of vehicle volumes on roadway segments. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For surface streets, a per-lane capacity of 800 vph is used. Roadway segments with a V/C ratio greater than 1.00 signify LOS F. The Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes. Consistent with other recent environmental documents, the CMP analysis used the following performance standards to determine if the Potential Berkeley Forge Development would result in a substantial effect1 on the CMP roadway segments:

- A segment operating at LOS E or better to deteriorate to LOS F, or
- A segment operating at LOS F to continue to operate at LOS F with an increase in the V/C ratio of 0.03 or more.

The results of the CMP analysis determined that buildout of the Potential Berkeley Forge Development would not result in a substantial effect on the analyzed CMP roadway segments because it would not result in any of the analyzed CMP segments to deteriorate from LOS E to LOS F or increase the V/C ratio by 0.03 or more on segments that operate at LOS F under existing conditions.

Because project implementation would not result in a significant VMT impact or conflict with the Alameda County CMP Land Use Analysis Program, and would comply with all required City COAs, the

proposed project and the conceptual development project would not conflict with an applicable plan, ordinance, or policy governing the roadway system and impacts would be **less than significant**.

Bicycle and Pedestrian Facilities. Under existing conditions, the streets in the project vicinity have intermittent discontinuous sidewalks. The Gilman Street Interchange Project, currently under construction, will upgrade the sidewalks along both sides of Second Street, east side of Eastshore Highway, and north side of Page Street to provide continuous 10-foot sidewalks with curb and gutters. The Gilman Street Interchange Project will also provide marked crosswalks with directional curb ramps across the north, east, and south approaches of the Gilman Street/Second Street intersection.

Implementation of the proposed project and the conceptual development project would improve the streets within the project vicinity and provide sidewalks along the project frontages. Pedestrian sidewalks and pathways would be provided throughout the conceptual development project site and provide connections to existing pedestrian facilities in the project area.

The proposed project and the conceptual development project would be required to comply with City *COA: Required Bike Parking*. A summary of the development standards for the proposed M-RD zoning district are included in Tables 3.E and 3.F in Chapter 3.0, Project Description. As shown in Table 3.G, with a floor area ratio of 2.0, full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would require approximately 591 bicycle parking spaces. All future development facilitated by the proposed project, including the conceptual development project, would be required to comply with City policies regarding bicycle parking and other infrastructure. With adherence to *COA: Required Bike Parking*, no inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards would occur, and potential impacts related to bicycle and pedestrian facilities would **less than significant**.

Impact TRA-1 Summary: Future development facilitated by the proposed project, including the conceptual development project, would be consistent with all programs, plans, ordinances, and policy addressing the circulation system, including those regulating transit, roadway, bicycle, and pedestrian facilities. Therefore, impacts would be **less than significant**.

Impact TRA-2: The proposed project, including the conceptual development project, would not result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b). (*Less than Significant*)

Based on the significance thresholds adopted by the City, impacts related to VMT would be considered significant if the project would generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker of 18.1 in 2040, or 18.2 in 2040, which would require a home-worker VMT per worker of 15.4 in 2020 and 15.5 in 2040.

Table 4.4.C summarizes the VMT estimates for the proposed project, including the conceptual development project under 2020 and 2040 conditions as estimated by the Alameda CTC Model. Under both 2020 and 2040 conditions, the home-work VMT per worker for the proposed project, including the conceptual development project, is estimated to be 16.1. The proposed project's TDM

Plan as required by *COA: Transportation Demand Management* and described below, would achieve a reduction in VMT between 6 and 10 percent.

Table 4.4.C Vehicle Miles Traveled Summary

Geographic Area	Home-Work VMT Per Worker (2020)	Home-Work VMT Per Worker (2040)
Bay Area Regionwide Average[1]	18.1	18.2
Bay Area Regionwide Average minus 15% (i.e., threshold of significance)	15.4	15.5
Project (TAZ 79)[1]	16.1	16.1
Below Threshold without TDM?	No	No
Project with TDM[2]	14.5 to 15.1	14.5 to 15.1
Below Threshold with TDM?	Yes	Yes

Source: Fehr & Peers (2022).
[1] Based on the results of the Alameda CTC Countywide Travel Demand Model.
[2] See Table 4.4.C for TDM Plan details and effectiveness.
TDM = Transportation Demand Management
VMT = vehicle miles traveled

Proposed Transportation Demand Management Plan. The proposed creation of a new zoning district would not result in any physical development on the project site but would facilitate future development consistent with the new zoning district, including the conceptual development project. The project sponsor for a future development project, including the conceptual development project, would be required to implement the proposed TDM Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan) in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Based on the VMT analysis presented below, both the 2020 and 2040 home-work VMT per worker for the proposed project would be above the threshold of significance (i.e., 15 percent below the regionwide Bay Area average) by about 5 percent, without a TDM Plan. Accordingly, any future development, including the conceptual development project, would be required to implement the Proposed TDM Plan.

The potential effectiveness of the TDM measures for the proposed project was evaluated using the Alameda CTC VMT Reduction Calculator Tool, which is a tool that accounts for the particular location of a development project and quantifies the effects of various strategies in reducing VMT consistent with the research compiled in the *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers* prepared by the California Air Pollution Control Officers Association (CAPCOA).[13] The quantification methods provided in the CAPCOA report are based on an extensive literature review and are appropriate for use in this project-level analysis. Based on this assessment, the Proposed TDM Plan could reduce the project-generated VMT by between 6 and 10 percent.

[13] California Air Pollution Control Officers Association. 2021. *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers.* December.

Proposed TDM measures are described below and summarized in Table 4.4.D.

Table 4.4.D: Preliminary TDM Plan VMT Reduction Estimates

TDM Strategy	Description	Estimated VMT Reduction[1]
BART Shuttle	Provide peak commute period shuttle service to BART and Amtrak.	3%–6%
Bus Service Extension	Extend AC Transit bus service into the project area.	N/A[2]
Bicycle Amenities	Provide secure bicycle parking, showers and lockers, and repair station.	< 1%
Bike Share	Allow and facilitate installation of a potential bikeshare station in the project area.	
Carpool and Ride-Matching Assistance	Assist project area employees in forming carpools and provide preferential carpool parking spaces.	1%
Carshare Parking Spaces	Dedicate on-site carshare parking spaces.	< 1%
Transit fare Subsidy	Require tenants to provide transit subsidies.	1%–2%[3]
Pre-Tax Commuter Benefits	Require tenants to provide pre-tax commuter benefits.	
Marketing and Education	Active marketing and education of employees on various commuting options.	N/A[4]
Total Estimated Vehicle Trip Generation Reduction		**6%–10%**

Source: Fehr & Peers (2024).

[1] Primarily based on the results on the Alameda CTC VMT Reduction Calculator Tool.

[2] Since the characteristics of a potential bus service extension, such as service frequency and/or destinations served, cannot be known at this time, effectiveness of this strategy cannot be quantified at this time.

[3] Assuming a transit subsidy of about $2.50 per day per employee (value to transit user and not necessarily the cost) available to all employees.

[4] The effectiveness of this strategy cannot be quantified at this time. This does not necessarily imply that the strategy is ineffective. It only demonstrates that existing literature does not provide a robust methodology for calculation of its effectiveness. In addition, many of the strategies referenced in Table 4.4.E are complementary to each other and isolating their specific effectiveness may not be feasible.

AC Transit = Alameda-Contra Costa Transit District
Alameda CTC = Alameda County Transportation Commission
BART = Bay Area Rapid Transit
TDM Plan = Transportation Demand Management Plan
VMT = vehicle miles traveled

- **Shuttle Service:** Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley.

- **Extend or Provide New Bus Service:** If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area.

- **Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists:** Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site.

- **Bikeshare Station:** Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area.

- **Carpool/Ride-Matching Service:** Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools.

- **Free Parking for Carshare:** Future development facilitated by the proposed project would be required to provide free parking to carshare companies.

- **Preferential Parking for Carpools:** Future development facilitated by the proposed project would be required to include free parking for carpoolers.

- **Transit Subsidy:** Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers.

- **Pre-tax Commuter Benefits:** Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers.

- **Ongoing Marketing and Information:** Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit.

As shown in Table 4.4.D, implementation of the Proposed TDM Plan would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Future development of project site facilitated by the proposed project would be required to prepare and implement the Proposed TDM Plan with similar measures. Therefore, with implementation of the Proposed TDM Plan, future development facilitated by the proposed project, including the conceptual development project, would result in a **less than significant** impact associated with VMT rates.

Impact TRA-2 Summary: With implementation the Proposed TDM Plan, future development facilitated by the proposed project, including the conceptual development project, would not result in VMT impacts or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b). Impacts would be **less than significant**.

Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature. (*Less than Significant with Mitigation*)

For purposes of CEQA, transportation-related hazards refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This analysis focuses on hazards that could reasonably stem from the project, beyond collisions that may result due to unsafe drivers or collisions that could not be prevented by design of the circulation system.

As previously discussed, the proposed zoning and General Plan/West Berkeley Plan amendments would not result in any physical changes to the site but would facilitate future development consistent with the buildout assumptions described in Chapter 3.0, Project Description of this EIR, including the conceptual development project. Implementation of *COA: Transportation Construction Plan* would minimize any potential impacts due to traffic hazards during construction to a less than significant level.

However, future project operations would potentially propose changes to the existing circulation system. If the circulation plans include proposed changes that would result in hazardous traffic conditions, project impacts would be **potentially significant**. Therefore, Mitigation Measure TRA-1, Circulation Plan shall be required.

Mitigation Measure TRA-1: **Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.

Implementation of approved project-specific circulation plans would ensure that implementation of the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature. Therefore, impacts would be **less than significant with mitigation**.

Impact TRA-3 Summary: With implementation of Mitigation Measure TRA-1, which requires project-specific circulation plans be developed in coordination with the City, circulation modifications associated with future development facilitated by the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature or incompatible use. Impacts would be **less than significant with mitigation**.

Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access. (*Less than Significant with Mitigation*)

As previously discussed, the proposed zoning and General Plan and West Berkeley Plan amendments would not result in any physical changes to the site but would facilitate future development consistent with the buildout assumptions described in Chapter 3.0, Project Description of this EIR, including the conceptual development project. Implementation of *COA: Transportation Construction Plan* would minimize any potential impacts due to traffic hazards during construction to a less than significant level.

However, future projects, including the conceptual development project, would potentially propose circulation changes to the existing circulation system. The proposed changes could result in inadequate emergency access on the project site and project impacts would be **potentially significant**.

As discussed in Section 4.9, Hazards and Hazardous Materials, there are multiple emergency response and evacuation related plans that apply to the city, including the City's Emergency Operations Plan,[14] Local Hazard Mitigation Plan,[15] and the General Plan's Disaster Preparedness and Safety Element.[16] The proposed project, including the conceptual development project, would not obstruct designated emergency evacuation routes in the area of the project site, which include Gilman Street, Cedar Street, and Sixth Street,[17] and would not alter or interfere with any critical facilities identified in the LHMP. Refer to Section 4.9, Hazards and Hazardous Materials, for further discussion of potential impacts associated with impairing implementation or physically interfering with an adopted emergency response plan or emergency evacuation plan.

If proposed circulation changes would result in inadequate emergency access, Mitigation Measure TRA-1, as detailed above, shall be required. In addition, as part of the City's project approval process, the proposed project and the conceptual development project would be required to comply with existing regulations, including General Plan and West Berkeley Plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access.

As required in Mitigation Measure TRA-1, the conceptual development project and any additional development that would be facilitated by the proposed project would be required to implement the recommendations provided in the proposed circulation plan as refined as part of the future application submittal. Implementation of project-specific recommendations relating to emergency access would ensure that implementation of the proposed project and the conceptual development

14 City of Berkeley. 2016. Emergency Operations Plan, Base Plan.
15 City of Berkeley. 2019. Local Hazard Mitigation Plan, Final. December 10.
16 City of Berkeley . 2001. Disaster Preparedness and Safety Element, April 23. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Disaster_Preparedness_and_Safety_Element.aspx (accessed November 3, 2021).
17 Ibid.

project would not result in inadequate emergency access and impacts to emergency vehicle access would be **less than significant with mitigation**.

Impact TRA-4 Summary: With implementation of Mitigation Measure TRA-1, which requires project-specific circulation plans be developed in coordination with the City, circulation modifications associated with future development facilitated by the proposed project, including the conceptual development project, would not result in inadequate emergency access, and impacts to emergency vehicle access would be **less than significant with mitigation**.

4.4.2.3 Cumulative Impacts

This section discusses potential cumulative impacts to the transportation and circulation network in the surrounding area, which includes projects listed in Table 4.A in Section 4.0, Setting, Impacts and Mitigation Measures of this Draft EIR. As discussed in this section, the proposed project, in combination with cumulative projects, would have **less than significant impacts** with respect to conflicts with applicable plans, VMT, hazards, and emergency access.

Conflicts with Applicable Plans, Ordinances, or Policies. Future development would be required to comply with existing regulations, including General Plan and West Berkeley Plan policies that have been adopted to minimize impacts related to transportation and circulation. The City would implement the General Plan and West Berkeley Plan policies that require the City to annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes. Therefore, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to conflicting with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Vehicle Miles Traveled. Consistent with the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA, a project's cumulative impacts are based on an assessment of whether the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." A project that falls below an efficiency-based threshold that aligns with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. With implementation of *COA: Transportation Demand Management*, the proposed project would generate less VMT compared to the existing countywide VMT and, therefore, would be below the City's efficiency-based threshold. For these reasons, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to VMT.

Hazards or Incompatible Uses. Overall, cumulative land use development and transportation projects would promote accessibility for people walking to and through the site by conforming to General Plan / West Berkley Plan 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. As with current practice, projects would be designed and reviewed in accordance with the City's Public Works Department requirements and the department would provide oversight engineering review to ensure that the project is constructed according to

City specifications. Additionally, the proposed project, including buildout of the conceptual development project, would be required to implement Mitigation Measure TRA-1, which requires coordination with the City to develop a project-specific circulation plan that would be designed to meet City standards to preclude hazards due to design features and allow for improved emergency vehicle access. Preparation of a circulation plan in coordination with the City would ensure that implementation of the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature or incompatible uses. As a result, the cumulative projects would not generate activities that would increase hazards due to a design feature or incompatible use. For these reasons, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to design features or incompatible uses.

Emergency Access. Future development as part of the City's project approval process would be required to comply with existing regulations, including General Plan and West Berkeley Plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access. The City would implement the General Plan programs that require the City's continued coordination with the Berkeley Police Department and the Alameda County Fire Department to establish circulation standards, adopt an emergency response route map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Furthermore, the implementation of the zoning regulations would help to minimize traffic congestion that could impact emergency access. The proposed project, including the conceptual development project, would be required to implement Mitigation Measure TRA-1, which requires coordination with the City to develop a project-specific circulation plan that would be designed to meet City standards to preclude hazards due to design features and allow for improved emergency vehicle access. Preparation of a circulation plan in coordination with the City would ensure that implementation of the proposed project, including the conceptual development project, would not result in inadequate emergency access. For these reasons, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to emergency access.

Based on the information in this transportation section and for the reasons stated above, development of the proposed project and conceptual development project would not contribute to any significant adverse cumulative transportation impacts when considered together with other cumulative development and this impact would be **less than significant**.

4.4.3 Non-CEQA Analysis

4.4.3.1 Trip Generation

Although VMT (not LOS) is the only legally acceptable threshold for analyzing the transportation-related environmental impacts of land use projects pursuant to CEQA, the following LOS analysis has been provided as the City uses LOS to evaluate potential impacts to the roadway network as part of the Use Permit process. This analysis is provided in addition to the CEQA analysis discussed above.

The CMP analysis performed as part of the TIA used volume-to-capacity (V/C) ratios to assess the impact of vehicle volumes on roadway segments. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For surface

streets, a per-lane capacity of 800 vph is used. Roadway segments with a V/C ratio greater than 1.00 signify LOS F. The Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes. Consistent with other recent environmental documents, the CMP analysis used the following performance standards to determine if the conceptual development project would result in a substantial effect on the CMP roadway segments:

- A segment operating at LOS E or better to deteriorate to LOS F, or
- A segment operating at LOS F to continue to operate at LOS F with an increase in the V/C ratio of 0.03 or more.

The results of the CMP analysis determined that buildout of the conceptual development project would not result in a substantial effect on the analyzed CMP roadway segments because it would not result in any of the analyzed CMP segments to deteriorate from LOS E to LOS F or increase the V/C ratio by 0.03 or more on segments that operate at LOS F under existing conditions.

Trip generation rates were determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. The ITE rate for R&D/Office Building was used to determine project trip generation, and are included for informational purposes only. Table 4.4.G summarizes the trip generation for the full buildout of the proposed project and Table 4.4.E presents the trip generation for the conceptual development project. As shown in Tables 4.4.E and 4.4.F below, the proposed project is estimated to generate about 9,980 daily, 918 AM, and 868 PM peak-hour automobile trips. It should be noted that this trip generation estimate is conservative in that it does not account for the existing trips generated by the current active or permitted uses at the project site that would be demolished as part of the proposed project, or the TDM Plan that would be implemented at the project site.

Table 4.4.E: Automobile Trip Generation for Gilman Gateway Rezone Project

Land Use	Size	Daily[1]	AM Peak-Hour			PM Peak-Hour		
			In	Out	Total	In	Out	Total
R&D/Office[2]	1,003.4 KSF	9,980	753	165	918	139	729	868

Source: Fehr & Peers (2024).
[1] Daily trip generation rounded to nearest 10.
[2] ITE Trip Generation Manual (11th Edition) land use category 760 (Research and Development Center) in general urban/suburban setting:
Daily: T = 9.70 * X + 247.71
AM Peak-Hour: T = 0.89 * X + 24.54 (82% in, 18% out)
PM Peak-Hour: T = 0.84 * X + 25.08 (16% in, 84% out)
KSF = 1,000 square feet
ITE = Institute of Transportation Engineers

Table 4.4.F: Automobile Trip Generation for Potential Berkeley Forge Project

Project Component	Size	Daily[1,2]	AM Peak-Hour[2]			PM Peak-Hour[2]		
			In	Out	Total	In	Out	Total
Berkeley Forge	890.0 KSF	8,860	669	146	815	123	647	770

Source: Fehr & Peers (2024).
[1] Daily trip generation rounded to nearest 10.
[2] The trip generation for each project component is estimated by proportioning the trip generation for the proposed project as presented in Table 4.4.C above, based on the size of each project component.
KSF = 1,000 square feet

4.4.3.2 Parking Assessment

Code Requirements. Chapter 23.322.030, Required Parking Spaces, of the BMC requires new development projects to provide off-street parking facilities in Manufacturing Districts. For manufacturing land uses in the Manufacturing District, 1 parking space per 1,000 square feet is required for spaces less than 10,000 square feet, and 1 parking space per 1,500 square feet for spaces 10,000 square feet or more. [18]

Parking Supply. The proposed project would create a new zoning district – M-RD – which would facilitate future development of up to 1,005,266 square feet of non-residential space, which would require approximately 1,300 off-street automobile parking spaces on the project site. In addition to the new zoning district, the proposed project includes the conceptual development project, which would result in up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses and up to 1,900 automobile parking spaces on an approximately 10.26-acre portion of the site.

Even though the conceptual development project would exceed the parking requirements in the BMC, the additional parking would not result in any secondary environmental impacts beyond those outlined in this Draft EIR. With implementation of Mitigation Measures and TRA-1 and 2, as well as the *COA: Transportation Demand Management*, the proposed project and the conceptual

[18] City of Berkeley. n.d. *Berkeley Municipal Code, Title 23 - Zoning, Title 23, Division 3 - Citywide Provisions, Chapter 23.322 Parking and Loading, Table 23.3222-4. Required Off-Street Parking in Manufacturing Districts*. https://berkeley.municipal.codes/BMC/23.322.030 (accessed March 30, 2023).

development project would result in a **less than significant** impact associated with secondary effects from parking implementation.

Accessible Parking Supply. The California Building Code requires accessible parking spaces to be provided when parking is provided for new buildings. Although no formal application for development on the project site has been submitted at this time, all accessible parking spaces would be on the ground level of the garages and located on the shortest accessible route to an accessible entrance. Therefore, the conceptual development project would be required to meet the accessible parking requirements in the California Building Code.

Electric Vehicle Parking Supply. The BMC (Section 19.37.040) requires non-residential developments to provide 20 percent of the total number of parking spaces provided with EV capable stations and 10 percent of the total number of parking spaces provided with EV charging stations, pursuant to *COA: Nonresidential Electric Vehicle*. Although no formal application for development on the project site has been submitted at this time, final design plans would be refined in coordination with the City and designed to meet City EV parking standards pursuant to City of Berkeley Municipal Code (Section 19.37.040) and *COA: Nonresidential Electric Vehicle*. Also refer to Section 4.6, Greenhouse Gas Emissions, which specifies more stringent standards for EV charging capabilities consistent with Air District requirements (refer to Mitigation Measure GHG-1).

Bicycle Parking Supply. A summary of the development standards for the proposed M-RD zoning district are included in Tables 3.E and 3.F in Chapter 3.0, Project Description. As shown in Table 3.G, with a floor-area ratio of 2.0, full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would require approximately 470 bicycle parking spaces. Although no formal application for development on the project site has been submitted at this time, the conceptual development project would be required to comply with the development standards for the M-RD zoning district, including providing an adequate number of bike parking spaces.

4.5 AIR QUALITY

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section uses the methodologies and assumptions recommended in the air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD).[1] In keeping with these guidelines, this section describes existing air quality, impacts of the proposed project, and the conceptual development project, on local carbon monoxide (CO) levels, impacts of vehicular emissions that have regional effects, and exposure of sensitive receptors to toxic air contaminants (TACs). This section identifies mitigation measures to reduce or eliminate potentially significant air quality impacts, where appropriate. Air quality modeling data are included in Appendix F.

4.5.1 Setting

The following discussion provides an overview of existing air quality conditions in the region and in the city. It summarizes ambient air quality standards and the regulatory framework and describes climate, air quality conditions, and typical air pollutant types and sources.

4.5.1.1 Air Pollutants and Health Effects

Both State and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and lead are considered local pollutants that tend to accumulate in the air locally.

The primary pollutants of concern in the project area are O_3, CO, and suspended particulate matter. Significance thresholds established by an air district are used to manage total regional and local emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual development projects that would contribute to regional and local emissions and could adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria pollutants.

Because of the conservative nature of the significance thresholds, and the basin-wide context of individual development project emissions, there is no direct correlation between a single project and

[1] Bay Area Air Quality Management District (BAAQMD). 2023. *California Environmental Quality Act, Air Quality Guidelines*. April 20.

regional air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_x) and reactive organic gases (ROG).

Further, by its very nature, air pollution is largely a cumulative impact. No single project normally is sufficient in size to by itself result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, the air districts have considered the emission levels for which a project's individual emissions would be cumulatively considerable. 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.

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have greater susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions, than they do in commercial or industrial areas. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise. These populations are referred to as sensitive receptors.

Air pollutants and their health effects, and other air pollution-related considerations are summarized in Table 4.5.A and are described in more detail below.

Ozone. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_X. The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the San Francisco Bay Area (Bay Area), automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited – it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated

with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Table 4.5.A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	● Precursor sources:[1] motor vehicles, industrial emissions, and consumer products.	● Respiratory symptoms. ● Worsening of lung disease leading to premature death. ● Damage to lung tissue. ● Crop, forest, and ecosystem damage. ● Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.
Particulate Matter Less than 2.5 Microns in Aerodynamic Diameter ($PM_{2.5}$)	● Cars and trucks (especially diesels). ● Fireplaces, woodstoves. ● Windblown dust from roadways, agriculture, and construction.	● Premature death. ● Hospitalization for worsening of cardiovascular disease. ● Hospitalization for respiratory disease. ● Asthma-related emergency room visits. ● Increased symptoms, increased inhaler usage.
Particulate Matter Less than 10 Microns in Aerodynamic Diameter (PM_{10})	● Cars and trucks (especially diesels). ● Fireplaces, woodstoves. ● Windblown dust from roadways, agriculture, and construction.	● Premature death and hospitalization, primarily for worsening of respiratory disease. ● Reduced visibility and material soiling.
Nitrogen Oxides (NO_x)	● Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	● Lung irritation. ● Enhanced allergic responses.
Carbon Monoxide (CO)	● Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	● Chest pain in patients with heart disease. ● Headache. ● Light-headedness. ● Reduced mental alertness.
Sulfur Oxides (SO_X)	● Combustion of sulfur-containing fossil fuels. ● Smelting of sulfur-bearing metal ores. ● Industrial processes.	● Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits.
Lead (Pb)	● Contaminated soil.	● Impaired mental functioning in children. ● Learning disabilities in children. ● Brain and kidney damage.
Toxic Air Contaminants (TACs)	● Cars and trucks (especially diesels). ● Industrial sources, such as chrome platers. ● Neighborhood businesses, such as dry cleaners and service stations. ● Building materials and products.	● Cancer. ● Reproductive and developmental effects. ● Neurological effects.

Source: California Air Resources Board (2018).

[1] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

Particulate Matter. Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. Particulate matter is categorized in two size ranges: PM_{10} for particles less than 10 microns in diameter and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the air basin's particulates, through tailpipe emissions as well as brake pad, tire wear, and entrained road dust. Wood burning in fireplaces and stoves, industrial processes, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the California Air Resources Board (CARB), studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks, and studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function growth in children.[2] Statewide attainment of particulate matter standards could reduce premature deaths, hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide. NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide. SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 also reduces visibility and the level of sunlight at the ground surface.

Lead. Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants. In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde,

[2] California Air Resources Board (CARB). 2020a. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10})*. Website: ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed January 2024).

and hydrogen sulfide. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the USEPA and the CARB. In 1998, the CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The CARB has completed a risk management process that identified potential cancer risks for a range of activities and land uses that are characterized by use of diesel fueled- engines.[3] High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

The BAAQMD regulates TACs using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.[4] As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emission data from industrial and commercial sources of air pollution throughout the Bay Area. Monitoring data and emission inventories of TACs helps the BAAQMD determine health risk to Bay Area residents.

Ambient monitoring concentrations of TACs indicate that pollutants emitted primarily from motor vehicles (1,3-butadiene and benzene) account for a substantial portion of the ambient background risk in the Bay Area.[5] According to the BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of Phase 2 reformulated gasoline. Due to this reduction, the calculated average cancer risk based on monitoring results has also dropped.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources – primarily "off-road" sources such as construction and mining equipment, agricultural equipment, truck-mounted refrigeration units, and trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment is not commonly used in urban parts of the Bay Area, while construction equipment typically operates for a limited

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3 California Air Resources Board (CARB). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Website: https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf (accessed January 2024).

4 In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

5 BAAQMD. 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1.* May. Website: www.baaqmd.gov/research-and-data/air-toxics/annual-report (accessed January 2024).

time at various locations. As a result, the readily identifiable locations where diesel particulate matter is emitted in the Bay Area include high-traffic roadways and other areas with substantial truck traffic.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1 million) that is greater than all other measured TACs combined.[6] The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel – a step already implemented – and cleaner-burning diesel engines.[7] The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions.

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

4.5.1.2 National and State Ambient Air Quality Standards

Both the USEPA and the CARB have established ambient air quality standards for the following common pollutants: CO, O_3, NO_2, SO_2, lead, and suspended particulate matter (of both 10 and 2.5 microns in diameter). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. These ambient air quality standards are levels of contaminants that avoid specific adverse health effects associated with each pollutant.

Federal standards include both primary and secondary standards. Primary standards establish limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against

[6] BAAQMD. 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1.* May. Website: www.baaqmd.gov/research-and-data/air-toxics/annual-report (accessed January 2024).

[7] CARB. 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Prepared by the Stationary Source Division and Mobile Source Control Division. Website: https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf (accessed January 2024).

decreased visibility, and damage to animals, crops, vegetation, and buildings.[8] Table 4.5.B lists State and federal standards for the criteria air pollutants.

Table 4.5.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3) [8]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10}) [9]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter ($PM_{2.5}$) [9]	24-Hour	–		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	9.0 µg/m³	12 µg/m³	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO_2) [10]	Annual Arithmetic Mean	0.03 ppm (57 µg/m³)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m³)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	–	
Sulfur Dioxide (SO_2) [11]	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas) [11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) [11]	–	
Lead (Pb) [12,13]	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas) [12]	Same as Primary Standard	
	Rolling 3-Month Average [9]	–		0.15 µg/m³		
Visibility-Reducing Particles [14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal		

[8] United States Environmental Protection Agency. 2017. Criteria Air Pollutants. October. Website: https://www.epa.gov/criteria-air-pollutants (accessed January 2024).

Table 4.5.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography	Standards		
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: Ambient Air Quality Standards (California Air Resources Board 2024).
Table notes continued on the following page

Table 4.5.B Footnotes:

1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the three-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the three-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12 The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million
USEPA = United States Environmental Protection Agency

4.5.1.3 Existing Climate and Air Quality

The following provides a discussion of the local and regional air quality and climate in the Berkeley area.

Regional and Local Air Quality. Berkeley is in the eastern part of the San Francisco Bay Area Air Basin (Air Basin), a large, shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. Two primary atmospheric outlets exist. One is through the strait known as the Golden Gate, a direct outlet to the Pacific Ocean. The second extends to the northeast, along the west delta region of the Sacramento and San Joaquin rivers.

Berkeley is within the jurisdiction of the BAAQMD, which regulates air quality in the Bay Area. Air quality conditions in the Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither State nor national ambient air quality standards of the following chemicals have been violated in recent decades: NO_2, SO_2, sulfates or lead. Those exceedances of air quality standards that do occur primarily happen during meteorological conditions conducive to high pollution levels such as cold, windless nights or hot, sunny summer afternoons.

Ozone levels, measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by the BAAQMD and other regional, State and federal agencies. The reduction of peak concentrations represents progress in improving public health outcomes; however, the Bay Area still exceeds the State standard for 1-hour ozone as well as the State and federal 8-hour standards. Levels of PM_{10} have exceeded State standards 2 of the last 3 years, and the area is considered a nonattainment area for this pollutant relative to the State standards. The Bay Area is an unclassified area for the federal PM_{10} standard.

Since 1991, none of the region's monitoring stations have recorded exceedances of the State or federal CO standards. The Bay Area is currently considered an attainment area for State and federal CO standards.

Local Climate and Air Quality. Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Two meteorological factors affect air quality in the city: wind and temperature. Winds affect the direction of transport of any air pollution emissions and wind also controls the volume of air into which pollution is mixed in a given period of time. Although winds govern horizontal mixing processes, temperature inversions determine the vertical mixing depth of air pollutants.

Air Quality Monitoring Results. Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and State air quality regulating agencies. The USEPA uses ambient air data collected at permanent monitoring stations to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary National Ambient Air Quality Standards (NAAQS). Attainment areas are required to maintain their status through air quality maintenance plans. The USEPA requires nonattainment areas to develop implementation plans outlining how areas will attain and maintain the standards by reducing emissions. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the State on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data. Table 4.5.C lists the Air Basin's attainment status for each criteria pollutant.

Table 4.5.C: San Francisco Bay Area Basin Attainment Status

Pollutant	Averaging Time	California Standards	Attainment Status	National Standards	Attainment Status
Ozone (O_3)	8-Hour	0.070 ppm	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm	Nonattainment	Not Applicable	Not Applicable
Carbon Monoxide (CO)	8-Hour	9.0 ppm	Attainment	9 ppm	Attainment
	1-Hour	20 ppm	Attainment	35 ppm	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm	Attainment	100 ppb	Unclassified/ Attainment
	Annual	0.030 ppm	Attainment	0.053 ppm	Unclassified
Sulfur Dioxide (SO_2)	24-Hour	0.04 ppm	Attainment	Not Applicable	Not Applicable
	1-Hour	0.25 ppm	Attainment	75 ppb	Unclassified/ Attainment
Particulate Matter (PM_{10})	Annual	20 µg/m^3	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Annual	12 µg/m^3	Nonattainment	9 µg/m^3	Unclassified/ Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m^3 [j]	Nonattainment

Table 4.5.C: San Francisco Bay Area Basin Attainment Status

Pollutant	Averaging Time	California Standards	Attainment Status	National Standards	Attainment Status
Lead (Pb)	30-Day Average	1.5 µg/m^3	Not Applicable	Not Applicable	Attainment
	Rolling 3-Month Average [n]	Not Applicable	Not Applicable	0.15 µg/m^3	Unclassified/ Attainment

Source: Bay Area Attainment Status (Bay Area Air Quality Management District 2023).
µg/m^3 = micrograms per cubic meter
ppb = parts per billion
ppm = parts per million

The CARB and the USEPA maintain ambient air quality monitoring stations throughout California. The air quality monitoring station closest to the project site is the 1 Bolivar Drive monitoring station in Berkeley, which monitors criteria air pollutant data.[9] The air quality trends from this station are used to represent the ambient air quality in the project area. Table 4.5.D shows ambient air quality in the project area from 2020 to 2022. The pollutants monitored were CO, O_3, $PM_{2.5}$, and NO_2.

Table 4.5.D: Ambient Air Quality at the 1 Bolivar Drive, Berkeley Monitoring Station

Pollutant	Standard	2020	2021	2022
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)		2.0	1.3	2.2[1]
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.8	1.0	1.8[1]
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration (ppm)		0.058	0.049	0.054[1]
Number of days exceeded:	State: > 0.09 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.044	0.043	0.041[1]
Number of days exceeded:	State: > 0.07 ppm	0	0	0
	Federal: > 0.07 ppm	0	0	0
Coarse Particulates (PM_{10}) [2]				
Maximum 24-hour concentration (µg/m^3)		114.0	37.0	42.0
Number of days exceeded:	State: > 50 µg/m^3	1	0	0
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		20.7	18.7	20.8
Exceeded for the year:	State: > 20 µg/m^3	No	0	Yes
	Federal: > 50 µg/m^3	No	0	No
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hour concentration (µg/m^3)		158.2	23.0	33.8[1]

[9] CARB gathers ambient air quality data for the State of California and ensures the quality of these data. CARB provides ambient air quality monitoring sites throughout California's counties and air basins.

Table 4.5.D: Ambient Air Quality at the 1 Bolivar Drive, Berkeley Monitoring Station

Pollutant	Standard	2020	2021	2022
Number of days exceeded:	Federal: > 35 µg/m^3	7	0	0
Annual arithmetic average concentration (µg/m^3)		11.8	ND	8.1[1]
Exceeded for the year:	State: > 12 µg/m^3	No	ND	0
	Federal: > 15 µg/m^3	No	ND	0
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)		0.047	0.049	0.058
Number of days exceeded:	State: > 0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.013	ND	ND
Exceeded for the year:	Federal: > 0.053 ppm	No	ND	ND
Sulfur Dioxide (SO_2) [a]				
Maximum 1-hour concentration (ppm)		0.0154	0.0109	0.0080
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 24-hour concentration (ppm)		0.0025	0.0012	0.0012
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.0003	0.00003	0.0002
Exceeded for the year:	Federal: > 0.030 ppm	0	0	0

Source: California Air Resources Board and United States Environmental Protection Agency (2023).
[1] Data taken at the 1100 21st Street air quality monitoring station in Oakland.
[2] Data taken at the 1865 Rumrill Boulevard air quality monitoring station in San Pablo.
µg/m^3 = micrograms per cubic meter
ND = No data. There were insufficient (or no) data results to determine the value.
ppm = parts per million

The Berkeley station did not monitor air quality trends for $PM_{2.5}$, PM_{10}, SO_2, and CO in 2022; therefore, the air quality trends for these pollutants are derived from data from the 1100 21st Street air quality monitoring station in Oakland and 1865 Rumrill Boulevard air quality monitoring station in San Pablo.

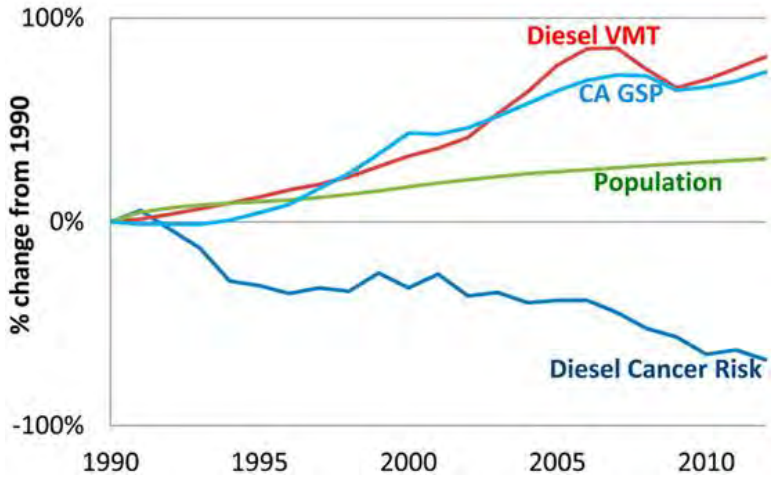
Pollutant monitoring results indicate that air quality in the project area has generally been good. As indicated in the monitoring results, the State PM_{10} standard was exceeded once in 2020 and was not exceeded in 2021 or 2022. The federal $PM_{2.5}$ standard was not exceeded between 2020 and 2022. The federal $PM_{2.5}$ standard was exceeded seven times in 2020 but was not exceeded in 2021 or 2022. The federal $PM_{2.5}$ standard was exceeded nine times in 2020. The O_3, CO, NO_2, and SO_2 standards were not exceeded in this area during the 3-year period.

Toxic Air Contaminant Trends. In 1984, the CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012.[10] Concentrations of diesel particulate matter, a key TAC, declined by 68 percent between 1990 and 2012, despite a 31 percent increase in

[10] Propper, Ralph, et al. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. Website: https://pubmed.ncbi.nlm.nih.gov/26340590/ (accessed January 2024).

State population and an 81 percent increase in diesel vehicle miles traveled (VMT), as shown on Figure 4.4-1. The study also found that the significant reductions in cancer risk to California residents from the implementation of air toxics controls are likely to continue.

Figure 4.5-1: California Population, Gross State Product (GSP), Diesel Cancer Risk, and Diesel Vehicle Miles Traveled (VMT) Regulatory Context



Source: Ambient and Emission Trends of Toxic Air Contaminants in California (Propper, Ralph, et al. 2015).

The USEPA and the CARB regulate direct emissions from motor vehicles. The BAAQMD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

4.5.1.4 Regulatory Framework

The BAAQMD is primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as for monitoring ambient pollutant concentrations. BAAQMD's jurisdiction encompasses seven counties – Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa – and portions of Solano and Sonoma counties. The USEPA and the CARB regulate direct emissions from motor vehicles.

The applicable federal, State, regional, and local regulatory framework is discussed below.

Federal Regulations. At the federal level, the USEPA has been charged with implementing national air quality programs. The USEPA's air quality mandates are drawn primarily from the federal Clean Air Act (FCAA), discussed below.

> ***Federal Clean Air Act.*** The FCAA was enacted in 1963 and was amended in 1970, 1977, and 1990. The FCAA required the USEPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP).

The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emission inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The USEPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAA and determine if implementation will achieve air quality goals. If the USEPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area, which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions on transportation funding and stationary air pollution sources in the air basin.

The USEPA is also required to develop National Emission Standards for Hazardous Air Pollutants, which are defined as those that may reasonably be anticipated to result in increased deaths or serious illness, and that are not already regulated. An independent science advisory board reviews the health and exposure analyses conducted by the USEPA on suspected hazardous pollutants prior to regulatory development.

State Regulations. The CARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), as discussed below.

California Clean Air Act. The CCAA, adopted in 1988, requires that all air districts in the State achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources, and provides districts with the authority to regulate indirect sources.

The CARB is also primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. The CARB is primarily responsible for state-wide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. The CARB combines these data and submits the completed SIP to the USEPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for mobile sources, consumer products, small utility engines, and off-road vehicles. The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel – a step already implemented – and cleaner-burning diesel engines.[11]

Because of the robust evidence relating proximity to roadways with a range of non-cancer and cancer health effects, the CARB also created guidance for avoiding air quality conflicts in land use

[11] CARB. 2000b. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October. Prepared by the Stationary Source Division and Mobile Source Control Division.

planning in its *Air Quality and Land Use Handbook: A Community Health Perspective*.[12] In its guidance, the CARB advises that new sensitive uses (e.g., residences, schools, day care centers, playgrounds, and hospitals) not be within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day, or within 1,000 feet of a distribution center (warehouse) that accommodates more than 100 trucks or more than 90 refrigerator trucks per day.

The CARB guidance suggests that the use of these guidelines be customized for individual land use decisions, and take into account the context of proposed development projects. The Air Quality and Land Use Handbook specifically states that these recommendations are advisory and acknowledges that land use agencies must balance them against other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

California Energy Code. Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, in Part 6 of Title 24 of the California Code of Regulations (CCR), known as the Energy Code. The CEC first adopted the Building Energy Efficiency Standards for Residential and Non-residential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The Energy Code is updated every 3 years, with the most recent update consisting of the 2022 Energy Code that became effective January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024. The efficiency standards apply to both new construction and rehabilitation of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in the Energy Code and the California Green Building Standards Code.

California Green Building Standards Code. In 2010, the California Building Standards Commission adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2022 CALGreen Code standards that became effective January 1, 2023. The CALGreen Code established mandatory measures for residential and nonresidential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and nonresidential buildings subject to the standard.

[12] California Environmental Protection Agency and California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April. Website: https://sfmohcd.org/sites/default/files/20%20-%20CARB%2C%20Air%20Quality%20and%20Land%20Use%20Handbook%202005.pdf (accessed January 2024).

Regional Regulations. The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan. The Clean Air Plan guides the region's air quality planning efforts to attain the CAAQS.[13] The BAAQMD 2017 Clean Air Plan, which the BAAQMD Board of Directors adopted on April 19, 2017, is the current Clean Air Plan, which contains district-wide control measures to reduce ozone precursor emissions (e.g., ROG and NO_X), particulate matter and greenhouse gas (GHG) emissions.

The Bay Area 2017 Clean Air Plan:

- Describes the BAAQMD plan to attain all State and federal air quality standards and eliminate health risk disparities from exposure to air pollution among Bay Area communities.
- Defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050.
- Provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve GHG reduction targets.
- Includes a wide range of control measures designed to decrease emissions of air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "Super-GHGs" that are potent climate pollutants in the near term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

BAAQMD CARE Program. The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that include an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TACs, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and

[13] BAAQMD. 2017. *Final 2017 Clean Air Plan*. April 19, 2017. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en (accessed January 2024).

a high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area.

For commercial and industrial sources, the BAAQMD regulates TACs using a risk-based approach. This approach uses an HRA to determine what sources and pollutants to control as well as the degree of control. An HRA is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.[14] As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. The BAAQMD has identified seven impacted communities;[15] the City of Berkeley (City) has been identified as an affected community.[16]

BAAQMD CEQA Air Quality Guidelines. The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHG emissions.

In 2023, the BAAQMD published an updated version of the CEQA Guidelines.[17] The BAAQMD CEQA Guidelines include thresholds to evaluate project impacts to protectively evaluate the potential effects of the project on air quality. These protective thresholds are appropriate in the context of the size, scale, and location of the proposed project.

Local Plans and Regulations. The City plans and regulations related to air quality that would be applicable to the project are described below.

City of Berkeley General Plan. The following policies from the Environmental Management Element and Transportation Element of the City of Berkeley General Plan specifically address air quality.[18]

14 In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

15 The seven impacted communities include Richmond/San Pablo; eastern San Francisco, including Treasure Island; San Jose; western Alameda County; Concord, Vallejo; and Pittsburg/Antioch.

16 BAAQMD. 2014. *Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area Version 2*. March. Website: www.baaqmd.gov/~/media/Files/Planning% 20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx?la=en (accessed January 2024).

17 Bay Area Air Quality Management District (BAAQMD). 2023. *California Environmental Quality Act, Air Quality Guidelines*. April 20.

18 City of Berkeley. 2003. *City of Berkeley General Plan: A Guide for Public Decision-Making*. April.

Policy EM-18: Regional Air Quality Action. Continue working with the Bay Area Air Quality Management District and other regional agencies to:

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

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-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.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address air quality.

COA: Public Works – Implement Bay Area Air Quality Management District (BAAQMD)-Recommended Measures During Construction. For all proposed projects, BAAQMD recommends implementing all the Basic Construction Mitigation Measures listed below to meet the best management practices threshold for fugitive dust:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

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

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

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

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

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

COA: 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:

- 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 Land Use Planning Division for review and approval prior to the issuance of building permits; or

- 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. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.

- In addition, a Construction Emission Minimization Plan (Emission Plan) shall be prepared that includes:

    - 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 Emission Plan and acknowledges that a significant violation of the Emission Plan shall constitute a material breach of contract. The Emission Plan shall be submitted to the Public Works Department for review and approval prior to the issuance of building permits.

4.5.2 Impacts and Mitigation Measures

This section provides an assessment of the potential impacts related to air quality that could result from implementation of the proposed project and the conceptual development project. The section begins with the significance criteria, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project, including the conceptual development project, and identifies mitigation measures, as appropriate.

4.5.2.1 Significance Criteria

Based on CEQA Appendix G, implementation of the proposed project, or the conceptual development project, would have a significant impact related to air quality if it would:

Threshold AIR-1: Conflict with or obstruct implementation of the San Francisco Bay Area Clean Air Plan by:

- Not supporting the primary goals of the plan by resulting in a significant unavoidable air quality impact;
- Failing to include applicable control measures from the plan; or
- Disrupting or hindering implementation of any applicable control measure outlined in the plan.

Threshold AIR-2: Result in a cumulatively considerable impact related to the net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.

- According to the BAAQMD 2022 CEQA Guidelines, to meet air quality standards for criteria air pollutant and air precursor impacts, the proposed project must not:
  - Generate average daily construction emissions of ROGs, NO_X or $PM_{2.5}$ (exhaust) greater than 54 lbs/day or PM_{10} exhaust emissions greater than 82 lbs/day; or
  - Generate operational emissions of ROGs, NO_X or $PM_{2.5}$ of greater than 10 tons/yr or 54 lbs/day or PM_{10} emissions greater than 15 tons/yr or 82 lbs/day.
- Carbon Monoxide (CO) Hot Spot:

- Create a new or contribute to an existing CO hot spot (9.0 ppm [8-hour average], 20.0 ppm [1-hour average]);

Threshold AIR-3: Expose sensitive receptors to substantial pollutant concentrations as follows:

- Local Community Risk:
  - Be subject to but not comply with a qualified risk reduction plan;
  - Result in an excess cancer risk level of more than 10 in 1 million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 within a 1,000-foot radius; or
  - Result in an incremental increase of greater than 0.3 µg/m^3 annual average $PM_{2.5}$ within a 1,000-foot radius.
  - In combination with other projects within a 1,000-foot radius of the project site, would result in the exposure of sensitive receptors to TACs resulting in an increased cancer risk greater than 100 in 1 million, an increased non-cancer risk of greater than 10 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 µg/m^3 on an annual average basis.

Threshold AIR-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.5.2.2 Project Impacts

The following section discusses the potential air quality impacts associated with implementation of the proposed project and the conceptual development project according to the significance criteria described above. Potential impacts associated with the proposed project are evaluated at a programmatic level, whereas potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible.

Where potential impacts of the proposed project and the conceptual development project are different, the impact discussions and conclusions are presented in two parts: one for the proposed project and one for the conceptual development project. Impacts associated with operational emissions and impacts associated with sensitive receptors would result in different impact conclusions. All the impact discussions are followed by an Impact Summary, to summarize EIR findings.

Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan. (*Less than Significant*)

For the purposes of Impact AIR-1 discussion, the impacts associated with the proposed project and the conceptual development project are the same, and this section will refer to the proposed project only.

The applicable air quality plan is the BAAQMD's 2017 Bay Area Clean Air Plan (Clean Air Plan).[19] The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce GHG emissions to protect the climate. Consistency with the Clean Air Plan can be determined if a project (1) supports the goals of the Clean Air Plan, (2) includes applicable control measures from the Clean Air Plan, and (3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

The following evaluates the proposed project's consistency with each of these criteria and, as discussed below, concludes that the proposed project would not conflict with the Clean Air Plan goals or control measures and would not obstruct its implementation. Therefore, this impact would be less than significant.

Clean Air Plan Goals. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate.

The BAAQMD has established significance thresholds for project construction and operational impacts at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health. As discussed in more detail in the analysis below, implementation of the proposed project would result in less than significant operation-period emissions and, with implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, the project would result in less than significant construction-period emissions. Therefore, the project would not conflict with the Clean Air Plan goals.

Clean Air Plan Control Measures. The control strategies of the Clean Air Plan include measures in the following categories: Stationary Source Measures, Transportation Measures, Energy Measures, Building Measures, Agriculture Measures, Natural and Working Lands Measures, Waste Management Measures, Water Measures, and Super-GHG Pollutant Measures. The following discusses the proposed project's consistency with each of these strategies.

Stationary Source Control Measures. The Stationary Source Measures, which are designed to reduce emissions from stationary sources such as metal-melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by BAAQMD permit and inspection programs. Because the proposed project would

[19] BAAQMD. 2017. Final 2017 Clean Air Plan. April 19. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en (accessed January 2024).

not include any such stationary sources, the Stationary Source Measures of the Clean Air Plan do not apply to the project.

Transportation Control Measures. The BAAQMD identifies Transportation Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed zoning and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site; however, future development, including the conceptual development project, would be required to comply with the development standards of the newly created M-RD district that would require 470 bicycle parking spaces to be located on the site. In addition, as discussed in Section 4.4, Transportation, any future development project would be subject to the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit (BART) and passenger rail services along the Union Pacific Railroad (UPRR) corridor is provided by Amtrak. These public transit services in the project area help to reduce the demand for travel by single--occupancy vehicles. Therefore, the project would promote BAAQMD initiatives to reduce vehicle trips and VMT and would increase the use of alternate means of transportation.

Energy Control Measures. The Clean Air Plan also includes Energy Measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG intensive fuel sources for electricity generation. Because these measures apply to electrical utility providers and local government agencies (and not to individual projects), the Energy Control Measures of the Clean Air Plan are not directly applicable to the proposed project. However, future development facilitated under the proposed rezone and the conceptual development project would be required to comply with all federal, State, and local requirements for energy efficiency, including the latest California Energy Code and California Green Building Standards Code (CALGreen) standards. Therefore, the proposed project would comply with applicable Energy Measures.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes, to facilitate adoption of best GHG control practices and policies. Therefore, the Building Control Measures of the Clean Air Plan are not applicable to the proposed project. However, the proposed project would comply with California Energy Code and CALGreen standards.

Agriculture Control Measures. The Agriculture Control Measures are designed to primarily reduce emissions of methane. Because the proposed project does not include any agricultural activities, the Agriculture Control Measures of the Clean Air Plan do not apply to the project.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands and encouraging local governments to adopt ordinances that promote urban tree plantings. Because the proposed project does not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan are not applicable to the project.

Waste Management Control Measures. The Waste Management Measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with local requirements for waste management (e.g., recycling and composting services). Therefore, the project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Because these measures apply to POTWs and local government agencies (and not individual projects), the Water Control Measures are not directly applicable to the proposed project.

Super GHG Control Measures. Super GHGs include GHGs with very high global-warming potential, such as methane, black carbon, and fluorinated gases. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. Because these measures do not apply to individual projects, the Super-GHG Control Measures are not applicable to the proposed project.

Clean Air Plan Implementation. As discussed above, the proposed project would implement the applicable measures outlined in the Clean Air Plan, including Transportation Control Measures. Therefore, the proposed project would not disrupt or hinder implementation of a control measure from the current Clean Air Plan and this impact would be **less than significant**.

The BAAQMD is currently designated as a nonattainment area for State and national O_3 (produced in the atmosphere through ROG and NO_X) standards and national particulate matter (PM_{10} and $PM_{2.5}$) ambient air quality standards. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

The following sections describe the construction- and operation-related air quality impacts associated with the proposed project.

Impact AIR-1 Summary: Implementation of the proposed project and the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan. Therefore, impacts would be **less than significant**.

Impact AIR -2: The impact discussion for Threshold AIR-2 is presented in 3 discussion subtopics:

- **Impact AIR-2a**: Fugitive dust emissions for both the proposed project and the conceptual development project
- **Impact AIR-2b**: Operational ROG emissions
    - AIR-2.b.1 for the proposed project
    - AIR-2.b.2 for the conceptual development project
- **Impact AIR-2c**: Operational localized CO concentrations for both the proposed project and the conceptual development project

Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}). (*Less than Significant with Mitigation*)

Construction Emissions. During construction, of future projects, including the conceptual development project, short-term degradation of air quality may occur due to the release of particulate emissions generated by demolition, grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_X, VOCs, directly emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Project construction activities would include demolition, site preparation, grading, building, paving, and architectural coating (painting). Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase for each area due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, whereas fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emissions reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust

emissions (PM_{10}). BAAQMD's CEQA Guidelines provide that implementation of these Basic Best Management Practices will result in a less-than-significant criteria air pollutant impact related to construction-related fugitive dust emissions. The City has established *COA: Public Works - Implement BAAQMD-Recommended Measures During Construction*, which requires the implementation of the BAAQMD's Basic Best Management Practices.

In addition to dust related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_X, VOCs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

The proposed creation of the M-RD zoning district would not result in any physical development on the project site but would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. Additionally, as previously discussed, although no formal application for development on the project site has been submitted at this time, this EIR evaluates the reasonably foreseeable conceptual development project.

Construction emissions were estimated for both the future buildout envisioned under the proposed project and the conceptual development project, using the California Emissions Estimator Model version 2022.1 (CalEEMod), consistent with BAAQMD recommendations.

Potential buildout under the Proposed Project. As discussed above, the proposed project would rezone the project site to the newly created M-RD zoning district and adopt amendments to the General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to the project site, but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory, or office uses, which would involve demolition of site structures and new construction. Therefore, the CalEEMod modeling conducted for buildout under the proposed project assumes the construction of up to 1,005,266 square feet of R&D uses and up to three parking spaces per 1,000 square feet of building area (approximately 3,016 parking spaces).[20] Additionally, buildout under the proposed project would include the demolition of 320,070 square feet of building area. An additional 10 percent (approximately 32,000 square feet) of demolition square footage was included to account for the demolition of the asphalt lots on the site.

This analysis assumes, and CalEEMod modeled, that construction activities associated with buildout under the proposed project would require the import of approximately 150,000 cubic yards of material, including imported soil and fill. Construction activities associated with the proposed project are anticipated to begin in 2025 and continue over approximately 7 years; this timing was included in the CalEEMod modeling.

[20] The air quality analysis assumed three parking spaces per 1,000 square feet of building area to provide a conservative estimate.

This analysis uses default construction equipment in CalEEMod with the addition of pile driving equipment as pile driving is expected. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. Construction-related emissions are presented in Table 4.5.E. CalEEMod output sheets are included in Appendix F.

Table 4.5.E: Buildout Under the Gilman Gateway Rezone Project Construction Emissions

Project Construction	Average Daily Pollutant Emissions (pounds per day)					
	ROG	NO_X	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
2025	0.5	13.6	0.2	3.4	0.2	1.4
2026	1.7	18.3	0.2	5.9	0.2	1.8
2027	2.1	16.7	0.2	6.7	0.2	1.8
2028	2.1	16.4	0.2	6.7	0.2	1.8
2029	1.9	15.9	0.2	6.7	0.1	1.8
2030	1.9	15.6	0.1	6.7	0.1	1.8
2031	1.8	15.2	0.1	6.7	0.1	1.8
2032	27.6	3.8	<0.1	0.9	<0.1	0.3
2033	1.2	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Average Daily Emissions	**27.6**	**18.3**	**0.2**	**6.7**	**0.2**	**1.8**
BAAQMD Thresholds	54.0	54.0	82.0	BMPs	54.0	BMPs
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024)
BAAQMD = Bay Area Air Quality Management District
BMPs = best management practices
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

As shown in Table 4.5.E, estimated construction ROG, NO_x, and $PM_{2.5}$ and PM_{10} exhaust emissions would be below the BAAQMD's thresholds. As identified above in the Regulatory Section, BAAQMD's BMPs are required to ensure construction $PM_{2.5}$ and PM_{10} fugitive dust impacts would be less than significant. Therefore, the analysis above assumes that BAAQMD BMPs would be implemented. In addition to the BAAQMD regulations, the City requires the implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, which are consistent with BAAQMD requirements for fugitive dust impacts. The City also requires the implementation of *COA: Air Quality – Diesel Particulate Matter Controls During Construction* to require cleaner construction equipment for projects with construction lasting more than 2 months. Impacts related to fugitive dust emissions from implementation of the proposed project would be **less than significant**.

Potential buildout under the Conceptual Development Project. The conceptual development project would construct up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, a 1,900-space parking lot, and would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site, which was included in CalEEMod. Additionally, the conceptual development project would require approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of material, including imported soil and fill, which was also included in CalEEMod. Construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2027–2034. Therefore, CalEEMod assumes that construction would begin in 2025 and would take place over a 7-year period. This analysis uses default construction equipment in CalEEMod with the addition of pile driving equipment. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. Construction-related emissions are presented in Table 4.5.F. CalEEMod output sheets are included in Appendix F.

Table 4.5.F: Potential Berkeley Forge Development Construction Emissions

Project Construction	Average Daily Pollutant Emissions (pounds per day)					
	ROG	NO_X	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
2025	0.5	7.2	0.1	3.7	0.1	1.3
2026	1.5	9.0	0.1	4.9	0.1	1.2
2027	1.5	8.6	0.1	4.9	0.1	1.2
2028	1.5	8.4	0.1	5.0	0.1	1.2
2029	1.4	8.0	0.1	4.9	0.1	1.2
2030	1.4	7.8	0.1	4.9	0.1	1.2
2031	24.0	3.1	<0.1	1.9	<0.1	0.5
2032	1.8	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Average Daily Emissions	**24.0**	**9.0**	**0.1**	**5.0**	**0.1**	**1.3**
BAAQMD Thresholds	54.0	54.0	82.0	BMPs	54.0	BMPs
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024)
BAAQMD = Bay Area Air Quality Management District
BMPs = best management practices
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

As shown in Table 4.5.F, construction ROG, NO_x, and $PM_{2.5}$ and PM_{10} exhaust emissions would be below the BAAQMD's thresholds. As identified above in the Regulatory Section, BAAQMD's BMPs are required to ensure construction $PM_{2.5}$ and PM_{10} fugitive dust impacts would be less than significant. Therefore, the analysis above assumes that BAAQMD BMPs would be implemented. In addition to the BAAQMD regulations, the City requires the

implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, which are consistent with BAAQMD requirements for fugitive dust impacts. The City also requires the implementation of *COA: Air Quality – Diesel Particulate Matter Controls During Construction* to require cleaner construction equipment for projects with construction lasting more than 2 months. Impacts related to fugitive dust emissions from conceptual development project implementation would be **less than significant**.

In addition, the BAAQMD strongly encourages projects near schools, residential areas, or other sensitive land uses to implement enhanced best management practices to control fugitive dust emissions. The proposed project assumes that the building at 1306 Third Street, which is a residential use, would be demolished. Accordingly, the nearest sensitive receptors to the proposed project would include the Duck's Nest Preschool, located 410 feet east of the project site along Fourth Street, and residential uses, located approximately 500 feet east of the project site along Fifth Street.

Under the conceptual development project, the building at 1306 Third Street would be retained and occupied during construction and operation. Accordingly, the nearest sensitive receptors to the conceptual development project would also include the residents and workers in 1306 Third Street, which is approximately 5 feet east of the conceptual development project site, has residential uses.

Because the closest sensitive receptors are within 500 feet of the project site, for both the proposed project and the conceptual development project, Mitigation Measure AIR-1 which includes the BAAQMD's enhanced best management practices to control fugitive dust emissions is required. These measures apply to all future development under the proposed project, including the conceptual development project, and shall be implemented during construction.

Mitigation Measure AIR-1 **BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors.** Consistent with BAAQMD recommendations, the following controls are required to be included as specifications for future development projects and implemented at the construction site:

- Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
- Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimize the amount of excavated material or waste materials stored at the site.
- Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.

The proposed project and the conceptual development project would be required to comply with *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction, consistent with BAAQMD requirements for fugitive dust impacts* and COA: *Air Quality – Diesel Particulate Matter Controls During Construction to require cleaner construction equipment;* and implement Mitigation Measure AIR-1. The BAAQMD's Basic Best Management Practices for Construction-Related Fugitive Dust Emissions and Enhanced Best Management Practices would be implemented during the construction period and as required by COA: Air Quality – Diesel Particulate Matter Controls During Construction, construction equipment would be equipped with Tier 4 (or Tier 2 or higher engines with the most effective VDECS available) engines. This measure would reduce fugitive dust emissions for sensitive receptors located within 500 feet of a construction site. Therefore, construction associated with buildout of the proposed project and the conceptual development project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard, and impacts would be **less than significant with mitigation.**

Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard. (*Less than Significant with Mitigation*).

Long-term air pollutant emission impacts that would result from future buildout envisioned under the proposed project are those that are associated with mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas), area sources (e.g., architectural coatings and the use of landscape maintenance equipment), and stationary sources (e.g., emergency generators). Mobile source emissions include ROG and NO_X emissions, which contribute to the formation of ozone. Additionally, PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Energy source emissions would typically result from activities in buildings for which natural gas is used.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings, consumer products, and the use of landscape maintenance equipment. Stationary source emissions are associated with the use of diesel emergency generators.

As discussed above, the proposed creation of the M-RD zoning district would not result in any physical development on the project site, but would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. Operational emissions estimated for the potential future buildout envisioned under the proposed project are discussed below.

Emission estimates for operation of development envisioned under the proposed project were calculated using CalEEMod, assuming 1,005,266 square feet of R&D uses as identified in Table 3.G in Chapter 3.0, Project Description. Trip generation rates used in CalEEMod for the project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). It is not yet known whether future buildout under the proposed project would include natural gas; therefore, this analysis conservatively uses default assumptions for natural gas usage. In addition, up to seven generators could be located on the conceptual development project site ranging from 200 to 500 kilowatts (670 horsepower); therefore, this analysis conservatively assumes up to 10 generators for buildout under the proposed project that would run up to 50 hours annually. Where project-specific data were not available, default assumptions (e.g., electricity usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. The daily and annual emissions associated with project operational trip generation, energy, area, and stationary sources are identified in Table 4.5.G for ROG, NOX, PM10, and PM2.5. CalEEMod output sheets are included in Appendix F.

Table 4.5.G: Unmitigated Buildout Under the Gilman Gateway Rezone Project Operational Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Mobile Source Emissions	24.8	22.6	68.9	17.7
Area Source Emissions	32.2	0.4	0.1	0.1
Energy Source Emissions	0.4	6.4	0.5	0.5
Stationary Source Emissions	1.5	4.2	0.2	0.2
Total Emissions	**58.8**	**33.7**	**69.7**	**18.5**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**Yes**	**No**	**No**	**No**
Tons Per Year				
Mobile Source Emissions	4.5	4.1	12.6	3.2
Area Source Emissions	5.9	0.1	<0.1	<0.1
Energy Source Emissions	0.1	1.2	<0.1	<0.1
Stationary Source Emissions	0.3	0.8	0.1	0.1
Total Emissions	**10.7**	**6.1**	**12.7**	**3.4**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**Yes**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

The results shown in Table 4.5.G indicate that operation of future development envisioned under the proposed project would not exceed the significance criteria for NOX, PM10 or PM2.5 emissions. However, operation of future development would exceed the significance criteria for ROG. Mitigation Measure AIR-2 would require all architectural coatings to be limited to 50 grams per liter or less of VOCs to reduce ROG emission levels to below the established threshold. This measure shall apply to all future development under the proposed rezone, including the conceptual development project.

Mitigation Measure AIR-2 **Architectural Coatings.** To address the impact related to reactive organic gas (ROG) emissions, all interior and exterior paints and other architectural coatings shall be limited to 50 grams per liter or less of volatile organic compounds (VOCs). The project sponsor's construction contractor shall procure architectural coatings from a supplier in compliance with the requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings).

Tables 4.5.H identifies the results of the analysis with implementation of Mitigation Measure AIR-2.

Table 4.5.H: Mitigated Buildout under the Gilman Gateway Rezone Project Operational Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Mobile Source Emissions	24.8	22.6	68.9	17.7
Area Source Emissions	22.8	0.3	0.1	<0.1
Energy Source Emissions	0.4	6.4	0.5	0.5
Stationary Source Emissions	1.5	4.2	0.2	0.2
Total Emissions	**49.4**	**33.5**	**69.7**	**18.4**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**No**	**No**	**No**	**No**
Tons Per Year				
Mobile Source Emissions	4.5	4.1	12.6	3.2
Area Source Emissions	4.2	0.1	<0.1	<0.1
Energy Source Emissions	0.1	1.2	<0.1	<0.1
Stationary Source Emissions	0.3	0.8	0.1	0.1
Total Emissions	**9.0**	**6.2**	**12.7**	**3.4**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

As shown in Tables 4.5.H, with implementation of Mitigation Measure AIR-2, operation of buildout envisioned under the proposed project 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 standards, and impacts would be **less than significant with mitigation**.

> Health Effect. Although the emissions from project operations are not expected to exceed the BAAQMD's numeric regional mass daily emission thresholds, this does not in itself constitute a less than significant health impact within the Air Basin.
>
> The BAAQMD's project level thresholds are based in part on Section 180(e) of the CCAA. The project level thresholds are intended to provide a means of consistency in significance determination within the environmental review process.
>
> Lead agencies must describe the rationale behind the thresholds of significance for evaluating criteria air pollutant and ozone precursor emissions. The City relies on the BAAQMD's thresholds, which are justified in Appendix A, Thresholds of Significance Justification in the BAAQMD CEQA Air Quality Guidelines.[21] The project-level mass emission thresholds are developed in consideration of long-term air quality planning in the Air Basin and are designed to capture excess emissions that would inhibit attainment of the NAAQS and CAAQS for various pollutants. Projects that exceed these mass emission thresholds, whether before mitigation or following application of mitigation measures, may contribute emissions that would degrade the ambient air quality of the Air Basin and expose receptors to concentrations of criteria air pollutants found by the USEPA and the CARB to be hazardous to human health. CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects.
>
> As described above, ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. Air pollutants and their health effects are summarized in Table 4.5.A.
>
> Various modeling tools are available to estimate project-level emissions (e.g., CalEEMod). Additionally, the EMission FACtors (EMFAC) model that was developed by CARB generates emission estimates from transportation sources using factors that account for various state and federal regulations that affect gasoline and diesel fuel consumption, as well as the deployment of electric vehicles throughout the State. However, these models do not predict the locations of exceedances of the NAAQS or CAAQS from one project's emissions alone.
>
> Photochemical grid-based models simulate the chemical interactions and three-dimensional dispersion patterns on a regional, state-wide, and national scale. These models are complex and require significant expertise, knowledge, and resources as they build on other third-party models and processing tools that characterize meteorology, emissions, and other

[21] BAAQMD. 2023. *Air Quality Guidelines Appendix A: Thresholds of Significance Justification*. April 20. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9&sc_lang=en (accessed March 2024).

environmental conditions, such as land cover, radiative properties, and boundary conditions. Use of these models is typically beyond the resources available for air quality analysis prepared pursuant to the CEQA, and even if such an analysis were to be completed, consideration would need be given to ensure the results would be meaningful based on modeling and data limitations.

The Environmental Benefits Mapping and Analysis Program (BenMAP) is an open-source computer program that calculates the number and economic value of air pollution–related death and illnesses. BenMAP relies on national data such as age, health, and economic conditions, to characterize and map health impacts associated with air pollution exposure. The data applicability of using this model was considered and it was determined that based on the relatively low emissions associated with implementation of the project, the model would not provide results that would be meaningful based on modeling and data limitations that would be appropriate for an air quality analysis prepared pursuant to CEQA.

As explained above, with implementation of Mitigation Measure AIR-2, buildout envisioned under the proposed project would not exceed the significance criteria for ROG, NO_x, PM_{10} or $PM_{2.5}$ emissions. The increase in emissions associated with the proposed project would be a small fraction of the Air Basin's emissions.

Therefore, the emissions associated with implementation of the proposed project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for ozone or PM_{10}. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NOX, ROG, and ozone (which, as explained above, is a byproduct of NOX and ROG) have been trending downward within the Air Basin even as development has increased over the last several years. Therefore, implementation of the proposed project is not expected to result in any Air Basin wide increase in health effects. Therefore, impacts are considered **less than significant.**

Impact AIR-2b.2: Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD. (*Less than Significant*)

No formal application for the conceptual development project has been submitted to the City at this time; however, the City anticipates the submittal of a formal application. Therefore, the conceptual development project is reasonably foreseeable project and evaluated herein.

Emission estimates for operation of the conceptual development project were calculated using CalEEMod, assuming 900,000 square feet of R&D uses. Trip generation rates used in CalEEMod for the project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). Based on communication received from the proponent of the conceptual development project, the City anticipates that future buildout would be all electric. Therefore, the conceptual development project would not increase the demand for

natural gas; this assumption was included in CalEEMod calculations. In addition, up to seven generators could be located on the proposed project site ranging from 200 to 500 kilowatts. Therefore, this analysis conservatively assumes that there would be seven 500-kilowatt diesel generators that would run up to 50 hours annually. Where project-specific data were not available, default assumptions (e.g., electricity usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. The daily and annual emissions associated with project operational trip generation, energy, area, and stationary sources are identified in Table 4.5.I for ROG, NO_X, PM_{10}, and $PM_{2.5}$. CalEEMod output sheets are included in Appendix F.

Table 4.5.I: Unmitigated Potential Berkeley Forge Development Operational Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Mobile Source Emissions	22.8	21.0	61.7	15.9
Area Source Emissions	27.7	0.3	0.1	<0.1
Energy Source Emissions	0.0	0.0	0.0	0.0
Stationary Source Emissions	1.1	2.9	0.2	0.2
Total Emissions	**51.5**	**24.3**	**61.9**	**16.1**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**No**	**No**	**No**	**No**
Tons Per Year				
Mobile Source Emissions	4.2	3.8	11.3	2.9
Area Source Emissions	5.1	0.1	<0.1	<0.1
Energy Source Emissions	0.0	0.0	0.0	0.0
Stationary Source Emissions	0.2	0.5	<0.1	<0.1
Total Emissions	**9.4**	**4.4**	**11.3**	**2.9**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

The results shown in Table 4.5.I indicate that operation of the conceptual development project would not exceed the significance criteria for ROG, NO_X, PM_{10} or $PM_{2.5}$ emissions and conceptual development project impacts would be **less than significant**.

> Health Effects. As explained above, the conceptual development project is below BAAQMD significance criteria without mitigation. The increase in emissions associated with the conceptual development project would be a small fraction of the Air Basin's emissions. Therefore, the emissions associated with implementation of the conceptual development project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for

ozone or PM10. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NOX, ROG, and ozone (which, as explained above, is a byproduct of NOX and ROG) have been trending downward within the Air Basin even as development has increased over the last several years. Therefore, implementation of the conceptual development project is not expected to result in any Air Basin wide increase in health effects. Therefore, impacts are considered **less than significant.**

Impact AIR-2c: Implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards. (*Less than Significant*)

Localized CO Impacts. Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. BAAQMD CEQA Guidelines include recommended methodologies for quantifying concentrations of localized CO levels for proposed development projects.

A screening level analysis using guidance from the BAAQMD CEQA Guidelines was performed to determine the project's impacts. The screening methodology provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD CEQA Guidelines, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.
- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project 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, or below-grade roadway).

Future development envisioned under the proposed project, including the conceptual development project, would not conflict with standards established by the Alameda County Transportation Commission for designated roads and highways, a regional transportation plan, or other agency plans. The project site is not in an area where vertical or horizontal mixing of air is substantially limited. Some study area intersections would result in increased levels of service due to intersection delay. However, trip generation for all future development on the site that would be allowed under the proposed zoning and General Plan/West Berkeley Plan amendments

would be 918 AM peak-hour trips and 868 PM peak-hour trips (refer to Table 4.4.D in Section 4.4, Transportation, for additional discussion); therefore, the project's contribution to peak -hour traffic volumes at intersections in the vicinity of the project site would not increase traffic volumes to more than 44,000 vehicles per hour. Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards, and this impact would be **less than significant**.

Impact AIR-2 Summary: Implementation of the proposed project and the conceptual development project would require the implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, consistent with BAAQMD requirements for fugitive dust impacts, and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* to require cleaner construction equipment for projects with construction lasting more than 2 months. In addition, because the closest sensitive receptors are within 500 feet of the project site, including the conceptual development project, Mitigation Measure AIR-1, which includes the BAAQMD's enhanced best management practices to control fugitive dust emissions, shall be required. With implementation of the City-required COAs and MM AIR-1, proposed project and conceptual impacts would be **less than significant with mitigation**. (Impact AIR-2a)

Construction associated with future development of the project site facilitated by the proposed project, including the conceptual development project, could result in a cumulatively considerable net increase of fugitive dust emissions; however, implementation of Mitigation Measure AIR-1 and compliance with *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would ensure potential construction impacts would be reduced to **less than significant with mitigation**. (Impact AIR-2a)

Operation of future development of the project site with full buildout under the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD; however, implementation of Mitigation Measure AIR-2 would ensure potential operational impacts would be reduced to **less than significant with mitigation**. (Impact AIR-2b-1)

Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD and impacts would be **less than significant**. (Impact AIR-2b-2)

In addition, implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards, and impacts associated with localized CO concentrations would be **less than significant.** (Impact AIR-2c)

Impact AIR-3: The impact discussion for Threshold AIR-3, exposure of sensitive receptors to substantial pollutant concentrations, is presented in three discussion subtopics:

- **Impact AIR-3a**: Construction impacts,
    - **Impact AIR-3a.1** for the proposed project
    - **Impact AIR-3a.2** for the conceptual development project

- **Impact AIR-3b**: TAC health risk exposure due to operation for both the proposed project and the conceptual development project

- **Impact AIR-3c**: Operational localized CO Concentrations both the proposed project and the conceptual development project

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter include children, whose lung tissue is still developing, and the elderly, who may have serious health problems that exposure to diesel particulate matter can aggravate. The closest sensitive receptors to the project site are Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. For the proposed project, it is assumed that the 1306 Third Street parcel, a non-conforming residential use, would be demolished and thus would not represent a sensitive receptor. In addition to residential, school and medical uses, sensitive receptors for the purposes of the Health Risk Assessment, include onsite workers. Therefore, onsite workers at 1306 Third Street, 600 Gilman Street, 1433 Eastshore Highway, and north of the project site across Gilman Street are also discussed below.

Unlike the proposed project assumptions, the parcel at 1306 Third street was assumed to be occupied during construction and operation of the conceptual development project. Therefore, the sensitive receptors for the conceptual development project include 1306 Third Street located approximately 5 feet from east of the conceptual development project, as well as the Duck's Nest Preschool located 410 feet east, residential uses located 500 feet east of the project site, and workers located at 1306 Third Street, 600 Gilman Street, 1433 Eastshore Highway, and north of the project site across Gilman Street as described above.

According to the BAAQMD CEQA Guidelines, a project would result in a significant impact related to TAC exposure if it would individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). A significant cumulative impact would occur if the project, in combination with other projects within a 1,000-foot radius of the project site, would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100 in 1 million, an increased non-cancer risk of greater than 10 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 $\mu g/m^3$ on an annual average basis.

Construction – Toxic Air Contaminants. A construction health risk assessment (HRA), which evaluates construction-period health risk to off-site receptors, was prepared for construction associated with buildout of the proposed project and the conceptual development project. To estimate the potential cancer risk associated with construction activities from equipment exhaust (including diesel particulate matter), a dispersion model was used to translate an emission rate from the source location to a concentration at the receptor location of interest (i.e., a nearby residence and worksites). Dispersion modeling varies from a simpler, more conservative screening-level analysis to a more complex and refined detailed analysis.

For the purposes of an HRA, emissions are analyzed for acute health impacts, chronic, and carcinogenic health impacts. A multi-pathway assessment was conducted to evaluate the project's emissions during construction following the modeling techniques recommended in the CalEPA's Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxic Hot Spots Program Risk Assessment Guidelines*.[22] The analysis herein has been conducted in accordance with BAAQMD requirements for HRAs.

The HRA analysis was conducted using three models: (1) CalEEMod to determine diesel particulate matter (DPM) emissions during project construction; (2) the USEPA AERMOD air dispersion model to determine how the TACs would move through the atmosphere; and (3) CARB's HARP2 model to translate the pollutant concentrations from AERMOD into individual health risks at any sensitive receptor locations surrounding the project site.

The OEHHA has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any TAC it has evaluated. Exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, DPM made people with allergies more susceptible to the materials to which they were allergic, such as dust and pollen. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. For risk assessment procedures, the OEHHA specifies that the surrogate for whole diesel exhaust is DPM. The HRA analyses used PM_{10} emissions to represent DPM emissions, consistent with OEHHA guidance.

The conservative nature of this analysis is due primarily to the following factors:

- The CARB-adopted diesel exhaust unit risk factor (URF) of 300 in 1 million per $\mu g/m^3$ is based on the upper 95th percentile of estimated risk for each of the epidemiological studies used to develop the URF. Therefore, the risk factor is representative of DPM.

- The exposure to DPM is assumed to be constant for the given period analyzed (i.e., 70 years for the residential receptors and 25 years for the worker receptors). However, emissions from DPM are expected to substantially decrease in the future with the implementation of standard regulatory requirements and technological advancement to reduce DPM.

Potential impacts associated with buildout under the proposed project and the conceptual development project are discussed below.

Impact AIR-3a.1: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. (*Less than Significant*)

[22] California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. March. Website: https://oehha.ca.gov/air/air-toxics-hot-spots (accessed May 2024).

As discussed above, a construction HRA was prepared for construction associated with buildout envisioned under the proposed project. Table 4.3.J, below, identifies the results of the analysis assuming the use of Tier 4 interim construction equipment, as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*. As identified above, the closest sensitive receptors to the proposed project site are Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. In addition, worker receptors are located north of the project site across Gilman Street. The results of the analysis at the maximally exposed individual (MEI) are shown in Table 4.3.J below. Model outputs and snapshots of the sources are shown in Appendix G.

Table 4.5.J: Unmitigated Health Risks from Construction of Buildout under the Gilman Gateway Rezone Project to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Residential Receptor MEI	6.74	0.004	0.000	0.016
School Receptor MEI	3.86	0.004	0.000	0.016
Worker Receptor MEI	0.73	0.010	0.000	0.044
Threshold	**10.0**	**1.0**	**1.0**	**0.30**
Exceeds threshold?	**No**	**No**	**No**	**No**

Source: LSA (May 2024).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter
MEI = maximally exposed individual

As shown in Table 4.3.J, the maximum cancer risk for the residential receptor MEI would be 6.74 in 1 million, which would not exceed the BAAQMD cancer risk threshold of 10 in 1 million. The school receptor MEI and worker receptor MEI risk would be lower at 3.86 in 1 million and 0.73 in 1 million, respectively, which would also not exceed the BAAQMD cancer risk threshold. The chronic hazard index would be 0.010 for the worker receptor MEI and 0.004 for both the residential receptor MEI and school receptor MEI, which are below the threshold of 1. In addition, the acute hazard index would be nominal (0), which would also not exceed the threshold of 1. The results of the analysis indicate that the $PM_{2.5}$ concentration would be 0.044 $\mu g/m^3$ for the worker receptor MEI and 0.016 $\mu g/m^3$ for both the residential receptor MEI and school receptor MEI, which also would not exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$. Therefore, construction associated with buildout envisioned under the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. No significant health risk would occur from project construction emissions impacts would be **less than significant**.

Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. (*Significant and Unavoidable*)

A construction HRA was prepared to evaluate health risks associated with potential future construction associated with the conceptual development project. Table 4.3.L, below, identifies the results of the analysis assuming the use of Tier 4 interim construction equipment, as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*. The conceptual development project would include the redevelopment of all onsite structures except the following three parcels: 1306 Third Street, 600 Gilman Street and 1433 Eastshore Highway.

The building located at 1306 Third Street includes existing non-conforming residential uses that would be located adjacent to construction activities associated with the conceptual development project. In addition, Duck's Nest Preschool is located approximately 410 feet east of the project site along Fourth Street and worker receptors are located at 1306 Third Street, 600 Gilman Street, 1433 Eastshore Highway, and north of the project site across Gilman Street. The results of the analysis at the MEI are shown in Table 4.3.L below. Model outputs and snapshots of the sources are shown in Appendix G.

Table 4.5.K: Unmitigated Health Risks from Construction of the Potential Berkeley Forge Development to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Residential Receptor MEI	23.42	0.015	0.000	0.073
School Receptor MEI	3.21	0.001	0.000	0.097
Worker Receptor MEI	0.73	0.011	0.000	0.044
Threshold	**10.0**	**1.0**	**1.0**	**0.30**
Exceeds threshold?	**Yes**	**No**	**No**	**No**

Source: LSA (May 2024).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter
MEI = maximally exposed individual

As shown in Table 4.3.K, the maximum cancer risk for the residential receptor MEI would be 23.42 in 1 million, which would exceed the BAAQMD cancer risk threshold of 10 in 1 million. The school receptor MEI and worker receptor MEI risk would be lower at 3.21 in 1 million and 0.73 in 1 million, respectively, which would also not exceed the BAAQMD cancer risk threshold. This is a **potentially significant** impact.

The chronic hazard index would be 0.009 for the worker receptor MEI and 0.020 for both the residential receptor MEI and school receptor MEI, which are below the threshold of 1.0. In addition, the acute hazard index would be nominal (0), which would also not exceed the threshold of 1.0. The results of the analysis indicate that the $PM_{2.5}$ concentration would be 0.073 $\mu g/m^3$ for the residential receptor MEI, 0.097 $\mu g/m^3$ for the school receptor MEI, and 0.044 $\mu g/m^3$ for the worker receptor MEI, which would not exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$.

As described above, construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2027–2034. Therefore, this analysis uses default construction equipment in CalEEMod with the addition of pile

driving equipment. For construction, TAC emissions and exposure to the nearest sensitive receptors would vary across the 7-year construction period based on construction activities and phasing. However, because a formal application has not yet been submitted for the Potential Berkeley Forge Project, specific construction fleet activities and phasing is not yet known, and this analysis conservatively assumes construction of the entire conceptual development project would take place at once over the 7-year period. Once a formal application for the conceptual development project has been submitted and project-specific construction information is available, the project applicant could submit an updated project-specific HRA to the City demonstrating that construction of the project would not expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 µg/m^3.

It should be noted that 1306 Third Street is outside the boundaries of the conceptual development project site (refer to Figure 3-2 in Chapter 3.0, Project Description; the 1306 Third Street parcel is shown outside of this boundary just southwest of the Gilman Street and UPRR intersection). Mitigation Measure AIR-3 would apply to the conceptual development project and any future projects that would not include the demolition of the structure located at 1306 Third Street.

Mitigation Measure AIR-3 would require the use of cleaner construction equipment to reduce the significant cancer risk from construction of the conceptual development project or allow the project applicant to prepare an updated project-specific HRA once project-specific construction information is available.

Mitigation Measure AIR-3 **Off-Road Construction Equipment Requirements.** The project contractor shall comply with the following requirements:

- All off-road diesel-powered construction equipment of 25 horsepower or more used for project construction shall have engines that meet or exceed the California Air Resources Board Tier 4 Final emissions standards.

- Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps.

- Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions and safe operating conditions). The contractor shall post legible and visible signs in designated

queuing areas and at the construction site to remind operators of the two-minute idling limit.

- The project sponsor shall instruct construction workers and equipment operators in the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

- Before starting onsite construction activities, the project contractor shall submit a construction emissions minimization plan (plan) to the City for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the engine requirements.

    - The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.

    - The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan.

    - The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

- Alternatively, once project-specific construction information is available, prior to the start of construction activities, the project contractor may submit documentation to the City demonstrating that construction of the project would not

exceed expose sensitive receptors to toxic air contaminants resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$).

Table 4.5.L identifies the results of the analysis with implementation of Mitigation Measure AIR-3.

Table 4.5.L: Mitigated Health Risks from Construction of the Potential Berkeley Forge Development to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Residential Receptor MEI	17.33	0.010	0.000	0.052
School Receptor MEI	2.37	0.001	0.000	0.070
Worker Receptor MEI	0.54	0.009	0.000	0.032
Threshold	**10.0**	**1.0**	**1.0**	**0.30**
Exceeds threshold?	**Yes**	**No**	**No**	**No**

Source: LSA (May 2024).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter
MEI = maximally exposed individual

As shown in Table 4.5.L, the mitigated cancer risk at the residential receptor MEI would be 17.33 in 1 million, which would exceed the BAAQMD cancer risk of 10 in 1 million. Therefore, with implementation of Mitigation Measure AIR-3, construction of the conceptual development project would exceed BAAQMD thresholds and would expose nearby sensitive residential receptors to substantial pollutant concentrations. School and worker receptors would not experience pollution in excess of the BAAQMD thresholds for cancer risk.

Alternatively, as provided for above in Mitigation Measure AIR-3, once a formal application for the Potential Berkeley Forge Project has been submitted and project-specific construction information is available, the project applicant could prepare an updated project-specific construction HRA to the City demonstrating to the City that construction of the project would not expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 $\mu g/m^3$. However, without quantification to guarantee a less than significant finding, the conceptual development project and any future projects under the proposed project that would not include the demolition of the structure located at 1306 Third Street may still exceed the BAAQMD cancer risk significance thresholds.

The project sponsor for the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would also be required to offer residential occupants of the 1306 Third Street building temporary relocation, consistent with the requirements of BMC Chapter 13.84, as outlined in Mitigation Measure AIR-4.

Mitigation Measure AIR-4

Temporary Relocation of 1306 Third Street Residents During Construction Activities. Prior to approval of any ground disturbing activity on the project site, the City shall require the project sponsor to provide detailed construction plans, a project specific technical Air Quality Assessment, and Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the Bay Area Air Quality District (BAAQMD) in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units located at 1306 Third Street.

The project sponsor shall be given an opportunity to prepare a technical Air Quality Assessment that identifies the specific time intervals during which constructions activities would generate an excess of pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD in use at the time of recalculation. The moving and relocation assistance shall be provided by the project sponsor during those specific time intervals. However, if specific time intervals are not clearly identified, moving and relocation assistance shall be provided for the entire duration of ground disturbing activity on the project site. Once the City reviews the technical Air Quality Assessment, HRA, and time intervals identified therein, the City shall require the sponsor to do the following:

- Provide the four residential households at 1306 Third Street with a notice of temporary relocation that clearly identifies the City approved time interval(s) for relocation, a copy of Mitigation Measure AIR-4, and a copy of the City's *Request for Relocation Payment from Property Owner* form (Relocation Form) - for temporary relocations lasting 30 days or longer. These documents shall be provided to individual households at 1306 Third Street at least sixty (60) days in advance of the required relocation (i.e., prior to the start of ground disturbing activities). If interested in relocation assistance, the households residing in the four residential units at 1306 Third Street shall provide completed copies of the Relocation Form to the project sponsor and the City of Berkeley within thirty (30) days of receipt.

- Households to be relocated shall be entitled to relocation payments that include the following:
  - A one-time dislocation allowance to help defray incidental relocation expenses. The amount of the dislocation allowance shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution.
  - The household's choice of reimbursement for actual moving and storage expenses or a fixed payment, subject to the following requirements:
    - If a fixed payment is chosen, no documentation of expenses is necessary. The amount of the fixed payments shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution.
    - Reimbursement for actual documented moving and storage expenses shall include both moving costs to the replacement unit(s) and moving costs back to the original unit. Moving costs shall consist of actual reasonable costs of moving, including transportation of personal property, packing and unpacking, insurance of personal property while in transit, compensation for any damage occurring during moving, storage of personal property, disconnection and reconnection of utility services and any additional reasonable costs associated with the required moving. Payments for a one-way move shall not exceed rates established in the fixed residential moving cost schedule approved by the Federal Highway Administration and published in the federal register on a periodic basis.
  - If the rental costs incurred by the household during the period of relocation exceed the amount of rent being paid on the unit at 1306 Third Street, the household shall be eligible for a rent differential payment. The rent differential payment shall be equal to the difference between the rent paid on the unit at 1306 Third Street and the rent paid for a unit temporarily leased during the period of relocation, with the following restrictions:

- The rent differential payment shall not exceed a ceiling established annually by the City based on the average market rent statistics gathered and published by the rent stabilization program for the prior calendar year.

- The ceiling for the rent differential payment shall be based on the bedroom size of the unit to be vacated at 1306 Third Street.

- The rent differential payment for a household receiving a rental subsidy shall be based on the amount of rent paid by the household for the unit at 13063 Third Street by the tenant household during the period of relocation.

  - Reimbursement for the documented utility cost(s) that the household incurs in their replacement housing, if the owner of 1306 Third Street had been paying that particular utility cost for the vacated unit.

- The project sponsor shall make the initial relocation payment directly to the household within ten (10) days after receipt of a completed Relocation Form, the payment shall include:

  - The dislocation allowance;

  - The fixed payment for moving and storage costs if applicable, or payment for moving costs based on a reasonable estimate from a qualified professional mover; or

  - The rent differential payment for one month or, if the relocation is anticipated to exceed ninety (90) days, then the initial payment shall include the rent differential payment for the first three-month period.

- Subsequent payments for rent differential, utilities and storage costs, when applicable, shall be made on a monthly basis thereafter. Such payments shall be made at least seven (7) days in advance of when the tenant household's monthly rental payment is due. Instead of monthly payments the project sponsor may make one lump sum payment for the full amount due for the rent differential payments to the household over the period of relocation. If the tenant household qualifies for reimbursement for monthly storage or utilities costs, these payments shall continue on a monthly basis or upon receipt by

the owner of documentation that verifies the household's expenses.

- Relocation payments shall continue until constructions activities on the project site would no longer exceed pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD, as evidenced in the technical Air Quality Assessment and HRA, prepared by the project sponsor and approved by the City of Berkeley. Based on the information in the technical Air Quality Assessment and HRA, the City of Berkeley shall monitor on-site construction at the expense of the project sponsor, to confirm when on-site construction activities no longer exceed the cancer risk levels established by BAAQMD. The relocation payments shall stop and the households shall return to the unit from which the household was relocated, when the City of Berkeley clears the site for reoccupation.

- The project sponsor shall send a formal notice to the relocated households thirty (30) days prior to the end of the relocation interval. If the household does not notify the project sponsor and the City of Berkeley within fifteen (15) days of its intent to reoccupy the previously vacated unit and seeks to remain in its alternate unit, it thereby surrenders its right to reoccupy the unit from which it has relocated and terminates its tenancy of that unit, the rental assistance outlined in this mitigation measure shall cease.

- A household that is relocated for thirty (30) days or more shall continue to be responsible for any rent due on the unit from which it was relocated during the period of relocation. Therefore, relocation shall not constitute relinquishment of tenancy rights. The project sponsor shall directly furnish the tenant household with an amount equal to the monthly rent payments at least seven (7) days in advance of when the tenant household's monthly rental payment is due for the unit from which the tenant household was relocated.

The relocation of existing residents would ensure that they would not experience the construction-related TAC health risks; however, there is no guarantee that the existing residents would agree to relocate during construction. Therefore, in an abundance of caution, potential construction-related TAC health risks are considered a **significant and unavoidable** impact even with implementation of Mitigation Measures AIR-3 an AIR-4.

Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant

concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city. (*Significant and Unavoidable*)

Operation – Toxic Air Contaminants. Buildout under the proposed project would facilitate the development of up to 1,005,266 square feet zoned for M-RD, which would support a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D uses. In addition, the conceptual development project would include the redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the newly created M-RD district. Commercial and industrial processes associated with the M-RD zone (e.g., industrial, manufacturing, and warehouse/storage) allowed under both the proposed project and conceptual development project would be expected to release TACs. Industrial land uses have the potential to be substantial stationary sources that would require a permit from the BAAQMD for emissions of TACs. Emissions of TACs would be controlled through permitting issued by the BAAQMD and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Since it is not possible to determine the amount of TAC concentrations at the time of this analysis, it is not possible to calculate the risks for a particular health effect within the project area. The proposed project consists of programmatic zoning and General Plan/West Berkeley Plan amendments. No specific site plans are available for the conceptual development project or other future projects; therefore, until specific future projects are proposed, the associated TAC emissions cannot be determined or modeled at this time. Future development projects subject to environmental review under CEQA would be required to analyze potential TAC emissions and include mitigation as appropriate.

In addition to stationary sources of TACs, commercial and industrial operations could generate a substantial amount of diesel particulate matter emissions from off-road equipment use and truck idling. New land uses that use diesel trucks, including trucks with transport refrigeration units, could generate an increase in diesel particulate matter that would contribute to cancer and noncancer health risk in the Air Basin. Furthermore, trucks would travel on regional transportation routes throughout the Air Basin, contributing to near-roadway diesel particulate matter concentrations. Land use projects are required to comply with Assembly Bill 2588 and the CARB standards for diesel engines. As stated above, until specific future projects are proposed, the associated emissions cannot be determined or modeled at this time. This is a **potentially significant** impact**.**

Future projects would be subject to environmental review under CEQA and would be required to analyze potential emissions and include mitigation as appropriate. Mitigation Measure AIR-5 would require the preparation of project-specific health risk assessments for certain discretionary large industrial or warehousing uses to evaluate operational-related health risk impacts to further ensure that operational-related emissions would be reduced to a less than significant level.

Mitigation Measure AIR-5 **Health Risk Assessments for Future Development Projects.** For projects that require discretionary approval, prior to approval by the City, the City Land Use Planning Division staff shall evaluate new development proposals for new industrial or warehousing

land uses that (1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 500 feet of an existing or proposed sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Land Use Planning Division. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the BAAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to, restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

Information regarding operational characteristics of future specific development projects and the associated emissions cannot be determined at the time of this analysis; therefore, cumulative growth within the city could result in potential TAC health risks that could cumulatively contribute to elevated health risks in the city. Therefore, in an abundance of caution, potential TAC health risks are considered a **significant and unavoidable** impact.

Impact AIR-3 Summary: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. Therefore, impacts associated with the proposed project would be **less than significant**. (Impact AIR-3a.1)

Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. The conceptual development project would be required to implement Mitigation Measures AIR-3 and AIR-4; however, residential tenants may not agree to be relocated during construction. Therefore, in an abundance of caution, potential construction-related TAC health risks would remain **significant and unavoidable**. (Impact AIR-3.a2)

In addition, operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health

risks in the city. Both the proposed project and the conceptual development project would be required to implement Mitigation Measure AIR-5; however, in an abundance of caution, potential TAC health risks would still be **significant and unavoidable**. (Impact AIR-3b)

Impact AIR-4: Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people. (*Less than Significant with Mitigation)*

During construction, the diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and localized and are not likely to be noticeable for extended periods of time outside of the project site. Because the project's potential construction-related odor impacts are localized and temporary, they would not adversely affect a substantial number of people and would not result in frequent odor complaints. The potential for diesel odor impacts is therefore considered less than significant.

Odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source. The BAAQMD considers a significant odor impact as a substantial number of odor complaints, specifically, more than five confirmed complaints per year average over the past 3 years. The BAAQMD has determined the common land use types that are known to produce odors in the Basin. These types are shown in Table 4.5.M.

Table 4.5.M: Screening Levels for Potential Odor Sources

Odor Generator	Distance
Wastewater Treatment Facilities	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: BAAQMD (2023).

Buildout under the proposed project would facilitate up to 1,005,266 square feet of M-RD uses, which would support a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D uses. In addition, the conceptual development project would include the redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the

newly created M-RD district. It is not yet known if future development facilitated under the proposed project would include uses that would produce offensive odors that would result in frequent odor complaints. The closest sensitive receptors to the project site are Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. Additionally, the conceptual development project would include the redevelopment of all but the following three parcels: 1306 Third Street, 600 Gilman Street, and 1433 Eastshore Highway. The 1306 Third Street site includes existing residential uses that would be adjacent to construction activities associated with the conceptual development project. Because the closest sensitive receptors are within the 1-mile screening distance for odors established by the BAAQMD, if future development facilitated under the proposed project, including the conceptual development project, would include any of the uses identified in Table 4.5.M, operation of future development facilitated under the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. This is a **potentially significant** impact.

Mitigation would be required to ensure the project would not adversely affect a substantial number of people. Accordingly, Mitigation Measure AIR-6 would require preparation of an odor control plan if certain uses are proposed for the site.

Mitigation Measure AIR-6 **Odor Control Plan for Future Development Projects.** If future development facilitated under the proposed M-RD zoning district would include any of the following uses, preparation of an odor control plan would be required: Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants. The project sponsor shall develop the odor control plan detailing all methods of nuisance odor control as it applies to operation of the proposed uses prior to issuance of grading or building permits, and shall submit it to the Bay Area Air Quality Management District (BAAQMD) and the City Land Use Planning Division for review and approval, to be issued prior to the City's approval of certificate of occupancy. The odor control plan shall be made available to all employees and shall be used as a training aid for new employees.

With implementation of Mitigation Measure AIR-6, the proposed project, including the conceptual development project, would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and impacts would be **less than significant with mitigation**.

AIR-4 Impact Summary: Operation of future development at the project site facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people. Both the

proposed project and the conceptual development project would be required to implement Mitigation Measure AIR-6, which would reduce impacts to less than significant with mitigation.

4.5.2.3 Cumulative Impacts

According to the BAAQMD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to independently create regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The BAAQMD is currently designated as a nonattainment area for State and national O_3 standards and national particulate matter ambient air quality standards. BAAQMD nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. 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.

Therefore, if the proposed project's daily average or annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the proposed project would result in a considerable contribution to a cumulatively significant impact. As shown in Table 4.5.E through Table 4.5.J, with implementation of Mitigation Measures AIR-1 and AIR-2, future development envisioned under the proposed project and the conceptual development project would not generate significant construction or operational emissions. As shown in the project-specific air quality impacts discussion above, the proposed project would not result in individually significant impacts and, therefore, cumulative regional air quality impacts of the proposed project would be **less than significant**.

As explained in the analysis, even with the implementation of Mitigation Measure AIR-3, health risk levels to nearby residents from construction-related emissions of TACs associated with construction of the conceptual development project and future projects that would not include the demolition of the structure at 1306 Third Street would exceed the BAAQMD's thresholds. In addition, because information regarding operational characteristics of future specific development projects and the associated emissions cannot be determined at the time of this analysis, it is assumed that cumulative growth within the city could result in potential TAC health risks that could cumulatively contribute to elevated health risks in the city. Therefore, in an abundance of caution, potential TAC health risks are considered a significant impact, even with implementation of Mitigation Measures AIR-3, AIR-4, and AIR-5. Cumulative impacts would be **significant and unavoidable**.

As discussed above, it is not yet known if future development facilitated under the proposed project would include uses that would produce offensive odors that would result in frequent odor complaints. Because the closest sensitive receptors are within the 1-mile screening distance for odors established by the BAAQMD, if any future development facilitated under the proposed project would include any of the uses identified in Table 4.5.M, Mitigation Measure AIR-6 would be required to prepare an odor control plan if any of these types of uses are proposed for the site. With implementation of Mitigation Measure AIR-6, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be **less than significant with mitigation**.

4.6 GREENHOUSE GAS EMISSIONS

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing greenhouse gas (GHG) emissions and discusses global climate change, its causes, and the contribution of human activities. This section also discusses potential GHG impacts that would result from construction and operational activities associated with implementation of the proposed project and conceptual development project, including vehicular traffic, energy consumption and other emission sources and evaluates whether the proposed project and conceptual development project would result in a significant effect on the environment. Mitigation measures are recommended, where appropriate, to reduce potential impacts. The analysis in this section is based on guidance provided in the Bay Area Air Quality Management District (BAAQMD) *California Environmental Quality Act (CEQA) Air Quality Guidelines*.[1]

4.6.1 Setting

The following describes existing GHG emissions in the city, beginning with typical GHG types and sources, impacts of global climate change, the regulatory framework related to these issues, and current emission levels.

4.6.1.1 Background

The following section provides background information on GHGs and global climate change.

Greenhouse Gases. Global climate change is the observed shift in the average temperature of the Earth's atmosphere, weather patterns, and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose approximately 0.6 degrees Celsius or approximately 1.1 degrees Fahrenheit in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-

[1] Bay Area Air Quality Management District (BAAQMD). 2023. *California Environmental Quality Act, Air Quality Guidelines*. April 20.

induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[2]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are the following:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively only to the six gases listed above.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere compared to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). Table 4.6.A shows the GWP for each type of GHG. For example, SF_6 is 23,500 times more potent at contributing to global warming than CO_2.

[2] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect". Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

Table 4.6.A: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	28
Nitrous Oxide	120	265
HFC-23	260	12,400
HFC-134a	1	1,300
HFC-152a	1	138
PFC: Tetrafluoromethane (CF_4)	50,000	6,630
PFC: Hexafluoromethane (C_2F_6)	10,000	11,100
Sulfur Hexafluoride (SF_6)	3,200	23,500

Source: *Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5)* (IPCC 2014).
HFC = hydrofluorocarbons
PFC = perfluorocarbons

The following summarizes the characteristics of the six GHGs and black carbon. Black carbon also contributes to climate change and is therefore discussed below.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants, volcanic out gassing, decomposition of organic matter, and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation.

In 2021, total annual CO_2 accounted for 81.2 percent of California's overall GHG emissions.[3] Transportation, which is primarily composed of on-road travel, is the single largest source of CO_2 in California. Electricity production, industrial, and residential sources also make important contributions to CO_2 emissions in California.

Methane. CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH_4 in California. Total annual emissions of CH_4 accounted for 9.8 percent of GHG emissions in California in 2021.[4]

Nitrous Oxide. N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is a product of the reaction between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as

[3] California Air Resources Board (CARB). 2022a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed January 2024).

[4] Ibid.

maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California. N_2O emissions accounted for 3.4 percent of GHG emissions in California in 2021.[5]

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[6] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the semiconductor industry involves use of PFCs. HFCs, PFCs, and SF_6 and accounted for about 5.6 percent of GHG emissions in California in 2021.[7]

Black Carbon. Black carbon is the most strongly light-absorbing component of particulate matter (PM) formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of particulate matter less than 2.5 microns in size ($PM_{2.5}$) and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb one million times more energy than CO_2.[8] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global warming.

Most United States emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The California Air Resources Board (CARB) estimates that the annual black carbon emissions in California will be reduced approximately 50 percent below 2013 levels by 2030.[9]

Emission Inventories. An emission inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

Global Emissions. Worldwide emissions of GHGs in 2021, the latest inventory year available, totaled 19.2 billion metric tons of CO_2e. Global estimates are based on country inventories

5 Ibid.

6 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

7 California Air Resources Board (CARB). 2022a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed January 2024).

8 United States Environmental Protection Agency (USEPA). 2015. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed January 2024).

9 California Air Resources Board (CARB). 2017b. *Short-Lived Climate Pollutant Reduction Strategy.* March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf (accessed January 2024).

developed as part of the programs of the United Nations Framework Convention on Climate Change.[10]

United States Emissions. In 2022, the year for which the most recent data are available, the United States emitted about 6,343.2 million metric tons of CO_2e (MMT CO_2e). Overall, emissions in 2022 increased by 0.2 percent compared to the 2021 total GHG emissions. This increase in total GHG emissions was driven by fossil fuel combustion due primarily to economic activity rebounding after the height of the COVID-19 pandemic. However, GHG emissions in 2022 were 16.7 percent below those of 2005 levels. Of the five major sectors—residential and commercial, agricultural, industry, transportation, and electricity generation—transportation accounted for the highest amount of GHG emissions in 2022 (28 percent), with electricity generation second at 25 percent and emissions from industry third at 23 percent.[11]

State of California Emissions. The State emitted approximately 381.3 MMT CO_2e emissions in 2021, 12.1 MMT CO_2e higher than 2020 levels and 49.7 MMT CO_2e below the 2020 GHG limit of 431 MMT CO_2e established by Assembly Bill (AB) 32.[12] CARB estimates that transportation was the source of 38 percent of the State's GHG emissions in 2021. The next largest sources included industrial sources at 19 percent and electricity generation at 16 percent. The remaining sources of GHG emissions were commercial and residential activities at 10 percent, agriculture at 8 percent, high GWP at 6 percent, and waste at 2 percent.[13]

San Francisco Bay Area Emissions. The BAAQMD established a climate protection program in 2005 to acknowledge the link between climate change and air quality. The BAAQMD regularly prepares inventories of criteria and toxic air pollutants to support planning, regulatory and other programs. The most recent emissions inventory estimates GHG emissions produced by the San Francisco Bay Area (Bay Area) in 2015.[14]

In 2015, 86.5 MMT CO_2e of GHGs were emitted in the Bay Area. Fossil fuel consumption in the transportation sector was the single largest source of the Bay Area's GHG emissions in 2015. The transportation sector (including passenger cars/trucks, heavy duty trucks, aviation, ships and boats, industrial equipment, buses/motorhomes, motorcycles, and locomotives) contributed 39.7 percent of GHG emissions and the industrial and commercial sectors (excluding electricity

10 United Nations Framework Convention on Climate Change (UNFCCC). 2023. GHG Data from UNFCCC. Website: unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed January 2024).

11 United States Environmental Protection Agency (USEPA). 2024. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022 (accessed June 2024).

12 California Air Resources Board (CARB). 2023. *California Greenhouse Gas Emissions for 2000 to 2021, Trends of Emissions and Other Indicators Report*. Website: https://ww2.arb.ca.gov/sites/default/files/2023-12/2000_2021_ghg_inventory_trends.pdf (accessed January 2024).

13 Ibid.

14 Bay Area Air Quality Management District (BAAQMD). 2017. *Final 2017 Clean Air Plan*. April 19, 2017. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en (accessed January 2024).

and agriculture) contributed 41 percent of GHG emissions in the Bay Area. Energy production activities such as electricity generation and co-generation were the third largest contributor with approximately 14 percent of the total GHG emissions. Stationary sources, such as oil refineries, natural gas combustion, cement plants, natural gas distribution, and fugitive and process emissions contributed 26 percent of GHG emissions.

City of Berkeley Emissions. Based on the Climate Action Plan and Resilience Update Report prepared by staff for the Berkeley City Council on December 12, 2023, Berkeley's GHG emissions totaled approximately 546,388 metric tons in 2021, approximately 25 percent below 2000 levels.[15] The major source of GHG emissions in the city is transportation, contributing 54 percent. Residential natural gas and commercial natural gas consumption is the second largest source, contributing 29 percent to the City's GHG emissions. The remaining 17 percent is made up by other sources such as commercial and residential electricity, landfill waste, municipal buildings, and water consumption and wastewater.

4.6.1.2 Regulatory Framework

This section describes applicable regulations related to GHG emissions at the federal, State, regional, and local level.

Federal Regulations. Federal regulations applicable to GHG emissions are described below.

Federal Clean Air Act. The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the United States Environmental Protection Agency (USEPA) has the authority to regulate CO_2 emissions under the federal Clean Air Act (CCA). Although there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the federal Clean Air Act, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

In October 2012, the USEPA and the National Highway Traffic Safety Administration (NHTSA), on behalf of the United States Department of Transportation, issued final rules to further reduce GHG emissions and improve Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond (77 *Federal Register* 62624). The NHTSA's CAFE standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and

[15] City of Berkeley. 2023. Climate Action Plan and Resilience Update. December 12. Website: https://berkeleyca.gov/sites/default/files/documents/2023%20Climate%20Action%20Plan%20and%20Resilience%20Staff%20Update%20to%20Council_2023-12-12.pdf (accessed May 2024).

other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 *Federal Register* 62630).

On March 31, 2022, the NHTSA finalized the CAFE standards for Model Years 2024–2026 Passenger Cars and Light Trucks. The amended CAFE standards would require an industry wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024–2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gas between model years 2030 to 2050.

State Regulations. The CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 1493 (2002), Pavley Standards. In a response to the transportation sector's significant contribution to California CO_2 emissions, AB 1493 was enacted on July 22, 2002. AB 1493 requires the CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by the CARB in 2004, but the needed waiver of Clean Air Act Preemption was not granted by the EPA until June 30, 2009. CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 to 2025. The Trump administration revoked California's waiver in 2019, but the Biden administration restored California's waiver in 2021.

Executive Order S-3-05 (2005). Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To address those concerns, the EO established California's GHG emissions reduction targets, which established the following goals:

- GHG emissions should be reduced to 2000 levels by 2010;
- GHG emissions should be reduced to 1990 levels by 2020; and
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is AB 32, passed by the State Legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 MMT of CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The CARB approved the Scoping Plan on December 11, 2008 which contains the main strategies California will implement to achieve the reduction goals and includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory.

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and sets the groundwork to reach long-term goals set forth in Executive Orders (EOs) S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[16] to reflect the 2030 target set by EO B-30-15 and codified by Senate Bill (SB) 32.

The 2022 Scoping Plan[17] was approved in December 2022 and assesses progress toward achieving the SB 32 2030 target and laying out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

Executive Order B-30-15 (2015). Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. SB 350, which Governor Jerry Brown signed on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent
- Increasing energy efficiency in buildings by 50 percent by the year 2030

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the California Energy Commission (CEC) for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in

[16] California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*. November.
[17] California Air Resources Board (CARB). 2022b. *2022 Scoping Plan*. November 16. Website: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed January 2024).

buildings must be achieved using existing energy efficiency retrofit funding and regulatory tools already available to state energy agencies under existing law. The addition made by this legislation requires state energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016 the Legislature passed, and the Governor signed, SB 32, and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emission reductions target of at least 40 percent below 1990 levels by 2030 found in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps the State on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's Renewables Portfolio Standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18. EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other state-wide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 1279. AB 1279 was signed in September 2022 and codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This bill also requires California to reduce statewide GHG emissions by 85 percent compared to 1990 levels by 2045 and directs CARB to work with relevant State agencies to achieve these goals.

California Building Standards Code (Title 24). The California Building Standards Code, or Title 24 of the California Code of Regulations (CCR) contains the regulations that govern the construction

of buildings in California. Within the Building Standards Code, two parts pertain to the incorporation of both energy efficient and green building elements into land use development. Part 6 is California's Energy Efficiency Standards for Residential and Non-Residential Buildings. These standards were first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption and are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. In November 2008, the California Building Standards Commission established the California Green Building Standards Code, Title 24, Part 11 (CALGreen Code), which sets performance standards for residential and non-residential development to reduce environmental impacts and encourage sustainable construction practices. The CALGreen Code addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The current standards were adopted in 2022 and apply to projects seeking building permits on or after January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024.

Executive Order N-79-20. EO N-79-20, which the Governor signed on September 23, 2020, sets the following goals for the State: 100 percent of in-state sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

Low Carbon Fuel Standard and Advanced Clean Cars. EO S-01-07 established a low carbon fuel standard (LCFS) with a Statewide goal to be established to reduce the carbon intensity of California's transportation fuels that applies to all refiners, blenders, producers, or importers ("Providers") of transportation fuels in California, including fuels used by off-road construction equipment. CARB approved amendments in 2018 to readjust carbon intensity benchmarks to meet California's 2030 GHG reductions targets under SB 32. These amendments include opportunities to promote zero emission vehicle (ZEV) adoption, carbon capture and sequestration, and advanced technologies for decarbonization of the transportation sector. The Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of ZEVs, into a single package of regulatory EO B-48-18. In January 2018, Governor Brown signed EO B-48-18, requiring all State entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS Program, and recommend how to ensure affordability and accessibility for all drivers.

Regional Regulations. Regional regulations that are applicable to GHG emissions generated by the proposed project are implemented by the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), and BAAQMD, as discussed below.

Plan Bay Area 2050. Plan Bay Area 2050[18] is a State-mandated, integrated, long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete an SCS as part of a Regional Transportation Plan. In the Bay Area, MTC and ABAG are jointly responsible for developing and adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by the CARB. Plan Bay Area 2050 connects the elements of housing, the economy, transportation and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the plan's Implementation Plan identifies more than 80 specific actions for MTC, ABAG, and partner organizations to take over the next 5 years to make headway on each of the 35 strategies.

Bay Area Air Quality Management District. The BAAQMD is the regional government agency that regulates sources of air pollution and GHG emissions within the nine Bay Area counties.

BAAQMD's Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans.In April 2022, the BAAQMD adopted the *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* document, which incorporates updated GHG significance thresholds.[19] The BAAQMD recommends these thresholds of significance for use in determining whether a proposed project will have a significant impact related to climate change. These thresholds evaluate a project based on its effect on California's efforts to meet the State's long-term climate goals. Applying this approach, the BAAQMD identifies and provides supporting documentation underlying the requirements for new land use development projects necessary to achieve California's long-term climate goal of carbon neutrality by 2045. Based on the analysis, the BAAQMD found that new land use development projects need to incorporate design elements to contribute their "fair share" to implement the goal of carbon neutrality by 2045. If a project is designed and built to incorporate the identified design elements, then it will contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project will not make a cumulatively considerable contribution to global climate change. The document concludes that if a project does not incorporate these design elements, then it should be found to make a significant climate impact because it will hinder California's efforts to address climate change.

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18 Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2021. *Plan Bay Area 2050*. October. Website: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf (accessed February 2024).

19 Bay Area Air Quality Management District (BAAQMD). 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April.

Local Regulations. Local regulations that are applicable to GHG emissions generated by the proposed project are implemented by the City of Berkeley (City) through the General Plan, Climate Action Plan, Resilience Strategy, and Municipal Code, as discussed below.

City of Berkeley General Plan. The following policies from the Environmental Management Element and Transportation Element of the City of Berkeley General Plan address the City's goal of reducing GHG emissions.[20]

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

Policy EM-7: Reduced Wastes. Continue to reduce solid and hazardous wastes.

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-18: Regional Air Quality Action. Continue working with the Bay Area Air Quality Management District and other regional agencies to:

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

Policy EM-19: 15% Emission Reduction Global Warming Plan. Make efforts to reduce local emissions by 15% by the year 2010.

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.

[20] City of Berkeley. 2003. *City of Berkeley General Plan: A Guide for Public Decision-Making*. April.

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-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.

City of Berkeley Climate Action Plan. The City adopted a Climate Action Plan (CAP)[21] 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 are based on the following topics:

- Sustainable Transportation and Land Use
- Building Energy Use
- Waste Reduction and Recycling
- Community Outreach and Empowerment
- 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, the City actively uses it for guiding GHG emission reduction efforts. Since publication of the CAP, the City added additional climate goals to support implementation of the CAP:[22]

- 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
- Cities Race to Zero Campaign: Committed to reducing emissions 60.5 percent from 2018 levels by 2030, an emission reduction target that reflects Berkeley's fair share of the 50 percent global reduction in CO_2e

City of Berkeley Resiliency Strategy. In 2016, the City adopted its Resilience Strategy[23] to advance preparedness and equity in the city. The Resilience Strategy identifies six long-term goals and short-term actions to help address some of Berkeley's most pressing challenges. The six goals of the Resilience Strategy are:

21 City of Berkeley. 2009. *City of Berkeley Climate Action Plan*. June.
22 City of Berkeley. 2022. *City of Berkeley 2023–2031 Housing Element Update Environmental Impact Report*. August.
23 City of Berkeley. 2016. *Berkeley Resilience Strategy.* April. Website: https://berkeleyca.gov/sites/default/files/2022-03/Berkeley_Resilience_Strategy.pdf (accessed June 2024).

- Build a Connected and Prepared Community
- Accelerate Access to Reliable and Clean Energy
- Adapt to the Changing Climate
- Advance Racial Equity
- Excel at Working Together within City Government to Better Serve the Community
- Build Regional Resilience

City of Berkeley Municipal Code. Berkeley Municipal Code (BMC) Chapter 19.37 includes the City's Green Code, which adopts the 2022 CALGreen standards with local amendments.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects, including the following COAs addresses electric vehicle (EV) charging and air quality, which would reduce GHG emissions from development projects undertaken pursuant to the proposed project.

> COA: Nonresidential Electric Vehicle (EV) Charging. *(Prior to issuance of any building [construction] permit).* At least 10 percent of the proposed project parking spaces for nonresidential use shall have installed Level 2 (40 amp) EV charging stations and/or DC Fast Charging Stations, and least 40 percent shall be "EV Capable" equipped with raceway, electrical panel service capacity, and an electrical system to support future Level 2 (40 amp) EV charging stations, or any more stringent EV charging requirements, as specified by the Berkeley Green Code (BMC Chapter 19.37). EV charging station installations and EV Capable spaces shall be noted on the construction plans. Public access parking spaces shall provide any applicable mandatory accessibility provisions. (Project required to meet applicable code at time of building permit application, if different from above.)
>
> COA: Public Works – Implement Bay Area Air Quality Management District (BAAQMD) Recommended Measures During Construction. For all proposed projects, BAAQMD recommends implementing all the Basic Construction Mitigation Measures listed below to meet the best management practices threshold for fugitive dust:
>
> - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
> - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
> - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
> - All vehicle speeds on unpaved roads shall be limited to 15 mph.
> - All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

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

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

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

COA: 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:

- The project applicant shall prepare a health risk assessment that demonstrates the proposed 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 Land Use Planning Division for review and approval prior to the issuance of building permits; or

- 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 CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.

- In addition, a Construction Emission Minimization Plan (Emission Plan) shall be prepared that includes:

    - 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 Emission Plan and acknowledges that a significant violation of the Emission Plan shall constitute a material breach of contract. The Emission Plan shall be submitted to the Public Works Department for review and approval prior to the issuance of building permits.

4.6.2 Impacts and Mitigation Measures

The following describes the proposed project's potential impacts related to GHG emissions that could result from implementation of the proposed project.

4.6.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to GHG emissions if it would:

Threshold GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment. The project would be assumed to result in a less than significant impact related to GHG emissions if the project would either (must include A or B):

A. Include the following project design elements:

1. Buildings

    a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

    b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*.

2. Transportation

    a. Achieve compliance with electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

    b. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent), or meet a locally adopted SB 743 VMT target reflecting the recommendations provided in the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA:

        (1) **Residential Projects:** 15 percent below the existing VMT per capita

        (2) **Office Projects:** 15 percent below the existing VMT per employee

        (3) **Retail Projects:** No net increase in existing VMT.

B. Be consistent with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b).

Threshold GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.6.2.2 Project Impacts

The following section describes potential impacts associated with GHG emissions that could occur with development of the proposed project, including the conceptual development project. The proposed zoning and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site. However, while no formal application for development on the project site has been submitted at this time, the conceptual development project application is anticipated to be submitted soon after creation of the M-RD zoning district and is therefore reasonably foreseeable and evaluated in this EIR at the project level.

Impact GHG-1: The discussion for both the proposed project and the conceptual development project is not separated below, even though impact conclusions are presented as GHG-1a and GHG-1b. The impact determinations are the same with respect to construction emissions, but differ with respect to operational emissions as the proposed project could potentially include natural gas, thus would conflict with BAAQMD policies regarding new natural gas use, while the conceptual development project would be all electric. As such, the impact findings for GHG-1a as significant and unavoidable are related to the usage of natural gas during operation.

Impact GHG-1a: If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. ***(Significant and Unavoidable)***

Impact GHG-1b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. ***(Less than Significant with Mitigation)***

Construction GHG Emissions. The BAAQMD has not addressed emission thresholds for construction in its *State CEQA Guidelines*; however, the BAAQMD encourages quantification and disclosure of construction-generated emissions.

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. GHG emissions generated during construction of the proposed project would be short term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

As discussed in Section 4.5, Air Quality, construction emissions were estimated for both the future buildout of the proposed project and the conceptual development project using the California Emissions Estimator Model version 2022.1 (CalEEMod), consistent with BAAQMD recommendations.

Buildout under the Gilman Gateway Rezone Project. The proposed project would rezone the project site to the new M-RD zoning district and amendments to the General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to the project site, but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory, or office uses, which would involve demolition of all on-site structures and new construction. Therefore, the CalEEMod modeling conducted for buildout envisioned under the proposed project assumes the construction of up to 1,005,266 square feet of R&D uses and up to three parking spaces per 1,000 square feet of building area (approximately 3,016 parking spaces). Additionally, buildout under the proposed project would include the demolition of 320,070 square feet of building area. An additional 10 percent (approximately 32,000 square feet) of demolition square footage was included to account for the asphalt lots on the site.

This analysis assumes that construction activities associated with buildout under the proposed project would require the import of approximately 150,000 cubic yards of material, including imported soil and fill, which was also included in CalEEMod. Construction of the activities associated with the proposed project are anticipated to begin in 2025 and continue over approximately 8 years; this timing was included in CalEEMod.

This analysis utilizes default construction equipment in CalEEMod with the addition of pile driving equipment. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. CalEEMod output sheets are included in Appendix F.

Using CalEEMod, it is estimated that the construction associated with buildout envisioned under the proposed project would generate approximately 14,282.0 metric tons of CO_2e during construction of the project. The implementation of *COA: Public Works - Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would serve to reduce GHG emissions, such as the requirement for reducing idling times and using construction equipment equipped with Tier 4 Final engines (or Tier 2 with the most effective Verified Diesel Emission Control Strategies) during project construction. Therefore, construction GHG emissions under the proposed project would **be less than significant.**

Buildout of the Potential Berkeley Forge Development. The conceptual development project would construct 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, a 1,900-space parking lot, and would require demolition of approximately 319,000 square feet of building area and asphalt lots on the project site, which was included in CalEEMod. Additionally, the conceptual development project would require approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of

material, including imported soil and fill, which was also included in CalEEMod. Construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2027–2034. Therefore, CalEEMod assumes that construction would begin in 2025 and would take place over a 7-year period. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required *by COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. CalEEMod output sheets are included in Appendix F.

Using CalEEMod, it is estimated that construction of the conceptual development project would generate approximately 12,908 metric tons of CO_2e during construction of the project. The implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would serve to reduce GHG emissions, such as the requirement for reducing idling times and using construction equipment equipped with Tier 4 Final engines (or Tier 2 with the most effective Verified Diesel Emission Control Strategies) during project construction. Therefore, construction GHG emissions under the conceptual development project would be **less than significant.**

Operational GHG Emissions. As discussed above, a project would have a less than significant impact related to GHG emissions if it would include the project design elements related to natural gas, energy, VMT, and electric vehicles or if it would be consistent with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). The City's CAP does not meet the State's requirements for a local GHG reduction strategy; therefore, the City's CAP would not be applicable for CEQA streamlining under the BAAQMD thresholds. Therefore, this section evaluates the proposed project's consistency with the BAAQMD's project design elements.

Natural Gas Usage. As required by the BAAQMD, future development projects facilitated by the proposed zoning and General Plan/West Berkeley Plan amendments must not include natural gas appliances or natural gas plumbing. The proposed M-RD zoning district would not result in any physical development on the project site; however, it would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. It is not yet known whether future development under the proposed M-RD zoning district would be all-electric. Potential uses under the proposed M-RD zoning district, such as laboratories, may require natural gas connections. Therefore, the proposed project would not be consistent with this design element. As explained below, the City does not intend to prohibit natural gas connections for certain uses allowed under the proposed M-RD zoning district, thus the proposed project would not be consistent with this project design element, and the impact would be **potentially significant**. The conceptual development project would be all electric and would not include natural gas usage.

Energy Usage. The proposed project must not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*. Energy usage associated

with the proposed project and the conceptual development project is evaluated in Section 4.7, Energy. As discussed in Section 4.7, energy use consumed by the full buildout envisioned under the proposed project, including the conceptual development project, would be associated with electricity and natural gas consumption and fuel used for vehicle trips associated with the project. Energy consumption was estimated for the buildout under the proposed project using default energy intensities by land use type in the California Emissions Estimator Model output, which is included in Appendix F.

As identified in Section 4.7, Energy, the estimated potential increase in electricity demand associated with development envisioned under the proposed project, including the conceptual development project, is 24,679,742 kilowatt-hours (kWh) per year. Total electricity consumption in Alameda County in 2022 was 10,395 gigawatt-hours (GWh) (10,395,384,395 kWh). Therefore, operation of future projects facilitated by the proposed project, including the conceptual development project, would increase the annual electricity consumption in Alameda County by 0.2 percent.

Additionally, as explained in Section 4.7, Energy, the estimated potential increase in natural gas demand associated with future development envisioned under the buildout of the proposed project is 238,801 therms per year. Total natural gas consumption in Alameda County in 2022 was approximately 377 million therms or 377,309,788 therms. Therefore, operation of future projects facilitated by the proposed project, including the conceptual development project, would increase the annual natural gas consumption in Alameda County by 0.1 percent.

Electricity demand associated with future operations would not be considered inefficient, wasteful, or unnecessary. Furthermore, the proposed project and the conceptual development project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. All future development, including the conceptual development project, would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Energy Code and CALGreen Code standards, as required by BMC Chapters 19.36 and 19.37. Title 24 building energy efficiency standards establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting, which would reduce energy usage.

Future development envisioned under buildout of the proposed project, including the conceptual development project, would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As discussed in Section 4.7, Energy, the increase in fuel use associated with the vehicle trips generated by the future projects is estimated at 1,288,549.2 gallons of gasoline and 179,721.2 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel will be consumed from vehicle trips in Alameda County in 2024. Therefore, vehicle trips associated with the proposed project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage.

As discussed in Section 4.7, Energy, the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*, as shown in Section 4.7, found that the full buildout of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation. Accordingly, the proposed project and the conceptual development project would be consistent with this design element, and the impact would be **less than significant**.

Vehicle Miles Traveled. To meet the BAAQMD's VMT threshold, the proposed project must achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA. As discussed in Section 4.4, Transportation, based on the significance thresholds adopted by the City, impacts related to VMT would be considered significant if the project would generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker.

As explained in Section 4.4, Transportation, under both 2020 and 2040 conditions, the home-work VMT per worker for the proposed project, including the conceptual development project, is estimated to be 16.1. As discussed in Section 4.4, Transportation, future projects envisioned under the proposed project, including the conceptual development project, would implement a Transportation Demand Management Plan (TDM Plan), as required by City *COA: Transportation Demand Management*, which would achieve a reduction in VMT between 6 and 10 percent. Implementation of a TDM Plan would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Therefore, with implementation of a TDM Plan, the VMT generated by the proposed project and conceptual development project would result in a **less than significant** impact. Accordingly, the proposed project and conceptual development project would be consistent with this design element.

Electric Vehicle Requirements. This project design threshold requires that the proposed project achieve compliance with off-street electric vehicle requirements in the most recently adopted version of the CALGreen Tier 2 Voluntary Standards. Currently, these standards require that a project with 201 or more parking spaces provide 45 percent of total parking spaces as EV-capable spaces, and 33 percent of the EV-capable spaces (meaning 15 percent of total parking spaces) as EV charging stations. These requirements are more stringent than the City's *COA: Nonresidential Electric Vehicle Charging*. Full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would also require approximately 1,300 off-street automobile parking spaces. A total of approximately 1,900 parking spaces area assumed to be provided throughout the conceptual development project site. As previously discussed, because no formal application for development on the project site has been submitted at this time, it is not yet known whether the conceptual development project would include electric vehicle charging. If the conceptual development

project does not include electric vehicle charging, the proposed project would be inconsistent with off-street electric vehicle requirements in the most recently adopted version of the CALGreen Tier 2 measures. This is a **potentially significant** impact.

Implementation of Mitigation Measure GHG-1 would be required to ensure that future development envisioned under the proposed project, including the conceptual development project, would provide electric vehicle charging consistent with current BAAQMD requirements. With implementation of Mitigation Measure GHG-1, the proposed project and conceptual development project would be consistent with this design element.

Mitigation Measure GHG-1 **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs.

With implementation of Mitigation Measure GHG-1, the proposed project and conceptual development project would be consistent with the BAAQMD's project design elements related to energy, VMT, and electric vehicles.

As discussed above, the proposed creation of the M-RD zoning district would not result in any physical development on the project site, but would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. It is not yet known whether future development under the proposed M-RD zoning district would be all-electric. Potential uses under the proposed M-RD zoning district, such as laboratories, may require natural gas connections. Therefore, the proposed project would not be consistent with the BAAQMD design threshold recommending natural gas prohibition because natural gas may be included in the project design for certain uses allowed under the proposed M-RD zoning district. The City has determined that requiring compliance with the BAAQMD design threshold that completely prohibits natural gas usage is infeasible due to cost-effectiveness considerations, based in part on 2022 studies conducted by the California Public Utilities Commission (CPUC) and the CEC.[24] Furthermore, in 2023 and again in 2024, the Ninth Circuit Court of Appeals held that a City ordinance prohibiting natural gas infrastructure in new construction was preempted by the federal Energy Policy and Conservation Act and was

[24] Southern California Edison (SCE). 2022. *2019 Reach Code Cost-Effectiveness Analysis. Full Service and Quick-Service Restaurants.* February.

therefore unlawful.[25] For these reasons, the City, as lead agency for the environmental review of the proposed project, has found that requiring mitigation to prohibit the usage of natural gas in future projects is not feasible.

Because the proposed project would not incorporate all of the project design thresholds necessary to meet the BAAQMD thresholds, the proposed project would have a **significant and unavoidable** impact.

Impact GHG-1 Summary: If future development at the project site facilitated by the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant effect on the environment would be **significant and unavoidable,** even with implementation of Mitigation Measure GHG-1**.**

As the conceptual development project would be all electric, the conceptual development project would meet the project design thresholds recommended by the BAAQMD. Therefore, with implementation of Mitigation Measure GHG-1, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant effect on the environment would be **less than significant with mitigation**.

Impact GHG-2: The discussion for both the proposed project and the conceptual development project is not separated below, even though impact conclusions are presented as GHG-2a and GHG-2b. The impact conclusions differ as the proposed project could potentially include natural gas, thus would conflict with BAAQMD policies regarding new natural gas use, while the conceptual development project would be all electric.

Impact GHG-2a: If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. ***(Significant and Unavoidable)***

Impact GHG-2b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. ***(Less than Significant with Mitigation)***

Applicable plans adopted for the purpose of reducing GHG emissions include the Scoping Plan, the Plan Bay Area, and the City's CAP. The proposed project and conceptual development project were

[25] United States Court of Appeals for the Ninth Circuit. Filed April 17, 2023. California Restaurant Association v. City of Berkeley, (9th Cir. 2023) 65 F. 4th 1045, amended and superseded by (9th Cir. 2024) 89 F.4th 1094. https://cdn.ca9.uscourts.gov/datastore/opinions/2023/04/17/21-16278.pdf (accessed June 2024).

evaluated for consistency with those plans to demonstrate whether the proposed project and conceptual development project would conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the GHG emissions.

Scoping Plan. The following discussion evaluates the proposed project and conceptual development project according to the goals of the 2022 Scoping Plan, EO B-30-15, SB 32, and AB 197.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. The CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 found in EO B-30-15. SB 32 builds on AB 32 and keeps the State on the path toward achieving the 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 is intended to provide easier public access to air emissions data that are collected by the CARB posted in December 2016.

The 2022 Scoping Plan assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen, and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that electrification will play an important role in almost all sectors. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California be zero-emission by 2035, and all other fleets will have transitioned to zero-emission as fully possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

As identified above, the 2022 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by EO B-30-15 and codified by SB 32 and AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as qualitatively discussed below.

Energy Measures. Energy-efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new

technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. Future development envisioned under the proposed project, including the conceptual development project, would be required to comply with current California Energy Code and CALGreen Code standards and any locally adopted amendments, as required by BMC Chapter 19.37. As discussed above, it is not yet known whether future development under the proposed project would include natural gas; however, the conceptual development project is assumed to be all-electric. The elimination of natural gas in new development would help projects implement their "fair share" of achieving long-term 2045 carbon neutrality consistent with State goals. Accordingly, if a project does not use natural gas, a lead agency can conclude that it would be consistent with achieving the 2045 neutrality goal and will not have a cumulative considerable impact on climate change.[26] Therefore, the proposed project, if all-electric, would comply with applicable energy measures.

Water Conservation and Efficiency Measures. Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As identified above, future development envisioned under the proposed project, including the conceptual development project, would be required to comply with current CALGreen Code standards and all locally adopted amendments, as required by BMC Chapter 19.37, which include a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project and conceptual development project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project and conceptual development project would comply with applicable water conservation and efficiency measures.

Transportation and Motor Vehicle Measures. The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. The majority of vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project and conceptual development project would comply with applicable transportation and motor vehicle measures.

The proposed creation of a new zoning district and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site but would facilitate future development consistent with the new zoning district, including the

[26] Bay Area Air Quality Management District (BAAQMD). 2023. *Air Quality Guidelines Appendix A: Thresholds of Significance Justification.* Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf (accessed February 2024).

conceptual development project. As discussed above, the project sponsor would implement the proposed TDM Plan as part of the conceptual development project in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation. In addition, all future development facilitated by the proposed project would be required to implement a similar TDM Plan, as required by *COA: Transportation Demand Management*.

In addition, the 2022 Scoping Plan includes key project attributes that reduce operational GHG emissions in Appendix D, Local Actions,[27] of the 2022 Scoping Plan. Table 4.6.B shows a summary of the proposed project's consistency with the 2022 Scoping Plan's key project attributes identified in Appendix B of the 2022 Scoping Plan.

Table 4.6.B: Project Consistency with 2022 Scoping Plan Key Project Attributes

Priority Areas	Key Project Attribute	Project Consistency
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval.	***Consistent (with Mitigation Measure GHG-1).*** With implementation of Mitigation Measure GHG-1, the project sponsor for future development projects under the proposed project, including the conceptual development project, shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Code Tier 2 Voluntary Standards as part of the final project designs. With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with this key project attribute.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).	***Consistent.*** The proposed project would involve the creation of a new zoning district (M-RD) and related zoning and General Plan amendments to facilitate future infill development of the site with up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses, including future development of the conceptual development project. The project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The conceptual development project includes redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of light manufacturing, R&D, laboratory, and office uses, would be designed to be compatible with neighboring land uses. In addition, the project site is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer). The proposed project would be consistent with this key project attribute.
	Does not result in the loss or conversion of natural and working lands.	***Consistent.*** The project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses. The proposed project does not consist of natural or working lands; therefore, the proposed project would be consistent with this key project attribute.

[27] California Air Resources Board (CARB). 2022c. *2022 Scoping Plan, Appendix D Local Actions.* November. Website: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf (accessed February 2024).

Table 4.6.B: Project Consistency with 2022 Scoping Plan Key Project Attributes

Priority Areas	Key Project Attribute	Project Consistency
	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or is in proximity to existing transit stops (within 0.5 mile), or satisfies more detailed and stringent criteria specified in the region's SCS.	***Consistent.*** As discussed in Section 4.4, Transportation, the proposed project would implement the TDM Plan as part of the conceptual development project in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. In addition, transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit), Bay Area Rapid Transit (BART), and passenger rail service along the UPRR corridor is provided by Amtrak. Additionally, the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation, consistent with the intent of this key attribute.
VMT Reduction (cont'd)	Reduces parking requirements by eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or providing residential parking supply at a ratio of less than one parking space per dwelling unit; or for multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	***Not Consistent.*** The proposed project would not install fewer on-site parking space than required. With development potential of up to 1,005,266 square feet of uses on the site consistent with the proposed M-RD zoning, up to 1,300 parking spaces would be required. The conceptual development project is anticipated to include up to 1,900 parking spaces, which would exceed the parking standards for the entirety of the project site. Therefore, the proposed project would not be consistent with the intent of this key attribute.
	At least 20 percent of units included are affordable to lower-income residents.	***Not Applicable.*** The proposed project would not include residential uses.
	Results in no net loss of existing affordable units.	***Consistent.*** There are no affordable units on the project site. Therefore, neither the proposed project (which assumes demolition of existing residential uses at 1306 Third Street) nor the reasonably foreseeable conceptual development project (which anticipates no demolition of 1306 Third Street), would result in a loss of existing affordable units. The proposed project would be consistent with this key project attribute.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking	***Not Consistent.*** As discussed above, it is not yet known whether future development under the proposed project would include natural gas; however, the conceptual development project is assumed to be all-electric. The proposed project would not be consistent with this key project attribute.

Source: Compiled by LSA (March 2024).
CALGreen Code = California Green Building Standards Code
EV = electric vehicle
M-RD = Manufacturing, Research and Development
R&D = research and development
SCS = Sustainable Communities Strategy
TDM Plan = Transportation Demand Management Plan
UPRR = Union Pacific Railroad
VMT = vehicle miles traveled

Plan Bay Area 2050. As described above, Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. Plan Bay Area 2050 includes 11 goals and 35 performance targets covering four broad areas: housing, economics, transportation, and environment. These targets enable the plan to be evaluated by its performance in areas identified as key regional concerns, including equitable access, economic vitality, and transportation system effectiveness. Table 4.6.C includes an evaluation of the proposed project's consistency with Plan Bay Area 2050 goals and performance targets related to GHG emissions. The project site is not in a Priority Development Area (PDA) or Transit Priority Area (TPA) as identified by Plan Bay Area 2050.

As described in Table 4.6.C, the proposed project would be consistent with the applicable strategies identified in Plan Bay Area 2050.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
Protect and Preserve Affordable Housing	**H1. Further strengthen renter protections beyond state law.** Building upon recent tenant protection laws, limit annual rent increases to the rate of inflation, while exempting units less than 10 years old.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H2. Preserve existing affordable housing. Acquire homes currently affordable to low- and middle-income residents for preservation as permanently deed-restricted affordable housing.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
Spur Housing Production for Residents of All Income Levels	**H3. Allow a greater mix of housing densities and types in Growth Geographies.** Allow a variety of housing types at a range of densities to be built in Priority Development Areas, select Transit-Rich Areas and select High-Resource Areas.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H4. Build adequate affordable housing to ensure homes for all. Construct enough deed-restricted affordable homes to fill the existing gap in housing for the unhoused community and to meet the needs of low-income households.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H5. Integrate affordable housing into all major housing projects. Require a baseline of 10–20% of new market-rate housing developments of five units or more to be affordable to low-income households.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H6. Transform aging malls and office parks into neighborhoods. Permit and promote the reuse of shopping malls and office parks with limited commercial viability as neighborhoods with housing for residents at all income levels.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
Create Inclusive Communities	**H7. Provide targeted mortgage, rental and small business assistance to Equity Priority Communities.** Provide assistance to low-income communities and communities of color to address the legacy of exclusion and predatory lending, while helping to grow locally owned businesses.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
	H8. Accelerate reuse of public and community-owned land for mixed-income housing and essential services. Help public agencies, community land trusts and other non-profit landowners accelerate the development of mixed-income affordable housing.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
Improve Economic Mobility	**EC1. Implement a statewide universal basic income.** Provide an average $500 per month payment to all Bay Area households to improve family stability, promote economic mobility and increase consumer spending	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EC2. Expand job training and incubator programs. Fund assistance programs for establishing new businesses, as well as job training programs, primarily in historically disinvested communities.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EC3. Invest in high-speed internet in underserved low-income communities. Provide direct subsidies and construct public infrastructure to ensure all communities have affordable access to high-speed internet.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Shift the Location of Jobs	**EC4. Allow greater commercial densities in Growth Geographies.** Allow greater densities for new commercial development in select Priority Development Areas and Transit-Rich Areas to encourage more jobs to locate near public transit.	***Not Applicable.*** The project site is not in a PDA or a transit-rich area.
	EC5. Provide incentives to employers to shift jobs to housing-rich areas well served by transit. Provide subsidies to encourage employers to relocate offices to housing-rich areas near regional rail stations.	***Consistent.*** The project site is in a mixed-use urban area with access to high-quality transit. The proposed zoning and General Plan/West Berkeley Plan amendments would facilitate revitalization of the infill project site with new employment-generating uses, including up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses. Accordingly, the proposed project would increase the number of available jobs within the vicinity of housing.
	EC6. Retain and invest in key industrial lands. Implement local land use policies to protect key industrial lands, identified as Priority Production Areas, while funding key infrastructure improvements in these areas.	***Not Applicable.*** The project site is not in a Priority Production Area. However, the project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The proposed zoning and General Plan/West Berkeley Plan amendments would facilitate revitalization of the infill project site with new employment generating uses, including up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses.
Maintain and Optimize the Existing System	**T1. Restore, operate and maintain the existing system.** Commit to operate and maintain the Bay Area's roads and transit infrastructure while reversing pandemic-related cuts to total transit service hours.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T2. Support community-led transportation enhancements in Equity Priority Communities. Provide direct funding to historically marginalized communities for locally identified transportation needs.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
	T3. Enable a seamless mobility experience. Eliminate barriers to multi-operator transit trips by streamlining fare payment and trip planning while requiring schedule coordination at timed transfer hubs.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T4. Reform regional transit fare policy. Streamline fare payment and replace existing operator-specific discounted fare programs with an integrated fare structure across all transit operators.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T5. Implement per-mile tolling on congested freeways with transit alternatives. Apply a per-mile charge on auto travel on select congested freeway corridors where transit alternatives exist, with discounts for carpoolers, low-income residents, and off-peak travel; and reinvest excess revenues into transit alternatives in the corridor.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T6. Improve interchanges and address highway bottlenecks. Rebuild interchanges and widen key highway bottlenecks to achieve short- to medium-term congestion relief.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T7. Advance other regional programs and local priorities. Fund regional programs like motorist aid and 511 while supporting local transportation investments on arterials and local streets.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Create Healthy and Safe Streets	**T8. Build a Complete Streets network.** Enhance streets to promote walking, biking and other micro-mobility through sidewalk improvements, car-free slow streets, and 10,000 miles of bike lanes or multi-use paths.	***Consistent.*** At the time that individual development projects are proposed in the new M-RD zoning district, including the conceptual development project, they would be required to comply with the City's Complete Street Policy and standards related to pedestrian and bicycle circulation and access. All sidewalks along the conceptual development project site frontages would be refinished and widened to meet City standards and pedestrian pathways and sidewalks with connect to existing sidewalks on Gilman Street. In addition, public transit facilities, including AC Transit, BART, and Amtrak, serve the project area. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation and build complete streets, consistent with the intent of this strategy.
	T9. Advance regional Vision Zero policy through street design and reduced speeds. Reduce speed limits to between 20 and 35 miles per hour on local streets and 55 miles per hour on freeways, relying on design elements on local streets and automated speed enforcement on freeways.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Build a Next-Generation Transit Network	**T10. Enhance local transit frequency, capacity and reliability.** Improve the quality and availability of local bus and light rail service, with new bus rapid transit lines, South Bay light rail extensions, and frequency increases focused in lower-income communities.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
	T11. Expand and modernize the regional rail network. Better connect communities while increasing frequencies by advancing the Link21 new transbay rail crossing, BART to Silicon Valley Phase 2, Valley Link, Caltrain Downtown Rail Extension and Caltrain/High-Speed Rail grade separations, among other projects.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T12. Build an integrated regional express lanes and express bus network. Complete the buildout of the regional express lanes network to provide uncongested freeway lanes for new and improved express bus services, carpools and toll-paying solo drivers.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Reduce Risks from Hazards	**EN1. Adapt to sea level rise.** Protect shoreline communities affected by sea level rise, prioritizing low-cost, high-benefit solutions and providing additional support to vulnerable populations.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EN2. Provide means-based financial support to retrofit existing residential buildings. Adopt building ordinances and incentivize retrofits to existing buildings to meet higher seismic, wildfire, water and energy standards, providing means-based subsidies to offset associated costs.	***Not Applicable.*** This strategy is not applicable, as the proposed project would not consist of a building retrofit.
	EN3. Fund energy upgrades to enable carbon neutrality in all existing commercial and public buildings. Support electrification and resilient power system upgrades in all public and commercial buildings.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Expand Access to Parks and Open Space	**EN4. Maintain urban growth boundaries.** Using urban growth boundaries and other existing environmental protections, focus new development within the existing urban footprint or areas otherwise suitable for growth, as established by local jurisdictions.	***Consistent.*** The project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The proposed zoning and General Plan amendments would facilitate revitalization of the infill project site with new employment generating uses, including up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses. In addition, the project site is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
	EN5. Protect and manage high-value conservation lands. Provide strategic matching funds to help conserve and maintain high-priority natural and agricultural lands, including but not limited to, Priority Conservation Areas and wildland-urban interface areas.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EN6. Modernize and expand parks, trails and recreation facilities. Invest in quality parks, trails and open spaces that provide inclusive recreation opportunities for people of all backgrounds, abilities and ages to enjoy.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project. As discussed in the Project Description, the conceptual development project would provide open space between the buildings. A total of approximately 130,000 square feet of open space would be provided throughout the project site. The open spaces would include approximately 97,000 square feet of walkways, concrete curbs and

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
		hardscape, approximately 24,000 square feet of landscaping and a portion of the 31,092-square-foot existing building at 1331 Eastshore Highway would be reconstructed as an amenity space on the conceptual development project site. Additionally, all future development envisioned under the proposed project would be required to include landscaping and open space consistent with City standards. It should also be noted that as stated in the City's Climate Action Plan, trees provide a range of climate change benefits ranging from carbon sequestration, providing habitat to birds and insects, shading to reduce building cooling costs, and air quality. There is currently a dearth of tree canopy coverage throughout West Berkeley, and the project would contribute to an improvement by implementing additional landscaping in the area.
Reduce Climate Emissions	**EN7. Expand commute trip reduction programs at major employers.** Set a sustainable commute target for major employers as part of an expanded Bay Area Commuter Benefits Program, with employers responsible for funding incentives and disincentives to shift auto commuters to any combination of telecommuting, transit, walking and/or bicycling.	***Consistent.*** As discussed in Section 4.4, Transportation, future projects envisioned under the proposed project and the conceptual development project would implement a TDM Plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy.
	EN8. Expand clean vehicle initiatives. Expand investments in clean vehicles, including more fuel-efficient vehicles and electric vehicle subsidies and chargers.	***Consistent (with Mitigation Measure GHG-1).*** With implementation of Mitigation Measure GHG-1, the project sponsor for all future development projects, including the conceptual development project, shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Code Tier 2 Voluntary Standards as part of the final project designs. With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with this strategy.
	EN9. Expand transportation demand management initiatives. Expand investments in programs like vanpools, bikeshare, carshare and parking fees to discourage solo driving.	***Consistent.*** Future projects envisioned under the proposed project and the conceptual development project would implement a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy.

Sources: Metropolitan Transportation Commission and Association of Bay Area Governments (2021); LSA (March 2024).
AC Transit = Alameda-Contra Costa Transit District
BART = Bay Area Rapid Transit
CALGreen Code = California Green Building Standards Code
City = City of Berkeley
M-RD = Manufacturing, Research and Development
PDA = Priority Development Area
R&D = research and development
TDM Plan = Transportation Demand Management Plan

City of Berkeley Climate Action Plan. As discussed above, the City adopted a 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 are based on the following topics: Sustainable Transportation and Land Use, Building Energy Use, Waste Reduction and Recycling, Community Outreach and Empowerment, and Preparing for Climate Change Impacts. Although the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emissions analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Table 4.6.D includes an evaluation of the proposed project's consistency with the City's CAP.

Table 4.6.D: Project Consistency with City of Berkeley CAP

Goal		Project Consistency
Sustainable Transportation & Land Use	**1. Goal:** Increase density along transit corridors.	***Consistent.*** The proposed zoning and General Plan/West Berkeley Plan amendments would facilitate revitalization of the primarily vacant and underutilized infill project site with up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses along the Gilman Street frontage and within close proximity to active transit, including the North Berkeley Bay Area Rapid Transit (BART) Station, 1.06 miles to the east. In addition, as discussed in Section 4.4, Transportation, future projects envisioned under the proposed project and the conceptual development project would implement a TDM Plan in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. In addition, future development, including the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation, consistent with the intent of this key attribute.
	2. Goal: 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.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project. However, future development of the project site would be required to comply with City open space standards. In addition, the conceptual development project would provide open space between the buildings. A total of approximately 130,000 square feet of open space would be provided throughout the project site. The open spaces would include approximately 97,000 square feet of walkways, concrete curbs and hardscape, approximately 24,000 square feet of landscaping (including trees) and a portion of the 31,092 square foot existing building at 1331 Eastshore Highway would be reconstructed as an amenity space on the conceptual development project site. In addition, the proposed project would develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to utilize other transportation options and rely less on driving alone, consistent with the intent of this goal.

Table 4.6.D: Project Consistency with City of Berkeley CAP

Goal		Project Consistency
	3. Goal: Manage parking more effectively to minimize driving demand and to encourage and support alternatives to driving.	***Not Consistent.*** With development potential of up to 1,005,266 square feet of uses on the site consistent with the proposed M-RD zoning, up to 1,300 parking spaces would be required. The conceptual development project is anticipated to include up to 1,900 parking spaces, which would exceed the parking standards for the entirety of the project site. Therefore, the proposed project would not be consistent with this goal.
	4. Goal: Identify opportunities for generating sustained revenue for implementing community transportation demand management programs.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	5. Goal: Accelerate Implementation of the City's Bicycle & Pedestrian Plans.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	6. Goal: Make public transit more frequent, reliable, integrated and accessible.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	7. Goal: Enhance and expand car sharing and ridesharing programs.	***Consistent.*** The proposed project would implement a TDM Plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy.
	8. Goal: Encourage the use of low-carbon vehicles and fuels.	***Consistent (with Mitigation Measure GHG-1).*** With implementation of Mitigation Measure GHG-1, the individual project sponsors shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Code Tier 2 Voluntary Standards as part of the final project design. With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with this goal.
	9. Goal: Enhance and expand outreach, marketing and education regarding land use and transportation.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	10. Goal: Green the vehicle fleet used by the City government and increase alternative transportation options for employees of public institutions.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Building Energy Use Strategies	**1. Goal:** Make green building business as usual in the new construction & remodel market.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	2. Goal: Enhance energy services and standards and reduce costs of energy upgrades for existing residential properties.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	3. Goal: Enhance Energy Services and Standards for Existing Commercial Properties.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	4. Goal: Increase residential and commercial renewable energy use.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	5. Goal: Increase Energy Efficiency and Renewable Energy Use in Public Buildings.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.

Table 4.6.D: Project Consistency with City of Berkeley CAP

Goal		Project Consistency
	6. Goal: Enhance and expand marketing, outreach and education regarding building energy use.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	7. Goal: Prepare local residents for green collar job opportunities.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Waste Reduction & Recycling	**1. Goal:** Increase residential recycling, composting, and source reduction.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	2. Goal: Increase recycling, composting & waste reduction in the commercial sector.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	3. Goal: Increase recycling of construction & demolition (C&D) debris.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	4. Goal: Expand local capacity to process recycled materials.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	5. Goal: Expand efforts to eliminate waste at its source.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	6. Goal: Revise the City solid waste disposal rate structure in order to maintain and enhance incentives, outreach programs and other activities designed to increase waste diversion.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	7. Goal: Increase recycling, composting, and waste reduction in public institutions.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	8. Goal: Enhance and expand marketing, outreach, and education regarding waste reduction and recycling.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Adapting to a Changing Climate	**1. Goal:** Make Berkeley resilient to the impacts of climate change.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Community Outreach & Empowerment	**1. Goal:** Mobilize the community at large to turn the climate plan into climate action.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	2. Goal: Enhance outreach and incentives to the business community.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	3. Goal: Enhance climate change-related education at local schools.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	4. Goal: Increase awareness in the City government.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.

Sources: City of Berkeley (2009); LSA (February 2024).
CALGreen Code = California Green Building Standards Code
City = City of Berkeley
TDM Plan = Transportation Demand Management Plan
VMT = vehicle miles traveled

Impact GHG-2 Summary: Because future development facilitated by the proposed project may include the use of natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Therefore, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **significant and unavoidable,** even with implementation of Mitigation Measure GHG-1. As the conceptual development project would be all-electric, the conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Therefore, with implementation of Mitigation Measure GHG-1, the conceptual development project would be consistent with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **less than significant with mitigation**.

4.6.2.3 Cumulative Impacts

GHG impacts are by their nature cumulative impacts. Localized impacts of climate change are the result of the cumulative impact of global emissions. The combined benefits of reductions achieved by all levels of government help to slow or reverse the growth in GHG emissions. In the absence of comprehensive international agreements on appropriate levels of reductions achieved by each country, another measure of cumulative contribution is required. This serves to define the State's share of the reductions regardless of the activities or lack of activities of other areas of the United States or the world. Therefore, a cumulative threshold based on consistency with State targets and actions to reduce GHGs is an appropriate standard of comparison for significance determinations.

As described above, CARB most recently updated the Scoping Plan in 2022 to include a framework to meet the State's carbon neutrality goals by 2045, and the BAAQMD has determined that projects need to incorporate design elements to do their "fair share" of implementing that goal. If a project is designed and built to incorporate the design elements, then it will contribute its portion of what is necessary to achieve its "fair share" and it can be concluded that the project would result in a **less than significant impact** related to GHG emissions. If a project does not incorporate these design elements, then a project would result in a significant GHG impact. Based on the analysis presented above, the proposed project would not be consistent with all of the project design features included in the BAAQMD's *State CEQA Guidelines* due to the potential inclusion of natural gas connections for future projects. A mitigation measure prohibiting the use of natural gas in future development was found to be infeasible. Therefore, since the proposed project would not meet all of the project design features recommended by the BAAQMD to support the project achieving its "fair share" of emission reductions, the proposed project would result in the generation of GHG emissions that would have a significant impact on the environment, and the cumulative GHG impacts would be considered **significant and unavoidable.**

4.7 ENERGY

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development project, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section evaluates the energy use resulting from implementation of the proposed project and evaluates whether the proposed project and the conceptual development project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency. The energy use analysis in this section is based on information from the California Emissions Estimator Model (CalEEMod) version 2022.1 modeling results contained in Appendix F.

4.7.1 Setting

The following discussion provides an overview of existing energy usage.

4.7.1.1 Electricity

The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).

According to the most recent data available, in 2022, California's electricity was generated primarily by natural gas (47.5 percent), renewable sources (52.2 percent), large hydroelectric (7.2 percent), nuclear (8.7 percent), coal (less than 1.0 percent), and other unspecified sources. Total electric generation in California in 2022 was 287,220 gigawatt-hours (GWh), up 3.4 percent from the 2021 total generation of 277,764 GWh.[1]

The project site is within the service territory of Pacific Gas & Electric Company (PG&E). According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2022 was 77,887 gigawatt-hours (GWh) or 77,886,999,998 kilowatt-hours (kWh).[2] Of this total, Alameda County consumed 10,395 GWh or 10,395,384,395 kWh.[3]

1 California Energy Commission (CEC). 2023a. *2023 Total System Electric Generation*. Website: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation (accessed January 2024).

2 CEC. 2023b. Electricity Consumption by County and Entity. Website: http://www.ecdms.energy.ca.gov/elecbycounty.aspx and http://www.ecdms.energy.ca.gov/elecbyutil.aspx (accessed January 2024).

3 Ibid.

Ava Community Energy (formerly East Bay Community Energy) supplies electricity to the city using transmission infrastructure operated and maintained by PG&E.[4] Ava Community Energy is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses. Ava Community Energy offers 100-percent renewable energy services to member cities, and both residential and commercial customers in Berkeley are placed in the Renewable 100 Plan by default. However, customers have the option to opt out of the Renewable 100 program and enroll in the Bright Choice Program which would be supplied by 40 percent renewable energy or to receive electricity from PG&E.

4.7.1.2 Natural Gas

Natural gas is a non-renewable fossil fuel. Fossil fuels form when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend on out-of-state imports for nearly 90 percent of its natural gas supply.[5]

PG&E is the natural gas service provider for the proposed project site. According to the CEC, total natural gas consumption in the PG&E service area in 2022 was 4.422 billion therms (4,422,630,060 therms).[6] Of this total, Alameda County consumed 377 million therms, or 377,309,788 therms.[7]

4.7.1.3 Petroleum/Transportation Energy

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel.

The average fuel economy for light-duty vehicles (automobiles, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.9 mpg in 2021.[8] Federal fuel economy standards have changed substantially since the Energy

4 East Bay Community Energy. 2023. *Berkeley is Going Green*. Website: https://ebce.org/berkeley/ (accessed May 2024).

5 CEC. n.d. Supply and Demand of Natural Gas in California. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed January 2024).

6 CEC. 2023b. Gas Consumption by County and Entity. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx and http://www.ecdms.energy.ca.gov/gasbyutil.aspx (accessed January 2024).

7 Ibid.

8 United States Department of Transportation (USDOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.dot.gov/bts/bts/content/average-fuel-efficiency-us-light-duty-vehicles (accessed January 2024).

Independence and Security Act was passed in 2007. This act, which originally mandated a national fuel economy standard of 35 mpg by 2020,[9] applies to cars and light trucks of model years 2011 through 2020. In March 2020, the United States Environmental Protection Agency and the National Highway Traffic Safety Administration finalized the Corporate Average Fuel Economy (CAFE) standards for Model Years 2024–2026 Passenger Cars and Light Trucks, further detailed below.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the most recent data available, in 2021, total gasoline consumption in California was 289,918 thousand barrels (12.2 billion gallons) or 1,464.7 trillion British thermal units (BTU).[10] Of the total gasoline consumption, 273,289 thousand barrels (11.5 billion gallons) or 1,380.7 trillion BTU were consumed for transportation.[11] Based on fuel consumption obtained from the California Air Resources Board's (CARB) California Emissions Factor Model, Version 2021 (EMFAC2021), approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel will be consumed from vehicle trips in Alameda County in 2024.

4.7.1.4 Regulatory Framework

Federal and State agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. On the State level, the California Public Utilities Commission (CPUC) and the CEC are two agencies with authority over different aspects of energy.

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies and serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy.

The CEC is the State's primary energy policy and planning agency. The CEC forecasts future energy needs, promotes energy efficiency, supports energy research, develops renewable energy resources, and plans for/directs State response to energy emergencies. The applicable federal, State, regional, and local regulatory framework is discussed below.

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9 United States Department of Energy. 2007. "Energy Independence & Security Act of 2007." Website: https://www.afdc.energy.gov/laws/eisa (accessed January 2024).

10 United States Energy Information Administration (EIA). 2022. California State Profile and Energy Estimates, Data. Website: www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed January 2024).

11 Ibid.

Federal Regulations. The following discusses applicable federal regulations.

Energy Policy Act of 2005. The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under this act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products (including hybrid vehicles), building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

Corporate Average Fuel Economy Standards. On March 31, 2022, the National Highway Traffic Safety Administration finalized the CAFE standards for model years 2024–2026 passenger cars and light trucks. The amended CAFE standards would require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024–2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gas between model years 2030 to 2050.

State Regulations. The following discusses applicable State regulations.

Assembly Bill 1575, Warren-Alquist Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575 (also known as the Warren-Alquist Act), which created the CEC. The CEC's statutory mission is to forecast future energy needs; license power plants of 50 megawatts or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require Environmental Impact Reports (EIR) to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project would result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (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.

Senate Bill 1389, Energy: Planning and Forecasting. In 2002, the State Legislature passed Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs

for zero-emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an Integrated Energy Policy Report every 2 years and an update every other year. The most recently adopted report includes the *2023 Integrated Energy Policy Report.*[12] The *Integrated Energy Policy Report* covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on State electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast. The *Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs.

Renewable Portfolio Standard.SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the requirement to 60 percent by 2030 and required that all the State's electricity come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.[13]

California Energy Code.Energy consumption by buildings in California is regulated by the Building Energy Efficiency Standards, Part 6 of Title 24 of the California Code of Regulations, known as the Energy Code. The CEC first adopted the Building Energy Efficiency Standards for Residential and Non-residential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The Energy Code is updated every 3 years, with the most recent update consisting of the 2022 Energy Code, which became effective January 1, 2023. Mid-cycle supplements to the 2022 Code became effective on July 1, 2024. The efficiency standards apply to new construction as well as to rehabilitation of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in the Energy Code and California Green Building Standards Code.

California Green Building Standards Code.In 2010, the California Building Standards Commission adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1,

12 CEC. 2023c. *2023 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 23-IEPR-01.

13 California Public Utilities Commission (CPUC). 2019. Renewables Portfolio Standard Program. Website: cpuc.ca.gov/rps (accessed January 2024).

2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2022 CALGreen Code standards that became effective January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024. The CALGreen Code established mandatory measures for residential and non-residential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce greenhouse gas (GHG) emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

California Energy Efficiency Strategic Plan. On September 18, 2008, the CPUC adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California. The plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that the CPUC established in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- Heating, ventilation and air conditioning will be transformed to ensure that its energy performance is optimal for California's climate.

Regional Regulations. Regional regulations applicable to energy include Plan Bay Area, described below.

Plan Bay Area 2050. Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete a Sustainable Communities Strategy (SCS) as part of a Regional Transportation Plan. In the Bay Area, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) are jointly responsible for developing and adopting an SCS that integrates transportation, land use and housing to meet GHG reduction targets set by the CARB. Plan Bay Area 2050 connects the elements of housing, the economy, transportation, and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the Implementation Plan for Plan Bay Area 2050 identifies more than 80 specific actions for MTC, ABAG and partner organizations to take over the next 5 years to make headway on each of the 35 strategies.

Local Plans and Regulations. The City of Berkeley plans and regulations related to energy that would be applicable to the project are described below.

City of Berkeley General Plan. The following policies from the Environmental Management Element and Transportation Element of the City of Berkeley General Plan address the City's goal of reducing energy use.[14]

> **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-36:** Energy Conservation. Continue to implement energy conservation requirements for residential and commercial buildings at the time of sale and at time of major improvements.
>
> **Policy EM-41:** Fossil Fuel. Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.
>
> **Policy T-11**: City of Berkeley. Establish the City of Berkeley as a "Model Employer" in the area of trip and emission reduction.
>
> **Policy T-15**: Local Hiring. Establish Berkeley residency as a preference for hiring, and encourage other public employers, institutions, and private employers to hire locally.
>
> **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 UD-33**: Sustainable Design. Promote environmentally sensitive and sustainable design in new buildings

City of Berkeley Conditions of Approval for Development Projects. The City of Berkeley (City) has established standard conditions of approval (COA) for all development projects. The following COA is related to energy conservation.

> COA: Construction and Demolition Diversion. Applicant shall submit a Construction Waste Management Plan that meets the requirements of Berkeley Municipal Code (BMC) Chapter 19.37 including 100 percent diversion of asphalt, concrete, excavated soil and land-clearing

[14] City of Berkeley. 2002. *City of Berkeley General Plan: A Guide for Public Decision-Making.* April.

debris and a minimum of 65 percent diversion of other nonhazardous construction and demolition waste.

City of Berkeley Climate Action Plan. The City of Berkeley adopted a Climate Action Plan (CAP)[15] 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 are based on the following topics:

- Sustainable Transportation and Land Use
- Building Energy Use
- Waste Reduction and Recycling
- Community Outreach and Empowerment
- Preparing for Climate Change Impacts

Although the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emissions analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Since publication of the CAP, the City has several additional climate commitments:[16]

- 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
- Cities Race to Zero Campaign: Committed to reducing emissions 60.5 percent from 2018 levels by 2030, an emission reduction target that reflects Berkeley's fair share of the 50 percent global reduction in carbon dioxide equivalents

Municipal Code. BMC Chapter 19.37 is the Berkeley Green Code, which adopts the 2022 CALGreen standards with locally adopted amendments.

4.7.2 Impacts and Mitigation Measures

The following describes the project's potential impacts related to energy. The section begins with the significance criteria, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and the conceptual development project and identifies mitigation measures, as appropriate.

4.7.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to energy if it would:

[15] City of Berkeley. 2009. *City of Berkeley Climate Action Plan.* June.

[16] City of Berkeley. 2022. *City of Berkeley 2023–2031 Housing Element Update Environmental Impact Report*. August.

Threshold EN-1: Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

Threshold EN-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.7.2.2 Project Impacts

The following section evaluates potential energy impacts associated with buildout facilitated by the proposed project and the conceptual development project.

Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. (*Less than Significant)*

Future development facilitated by the proposed project, including the conceptual development project, would increase the demand for energy through day-to-day operations and fuel consumption associated with project construction and operation; however, it would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation, and impacts would be **less than significant.**

Construction. Future construction activities associated with buildout under the proposed project, including the conceptual development project, would include demolition, grading, site preparation, building construction, architectural coating, and paving activities. Construction activities require energy associated with the manufacture and transportation of building materials, grading activities, and building construction. Construction activities also typically require electricity to power construction-related equipment and do not involve the consumption of natural gas.

Transportation energy represents the largest energy use during construction and would be from the transport and use of construction equipment, delivery vehicles, haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel and/or gasoline). Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks hauling materials to and from a site would be anticipated to use diesel fuel, whereas construction workers traveling to and from a site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, VMT, the fuel efficiency of the vehicles, and the travel mode.

Estimates of fuel consumption (diesel fuel and gasoline) for future buildout envisioned under the proposed project and the conceptual development project, from construction equipment, construction trucks, and construction worker vehicles, are based on default construction equipment assumptions and trip estimates from CalEEMod and fuel efficiencies from EMFAC2021.

Buildout under the Gilman Gateway Rezone. As stated in Section 4.5, Air Quality, the proposed project would rezone the project site to the new M-RD zoning district and include amendments to the General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to project site,

but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory, or office uses, which would involve demolition of site structures and new construction. As described in Section 4.5, Air Quality, the CalEEMod analysis assumes the construction of up to 1,005,266 square feet of R&D uses and the demolition of 320,070 square feet of building area plus an additional 10 percent to account for the asphalt lots on the site. This analysis also assumes that construction activities associated with buildout under the proposed project would require the import of approximately 150,000 cubic yards of material, including imported soil and fill, which was also included in CalEEMod. Construction of the activities associated with the proposed project were assumed in CalEEMod to begin in 2025 and continue over approximately 8 years. Because no other construction details are known at this time, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used, with the addition of pile-driving equipment.

Table 4.7.A presents fuel consumption estimates for buildout envisioned under the proposed project. CalEEMod output sheets are included in Appendix F, and detailed energy calculations are included in Appendix H.

Table 4.7.A: Energy Consumption Estimates During Construction of Buildout under the Gilman Gateway Rezone

Energy Type	Total Energy Consumption	Annual Energy Consumption[1]	Percentage of Increase Countywide
Diesel Fuel (total gallons)	1,684,799.0	210,599.9	0.1
Gasoline (total gallons)	1,082,963.2	135,370.4	<0.1

Source: Compiled by LSA (May 2024).
Note:
[1] The annual energy consumption is the total energy consumption averaged over the 8-year construction period.

As shown in Table 4.7.A, development envisioned under the proposed project would consume 1,684,799.0 gallons of diesel fuel and 1,082,963.2 gallons of gasoline during construction. As discussed above, construction associated with the proposed project is expected to occur over approximately 8 years; therefore, when averaged over 8 years, buildout under the proposed project would consume 210,599.9 gallons of diesel fuel per year and 135,370.4 gallons of gasoline per year during construction. Based on fuel consumption obtained from EMFAC2021, trips in Alameda County will consume approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel in 2024. Therefore, construction of future development as envisioned under the proposed project would increase the annual construction generated fuel use in Alameda County by 0.1 percent for diesel fuel usage and by less than 0.1 percent for gasoline fuel usage.

Potential Berkeley Forge Development. Construction of the conceptual development project is anticipated to begin in 2025 and continue for approximately 7 years, with occupancy anticipated over 2027–2034. Because no other construction details are known at this time, default

assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used.

Table 4.7.B presents fuel consumption estimates for the conceptual development project. CalEEMod output sheets are included in Appendix F, and detailed energy calculations are included in Appendix H.

As shown in Table 4.7.B, construction of the conceptual development project would consume 1,271,535.1 gallons of diesel fuel and 728.472.5 gallons of gasoline during construction. As discussed above, construction associated with the conceptual development project is expected to take place over approximately 7 years; therefore, when averaged over 7 years, the conceptual development project would consume 181,647.9 gallons of diesel fuel per year and 104,067.5 gallons of gasoline per year during construction.

Table 4.7.B: Energy Consumption Estimates During Construction of the Potential Berkeley Forge Development

Energy Type	Total Energy Consumption	Annual Energy Consumption[1]	Percentage of Increase Countywide
Diesel Fuel (total gallons)	1,271,535.1	181,647.9	0.1
Gasoline (total gallons)	728,472.5	104,067.5	<0.1

Source: Compiled by LSA (May 2024).
Note:
[1] The annual energy consumption is the total energy consumption averaged over the 7-year construction period.

Based on fuel consumption obtained from EMFAC2021, trips in Alameda County will consume approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel in 2024. Therefore, construction of the conceptual development project would increase the annual construction generated fuel use in Alameda County by 0.1 percent for diesel fuel usage and by less than 0.1 percent for gasoline fuel usage.

As shown in Tables 4.7.A and 4.7.B, above, construction activities associated with buildout envisioned under the proposed project and the conceptual development project would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Alameda County's overall use of the State's available energy resources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. In addition, construction activities are not anticipated to result in an inefficient use of energy, as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. The proposed project and the conceptual development project would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. For these reasons, fuel consumption during construction would not be inefficient, wasteful, or unnecessary, and this impact would be **less than significant**.

Operation. Operational energy use is typically associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with a project. The proposed project, including the conceptual development project, would result in diesel usage associated with the emergency backup generators; however, the emergency backup generators are only expected to run a maximum of 50 hours annually, primarily for testing purposes. Therefore, use of the emergency backup generators is not expected to substantially increase diesel fuel usage and is not evaluated further. Operational energy usage was estimated for both the future buildout envisioned under the proposed project and the conceptual development project.

Buildout under the Gilman Gateway Rezone project. Energy usage estimates for operation of development envisioned under the proposed project were calculated using CalEEMod, assuming 1,005,266 square feet of R&D uses as identified in Table 3.G in Chapter 3.0, Project Description. Electricity and natural gas usage was estimated for future projects using default energy intensities by land use type in CalEEMod and are shown in Table 4.7.C for buildout envisioned under the proposed project.

Table 4.7.C: Energy Consumption Estimates During Operation of Buildout under the Gilman Gateway Rezone

Energy Type	Annual Energy Consumption	Percentage of Increase Countywide
Electricity Consumption (kWh/year)	24,679,742.0	0.2
Natural Gas Consumption (therms/year)	238,801.0	0.1
Gasoline (gallons/year)	1,288,549.2	0.2
Diesel Fuel (gallons/year)	179,721.2	0.1

Source: Compiled by LSA (May 2024).
kWh = kilowatt-hours

In addition, development envisioned under the proposed project would result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. Trip generation rates for buildout under the proposed project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). The amount of operational fuel use was estimated using CARB's EMFAC2021 model, which provided projections for typical daily fuel usage in Alameda County.

Table 4.7.C shows electricity and fuel usage estimates associated with future buildout envisioned under the proposed project.

As shown in Table 4.7.C, the estimated potential increase in electricity demand associated with future development envisioned under the buildout of the proposed project is 24,679,742 kWh per year. Total electricity consumption in Alameda County in 2022 was 10,395 GWh (10,395,384,395 kWh). Therefore, operation of future development envisioned under the proposed project would increase the annual electricity consumption in Alameda County by 0.2 percent. As previously discussed, the City has received no formal application for development on the project site under the proposed M-RD zoning district, including for conceptual development project. Once a formal application to develop the project site is submitted, the developer will be required to coordinate with PG&E regarding operational electricity usage through PG&E's

application and review process. In the case that PG&E finds that there is insufficient electricity infrastructure to serve the proposed development, or a new substation is required to serve the proposed development, subsequent CEQA review would be required. This analysis does not include any assumptions related to the construction of new electricity infrastructure.

Additionally, as shown in Table 4.7.C, the estimated potential increase in natural gas demand associated with future development envisioned under buildout of the proposed project is 238,801 therms per year. Total natural gas consumption in Alameda County in 2022 was approximately 377 million therms (377,309,788 therms). Therefore, operation of future development envisioned under buildout of the proposed project would increase the annual natural gas consumption in Alameda County by 0.1 percent.

Future development envisioned under buildout of the proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table 4.7.C, the increase in fuel use associated with the vehicle trips generated by the future development envisioned under buildout of the proposed project is estimated at 1,288,549.2 gallons of gasoline and 179,721.2 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, vehicle trips in Alameda County in 2024 will consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel. Therefore, vehicle trips associated with the future development envisioned under buildout of the proposed project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage.

Potential Berkeley Forge Development project. Energy usage estimates for operation of the conceptual development project were calculated using CalEEMod, assuming 900,000 square feet of R&D uses. Electricity usage was estimated using default energy intensities in CalEEMod and are shown in Table 4.7.D. The conceptual development project would not increase the demand for natural gas, which was included in CalEEMod.

Table 4.7.D: Energy Consumption Estimates During Operation of Potential Berkeley Forge Development

Energy Type	Annual Energy Consumption	Percentage of Increase Countywide
Electricity Consumption (kWh/year)	21,193,450.0	0.2
Natural Gas Consumption (therms/year)	0.0	0.0
Gasoline (gallons/year)	1,153,379.9	0.2
Diesel Fuel (gallons/year)	162,257.7	0.1

Source: Compiled by LSA (May 2024).
kWh = kilowatt-hours

In addition, the conceptual development project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. Trip generation rates for the conceptual development project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). The amount of operational fuel use was estimated using CARB's EMFAC2021 model, which provided projections for typical daily fuel usage in Alameda County.

Table 4.7.D shows electricity and fuel usage estimates associated with the conceptual development project.

As shown in Table 4.7.D, the estimated potential increase in electricity demand associated with the conceptual development project is 21,193,450 kWh per year. Total electricity consumption in Alameda County in 2022 was 10,395 GWh (10,395,384,395 kWh). Therefore, operation of the conceptual development project would increase the annual electricity consumption in Alameda County by 0.2 percent.

The conceptual development project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table 4.7.D, the increase in fuel use associated with the vehicle trips generated by the conceptual development project is estimated at 1,153,379.9 gallons of gasoline and 162,257.7 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, vehicle trips in Alameda County in 2024 will consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel. Therefore, vehicle trips associated with the conceptual development project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage.

As shown in Tables 4.7.C and 4.7.D, above, electricity demand associated with future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the future projects under the proposed project, including the conceptual development project, would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. All future development would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Energy Code and locally adopted amendments, as required by BMC Chapters 19.36 and 19.37. The Energy Code establishes minimum energy and water efficiency requirements for new buildings and additions or alterations to existing buildings.

Additionally, as discussed in Section 4.4, Transportation, the project sponsor of future development facilitated by the proposed project would be required to implement a Transportation Demand Management Plan (TDM Plan) in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. The project sponsor for the conceptual development project would implement the proposed TDM Plan for the Gilman Gateway Rezone Project as part of the conceptual development project. In addition, public transit facilities serve the project area, including Alameda-Contra Costa Transit District, and the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles. Therefore, the proposed project and the conceptual development project would support the ability of employees and visitors to use alternative modes of transportation. As such, fuel consumption associated with vehicle trips generated by future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and this impact would be **less than significant**.

Impact EN-1 Summary: Construction activities associated with future development facilitated by the proposed project, including the conceptual development project, would have a negligible effect on local and regional energy supplies and would not cause or result in the need for additional energy

facilities or an additional or expanded delivery system. Energy usage associated with future operations facilitated by the proposed project, including the conceptual development project, would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, as all future development would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Energy Code and locally adopted amendments, as required by BMC Chapters 19.36 and 19.37. Therefore, future development facilitated by the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be **less than significant.**

Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (*Less than Significant with Mitigation*)

Applicable plans adopted for the purpose of maximizing use of renewable energy sources and overall energy efficiency include the CEC's 2023 Integrated Policy Report, the City of Berkeley General Plan, City of Berkeley Climate Action Plan, and Plan Bay Area 2050. Accordingly, the proposed project and the conceptual development project were evaluated for consistency with those plans to demonstrate whether the proposed project and the conceptual development project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Integrated Energy Policy Report. The CEC's *2023 Integrated Energy Policy Report* provide the results of the CEC's assessments of a variety of energy issues facing California. As demonstrated under Impact EN-1 above, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the overall use in Alameda County. In addition, energy usage associated with operation of future development facilitated by the proposed project, including the conceptual development project, would be relatively small in comparison to the overall use in Alameda County and the State's available energy resources. Therefore, energy impacts at the regional level would be negligible. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's Integrated Energy Policy Report. Additionally, as demonstrated above, the proposed project and the conceptual development project would not result in the inefficient, wasteful, and unnecessary consumption of energy. Therefore, this impact would be **less than significant**.

City of Berkeley General Plan. As discussed above, the City addresses energy in the Environmental Management Element of the General Plan (refer to Section 4.7.1.4 for the text of the applicable General Plan policies). Future development facilitated under the proposed project, including the conceptual development project would be required to comply with the current California Energy Code, CALGreen standards, and local amendments as adopted in the Berkeley Green Code, as well as the Berkeley Energy Code, consistent with the intent of General Plan Policies EM-5, EM-35, and EM-36. As required by the Berkeley Green Code, future development facilitated by the proposed project, including the conceptual development project, would also be required to implement *COA: Construction and Demolition Diversion*, which requires project sponsors to submit a Construction

Waste Management Plan that includes 100 percent diversion of asphalt, concrete, excavated soil and land-clearing debris and a minimum of 65 percent diversion of other nonhazardous construction and demolition waste, consistent with the intent of General Plan Policy EM-8. However, the use of fossil fuels and other non-renewable resources during project implementation may conflict with General Plan Policy EM-41 which requires projects to reduce fossil fuel consumption. This could result in a **potentially significant** impact.

Implementation of Mitigation Measure GHG-1, as identified below and in Section 4.6, Greenhouse Gas Emissions, requires that the project sponsor for individual future development projects shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Tier 2 Voluntary Standards as part of the final project designs.

Mitigation Measure GHG-1 **Electric Vehicle Charging Requirements.** (*Refer to Section 4.6, Greenhouse Gas Emissions*)

With implementation of Mitigation Measure GHG-1, the proposed project and conceptual development project would be consistent with the intent of General Plan Policy EM-41. Therefore, the proposed project and conceptual development project would be consistent with the applicable City of Berkeley General Plan policies and this impact would be **less than significant with mitigation incorporated**.

City of Berkeley Climate Action Plan. As discussed above, the City adopted a 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 are based on the following topics: Sustainable Transportation and Land Use, Building Energy Use, Waste Reduction and Recycling, Community Outreach and Empowerment, and Preparing for Climate Change Impacts. Although the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emission analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Table 4.6.E of Section 4.6, Greenhouse Gas Emissions, includes an evaluation of the consistency of the proposed project, including the conceptual development project, with the City's CAP. As demonstrated in Table 4.6.E, the proposed project would be consistent with applicable CAP goals, and this impact would be **less than significant**.

Plan Bay Area 2050. Plan Bay Area 2050 connects the elements of housing, the economy, transportation, and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the plan's Implementation Plan identifies more than 80 specific actions for MTC, ABAG, and partner organizations to take over the next 5 years to make headway on each of the 35 strategies. Table 4.6.D in Section 4.6, Greenhouse Gas Emissions, includes an evaluation of the consistency of the proposed project, including the conceptual development project, with Plan Bay Area 2050 strategies. As described in Section 4.6, Greenhouse Gas Emissions, the proposed project would be consistent with the applicable strategies identified in Plan Bay Area 2050 and this impact would be **less than significant**.

Impact EN-2 Summary: Implementation of the proposed project, including the conceptual development project, would be consistent with the CEC's 2023 Integrated Policy Report, City of

Berkeley CAP, and Plan Bay Area 2050. With implementation of Mitigation Measure GHG-1, which requires the project sponsor for individual future development projects to provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Tier 2 Voluntary Standards, the proposed project and the conceptual development project would be consistent with the City's General Plan. Therefore, the proposed project and the conceptual development project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts would **less than significant with mitigation**.

4.7.2.3 Cumulative Impacts

The proposed project would have a significant effect on the environment if it, in combination with other projects, would contribute to a significant cumulative impact related to energy.

Development of cumulative projects within the PG&E service area that encompasses 70,000 square miles would result in a substantial increase in electricity and natural gas demand as well as an increase in the consumption of fuel for vehicles. Although the proposed project would result in a net increase in demand for electricity and natural gas, implementation of the proposed project would not result in the construction of new electric or natural gas infrastructure beyond what has already been assumed and will be included in PG&E's regional forecasts. Once a formal application to develop the project site is submitted, the project sponsor will be required to coordinate with PG&E regarding operational electricity usage through PG&E's application and review process. In the case that PG&E finds that there is insufficient electricity infrastructure to serve the proposed development, or a new substation is required to serve the proposed development, subsequent CEQA review would be required. This analysis does not include any assumptions related to the construction of new electricity infrastructure.

As discussed previously, the total annual electricity consumption in the PG&E service area in 2022 was 77,887 GWh (77,886,999,998 kWh). As shown in Table 4.7.C, the estimated potential increase in electricity demand associated with full buildout envisioned under the proposed project is 24,679,742 kWh per year. Therefore, operation of the proposed project would increase the annual electricity consumption in the PG&E service area by less than 0.1 percent. As such, the proposed project's share of cumulative electricity consumption would negligible.

Total natural gas consumption in the PG&E service area in 2022 was 4.422 billion therms (4,422,630,060 therms). As shown in Table 4.7.C, the estimated potential increase in natural gas demand associated with full buildout envisioned under the proposed is 238,801 therms per year. Therefore, operation of the proposed project would increase the annual natural gas consumption in the PG&E service area by less than 0.1 percent. The proposed project's share of cumulative consumption of natural gas in the PG&E service area would be negligible.

In addition, in 2022, a total of 38 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy.[17] PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's

[17] Pacific Gas & Electric Company. 2024. *Exploring Clean Energy Solutions*. https://www.pge.com/en/about/corporate-responsibility-and-sustainability/taking-responsibility/clean-energy-solutions.html (accessed February 2024).

60 percent by 2030 renewable energy mandate set forth in SB 100. In addition, PG&E plans to continue to provide reliable service to its customers and upgrade its distribution systems as necessary to meet future demand.

As discussed above, Ava Community Energy supplies electricity to the City using transmission infrastructure operated and maintained by PG&E. Ava Community Energy is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses. Ava Community Energy offers 100 percent renewable energy services to member cities, and both residential and commercial customers in the city of Berkeley are placed in the Renewable 100 Plan by default. However, customers have the option to opt out of the Renewable 100 program and enroll in the Bright Choice Program, which would be supplied by 40 percent renewable energy, or receive electricity from PG&E.

Transportation energy use would also increase; however, as described above, fuel use associated with the vehicle trips generated by full buildout envisioned under the proposed project is estimated at 1,288,549.2 gallons of gasoline and 179,721.2 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, vehicle trips in Alameda County in 2024 would consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel. Therefore, vehicle trips associated with full buildout envisioned under the proposed project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage. Therefore, gasoline and diesel fuel demand generated by vehicle trips associated with the full buildout envisioned under the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in Alameda County.

As demonstrated above, the proposed project's contribution to impacts related to the inefficient, wasteful, and unnecessary consumption of energy would not be cumulatively considerable. Impacts would be **less than significant.**

4.8 NOISE

As outlined in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing noise and vibration conditions, sets forth criteria for determining the significance of noise and vibration impacts, and estimates the likely noise and vibration impacts that would result from the implementation of the proposed project and construction and operation of future development, including the conceptual development project. Standard conditions of approval and/or mitigation measures to reduce or avoid potentially significant noise and vibration impacts are identified, where appropriate.

4.8.1 Setting

This section describes the fundamentals of noise and vibration, summarizes the regulatory framework, and describes the existing noise environment of the project site and its vicinity. For the purposes of this analysis the project vicinity is defined as the distance from the project site to the nearest sensitive receptors. The nearest sensitive receptors and the existing noise environment are described in Section 4.8.1.3, below.

4.8.1.1 Characteristics of Sound

Noise is generally defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is the number of complete vibrations or cycles per second of a wave that results in the range of tone from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment, and it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effects on adjacent sensitive land uses.

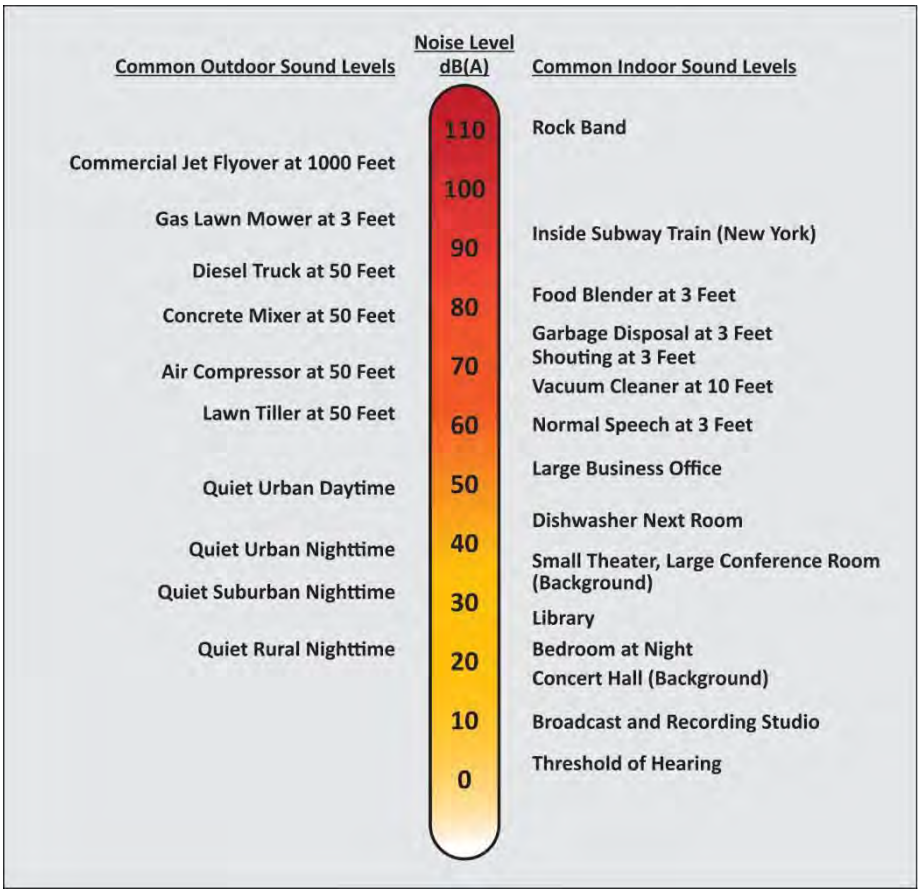
Measurement of Sound. Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. Table 4.8.A contains a list of typical acoustical terms and definitions. Figure 4.8-1 shows representative outdoor and indoor noise levels in units of A-weighted decibels (dBA).

Table 4.8.A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source 1: Technical Noise Supplement (Caltrans 2013)
Source 2: Transit Noise and Vibration Impact Assessment Manual (FTA 2018).
Caltrans = California Department of Transportation
FTA = Federal Transit Administration

Figure 4.8-1: Typical A-Weighted Sound Levels



Source: Compiled by LSA (2016).

A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on dBA. CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours. Typical A-weighted sound levels from various sources are described in Figure 4.8-1.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions, and addresses the annoying aspects of intermittent noise.

Noise standards in terms of percentile exceedance levels, L_n, are often used together with the L_{max} for noise enforcement purposes. When specified, the percentile exceedance levels are not to be exceeded by an offending sound over a stated time period. For example, the L_{10} noise level represents the level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background noise level. For a relatively steady noise, the measured L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dBA or greater, because, as described earlier, this level of noise change has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dBA. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1 dBA that are inaudible to the human ear. A change in noise level of at least 5 dBA would be required before any noticeable change in human response would be expected and a 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise. The effects of noise on people can also be described in three categories: annoyance, interference with activities such as speech or sleep, and physiological effects such as hearing loss. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure,

functions of the ear, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling.

Unwanted community effects of noise occur at levels much lower than those that cause hearing loss and other health effects. Noise annoyance occurs when it interferes with sleeping, conversation, and noise-sensitive work, including learning or listening to the radio, television, or music. According to World Health Organization noise studies, few people are seriously annoyed by daytime activities with noise levels below 55 dBA, or are only moderately annoyed with noise levels below 50 dBA.[1]

4.8.1.2 Characteristics of Ground-borne Vibration

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may cause perceptible vibration from the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called ground-borne noise. When assessing annoyance from ground-borne noise, vibration is typically expressed as root-mean-square (RMS) velocity in units of decibels of 1 microinch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB." Human perception to vibration starts at levels as low as 67 VdB and sometimes lower. Annoyance due to vibration in residential settings starts at approximately 70 VdB. Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

In extreme cases, excessive ground-borne vibration has the potential to cause structural damage to buildings. Vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). Common sources of ground-borne vibration include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment. Table 4.8.B shows typical vibration source levels from construction equipment.

Table 4.8.B: Typical Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 feet (in/sec)	Approximate VdB at 25 feet
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	In rock	0.017	75
Vibratory roller		0.210	94
Hoe ram		0.089	87
Large bulldozer		0.089	87

[1] World Health Organization. 1999. *Guidelines for Community Noise*.

Table 4.8.B: Typical Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)	Approximate VdB at 25 feet
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration, May 2006)
in/sec = inches per second
PPV = peak particle velocity
VdB = vibration velocity decibels

4.8.1.3 Existing Noise Environment

The ambient noise environment in the city is affected by a variety of noise sources, including vehicle traffic, aircraft, commercial, and industrial noise. The following section describes the existing noise environment and identifies the primary noise sources in the vicinity of the project site.

Existing Traffic Noise. Motor vehicles with their distinctive noise characteristics are a major source of noise in the city. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer. Traffic noise depends primarily on traffic speed (high-frequency tire noise increases with speed) and the proportion of truck traffic, which generates engine, exhaust, and wind noise. The proximity of freeways and major streets, and the large amount of truck traffic serving commercial uses in the area make the city susceptible to traffic noise. Traffic noise at the project site is primarily associated with vehicle traffic on Gilman Street, Eastshore Highway, and the Interstate 80/Interstate 580 (I-80/I-580) corridor (also known as the Eastshore Freeway).

Existing Railroad Noise. The existing Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor borders the project site immediately to the east. Average daily exterior noise levels at a location representing the eastern section of the project site, based on 24-hour period noise measurements, closest to the railroad were recorded at 85 dBA L_{dn} (LT-1; refer to Table 4.8.C) This includes sporadic greater noise levels that occur when horns are sounded at the nearby passing.

Existing Aircraft Noise. The airports nearest to the project site are Oakland International Airport (approximately 11 miles southeast of the project site) and San Francisco International Airport (approximately 18 miles south of the project site). The nearest private airport, Buchanan Field Airport, is approximately 15 miles northeast of the project site in Concord.

Existing Sensitive Land Uses. Pursuant to Berkeley Municipal Code (BMC) Chapter 13.40, certain sound levels and vibrations are detrimental to the public health, welfare, safety, and quality of life, and are contrary to the public interest. Within the city, certain land uses are considered more sensitive to noise than others. For this reason, the BMC establishes certain noise thresholds to maintain quiet in areas that typically exhibit low sound levels and reduce noise in areas within the city where sound levels are above acceptable values. Examples of these include residential areas, transient lodging, educational facilities, hospitals, childcare facilities, and senior housing. The project

site is surrounded by commercial, office, and light industrial uses, none of which are considered sensitive uses. The closest sensitive receptors to the project site include Duck's Nest Preschool, approximately 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. In addition, although this EIR assumes that the building at 1306 Third Street would be demolished and redeveloped as part of the proposed project, it is assumed that the building would be occupied during construction of the conceptual project. Therefore, 1306 Third Street is considered an off-site sensitive receptor because it is located 5 feet from the boundaries of the conceptual development project.

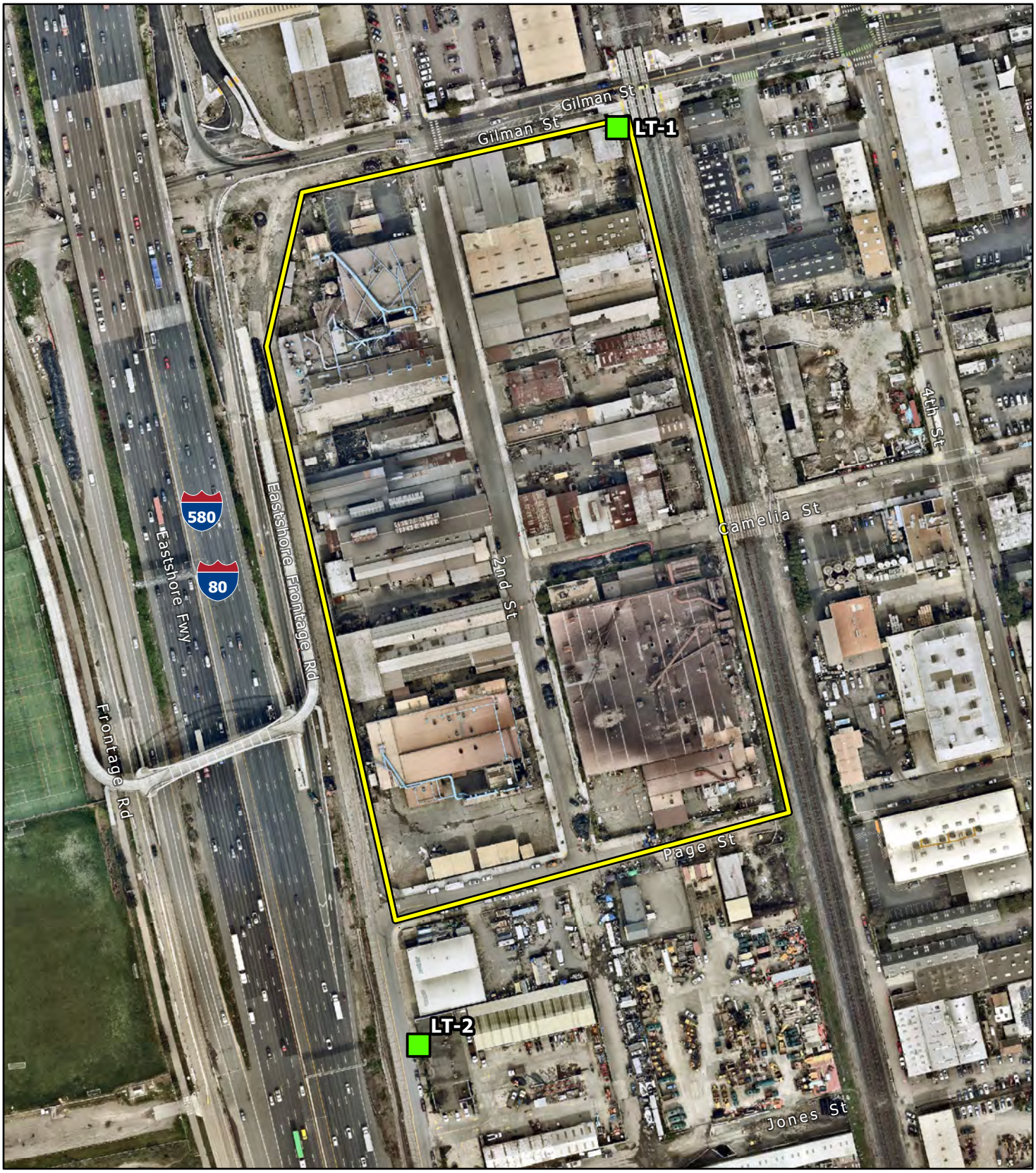
Ambient Noise Level Monitoring. To update and assess the existing noise conditions in the project vicinity, noise measurements were conducted at the project site. Two long-term (24-hour) measurements were taken from January 11, 2024, to January 12, 2024. Based on noise measurement results, the uses in the vicinity of the project site are exposed to noise levels between 79 dBA L_{dn} and 85 dBA L_{dn} primarily associated with vehicle traffic noise. Figure 4.8-2 shows locations of the noise measurements and Table 4.8.C summarizes the results. Noise measurement data information is provided in Appendix I of this analysis.

Table 4.8.C: Existing Noise Level Measurements

Location Number	Location Description	Daytime Noise Levels[1] (dBA L_{eq})	Nighttime Noise Levels[2] (dBA L_{eq})	Average Daily Noise Levels (dBA L_{dn})	Primary Noise Sources
LT-1	On a billboard post south of Gilman Street, between Second Street and Fourth Street, approximately 40 feet south of the Gilman Street centerline and approximately 40 feet west of the center of train tracks.	73.5-82.8	56.5-83.6	85.0	Traffic along Gilman Street, industrial noise, occasional railroad noise, occasional aircraft.
LT-2	On a tree east of Eastshore Highway and in between Page Street and Jones Street, approximately 35 feet from the Eastshore Highway centerline.	70.9-75.7	69.6-74.6	79.0	Traffic along Eastshore Freeway (I-80/I-580), Eastshore Highway, construction noise, industrial noise.

Source: Compiled by LSA (January 2024).
[1] Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.
[2] Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.
I-80/I-580 = Interstate 80/ Interstate 580
L_{dn} = day/night noise level
L_{eq} = equivalent continuous sound level
dBA = A-weighted decibels

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LSA

Project Site

Long-Term Noise Monitoring Locations

FIGURE 4.8-2

N

0 100 200

FEET

SOURCE: Nearmap (2/2024)

Gilman Gateway Rezone Project EIR

Noise Monitoring Locations

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4.8.1.4 Regulatory Framework

The following section provides brief discussions of the federal and local regulatory framework related to noise.

Federal Transit Administration Standards For Construction. While the Federal Transit Administration's (FTA's) Transit Noise and Vibration Impact Assessment Manual (FTA Manual) was developed for determining significant noise and vibration impacts for transit projects and is not a regulation, it is one of the few federal sources that suggest both a methodology and criteria for assessing construction noise impacts.[2] The FTA Manual does not contain standardized criteria for assessing construction noise impacts but does include guidelines for noise limits at land uses where an adverse community reaction may occur. While the City of Berkeley establishes its own construction noise limits, as outlined below and shown in Table 4.8.H: Maximum Stationary Equipment Construction Noise Levels (dBA Leq), BMC Section 13.40.070 later in this subsection, it does not establish a methodology for measuring construction noise. FTA's general construction noise assessment approach recommends assessing the two noisiest pieces of construction equipment operating concurrently at the center of the project site. Prior noise assessments conducted and approved by the City of Berkeley used FTA's construction noise assessment approach. For these reasons, this Draft EIR uses the FTA's recommended methodology.

Federal Transit Administration Ground-Borne Vibration Criteria. The criteria for environmental impacts resulting from ground-borne vibration and noise are based on the maximum levels for a single event. The City of Berkeley's Municipal Code does not include specific criteria for assessing vibration impacts associated with structural damage that could result during construction. Therefore, for the purpose of determining the significance of vibration impacts experienced at sensitive uses surrounding the project site, the guidelines within the FTA Manual have been used to determine vibration impacts associated with potential damage and are presented in Table 4.8.D below.

Table 4.8.D: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage (historic resources included)	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), Table 12-3.
FTA = Federal Transit Administration
in/sec = inches per second
PPV = peak particle velocity

[2] Federal Transit Administration, Office of Planning and Environment. 2018. Transit Noise and Vibration Impact Assessment Manual, Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed August 9, 2024. September.

The FTA Manual guidelines show that a vibration level of up to 0.2 inches per second (in/sec) in PPV is considered safe for non-engineered timber and masonry buildings and a level of up to 0.12 in/sec in PPV is considered safe for historic structures and would not result in any construction vibration damage. Therefore, to be conservative, the 0.2 in/sec in PPV threshold has been used when evaluating vibration impacts at the nearest non-historic structures to the project site (i.e., a storage building north of the project site) and the 0.12 in/sec in PPV has been used for historic structures.

To provide numerical thresholds related to ground-borne vibration impacts, criteria included in the FTA Manual for human annoyance are shown in Table 4.8.E. The criteria account for the variation in project types as well as the frequency of events, which differ widely among projects. It is logical that when there are fewer events per day, it should take higher vibration levels to evoke the same community response. The variation in project times and the frequency of events is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, where the term "frequent events" is defined as more than 70 events per day. The level at which annoyance would occur within residences and buildings where people normally sleep is 72 VdB for frequent events.

Table 4.8.E: Ground-Borne Vibration Impact Criteria for General Assessment

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 µin/sec)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: Transit Noise and Vibration Impact Assessment Manual (FTA 2018), Table 8-1.

1 Frequent events are defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

2 Occasional events are defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

3 Infrequent events are defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

4 This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

µin/sec = microinches per second
FTA = Federal Transit Administration
HVAC = heating, ventilation, and air-conditioning
VdB = vibration velocity decibels

City of Berkeley General Plan. The Environmental Management Element of the City's General Plan addresses excessive noise. Major noise sources in the city include transportation, industrial plant noise, and activities associated with neighborhoods. The City's Noise Ordinance (codified in Chapter 13.40 of the Berkeley Municipal Code) sets limits for permissible daytime noise levels. The Environmental Management Element provides policies and actions to protect the community from excessive noise levels. Policies and actions applicable to the proposed project are as follows:

Policy EM-43: Noise Reduction. Reduce significant noise levels and minimize sources of noise.

Policy EM-44: Noise Prevention and Elimination. Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant future degradation of the acoustic environment.

Policy EM-45: Traffic Noise. Work with local and regional agencies to reduce local and regional traffic, which is the single largest source of unacceptable noise in the city.

Policy EM-46: Noise Mitigation. Require operational limitations and all feasible noise buffering for new uses that generate significant noise impacts near residential, institutional, or recreational uses.

Policy EM-47: Land Use Compatibility. Ensure that noise-sensitive uses, including, but not limited, to residences, child-care centers, hospitals, and nursing homes, are protected from detrimental noise levels.

- **Action EM-47-A:** Noise-sensitive development proposals should be reviewed with respect to the Land Use Compatibility Guidelines below.

Table 4.8.F presents the Noise and Land Use Compatibility Guidelines for the City. If the noise level is within the "normally acceptable" level, noise exposure would be acceptable for the intended land use. Development may take place without requiring an evaluation of the noise environment unless the use could generate noise impacts on adjacent uses.

Table 4.8.F: Noise and Land Use Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (L_{dn})					
	55	60	65	70	75	80
Residential, Hotels, and Motels						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial and Professional						
Auditoriums, Concert Halls, Amphitheaters						

	NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	CONDITIONALLY ACCEPTABLE: Specific land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features have been incorporated.
	UNACCEPTABLE: New construction or development should generally not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the Project to reduce exposure of people to unacceptable noise levels.

Sources: City of Berkeley, Draft Environmental Impact Report, West Berkeley Project, January 2010; City of Berkeley General Plan, April 2003.

If the noise level is within the "conditionally acceptable" level, noise exposure would be conditionally acceptable; a specified land use may be permitted only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Such noise insulation features may include measures to protect noise-sensitive outdoor activity areas (e.g., at residences, schools, or parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in sensitive receptors.

If the noise level is within the “unacceptable” level, new construction or development should not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the project reduce exposure of people to unacceptable noise levels.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address noise and vibration:

COA: Construction Noise Reduction Program. The applicant shall develop a site-specific noise reduction program prepared by a qualified acoustical consultant to reduce construction noise impacts to the maximum extent feasible, subject to review and approval of the Zoning Officer. The noise reduction program shall include the time limits for construction listed above, as measures needed to ensure that construction complies with BMC Section 13.40.070. The noise reduction program should include, but shall not be limited to, the following available controls to reduce construction noise levels to as low as practical:

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

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

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

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

e. Prohibit unnecessary idling of internal combustion engines.

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

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

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

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

COA: 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 consider project specific information such as the composition of the structures, location of the various types of equipment used during each phase of the project, and the soil characteristics in the project area 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 study of existing conditions (study) of any structures (or, in case of large buildings, of the portions of the structures) that may experience damage.

This study shall establish the baseline condition of these structures, including, but not limited to, the location and extent of any visible cracks or spalls; and include written descriptions and photographs.

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

COA: Construction Noise Management - Public Notice Required. At least 2 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: (1) a project description, (2) a description of construction activities during extended work hours and reason for extended hours, (3) a daily construction schedule (i.e., time of day) and expected duration (number of months), (4) the name and phone number of the Project Liaison for the project that is responsible for responding to any local complaints, and (5) that construction work is about to commence. The liaison would determine the cause of all construction-related complaints (e.g., starting too early, bad muffler, worker parking) and institute reasonable measures to correct the problem. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval.

COA: Construction Phases. The applicant shall provide the Zoning Officer with a schedule of major construction phases with start dates and expected duration, a description of the activities and anticipated noise levels of each phase, and the name(s) and phone number(s) of the individual(s) directly supervising each phase. The Zoning Officer or his/her designee shall have the authority to require an on-site meeting with these individuals as necessary to ensure compliance with these conditions. The applicant shall notify the Zoning Officer of any changes to this schedule as soon as possible.

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

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

COA: Construction Hours- Exceptions. It is recognized that certain construction activities, such as the placement of concrete, must be performed in a continuous manner and may require an extension of these work hours. Prior to initiating any activity that might require a longer period, the developer must notify the Zoning Officer and request an exception for a finite period of time. If the Zoning Officer approves the request, then 2 weeks prior to the expanded schedule, the developer shall notify businesses and residents within 500 feet of the project site describing the expanded construction hours. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval. The project shall not be allowed more than 15 extended working days.

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

a. Contact information (i.e. "hotline" phone number, and email address) for the project construction manager

b. Calendar and schedule of daily/weekly/monthly construction activities

c. The final Conditions of Approval, Mitigation Monitoring and Reporting Program, Transportation Construction Plan, Construction Noise Reduction Program, and any other reports or programs related to construction noise, air quality, and traffic.

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

City of Berkeley Municipal Code (BMC) Title 13. Public Peace, Morals and Welfare, Chapter 13.40 (Community Noise) addresses noise impacts. The ordinance establishes exterior and interior noise standards at receiving land uses and construction activity noise regulations as included below. Table 4.8.G shows the City's exterior and interior noise limits. The hourly noise level standards vary based on the receiving land use type and the time period. To assess intermittent or maximum noise levels, the time weighted noise level additions presented in BMC Section 13.40.050 and described in further detail below, should be applied.

Table 4.8.G: Exterior and Interior Noise Limits, BMC Section 13.40.050

Zoning District	Time Period	Noise Level (dBA)
Exterior Noise Limits		
R-1, R-2, R-1A, R-2A, and ESR	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	55 45
R-3 and above	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	60 55
Commercial	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	65 60
Industry	Anytime	70
Interior Noise Limits		
All	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	45 40

Source: City of Berkeley Municipal Code Tables 13.40-1 and 13.40-2 (2023).
BMC = Berkeley Municipal Code
dBA = A-weighted decibels

The maximum noise levels vary based on the receiving land use type and the time period. The ordinance also limits noise generated by construction. The ordinance restricts construction activities to weekdays between the hours of 7:00 a.m. and 7:00 p.m. and on weekends and holidays, between 9:00 a.m. and 8:00 p.m., except for emergency work.

The following noise standards are found in BMC Chapter 13.40.050:

A. Maximum permissible sound levels shall be determined by the zoning district of the property subject to the noise, not the property from which the noise originates.

1. The noise standards for the various categories of land use in Table 6 [of BMC Chapter 13.40.050 and shown in Table 4.8.G] shall, unless otherwise specifically indicated in other codes, apply to all such property within a designated zone.

2. No person shall operate or cause to be operated any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the sound level when measured on any other property to exceed:

a. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] for a cumulative period of more than 30 minutes in any hour; or

b. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or

c. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or

d. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 15 dBA for a cumulative period of more than 1 minute in any hour; or

e. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 20 dBA for any period of time.

The following interior noise standards are found in BMC Section 13.40.060:

1) No person shall operate or cause to be operated within a multi-family dwelling unit any source of sound or allow the creation of any noise which causes the sound level when measured inside a neighboring dwelling unit to exceed:

a. The noise standard as specified in Table 6 [Table 4.8.G of the Initial Study] for a cumulative period of more than 5 minutes in any hour; or

b. The noise standard as specified in Table 6 [Table 4.8.G of the Initial Study] plus 5 dBA for a cumulative period of more than one minute in any hour; or

c. The noise standard as specified in Table 6 [Table 4.8.G of the Initial Study] plus 10 dBA for any period of time.

Construction activities are divided into two categories: mobile equipment and stationary equipment. Mobile equipment, as defined by BMC Section 13.40.070, includes sound levels for nonscheduled, intermittent, short-term operation of less than 10 days of jackhammers, drills, saws, sander grinder, and similar tools. Stationary equipment, according to BMC Section 13.40.070, would be repetitively scheduled and relatively long-term operation for longer than 10 days. Equipment used during construction of the proposed project and the conceptual development project would be considered stationary because construction would last longer than 10 days. Where technically and economically feasible, construction activities shall be conducted in such a manner that maximum sound levels at affected properties will not exceed those listed in Table 4.8.H, below.

Table 4.8.H: Maximum Stationary Equipment Construction Noise Levels (dBA L_{eq}), BMC Section 13.40.070

Time of Day	R-1, R-2 Residential	R-3 and above Multi-Family Residential	Commercial/ Industrial
Weekdays 7:00 a.m. to 7:00 p.m.	60	65	70
Weekends 9:00 a.m. to 8:00 p.m. and legal holidays	50	55	60

Source: City of Berkeley Municipal Code Table 13.40-4 (2023).
BMC = Berkeley Municipal Code
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

4.8.2 Impacts and Mitigation Measures

The following describes the project's potential impacts on noise and vibration. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and the conceptual development project and identifies applicable COAs and/or mitigation measures, as appropriate.

4.8.2.1 Criteria of Significance

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact on noise if it would:

Threshold NOI-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies;

Threshold NOI-2: Expose persons to or generation of excessive ground borne vibration or ground borne noise levels; or

Threshold NOI-3: Be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, so that the project would result in exposure of people residing or working in the project area to excessive noise levels.

4.8.2.2 Impacts Not Evaluated in Detail

Public Airport. As previously discussed, the airports nearest to the project site are Oakland International Airport (approximately 11 miles southeast of the project site) and San Francisco International Airport (approximately 18 miles south of the project site). The nearest private airport, Buchanan Field Airport, is approximately 15 miles northeast of the site. Although aircraft-related noise is occasionally audible on the project site, the site does not lie within an airport land use plan area or within the 60 dBA L_{dn} noise contours of any of these public airports or private airfields. Therefore, the proposed project and the conceptual development project would not expose people residing or working in the project area to excessive noise levels due to the proximity of a public airport. There would be **no impact**.

4.8.2.3 Project Impacts

The following describes the proposed project's potential impacts on noise and vibration. Impacts associated with the zoning and General Plan/West Berkeley Plan amendments are evaluated at a programmatic level, whereas the potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible, given that specific details related to construction and operation are not fully known at this time.

As discussed in Chapter 3.0, Project Description, the proposed project would create a new zoning district, Manufacturing, Research and Development (M-RD), and amend the General Plan and West Berkeley Plan, to add the newly created district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to project site, but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory or office uses, which would involve demolition of proposed project site structures and new construction. In addition, the analysis includes the potential project impacts from implementation of the conceptual development project, which could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and office uses and approximately 1,900 parking spaces.

Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds. *(Less than Significant with Mitigation)*

The following describes the project's short-term construction and long-term operational noise impacts. Construction impacts are considered short term because noise generated by construction activities would be intermittent, variable, limited in duration, and would cease once the project becomes operational, as opposed to operational impacts which would generate noise levels on a

more constant basis and would occur over the life of the project. As discussed below, short-term construction noise impacts would be less than significant with implementation of recommended mitigation measures.

Short-Term (Construction) Noise Impacts. Project construction would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from 1 day to several days depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during demolition, grading, paving, and project site preparation activities associated with future development of the project site. Table 4.8.I lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet from the individual piece of equipment to allow for distance adjustment when assessing a specific site condition, as obtained from the Federal Highway Administration Roadway Construction Noise Model. Construction-related short-term noise levels would no longer occur once construction of the project is completed.

Table 4.8.I: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (Federal Highway Administration 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
L_{max} = maximum instantaneous sound level

Two types of short-term noise impacts could occur during construction of future development facilitated by the proposed project, including the conceptual development project. The first type involves construction crew commutes and the transport of construction equipment and materials to the project site, which would incrementally increase noise levels on roads leading to the project site. As shown in Table 4.8.I, there would be a relatively high single-event noise exposure potential at a maximum level of 84 dBA L_{max} with trucks passing at 50 feet from the project site as it is traveling on the roadway.

The second type of short-term noise impact is related to noise generated during demolition, excavation, grading, and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Generally, construction moves around a project site during different phases of construction, and therefore would not take place for any substantial duration at the perimeter of the project site. In addition, various phases of construction and equipment use and activity varies in duration and location throughout a construction site; therefore, multiple pieces of equipment would not concurrently operate for any substantial duration at any given location along the perimeter of the project site. Likewise, the noisiest construction equipment would only operate at various locations at the site perimeter for limited periods and, due to site constraints, would not concurrently operate in these locations. As such, construction noise is not calculated at the site perimeter as this would represent a narrowly-defined worst-case scenario that is not representative of typical construction conditions that would be experienced across the site or by nearby land uses and sensitive receptors. Furthermore, CEQA does not require analysis of a limited and unlikely worst-case condition rather, reasonably foreseeable consequences of project activities are to be evaluated.[3] Therefore, the center of the site is used to represent the average condition and to assess the typical noise generated during each phase of construction. This is accepted industry practice and is the methodology utilized in the short-term construction noise analysis below.[4]

The standard method for acoustical analysis of construction sites are based on the distance from the "acoustical center" or construction activity center of the site to the nearest noise-sensitive receptor. In other words, the proposed pieces of construction equipment are not modeled at the construction site boundary, but rather at the approximate center in which most of the

[3] High Sierra Rural Alliance v. County of Plumas (2018) 29 Cal.App.5th 102, 125-126 and East Oakland Stadium Alliance, et al v. City of Oakland, et al (Athletic Investment Group, et al, Real Parties in Interest) (2023) 89 Cal.App.5th 1226.

[4] The FTA's general noise assessment approach recommends assessing the two noisiest pieces of construction equipment operating concurrently at the center of a project site.

construction activity is likely to occur.[5] This concept further supports the use of the center of the site or an average condition to assess the typical noise generated during each phase of construction.

Typical maximum noise levels range up to 90 dBA L_{max} at 50 feet during the noisiest construction phases. The project site preparation and grading phases, including excavation and grading of the project site, tend to generate the highest noise levels because earthmoving machinery is the noisiest construction equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

The closest sensitive receptors would be the occupants of the 1306 Third Street building for both the proposed project and the conceptual development project. For the purposes of this analysis, it was assumed that the building at 1306 Third Street would be occupied and would be the last to develop with implementation of the proposed project, including the conceptual development project. The 1306 Third Street property is 380 feet from the *center* of the project site, representing the average construction distance, as discussed above. The potential short-term construction noise that sensitive receptors residing at 1306 Third Street may be subject to would be noise levels of 73 dBA L_{max}, because the 380-foot distance would decrease the noise level by 17 dBA, compared to the typical maximum noise levels of up to 90 dBA L_{max} at 50 feet as shown in Table 4.8.I, above.

As noted above, this EIR assumes that the building at 1306 Third Street would be demolished and redeveloped as part of the proposed project. Under the conceptual development project, the building at 1306 Third Street would remain; and therefore, it is considered an off-site sensitive receptor. Other off-site sensitive receptors include Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses approximately 500 feet east of the project site along Fifth Street. The building at 1306 Third Street is located 380 feet from the *center*, Duck's Nest Preschool is 730 feet east from *center* of the project site, representing the average construction distance. The potential short-term construction noise the property may be subject to would be noise levels of 67 dBA L_{max}, because the 730-foot distance would decrease the noise level by 23 dBA compared to the typical maximum noise levels of up to 90 dBA L_{max} at 50 feet as shown in Table 4.8.I, above.

According to the City of Berkeley Noise Ordinance (BMC Section 13.40.070), noise from construction activities is permitted to exceed the established maximum allowable noise performance standards, provided that the activities take place during the permissible hours for

5 City of Palo Alto, Appendix E - Construction Noise and Vibration Assessment, https://www.cityofpaloalto.org/files/assets/public/v/1/planning-amp-development-services/current-planning/uploads-for-website/new-folder-1/appendix-e-construction-noise-and-vibration-assessment.pdf, accessed September 11, 2024.

construction and all technically and economically feasible noise reduction measures are incorporated.

The proposed project and the conceptual development project would be required to implement COAs adopted for the purpose of reducing construction period noise impacts, including *COA: Construction Noise Reduction Program*, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website*, which would reduce construction noise impacts on any off-site sensitive receptors in the project vicinity and would require the project sponsor for individual development projects, including the conceptual development project, to implement all technically and economically feasible measures to reduce construction noise, consistent with the requirements of BMC Section 13.40.070.

Implementation of the City's COAs and compliance with BMC Section 13.40.070 would reduce construction noise impacts to the extent feasible; therefore, construction noise impacts would be **less than significant**.

Operational Noise Impacts. The proposed project would generate long-term noise impacts from traffic, stationary, and other operational noise sources, as discussed below.

Traffic Noise Impacts. The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the Average Daily Noise Level (L_{dn}) values. The existing and existing plus project traffic volumes in the vicinity of the project site were obtained from the Transportation Impact Analysis[6] prepared for the proposed project (Appendix E). Table 4.8.J lists the existing and existing plus project traffic noise levels adjacent to roadway segments in the project site vicinity. These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. The FHWA Noise Model Printouts are provided in Appendix J.

The results indicate that the increase in noise associated with project-related traffic would be up to 2.4 dBA along the segments analyzed. A noise level increase of less than 3 dBA would not be perceptible to the human ear; therefore, the traffic noise increases resulting from the proposed project would be **less than significant** and the proposed project would not create a substantial permanent increase in ambient noise levels.

Stationary Source Noise Impacts. Stationary noise sources associated with the proposed project include rooftop mechanical equipment. Maximum noise levels from rooftop mechanical equipment depend on the specific selection of equipment. To comply with BMC Section 13.40, noise standards future projects would be required to comply with *COA: HVAC*

6 Fehr & Peers. 2024. Transportation Impact Analysis, Gilman Gateway Rezone Project. January.

Noise Reduction. As part of compliance with City regulations, future project sponsors, including for the conceptual development project, would submit plans that show the location, type, and design of proposed HVAC equipment. In addition, the project sponsor would provide product specification sheets or a report from a qualified acoustical consultant showing that operation of the proposed HVAC equipment will meet the City's exterior noise requirements in BMC Section 13.40.050. With implementation of *COA: HVAC Noise Reduction*, it is not expected that the proposed project would substantially increase noise levels over existing conditions and impacts would be **less than significant**.

Table 4.8.J: Traffic Noise Levels Without and with Proposed Project

Roadway Segment	Existing		Opening Year		Opening Year With Project		
	ADT	L_{dn} (dBA) 50 feet from Centerline of Nearest Lane	ADT	L_{dn} (dBA) 50 feet from Centerline of Nearest Lane	ADT	L_{dn} (dBA) 50 feet from Centerline of Nearest Lane	Increase from Near-Term Conditions
Gilman Street West of Second Street	17,550	65.1	16,910	64.9	18,900	65.4	0.5
Gilman Street East of Second Street	14,360	64.2	14,650	64.3	15,650	64.6	0.3
Second Street North of Gilman Street	1,970	52.8	2,900	54.5	2,900	54.5	0.0
Second Street South of Gilman Street	1,320	51.1	1,320	51.1	2,310	53.5	2.4
Sixth Street North of Gilman Street	2,880	54.1	2,880	54.1	2,880	54.1	0.0
Sixth Street South of Gilman Street	5,560	57.0	5,560	57.0	5,690	57.1	0.1
Cedar Street East of Sixth Street	4,690	56.2	5,150	56.6	6,110	57.4	0.8
Cedar Street West of Sixth Street	3,190	54.5	3,340	54.7	4,790	56.3	1.6
Eastshore North of Cedar Street	3,570	58.5	4,370	59.4	4,790	59.8	0.4

Source: Compiled by LSA (March 2024).
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
Shaded cells indicate roadway segments adjacent to the project site.
ADT = average daily traffic
CNEL= Community Noise Equivalent Level
dBA = A-weighted decibels
L_{dn} = day/night noise level

As described above, the City establishes the acceptable daytime and nighttime maximum noise levels at receiving land uses. Daytime is considered to be between the hours of 7:00 a.m. and 10:00 p.m., and nighttime hours are between 10:00 p.m. and 7:00 a.m. BMC Chapter 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours. Although the COA establishes hours of operation for loading, it does not specify the need for loading operations to be located away from sensitive uses to avoid potential impacts. Therefore, impacts from loading operations could be potentially significant.

As described above, the City establishes acceptable daytime and nighttime noise levels. In addition, *COA: Loading* would ensure that loading operations occur within the hours of 7:00 a.m. to 10:00 p.m. daily. However, there are no proposed loading locations at this time and therefore the noise levels associated with such operations cannot be analyzed to ensure that City thresholds would be met. Therefore, Mitigation Measure NOI-1 would be required.

Mitigation Measure NOI-1 **Develop a Loading and Operations Plan (DLOP).** Future project sponsors shall prepare and submit a DLOP to the City of Berkeley Planning and Development Department showing compliance with design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322 Parking and Loading. The DLOP shall include details requiring the location, quantity, dimensions, and access for off-street and on-street loading facilities. The DLOP shall be developed incrementally, with a stand-alone plan developed and approved for each building or phase of project construction. A project phase may not begin construction until its DLOP has received City approval. The DLOP shall include data showing that loading operations would not exceed established City noise thresholds. BMC Section 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours.

Mitigation Measure NOI-1 would ensure that future development facilitated by the proposed project, including the conceptual development project, would satisfy a performance standard to prevent excessive noise that would result in impacts to sensitive receptors. Therefore, noise impacts associated with loading operations would be **less than significant with mitigation**.

Impact NOI-2: Construction and operation of the proposed project, including the conceptual development project, would not expose persons to or generation of excessive ground-borne vibration or ground borne noise levels. *(Less than Significant)*

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may cause perceptible vibration from the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called ground--borne noise. When assessing annoyance from ground-borne noise, vibration is typically expressed as RMS velocity in units of decibels of 1 micro-inch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB." Human perception to vibration in indoor environments starts at levels as low as 67 VdB and sometimes lower. Annoyance due to vibration in residential settings starts at 70 VdB. Ground--borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

In extreme cases, excessive ground--borne vibration has the potential to cause structural damage to buildings. Common sources of ground--borne vibration include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment.

The formulae for vibration transmission are:

$$L_vdB\ (D) = L_vdB\ (25\ ft) - 30\ Log\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Construction and operation of future development facilitated by the proposed project, including the conceptual development project, could expose sensitive receptors to excessive ground-borne vibration, as discussed below.

Construction Vibration. Construction vibration impact analysis assesses the potential for building damage using vibration levels in PPV (in/sec) and assesses the level of human annoyance using vibration levels in RMS (VdB). The assessment distance for potential construction vibration damage is associated with the peak condition, identified by the distance from the perimeter of construction activities to surrounding structures, while the assessment distance for potential construction vibration annoyance is associated with the average condition, identified by the distance from the center of construction activities to surrounding uses.

Construction Vibration Building Damage Potential. Construction activities that would take place at the project site have the potential to generate low levels of ground-borne vibration or ground-borne noise levels. Table 4.8.K provides reference PPV (in/sec) values from typical construction vibration sources at 25 feet. To provide an analysis of potential vibration levels expected for a project of this size, a large bulldozer would generate 0.089 PPV (in/sec) of ground-borne vibration when measured at 25 feet. As shown in Table 4.8.D, it would take a

minimum of 0.12 PPV (in/sec) to cause any potential building damage to buildings extremely susceptible to vibration damage.

Implementation of the proposed project would result in demolition of all existing structures on the project site. These activities would take place within approximately 20 feet of existing structures, because it is assumed that 1306 Third Street site, currently occupied by a structure containing occupied residential and commercial units, would be redeveloped during the last development phase. Pile driving is assumed to not be required during construction activities.

Table 4.8.K: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (in/sec)	L_V (VdB)[1]
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS VdB re 1 µin/sec.
µin/sec = microinches per second
ft = foot/feet
FTA = Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity in decibels

The structure on the project site is the historic structure at 1306 Third Street, located within the project site boundaries, and immediately adjacent to the conceptual development project site boundaries (within 20 feet of the project boundary). It is expected that vibration levels generated by large bulldozers and other large equipment that would be as close as 20 feet from the property line would generate ground-borne vibration levels of up to 0.124 PPV (in/sec) at the closest structures to the conceptual development project site. This vibration level would exceed the 0.12 PPV (in/sec) threshold that is considered safe for buildings extremely susceptible to vibration damage, which would result in significant impacts that may result in vibration damage. Vibration levels would be below the 0.12 PPV (in/sec) threshold at all other buildings at a distance greater than 20 feet from the project site boundary. Implementation of *COA: Damage Due to Construction Vibration*, would require any future development facilitated by proposed project, including the conceptual development project, to conduct a screening level analysis. If the 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 would be used to develop a construction vibration monitoring plan to avoid and minimize any potential impacts, and would be reviewed and approved by the City's Building and Safety Division and the Zoning Officer.

Therefore, with implementation of *COA: Damage Due to Construction Vibration,* impacts would be **less than significant**.

For all other equipment associated with the proposed construction activities, such as loaded trucks, vibration impacts would approach 0.106 PPV (in/sec) at a distance of 20 feet. This level would not exceed the 0.12 PPV (in/sec) threshold at which there is virtually no risk resulting in architectural damage to buildings extremely susceptible to vibration damage. It would be structurally safe from the construction activity and equipment operation for these adjacent buildings and no structural damages would occur as a result of on-site construction. In addition, *COA: Damage Due to Construction Vibration* requires an analysis of potential damage due to construction prior to, or concurrent with demolition building permit.

Construction Vibration Human Annoyance Potential. Using the reference vibration information, vibration levels associated with potential annoyance were also calculated. At an average distance of 380 feet, measured from the center of the project site, vibration levels would approach 52 VdB at 1306 Third Street, which includes commercial and residential units, while at an average distance of 730 feet from the center of the project site, vibration levels would approach 43 VdB at the Duck's Nest Preschool. These levels would be well below the 72 VdB threshold for residences and buildings where people normally sleep and the 75 VdB threshold for institutional uses with primarily daytime use.

With implementation of *COA: Damage Due to Construction Vibration*, construction of future development facilitated by the proposed project, including the conceptual development project, would not result in substantial ground-borne vibration on properties adjacent to the project site. Therefore, impacts associated with ground-borne vibration and ground-borne noise levels during construction would be **less than significant**.

Operational Vibration. No permanent noise sources, such as large machinery, that would expose persons to excessive ground-borne vibration or noise levels would be located within the project site. In addition, vibration levels generated from project-related traffic on the adjacent roadways are unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. Based on a reference vibration level of 0.076 in/sec PPV, structures greater than 20 feet from the roadways that contain project trips would experience vibration levels below the most conservative standard of 0.12 in/sec PPV. Therefore, this impact would be **less than significant**.

4.8.2.4 Cumulative Impacts

As explained above, both noise and vibration are localized impacts. For construction noise and vibration impacts, the only relevant cumulative projects, as specified in Table 4.A in Section 4.0, Setting, Impacts and Mitigation Measures, would be probable future projects near the project site that are anticipated to be under construction at the same time as the project. However, given the existing ambient noise environment and implementation of the City's construction period COAs, it is not expected that construction activity at the project site would combine with other nearby construction projects to result in excessive noise levels. Accordingly, the proposed project and the conceptual development project would not contribute to any significant cumulative construction

noise or vibration impact. In addition, future projects that could be under construction in the vicinity of the project site would undergo separate evaluation and potential environmental review and would be required to consider the proposed project in the cumulative assumptions and analyses to ensure that cumulative construction period impacts would not occur.

Regarding operational noise, the cumulative projects in the vicinity of the project site that could contribute to a cumulative stationary source or traffic noise impact would not result in a doubling of traffic rates from project baseline and, therefore, noise traffic would not increase above 3 dBA L_{dn}. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Furthermore, the projects listed in Table 4.A are also expected to comply with BMC Chapter 13.40, noise standards for operational noise. Accordingly, the project would not contribute to any significant cumulative noise impact during project operations.

Therefore, the proposed project and the conceptual development project would not contribute to a cumulatively considerable noise-related effect, and this impact would be **less than significant**.

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4.9 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section provides an overview of potential hazards and hazardous materials within and in the vicinity of the project site and assesses potential impacts to public health and safety and the environment that could result from implementation of the proposed project. Mitigation measures to reduce significant impacts are identified, where appropriate.

4.9.1 Setting

This section describes the existing conditions related to hazards and hazardous materials within and in the vicinity of the project site, as well as the applicable regulatory agency framework and local policies.

4.9.1.1 Project Site History and Current Corrective Actions

The project site is along the former shoreline of a marsh that roughly paralleled Second Street prior to the placement of fill material on the marshland in the early 1900s.[1]

The following information regarding historical land uses at the project site was obtained from the review of Historical Sanborn Fire Insurance Maps presented in a 2018 Phase I Environmental Site Assessment (ESA)[2] that evaluated much of the project site, including the parcels associated with the former Pacific Steel Casting site and the parcel at 1433 Eastshore Highway. As early as 1903, there were railroad tracks adjacent to the east of the project site and a railroad spur along Second Street. The portion of the project site east of Second Street consisted primarily of vacant lots and residential dwellings with limited industrial/commercial use, including a vacant tannery in the east-central portion of the project site. By 1911, additional industrial facilities were present in the southeast portion of the project site, including a chemical works, iron works, and foundry with a machine shop. By 1929, additional industrial facilities were present on the project site, including tile and furniture manufacturing facilities on the eastern portion, a detinning facility on the southeast portion, and the Berkeley Steel Construction Company facilities on the west-central portion, which included a foundry, machine shop, and airplane factory.[3]

By 1950, industrial uses on the project site had expanded considerably and included a bulk petroleum storage and distribution facility on the northeast portion, a warehouse on the northeast

1 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

2 AEI Consultants. 2018. Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710.

3 Detinning involves the removal of tin from tinplate scrap.

portion (which appears to be the building at 1306 Third Street that currently includes non-conforming commercial tenants and residential units), a gas station on the northwest corner, a drafting equipment factory in the northwest portion, additional steel manufacturing facilities across much of the western and east-central portion, machine shops on the east-central portion and southeast corner, and a venetian blind manufacturing facility on the southeast portion. By 1963, an additional gas station was present on the northwest portion of the project site and an automobile wrecking facility was present on the southwest portion. By 1970, a solvent mixing facility was present on the northeast corner of the project site, the current building at 1306 Third Street was identified as an ornamental art studio, and a truck service facility was present in the central-eastern portion of the project site. By 1980 new industrial buildings of the Pacific Steel Casting company were present in the southeast and southwest portions, and above-ground oil tanks were present adjacent to the new building in southwest portion of the project site. Figure 4.9-1 depicts the locations of select historical land uses of environmental concern.

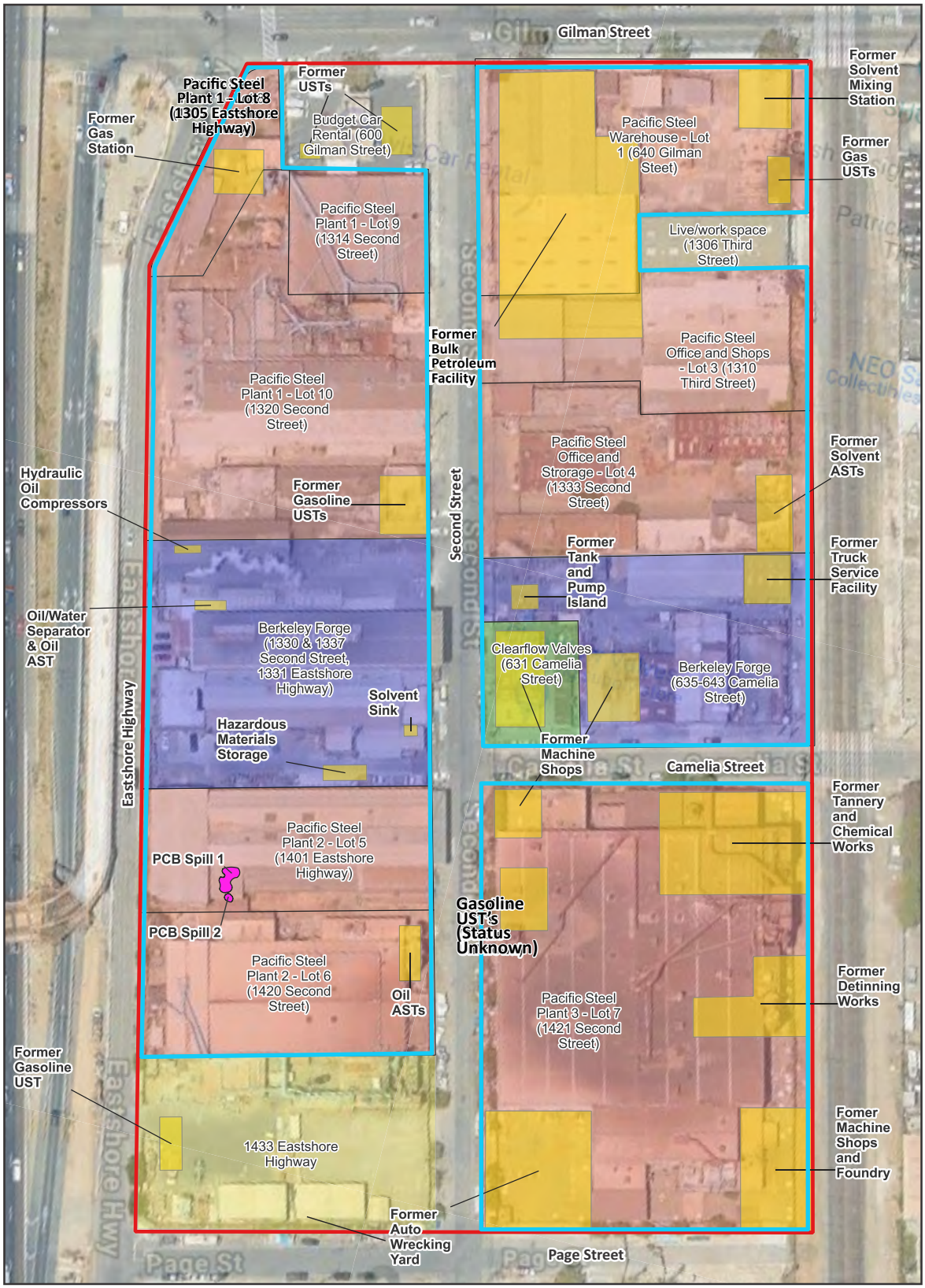
By the late 1970s, Berkeley Forge and Tool occupied a large area in the central portion of the project site. Facilities of the Berkeley Forge and Tool facility, documented in 2002, included a hammer shop with hydraulic presses, heat-treating baths, a machine shop, and a dye shop.[4]

Industrial and commercial uses of the project site continued to the present or near present. As described in Chapter 3.0, Project Description, Pacific Steel Casting occupied much of the project site and operated until 2018, and Berkeley Forge and Tool is currently in the process of closing operations. Other recent/on-going uses of the project site have included Clearflow Valves (industrial/manufacturing facility), non-conforming commercial tenant spaces and residential units, vehicle rental, recycled materials processing (no longer operational), and storage of materials.

The investigation of hazardous materials releases and subsurface contamination at the conceptual development project site is under the jurisdiction of the Department of Toxic Substances Control (DTSC) pursuant to the California Land Reuse and Revitalization Act (CLRRA). The project sponsor for the conceptual development project has entered into a voluntary CLRRA Agreement with DTSC dated November 23, 2022, to oversee environmental investigation and remediation associated with redevelopment of the conceptual development project site.[5] In accordance with the CLRRA agreement, the project sponsor for the conceptual development project is required to submit the following to DTSC:

[4] Ninyo & Moore. 2002. Phase I Environmental Site Assessment, 1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street, Berkeley, California, April 24.

[5] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.



LSA

LEGEND

- Project Site Boundary
- Potential Berkeley Forge Development Site
- Clearflow Valves Properties
- Berkeley Forge Properties
- Pacific Steel Properties
- Land Use/Features of Environmental Concern

Notes: UST stands for Underground Storage Tank and AST stands for Aboveground Legend Storage Tank. PCB stands for polychlorinated biphenyls.

FIGURE 4.9-1

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0 110 220

FEET

SOURCE: Baseline Consulting

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Gilman Gateway Rezone Project EIR

Locations of Environmental Concerns

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- All known data and information concerning contamination at conceptual development project site.

- A Site Assessment Plan to conduct a site assessment in accordance with the requirements of Health and Safety Code Section 25395.94.

- A Report of Findings documenting the implementation of the site assessment and containing all information required under Health and Safety Code Section 25395.94(b) and (c), and Health and Safety Code Section 25395.95.

- A Response Plan if DTSC's review of the Report of Findings determines that a response action is necessary to prevent or eliminate an unreasonable risk. The Response Plan must contain the information specified in Health and Safety Code Section 25395.96(a) and (b) and must provide that implementation of the plan would place the Site in condition that allows it to be used for its reasonably anticipated future land use without unreasonable risk to human health and safety and the environment.

Public participation for the Response Plan must meet the requirements of Health and Safety Code section 25395.96, including a DTSC public meeting if requested. Upon approval of the Response Plan, DTSC would notify all appropriate persons including the City of Berkeley (City), East Bay Municipal Utility District, San Francisco Bay Regional Water Quality Control Board (RWQCB), and the Alameda County Department of Environmental Health.

In accordance with the CLRRA agreement, the project sponsor for the conceptual development project is required to take all actions required by the Response Plan. DTSC would issue a certificate of completion upon determining that all response actions have been satisfactorily completed in accordance with the approved Response Plan and that, based upon the data provided to DTSC at the time of the determination, no further remedial action is needed, except for compliance with operation and maintenance (O&M), land use restriction requirements, and monitoring and reporting requirements, if applicable. If the Response Plan includes long-term obligations that have not been completed, including O&M requirements or monitoring, DTSC would not issue a certificate of completion unless DTSC determines 1) all response actions other than the long-term O&M requirements and monitoring in the Response Plan have been completed; 2) an adequate long-term O&M plan has been submitted; and 3) initial compliance with the O&M plan has been demonstrated. If DTSC determines long-term O&M would be required, as provided in an approved Response Plan, DTSC may, as a condition of issuing a certificate of completion, enter into an O&M agreement with the project sponsor for the conceptual development project that governs long-term O&M activities and that provides for adequate financial assurance.[6]

At this time, the project sponsor for the conceptual development project has submitted data and information concerning contamination at the conceptual development project site to DTSC, prepared and implemented a Site Assessment Plan which was approved by DTSC, and submitted a Report of Findings to DTSC as described below in Section 4.9.1.2. The project sponsor for the

[6] DTSC. 2022. Docket No. HSA-FY22/23-040, California Land Reuse and Revitalization Act Agreement, Health and Safety Code Sections 25395.91-25395.92, Executed November 23.

conceptual development project is currently preparing a Response Plan as described below under Impact HAZ-2 in Section 4.9.2.3.

4.9.1.2 Hazardous Materials Use, Releases, and Subsurface Contamination

Information regarding known and potential hazardous materials use, releases, and subsurface contamination at the project site was obtained from review of Phase II ESAs performed in 1993 and 2003 for the southern portion of the project site (for the former Pacific Casting Facility Plant Numbers 2 and 3), a 2002 Phase I ESA[7] prepared for the Berkeley Forge and Tool properties, the 2018 Phase I ESA,[8] and a 2023 Phase I ESA[9] and Report of Findings[10] for the Potential Berkeley Forge Development. There have been numerous environmental investigations performed at the project site, the details of which are summarized in these reports. Figure 4.9-1 depicts the locations of select historical land uses and features that may have been sources of subsurface contamination.

1993 Phase II ESA. A 1993 Phase II ESA[11] was prepared for the southern portion of the project site that presented the following environmental concerns:

- The southeastern portion of the project site historically had numerous industrial and commercial uses including a chemical works, foundry, detinning works, machine shop, a printing shop, and painting and finishing associated with woodworking facilities.
- Between 1969 and 1980, areas in the southwestern and southeastern portions of the project site were used as an automobile wrecking yard that likely handled a variety of hazardous materials including petroleum hydrocarbons, metals, and volatile organic compounds (VOCs).
- Imported fill of unknown quality was likely utilized to reclaim a portion of the project site from former marshland.
- Historical features of environmental concern were identified in the southeast portion of the project site based on Sanborn maps and discussions with on-site personnel, including possible underground storage tanks (USTs), a refuse burner, furnaces, a concrete vault, a wastewater clarifier, and a former brick lined well/sump.

7 DTSC. 2022. Docket No. HSA-FY22/23-040, California Land Reuse and Revitalization Act Agreement, Health and Safety Code Sections 25395.91-25395.92, Executed November 23.

8 AEI Consultants. 2018. Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710.

9 Langan. 2023d. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, July 28.

10 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

11 Lowney Associates. 1993. Soil and Groundwater Quality Reconnaissance, Pacific Steel Casting Company, Berkeley, California, May.

- A 4,000-gallon gasoline UST was undergoing separate evaluation for groundwater quality impacts due to a piping leak.

The 1993 Phase II ESA included soil and groundwater sampling to evaluate features of concern discussed above, and presented the following findings:

- Only relatively minor impacts from petroleum hydrocarbons were noted in soil.

- Groundwater samples from the southeastern portion of the project site contained contaminants including total petroleum hydrocarbons (TPH) as diesel, trichloroethylene (TCE), carbon tetrachloride, bromodichloromethane, and chloroform.

- Elevated levels of zinc and lead were detected in one shallow soil sample and one groundwater sample from the southeastern portion of the project site.

2003 Phase II ESA. A 2003 Phase II ESA[12] was prepared for the southern portion of the project site to further evaluate environmental concerns and areas of contamination identified by previous investigations. The 2003 Phase II ESA identified groundwater contamination from naphthalene in the southeast portion of the project site, and groundwater contamination from naphthalene, TPH as gasoline, and VOCs including methyl-tert-butyl-ether (MTBE), benzene, toluene, ethylbenzene, and xylenes, which are typically associated with gasoline, on the southwest portion of the project site (near a former UST).

2002 Phase I ESA. A 2002 Phase I ESA[13] was prepared for the Berkeley Forge and Tool properties on the central portion of the project site that identified the presence of several above-ground storage tanks (ASTs) and other containers of hazardous materials and indicated that two USTs were removed from the eastern portion of the Berkeley Forge and Tool properties in 1997. It is presumed that the USTs were in the area identified as the "Former Tank and Pump Island" on Figure 4.9-1 based on a figure presented in the 2002 Phase I ESA. The 2002 Phase I ESA also indicated that a machine shop was present in the building adjacent to the east of the Clearflow Valves facility. The 2002 Phase I ESA identified the following environmental concerns and recommended that sampling be performed to evaluate them.

- Benzene and MTBE were detected in soil and groundwater samples collected during removal of the USTs.

- Evidence of chemical releases were observed in several areas including in the dye room (northeast corner of the Berkeley Forge and Tool properties), hammer shop (northwest corner of the Berkeley Forge and Tool properties), and drum storage area (presumed to be the

12 Anchor Environmental Consultants. 2003. Phase II Environmental Site Assessment, Pacific Steel Casting, 1420-1421 Second Street, Berkeley, California, January 22.

13 Ninyo & Moore. 2002. Phase I Environmental Site Assessment, 1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street, Berkeley, California, April 24.

hazardous materials storage area in the south-central portion of the Berkeley Forge and Tool properties). Hydrocarbon odors were emanating from a storm drain on Second Street.

- Cracked concrete was noted in areas that used hazardous materials, and the cracks could have allowed hazardous materials to migrate to the subsurface.

- The dye room (northwest corner of the Berkeley Forge and Tool properties) was previously used as a truck maintenance facility.

- Potential groundwater contamination due to the proximity of the Pacific Steel Casting site, which was a hazardous waste generator and leaking UST (LUST) site.

2018 Phase I ESA. The 2018 Phase I ESA[14] identified the following environmental concerns at the project site and recommended that a subsurface investigation be performed.

- Due to the age of buildings that were evaluated, there is a potential that asbestos--containing materials (ACMs) and lead--based paint (LBP) may be present.

- Various below-grade areas (e.g., chambers and vaults) were identified within former manufacturing rooms of the Pacific Steel Casting site on the northwest portion of the project site; however, these below-grade areas were not accessed due to the unknown safety of the areas, and these features should be identified, and it should be determined if any drains, sumps or former hazardous materials are in these areas.

- There are various pits within the former Pacific Steel Casting site portion of the project site that were used in the transfer of molten metal into ladles. The pits are approximately 10 feet deep and are each equipped with a dewatering sump due to shallow groundwater. The sumps discharge groundwater directly to the municipal system. Additionally, there are above-ground oil/water separators within the former Pacific Steel Casting site portion of the project site for cooling water which is discharged directly into the municipal system. Testing of the wastewater effluent from these features was reportedly not required. The Pacific Steel Casting site was categorized as a minor threat to groundwater.

- In the 1990s, four fuel USTs which were associated the former Pacific Steel Casting site were removed from the project site, and following remediation activities (removal of soil and groundwater) and investigation of soil and groundwater in the USTs areas, closure of the LUST cases was approved by the City of Berkeley Toxics Management Division (TMD) and confirmed by the RWQCB.

- Regulatory agencies documented various hazardous materials, petroleum products, and hazardous wastes as being used on the former Pacific Steel Casting site beginning in 1965. The review of TMD records indicates that the former Pacific Steel Casting site had violations

[14] AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710. January 17.

pertaining to minor hazardous material releases in addition to numerous illegal releases or discharges to on-site storm drains. Various storm drains are present on the project site and some drains appeared to be pumped to a water collection container on the northwest portion of the project site that appeared to be overflowing at the time the Phase I ESA was prepared.

- Surficial oily staining was observed in many interior and exterior areas of the former Pacific Steel Casting site. Based on the quantity of staining observed in combination with the presence of the floor and storm drains, there is the potential that hazardous material releases to the subsurface of the project site occurred.

- Railroad tracks are on and adjacent to the project site. Railroad tracks and spurs represent environmental concerns due to the historical application of oils containing polychlorinated biphenyls (PCBs), herbicides, and arsenic for pest and weed control, as well as the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material.

- No regulatory agency information regarding UST removal/remediation was identified for the former gas station in the northwest corner of the project site. Elevated concentrations of contaminants, including petroleum hydrocarbons and heavy metals, were detected in soil and groundwater in this area during 2013 subsurface investigations.

- No regulatory agency information regarding a former auto wrecking yard in the southern portion of the project site was identified. Elevated concentrations of contaminants including petroleum hydrocarbons, heavy metals, and VOCs were detected in soil and groundwater in this area during 2013 subsurface investigations.

- No regulatory agency information regarding a former chemical works facility in the central-eastern portion of the project site was identified. Elevated concentrations of contaminants including petroleum hydrocarbons, heavy metals, and VOCs were detected in soil and groundwater in this area during 2013 subsurface investigations.

- Two 1,000-gallon gasoline USTs were installed in 1975 in the south-central portion of the project site. No regulatory agency information regarding UST removal/remediation was identified for these USTs. Elevated concentrations of contaminants including petroleum hydrocarbons, VOCs, and semi-volatile organic compounds were detected in this area during previous investigations.

- A detinning works facility equipped with solution tanks, a laboratory, and storage structure was historically located in the southeast portion of the project site. Elevated concentrations of contaminants including TCE and cobalt were detected in soils in this area during previous subsurface investigations.

- A bulk oil storage and distribution facility that included a laboratory, oil warehouse, furnace, garage, solvent mixing and filling building, and several ASTs of oil and gasoline was historically located in the northeast portion of the project site. Elevated concentrations of contaminants including petroleum hydrocarbons and heavy metals were detected in soil and groundwater in this area during 2013 subsurface investigations.

- A chemical packaging company with three 3,000-gallon solvent ASTs was historically located in the central-eastern portion of the project site.

- Multiple machine shops and manufacturing facilities were historically located on the project site.

- An 8,000-gallon gasoline UST was removed from the northwest portion of the project site (600 Gilman Street) in February 2014. Petroleum hydrocarbons in the samples collected during UST removal appeared to be consistent with conditions previously reported in the case-closure documentation for the former USTs at this property. Based on this information, the TMD granted the case closure.

2023 Phase I ESA. A 2023 Phase I ESA[15] was prepared for the Potential Berkeley Forge Development site, which identified the following environmental concerns.

- Environmental sampling has identified contamination of soil, groundwater, and soil vapor. Primary contaminants include TPH as diesel and motor oil, select VOCs, and metals in soil and/or groundwater. Impacts to soil vapor at the subject property include benzene, TCE, vinyl chloride, and methane, which indicates a potential Vapor Encroachment Condition. Based on the site history, there is also a potential for undocumented USTs to be encountered.

- The 300-gallon oil AST on the western portion of Berkeley Forge and Tool properties has significant staining and cracking of the pavement in the surrounding area.

- A former tannery to the east of the project site (adjacent to and east of the railroad tracks) may have handled VOCs that could have affected the project site based on its upgradient location relative to the project site.

- Removal of six USTs within the project site has been documented and any residual impacts to soil or groundwater was remediated with closure approval from the TMD or the RWQCB. Therefore, the historical soil and groundwater contamination associated with former UST removal activities are a historical recognized environmental condition.[16]

- Groundwater contamination from hexavalent chromium has migrated beneath the project site from an eastern off-site property.

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15 Langan. 2023b. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, July 28.

16 A previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations).

- Numerous areas of debris and stained pavement were identified but were considered a de minimis condition.[17]

- Although the 2023 Phase I ESA indicates that the six USTs removed from the project site have received closure approval from the TMD or the RWQCB, documentation of regulatory agency notification or closure for the two USTs removed from the Berkeley Forge and Tool properties in 1997 has not been identified.

2023 Report of Findings. In 2023, a Report of Findings was prepared by the project sponsor pursuant to Health and Safety Code Chapter 6.82 and 6.83 (CLRRA) (see State Regulations under Section 4.9.1.7, below) for DTSC approval. The purpose of the Report of Findings is to provide the information needed for DTSC to determine whether a response action is necessary to address any unreasonable risk from hazardous materials at the conceptual development project site. The Report [18] summarizes the findings of subsurface investigations performed between 2013 and 2023 at the conceptual development project site. The Report of Findings indicates that previous investigations identified contamination of soil with hazardous materials including TPH compounds, VOCs (primarily chlorinated solvents and those associated with petroleum products), and heavy metals at concentrations that exceed current commercial/industrial Environmental Screening Levels (ESLs) in various areas of the project site. Groundwater contamination from TPH compounds and VOCs at concentrations exceeding ESLs, and areas of TPH free product[19] have also been identified at the project site. The Report of Findings also describes two previous spills of PCBs that occurred in the southwest portion of the project site (shown on Figure 4.9-1), remediation (removal of affected concrete and soil) from the larger and more recent spill area identified as PCB Spill 1, and soil and groundwater sampling activities performed in the areas of the PCB spills. Following remediation of PCB Spill 1, concentrations of PCBs exceeding commercial/industrial ESLs were detected in shallow soil samples collected during evaluation of an older PCB spill identified as PCB Spill 2. Additional sampling indicated that the extent of contamination from PCBs in the spill areas was limited and had not affected groundwater.

The Report of Findings documents additional site assessment activities performed in September 2023 to further delineate known contamination and evaluate the quality of fill material/soil, groundwater, and soil vapor in the area of the conceptual development project site. The site assessment activities were performed in general accordance with a Site Assessment Plan[20] that was

17 A condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

18 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

19 Free product is a term used to describe a separate phase liquid (typically petroleum products) that floats on top of the groundwater surface.

20 Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

conditionally approved by DTSC.[21] Deviations from the Site Assessment Plan occurred during the field work, including that some soil samples were not collected when heavy staining and petroleum odors were observed in the borings, some borings could not be advanced due to subsurface obstructions or equipment/access limitations, and some borings were advanced in the wrong locations due to a lack of lighting within buildings and difficulty discerning previously sampled locations.

The Report of Findings indicates that soil vapor samples were not collected in areas where significant petroleum contamination was previously identified due to the potential for interference from the petroleum compounds; it proposes that soil vapor within these areas be re-evaluated in conjunction with any proposed remedial activities to address the petroleum contamination. Sampling was not performed at the Clearflow Valves facility, because the Site Assessment Plan[22] indicated that, based on the review of the 2018 Phase I ESA and 2002 Phase I ESA,[23] there was no indication of a release or potential sources within the Clearflow Valves facility that would dictate the need for sampling.

The Report of Findings divided the conceptual development project site into three operable units (OUs)[24]: the Pacific Steel OU, Berkeley Forge OU, and Fill OU. The Pacific Steel OU includes the areas previously occupied by the former Pacific Steel Casting Facility (see Figure 4.9-1, "Pacific Steel Properties"). The Berkeley Forge OU includes areas occupied by the Berkeley Forge and Clearflow Valves facilities (see Figure 4.9-1, "Berkeley Forge Properties" and Clearflow Valves Properties"). The Fill OU includes the undocumented fill across the conceptual development project site.

The Report of Findings indicates that based on the limited extent of groundwater impacts, it is anticipated that the impacts to soil are limited to the fill zone, are not widespread, and have not migrated off-site. The Report of Findings also indicates that, although areas across the project site exhibit impacts, migration of these contaminants in groundwater appears to be attenuated by the high clay content in subsurface soil. Additionally, contaminated groundwater in the fill zone may not be considered potable due to concentrations of total dissolved solids or low water production. The following summarizes the findings and conclusions from the Report of Findings regarding contamination identified to date at the three OUs of the conceptual development project site.

> ***Fill-OU.*** Contamination from heavy metals in soil is generally associated with the Fill-OU and therefore is not described as part of the soil contamination described for the other OUs below.

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21 DTSC. 2023. Letter Regarding: Site Assessment Plan, Berkeley Forge Development Project, Eastshore Highway/Gilman Street/3rd Street/Page Street/631 – 643 Camelia Street, Berkeley, California (Site Code 202428), August 10.

22 Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

23 The 2023 Phase I ESA that evaluated the Clearflow Valves facility had not been prepared at the time the Site Assessment Plan was prepared; however, the 2023 Phase I ESA also did not identify that the Clearflow Valves facility had historically been used as a machine shop.

24 Operable unit is a term used to describe specific areas within a site that may be determined based similarities in characteristics such as the location, historic use, affected media, or hazardous substances present.

Elevated concentrations[25] of heavy metals (primarily lead and arsenic) have been identified in soil in various areas across the project site. Several locations across the project site have been identified as having lead concentrations exceeding 1,000 milligrams per kilogram, which exceeds California's hazardous waste threshold for total lead. The extent of impacts from lead are not fully delineated; however, the Report of Findings indicates that the extent of lead is likely to be limited, as hot spots for lead are typically observed where undocumented fill is placed, rather than extensive impacted areas.

Pacific Steel OU. Soil contamination identified in the Pacific Steel OU is primarily from TPH as diesel, and is primarily associated with the former bulk oil facility in the northeast portion of the project site. Groundwater contamination identified in the Pacific Steel OU is primarily from TPH (as diesel and to a lesser degree as gasoline) and VOCs (primarily benzene, perchloroethylene [PCE], and TCE). Groundwater contamination from TPH as diesel is present in various areas across the project site, with the most significant contamination associated with the former bulk oil facility in the northeast portion of the project site. Groundwater contamination from TPH as gasoline and benzene is also present in the northeast portion of the project site, and groundwater contamination from TPH as gasoline is also present near former USTs in the Plant 1 area in the northwest portion of the project site. Groundwater contamination from PCE and TCE is present primarily beneath the warehouse in the southeast portion of the project site.

Soil vapor contamination identified in the Pacific Steel OU includes elevated concentrations of VOCs including benzene, PCE, TCE, vinyl chloride, and carbon tetrachloride that have been detected in various areas across the project site. The largest area of PCE and TCE contamination identified in soil vapor (which also has the highest concentrations) is present beneath the southeast portion of the project site. An elevated concentration of methane (exceeding 25 percent of the lower explosive limit) was also detected in soil vapor in the northwest portion of the project site.

Berkeley Forge OU. Soil and groundwater contamination identified in the Berkeley Forge OU is primarily from TPH as diesel in the western portion of the project site (in the northwest corner of the Berkeley Forge OU where free product was previously observed). No significant VOC concentrations were detected in soil or groundwater in the Berkeley Forge OU. Elevated concentrations of benzene have been detected in soil vapor in the western portion of the Berkeley Forge OU, and elevated concentrations of PCE have been detected in soil vapor in the eastern portion of the Berkeley Forge OU, immediately east of the Clearflow Valves facility.

4.9.1.3 Hazardous Materials Transport, Emergency Response, and Evacuation

Hazardous materials are transported through Berkeley by truck, rail, and pipelines. Specific routes known to carry hazardous materials near the project site include Interstate 80, Gilman Avenue, Union Pacific Railroad (UPRR) tracks adjacent to the east of the project site, and petroleum fuel pipelines that run along the UPRR tracks, which are operated by Kinder Morgan. Each fuel pipeline

[25] The term "elevated concentrations" is used throughout this section when describing concentrations that exceed applicable screening levels established by regulatory agencies that were used for comparison in the Report of Findings.

has automatic, remote control, and other manual valves along its length and the flow can be shut down within minutes.[26] Petroleum pipelines have been subject to pipeline safety and maintenance regulations since 1979, including the federal Hazardous Liquid Pipeline Safety Act (Title 49, Code of Federal Regulations, Part 195.412) and State regulations (California Government Code Section 51010-51019.1). These regulations require that petroleum pipelines be designed with equipment, such as low-pressure alarms and safety shut-down devices, to minimize spill volume in the event of a leak.

Pipeline mapping from the National Pipeline Mapping System indicates that the Kinder Morgan fuel pipelines are on the east and west sides of the UPRR tracks, and the western pipeline is adjacent to the eastern portion of the project site.[27] Based on the review of utility markings that are visible on Google Maps street view imagery, it appears that the western petroleum pipeline may be within 5 feet of an existing structure along the east side of the project site and to the south of Camelia Street.[28]

The Berkeley Fire Department is the first responder for hazardous materials incidents within the City and has access to chemical inventories, locations, and emergency planning for hazardous materials facilities. The Berkeley Public Works Department manages the City's hazardous materials emergency response to spills within the public right-of-way, along with the City's hazardous materials emergency response contractor. Designated emergency response and evacuation routes near the project site are Gilman Street, Cedar Street, and [29] The Berkeley Fire Department supports the Berkeley Police Department in evacuations due to fires or hazardous material incidents[30]

4.9.1.4 Schools

The nearest school to the project site is Duck's Nest Preschool, 410 feet to the east at 1411 Fourth Street. No other schools were identified within 0.25 mile of the project site.[31]

4.9.1.5 Aviation Hazards

The project site is 11 miles north of Oakland International Airport, which is the nearest public airport. The project site is not within a public airport land use plan area or within 2 miles of a public use airport.

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26 City of Berkeley. 2019. Local Hazard Mitigation Plan, Final, December 10.

27 National Pipeline Mapping System (NPMS). 2024. NPMS Public Viewer, Website: https://pvnpms.phmsa.dot.gov/PublicViewer/ (accessed February 22, 2024).

28 Google Maps, 2024. Street View Imagery, Website: https://www.google.com/maps/@37.8769526,-122.3041836,3a,75y,196.88h,76.95t/data=!3m6!1e1!3m4!1s4WoLX4UT4HFXPdekeVyz1A!2e0!7i16384!8i8192?entry=ttu (accessed February 22, 2024).

29 City of Berkeley. 2019. Local Hazard Mitigation Plan, Final, December 10.

30 City of Berkeley. 2016. Emergency Operations Plan, Base Plan.

31 California Department of Education. 2024. California Schools Directory. Website: https://www.cde.ca.gov/schooldirectory (accessed February 21, 2024).

4.9.1.6 Wildland Fire Hazards

The project site and adjacent areas are not in a Very High Fire Hazard Severity Zone as mapped by the CAL FIRE and are not within any State responsibility areas (SRA) for fire service.[32]

4.9.1.7 Regulatory Framework

The use, storage, and disposal of hazardous materials—including management of contaminated soils and groundwater—is regulated by numerous local, State, and federal laws and regulations. Federal, State, regional, and local agencies' jurisdictions in the management of hazards and hazardous materials, as applicable to the proposed project, are described below.

Federal Regulations. At the federal level, the United States Environmental Protection Agency (USEPA) administers hazardous materials and hazardous waste regulations, the Occupational Safety and Health Administration (OSHA) regulates worker safety related to hazardous material handling, and the United States Department of Transportation (DOT) regulates hazardous waste transportation. The authority of these agencies and applicable regulations are described below.

United States Environmental Protection Agency. The USEPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily found in Title 40 of the Code of Federal Regulations (CFR). The legislation includes the Resource Conservation and Recovery Act (RCRA) of 1976, the Superfund Amendments and Reauthorization Acts of 1986, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and the Toxic Substances Control Act of 1976 (TSCA). The USEPA oversees site investigation and remediation projects, and has developed protocols for sampling, testing, and evaluation of solid wastes.

In 1989, the USEPA issued a final rule banning most asbestos-containing products. In 1991, this regulation was overturned and, as a result of the court's decision, the 1989 asbestos regulation only bans new uses of asbestos in products that would be initiated *for the first time* after 1989 and bans the following specific asbestos-containing products: flooring felt, rollboard, and corrugated, commercial, or specialty paper.[33]

Resource Conservation and Recovery Act. The RCRA is a combination of the first federal solid waste statutes and all subsequent amendments mandated by Congress. RCRA establishes the framework for a national system of solid waste control. Subtitle D of RCRA is dedicated to non-hazardous solid waste requirements, and Subtitle C focuses on hazardous solid waste. Solid waste includes solids, liquids, and gases and must be discarded to be considered waste. Under Subtitle C of RCRA, the USEPA has developed a comprehensive program to ensure that hazardous waste is managed safely from the moment it is generated to its final disposal

[32] CAL FIRE. 2024. *Fire Hazard Severity Zone Viewer*. April 1. Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/ (accessed June 27, 2024.

[33] United States Environmental Protection Agency (USEPA). 2024. Asbestos Ban and Phase-Out Federal Register Notices. Website: https://www.epa.gov/asbestos/asbestos-ban-and-phase-out-federal-register-notices (accessed February 13, 2024).

(referred to as cradle-to-grave) and may authorize states to implement key provisions of hazardous waste requirements in lieu of the federal government. Subtitle C regulations set criteria for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. This includes permitting requirements, enforcement, and corrective action or cleanup. In California, the DTSC administers the RCRA program. One of the requirements for an RCRA permitted facility is to implement a "corrective action program" and investigate and remediate any releases of hazardous wastes at the facility under the supervision of DTSC. As a result, the project sponsor for the conceptual development project has entered into a voluntary CLRRA Agreement with DTSC dated November 23, 2022, to oversee environmental investigation and remediation associated with redevelopment of the conceptual development project site DTSC has supervised the investigation and cleanup of contaminated soil and groundwater at the conceptual development project site, as discussed in Section 4.9.1.2, above.

Hazardous Materials Transportation Act. The federal Hazardous Materials Transportation Act (HMTA) of 1975 is the statutory basis for the extensive body of regulations aimed at ensuring the safe transport of hazardous materials on water, rail, and highways and through air or pipelines. It includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation.

United States Department of Transportation. In 1990 and 1994, the HMTA was amended to improve the protection of life, property, and the environment from the inherent risks of transporting hazardous material in all major modes of commerce. The DOT developed hazardous materials regulations that govern the classification, packaging, communication, transportation, and handling of hazardous materials, as well as employee training and incident reporting. The transportation of hazardous materials is subject to both RCRA and DOT regulations. The California Highway Patrol, California Department of Transportation (Caltrans), and DTSC are responsible for enforcing federal and State regulations pertaining to the transportation of hazardous materials.

Occupational Safety and Health Administration. OSHA regulates worker health and safety at the federal level. The federal Occupational Safety and Health Act of 1970 authorizes the states to establish their own safety and health programs with OSHA approval. Worker health and safety protections in California are regulated by the California Occupational Safety and Health Administration (Cal/OSHA), as described below. California standards for workers dealing with hazardous materials are found in 8 California Code of Regulations (CCR), which includes practices for all industries (General Industrial Safety Orders) as well as specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

State Regulations. At the State level, the California Environmental Protection Agency (CalEPA) implements and enforces environmental laws that regulate air, water, and soil quality; pesticide use;

and waste recycling and reduction. CalEPA consists of DTSC; the State Water Resources Control Board (SWRCB) and the nine RWQCBs; the California Air Resources Board (CARB); the Department of Pesticide Regulation; the California Department of Resources, Recycling, and Recovery (CalRecycle); and the Office of Environmental Health Hazard Assessment. DTSC and the SWRCB administer hazardous materials and hazardous waste regulations, CARB regulates air pollution control programs, and Cal/OSHA regulates worker safety related to hazardous materials handling. The authority of these agencies and applicable regulations are described below.

Department of Toxic Substances Control. In California, the USEPA authorizes DTSC to enforce and implement federal hazardous materials laws and regulations. California regulations pertaining to hazardous materials are equal to or exceed the federal regulation requirements. Most State hazardous materials regulations are found in CCR Title 22 (see discussion of CCR Title 22 below). DTSC generally acts as the lead agency for soil and groundwater cleanup projects that affect public health and establishes cleanup levels for subsurface contamination that are equal to or more restrictive than federal levels. DTSC has also developed land disposal restrictions and treatment standards for hazardous waste disposal in California. CLRRA hazardous materials releases and subsurface contamination at the conceptual development project site is currently being investigated under the oversight of DTSC pursuant to CLRRA. The project sponsor for the conceptual development project entered into a voluntary CLRRA Agreement with DTSC on November 23, 2022, to oversee environmental investigation and remediation associated with redevelopment of the conceptual development project site pursuant to Health and Safety Code Section 25395.92(c).[34]

California Health and Safety Code. Health and Safety Code Division 20, Chapter 6.5 – Hazardous Waste Control, is the primary hazardous waste statute in the State of California and implements RCRA as a "cradle-to-grave" waste management system in California. It specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. It also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. It exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates additional types of wastes and waste management activities that are not covered by federal law under RCRA.

Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos.

Chapter 6.95 of the Health and Safety Code also establishes minimum statewide standards for Hazardous Materials Business Plans (HMBPs), including basic information on the location, type, quantity, and health risks of hazardous materials and/or waste. Each business must prepare an

[34] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

HMBP if that business uses, handles, or stores a hazardous material and/or waste or an extremely hazardous material in quantities greater than or equal to:

- 55 gallons for a liquid
- 500 pounds of a solid
- 200 cubic feet for any compressed gas
- Threshold planning quantities of an extremely hazardous substance

State Water Resources Control Board. The SWRCB enforces regulations on implementation of UST programs. It also allocates funding to eligible parties that request reimbursement of costs to clean up soil and groundwater pollution from UST leaks. The SWRCB also enforces the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) through its nine Regional Water Quality Control Boards, including the San Francisco Bay RWQCB, which is described below.

California Department of Public Health. Transport and disposal of medical wastes are closely regulated by the California Department of Public Health, which regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (California Health and Safety Code Sections 117600–118360). Local agencies can implement a medical waste management program pursuant to the Medical Waste Management Act.

California Air Resources Board. CARB is responsible for coordination and oversight of State and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed State air quality standards and is responsible for monitoring air quality in conjunction with the local air districts.

California Code of Regulations Title 22. Most State and federal regulations and requirements that apply to generators of hazardous waste are found in CCR Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. Because California is a fully authorized state according to RCRA, most RCRA regulations (those found in 40 CFR 260 et seq.) have been duplicated and integrated into Title 22. However, because DTSC regulates hazardous waste more stringently than the USEPA does, the integration of California and federal hazardous waste regulations that make up Title 22 does not contain as many exemptions or exclusions as does 40 CFR 260. As with the California Health and Safety Code, Title 22 also regulates a wider range of waste types and waste management activities than the RCRA regulations in 40 CFR 260. To aid the regulated community, the State of California compiled the hazardous materials, waste, and toxics-related regulations found in CCR Titles 3, 8, 13, 17, 19, 22, 23, 24, and 27 into one consolidated CCR Title 26, "Toxics." However, the California hazardous waste regulations are still commonly referred to as Title 22.

California Occupational Safety and Health Administration. Cal/OSHA regulates worker health and safety protections in California. California's standards for workers dealing with hazardous materials are found in CCR Title 8, which includes practices for all industries (General Industrial Safety Orders), as well as specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during

excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

California Fire Code. The California Fire Code is Part 9 of CCR Title 24, also referred to as the California Building Standards Code. The California Fire Code incorporates the latest International Fire Code of the International Code Council with necessary California amendments. The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The California Fire Code specifically addresses design and construction requirements for laboratory environments. The requirements encompass the use and storage hazardous or flammable materials as well as the installation of exhaust systems, which are required to incorporate fire suppression systems.

California Fire Code Chapter 33 contains requirements for construction activities, including the development and implementation of a site safety plan establishing a fire prevention program. Implementation of these safeguards is designed to reduce the potential for fire-related hazards during construction and demolition activities. In addition, California Fire Code Chapter 35 contains specific requirements for welding and other hot work. The requirements are intended to maintain the required levels of fire protection, limit fire ignition and spread, establish the appropriate operation of equipment, and promote prompt response to fire emergencies. Regulated features include fire protection systems, firefighter access, water supply, means of egress, hazardous materials storage and use, and temporary heating equipment and other ignition sources.

Chapter 50 of the California Fire Code contains requirements to prevent and control dangerous conditions (e.g., unauthorized discharge, fires, or explosions) related to storage, dispensing, use, and handling of hazardous materials. It includes requirements related to permitting of hazardous materials storage, design and construction of storage buildings and containers, storage practices, spill control and secondary containment, ventilation, separation of incompatible materials, safe handling, transportation, and dispensing practices.

Government Code Section 65962.5. The provisions of Government Code Section 65962.5 require DTSC, the SWRCB, the California Department of Health Services, and CalRecycle (formerly the California Integrated Waste Management Board) to submit information pertaining to sites associated with solid waste disposal, hazardous waste disposal, LUST sites, and/or hazardous materials releases to the Secretary of CalEPA.

Health and Safety Code Division 20, Chapter 6.82 and 6.83, California Land Reuse and Revitalization Act (CLRRA). The provisions of Health and Safety Code Division 20, Chapter 6.82 and 6.83, also known as the CLRRA, provides liability protections to eligible property owners and prospective purchasers to promote the cleanup and redevelopment of blighted contaminated

properties and establishes a voluntary process for eligible owners and prospective purchasers to obtain immunities, conduct a site assessment, and implement a response action as necessary, to ensure that a property can be reused or redeveloped. Immunities begin when a party enters into a CLRRA agreement. The CLRRA agreement requires an eligible property owner or prospective purchasers to 1) prepare and submit a Site Assessment Plan in accordance with the requirements of Health and Safety Code Section 25395.94; and 2) submit a Report of Findings containing all information required under Health and Safety Code Section 25395.94(b) and (c), and Health and Safety Code Section 25395.95 for DTSC approval. If DTSC finds the Site Assessment Plan and Report of Findings adequate and contains all necessary information, DTSC approves the Site Assessment Plan and Report of Findings and notifies the appropriate agencies (e.g., the City, regional water quality control board, local health department and any public water system that relies on impacted groundwater for public drinking water purposes). If DTSC determines that a response action is necessary to prevent or eliminate an unreasonable risk, the property owner or prospective purchaser must submit a Response Plan to DTSC for approval. Public participation for the Response Plan must meet the requirements of Health and Safety Code section 25395.96, including a DTSC public meeting if requested. The property owner or prospective purchaser must submit to DTSC all documentation necessary for compliance with the California Environmental Quality Act, Public Resources Code sections 21000-21177 (CEQA). Upon approval of the Response Plan, DTSC must notify all appropriate agencies and the property owner or prospective purchaser must implement the Response Plan. The Response Plan must contain the information specified in Health and Safety Code Section 25395.96(a) and (b) and must place the property in condition that allows it to be used for its reasonably anticipated future land use without unreasonable risk to human health and safety and the environment. DTSC issues a certificate of completion upon determining that all response actions have been satisfactorily completed in accordance with the approved Response Plan and that, based upon the data provided to DTSC at the time of the determination, no further remedial action, except only compliance with O&M and land use restriction requirements, if any, is necessary.

Regional Regulations. The following regional agencies have regulatory authority over the proposed project's management of hazardous materials and hazards.

San Francisco Bay Regional Water Quality Control Board. The Porter-Cologne Act established the SWRCB and divided the State into nine regional basins. The San Francisco Bay Regional Water Quality Control Board (Region 2) (RWQCB) regulates water quality in the Bay Area, including the project site. The RWQCB has the authority to require groundwater investigations when the quality of groundwater or surface waters of the State are threatened, and to require remediation actions, if necessary. The RWQCB has developed Environmental Screening Levels (ESLs) to help expedite the preparation of environmental risk assessments at sites where contaminated soil and groundwater have been identified. The RWQCB issued the Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP), [35] which addresses the potential discharge of hazardous materials in municipal stormwater from

[35] RWQCB. 2022. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008, May 11.

municipalities in the Bay Area (described in detail under Section 4.10, Hydrology and Water Quality, of this EIR).

Bay Area Air Quality Management District. The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which are the responsibility of the USEPA and the CARB). BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary air pollutant sources, and the issuance of permits for activities including asbestos demolition and renovation activities.

BAAQMD Regulation 11-2 requires that prior to commencement of any demolition or renovation, the owner or operator must thoroughly survey the affected structure or portion thereof for the presence of ACMs. The survey must be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey must include sampling and the reporting of results of laboratory analysis of the asbestos content of all suspected ACMs. This survey must be made available, upon request by the Air Pollution Control Officer, prior to the commencement of any regulated ACM removal or any demolition. If ACMs are identified, the disturbance/removal and management of ACMs must be performed in accordance with BAAQMD Regulations under Rule 11-2 to ensure that asbestos would not be released into the environment.

Local Plans and Regulations. The City's TMD, General Plan, Municipal Code, Emergency Operations Plan (EOP), Local Hazard Mitigation Plan (LHMP), and West Berkeley Plan are discussed below.

City of Berkeley, Toxics Management Division. The TMD is the Certified Unified Program Agency (CUPA) for the City. The CUPA is the primary agency responsible for local enforcement of State and federal laws pertaining to hazardous materials and hazardous waste management and is responsible for coordination of the following CUPA Programs: HMBP Program, Hazardous Waste Generator Program, UST Program, California Accidental Release Program, and the Aboveground Petroleum Storage Act Program. The role of a CUPA is to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities associated with the regulation of hazardous materials and hazardous wastes. The TMD is also responsible for reviewing development in the City of Berkeley's Environmental Management Area (EMA), which are areas of known or suspected groundwater contamination and includes all areas west of San Pabo Avenue in the project area.

City of Berkeley General Plan. The City's General Plan, adopted in 2002, contains the following policies and actions in the Disaster Preparedness and Safety Element[36] and Environmental Management Element[37] which are relevant to the project:

[36] City of Berkeley. 2002a. Disaster Preparedness and Safety Element, General Plan, Adopted April 23.
[37] City of Berkeley. 2002b. Environmental Management Element, General Plan, Adopted April 23.

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.

Actions:

A. Test, maintain, and revise the City's disaster response plan(s) consistent with the California Standardized Emergency Management System (SEMS) and establish clear coordination of roles and expectations with the County Office of Emergency Services, the University of California, the Berkeley Unified School District, neighboring jurisdictions, and other agencies.

B. Designate and publicize evacuation routes, shelter locations, and emergency service locations (hospitals, fire stations, etc.) within the city and sub region. Include existing city pathways and other pedestrian rights-of-way in the published designated evacuation route map. Prioritize undergrounding of utilities for designated routes to make them more reliable.

C. Designate and publicize emergency access routes with the city and subregion. Prioritize undergrounding of utilities to enhance reliability of emergency access routes and minimize conflagration hazards from fallen power lines.

D. City departments shall conduct an appropriate level of staff training addressing emergency readiness, evacuation routes, first aid, staging areas and procedures, continuity of services, and response and recovery operations and including CERT training for all City employees.

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.

Actions:

A. Maintain and make publicly available up-to-date hazard maps identifying areas subject to heightened risk from potential seismic hazards (including fault rupture, ground failure, ground shaking, and liquefaction), and fire, flood, landslide, and other hazards, such as toxic contamination and radioactive release.

B. Improve the understanding of identified hazards and mitigation needs via area-specific studies such as microzonation studies.

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

Actions:

A. When appropriate utilize the environmental review process to ensure avoidance of hazards and/or adequate mitigation of hazard-induced risk.

Policy EM-12 Education. Work with other State and local agencies to educate business owners and residents regarding safe use, recycling, and disposal of toxic materials; reducing hazardous household wastes; and substitutes for these substances.

Actions:

A. Implement business operator education and hazardous materials minimization programs to avoid accidental releases of hazardous materials.

B. Conduct periodic training exercises for the identification, containment, decontamination, and disposal of hazardous materials.

Policy EM-13 Hazardous Materials Disp. Continue to require the disclosure of hazardous materials usage and encourage businesses using such materials to prepare and implement a plan to reduce the use of hazardous materials and the generation of hazardous wastes.

Policy EM-14 Hazardous Material Regulation. Control and regulate the use, storage and transportation of toxic, explosive, and other hazardous and extremely hazardous material to prevent unauthorized and accidental discharges.

Actions:

A. Regularly inspect businesses using, storing, transporting, or generating hazardous materials or wastes to ensure compliance with federal, state, and local regulations.

B. Require facility operators to write and implement contingency plans in preparation for emergency situations and accidental releases. Additionally, require facilities to train their employees on how to activate the contingency plans.

Policy EM-15 Environmental Investigation. When reviewing applications for new development in areas historically used for industrial uses, require environmental investigation as necessary to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses would not have the potential to affect the environment or the health and safety of future property owners, users, or construction workers.

Policy EM-16 Risk Reduction. Work with owners of vulnerable structures with significant quantities of hazardous material to mitigate potential risks.

Policy EM-17 Warning Systems. Establish a way to warn residents of a release of toxic material or other health hazard, such as sirens and/or radio broadcasts.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COAs) for all development projects. The following COA

addresses hazards and hazardous materials and compliance with this COA is required prior to the City's issuance of any demolition or construction permits:

> COA: Toxics. The applicant shall contact the Toxics Management Division (TMD) at 1947 Center Street or (510) 981-7470 to determine which of the following documents are required and timing for their submittal:
>
> A. Phase I and Phase II Environmental Site Assessment (ESA) (per ASTM 1527). A recent Phase I ESA (less than 2 years old) shall be submitted to the Toxics Management Division for developments for: all new commercial, industrial and mixed-use developments and all improvement projects that require work 5 or more feet below grade, and all new residential buildings with more than four dwelling units in the Environmental Management Area (or EMA). The EMA can be viewed at City of Berkeley Community GIS Portal (arcgis.com)
>
> B. Depending on the findings in the Phase I, a Phase II or additional investigation may be necessary. Any available soils and groundwater analytical data available for projects listed in this section must also be submitted to TMD.
>
> C. Environmental Site Clearance. The applicant shall provide environmental screening clearance from either the San Francisco Bay Regional Water Quality Control Board (RWQCB), Department of Toxic Substances Control (DTSC), or the Alameda County Department of Environmental Health's Local Oversight Program (LOP). Clearance from one of these regulatory agencies will ensure that the property meets development investigation and cleanup standards for the specific use proposed on the property. Environmental screening clearance shall be submitted to the City's Toxics Management Division prior to issuance of any building permits.
>
> D. Soil and Groundwater Management Plan. A site-specific Soil and Groundwater Management Plan (SGMP) shall be submitted to Toxics Management Division (TMD) for all non-residential projects, and residential or mixed-use projects with more than four dwelling units, that: (1) are in the Environmental Management Area (EMA), as shown on the most recent City of Berkeley EMA map, and (2) propose any excavations deeper than 5 feet below grade or if significant soils removal is anticipated. The SGMP shall be submitted to the TMD with the project's building permit application and shall be approved by TMD prior to issuance of the building permit.
>
> The SGMP shall comply with the hazardous materials and waste management standards required by BMC Section 15.12.100, the stormwater pollution prevention requirements of San Francisco Bay Regional Water Quality Control Board's Order No. R2-2009-0074, California hazardous waste generator regulations (Title 22 California Code of Regulations (CCR) 66260 et seq.), and the East Bay Municipal Utility District's Ordinance 311, and shall include the following:

i. Procedures for soil and groundwater management including identification of pollutants and disposal methods;

ii. Procedures to manage odors, dust and other potential nuisance conditions expected during development;

iii. Notification to TMD within 24 hours of the discovery of any previously undiscovered contamination; and

iv. The name and phone number of the individual responsible for implementing the SGMP and who will respond to community questions or complaints.

TMD may require additional information or impose additional conditions as deemed necessary to protect human health and the environment. All requirements of the approved SGMP shall be deemed conditions of approval.

E. Demolitions & Renovations – Building Materials Survey. A hazardous materials survey for building materials and plans on hazardous materials and hazardous waste removal and disposal is required and must be prepared by qualified professionals, and submitted to the TMD prior to issuance of the building permit.

i. The survey shall include the identification of all materials to be disturbed for lead-based paints, polychlorinated biphenyl (PCB) containing equipment and caulking, hydraulic fluids, refrigerants, treated wood, and mercury containing devices (including fluorescent light bulbs and mercury switches), asbestos and other hazardous materials and chemicals.

ii. If asbestos is identified, pursuant to Bay Area Air Quality Management District Regulation 11-2-401.3 a notification must be made and the J number must be made available to the City of Berkeley Permit Service Center. Contractors must follow state regulations where there is asbestos-related work involving 100 square feet or more of asbestos containing material (8 Cal. Code Regs. §1529, §341.6 et seq.)

iii. The report to the TMD shall include, in addition to the survey, plans on hazardous materials and hazardous waste removal and disposal that comply with State and Federal codes including California Code of Regulations (CCR) 66260 et seq.

iv. Documentation evidencing disposal of hazardous waste in compliance with the survey shall be submitted to TMD within 30 days of the completion of the demolition.

Please note, the PCB Screening Form required by Public Works, Engineering, is a separate requirement and does not address the PCB identification requirement of the Toxics Management Division.

F. Hazardous Materials Business Plan**.** A HMBP in compliance with BMC Section 15.12.040 and California Health & Safety Code, Chapter 6.95 Div. 20, shall be submitted to the Toxics Management Division through the California Environmental Reporting System: http://cers.calepa.ca.gov/ for chemicals used or stored on site during construction that exceed reporting thresholds. The reporting is required if your facility stores or handles hazardous materials in aggregate quantities equal to or greater than 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet of compressed gases, or generates any quantity of hazardous waste. This includes welding gases, emergency generator fuel, paints, etc.

   Additionally, the business occupant must submit an HMBP within 30 days of starting operations.

G. Petroleum Storage. An SPCC Plan is required to be prepared and implemented for facilities with any one of the following:

   i. Aggregate aboveground petroleum storage capacities of 1,320 gallons or more stored in aboveground storage containers, tanks, oil-filled equipment, or

   ii. One or more tank(s) in an underground area (TIUGA) with petroleum storage capacities of 55 gallons or greater. More information on TIUGAs can be found here: https://osfm.fire.ca.gov/divisions/pipeline-safety-and-cupa/certified-unified-program-agency-cupa/aboveground-petroleum-storage-act/tank-in-an-underground-area-tiuga/

   The SPCC plan must be prepared prior to beginning operations and you must submit facility information to TMD through the California Environmental Reporting System: http://cers.calepa.ca.gov/. The SPCC plan will be reviewed during the site inspection and shall not be submitted in CERS or to the TMD.

Municipal Code. The following describes the City of Berkeley Municipal Code (BMC) requirements related to hazards and hazardous materials that would be applicable to the project.

The Berkeley Hazardous Materials Code, found in Chapter 15 of the BMC, governs certain operations, enterprises or activities which, if not regulated, may adversely affect the public health and safety. The provisions of the Berkeley Hazardous Materials Code are intended to conform to California laws regulating the storage and handling of hazardous materials and wastes. Under the Berkeley Hazardous Materials Code, the City assumes responsibility and exclusive jurisdiction for these laws, to the extent authorized by law, including designation as a CUPA. The provisions of the Berkeley Hazardous Materials Code are also intended to conform to California laws regulating the remediation of contamination resulting from releases of hazardous materials and wastes. Under the Berkeley Hazardous Materials Code, the City assumes responsibility, to the extent authorized by law, for the abatement of nuisances and remediation of contamination resulting from releases of hazardous materials and waste.

Chapter 19.48 of the BMC adopts and amends the California Fire Code. The amendments include permitting requirements governing storage and handling of flammable and combustible liquids, abandonment or removal of USTs, and the transportation of hazardous materials on City streets.

Chapter 14 of the BMC includes traffic regulations. Chapter 14.12 of the BMC indicates that the City Traffic Engineer shall place and maintain or cause to be placed and maintained official traffic control devices when and as required to make effective the provisions of this division. Chapter 14.48.020 of the BMC indicates that it is unlawful to obstruct, restrict, or prevent the use of any portion of sidewalks or roadways except as set forth in City regulations. Chapter 14.48.040 of the BMC requires a permit from the City to place construction materials or barricades in street or sidewalk areas.

Chapter 16 of the BMC includes requirements related to streets, sidewalks, and other public property. Chapter 16.12 of the BMC requires a permit from the City to perform excavations in the public right-of-way. Chapter 16.16 of the BMC requires a permit from the City to place or store upon any street or sidewalk any materials, appliances or other equipment required or used for any work done under a building permit or any public works permit, or work for which a building permit or any public works permit is required, or to haul or carry any such materials, appliances or equipment over any sidewalk area, or operate on any public street any overweight or overwidth vehicle, or any vehicle with an overheight, overweight or overwidth load for street and sidewalk use. Chapter 16.18 of the BMC requires a permit from the City to construct or place permanent structures or improvements over, upon, under, or using any public right-of-way.

Emergency Operations Plan. The City adopted an EOP[38] in 2016 that establishes the authorities, structures, and responsibilities related to emergency response operations in the City. The EOP describes the City's coordination with County, regional, State and federal entities, as well as external Berkeley partners. The EOP Base Plan is scalable in order to address both incidents that develop into emergencies, planned events, as well as incidents, emergencies or disasters that occur without warning.

Local Hazard Mitigation Plan. The City adopted an LHMP[39] in 2019. The LHMP documents current understanding of the hazards present in the city, along with vulnerabilities to each hazard (i.e., the ways that the hazard could impact buildings, infrastructure, community, and environment). The LHMP presents the City's Mitigation Strategy, which reflects a wide variety of both funded and unfunded actions, each of which could reduce the City's hazard vulnerabilities. No critical facilities were identified by the LHMP on or adjacent to the project site. One of the High-Priority Actions in LHMP mitigation strategy is to mitigate hazardous materials release in the City through inspection and enforcement programs.

38 City of Berkeley, 2016. Emergency Operations Plan, Base Plan.

39 City of Berkeley, 2019. Local Hazard Mitigation Plan. Final. December 10.

West Berkeley Plan. The City's West Berkeley Plan, adopted in 1993,[40] contains the following goals and policies which are relevant to the project:

III.A. Community Awareness and the Regulatory Process, Goal 1*:* Improve the efficiency, coordination and effectiveness of environmental review and regulation, and provide recognition and reward firms which exceed environmental standards.

Policies:

1.4: Increase preparedness for environmental emergencies, utilizing existing neighborhood organizations and watch groups, as well as other resources.

1.6: Avoid establishment of new uses which pose unmitigable environmental hazards.

1.7: Require new uses to demonstrate an ability to meet applicable environmental laws and standards.

1.8: Enforce new and existing environmental laws in coordination with non-City regulatory agencies.

1.10: Require businesses which close or leave Berkeley to clean up contaminated sites, as mandated by State law.

III.B. Hazardous Materials, Goal 2: Reduce the generation of, importing into West Berkeley, transportation, use, storage, and disposal of all hazardous materials/hazardous waste.

Policies:

2.1: Reduce to the greatest feasible extent the amount and/or hazard intensity of hazardous materials and hazardous waste imported into West Berkeley, transported through West Berkeley, used or stored in West Berkeley and disposed of by West Berkeley businesses, institutions and households.

2.2: Promote risk management and communication.

2.3: Promote hazardous waste reduction and recycling.

III.C. Biohazardous Materials, Goal 3: Assure that biohazardous materials are appropriately regulated, by the City or other agencies.

Policies:

3.1: Implement the City's new biohazards amendments to the Hazardous Materials Disclosure Ordinance.

3.2: Coordinate City regulatory action with other agencies.

[40] City of Berkeley, 1993. West Berkeley Plan. Fall. Adopted December 14.

III.D. Soil and Groundwater Contamination, Goal 4: Decrease the level of contamination in West Berkeley soils and groundwater.

Policies:

4.1: Increase contaminated site cleanup efforts.

III.E. Air Quality, Goal 5: Enhance Air Quality in West Berkeley.

Policies:

5.4: Promote risk management and communication practices.

5.5: Reduce the importing, transportation, use, and storage of materials which will become airborne hazardous waste.

4.9.2 Impacts and Mitigation Measures

The following describes the potential impacts of the proposed project related to hazards and hazardous materials. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and the conceptual development project and identifies COAs and mitigation measures that would address the impacts, as appropriate.

4.9.2.1 Criteria of Significance

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to hazards and hazardous materials if it would:

Threshold HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

Threshold HAZ-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;

Threshold HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

Threshold HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment;

Threshold HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;

Threshold HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or,

Threshold HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.9.2.2 Impacts Not Evaluated in Detail

Airport Hazards. The project site is 11 miles north of Oakland International Airport, which is the nearest public airport. The project site is not within a public airport land use plan area or within two miles of a public use airport.[41] Therefore, the project would have **no impact** related to aviation hazards.

Wildland Fires. The project site is within a highly developed urban area and is not near a wildland fire hazard area and is not located in a Very High Hazard Severity Zone as mapped by CAL FIRE and is not within an SRA for fire service.[42] Therefore, the proposed project would have **no impact** related to exposing people or structures to a significant loss, injury or death involving wildland fires.

4.9.2.3 Project Impacts

The following section provides an evaluation and analysis of the potential impacts of the proposed project and conceptual development project for each of the criteria of significance listed above and potential cumulative impacts.

To assess the project's potential to create a significant hazard for the public or environment related to subsurface hazardous materials, the impact analysis considers the potential pathways through which exposure to hazards could occur, based on the following reports:

- Soil and Groundwater Quality Reconnaissance, Pacific Steel Casting Company, prepared by Lowney Associates in May 1993 (1993 Phase II ESA).
- Phase I Environmental Site Assessment (1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street), prepared by Ninyo & Moore on April 24, 2002 (2002 Phase I ESA).
- Phase II Environmental Site Assessment, Pacific Steel Casting (1420-1421 Second Street), prepared by Anchor Environmental Consultants on January 22, 2003 (2003 Phase II ESA).
- Phase I Environmental Site Assessment (640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street), prepared by AEI Consultants on January 17, 2018 (2018 Phase I ESA).

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41 Alameda County Community Development Agency. 2010. *Oakland International Airport, Airport Land Use Compatibility Plan*. December.

42 CAL FIRE. 2024. Fire Hazard Severity Zone Viewer. April 1. Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/ (accessed June 27, 2024.

- Phase I Environmental Site Assessment, Berkeley Forge Development Project (1330-1333 Second Street and 631 Camelia Street), prepared by Langan on July 28, 2023 (2023 Phase I ESA).

- Site Assessment Plan, Berkeley Forge Development Project (1330-1333 Second Street and 631 Camelia Street), prepared by Langan on February 1, 2023 and revised on June 30, 2023 (Site Assessment Plan).

- Report of Findings, Berkeley Forge Development Project (1330-1333 Second Street and 631 Camelia Street), prepared by Langan on December 8, 2023 (2023 Report of Findings).

- Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, prepared by Langan on December 8, 2023 (Technical Memorandum).

Impact HAZ-1: The proposed project, including the conceptual development project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation. (*Less Than Significant)*

Hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site during construction activities. For future redevelopment on the project site that would result in land disturbance of one acre or more (such as implementation of the proposed M-RD zoning district and/or the conceptual development project), management of soil and hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit (described in detail in Section 4.10, Hydrology and Water Quality, of this EIR), which requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes hazardous materials storage requirements. For example, construction site operators must store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed). Developments under the project that would result in disturbance of less than 1 acre would generally handle smaller quantities of hazardous materials, which reduces the likelihood for the accidental release of significant quantities of hazardous materials. The City performs inspections of all construction sites in accordance with the requirements of the MRP to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed.

Construction of future development facilitated by the proposed project, including the conceptual development project, would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that could be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by DOT, RCRA, and State regulations.

Operation of the future development facilitated by the proposed project, including the conceptual development project, would involve the routine storage and use of small quantities of commercially available hazardous materials for routine maintenance (e.g., painting and cleaning). The storage and use of small quantities of commercially available hazardous materials would not pose a significant hazard to the public or environment. Operation would also include storage and use of hazardous

materials and generation of hazardous waste related to laboratories, R&D, or manufacturing facilities. In addition, equipment installed at the project site, such as hydraulic elevator systems, backup generators, and electrical equipment, may involve the use and storage of hydraulic fluid, fuels, and other hazardous materials. The routine transport, use, or disposal of these hazardous materials could pose a potential hazard to construction workers and future employees working at the project site if the hazardous materials are improperly handled. The routine transport, use, or disposal of these hazardous materials would not pose a significant hazard to the public or environment unless the hazardous materials were accidentally spilled or released into the environment, as discussed in Impact HAZ-2, below.

The City's Fire Department, TMD, and Building Division coordinate the review of building permits to ensure that hazardous materials requirements are met prior to construction, including proper hazardous materials storage facilities. Section 15.12.070 of the BMC requires obtaining all necessary permits and registrations from the City's hazardous materials manager[43] to handle any quantity of hazardous material or waste subject to disclosure under Section 15.12.050 of the BMC.

An HMBP and/or Spill Prevention, Control, and Countermeasure (SPCC) Plan must be submitted to the TMD if hazardous materials storage would exceed threshold quantities as required by *COA: Toxics (F and G)*. The TMD would perform routine inspections of hazardous materials storage facilities at the project site to ensure that hazardous materials storage would be performed in accordance with the HMBP and applicable safety regulations.

Compliance with *COA: Toxics* is required prior to the City's issuance of any building and safety permit (demolition or construction). Compliance with *COA: Toxics (F and G)* and the regulations described in Section 4.9.1.4 above, including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, is mandatory. Compliance with these regulations would ensure that the proposed project and the conceptual development project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials by ensuring that workers are properly trained to handle the hazardous materials and ensuring that hazardous materials are properly transported, stored, handled, and disposed of in accordance with regulatory guidelines designed to minimize worker exposure to hazardous materials and prevent releases into the environment during construction and operation of the proposed project. Therefore, this impact would be less than significant.

Impact HAZ-1 Summary: Compliance with *COA: Toxics,* OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, would ensure that the proposed project and the conceptual development project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials during construction or operation activities. Impacts would be **less than significant**.

[43] The City's hazardous materials manager is the manager of the CUPA or hazardous materials programs of the City (currently the TMD) or other equivalent position, or their designee.

Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project. (*Less than Significant with Mitigation*)

The public and/or the environment could be affected by the release of hazardous materials from the project site into the environment if (1) hazardous building materials (e.g., lead paint, asbestos, or PCBs) were disturbed and released into the environment during the demolition of existing structures; (2) leakage, spills, or improper disposal of hazardous materials would occur during construction or operation of the project; or (3) the project would expose construction workers, the public, future users of the project site, or the environment to potentially contaminated soil, groundwater, or soil vapor during construction or operation of future development facilitated by the proposed project, including the conceptual development project.

Hazardous Building Materials. Due to the age of the buildings on the project site, hazardous building materials such as ACM, LBP, and PCB containing equipment/materials, and mercury containing devices may be present in the buildings. Demolition and renovation activities could cause the release of hazardous building materials into the environment if hazardous building materials are present in the buildings and are not identified and abated prior to demolition and renovation activities.

Asbestos is a known human carcinogen that was commonly used in building materials until the early 1980s. Asbestos-containing products remain in use within the United States and include some roof and non-roof coatings and other asbestos-containing building materials.[44] BAAQMD Regulation 11-2 requires that, prior to commencement of any demolition or renovation, the owner or operator must thoroughly survey the affected structure or portion thereof for the presence of ACMs. The survey must be prepared by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey must include sampling and the reporting of results of laboratory analysis of the asbestos content of all suspected ACMs. This survey must be made available, upon request by the Air Pollution Control Officer, prior to the commencement of any regulated ACM removal or any demolition. If ACMs are identified, the disturbance/removal and management of ACMs must be performed in accordance with BAAQMD Regulations under Rule 11-2 to ensure that asbestos would not be released into the environment.

Prior to 1978, lead compounds were commonly used in exterior and interior paints. Due to its health effects, the application of LBP on residential structures was banned in 1978; however,

[44] United States Environmental Protection Agency. 2017. Preliminary Information on Manufacturing, Processing, Distribution, Use, and Disposal: Asbestos, February.

LBP can be found in commercial or industrial structures, regardless of construction date (because its use is still allowed in commercial and industrial applications).[45]

The stabilization and/or removal of lead paint prior to demolition or renovation of structures would be required in accordance with applicable laws and regulations, including but not limited to: California OSHA's Construction Lead Standard, Title 8 CCR Section 1532.1, and Department of Health Services regulation 17 CCR Sections 35001 through 36100, as may be amended.

Fluorescent lighting tubes and ballasts, computer displays, and several other common items containing hazardous materials (including mercury, a heavy metal) are regulated as "universal wastes" by the State of California and may be present on the project site. Universal waste regulations allow common, low-hazard wastes to be managed under less stringent requirements than other hazardous wastes. Management of other hazardous wastes is governed by DTSC hazardous waste rules.

PCBs were historically used as coolants and lubricants in transformers, capacitors, heating/ cooling equipment, and other electrical equipment, and were also used as plasticizers in paints, plastics, rubber products, and caulking. PCBs have been demonstrated to cause cancer and a variety of other adverse health effects in animals, including effects on the immune system, reproductive system, nervous system, and endocrine system. Although manufacturing of PCBs has been banned in the United States since 1979, they may still be found in older electrical equipment and other building materials such as light ballasts and caulking. PCBs or PCB contaminated items require proper off-site transport and disposal at a facility that can accept such wastes, in accordance with the TSCA and other federal and State regulations. PCBs in manufactured materials such as caulking may also move directly into adjoining materials, particularly porous materials such as wood, concrete, and other types of masonry.[46]

The USEPA has indicated there was potential widespread use of PCB containing building materials in buildings built or renovated between about 1950 and 1979. Prior to removal, the USEPA recommends PCB testing of caulking and other building materials to be removed to determine what protections are needed during removal and to determine proper disposal requirements.[47]

Electrical and lighting equipment that may contain hazardous materials (e.g., mercury and PCBs) can be readily identified and, therefore, would be appropriately managed/disposed of in

45 Department of Toxic Substances Control (DTSC). 2006. Interim Guidance Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers. June 9 (Revised).

46 United States Environmental Protection Agency. 2015a. PCBs in Building Materials – Questions & Answers, July 28. Website: https://www.epa.gov/sites/production/files/2016-03/documents/ pcbs_in_building_materials_questions_and_answers.pdf (accessed February 13, 2024).

47 United States Environmental Protection Agency. 2015b. Practical Actions for Reducing Exposure to PCBs in Schools and Other Buildings, Guidance for school administrators and other building owners and managers. July 28. Website: https://www.epa.gov/sites/production/files/2016-03/documents/practical_ actions_for_reducing_exposure_to_pcbs_in_schools_and_other_buildings.pdf (accessed February 13, 2024).

accordance with applicable regulations including TSCA, DTSC hazardous waste rules, and other federal and State regulations; however, PCB containing building materials such as caulks/sealants, rubber window seals/gaskets, specialized paints, mastics, and other adhesives cannot be readily identified and require testing to evaluate whether these materials contain PCBs.

The MRP requires all Bay Area municipalities to address potential sources of PCBs; this includes preventing certain building materials that may contain PCBs from entering storm drains as a result of building demolition activities. To obtain demolition permits from the City, assessments must be performed at the project site to screen existing buildings for PCBs in priority building materials, including caulks and sealants, thermal/fiberglass insulation and other insulating materials, adhesive/mastic, and rubber window seals/gaskets.[48]

COA: Toxics(E), as described under Impact HAZ-1 above, requires that, prior to approval of any permit for demolition or renovation, a hazardous building materials survey must be conducted and plans for hazardous waste or hazardous materials removal, reuse, or disposal procedures must be prepared by a qualified professional.

Compliance with existing regulations described above and the requirements of *COA: Toxics*(E), would ensure that hazardous building materials, including ACMs, LBP, PCB containing materials and equipment, and universal wastes would be identified through a comprehensive hazardous building materials survey and removed/stabilized as necessary prior to building demolition or renovation activities; however, the existing regulations and *COA: Toxics*(E) do not require testing of concrete for PCBs unless the concrete is adjoining a PCB containing building material.

As discussed under Section 4.9.1.2, above, known releases of PCBs have occurred at the project site. Documentation of testing or removal of concrete from the PCB Spill 2 area was not identified; therefore, PCBs-contaminated concrete could remain in this area of the project site. Additionally, concrete staining has been identified in various areas of the conceptual development project site, including near equipment that may have contained hydraulic oil or heat transfer oil, pits/sumps/drains, and an oil/water separator. Old heat transfer oil, hydraulic oil, and other oils/liquids used at the conceptual development project site may have contained PCBs. The 2002 Phase I ESA[49] identified storage of PCB-containing capacitor oil at the Berkeley Forge and Tool site, and the 2018 Phase I ESA[50] identified the generation of PCB containing liquid hazardous waste at the former Pacific Steel Casting Facility. Therefore, PCB contaminated concrete could be present at the project site in various areas where stained concrete has been observed. If testing for potential PCBs-contaminated concrete is not performed at the

48 City of Berkeley. 2024a. Permit Forms Website, PCBs Screening Assessment Form. Website: https://berkeleyca.gov/sites/default/files/2022-02/PCBs_Screening_Assessment_Form.pdf (accessed February 20, 2024).

49 Ninyo & Moore. 2002. Phase I Environmental Site Assessment, 1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street, Berkeley, California, April 24.

50 AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

conceptual development project site, the improper handling of potential PCB-contaminated concrete could result in the release of PCBs into the environment. This would be a **potentially significant** impact**.**

As discussed above, existing regulations and *COA: Toxics*(E) do not require testing of concrete for PCBs unless the concrete is adjoining a PCB containing building material, and if testing for potential PCB-contaminated concrete is not performed, improper handling of potential PCB-contaminated concrete could result in the release of PCBs into the environment. To control the risk of releasing PCBs into the environment from potential PCB-contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 shall be implemented.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** The hazardous building materials survey that is required by existing regulations and *COA: Toxics*(E) prior to renovation or demolition activities shall include sampling and analysis for polychlorinated biphenyls (PCBs) in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1), (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB-containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids), and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB-containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). Removal/management of PCBs-contaminated concrete, if identified, shall be performed in accordance with the Response Plan, which shall be approved by the appropriate regulatory agency (e.g., the TMD, RWQCB, or DTSC) prior to issuance of any building permit, as required by *COA: Toxics* (C).

Required compliance with *COA: Toxics*(E) and existing hazardous building materials regulations, and implementation of Mitigation Measure HAZ-1, would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed to the satisfaction of the appropriate regulatory agency prior to demolition or renovation activities; therefore, the risk of hazardous building materials and PCB-contaminated concrete being released into the environment during construction of future development facilitated by the proposed project, including the conceptual development project, would be reduced to **less than significant with mitigation**.

Spills, Leaks, or Improper Disposal of Hazardous Materials. An accidental release of hazardous materials (e.g., oils, fuels, solvents, paints, or contaminated soil) during construction of future development facilitated by the proposed project, including the conceptual development project, could result in exposure of construction workers, the public, and/or the environment to hazardous materials. As discussed above, any redevelopment on the project site that would result in land disturbance of one acre or more (such as the conceptual development project) would be subject to the requirements of the Construction General Permit, which requires preparation and implementation of a SWPPP to reduce the risk of spills or leaks from reaching

the environment, including procedures to address minor spills of hazardous materials. Measures to control spills, leakage, and dumping must be addressed through structural as well as non-structural best management practices (BMPs), as required by the Construction General Permit. For example, equipment and materials for cleanup of spills must be available on site, and spills and leaks must be cleaned up immediately and disposed of properly. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage. The City performs inspections of all construction sites (which would include developments at the project site that would result in disturbance of less than one acre) in accordance with the requirements of the MRP to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed through BMPs.

Section 15.12.080 of the BMC requires that any actual or threatened unauthorized release of a hazardous material or waste be immediately reported to the City's hazardous materials manager. BMC Section 15.12.100 states that in the event that any person undertakes, either voluntarily or under order of the hazardous materials manager, to clean up or abate the effects of any unauthorized hazardous material or waste release, discharge or deposit upon or into any property or facility within the city, the hazardous materials manager may take actions necessary to supervise or verify the adequacy of the cleanup or abatement. BMC Section 15.12.130, provides that the hazardous materials manager has the authority to inspect any place where hazardous materials or wastes are handled, or any place where the hazardous materials manager has reason to believe that an unauthorized release of a hazardous material or waste has occurred, is occurring, or may occur.

As discussed above, the transportation of hazardous materials is subject to both RCRA and DOT regulations. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate and immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill), and is responsible for the discharge cleanup.

Operation of future development facilitated by the proposed project, including the conceptual development project, would involve the routine storage and use of small quantities of commercially available hazardous materials for routine maintenance (e.g., paint and cleaning supplies). The accidental release of small quantities of commercially available hazardous materials would not pose a significant hazard to the public or environment. Operation would also include storage and use of hazardous materials and generation of hazardous waste related to laboratories, R&D, or manufacturing facilities. In addition, equipment installed at the project site, such as hydraulic elevator systems, backup generators, and electrical equipment may involve the use and storage of hydraulic fluid, fuels, and other hazardous materials. Mandatory compliance with existing hazardous materials regulations including the California Fire Code and Health and Safety Code, as enforced by the City's Building Department, Fire Department, and TMD, would require hazardous materials to be properly stored, labeled, and disposed of, and requires training and planning to ensure appropriate responses to spills and emergencies.

Compliance with *COA: Toxics* (F and G) and the regulations described in Section 4.9.1.4 above, including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, are mandatory, and would ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction and operation of the proposed project, including the conceptual development project, would be **less than significant**.

Users of future development facilitated by the proposed project, including the conceptual development project, could be exposed to hazards related to accidents that may occur on the nearby UPRR right-of-way, which is adjacent to the east of the project site. Both cargo (which includes transportation of hazardous materials) and passenger trains use this rail line. An increase in vehicle traffic generated by the project would create more traffic activity at the at-grade railroad crossings at Gilman Street and Cedar Street. The increase in traffic at the Cedar Street at-grade railroad crossing due to the project would be negligible, as the Transportation Impact Analysis (TIA)[51] for the project indicates that the increase in peak traffic would have no substantial effect on traffic at the nearby intersections of Cedar Street/Second Street and Cedar Street/Fourth Street. The TIA indicates that the proposed project would increase the amount of vehicular traffic and traffic congestion on Gilman Street; however, the 95th percentile downstream queues on both directions of Gilman Street would not spill back onto the railroad tracks. In addition, the signals at the Gilman Street/Fourth Street intersection and the at-grade railroad crossing installed by the Gilman Street Interchange Project include queue cutter signals that are interconnected with the at-grade railroad crossing equipment to further minimize the potential for queue spillovers. The TIA indicates that no additional improvements are recommended at the Gilman Street at-grade railroad crossing. Therefore, potential impacts of the proposed project and the conceptual development project related to increasing the risk of accidental releases of hazardous materials transported by rail on the nearby UPRR tracks would be **less than significant**.

As discussed in Section 4.9.1.3, above, petroleum fuel pipelines operated by Kinder Morgan run parallel to UPRR tracks to the east of the project site, and the western pipeline appears to be within 5 feet of an existing structure along the east side of the project site. Based on the apparent proximity of the western fuel pipeline to the project site, construction activities on the project site may include demolition and excavation/grading within the easement of the western fuel pipeline, and the project may include improvements such as roadwork, utilities, and fencing within this fuel pipeline easement. If appropriate precautions are not taken, project construction activities could damage the fuel pipeline and result in a hazardous materials release.

Because Kinder Morgan has an easement for the fuel pipelines adjacent to the east of the project site, permission/approval from Kinder Morgan is required to perform construction activities within this easement. Kinder Morgan reviews activities within its easements that could impact its pipelines including, but not limited to crossing with heavy equipment, constructing roads or driveways, grading activities, and installing utilities, fences, or landscaping. Before such

[51] Fehr & Peers. 2024. Gilman Gateway Rezone Project, Transportation Impact Analysis, January.

development or encroachment activities take place within Kinder Morgan's easements, plans must be submitted to Kinder Morgan for review. After Kinder Morgan approves of a development or encroachment activity, guidelines found in their approval letter must be followed. Kinder Morgan's approval of plans is based on its ability to safely maintain and operate the pipelines. For example, the company must be able to respond quickly in an emergency and, to access its easement, it must be free and clear of obstructions and woody vegetation. Kinder Morgan also examines plans to add fill over the pipeline, and it will not allow any cover to be removed. No structures are allowed within the easement, and utilities and fencing must cross as close to 90 degrees as possible. California Government Code Section 4216 requires anyone who excavates to notify their local one-call center by contacting 811, a clearinghouse for all utilities, prior to performing any excavation. Kinder Morgan will mark the pipeline and easement edge prior to planned construction activities, and contractors are required to establish a boundary with fencing or markers separating the approved work area from their easement area.[52] Compliance with requirements for utility notification prior to excavation, obtaining Kinder Morgan approval prior to any construction/encroachment activities that could affect their pipeline/easement, and following Kinder Morgan guidelines for construction/encroachment activities would reduce the likelihood that the proposed project and conceptual development project would damage the nearby fuel pipeline and cause an accidental release of hazardous materials; however, the City has no mechanism for ensuring that construction activities facilitated by the proposed project and conceptual development project would comply with Kinder Morgan's requirements; therefore, the potential for the proposed project and conceptual development project to damage the fuel pipelines adjacent to the east of the project site and result in a release of hazardous materials is considered a **potentially significant** impact. Implementation of Mitigation Measure HAZ-2f, described below, would ensure that construction activities facilitated by the proposed project and conceptual development project would comply with Kinder Morgan's requirements and reduce this potential impact to be **less than significant with mitigation**.

Subsurface Contamination. As discussed under Section 4.9.1.2, above, previous investigations have identified known subsurface contamination and potential sources of unidentified subsurface contamination at the conceptual development project site and in other areas of the project site, and elevated methane has also been detected in soil vapor beneath the northwest portion of the project site. Based on the existence of former marshland that is present beneath much of the project site and the known and potential unidentified subsurface contamination from TPH compounds at the project site, elevated methane in soil vapor could be present beneath other areas of the project site due to the breakdown of subsurface organic material and TPH compounds. The conceptual development project is currently undergoing investigation and planning for remediation under a CLRRA agreement subject to DTSC oversight and is therefore discussed separately from other areas of the project site, as presented below.

Potential Berkeley Forge Development. The Report of Findings[53] was submitted to DTSC for concurrence that the conceptual development project site has been adequately

[52] Kinder Morgan. 2021. Developer Handbook, Guidance for Working Near or Adjacent to a Pipeline, August.

[53] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

characterized for the purpose of preparing of a Response Plan.[54] The Report of Findings indicates that any additional sampling needed to guide redevelopment and construction would be implemented at a later date following DTSC approval of the Response Plan and associated Action/Implementation Plan. DTSC has not yet provided comments on the Report of Findings; therefore, it is not known whether DTSC would require additional sampling to support preparation of a Response Plan for the conceptual development project.

The following issues related to hazardous materials characterization at the conceptual development project have been identified based on the information discussed under Section 4.9.1.2 above. Existing hazardous conditions on the project site will require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the project site.

Previous Phase I ESAs including the 2002 Phase I ESA, 2018 Phase I ESA, and 2023 Phase I ESA have identified environmental concerns that do not appear to have been specifically targeted by subsurface sampling, including railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems.

The 2002 Phase I ESA and 2023 Phase I ESA were not included in documents submitted to DTSC for review prior to preparation of the Site Assessment Plan[55] or Report of Findings,[56] and information presented in these Phase I ESAs could affect DTSC's opinion on whether additional characterization of the conceptual development project site is required.

Sampling has not been performed at the Clearflow Valves facility as the Site Assessment Plan indicated that there was no indication of a release or potential sources within the Clearflow Valves facility that would dictate the need for sampling.[57] However, the review of Sanborn Maps presented in the 2018 Phase I ESA indicates that a machine shop was historically located on the Clearflow Valves facility from at least 1950 to 1970.[58] Sampling was also not performed in the building adjacent to the east of the Clearflow Valves facility, although it was identified as a machine shop in the 2002 Phase I ESA. Machine shops use

54 A Response Plan is a document that would describe remedial actions that would be implemented to reduce potential risks of hazardous materials exposure during construction and operation of the Proposed Berkeley Forge Development Project.

55 Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

56 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

57 Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

58 AEI Consultants. 2018. Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710.

hazardous materials and generate hazardous waste including petroleum products and solvents, and elevated concentrations of PCE (a solvent) have been identified in soil vapor near the Clearflow Valves facility and an eastern adjacent building, as discussed in Section 4.9.1.2, above. Therefore, hazardous materials contamination could be present beneath the Clearflow Valves facility and the eastern adjacent building. Existing hazardous materials conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC and in accordance the CLRRA agreement prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Report of Findings does not present or discuss findings from the 1993 and 2003 Phase II ESAs, although boring locations from these investigations are presented on Figure 2 of the Report of Findings. Both the 1993 and 2003 investigations are available on the DTSC's EnviroStor database.[59] The 1993 and 2003 Phase II ESAs identify features of environmental concern and soil and groundwater analytical results both within and adjacent to the conceptual development project that are relevant to the conceptual development project site's characterization. Existing hazardous materials conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

Deviations from the Site Assessment Plan occurred during sampling performed in September 2023, including that some samples were not collected when heavy staining and petroleum odors were observed in the borings, some borings could not be advanced due to subsurface obstructions or equipment/access limitations, and some borings were advanced in the wrong locations due to a lack of lighting within buildings and difficulty discerning previously sampled locations.[60]

A Technical Memorandum[61] was prepared by Langan for the conceptual development project and submitted to the City. The purpose of the Technical Memorandum was to identify protective remedial approaches that could be implemented to address hazardous materials and facilitate development. According to the Technical Memorandum, a Response Plan is anticipated to rely on a number of different remedial and mitigation approaches to protect future users of the conceptual development project site from environmental exposure, including source reduction (e.g., excavation and off-site disposal, in-situ groundwater treatment, and use of a pugmill or other temporary treatment unit to stabilize environmental constituents in soil), engineering controls (e.g., capping of residual soil contamination and vapor intrusion mitigation systems), and institutional controls (e.g., land

59 DTSC. 2024a. EnviroStor Webpage for Pacific Steel Casting, Website: https://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002897 (accessed February 12, 2024).

60 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

61 Langan. 2023d. Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

use covenants, operational and maintenance plans, and agreements and associated financial assurance) to ensure the long-term protectiveness of the environmental remedy. Once drafted the Response Plan would require DTSC review and approval, prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that other measures designed to monitor conditions and protect the public and construction workers during remedial activities would also be developed and implemented. These measures would include a Community Air Monitoring Plan designed to meet DTSC's requirements, including air quality monitoring, actions to be taken in the event protective thresholds may be approached, limitations on emissions from remedial equipment, and posting contact telephone numbers and information to improve community awareness. Additionally, a model environmental health and safety plan meeting CalOSHA and Federal Hazardous Waste Operations & Emergency Response requirements would be prepared for DTSC review and approval and adoption by contractors and sub-contractor for the protection of their workers. Soil and groundwater management plans would also be prepared and implemented to establish protocols and measures to be taken to further ensure impacted environmental media (e.g., soil and groundwater) are appropriately handled and to document actions to be taken in the event that unexpected conditions or subsurface structures (e.g., sumps or underground storage tanks) are discovered. Once drafted the Response Plan would require DTSC review and approval, prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that TPH and lead contaminated soil in select areas may be excavated for off-site disposal or may be treated/left on-site and encapsulated below a durable cover. Clean utility corridors may also be installed by excavating soil to address potential risk to future utility workers. Decisions regarding the disposition of soils (e.g., excavation and disposal or on-site treatment and encapsulation) would be made either in a Response Plan that would describe remedial actions to be implemented in order to reduce potential risks of hazardous materials exposure during construction and operation of the conceptual development project ; or through a subsequent engineering-level Remedial Design Implementation Plan, and in either event, an environmental professional would be on-site to observe and guide the excavation activities during periods of remedial activity. The Technical Memorandum indicates that prior site investigations found no PCBs above applicable screening levels at locations of historical or suspected releases; however, as discussed in Section 4.9.1.2, above, concentrations of PCBs exceeding commercial/industrial ESLs were detected in shallow soil samples collected during evaluation of the PCB Spill 2 area. The Report of Findings did not document any removal of soil in the PCB Spill 2 area; therefore, it appears that PCB contaminated soil remains in this area of the project site. If known subsurface contamination from PCBs and the potential for unidentified PCB contamination at the project site is not addressed by the Response Plan, construction of the project could result in the release of PCBs into the environment, which would be a potentially significant impact. As noted above, existing hazardous conditions on the project site would require further investigation and planning for remediation under the oversight of

DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that for purposes of providing a conservative estimate of excavation and off-site disposal, approximately 17,000 cubic yards (CY) of material (including approximately 10,750 CY of TPH contaminated soil and 6,250 CY of lead contaminated soil) is anticipated to be excavated as part of the remedial excavations; and 4,000 CY of material is anticipated to be excavated to develop clean utility corridors and provide 2-feet of clean fill in areas of landscaping. The Technical Memorandum indicates that areas with remaining soil contamination above commercial/industrial screening levels would require a durable cover to isolate contaminated soil from future project site users. The durable cover would be a combination of concrete building slabs, asphalt parking lot areas and streets, hardscaped areas, and walking paths (e.g., underlay with a minimum of 6 inches of clean aggregate and marker fabric), in addition to landscaped areas underlain by 2 feet of imported clean fill and marker fabric, so that landscape workers and others can readily discern the transition between imported and existing soil. As noted above, existing hazardous conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that groundwater contamination in areas of known free product may undergo treatment that would likely involve excavation to expose free product and then pumping free product from the excavation for disposal and subsequent application of oxygen release compound to facilitate source reduction. The risk of vapor intrusion into future buildings would be mitigated by a passive vapor mitigation system (VMS) that is capable of functioning as an active system, if necessary. The passive VMS would allow sub-surface vapors from beneath the building slab to be vented outside the building, and would be comprised of a vapor barrier membrane, crushed rock venting layer, a network of vapor collection piping, and fresh air inlet vents at the perimeter of each building to facilitate air flow, and ventilation risers that would terminate and exhaust at the roof level. If required, the passive VMS could be converted to an active system with the addition of inline, electric blowers. As noted above, existing hazardous conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

Groundwater has been identified to be as shallow as approximately 1.5 feet below the ground surface at the project site, [62] and there is anecdotal evidence of Second Street flooding during periods of intense rainfall.[63] Sea level rise could contribute to a rise in the already shallow groundwater levels at the project site and could also increase the flooding risks at the project site. The design of a VMS typically includes sub-slab venting systems

62 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

63 BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.

(such as the VMS described in the Technical Memorandum[64]); however shallow groundwater and flooding could interfere with the functionality of a VMS, because a sub-slab venting system would not function properly if it is beneath groundwater or flooded by surface water. If the shallow groundwater conditions and potential for flooding at the project site are not accounted for in the design of a VMS, then future occupants of the project site could be exposed to vapor intrusion, which would be a potentially significant impact. As noted above, existing hazardous conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

Other Areas of the Project Site. There are areas of the project site outside the conceptual development project site that have not been evaluated by Phase I ESAs, including the current vehicle rental facility (a former gas station) at 600 Gilman Street in the northern portion of the project site, and the building at 1306 Third Street in the northeast portion of the project site. Residual subsurface contamination from former USTs has been identified at the 600 Gilman Street property,[65] and, based on the historical warehouse use and surrounding industrial uses at 1306 Third Street, subsurface contamination may also be present at this property. The property at 1433 Eastshore Highway on the southwest portion of the project site was evaluated as part of the 2018 Phase I ESA; however, only limited soil and groundwater sampling has been performed at this property and groundwater contamination was identified near a former gasoline UST at this property. Based on the historical use of this property as an automobile wrecking yard and the known contamination, previously unidentified subsurface contamination may be present at this property. As noted above, existing hazardous conditions on the project site will require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the project site.

There is also the potential for subsurface contamination to be present in the public right-of-way (i.e., street and sidewalk areas) adjacent to private parcels within the project site, based on the presence of undocumented fill materials and historical railroad tracks, the long industrial use of adjacent parcels that may have resulted in hazardous materials spills affecting the right-of-way, and potential for contamination due to leakage from storm drains and sewers that historically may have been used for disposal of hazardous materials or that may have conveyed accidental spills of hazardous materials. Developments on the project site may require work within the right-of-way for street and sidewalk improvements and utility work.

64 Langan. 2023d. Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

65 AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

Due to the level of existing subsurface contamination on the project site and potential for previously unknown contamination on the project site, the disturbance of subsurface contamination and placement of utilities/building in areas of subsurface contamination could result in the following potentially significant impacts:

- Dust or vapors containing hazardous materials could be released into the environment, movement of contaminated soil could spread contamination to new areas, and construction of landscaping over areas of contaminated soil or groundwater could increase the likelihood of human exposure to contamination (including the public, construction workers, and future project site occupants), leaching of contaminants from soil into groundwater, and migration of contaminated groundwater.

- Construction in areas with elevated methane in soil vapor could create hazards related to fire and explosion due to potential methane accumulation within excavations or enclosed spaces.

- Placement of buildings and utilities in areas with subsurface contamination and elevated methane in soil vapor could create preferential pathways for the migration of contamination, hazards related to fire and explosion due to potential methane accumulation within enclosed spaces, and health hazards for future occupants of the project site due to vapor intrusion to indoor air.

The project site is within the City's EMA;[66] therefore, proposed developments on the project site must perform Phase I and II ESAs, obtain regulatory agency clearance, and prepare site-specific SGMPs in accordance with *COA: Toxics (A through D),* as described under Impact HAZ-1 above. Compliance with *COA: Toxics (A through D)* and implementation of a Response Plan under DTSC oversight for the conceptual development project (which would include the remedial approaches/measures described in the Technical Memorandum[67]) would generally address potential impacts related to the release of subsurface hazardous materials into the environment during construction and operation of developments at the project site; however, issues regarding characterization of the conceptual development project have been identified, as discussed above, and it is not yet known whether DTSC would require additional sampling to support preparation of a Response Plan for the conceptual development project. Investigation of methane in soil vapor and investigation within the public right-of-way (i.e., street and sidewalk areas) is often not performed as part of Phase II ESAs; therefore, methane in soil vapor and subsurface contamination in the public right-of-way may not be addressed through compliance with *COA: Toxics (A through D).* For the

66 City of Berkeley. 2024b. City of Berkeley Community GIS Portal. https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment, (accessed February 21, 2024).

67 Langan. 2023d. Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

reasons provided above, the potential release of subsurface contamination at the project site is considered a **potentially significant** impact.

As discussed above, data gaps in the characterization of the conceptual development project have been identified and it is not yet known whether DTSC would require additional sampling to support preparation of a Response Plan for the conceptual development project. Ultimately a Response Plan must be prepared for the conceptual development project under DTSC oversight, as described in the Technical Memorandum and discussed above. DTSC would ensure that the Response Plan would include all necessary measures to protect human health and the environment from exposure to subsurface contamination at the conceptual development project; however, investigation of data gaps at the conceptual development project site must be performed to ensure that the Response Plan appropriately addresses potential unidentified subsurface contamination. In addition, there are potential subsurface contamination issues at the project site including methane in soil vapor and potential contamination within the public right-of-way which are often not evaluated as part of Phase II ESAs, and shallow groundwater at the project site that could interfere with the function of VMS. To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, the project shall implement Mitigation Measures HAZ-2a through HAZ-2f.

Mitigation Measure HAZ-2a **Additional Site Characterization for Methane and Public Right-of-Ways.** All Phase II ESAs performed for parcels at the project site as required by *COA: Toxics* (A and B) shall include investigation of methane in soil vapor and investigation of potential subsurface contamination in the adjacent public right-of-way if the development project would require grading/excavation activities in the public right-of-way. The environmental clearance issued by the City's TMD and SGMPs required for development on the project site by *COA: Toxics* (C and D) shall address elevated methane in soil vapor (if present) and proposed grading/excavation activities in the public right-of-way.

Mitigation Measure HAZ-2b **Additional Site Characterization for the Potential Berkeley Forge Development.** The sponsor of the conceptual development project shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of the conceptual development project. The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental

concerns identified by Phase I and II ESAs that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops. If determined to be necessary by DTSC, additional investigation and characterization of the conceptual development project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required for the conceptual development project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.

Mitigation Measure HAZ-2c **Subsurface PCBs Contamination at the Potential Berkeley Forge Development Site.** The Response Plan for conceptual development project shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the Potential Berkeley Forge Development site. As part of the environmental clearance required for the conceptual development project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.

Mitigation Measure HAZ-2d **Vapor Mitigation System (VMS) Design.** Any development on the project site that includes a vapor mitigation system (VMS) as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater

and flooding conditions in the VMS design. The remediation plans shall include a detailed hydraulic analysis to estimate future groundwater levels and flooding conditions that could be expected at the development site based on future sea level rise projections which shall be discussed with and agreed upon by the City. If groundwater or flooding could interfere with sub-slab venting systems of a VMS, the VMS designs shall be modified to account for such conditions (e.g., thicker vapor barrier membranes, epoxy coating the top of floor slabs, fresh air inlets that close automatically during flooding, drainage/cleanout features for sub-slab venting systems, or increased ventilation or positive pressurization inside buildings). Regulatory agency review and approval of any VMS design shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).

Mitigation Measure HAZ-2e **Utility Designs.** Any Response Plan for remediation of the site prior to development of the project site shall include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) to address potential risks to future utility workers, and to ensure that new utilities would not create a preferential pathway for migration of subsurface contamination or methane (e.g., through installation of utility trench dams). Regulatory agency approval of such utility installation procedures shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).

Mitigation Measure HAZ-2f **Avoidance of Petroleum Fuel Pipelines.** Prior to issuance of any City permit approving ground-disturbing activities, the sponsor of the conceptual development project shall submit documentation for City approval demonstrating that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.

Compliance with *COA: Toxics* (A through D) and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriated performed, such that potential impacts related to hazardous materials being accidentally released into the environment during construction and operation of future development facilitated by the

proposed project, including the conceptual development project, would be **less than significant with mitigation**.

Impact HAZ-2 Summary: Required compliance with *COA: Toxics*(E) and existing hazardous building materials regulations, and implementation of Mitigation Measure HAZ-1, would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed such that the risk of hazardous building materials and PCB-contaminated concrete being released into the environment during construction of future development facilitated by the proposed project, including the conceptual development project, would be reduced to **less than significant with mitigation.**

Compliance with *COA: Toxics* (F and G) and existing regulations would ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction and operation of the proposed project, including the conceptual development project, would be **less than significant**. Potential impacts of the proposed project and the conceptual development project related to increasing the risk of accidental releases of hazardous materials transported by rail on the nearby UPRR tracks would be **less than significant.**

Compliance with *COA: Toxics* (A through D) and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriated performed, such that potential impacts related to hazardous materials being accidentally released into the environment during construction and operation of future development facilitated by the proposed project, including the conceptual development project, would be **less than significant with mitigation**.

Impact HAZ-3: The proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (*Less than Significant*)

Duck's Nest Preschool is 410 feet east of the project site at 1411 Fourth Street. No other schools were identified within 0.25 mile of the project site.[68] Compliance with the existing hazardous materials regulation described under Section 4.9.1.4 above (e.g., Berkeley's CUPA Programs, OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, BAAQMD, and other federal, State, regional, and local regulations) and implementation of *COA: Toxics* and Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f would ensure that potential impacts related to hazardous emissions within 0.25 mile of schools as a result of the proposed project and conceptual development project would be **less than significant**.

Impact HAZ-3 Summary: Compliance with *COA: Toxics*, Berkeley's CUPA Programs, OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, BAAQMD, and other federal, State, regional, and local regulations and implementation of Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f would ensure future development

[68] California Department of Education. 2024. California Schools Directory. Website: https://www.cde.ca.gov/schooldirectory (accessed February 21, 2024).

facilitated under the proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts would be **less than significant.**

Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant. (*Less than Significant with Mitigation*)

There are multiple LUST sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5.[69] The properties at 600 Gilman Street (a former gas station on the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site on the central portion of the project site) are identified on GeoTracker[70] as LUST sites.[71] Compliance with *COA: Toxics (A through D)* would require additional site investigation and remedial actions to reduce potential impacts associated with LUST site on the project site. However, on-site soil and groundwater contamination associated with the LUST sites could create a significant hazard to the public or the environment during future construction and operation of the proposed project. This would be a **potentially significant** impact.

Implementation of Mitigation Measures HAZ-2a through HAZ-2f, included above, would ensure that appropriate investigation, remediation (as necessary), and soil and groundwater management would be performed as part of the development on the LUST sites at the project site, which would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would be **less than significant with mitigation**.

Impact HAZ-4 Summary: Compliance with *COA: Toxics (A through D)* and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that future development facilitated by the proposed project, including the conceptual development project, would not result in significant impacts associated with being located on sites listed pursuant to Government Code Section 65962.5. Impacts would be **less than significant with mitigation**.

Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (*Less than Significant with Mitigation)*

69 CalEPA. 2024. Cortese List Data Resources. Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed February 21, 2024).

70 Geotracker is the SWRCB's environmental database of hazardous materials release sites and permitted hazardous materials facilities.

71 SWRCB. 2024. Geotracker. Website: http://geotracker.waterboards.ca.gov/ (accessed February 22, 2024).

As described under Section 4.9.1.4 above, there are multiple emergency response and evacuation related plans that apply to the city, including the City's EOP[72], LHMP,[73] and the General Plan's Disaster Preparedness and Safety Element.[74] The project would not obstruct designated emergency evacuation routes in the area of the project site, which include Gilman Street, Cedar Street, and Sixth Street,[75] and would not alter or interfere with any critical facilities identified in the LHMP. The proposed project would not alter the existing roadway network or roadway operations with the exception that the conceptual development project would convert the segment of Second Street between Camelia and Page streets from one-way southbound to two-way operations, which is consistent with current conditions and a modification to the Gilman Street Interchange Project.

Construction of future development facilitated by the proposed project, including the conceptual development project, could require temporary closure of traffic lanes on roadways adjacent to the project site during construction activities (e.g., for utility connections). This could impede the implementation of emergency response and evacuation plans; however, any construction activities that would result in temporary roadway closures would be required to obtain permits from the City and perform traffic control as required by Chapters 14 and 16 of the BMC, which would maintain emergency response and evacuation access through appropriate traffic control measures and detours. In addition, implementation of *COA: Transportation Construction Plan* as discussed in Section 4.4., Transportation, would minimize any potential impacts due to traffic hazards during construction to a less than significant level.

As discussed above, the designated evacuation routes near the project site include Gilman Street, and the TIA indicates that the project would result in a substantial effect to traffic movement at the - Gilman Street (currently under construction) interchange roundabouts during AM and PM peak-hour periods. The TIA indicates that that this substantial effect would be triggered when about 65 percent of the project (corresponding to approximately Phases 1 and 2 of the Potential Berkeley Forge Development) is occupied. At buildout, the project is estimated to add about 296 AM -peakhour and 313 PM -peakhour trips to the Gilman Street/Interstate 80 ramps/West Frontage Road intersection (the west roundabout) and about 660 AM -peakhour and 676 PM -peakhour trips to the Gilman Street/Interstate 80.[76] If evacuation from the project site would be required, vehicle trips could be concentrated within a shorter time frame than the AM or PM peak-hour periods, and could therefore result in longer delays in traffic movement. As indicated in the EOP, the Berkeley Police Department would lead evacuations operations with support from the Public Works Department to help designate evacuation routes, and the Berkeley Fire Department would also provide support for evacuations due to fires or hazardous materials incidents[77] This can allow for faster movement of traffic compared to normal circumstances as traffic signals and stop signs could be bypassed and movement of traffic could be prioritized in certain directions as needed. However,

72 City of Berkeley, 2016. Emergency Operations Plan, Base Plan.
73 City of Berkeley, 2019. Local Hazard Mitigation Plan, Final. December 10.
74 City of Berkeley. 2001. Disaster Preparedness and Safety Element, April 23. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Disaster_Preparedness_and_Safety_Element.aspx (accessed November 3, 2021).
75 Ibid.
76 Ibid.
77 City of Berkeley, 2016. Emergency Operations Plan, Base Plan.

the final circulation plan under the proposed project is not yet known; therefore, implementation of the proposed project, including the conceptual development project, could include physical changes to the roadway network that would interfere with an adopted emergency response plan or emergency evacuation plan. This impact would be **potentially significant**. Therefore, Mitigation Measure TRA-1, Circulation Plan as identified in Section 4.4, Transportation shall be required.

Mitigation Measure TRA-1: Circulation Plan. (*Refer to Section 4.4, Transportation)*

Implementation Mitigation Measure TRA-1 would require future projects facilitated by the proposed project, including the conceptual development project, to prepare and implement a Circulation Plan that meets City standards. Implementation of project-specific Circulation Plan relating to emergency access would ensure that implementation of the proposed project, including the conceptual development project, would not result in inadequate emergency access. Refer to Section 4.4, Transportation, for further discussion of potential impacts associated with emergency access.

Based on the minimal delay to emergency vehicle response time that the proposed project and conceptual development project would cause and the City's ability and responsibility to assist in evacuation operations, and with implementation of Mitigation Measure TRA-1, the potential impacts of the proposed project and conceptual development project related to impairing or interfering with an emergency evacuation or response plan would be **less than significant with mitigation**.

Impact HAZ-5 Summary: Compliance with *COA: Transportation Construction Plan* and implementation of Mitigation Measure TRA-1 would ensure that the construction and operation of future development facilitated by the proposed project, including the conceptual development project, would not impair or interfere with an emergency evacuation or response plan. Impacts would be **less than significant with mitigation**.

4.9.2.4 Cumulative Impacts

This section evaluates cumulative impacts related to hazards and hazardous materials. This cumulative analysis examines the effects of the project in combination with cumulative projects in the relevant geographic area. Cumulative impacts are addressed only for those thresholds that would result in a project-related impact, whether it be less than significant or less than significant with mitigation. If the project would result in no impact with respect to a particular threshold (e.g., hazardous emissions near school, aviation hazards, and wildfire), it would not contribute to a cumulative impact; therefore, no further discussion of cumulative effects related to these topics is required.

Occurrence of a cumulative effect related to hazardous materials would require that multiple projects release hazardous materials near each other; therefore, the geographic area of concern for cumulative hazardous materials-related impacts is the project site and surrounding areas within a quarter mile. The cumulative projects located within a quarter mile of the project site are the Berkeley Transfer Station Project (located at 1201 Second Street/669 Gilman Street, immediately north of the project site), and 805 Jones Street (located approximately 850 feet east-southeast of the project site).

The proposed project and the cumulative projects listed above would involve the routine use of hazardous materials during construction. Future development facilitated by the proposed project, including the conceptual development project, would also involve the routine use of hazardous materials during operation, as may the Berkeley Transfer Station Project. Required compliance with existing hazardous materials regulations including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, and the City's *COA: Toxics(F and G)* would ensure that the proposed project, conceptual development project, and cumulative projects would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials or accidental spills, leaks, or improper disposal of hazardous material by ensuring that these materials are properly handled during construction and operation. The proposed project, conceptual development project, and cumulative projects would involve demolition and renovation activities that could release hazardous building materials into the environment. Compliance with existing hazardous building materials regulations and the City's *COA: Toxics*(E) and implementation of Mitigation Measure HAZ-1 would ensure that hazardous building materials on the project site and cumulative projects are identified and appropriately managed prior to demolition or renovation activities.

As discussed above, the project site has known subsurface contamination and potential unidentified subsurface contamination from hazardous materials, and multiple properties on the project site that have LUST sites are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5. The Berkeley Transfer Station Project is also identified on GeoTracker as a LUST site[78] (and therefore is on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5) and is also identified as a hazardous materials release site on DTSC's EnviroStor database.[79] Although the cumulative project at 805 Jones Street is not identified as a hazardous materials release site, it is within the City's EMA along with the other cumulative projects listed above,[80] and therefore would be subject to compliance with *COA: Toxics(A through D)* to address the potential for subsurface contamination to be present. Compliance with *COA: Toxics(A through D),* and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that subsurface contamination on the project and cumulative projects would be investigated, remediated (as necessary), and appropriately managed to reduce the risk of subsurface hazardous materials being released into the environment during construction and operation of future development facilitated by the proposed project, including the conceptual development project, and cumulative projects.

Therefore, the proposed project and conceptual development project would not result in cumulatively considerable impacts related to the routine transport, use, or disposal of hazardous

78 CalEPA. 2024. Cortese List Data Resources. Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed February 21, 2024).

79 DTSC. 2024b. EnviroStor Webpage for Alcan Ingot & Powders, 1069 Second Street, Berkeley, CA, 94710, Website: https://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=80001353, (accessed February 23, 2024).

80 City of Berkeley. 2024b. City of Berkeley Community GIS Portal. Website: https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment, (accessed February 21, 2024).

materials or accidental release of hazardous materials into the environment, including at properties on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5, and the project's contribution to any cumulative impact would be **less than significant**.

Cumulative impacts related to emergency response/evacuation can occur due to a cumulative increase in vehicle traffic or if roadways are altered or blocked by multiple projects in a manner that could impede emergency response/evacuation operations; therefore, the geographic area of concern for cumulative emergency response/evacuation impacts is the roadway network surrounding the project site. The TIA[81] for the proposed project evaluated potential changes to existing traffic patterns on streets surrounding the project site that could result from development of the project in combination with cumulative projects.[82] The TIA indicates that a general increase in traffic congestion due to the proposed project and cumulative projects may delay emergency vehicle response during peak commute times; and the Gilman Street Interchange Project recently closed the at-grade Camelia Street railroad crossing to all traffic, including emergency vehicles; however, typical response times are expected to remain less than 5 minutes.

The TIA also indicates that the project would increase peak-hour traffic on Gilman Street, which is a designated evacuation route. As discussed under Impact HAZ-6, above, the City's Law Enforcement Branch would lead evacuations operations that can allow for faster movement of traffic compared to normal circumstances, as traffic signals and stop signs could be bypassed and movement of traffic could be prioritized in certain directions as needed. Based on the minimal delay to emergency vehicle response time that would be caused by the project and cumulative projects and the City's ability and responsibility to assist in evacuation operations, the project's contribution to cumulative impacts related to impairing or interfering with an emergency evacuation or response plan due to increased traffic would be less than significant. Furthermore, implementation of the City's Policy *S-1 Response Planning* and associated actions presented in the Disaster Preparedness and Safety Element[83] would ensure that the City maintains an effective emergency response program that accounts for development of the project and cumulative projects.

The proposed project, conceptual development project, and cumulative projects could require temporary closure of traffic lanes during construction activities (e.g., for utility work). This could temporarily impede the implementation of emergency response and evacuation operations. Any construction activities for the project and other cumulative projects that would result in temporary roadway closures would be required to obtain permits from the City and perform traffic control as required by Chapters 14 and 16 of the BMC, which would maintain emergency response and evacuation access through appropriate traffic control measures and detours.

Based on the above considerations, adequate emergency response and evacuation capabilities would be maintained at the project site and cumulative projects and potential impacts of the proposed project and conceptual development project related to impairing or interfering with the

81 Fehr & Peers. 2024. Gilman Gateway Rezone Project, Transportation Impact Analysis, January.

82 Note that the cumulative projects list provided in the TIA differs from the cumulative projects list provided in Table 4.A of this EIR.

83 City of Berkeley. 2002a. Disaster Preparedness and Safety Element, General Plan, Adopted April 23.

emergency response or evacuation plans would not be cumulatively considerable and this cumulative impact would be **less than significant**.

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4.10 HYDROLOGY AND WATER QUALITY

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section provides an overview of the hydrology and water quality conditions at and near the project site and assesses potential impacts to hydrology and water quality that could result from implementation of the proposed project and the conceptual development project. Where appropriate, it identifies mitigation measures to reduce significant impacts.

4.10.1 Setting

This section describes the existing conditions related to hydrology and water quality at and near the project area, as well as applicable regulatory agency framework and local policies.

4.10.1.1 Drainage and Surface Waters

The project site is situated along the boundary of the Schoolhouse and Gilman watersheds. Stormwater runoff from the Schoolhouse Watershed, which encompasses 703 acres in the northwestern portion of Berkeley, is generally conveyed into a storm drain culvert beneath Virginia Street, which discharges into central San Francisco Bay (Bay) approximately 1,800 feet south of the project site. Directly north of the project site is the Gilman Watershed, which has an area of 249 acres. Stormwater runoff from the Gilman Watershed is conveyed to a 60-inch storm drain culvert along Gilman Street that discharges to the Bay approximately 1,000 feet west of the project site.

According to the City of Berkeley Watershed Management Plan,[1] segments of the Gilman Street storm drain system do not have capacity to convey 10-year design storm flows, which results in stormwater overflows. The capacity limitation is related to tidal influence as well as floodwaters from Codornices Creek that overtop the banks and flow south on Second Street before entering the Gilman Watershed system.

The currently under construction Gilman Street Interchange Project, which is considered to be part of the baseline existing condition considered in this Environmental Impact Report, includes modifications to stormwater drainage systems in the vicinity of the project area.[2] Improvements include the relocation of storm drain inlets as needed to accommodate the implementation of Americans with Disabilities Act curb ramp, bulb out, and other project improvements; and the installation and removal of inlets to accommodate changes to local grading; however, no changes to

1 City of Berkeley. 2011. Watershed Management Plan, Public Works Engineering, Version 1.0 October.

2 California Department of Transportation (Caltrans). 2019. Interstate 80/Gilman Street Interchange Improvement Project, Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact. June.

general drainage patterns were introduced by the implementation of the Gilman Street Interchange Project near the project site.

Stormwater runoff from the project site is generally captured in catch basins and conveyed through underground storm drains located throughout the project site or in adjacent streets. A 2018 Phase I Environmental Site Assessment (ESA)[3] prepared for the former Pacific Casting Facility noted that there are interior and exterior drains in the northwestern portion of the project site that appear to be pumped through underground and above-ground pipes to a water collection container on the northwestern portion of the project site that was observed to be overflowing in November 2017, likely due to recent rains at the time. The 2018 Phase I ESA did not identify where this water collection container normally discharges.

4.10.1.2 Groundwater

The project site is within the Santa Clara Valley Groundwater Basin, East Bay Plain (EBP) Subbasin. The EBP Subbasin is listed in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) as providing the beneficial uses of municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply.[4]

The geologic history of the EBP Subbasin involves the rise and fall of sea level over the past 800,000 years, which resulted in deposits of different types of sediments/soils from streams (e.g., clay, sand, and gravel), wind (e.g., sand dunes), and the Bay (e.g., Bay Mud and silt). These sediments/soils were laid down in different places at different times, thereby resulting in alternating sequences of clay, silt, sand, and gravel within each aquifer zone.

Aquitard[5] layers consisting primarily of fine-grain materials (clay and silt) separate aquifer zones. This depositional history resulted in more coarse-grained material (sand and gravel) in the Deep Aquifer Zone in the southern EBP Subbasin compared to shallower zones or the northern EBP Subbasin, which includes Berkeley and the project site. Based on recharge mechanisms, soil types, and surface geologic data, it has been found that groundwater recharge has the potential to occur throughout the EBP Subbasin. The EBP Subbasin is not experiencing a chronic lowering of groundwater levels and is currently in a sustainable and stable condition because estimated groundwater pumping from the 1990s to present is well below the estimated sustainable yield of the Subbasin. Additionally, the EBP Subbasin has not experienced significant seawater intrusion even during historical periods of much greater groundwater pumping than is taking place today, and the Subbasin has no observed inelastic land subsidence even during historical periods of much

[3] AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

[4] San Francisco Bay Regional Water Quality Control Board (RWQCB), 2023. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, amendments adopted up through March 7, 2023. Website: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html#basinplan, (accessed February 28, 2024).

[5] An aquitard is a low-permeability geologic formation that impedes the vertical movement of groundwater between different aquifers.

greater groundwater pumping and much lower confined aquifer groundwater elevations than are taking place today.[6]

Groundwater has been measured at depths of 1.5 to 15 feet below the ground surface at the project site. The variation in groundwater elevation is likely a result of the variety of fill materials placed in the area over time as the former "mud flats" were filled in preparation for development. Groundwater elevations are influenced by discontinuous fill depths and seasonal variations in rainfall. Given the relative impermeability of Bay Mud and variability of groundwater depths at the project site, the shallow groundwater is likely to be perched groundwater on the Bay Mud and not part of a regional aquifer.[7]

4.10.1.3 Surface Water and Groundwater Quality

The quality of surface water and groundwater in the project site's vicinity is affected by past and current land uses within the project site and surrounding areas, and by the composition of geologic materials in the vicinity. The State Water Resources Control Board (SWRCB) and nine regional water quality control boards regulate the quality of surface water and groundwater bodies throughout California.

The City of Berkeley (City) and the project site are under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB), which is responsible for implementing the Basin Plan.[8] The Basin Plan establishes beneficial water uses for waterways, waterbodies, and groundwater within the region and is a master policy document for managing water quality in the region. The Bay is listed in the Basin Plan as providing the beneficial uses of industrial service supply, industrial process supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact and noncontact recreation, and navigation.

Under Section 303(d) of the federal Clean Water Act (described in Section 4.10.1.8 below), the states must present the United States Environmental Protection Agency (USEPA) with a list of "impaired water bodies," defined as those waterbodies that do not meet water quality standards, which in some cases result in the development of a total maximum daily load (TMDL). Essentially, a TMDL is a "pollution budget" designed to restore the health of a polluted body of water. The TMDL process provides a quantitative assessment of the sources of pollution contributing to a violation of the water quality standards and identifies the pollutant load reductions or control actions needed to restore and protect the beneficial uses of the impaired waterbody. The Bay is listed as impaired for several pollutants, including pesticides (e.g., chlordane, DDT, dieldrin), dioxins, furans, invasive species, mercury, selenium, polychlorinated biphenyls (PCBs), and trash. TMDLs have been

6 East Bay Municipal Utility District (EBMUD) GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan. January.

7 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

8 San Francisco Bay Regional Water Quality Control Board (RWQCB), 2023. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin. Amendments adopted up through March 7, 2023. Website: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html#basinplan, (accessed February 28, 2024).

established for mercury, selenium, and PCBs and will ultimately be prepared for other pollutants affecting the Bay.[9]

The 2018 Phase I ESA for the former Pacific Steel Casting site provided a review of records related to stormwater quality at the project site including previous Storm Water Pollution Prevention Plans (SWPPPs) and Stormwater Facility Inspection Reports. These records indicated that storm drain filters and absorbent pads were used to remove leaves, debris, sediment, and oil from runoff that entered the storm drains at the former Pacific Casting Facility. The records also indicated that the former Pacific Casting Facility had minor hazardous material releases in addition to multiple illegal releases or discharges to on-site storm drains, and the City's Toxics Management Division issued a Notice of Stormwater Violation for some of the unpermitted discharges to the storm drain system. The 2018 Phase I ESA also indicated that there are groundwater dewatering sumps and oil/water separators within the former Pacific Steel Casting site that discharged directly into the storm drain system, and testing of the wastewater effluent from these features was reportedly not required.[10] The former Pacific Casting Facility ceased operation in 2018, and it is not known whether any stormwater protection measures have been maintained at the former Pacific Casting Facility since that time.

Stormwater runoff from the Berkeley Forge and Tool site, an active industrial facility in the central portion of the project site, is regulated under the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Industrial Activities (Order 2014-0057-DWQ as amended by Order 2015-0122-DWQ) (Industrial General Permit).[11] Monitoring and sampling of stormwater runoff occurs at the Berkeley Forge and Tool facility in accordance with the Industrial General Permit, as documented in annual reports submitted to the SWRCB.[12] A 2023 Phase I ESA[13] prepared for the conceptual development project indicates that the Berkeley Forge and Tool site has a stormwater management system that is designed to capture and pre-treat stormwater runoff on the eastern portion of the project site prior to discharge to municipal drains.

Groundwater use in the East Bay Municipal Utility District (EBMUD) service area of the EBP Subbasin (which includes the area of the project site) is limited by several factors, including groundwater quality effects from saltwater intrusion, contamination in shallow aquifers, and the availability of higher quality imported surface water. EBMUD does not currently use groundwater for municipal supplies. Groundwater quality in the EBP Subbasin is characterized as calcium and sodium

9 State Water Resources Control Board (SWRCB). 2018. Final 2018 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report). Website: https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=e2def63ccef54eedbee4ad726ab1552c (accessed February 29, 2024).

10 AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710. January 17.

11 SWRCB. 2015. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES No. CAS000001. Effective July 1.

12 SWRCB. 2023a. 2022-2023 Annual Report for Storm Water Discharges Associated with Industrial Activities, Berkeley Forge and Tool, Inc. August 8.

13 Langan. 2023b. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California. July 28.

bicarbonate -type water with moderate to high total dissolved solids (TDS). Higher TDS concentrations occur near the Bay, where localized sea water intrusion has occurred.[14]

As discussed in Section 4.9, Hazards and Hazardous Materials, groundwater contamination from petroleum hydrocarbons, metals, and volatile organic compounds (VOCs) has been identified in various areas throughout much of the project site due to hazardous materials releases from past industrial and commercial land uses, and both TDS and conductivity levels in groundwater are likely to qualify groundwater as a non-potable source.[15]

4.10.1.4 Water Supply

Water supply to the project site is provided by the EBMUD water system, which is supplied from the Mokelumne River.[16] EBMUD relies on melting snows flowing into the Mokelumne River watershed in the foothills of the Sierra Nevada to refill EBMUD reservoirs. In dry years, EBMUD may supplement its main water source with Sacramento River water via the Freeport Regional Water Facility, which was constructed as a cooperative effort between the Sacramento County Water Agency and EBMUD and provides drinking water for customers of both agencies. During dry years, EBMUD may supplement its water conservation program by using up to 100 million gallons of Sacramento River water per day.[17]

4.10.1.5 Flooding

According to Federal Emergency Management Agency (FEMA) mapping, the project site is within "Zone X", an area subject to "0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile". The project site is not within or adjacent to a Special Flood Hazard Zone.[18]

The nearest Special Flood Hazard Zone to the project site is approximately 700 feet west of the project site in the northwest portion of the Tom Bates Regional Sports Complex, and is designated as Zone AE (1 percent annual chance flood). The Base Flood Elevation of this Special Flood Hazard Zone is 10 feet referenced to the North American Vertical Datum of 1988 (NAVD 88). The shoreline of the Bay to the west of the project site (which includes the Gilman Street storm drain outfall) is within a Special Flood Hazard Zone designated as Zone VE (coastal areas with a 1 percent or greater chance of flooding and an additional hazard associated with storm waves) with a Base Flood Elevation of 13 feet NAVD 88. The shoreline of the Bay to the southwest of the project site (which

14 Department of Water Resources. 2024. SGMA Basin Prioritization Dashboard. Website: https://gis.water.ca.gov/app/bp-dashboard/final/, (accessed February 29).

15 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California. December 8.

16 EBMUD. 2024a. Water Supply. Website: www.ebmud.com/water/about-your-water/water-supply, (accessed February 28).

17 EBMUD. 2024b. Sacramento River Water Supply. Website: https://www.ebmud.com/water/about-your-water/water-supply/sacramento-river-water-supply, (accessed February 28, 2024).

18 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webapviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

includes storm drain outfall for the Schoolhouse Watershed) is within a Special Flood Hazard Zone AE (1 percent annual chance flood) with a Base Flood Elevation of 10 feet NAVD 88.[19]

The Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact[20] prepared for the Gilman Street Interchange Project indicates that the storm drain pipeline beneath Gilman Street is low in elevation in relation to the FEMA Zone VE water surface elevation; therefore, there is the potential for storm drain system performance to be affected during high water. There is also anecdotal evidence of Second Street flooding during periods of intense rainfall.[21]

4.10.1.6 Sea Level Rise

The global sea level (including in the Bay) is rising and is expected to continue to rise even with existing efforts to mitigate global warming through reduction of greenhouse gas (GHG) emissions.[22] Rates of sea level rise may vary by location because local subsidence or uplift affects the relative change in sea level between land masses and the ocean. In the San Francisco Bay Area, the background rate of sea level rise has been estimated to be 0.076 inch per year from 1900 to 2008.[23] In 2018, the California Ocean Protection Council released an update to the State of California Sea-Level Rise Guidance.[24] The Sea-Level Rise Guidance presents the following likely ranges (66 percent probability) of sea-level rise for the area of San Francisco:

- 0.3 to 0.5 feet by 2030
- 0.6 to 1.1 feet by 2050
- 1.0 to 2.4 feet by 2100 (with low future GHG emissions)
- 1.6 to 3.4 feet by 2100 (with high future GHG emissions)

The Sea-Level Rise Guidance also presents lower probability sea-level rise projections that could be considered for situations with medium- to high -risk aversion or extreme risk aversion. For San Francisco, the medium- to high -risk aversion projection (0.5 percent probability) is from 5.7 feet (low future emissions) to 6.9 feet (high future emissions) by 2100, and the extreme risk aversion projection is 10.2 feet by 2100.

[19] Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webapviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

[20] Caltrans. 2019. Interstate 80/Gilman Street Interchange Improvement Project, Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact. June.

[21] BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.

[22] San Francisco Bay Conservation and Development Commission. 2011. Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline. October 6.

[23] National Research Council of the National Academies. 2012. Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. Chapter 4.

[24] California Ocean Protection Council. 2018. State of California Sea-Level Rise Guidance. 2018 Update.

The San Francisco Bay Conservation and Development Commission has completed sea level rise inundation mapping for the San Francisco Bay Area.[25] The mapping illustrates the extent of inundation anticipated based on estimated sea level rise, topographic features, king tide events,[26] and storm surge events.[27] The mapping illustrates sea level rise above the mean higher high water [28] tide elevation, which is 6.2 feet NAVD 88 in the vicinity of the project site.[29] The mapping indicates that up to 7 feet of still water (i.e., no storm surge) sea level rise would not result in inundation on the project site; however, 8 feet of still water sea level rise would result in inundation of the entire project site. The mapping also indicates that lower amounts of sea level rise combined with various storm surge or king tide events could also result in inundation of the project site, including 5.5 feet of sea level rise combined with a 25-year storm surge or 25-year king tide, and 77 inches of sea level rise combined with a 2-year storm surge.[30]

The Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact[31] prepared for the Gilman Street Interchange Project indicates that road surface and storm drain inlet elevations around the Second Street and Gilman Street intersection are susceptible to backflow through the storm drain system or overland tidal inundation when accounting for sea level rise. Performance of the storm drain pipeline beneath Gilman Street in terms of conveying stormwater would be affected by sea level rise combined with high tides and storm surge. Sea level rise combined with high tides and storm surge could also potentially affect the performance of the storm drain outfall of the Schoolhouse Watershed.

4.10.1.7 Seiche and Tsunami

Seiches are waves that created in an enclosed body of water (e.g., a bay, lake, or harbor), that go up and down or oscillate, and do not progress forward like standard ocean waves. Seiches are also referred to as standing waves and are triggered by strong winds, changes in atmospheric pressure, earthquakes, tsunamis, or tidal influence. The height and frequency of seiches are determined by the strength of the triggering factor(s) and the size of the basin. Triggering forces that set off a

25 San Francisco Bay Conservation and Development Commission. 2024. Adapting to Rising Tides Bay Area Sea Level Rise and Shoreline Analysis Maps. Website: http://www.adaptingtorisingtides.org/project/regional-sea-level-rise-mapping-and-shoreline-analysis/ (accessed February 29).

26 King tides are exceptionally high tides that occur occasionally throughout the year and currently impact roads and properties throughout the San Francisco Bay Area. As sea level rises, the extent of impact of the king tides will increase.

27 Storm surge events are storm-driven wind events producing wave surges that would travel across San Francisco Bay toward the shore and are driven by wind and atmospheric pressure conditions. This is different from the 100-year storm event flooding mapped by FEMA, which estimates flooding due to peak runoff from the surrounding watershed traveling downstream toward the Bay. The San Francisco Bay Conservation and Development Commission sea level rise inundation estimates account for storm surge events but do not account for runoff that could be generated by precipitation events.

28 Mean higher high water is the average of the higher of the two daily high-water elevations.

29 AECOM. 2016. San Francisco Bay Tidal Datums and Extreme Tides Study, Final Report. February.

30 San Francisco Bay Conservation and Development Commission. 2024. Adapting to Rising Tides Bay Area Sea Level Rise and Shoreline Analysis Maps. Website: http://www.adaptingtorisingtides.org/project/regional-sea-level-rise-mapping-and-shoreline-analysis/ (accessed February 29).

31 Caltrans. 2019. Interstate 80/Gilman Street Interchange Improvement Project, Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact. June.

seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin. Based on the geometry and natural oscillations of San Francisco Bay, seiches are not considered a hazard in the Bay,[32] and there are no other waterbodies near the project site that could generate a seiche that could impact the project site.

Tsunamis are long-period water waves caused by underwater seismic events, volcanic eruptions, or undersea landslides. Areas that are highly susceptible to tsunami inundation tend to be low-lying coastal areas, such as tidal flats, marshlands, and former San Francisco Bay margins that have been artificially filled. According to mapping prepared by the California Geologic Survey and the California Governor's Office of Emergency Services, the project site is within a tsunami hazard area.[33]

4.10.1.8 Regulatory Framework

This section provides a brief description of the regulations affecting hydrology and water quality at the federal, State, regional, and local level.

Federal Regulations. Federal regulations governing hydrology and water quality include the Clean Water Act, NPDES Permit Program, and Insurance Program.

Federal Clean Water Act of 1972. The federal Clean Water Act of 1972 is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It is administered by the USEPA. The Clean Water Act operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit. The USEPA has delegated its authority to implement and enforce most of the applicable water quality provisions of this law to the individual states. In California, the provisions are enforced by nine regional water boards under the auspices of the SWRCB.

National Pollutant Discharge Elimination System Permit Program. Under Section 402 of the Clean Water Act, the discharge of pollutants through a point source into waters of the United States is prohibited unless the discharge is in compliance with an NPDES permit. The NPDES program regulates the discharge of pollutants from municipal and industrial wastewater treatment plants and sewer collection systems, as well as stormwater discharges from industrial facilities, municipalities, and construction sites. In California, implementation and enforcement of the NPDES program is conducted through the SWRCB and the nine regional water quality control boards. The regional water boards set standard conditions for each permittee in their region, which includes effluent limitations and monitoring programs.

Federal Flood Insurance Program. In 1968, Congress created the National Flood Insurance Program in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The National Flood Insurance Program makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. FEMA manages the

[32] Borrero, J., L. Dengler, B. Uslu, and C. Synolakis. 2006. *Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay*, June 8. Report prepared for the Marine Facilities Division of the California State Lands Commission.

[33] California Geological Survey (CGS). 2021. Tsunami Hazard Area Map, County of Alameda. March 23.

National Flood Insurance Program and creates Flood Insurance Rate Maps that designate Special Flood Hazard Areas (e.g., 100-year flood hazard zones) and other flood hazard areas.

State Regulations. State regulations applicable to the proposed project and conceptual development project include the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and State Implementation of Clean Water Act Requirements, the NPDES Construction General Permit and Industrial General Permit, and the Sustainable Groundwater Management Act (SGMA).

Porter-Cologne Act and State Implementation of Clean Water Act Requirements. The Porter-Cologne Act (California Water Code, Division 7, Water Quality) was promulgated in 1969. It established the SWRCB and divided the State into nine hydrologic regions, each overseen by an RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine regional water boards. The Porter-Cologne Act also provides for the development and tri-annual review of Water Quality Control Plans that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. Berkeley lies within the jurisdiction of the San Francisco Bay RWQCB, which enforces compliance with water quality objectives for beneficial uses of surface waters.

NPDES Construction General Permit. Construction projects disturbing more than 1 acre of land are required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, NPDES No. CAS000002(Construction General Permit).[34] To obtain coverage under the Construction General Permit, the project applicant must provide via electronic submittal to the SWRCB a Notice of Intent, an SWPPP, and other documents required by Attachment B of the Construction General Permit. Activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation. The permit also covers linear underground and overhead projects, such as pipeline installations. Construction General Permit activities are regulated at a local level by the RWQCB.

The Construction General Permit uses a risk-based permitting approach and mandates certain requirements based on the project risk level (i.e., Level 1, Level 2, or Level 3). The project risk level is based on the risk of sediment discharge and the receiving water risk. The sediment discharge risk depends on the project location and timing (i.e., wet season versus dry season activities). The receiving water risk depends on whether the project would discharge to a sediment-sensitive receiving water. The determination of the project risk level would be made by the project applicant when the Notice of Intent is filed (and more details of the timing of the construction activity are known).

The performance standard in the Construction General Permit is that dischargers shall minimize or prevent pollutants in stormwater discharges and authorized non-stormwater discharges

[34] SWRCB. 2022. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order WQ 2022-0057-DWQ, NPDES No. CAS000002. Adopted September 8.

through the use of controls, structures, and best management practices (BMPs) that achieve Best Available Technology for treatment of toxic and non-conventional pollutants and Best Conventional Technology for treatment of conventional pollutants. A SWPPP must be prepared by a Qualified SWPPP Developer that meets the certification requirements in the Construction General Permit. The purpose of the SWPPP is to (1) identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges and (2) describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. Operation of BMPs must be overseen by a Qualified SWPPP Practitioner who meets the requirements outlined in the Construction General Permit.

The SWPPP must also include a construction site monitoring program. Depending on the project risk level, the monitoring program may include visual observations of project site discharges, water quality monitoring of project site discharges (pH, turbidity, and non-visible pollutants, if applicable), and receiving water monitoring (pH, turbidity, suspended sediment concentration, and bioassessment).

The Construction General Permit allows non-stormwater discharge of groundwater dewatering effluent if the water is properly filtered and treated to remove sediment and pollutants using appropriate technologies (e.g., filtration, settling, coagulant application with no residual coagulant discharge, minor odor or color removal with activated carbon, small-scale peroxide addition, or other minor treatment). Testing of receiving waters would also be required prior to and during the discharge. The discharge of dewatering effluent is authorized under the Construction General Permit if the following conditions are met:

- The discharge does not cause or contribute to a violation of any water quality standard.
- The discharge does not violate any other provision of the Construction General Permit.
- The discharge is not prohibited by the applicable Basin Plan.
- The discharger has included and implemented specific BMPs required by the Construction General Permit to prevent or reduce the contact of the non-stormwater discharge with construction materials or equipment.
- The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants.
- The discharge is monitored and meets the applicable numeric action levels.
- The discharger reports the sampling information in the annual report.

If any of the above conditions are not satisfied, the discharge of dewatering effluent is not authorized by the Construction General Permit. If the dewatering activity is determined by the RWQCB not to be covered by the Construction General Permit or other NPDES permit, and discharge of groundwater to the storm drain system is planned, then the discharger would be

required to prepare a Report of Waste Discharge, and if approved the RWQCB would issue project site-specific Waste Discharge Requirements (WDRs) under NPDES regulations.

NPDES Industrial General Permit. Many manufacturing facilities are required to comply with the Industrial General Permit (Order 2014-0057-DWQ as amended by Order 2015-0122-DWQ). The Industrial General Permit regulates stormwater discharges and authorized non-stormwater discharges under Clean Water Act Section 402. The Industrial General Permit requires the use of BMPs, best available technology economically achievable, and best conventional pollutant control technology to reduce and prevent discharges of pollutants to meet applicable water quality standards. The Industrial General Permit includes requirements for: training of personnel responsible for implementation of permit requirements; preparation of an operational SWPPP (which is different from the construction-period SWPPP described above); and sampling, visual observations, reporting and record keeping.[35]

Sustainable Groundwater Management Act. The SGMA requires local agencies to form groundwater sustainability agencies (GSAs) for high- and medium-priority basins and develop and implement groundwater sustainability plans (GSPs) to avoid undesirable results, mitigate overdraft, and reach sustainability within 20 years of implementing their sustainability plans. The California Department of Water Resources (DWR) is charged with classifying groundwater basins in California as either high, medium, low, or very low priority. The DWR classifies the EBP Subbasin as a medium-priority basin.[36] In accordance with the SGMA, a GSP has been prepared by the EBMUD and City of Hayward GSAs for the EBP Subbasin.[37]

Regional and Local Agencies, Plans, and Regulations. Regional and local agencies, plans, and regulations include RWQCB's Municipal Regional Stormwater NPDES Permit (MRP), the Alameda County Clean Water Program (ACCWP), RWQCB Order No. R2-2017-0048, the EBMUD and City of Hayward GSAs and their GSP for the EBP Subbasin, the Las Gallinas Valley Sanitation District Code, and the City of Berkeley General Plan and Municipal Code.

San Francisco Bay Municipal Regional Stormwater Permit. Pursuant to Section 402 of the Clean Water Act and the Porter-Cologne Act, municipal stormwater discharges in the city are regulated under the RWQCB's Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008 (MRP).[38] The MRP is overseen by the San Francsico Bay RWQCB; local municipalities (the permittees) are responsible for ensuring compliance with the MRP.

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35 SWRCB. 2015. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES No. CAS000001. Effective July 1.

36 DWR. 2024. SGMA Basin Prioritization Dashboard. Website: https://gis.water.ca.gov/app/bp-dashboard/final/ (accessed February 29, 2024).

37 EBMUD GSA and City of Hayward GSA. 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.

38 San Francisco Bay Regional Water Quality Control Board. 2022. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008. May 11.

The MRP requires all Bay Area municipalities to address potential sources of PCBs; this includes preventing certain building materials that may contain PCBs from entering storm drains as a result of building demolition activities. To obtain demolition permits from the City, assessments must be performed at the project site to screen existing buildings for PCBs in priority building materials, including caulks and sealants, thermal/fiberglass insulation and other insulating materials, adhesive/mastic, and rubber window seals/gaskets.[39]

Provision C.3 of the MRP addresses post-construction stormwater management requirements for regulated projects, which are new development and redevelopment projects that create or replace 5,000 square feet or more of impervious surface, and special land use categories that create or replace 5,000 square feet or more of impervious surface. Where a redevelopment project results in an alteration of more than 50 percent of the impervious surface of a previously existing development that was not subject to Provision C.3, the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire redevelopment project). Provision C.3 requires regulated projects to implement practices that encompass low-impact development (LID), source control, site design, and stormwater treatment. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create a functional and appealing site drainage system that treats stormwater as a resource rather than a waste product. Methods used to adhere to the LID principles rely on rain barrels and cisterns, permeable pavement, preservation of undeveloped open space, and biotreatment through rain gardens, bioretention areas, bioswales, and planter/tree boxes.

Provision C.3.i of the MRP requires small projects that create and/or replace more than 2,500 square feet and less than 5,000 square feet of impervious surface to install project site design measures that reduce runoff and pollutants in runoff. Project site design measures may include installing permeable pavements surfaces and directing runoff into cisterns, rain barrels, and vegetated areas.

Provision C.6 of the MRP pertains to construction site control and requires permittees to implement a construction site inspection and control program at all construction sites. Inspections must be performed to confirm implementation of appropriate and effective erosion and other construction pollutant controls by construction site operators/developers.

Provision C.7 of the MRP pertains to public information and outreach regarding the impacts of stormwater pollution on receiving waters and potential solutions to mitigate the pollution by encouraging implementation of appropriate solutions.

Provision C.8 of the MRP pertains to water quality monitoring through regional collaboration, countywide or area-wide programs, or third-party monitoring.

[39] City of Berkeley. 2024a. Permit Forms Website, PCBs Screening Assessment Form. Website: https://berkeleyca.gov/sites/default/files/2022-02/PCBs_Screening_Assessment_Form.pdf (accessed February 20, 2024).

Provision C.9 of the MRP pertains to pesticide toxicity control and requires permittees to implement a pesticide toxicity control program that addresses their own and others' use of pesticides within their jurisdictions that pose a threat to water quality and that have the potential to enter the municipal conveyance system. This provision implements requirements of the TMDL for diazinon and pesticide-related toxicity for urban creeks in the region.

Provision C.10 of the MRP pertains to trash load reduction and requires permittees to reduce trash loads from municipal separate storm sewer systems by 100 percent (i.e., complete trash capture) or no adverse impact to receiving waters from trash by June 30, 2025.

Provision C.11, C.12, and C.13 of the MRP pertain to the control of mercury, PCBs, and copper, respectively. The MRP requires permittees to implement source and treatment control measures and pollution prevention strategies for mercury and PCBs, and requires permittees to prohibit the discharge of wastewater to storm drains generated from the installation, cleaning, treating, and washing of the surface of copper architectural features, including copper roofs.

Provision C.15 of the MRP pertains to exempted unpolluted non-stormwater discharges and conditionally exempted non-stormwater discharges that are potential sources of pollutants that are permitted if appropriate control measures are implemented to eliminate adverse impacts to water quality.

Alameda County Clean Water Program. The ACCWP has developed a C.3 Stormwater Technical Guidance document to assist municipalities and developers in the design, implementation, and maintenance of stormwater infrastructure required by the MRP. In Section F.3 of the guidance document, ACCWP acknowledges that stormwater treatment designs should generally maximize infiltration to the underlying soils; however, at sites with high groundwater and/or groundwater contamination, where stormwater infiltration could promote migration of contamination and/or interfere with remediation, flow-through planters and other stormwater controls that are isolated from underlying soils are appropriate.[40]

RWQCB Order No. R2-2017-0048. If a dewatering activity is determined by the RWQCB not to be covered by the Construction General Permit due to contamination from fuels or VOCs, the discharge may be allowed under NPDES Permit No. CAG912002, issued by the RWQCB under Order No. R2-2017-0048,[41] which covers the discharge or reclamation of extracted and treated groundwater resulting from the cleanup of groundwater polluted by VOCs, fuel leaks, fuel additives, and other related wastes.

40 Alameda County Clean Water Program (ACCWP). 2023. C.3 Stormwater Technical Guidance, Version 8. March 22.

41 San Francisco Bay Regional Water Quality Control Board. 2019. Order No. R2-2017-0048, NPDES Permit No. CAG912002, General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit). Effective January 1, 2019.

EBMUD and City of Hayward GSAs and the GSP for the EBP Subbasin. EBMUD and the City of Hayward are the water providers that lie atop the EBP Subbasin and became the exclusive GSAs for the portions of the EBP Subbasin beneath their service areas, and they have jointly prepared the GSP for the EBP Subbasin.[42] According to the GSP, the sustainability goal for the EBP Subbasin is to manage and protect the Subbasin in a manner that avoids the six undesirable results listed below while continuing to collect and analyze data to support science-based decision making to evaluate new opportunities for sustainable groundwater beneficial uses:

1. Chronic lowering of groundwater levels, indicating a significant and unreasonable depletion of supply.

2. Significant and unreasonable reduction of groundwater storage.

3. Significant and unreasonable seawater intrusion.

4. Significant and unreasonable degraded water quality.

5. Significant and unreasonable land subsidence.

6. Depletions of interconnected surface water and groundwater that have significant and unreasonable reductions in beneficial uses of surface water, including beneficial use by ecosystems that depend on groundwater.

City of Berkeley General Plan. The City's General Plan, adopted in 2002, contains the following policies and actions in the Disaster Preparedness and Safety Element[43] and Environmental Management Element,[44] which are relevant to the project.

> **EM-23 Water Quality in Creeks and San Francisco Bay.** Take action to improve water quality in creeks and San Francisco Bay.
>
> **Actions:**
>
> A. Work with the East Bay Municipal District (EBMUD) to ensure that wastewater discharges comply with the requirements of EBMUD's Wastewater Control Ordinance No. 311 to manage wastewater treatment discharges to protect San Francisco Bay.
>
> B. To minimize storm sewer pollution of San Francisco Bay, maintain an effective street sweeping and cleaning program.

[42] EBMUD GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.
[43] City of Berkeley. 2002a. Disaster Preparedness and Safety Element, General Plan, Adopted April 23.
[44] City of Berkeley. 2002b. Environmental Management Element, General Plan, Adopted April 23.

C. Identify and eliminate cross connections between the sanitary sewer and storm sewer systems.

D. 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.

Actions:

A. Adequately fund sewer system improvements necessary to maintain water quality in natural areas and reduce public health hazards.

B. Identify and eliminate illegal roof-leader and other illegal connections to the sewer system.

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.

D. Identify alternative funding sources for essential infrastructure improvements such as grants, public-private partnerships, and special benefit districts.

E. Ensure that new development pays its fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.

F. Coordinate storm sewer improvements with creek restoration projects.

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

Actions:

A. Maintain and make publicly available up-to-date hazard maps identifying areas subject to heightened risk from potential seismic hazards (including fault rupture, ground failure, ground shaking, and liquefaction), and fire, flood, landslide, and other hazards, such as toxic contamination and radioactive release.

B. Improve the understanding of identified hazards and mitigation needs via area-specific studies such as microzonation studies.

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

Actions:

A. Encourage owners to evaluate their buildings' vulnerability to earthquake hazards, fire, landslides, and floods and to take appropriate action to minimize the risk.

B. Develop criteria for disaster-resistant land use regulations to ensure that new construction reduces rather than increases risk of all kinds.

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.

Actions:

A. Periodically update and adopt the California Building Standards Code with local amendments to incorporate the latest knowledge and design standards to protect people and property against known fire, flood, landslide, and seismic risks in both structural and non-structural building and site components.

B. Ensure proper design and construction of hazard-resistant structures through careful plan review/approval and thorough and consistent construction inspection.

Policy S-26 Flood Hazards Mitigation. Reduce existing flood hazards in Berkeley.

Actions:

A. Continue to rehabilitate the City's storm drain system to reduce local flooding caused by inadequate storm drainage.

B. Continue and significantly strengthen programs promoting storm drain maintenance by public and private sectors.

Policy S-27 New Development. Use development review to ensure that new development does not contribute to an increase in flood potential.

Actions:

A. Require new development to provide for appropriate levels of on-site detention and/or retention of storm water.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address hydrology and water quality.

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

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

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

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

D. Design, location and maintenance requirements and schedules for any stormwater quality treatment structural controls shall be submitted to the Department of Public Works for review with respect to reasonable adequacy of the controls. The review does not relieve the property owner of the responsibility for complying with BMC Chapter 17.20 and future revisions to the City's overall stormwater quality ordinances. This review shall be conducted prior to the issuance of a Building Permit.

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

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

G. All private or public projects that create and/or replace 5,000 square feet or more of impervious surface must comply with Provision C.3 of the Alameda County NPDES permit and must incorporate stormwater controls to enhance water quality. Permit submittals shall include a Stormwater Requirement Checklist and detailed information showing how the proposed project will meet Provision C.3 stormwater requirements, including a) Site design measures to reduce impervious surfaces, promote infiltration, and reduce water quality impacts; b) Source Control Measures to keep pollutants out of stormwater runoff; c) Stormwater treatment measures that are hydraulically sized to remove pollutants from stormwater; d) an O & M (Operations and Maintenance) agreement for all stormwater treatment devices and installations; and e) Engineering calculations for all stormwater devices (both mechanical and biological).

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

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

J. All loading areas must be designated to minimize "run-on" or runoff from the area. Accumulated waste water that may contribute to the pollution of stormwater must be drained to the sanitary sewer or intercepted and pretreated prior to discharge to the storm drain system. The property owner shall ensure that BMPs are implemented to prevent potential stormwater pollution. These BMPs shall include, but are not limited to, a regular program of sweeping, litter control and spill cleanup

K. Restaurants, where deemed appropriate, must be designed with a contained area for cleaning mats, equipment and containers. This contained wash area shall be covered or designed to prevent run-on or run-off from the area. The area shall not discharge to the storm drains; wash waters should drain to the sanitary sewer, or collected for ultimate disposal to the sanitary sewer. Employees shall be instructed and signs posted indicating that all washing activities shall be conducted in this area. Sanitary connections are subject to the review, approval and conditions of the waste water treatment plant receiving the discharge.

L. Sidewalks and parking lots shall be swept regularly to prevent the accumulation of litter and debris. If pressure washed, debris must be trapped and collected to prevent entry to the storm drain system. If any cleaning agent or degreaser is used, wash water shall not discharge to the storm drains; wash waters should

be collected and discharged to the sanitary sewer. Discharges to the sanitary sewer are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge.

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

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

O. The applicant shall ensure that all excavation takes into account surface and subsurface waters and underground streams so as not to adversely affect adjacent properties and rights-of-way.

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

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

COA: Public Works - Construction. Construction must comply with the State-wide general permit requiring owner to (1) notify the State; (2) prepare and implement a Stormwater Pollution Prevention Plan (SWPPP); and (3) monitor the effectiveness of the plan. Additional information may be found online at http://www.swrcb.ca.gov. As part of the permit submittal, the Public Works Department will need a) a copy of the "Notice of Intent" filed with the State Water Resources Control Board (SWRCB)/Division of Water Quality; b) the Waste Discharger Identification (WDID) number issued by the SWRCB for the project; c) a copy of the SWPPP prepared for each phase of the project; and d) the name of the individual who will be responsible for monitoring the site for compliance to the approved SWPPP.

COA: Drainage Patterns. The applicant shall establish and maintain drainage patterns that do not adversely affect adjacent properties and rights-of-way. Drainage plans shall be submitted for approval of the Building & Safety Division and Public Works Department, if required.

Municipal Code. Section 17.16.050 of the Berkeley Municipal Code (BMC) includes requirements for storm drain construction including permitting requirements for new storm drains and connections.

Chapter 17.20 of the BMC includes requirements to protect and enhance the water quality of our watercourses, waterbodies, and wetlands in a manner pursuant to and consistent with the federal Clean Water Act.

Section 17.20.030 of the BMC provides that it is unlawful to discharge any matter except stormwater into the storm drain system except as otherwise expressly exempted in the BMC.

Section 17.20.050 of the BMC provides that any person engaged in activities that will or may result in pollutants entering the storm drain system shall undertake all practicable measures to reduce or prevent the contamination of stormwater by pollutants. Section 17.20.050.A of the BMC prohibits littering and Section 17.20.050.B includes requirements for construction and development including use of filtering materials at catch basins; use of BMPs during construction; and providing the City with evidence of filing a Notice of Intent to obtain coverage under the Construction General Permit with the SWRCB, when required.

Section 17.20.050.B.4 of the BMC provides that the City Manager may establish controls on the volume and rate of stormwater runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants into the storm drain system.

Section 17.20.080.B of the BMC allows discharges from the following sources when the discharger manages the source such that the least amount of non-stormwater as practicable enters the storm drain system: crawl space and basement sump pumps; air conditioning condensation; groundwater drainage piping systems, including foundation drains, footing drains and pumps; and uncontaminated pumped groundwater.

Section 17.20.090 of the BMC provides that any person in charge of a business which handles, processes, or stores a hazardous material or any person responsible for emergency response for such a business, who has knowledge of any confirmed or unconfirmed release of materials, pollutants or waste which may result in pollutants or non-stormwater discharges entering the City storm drain system, shall take all necessary steps to ensure the discovery, containment and cleanup of such release as soon as possible. Such person shall also notify the City of the occurrence by telephoning 911 immediately and confirming the notification in writing to the emergency and toxics program of the City Manager's office within one week of said discovery.

Section 17.20.100 of the BMC describes the City’s authority to conduct inspections and perform sampling for enforcement purposes.

4.10.2 Impacts and Mitigation Measures

The following describes the proposed project, and the conceptual development project, potential impacts related to hydrology and water quality. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and conceptual development project and identifies standard COAs and mitigation measures, as appropriate.

4.10.2.1 Criteria of Significance

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to hydrology and water quality if it would:

Threshold HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;

Threshold HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

Threshold HYD-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;

- Result in substantial erosion or siltation on- or off-site;
- Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- Impede or redirect flood flows;

Threshold HYD-4: In flood hazard, tsunami, or seiches zones, risk release of pollutants due to project inundation; or,

Threshold HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.10.2.2 Project Impacts

The following section provides analysis of the potential impacts of the proposed project and conceptual development project for each of the criteria of significance listed above.

Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into

stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination. (*Less than Significant with Mitigation*)

The potential for the proposed project and the conceptual development project to result in a violation of water quality standards or waste discharge requirements exists during the construction period, as discussed below.

Construction. Future development of the project site, including the conceptual development project, would involve construction activities such as demolition/renovation, excavation, and grading, which can increase the potential for erosion and sedimentation from stormwater runoff and for the leaching/transport of potential contaminants from disturbed soil and building material/demolition debris. Construction activities would also involve the use of construction materials, equipment, and hazardous materials that can be sources of stormwater and groundwater pollution. If stormwater contacts disturbed soil, building material/demolition debris, and/or improperly stored hazardous materials, sediments and contaminants could be entrained in stormwater runoff that could reach waterways and degrade water quality, potentially resulting in a violation of water quality standards.

As described under Section 4.10.1.3, above, the water quality of the Bay is impaired by PCBs and mercury, among other pollutants, and TMDLs have been established for PCBs and mercury. Therefore, the discharge of PCBs or mercury in stormwater runoff could contribute to the impairment and be considered a violation of water quality standards. As discussed in Section 4.9, Hazards and Hazardous Materials, compliance with existing regulations and *COA: Toxics(E)* (*COA: Toxics* is described in Section 4.9, Hazards and Hazardous Materials) would ensure that hazardous buildings materials, including PCB containing materials and equipment and mercury containing equipment/universal waste, would be identified through a comprehensive hazardous building materials survey and removed/stabilized as necessary prior to building demolition or renovation activities. However, the existing regulations and *COA: Toxics(E)* do not require testing of concrete for PCBs unless the concrete is adjoining a PCB-containing building material, and PCB-contaminated concrete could be present in various areas of the conceptual development project site. The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities could result in the release of PCBs into the environment including into stormwater runoff, which would be a **potentially significant** impact. To control the risk of releasing PCBs into the environment from potential PCB-contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 as identified in Section 49, Hazards and Hazardous Materials, shall be implemented.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Implementation of Mitigation Measure HAZ-1 would ensure that potential PCB-contaminated concrete is identified and appropriately managed prior to demolition or renovation activities at

the conceptual development project site, which would reduce this impact to be **less than significant with mitigation**.

Any redevelopment on the project site that would result in land disturbance of 1 acre or more (such as the conceptual development project), would be required to comply with the Construction General Permit. In accordance with the Construction General Permit requirements, a SWPPP would be developed and implemented to identify all potential pollutants and their sources, including a list of project site-specific BMPs to reduce discharges of construction-related stormwater pollutants. The SWPPP would include a detailed description of controls to reduce pollutants and outline maintenance and inspection procedures. The SWPPP would be required to be kept on site and be made available to City and RWQCB inspectors. Typical sediment and erosion BMPs include protecting storm drain inlets, establishing and maintaining construction exits, and perimeter controls. The SWPPP would also define proper building material staging areas, paint and concrete washout areas, proper equipment/vehicle fueling and maintenance practices, controls for equipment/vehicle washing, and allowable non-stormwater discharges, and would include a spill prevention and response plan. The City performs inspections of all construction sites in accordance with the requirements of Provision C.6 of the MRP to ensure that potential sources of stormwater pollutants are appropriately managed. All construction activities on the project site would also be subject to the stormwater protection requirements of Chapter 17.20 of the BMC, as described under Section 4.10.1.8, above, and the City's *COA: Stormwater Requirements* and *COA: Public Works - Construction*.

Compliance with the Construction General Permit, Provision C.6 of the MRP, Chapter 17.20 of the BMC, and the City's *COA: Stormwater Requirements* and *COA: Public Works - Construction* would generally ensure that stormwater runoff from the project site during construction activities would not result in erosion/siltation or degradation of groundwater or receiving water quality; however, there are existing drainage features on the project site such as groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that may contain sediment/sludge or liquid/water containing hazardous materials. If these existing drainage features would remain in place, be improperly abandoned, or used without first performing inspection and cleanup, decommissioning, or improvement (as necessary) during construction activities, then mobilization of contaminants or infiltration of contaminated groundwater during construction of future development facilitated by the proposed project, including the conceptual development project, could contribute pollutants to the storm drain system and degrade receiving water quality, which would be a **potentially significant impact**.

To control the risk of conveying pollutants to receiving waters through existing drainage systems on the project site, Mitigation Measure HAZ-1 as identified in Section 4.9, Hazards and Hazardous Materials and Mitigation Measure HYD-1, below, shall be implemented.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HYD-1 **Existing Drainage Systems.** Individual project sponsors for future development projects, including the conceptual development project, shall hire a qualified environmental

professional to prepare a study evaluating existing drainage features. The study shall document the presence and condition of existing drainage features on the development site including groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that connect to off-site storm drain systems. The study shall document testing of sediment/sludge and liquid/water contained in the existing drainage features to evaluate whether they contain hazardous materials. The study shall provide recommendations for appropriate cleanup of the sediment/sludge and liquid/water contained in the existing drainage features (e.g., pressure washing and removal by vacuum truck for off-site disposal), decommissioning of the existing drainage features (e.g., removal or filling with cement slurry), or improvement of existing drainage features (e.g., lining or repair) to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. The study shall be submitted to the City for review and approval prior to the project sponsor performing cleanup, decommissioning, or improvement of existing drainage features. A report documenting the cleanup, decommissioning, or improvement of existing drainage features shall be submitted to the City for review and approval prior to the City issuing demolition, grading, or building permits for developments on the project site.

Implementation of Mitigation Measure HAZ-1 and Mitigation Measure HYD-1 would ensure that potential impacts from future development facilitated by the proposed project, including the conceptual development project, related to conveying pollutants to receiving waters through existing drainage systems would be less than significant.

As discussed in Section 4.9, Hazards and Hazardous Materials, the project site is within a City-mapped Environmental Management Area, which are areas of known or suspected groundwater contamination, and groundwater contamination is present beneath much of the project site and surrounding areas. Groundwater dewatering would be required for subsurface construction activities at the project site that would extend below the shallow groundwater level, and dewatering effluent could have high turbidity (suspended sediment) and could contain other contaminants. Turbid or contaminated groundwater could cause degradation of the receiving water quality if discharged directly to storm drains without treatment. Any groundwater dewatering discharge would be subject to permits from the City and EBMUD or the RWQCB depending on whether the discharge would be to the sanitary sewer or storm drain system, respectively.

Under Section 402 of the Clean Water Act and the Porter-Cologne Act, it is illegal to allow unpermitted non-stormwater discharges to receiving waters. Chapter 17.20 of the BMC also prohibits discharges to the City's storm drain systems other than rainfall runoff, except for discharges in compliance with an NPDES permit issued for the discharge, or discharges that are not prohibited as listed in Section 17.20.080 of the BMC, which includes uncontaminated pumped groundwater.

As stated in the Construction General Permit, non-stormwater discharges directly to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-stormwater discharges during construction, including from dewatering activities associated with construction. Discharging any pollutant-laden water from a dewatering site or sediment basin into any receiving water or storm drain that would cause or contribute to an exceedance of water quality objectives is prohibited (i.e., illegal).[45]

The Construction General Permit allows the discharge of non-contaminated dewatering effluent if the water is properly filtered or treated using appropriate technology. These technologies include, but are not limited to, retention in settling tanks (where sediments settle out prior to the discharge of water) and filtration using gravel and sand filters (to mechanically remove the sediment). If the dewatering activity is determined by the RWQCB not to be covered by the Construction General Permit due to contamination from fuels or VOCs, the discharge may be allowed under NPDES Permit No. CAG912002 (issued by the RWQCB under Order No. R2-2017-0048[46]), which covers the discharge or reclamation of extracted and treated groundwater resulting from the cleanup of groundwater polluted by VOCs, fuel leaks, fuel additives, and other related wastes. If the discharge is not covered by any existing general NPDES permits, then the discharger could potentially prepare a Report of Waste Discharge, and if approved by the RWQCB, be issued site-specific WDRs under the NPDES regulations. Site-specific WDRs contain rigorous monitoring requirements and performance standards that, when implemented, ensure that receiving water quality is not substantially degraded.

If the water is not suitable for discharge to the storm drain (receiving water), as discussed above, dewatering effluent may be discharged to the sanitary sewer system if EBMUD's discharge criteria are met. These include, but are not limited to, application of pretreatment technologies that would result in achieving compliance with the wastewater discharge limits. Discharges to the sanitary sewer must take place under permits from the City and EBMUD.

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45 SWRCB. 2022. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order WQ 2022-0057-DWQ, NPDES No. CAS000002, Adopted September 8.

46 San Francisco Bay Regional Water Quality Control Board. 2019. Order No. R2-2017-0048, NPDES Permit No. CAG912002, General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit). Effective January 1, 2019.

EBMUD manages the water it accepts into its facilities so that it can ensure proper treatment of wastewater prior to discharge.

If it is infeasible to meet the requirements of the Construction General Permit or other general NPDES permit, acquire site-specific WDRs, or meet EBMUD's discharge requirements, the construction contractor would be required to transport the dewatering effluent off site for disposal at an appropriately permitted facility for treatment sufficient to meet discharge requirements.

The management of groundwater during construction at the project site must also be performed in accordance with the City's *COA: Toxics(D)* which requires preparation and implementation of an SGMP, as described in detail in Section 4.9, Hazards and Hazardous Materials.

The discharge of dewatering effluent in compliance with *COA: Toxics(D)* and Chapter 17.20 of the BMC, and EBMUD and/or NPDES permitting requirements would ensure that groundwater dewatering discharges from the project site during construction activities would not result in degradation of receiving water quality.

Groundwater dewatering activities can also affect groundwater quality by drawing contaminated groundwater towards previously uncontaminated (or less contaminated) areas. The amount of excavation dewatering required can vary significantly depending on the size of excavation and type of shoring systems that would be used. For example, steel "H" piles with timber lagging typically require more dewatering than interlocking sheet piles or soil/cement cutoff walls. The effects of dewatering on groundwater conditions at the project site and surrounding areas would depend on the characteristics of the water bearing zones encountered by excavations, the excavation shoring and dewatering system designs, and the duration of the dewatering.

Groundwater contamination from petroleum hydrocarbons, metals, and VOCs has been identified in various areas of the project site, and there is known groundwater contamination and potential unidentified groundwater contamination at properties to the east (upgradient) from the project site.[47] As discussed in Section 4.9, Hazards and Hazardous Materials, proposed development on the project site, including the conceptual development project, must perform Phase I and II ESAs; obtain regulatory agency clearance, and prepare site-specific SGMPs in accordance with *COA: Toxics(A through D)*; and a Response Plan would be prepared and implemented under the oversight of the Department of Toxic Substances Control for the conceptual development project that include remediation of groundwater contamination in areas of known free product.[48]

[47] Langan. 2023b. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, July 28.

[48] Free product is a term used to describe a separate phase liquid (typically petroleum products) that floats on top of the groundwater surface.

Development on the project site would have some beneficial effects on groundwater quality as a result of soil and groundwater remediation that would be performed at the conceptual development project site and potentially in other areas of the project site as they are developed; however, residual groundwater contamination may remain following remediation at the conceptual development project site, and groundwater contamination may remain in other areas of the project site and surrounding areas. Due to the known groundwater contamination and potential unidentified groundwater contamination on and near the project site, dewatering activities at the project site could exacerbate the condition of existing groundwater contamination by increasing or changing the direction of plume migration towards previously uncontaminated (or less contaminated) areas, which would be a **potentially significant impact**.

To address potential migration of groundwater contamination through utility trenches, the proposed project and conceptual development project shall implement Mitigation Measures HAZ-2a through HAZ-2f, as identified in Section 4.9, Hazards and Hazardous Materials. To control the risk of exacerbating the migration of groundwater contamination due to dewatering activities, the proposed project and conceptual development project shall implement Mitigation Measure HYD-2, listed below.

Mitigation Measure HAZ-2a **Additional Site Characterization for Methane and Public Right-of-Ways.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2b **Additional Site Characterization for the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2c **Subsurface PCBs Contamination at the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2d **Vapor Mitigation System (VMS) Design.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2e **Utility Designs.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2f **Avoidance of Petroleum Fuel Pipelines.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HYD-2 **Contaminated Groundwater Migration and Discharge Prevention.** If known or potential groundwater contamination is identified at a development site or surrounding property as part of the required Phase I and II ESAs for future developments on the project site, and construction dewatering or operational dewatering (including groundwater drainage systems for structures) is proposed as part of the development, the project

sponsor shall evaluate whether proposed dewatering could exacerbate (i.e., increase or change the direction of) the migration of groundwater contamination towards the proposed dewatering area(s). This evaluation shall include the following:

- A detailed analysis of hydrogeologic conditions that would be affected by construction or operation dewatering activities, including an analysis of potential preferential pathways for groundwater flow such as utility trenches.
- A detailed description of proposed dewatering systems, including dewatering locations, shoring/ground structure designs, flow rates, and durations that would be required based on the hydrogeologic conditions that are present.
- Hydraulic modeling based on proposed dewatering systems to evaluate the changes to groundwater conditions (e.g., levels and flow directions) and the potential movement of contaminated groundwater.
- Analysis of whether operational dewatering (including groundwater drainage systems for structures), if proposed, could cause the discharge of contaminated groundwater into the storm drain system.

If the evaluation indicates that project dewatering could exacerbate the migration of groundwater contamination towards the proposed dewatering area(s) or result in operational discharge of contaminated groundwater into the storm drain system, the project designs shall be modified as necessary to ensure that project dewatering would not exacerbate the migration of groundwater contamination or result in the operational discharge of contaminated groundwater into the storm drain system. Such modifications may include the use of interlocking sheet piles or soil-cement cut-off walls that can reduce construction dewatering requirements, and use of waterproofing and buoyancy/hydrostatic pressure resistant construction methods rather than use of operational dewatering/groundwater drainage systems for structures. The project sponsor shall submit the hydraulic evaluation and dewatering plans for review and approval to the regulatory agency providing oversight of the development, as part of the regulatory agency clearance required by *COA: Toxics(C).*

Implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f and Mitigation Measure HYD-2 would ensure that potential impacts from future development facilitated by the proposed project, including the conceptual development project, related to construction

dewatering exacerbating the migration of groundwater contamination would be less than significant. Therefore, compliance with existing regulations discussed above, the City's COAs, and implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure protection of surface and groundwater water quality during construction activities, and potential impacts to water quality would be **less than significant with mitigation.**

The potential for the proposed project and the conceptual development project to result in a violation of water quality standards or waste discharge requirements exists during the operational period, as discussed below.

Operation. The proposed project would intensify land uses on the project site compared to existing conditions, which could increase the potential for pollutants of concern from vehicle traffic (e.g., fuels and lubricants, tire wear particulates, brake dust, and fallout from exhaust emissions) to be generated on the project site and conveyed in runoff during storm events. Debris and particulates that gather on impervious surfaces such as paved areas and roofs could also add heavy metals and sediment to the pollutant load in runoff. The proposed landscaping could contain residual pesticides and nutrients used for landscape maintenance, and the intensification of land uses could also result in increased trash generation over existing conditions.

Stormwater runoff during operation of future development facilitated by the proposed project, including the conceptual development project, would be subject to the requirements of the MRP. Provision C.3 of the MRP sets forth appropriate and site-specific source control, site design, and stormwater treatment measures for new and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges. Any development on the project site that would create and/or replace more than 2,500 square feet and less than 5,000 square feet of impervious surface must install site design measures that reduce runoff and pollutants in runoff in accordance with Provision C.3.i of the MRP. Any development on the project site that would replace more than 5,000 square feet of impervious surfaces would be required to implement post-construction stormwater management and treatment measures to reduce pollutant loads in runoff in accordance with Provision C.3 of the MRP, which would include the use of LID measures that may include bio-retention treatment areas; flow-through planters; tree wells with media filters; open spaces; catch basin filters; rainwater harvesting, with on-site re-use; and green streets, to reduce runoff pollutant loads. As discussed under Section 4.10.1.8, above, at sites with high groundwater and/or groundwater contamination, such as the project site, flow-through planters and other stormwater controls that are isolated from underlying soils are appropriate to prevent migration of contamination and/or interfere with remediation.[49] The City's review of the development designs would ensure that all development on the project site would comply with the stormwater control and treatment regulations discussed above. Because stormwater runoff from much of the project site is not currently treated and development under the proposed project, including the conceptual

[49] Alameda County Clean Water Program (ACCWP). 2023. C.3 Stormwater Technical Guidance, Version 8. March 22.

development project, would include stormwater treatment systems, the proposed project would improve stormwater runoff quality from the project site compared to existing conditions.

Stormwater runoff during operation of future development facilitated by the proposed project, including the conceptual development project, would be subject to Chapter 17.20 of the BMC, which includes requirements to protect and enhance the water quality, and the requirements of *COA: Stormwater Requirements*, which address various operational sources of stormwater pollutants, as described above.

As discussed in Section 4.9, Hazards and Hazardous Materials, placement of landscaping (and in particular stormwater treatment/infiltration features) over areas of contaminated soil or groundwater could increase the leaching of contaminants from soil into groundwater or the migration of contaminated groundwater; and construction of utilities through areas of contaminated groundwater could create pathways for the migration of groundwater contamination, which would be a **potentially significant impact**. Therefore, the proposed project and conceptual development project shall implement Mitigation Measures HAZ-2a through HAZ-2f as identified in Section 4.9, Hazards and Hazardous Materials.

Mitigation Measure HAZ-2a **Additional Site Characterization for Methane and Public Right-of-Ways.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2b **Additional Site Characterization for the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2c **Subsurface PCBs Contamination at the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2d **Vapor Mitigation System (VMS) Design.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2e **Utility Designs.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HAZ-2f **Avoidance of Petroleum Fuel Pipelines.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Implementation of Mitigation Measure HAZ-2a through HAZ-2f, listed above, and compliance with *COA: Toxics(A through D)*would ensure that subsurface contamination on the project site would be properly investigated and remediated under regulatory agency oversight and that potential impacts related to migration of groundwater contamination due to placement of landscaping, stormwater treatment/infiltration features, and new utilities in areas of contamination would be **less than significant with mitigation**.

Groundwater has been identified to be as shallow as approximately 1.5 feet below the ground surface at the project site and contaminated groundwater is present beneath much of the project site.[50] Sea level rise could contribute to a rise in the already shallow groundwater levels at the project site. If existing drainage features at the project site are not inspected and cleaned up, decommissioned, or improved (as necessary) to prevent mobilization of contaminants or infiltration of contaminated groundwater, the existing drainage features could contribute pollutants to the storm drain system and degrade receiving water quality during operation of future development facilitated by the proposed project, including the conceptual development project, which would be a **potentially significant** impact. Therefore, the project shall implement Mitigation Measure HYD-1, listed above.

Implementation of Mitigation Measure HYD-1, as described above, would ensure that existing drainage features at the project site would be inspected, decommissioned or improved, as necessary to prevent them from serving as conduits for contaminated groundwater to enter the storm drain system. Section 17.20.080 of the BMC indicates that discharges to the storm drain system are allowed from basement sump pumps; groundwater drainage piping systems, including foundation drains, footing drains and pumps; and uncontaminated pumped groundwater.

Operation of developments on the project site could involve the use of groundwater dewatering/drainage systems for structures (e.g., foundations, basements, and ground floor spaces), which could exacerbate the migration of contaminated groundwater towards the dewatering/drainage systems, as well as result in the potential discharge of contaminated groundwater to the storm drain system, and thereby degrade water quality which would be a **potentially significant** impact. Therefore, the project shall implement Mitigation Measure HYD-2, listed above.

Implementation of Mitigation Measure HYD-2, as described above, would ensure that potential impacts related to operational groundwater dewatering/drainage systems exacerbating the migration of contaminated groundwater or resulting in the discharge of contaminated groundwater into storm drain systems would be **less than significant with mitigation**.

Required compliance with the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Toxics (A through D),* and implementation of Mitigation Measures HAZ-2a through HAZ-2f, HYD-1, and HYD-2, listed above, would ensure the protection of groundwater and surface water quality during operation of future development facilitated by the proposed project, including the conceptual development project. Therefore, potential impacts related to water quality during operation would be **less than significant with mitigation**.

Impact HYD-1 Summary: Compliance with existing regulations, the City's COAs, and implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure protection of surface and groundwater water quality during construction and operation of future development facilitated by the proposed project, including the conceptual

[50] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

development project, and potential impacts to water quality would be **less than significant with mitigation**.

Impact HYD-2: The proposed project, including the conceptual development project, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project or conceptual development project may impede sustainable groundwater management of the basin. (*Less than Significant*)

The municipal water supply to the project site is provided by the EBMUD water system, which is supplied from surface water sources;[51] therefore, operation of future development facilitated by the proposed project, including the conceptual development project, would not involve the use of groundwater for water supply. The potential for the proposed project and the conceptual development project to result in adverse effects to groundwater supplies during construction or operational period dewatering or due to alteration of existing pervious surfaces is discussed below.

Construction and Operational Dewatering. As discussed under Impact HYD-1, above, construction activities at the project site would require dewatering of excavations that extend below the shallow groundwater level, and operation of developments on the project site, including the conceptual development project, could involve the use of operational groundwater dewatering/drainage systems for structures due to shallow groundwater levels. The removal of groundwater during construction on the project site would be temporary and localized, and removal of groundwater during operation of developments, if any, would need to be managed such that the least amount of groundwater as practicable enters the storm drain system in accordance with Section 17.20.080.B of the BMC. Dewatering would be limited to the shallow groundwater zone that appears to be perched groundwater on the Bay Mud and not part of a regional aquifer, and the shallow groundwater has hazardous materials contamination and elevated TDS levels that would most likely qualify it as a non-potable water source.[52] The presence of Bay Mud (which can act as an aquitard) beneath the shallow groundwater at the project site significantly limits the potential for shallow groundwater to recharge underlying groundwater -bearing formations that could be considered a potable water source. Therefore, dewatering activities would result in **less than significant** impacts related to groundwater recharge or groundwater supplies.

Altering Pervious Surfaces. Under existing conditions, infiltration of stormwater and groundwater recharge at the project site is limited by the existing impervious surfaces (buildings and paved surfaces) that cover the majority of the project site. The conceptual development project and other developments on the project site would include stormwater treatment in accordance with the MRP; however, due to the presence of subsurface contamination and shallow groundwater, some stormwater treatment (such as bioretention areas) may need to be lined to prevent infiltration. The conceptual development project would result in a decrease in the impervious area of the project site by increasing the amount of landscaping. Other

[51] EBMUD. 2024a. Water Supply. Website: www.ebmud.com/water/about-your-water/water-supply, (accessed February 28).

[52] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

developments on the project site may also include more landscaping than the existing condition. Therefore, the proposed project and the conceptual development project would likely increase stormwater infiltration and groundwater recharge at the project site and any impacts to groundwater recharge due to altering pervious surfaces would be **less than significant**.

Impact HYD-2 Summary: The removal of groundwater during construction activities on the project site facilitated by the proposed project, including the conceptual development project, would be temporary and localized, and compliance with Section 17.20.080.B of the BMC would ensure that dewatering during operation would not result in significant impacts related to groundwater recharge or supplies. In addition, the proposed project and the conceptual development project would likely increase stormwater infiltration and groundwater recharge at the project site and would not result in any impacts to groundwater recharge due to altering pervious surfaces. Therefore, impacts associated with groundwater supplies and recharge such that the proposed project or conceptual development project would impede sustainable groundwater management of the basin would be **less than significant**.

Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding. *(Less than Significant with Mitigation)*

The proposed project and the conceptual development project would not alter the course of a stream or a river. The proposed project and the conceptual development project would include construction activities, and alteration of impervious surfaces and stormwater drainage systems that would alter drainage patterns as discussed below.

Erosion, Siltation, and Additional Sources of Polluted Runoff. As discussed under Impact HYD-1 above, there would be an increased potential for soil erosion/sedimentation and polluted runoff during construction activities compared to existing conditions, including a **potentially significant** impact related to the potential release of PCBs into stormwater runoff. Therefore, the project shall implement Mitigation Measure HAZ-1, as identified in Section 4.9, Hazards and Hazardous Materials.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Implementation of Mitigation Measure HAZ-1and compliance with the Construction General Permit, Provision C.6 of the MRP, Chapter 17.20 of the BMC, and the City's *COA: Toxics(E), COA: Stormwater Requirements*, and *COA: Public Works - Construction* would ensure that potential impacts related to erosion/siltation and polluted runoff during construction of future development facilitated by the proposed project, including the conceptual development project, would be **less than significant with mitigation**.

During operation of future developments on the project site, including the conceptual development project, the area would be covered by structures, pavement, and landscaped areas, with no ongoing soil exposure or disturbance that could result in erosion. As discussed under Impact HYD-1, above, stormwater runoff during operation of developments on the

project site would be treated in accordance with the requirements of the MRP, which would minimize the amount of silt and pollutants in stormwater runoff compared to the existing condition. Operation of future development facilitated by the proposed project, including the conceptual development project, would therefore have **less than significant** impacts related to erosion, siltation, and polluted runoff.

Flooding from Increased Runoff and Storm Drain Capacity. The proposed project and conceptual development project would alter the surface water drainage patterns on the project site by altering impervious/pervious surfaces and installing new stormwater treatment and drainage facilities. As described under Impact HYD-2 above, the proposed project and conceptual development project would increase pervious surfaces compared to the existing conditions, which would decrease the overall rate of stormwater runoff from the project site compared to the existing conditions. As discussed in Section 4.10.1.1, the project site is situated along the boundary of the Schoolhouse and Gilman watersheds. Based on current drainage patterns, any future runoff from the project site which is directed to Gilman Street or to Eastshore Highway would be routed via storm collection system to the 60-inch culvert on Gilman Street. Any stormwater runoff or direct connections to the storm drain system along Second Street, Camelia Street, and Page Street would be routed to the Schoolhouse Watershed outfall on Virginia Street. Segments of the Gilman Street storm drain do not have capacity to convey flows from the 10-year design storm.[53] The alteration of drainage patterns during construction or operation under the proposed project, including conceptual development project, could potentially convey more runoff towards the Gilman Street storm drain or towards the Schoolhouse Watershed storm drain system compared to existing conditions, which could contribute towards exceeding storm drain system capacity and result in localized flooding on the project site or in off-site areas. The control of stormwater runoff from the project site would be required according to the City's *COA: Drainage Patterns* and Chapter 17.20 of the BMC, as described below.

Section 17.20.050.B.4 of the BMC provides that the City Manager or designee may establish controls on the volume and rate of stormwater runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants into the storm drain system.

The conceptual development project would redevelop the majority of the project site and therefore would have substantial effects with regards to altering drainage patterns and stormwater drainage systems on the project site. Although compliance with the City's Municipal Code and *COA: Drainage Patterns* would generally address potential impacts related to alteration of drainage patterns at the project site, there is a possibility that the conceptual development project would fail to adequately account for existing drainage conditions and storm drain capacity issues, or if new stormwater drainage systems are not constructed at the appropriate times with regard to the different phases of conceptual development project construction as well as weather conditions (e.g., rain), then runoff from the project site could

[53] City of Berkeley. 2011. Watershed Management Plan, Public Works Engineering, Version 1.0. October.

contribute to exceeding the capacity of existing or proposed stormwater drainage systems, and flooding could occur on site or off site, which would be a **potentially significant impact**.

To control the risk of exceeding the capacity of stormwater drainage systems which could result in flooding, the proposed project and conceptual development project shall implement Mitigation Measure HYD-3.

Mitigation Measure HYD-3 **Hydraulic Study of Drainage during Construction and Operation for the Potential Berkeley Forge Development.** The project sponsor for the conceptual development project shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of the project, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that the project would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), the project design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.

Implementation of Mitigation Measure HYD-3 and compliance with the BMC and *COA: Drainage Patterns* would ensure that potential impacts related to exceeding storm drain capacity or on- or off-site flooding due to altering drainage patterns at the project site would be **less than significant with mitigation**.

Impede or Redirect Flood Flows. As discussed in section 4.10.1.5, above, the project site is not within or adjacent to a Special Flood Hazard Zone mapped by FEMA;[54] therefore, potential

[54] Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

impacts of the proposed project and conceptual development project related to impeding or redirecting flood flows would be **less than significant**.

Impact HYD-3 Summary: Implementation of Mitigation Measure HAZ-1 and Mitigation Measure HYD-3 , and compliance with the Construction General Permit, the MRP, Chapter 17.20 of the BMC, and *COA: Toxics(E), COA: Stormwater Requirements*, *COA: Drainage Patterns* and *COA: Public Works - Construction* would ensure that construction and operation of future development facilitated by the proposed project, including the conceptual development project, would not result in significant on- or off-site erosion/siltation and polluted runoff, flooding from increased runoff, the exceedance of storm drain capacity, or the impediment or redirection of flood flows. Impacts would be **less than significant with mitigation.**

Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site. *(Less than Significant with Mitigation)*

Seiches are not considered a hazard in the Bay, based on its geometry and natural oscillations,[55] and there are no other waterbodies near the project site that could generate a seiche that could impact the project site.

The project site is not within or adjacent to a Special Flood Hazard Zone mapped by FEMA;[56] however, sea level rise could affect drainage and flooding conditions around the project site and potentially increase future flooding risk at the project site. A Preliminary Sea Level Rise Vulnerability Assessment[57] prepared for the project site indicates that the nearest Special Flood Hazard Area to the site is in the Bay and has a Base Flood Elevation of 10 feet NAVD 88 and is not subject to wave action; however, as discussed in section 4.10.1.5, above, FEMA mapping indicates that the shoreline of the Bay to the west of the project site (which includes the Gilman Street storm drain outfall) is within a Special Flood Hazard Zone with a Base Flood Elevation of 13 feet NAVD 88 which includes an additional hazard associated with storm waves.[58]

The Preliminary Sea Level Rise Vulnerability Assessment indicates that, based on current guidance, a projected sea level rise of 3.4 feet by 2100 should be used for the planning of development on the project site, which accounts for Low Risk Aversion projects under a high emission scenario. The Preliminary Sea Level Rise Vulnerability Assessment recommends that the minimum finished floor elevations for critical infrastructure at the project site should be 13.4 feet NAVD 88, which is equal to the Base Flood Elevation at the nearest Special Flood Hazard Area of 10 feet NAVD 88 plus

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55 Borrero, J., L. Dengler, B. Uslu, C. Synolakis. 2006. *Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay*. June 8. Report prepared for the Marine Facilities Division of the California State Lands Commission.

56 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

57 BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.

58 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

3.4 feet.[59] At this time, it is not clear how FEMA's mapping of a Special Flood Hazard Zone with a Base Flood Elevation of 13 feet NAVD88 around the Gilman Street storm drain outfall could affect future flooding conditions at the project site when accounting for sea level rise. Hazardous materials would be stored at the project site during construction activities and would also be stored at the project site during operation, based on the proposed R&D and manufacturing land uses. If hazardous material storage at the project site does not account for potential inundation, future flooding of the project site could result in the release of hazardous materials into surface waters, which would be a **potentially significant** impact.

The project site is within a tsunami hazard area,[60] and, therefore, inundation of the project site by a tsunami could also cause hazardous materials to be released into surface waters if hazardous material storage does not account for potential inundation, which would be a **potentially significant** impact.

To control the risk of releasing pollutants into surface water due to future flooding or tsunami inundation at the project site, the proposed project and conceptual development project shall implement Mitigation Measure HYD-4.

Mitigation Measure HYD-4

Flooding and Sea Level Rise Assessment and Flood-Proof Hazardous Materials Storage. During construction on the project site, contractors shall store hazardous materials in appropriate containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak because of flooding inundation. A plan describing flood-proof hazardous materials storage practices shall be prepared by the project sponsor and submitted to the City for review and approval prior to the City approving of demolition, grading, or building permits for future developments on the project site.

During operation of the project, hazardous materials storage areas that would be used shall be designed to avoid inundation from flooding (e.g., have appropriate finished floor elevations or flood proofing construction measures) or shall store hazardous materials in containers that are appropriately designed, located, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. A Flooding and Sea Level Rise Assessment shall be performed by the project sponsor to evaluate existing and future flooding conditions for developments at the project site to support the design of hazardous materials storage areas to be used during operation. The Flooding and Sea Level Rise Assessment shall evaluate potential flooding conditions relate to both storm flooding and tsunami inundation. The Flooding and Sea Level Rise Assessment and designs for hazardous materials storage

59 BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.

60 California Geological Survey (CGS). 2021. Tsunami Hazard Area Map, County of Alameda. March 23.

areas shall be provided to the City for review and approval prior to the City approving of grading or building permits for developments on the project site.

With implementation of Mitigation Measure HYD-4, impacts related to releasing pollutants due flooding or tsunami inundation at the project site would be **less than significant with mitigation**.

Impact HYD-4 Summary: The project site is not within a Special Flood Hazard Zone mapped by FEMA or at risk of inundation by seiche. Implementation of Mitigation Measure HYD-4 would ensure that potential impacts of the proposed project and conceptual development project related to releasing pollutants due flooding or tsunami inundation at the project site would be **less than significant with mitigation**.

Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin. ***(Less than Significant with Mitigation)***

As described above under Section 4.10.1, the Basin Plan[61] is the water quality control plan for the project area and the GSP for the EBP Subbasin[62] is the sustainable groundwater management plan for the project area. As discussed under Impact HYD-1, above, the proposed project and conceptual development project could result in potentially significant impacts to surface water and groundwater quality, which would result in **potentially significant** impacts related to conflicting with the Basin Plan or GSP for the EBP Subbasin. Therefore, the project is required to implement Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2, listed above.

Implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2, listed above, and required compliance with existing regulations including the EBMUD and NPDES permit requirements, the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Public Works – Construction,* and *COA: Toxics(A through D),* would ensure the protection of groundwater and surface water quality during construction and operation of future development facilitated by the proposed project, including the conceptual development project. Because stormwater runoff from much of the project site is not currently treated and development under the proposed project would include stormwater treatment systems, the proposed project would improve stormwater runoff quality from the project site compared to existing conditions. Development on the project site would also have beneficial effects on groundwater quality as a result of soil and groundwater remediation that would be performed at the conceptual development project and potentially in other areas of the project site as they are developed.

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61 San Francisco Bay Regional Water Quality Control Board (RWQCB), 2023. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, amendments adopted up through March 7, 2023. Website: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html#basinplan, (accessed February 28, 2024).

62 EBMUD GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.

Further, as described above under Impact HYD-2, above, operation of future development facilitated by the proposed project, including the conceptual development project, would not involve the use of groundwater for water supply, and groundwater dewatering activities and alteration of impervious surfaces under the proposed project and conceptual development project would result in less than significant impacts related to groundwater recharge or groundwater supplies. Therefore, the proposed project and conceptual development project would not conflict with or obstruct implementation of the Basin Plan or the GSP for the EBP Subbasin and this impact would be **less than significant with mitigation**.

Impact HYD-5 Summary: Compliance with existing regulations including the EBMUD and NPDES permit requirements, the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Public Works – Construction,* and *COA: Toxics(A through D),* and implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure that future development facilitated by the proposed project, including the conceptual development project, would not conflict with the Basin Plan or GSP for the EBP Subbasin. Impacts would be **less than significant with mitigation**.

4.10.2.3 Cumulative Impacts

The geographic areas of concern for cumulative hydrology and surface water quality impacts are the stormwater drainage systems and surface waters that could receive runoff from the project site and cumulative projects, which includes the Gilman Street storm drain, Schoolhouse Watershed storm drain system, and the Bay. The geographic areas of concern for cumulative groundwater quality and supply impacts is the EBP Subbasin. All of the cumulative project sites are in the EBP Subbasin, and several of the cumulative project sites are within the Gilman and Schoolhouse watersheds.

Stormwater runoff and groundwater dewatering from the project site and cumulative projects could result in degradation of surface water and groundwater quality if appropriate management of stormwater runoff and groundwater dewatering are not performed. Stormwater discharges from past and existing projects within the vicinity of the project site have contained pollutants that have contributed to impairment of the water quality of the Bay, which is a cumulative impact. Hazardous material releases from the project site and from past and existing projects within the vicinity of the project site have contributed to the contamination of groundwater in the EBP subbasin, which is a cumulative impact. Stormwater regulations have become progressively more stringent since the passage of the federal Clean Water Act, and current regulations require new developments to manage and treat all significant sources of stormwater pollutants, which includes potential erosion and siltation. As discussed under Impacts HYD-1, above, required compliance with existing regulations including the EBMUD and NPDES permit requirements, the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Public Works – Construction*, and *COA: Toxics(A through E)* and implementation of Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure the protection of groundwater and surface water quality during construction and operation of future development facilitated by the proposed project, including the conceptual development project. Stormwater runoff from the project site is not currently treated; therefore, the proposed project and conceptual development project would reduce the operational pollutant loads in stormwater runoff from the project site compared to the existing conditions. Development on the project site would also have beneficial effects on groundwater quality as a result of soil and

groundwater remediation that would be performed at the conceptual development project and potentially in other areas of the project site as they are developed. Cumulative projects would also be required to comply with existing regulations, the BMC, and the City's COAs that protect the quality of stormwater, surface water, and groundwater. Therefore, the proposed project's contribution to the cumulative impacts related to degradation of water quality or conflicting with the Basin Plan or groundwater quality goals of the GSP for the EBP Subbasin would be **less than significant with mitigation**.

The EBP Subbasin is not experiencing a chronic lowering of groundwater levels and is currently in a sustainable and stable condition.[63] As described under Impact HYD-2, above, operation of future development facilitated by the proposed project, including conceptual development project, would not involve the use of groundwater for water supply, and groundwater dewatering activities and alteration of impervious surfaces under the proposed project and conceptual development project would result in less than significant impacts related to groundwater recharge or groundwater supplies. Cumulative projects would also not involve the use of groundwater for water supply, and although cumulative projects may involve dewatering and alteration of impervious surfaces, dewatering would generally be localized and limited to shallow groundwater, and cumulative projects that alter impervious surfaces would be subject to the requirements of the MRP, which promote infiltration of stormwater runoff and groundwater recharge. Therefore, the proposed project's contribution to potential cumulative impacts related to groundwater supply and recharge or conflicting with the GSP for the EBP Subbasin would be **less than significant.**

The project site and cumulative projects are not within a Special Flood Hazard Zone mapped by FEMA;[64] therefore, potential cumulative impacts of the proposed project and conceptual development project related to impeding or redirecting flood flows would be the **less than significant.** The project and cumulative projects would alter existing drainage patterns (e.g., by altering impervious surfaces), which could alter stormwater runoff patterns and impact the capacity of existing storm drain systems. As described under Impact HYD-3, above, the proposed project and conceptual development project would decrease the overall rate of stormwater runoff from the project site compared to existing conditions by increasing the amount of landscaping; however, the proposed project and conceptual development project would alter drainage patterns and could contribute towards exceeding the capacity of storm drain systems, which could result in flooding on or off the project site. Implementation of Mitigation Measure HYD-3 and compliance with the BMC and *COA: Drainage Patterns* would ensure that potential impacts related to exceeding storm drain capacity or on- or off-site flooding due to altering drainage patterns at the project site would be addressed through a hydraulic study and appropriate project planning and design. Cumulative projects would also be subject to the BMC and *COA: Drainage Patterns* to ensure that cumulative projects do not contribute to flooding or exceeding storm drain capacity. Therefore, the proposed project's contribution to potential cumulative impacts related to flooding and exceeding the

63 EBMUD GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.

64 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

capacity of storm drain systems due to alteration of drainage patterns would be the **less than significant with mitigation.**

The project site and cumulative projects, including the Gilman Street Interchange Project and Gilman Transfer Station, are within a tsunami hazard area,[65] and sea level rise could affect drainage and flooding conditions around the project site and these cumulative projects could potentially increase future flooding risk in these areas. Hazardous materials would be stored at the project site during construction activities and during operation, based on the proposed R&D and manufacturing land uses. Nearby, hazardous materials would also likely be stored at Gilman Street Interchange Project during construction, and at the Gilman Transfer Station project during construction and operation. Inundation of multiple projects storing hazardous materials in the vicinity of the project site at the same time could result in a cumulative impact related to the release of hazardous materials into surface waters; however, implementation of Mitigation Measure HYD-4 would ensure that construction and operation of future developments under the proposed project, including the conceptual development project, would include floodproof storage of hazardous materials; therefore, the proposed project's contribution to potential cumulative impacts related to releasing pollutants due to flooding or tsunami inundation would be **less than significant with mitigation**.

65 California Geological Survey (CGS). 2021. Tsunami Hazard Area Map, County of Alameda. March 23.

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4.11 BIOLOGICAL RESOURCES

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing biological resources conditions within the project site and vicinity, identifies potentially significant impacts to such resources that may result from implementation of the proposed project and the conceptual development project, and recommends mitigation measures to reduce the severity of potentially significant impacts.

4.11.1 Setting

The following setting information provides a description of existing conditions with respect to biological resources. This section also includes an overview of the applicable regulatory context related to biological resources.

4.11.1.1 Existing Conditions

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Vegetation on the site is limited to sparse street and ornamental trees.

To establish existing conditions related to biological resources, the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB)[1] was reviewed for lists of special-status plant and animal species that have the potential to occur on or near the project site.

A total of three special-status plant species and 11 special-status animal species have CNDDB occurrences within 2 miles of the project site, as provided in Table 4.11.A. The CNDDB has occurrences for one Sensitive Natural Community (Northern Coastal Salt March) within 2 miles of the site. However, this community is not present on or adjacent to the project site.

Table 4.11.A: Special-Status Species Within 2 Miles of the Project Site

Species	Taxonomic Group	Federal Listing	State Listing
Animals			
Pallid bat (*Antrozous pallidus*)	Mammal	None	None
Hoary bay (*Lasiurus cinereus*)	Mammal	None	None
Bridges' coast range shoulderband (*Helminthoglypta nickliniana bridgesi*)	Mollusk	None	None
Green sturgeon (*Acipenser medirostris*)	Fish	Threatened	None

[1] California Department of Fish and Wildlife. 2022. California Natural Diversity Database, commercial version dated April 2022. Sacramento: Biogeographic Data Branch.

Table 4.11.A: Special-Status Species Within 2 Miles of the Project Site

Species	Taxonomic Group	Federal Listing	State Listing
Longfin smelt (*Spirinchus thaleichthys*)	Fish	Proposed	Threatened
Tidewater goby (*Eucyclogobius newberryi*)	Fish	Endangered	None
Western bumble bee (*Bombus occdentalis*)	Insect	None	Candidate Endangered
Monarch (*Danaus plexippus plexippus*)	Insect	Candidate	None
White-tailed kite (*Elanus leucurus*)[1]	Bird	None	None
Alameda song sparrow (*Melospiza melodia pusillula*)	Bird	None	None
Northern harrier (*Circus hudsonius*)	Bird	None	None
Plants			
Santa Cruz tarplant (*Holocarpha macradenia*)	Dicot	Threatened	Endangered
California seablite (*Suaeda califórnica*)	Dicot	Endangered	None
Saline clover (*Trifolium hydrophilum*)[2]	Dicot	None	None

Source: Compiled by LSA (2024).
[1] The white-tailed kite is not a listed species, but it is a Fully Protected species under California Fish and Game Code.
[2] Designated as Rare Plant 1B.2, which indicates the species is rare, threatened, or endangered in California and elsewhere.
CDFW = California Department of Fish and Wildlife
CNDDB = California Natural Diversity Database

4.11.1.2 Regulatory Framework

The following describes the federal, State and local regulations and policies related to biological resources that are relevant to the proposed project.

Federal and State Regulations. The following federal regulations related to biological resources that would be applicable to the proposed project and conceptual development project are described below.

Special-Status Species. Individual plant and animal species listed as rare, threatened, or endangered under State and federal Endangered Species acts are considered "special-status species". Federal and State endangered species legislation has provided the United States Fish and Wildlife Service (USFWS) and the CDFW with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project would result in the "take" of a species listed as threatened or endangered. To "take" a listed species, as defined by the State, is "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" said species. "Take" is more broadly defined by the federal Endangered Species Act to include inflicting harm upon a listed species.

In addition to species listed under State and federal Endangered Species acts, Section 15380(b) and (c) of the *State CEQA Guidelines* provide that all potential rare or sensitive species, or habitats capable of supporting rare species, be considered for environmental review. These may include plant species of concern in the State listed by the California Native Plant Society and CDFW listed "Species of Special Concern".

Federal Status Species. Special-status species are individual plant and animal species that are protected under federal and State Endangered Species acts. These species are classified as rare, threatened, or endangered. The USFWS and the CDFW have adopted a system to conserve and protect plant and animal species that are limited in distribution as well as species that have a low or declining population. If a proposed project or activities associated with a proposed project result in the "take" of a threatened or endangered species, the necessary permits must be obtained from the USFWS and CDFW. California defines take as any action or attempt to "hunt, pursue, catch, capture, or kill" a listed species. Additionally, the federal Endangered Species Act includes the "harm" of a listed species in the definition of take. "Harm" is further defined to include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

Section 15380(b) of the *State CEQA Guidelines* also considers all potential rare or sensitive species and habitats that are capable of supporting such species in addition to those species listed under the federal and State Endangered Species acts. These additional species considered under CEQA may include California plant species of concern as listed by the California Native Plant Society and "Species of Special Concern" listed by CDFW.

Sensitive Habitats. Wetland and riparian habitats are considered to be sensitive habitats, and are protected under various federal, State, and local regulations. These habitats are generally subject to regulation, protection, or consideration by the United States Army Corps of Engineers, Regional Water Quality Control Board, CDFW, and/or the USFWS as per Sections 303, 304, and 404 of the Federal Clean Water Act and the State of California Porter-Cologne Water Quality Control Act. Wetland and riparian habitats are also subject to the National Pollutant Discharge Elimination System permit program under Section 402 of the Clean Water Act, which regulates discharge into waters of the United States.

Migratory Bird Treaty Act. Under the Migratory Bird Treaty Act (MBTA), the killing, possessing, or trading of migratory birds is prohibited unless exempt by regulations prescribed by the Secretary of the Interior. The MBTA prohibits the possession of protected bird species and their nests, regardless of whether nests are active.[2]

Birds of prey, such as owls and hawks, are protected in California under provisions of the State Fish and Game Code. The code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The CDFW considers disturbance that causes nest abandonment and/or loss of reproductive effort "taking".

[2] An active nest is defined as having eggs or young.

California Department of Fish and Game Code 3503. California Fish and Game Code 3503 stipulates that it is unlawful to take, posses, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

Local Plans and Regulations. The City of Berkeley (City) plans and regulations, related to biological resources that would be applicable to the project, are described below.

City of Berkeley General Plan. The following policies of the Berkeley General Plan Environmental Management Element pertaining to biological resources would be applicable to the proposed project:

- **Policy EM-28: Natural Habitat.** Restore and protect valuable, significant, or unique natural habitat areas. *(Also see Open Space and Recreation Policy OS-9.)*

- **Policy EM-29: Street and Park Trees.** Maintain, enhance, and preserve street and park trees to improve the environment and provide habitat.

- **Policy EM-30: Native Plants.** Use native tree and plant species to enhance ecological richness.

- **Policy EM-31: Landscaping.** Encourage drought-resistant, rodent-resistant, and fire-resistant plants to reduce water use, prevent erosion of soils, improve habitat, lessen fire danger, and minimize degradation of resources.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address biological resources:

> COA: Avoid Disturbance of Nesting Birds (prior to initial site disturbance activities and during construction). 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 MBTA and CFGC, 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.

City of Berkeley Municipal Code Section 23.304.150– Bird Safe Building. The purpose of this code section is to reduce bird mortality from windows and other transparent or reflective buildings or building features known to increase the risk of bird collisions. As stated in BMC Section 23.304.150, transparent or reflective material, such as windows, associated with future development of the project site would be required to have an American Bird Conservancy Threat Factor Rating of 30 or less or undergo pattern glazing treatment. In addition, all panes with exterior screens, shutters or shading devices would be required to be installed permanently over windows, structures, and building features such that there is no gap larger than 9 inches in any single dimension.

4.11.2 Impacts and Mitigation Measures

The following describes the proposed project's potential impacts on biological resources. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and conceptual development project and identifies COAs and mitigation measures, as appropriate.

4.11.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to biological resources if it would:

Threshold BIO-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 CDFW or USFWS;

Threshold BIO-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 CDFW or USFWS;

Threshold BIO-3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;

Threshold BIO-4: Create substantial interference 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;

Threshold BIO-5: Conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance; or

Threshold BIO-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.

4.11.2.2 Impacts Not Evaluated in Detail

Riparian Habitat. There are no riparian habitats or other sensitive natural communities on the project site. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** on any riparian habitat or other sensitive natural community.

Wetlands. According to the USFWS National Wetland Inventory, the project site does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** on any federally protected wetland.

Wildlife Corridors. The project site is in an urban area of the city and is entirely developed with industrial buildings with manufacturing and warehouse uses. In addition, the project site is not considered an established native resident or migratory wildlife corridor. Implementation of the proposed project, including the conceptual development project, would redevelop the project site with light manufacturing, R&D, laboratory, and/or office uses, and would not interfere with local wildlife movement or corridors beyond existing conditions. Common wildlife species that have adapted to urban environments would continue to use the project site after redevelopment. In addition, the project site does not contain any native wildlife nursery sites. Therefore, implementation of the proposed project, including the conceptual development project, would not create substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or native wildlife nursery sites. **No impact** would occur.

Tree Preservation. Vegetation on the project site is limited to sparse street trees and ornamental trees. If future development of the project site facilitated by the proposed project, including the conceptual development project, would require the removal of existing street trees on the project site, the project sponsors for individual development projects would be required to obtain the appropriate tree removal permits from the City prior to removal. Consistent with City requirements, all impacted street trees would be replaced at a minimum 1:1 ratio. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** related to a conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance.

Habitat Conservation Plan. The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** related to conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4.11.2.3 Project Impacts

The following section discusses potential impacts related to biological resources associated with development of the proposed project, including the conceptual development project.

Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats. (*Less than Significant with Mitigation*)

The project site is entirely developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials including total petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls.

A list of special-status plants and wildlife species with some potential for occurrence in the project site vicinity was compiled using the CNDDB. However, each of these species have been determined to be absent from the project site because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat. Therefore, no special-status plant or animal species are known or expected to occur on or in the vicinity of the project site due to its completely urbanized condition and lack of suitable habitats. As such, implementation of the proposed project, including the conceptual development project, would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species.

The proposed project would allow development on the project site with new buildings up to 105 feet in height, which could increase the potential for bird strikes. However, future development at the project site, including the conceptual development project, would be required to comply with BMC Section 23.304.150, which provides bird safe building requirements. As stated in BMC Section 23.304.150, transparent or reflective material, such as windows, associated with future development of the project site would be required to have an American Bird Conservancy Threat Factor Rating of 30 or less or undergo pattern glazing treatment. In addition, all panes with exterior screens, shutters or shading devices would be required to be installed permanently over windows, structures, and building features such that there is no gap larger than 9 inches in any single dimension.

In addition, future development facilitated by the proposed project, including the conceptual development project, would be required to comply with the City's *COA: Avoid Disturbance of Nesting Birds* that addresses potential impact to nesting birds that may be present on the project site prior to initial site disturbance activities. With implementation of *COA: Avoid Disturbance of Nesting Birds,* potential impacts to nesting birds that may be present on the project site would be less than significant.

Existing buildings on the project site may also provide habitat for bats, some species of which find suitable roost sites and foraging sites in the urban environment. Implementation of the proposed project, including the conceptual development project, would facilitate development of the entire project site and assumes demolition of existing structures. Demolition of structures while bats are present could result in loss of the roost and impacts to bats, which would be a potentially significant impact. To address potential impacts on bats that may be present on the project site, the proposed project, including the conceptual development project, would be required to implement Mitigation Measure BIO-1a through BIO-1f, as detailed below. With implementation of Mitigation Measures BIO-1a through BIO-1f, potential impacts to bats that may be present on the project site would be less than significant.

Mitigation Measure BIO-1a **Roosting Bat Habitat Assessment and Surveys.** Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30), the project sponsor shall retain a qualified biologist to conduct a presence/absence survey to evaluate the site for the occurrence of bats and bat roosts. The surveys shall be scheduled to allow sufficient time to implement mitigation if bats are found during the survey. The project sponsor shall submit a memorandum with the demolition permit application identifying the qualified biologist retained to conduct the survey and the date of the survey. A second memorandum detailing the findings shall be prepared by the qualified biologist and submitted to the City after completion of the survey.

Mitigation Measure BIO-1b **Common Bat Species Evacuation and Mitigation Plan.** If a bat roost is found in any onsite buildings, the species of bat using the roost shall be identified. If the roost is occupied by common species and is not used as a maternity roost, as determined by a qualified biologist, then methods to encourage the bats to leave the roost or to prevent them from returning to the roost shall be implemented prior to roost removal. A mitigation plan shall be developed by the qualified biologist to specify the methods to be used and the timing of the activities. These methods could include removal of roosting sites 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. This mitigation plan shall be submitted to the City for review and approval prior to the initiation of demolition or tree removal activities.

Mitigation Measure BIO-1c: **Preconstruction Survey for Common Species of Roosting Bats.** If only common species are observed during the survey of the site and the site is not found to be used as a maternity roost, the project sponsor shall retain a qualified biologist to conduct preconstruction surveys for bat roosts in existing buildings prior to construction

activities. The survey shall take place no more than 30 days prior to construction/demolition/ removal activities. Preconstruction surveys shall be repeated if demolition or construction activities are delayed more than 30 days.

Mitigation Measure BIO-1d **Artificial Roosting Plan for Special-Status Bats.** If special-status bats are found onsite, and the roost would be disturbed or destroyed during development, an artificial roost shall be provided. The roost shall be constructed and placed onsite or at a City- and CDFW-approved off-site mitigation area prior to removal of the original roost. Materials from the roost site shall be salvaged, when feasible, to be used in the construction of artificial roosts. A mitigation plan specifying the construction details and siting of the structure shall be prepared by the qualified biologist and approved by the City and CDFW prior to removal of the existing roost. The project sponsor shall provide a secure source of funding for the monitoring of the artificial roost for a period of 5 years and for implementing actions to remediate the artificial roost if it does not attract bats. A report documenting the implementation of the plan shall be provided to the City and CDFW within 1 month of completion of the artificial roost. Annual monitoring reports shall be provided to the City and CDFW by the project sponsor by November 30 of each year, for the 5-year period. The mitigation plan shall be completed and implemented prior to the issuance of the demolition permit.

Mitigation Measure BIO-1e **Tree Removal and Roost Protection.** If bat roosts are identified for protection as a result of surveys conducted as part of Mitigation Measure BIO-1, pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to removal.

Mitigation Measure BIO-1f **Protection of Maternity Roosts.** Removal of maternity roosts for any species of bats either common or special-status shall be coordinated with CDFW prior to removal. Maternity roosts for any species of bat, either common or special-status, shall not be demolished until a qualified biologist has determined that the young are able to fly independently of their mothers.

With implementation of Mitigation Measures BIO-1a through BIO-1f and compliance with all applicable City requirements, including BMC Section 23.304.150, and *COA: Avoid Disturbance of Nesting Birds*, potential impacts associated with special-status species would be **less than significant with mitigation**.

Impact BIO-1 Summary: With implementation of Mitigation Measure BIO-1a through BIO-1f, the demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, would reduce impacts on bat

roosts and bats to a **less than significant** level. Compliance with all applicable City requirements, including BMC Section 23.304.150 and *COA: Avoid Disturbance of Nesting Birds* would ensure that potential impacts on nesting birds and bird species would be less than significant. Therefore, potential impacts on special status species would be **less than significant with mitigation**.

4.11.2.4 Cumulative Impacts

According to Section 15130 of the *State CEQA Guidelines*, cumulative impacts refer to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects. For biological resources, the scope for assessing cumulative impacts encompasses other past, current, or probable future projects under review by the City within the vicinity of the project site. Table 4.A in Section 4.0, Setting, Impacts, and Mitigation Measures, provides a list of cumulative development in the project vicinity (within 0.25-mile radius of the project site), including the I-80 Gilman Interchange Improvement Project, 805 Jones Street, and the 1201 Second/669 Gilman Transfer Station. The proposed project and the conceptual development project would have a significant effect on the environment if they would contribute to a significant cumulative impact on biological resources. Due to the project site's historic and ongoing disturbance, proximity to development, lack of sensitive biological resources, and through compliance with applicable City requirements and implementation of Mitigation Measures BIO-1a through BIO-1f, proposed project impacts would not result in a significant effect on biological resources.

When the City considers future development proposals, these proposals would undergo environmental review pursuant to CEQA and, when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project mitigation measures, conditions of approval and relevant policies of the General Plan would ensure that significant impacts on biological resources would be avoided or otherwise mitigated to less than significant levels. Based on the information in this Biological Resources section, and for the reasons summarized above, implementation of the proposed project and the conceptual development project would not make a cumulatively considerable contribution to significant adverse cumulative impacts related to biological resources when considered together with other cumulative development. This impact would be **less than significant**.

5.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000 et seq.) and the *State CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 et seq.) require that an Environmental Impact Report (EIR) "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (*State CEQA Guidelines* Section 15126.6(a)). If mitigation measures or a feasible project alternative that would meet most of the basic project objectives would substantially lessen the significant environmental effects of a proposed project, then the lead agency should not approve the proposed project unless it determines that specific technological, economic, social, or other considerations make the mitigation measures and the project alternative infeasible (PRC Section 21002, *State CEQA Guidelines* Section 15091(a)(3)). The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency's determination (*State CEQA Guidelines* Section 15126.6(c)).

This section describes alternatives to the proposed project and compares the impacts of the alternatives to the environmental impacts of the proposed project as proposed, consistent with the guidance in *State CEQA Guidelines* Section 15126.6(d). At the conclusion of the analysis, the environmentally superior alternative is identified (*State CEQA Guidelines* Section 15126.6(e)(2)). One of the alternatives that must be analyzed is the "No Project" Alternative. The purpose of the No Project analysis is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

5.1 PROJECT OVERVIEW

As described in more detail in Chapter 3.0, Project Description, the Gilman Gateway Rezone (proposed project) would:

1. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

2. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the M-RD zoning district.

3. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation.

While the proposed project would not result in any direct physical changes, implementation of the proposed amendments to the BMC and the Berkeley General Plan would facilitate future buildout of up to 1,005,266 square feet of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and

associated development standards at a programmatic-level. In addition to the newly created M-RD zoning district, the analysis in this EIR includes discussion of potential environmental impacts associated with implementation of the Potential Berkeley Forge Development (conceptual development project) that could result in the development of a 10.26-acre portion of the project site (development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses.

The City has not received an application for the conceptual development project; however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in this EIR at a project-level to the extent feasible.

5.2 METHODOLOGY FOR SELECTION OF ALTERNATIVES

5.2.1 Potential Feasibility

An EIR must "consider a range of potentially feasible alternatives" (*State CEQA Guidelines* Section 15126.6(a)). *State CEQA Guidelines* Section 15126.6(f) (1) explains "feasibility" (e.g., "… feasibly attain most of the basic objectives of the project …"), in part, as follows:

> Among 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, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is definitively feasible or infeasible is made by the lead agency's decision-making body, here the City Council (see PRC Sections 21081.5, 21081[a][3].) As a result, the EIR only concludes whether an alternative is potentially feasible.

5.2.2 Attainment of Project Objectives

As described above, one factor that must be considered in selection of alternatives is the ability of a specific alternative to attain most of the basic objectives of the proposed project (*State CEQA Guidelines* Section 15126.6(a)). The project objectives are identified in Chapter 3, "Project Description," and included below:

- Reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing land use designation that adds significantly to the City's economic base and facilitates job creation.

- Establish a M-RD zoning district with land use and development standards that are consistent with the General Plan Manufacturing land use designation and policies of the West Berkeley Plan to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, R&D, laboratory, and office.

- Facilitate future development by adopting zoning standards that permit construction of buildings that accommodate allowable uses.

- Improve mobility at an entry corridor to West Berkeley by encouraging and supporting current and future transit use and transportation demand management strategies that reduce vehicle miles traveled, while providing sufficient parking to meet the needs of employment-generating uses.

- Clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

5.2.3 Potential to Avoid or Substantially Reduce a Significant Impact

Alternatives considered in an EIR must avoid or substantially lessen any of the significant effects of the proposed project (*State CEQA Guidelines* Section 15126.6(a)). The Draft EIR identifies significant and unavoidable impacts after implementation of mitigation measures associated with historic architectural resources, air quality, and greenhouse gas emissions (see Chapter 4.0, Setting, Impacts, and Mitigation Measures), as summarized below:

- **Historic Architectural Resources:** The proposed project would cause a substantial adverse change in the significance of a historic resource as defined in *State CEQA Guidelines* Section 15064.5, because implementation of the proposed project would facilitate the demolition of the existing building at 1306 Third Street, which is eligible for listing as a City of Berkeley Landmark. (Impact CUL-1)

- **Project Construction Health Risk Assessment:** Construction associated with full buildout of the project site under the proposed project would not exceed Bay Area Air Quality Management District (BAAQMD) thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations with implementation of identified mitigation measures. However, should construction activities associated with any future projects facilitated by implementation of the proposed project be initiated prior to demolition of the structure located at 1306 Third Street (a sensitive receptor), such as the conceptual development project, such project would exceed the BAAQMD cancer risk significance thresholds for inhalation and would expose certain sensitive receptors to substantial pollutant concentrations. (Impact AIR-3a)

- **Project Operation Health Risk Assessment.** Operation of future projects at the project site, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations associated with increased truck traffic and could result in potential health risks that would cumulatively contribute to elevated health risks in the city. (Impact AIR-3b)

- **Project Operation Greenhouse Gas Emissions.** If future development facilitated by implementation of the proposed project includes natural gas, the proposed project would be inconsistent with a greenhouses gas (GHG) reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). Inconsistency with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b) would result in a **significant impact** related to GHG emissions. (Impact GHG-1)

- **Inconsistency with Plans, Policies or Regulations Adopted for the Purpose of Reducing Greenhouse Gas Emissions.** If future development facilitated by implementation of the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets in Assembly Bill (AB) 32, Senate Bill (SB) 32, Executive Order (EO) B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. (Impact 4.6.2)

5.3 ALTERNATIVES CONSIDERED BUT REJECTED

The *State CEQA Guidelines* state that an EIR should identify any alternatives that were considered by the lead agency but were rejected during the scoping process and briefly explain the reasons underlying the lead agency's determination (Section 15126.6[c]). This section addresses these alternatives.

- **Off-Site Locations:** *State CEQA Guidelines* Section 15126.6(f)(2) states that alternative locations should be considered if they would avoid or substantially lessen any of the significant effects or a proposed project. While an alternative location might lessen or avoid the impacts associated with demolition of a historic resource or air quality, it was rejected from further consideration because the project objectives are specific to the underutilized Gilman Gateway site. Implementation of the proposed project at a different site would not achieve the project objectives associated with reinventing the former Pacific Steel Casting site and adjacent parcels from an underutilized, concerting a heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses, and improving mobility at an entry corridor to West Berkeley. In addition, an alternative location would not result in the remediation efforts at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

- **Reduced Parking:** The proposed M-RD zoning district would require a minimum of one parking space per 1,000 square feet of use, resulting in a minimum of 1,300 off-street automobile parking spaces. The conceptual development project would include a total of approximately 1,900 parking spaces. A reduced parking alternative was not considered for analysis because it would not avoid air quality or GHG impacts.

- **Relocation of the Existing Structure at 1306 Third Street.** Relocation of the building located at 1306 Third Street would avoid or substantially lessen impacts associated with demolition of a historic resource; however, this alternative would not be feasible because the City does not own

the building nor does the City control a suitable site within the city limit that could accommodate the existing structure.

- **Historic Preservation Alternative.** Required preservation of the building located at 1306 Third Street, considered a historic resource as defined in *State CEQA Guidelines* Section 15064.5, would not be feasible because BMC Chapter 3.24 provides a permit pathway to allow for the alteration or demolition of a designated City Landmark or Structure of Merit.[1] Accordingly, the City cannot require a property owner to preserve the building located at 1306 Third Street. The City's Landmark Preservation Commission could approve an application for a Structural Alteration Permit to demolish the building, should that application meet the requirements under BMC Chapter 3.24. The City could encourage, not require, a property owner to adaptively reuse the building under the new M-RD zoning district; however, it is unlikely that the existing structure would meet the criteria needed to support the future uses.

5.4 COMPARISON AND ANALYSIS OF ALTERNATIVES

The following discussion summarizes the alternatives evaluated, how they meet CEQA requirements for consideration of alternatives, and then provides an evaluation of the alternative. Alternatives evaluated in this Draft EIR are:

- The **No Action Alternative** is a version of the "no project" alternative (CEQA Guidelines Section 15126.6(e)) that assumes no construction on the site would occur. The existing buildings would not be demolished and would instead remain in place, unchanged from existing conditions. The existing Manufacturing land use and zoning designations would remain, and in the City of Berkeley General Plan and West Berkeley Area Plan would not be amended.

- The **General Plan Compliant Alternative** is a version of the "no project" alternative (*State CEQA Guidelines* Section 15126.6(e)) that assumes the project site would be redeveloped pursuant to the current land use and zoning designations. Implementation of the General Plan Compliant Alternative would allow for the development of approximately 1,005,365 square feet of manufacturing and industrial uses on the 11.54-acre project site. Under this alternative, the maximum height would be limited to 45 feet.

- The **Reduced Development Alternative** assumes the project site would be limited to the Pacific Steel Casting site, consistent with the City Council referral. The Pacific Steel Casting zoning boundary would include nine parcels totaling 354,317 square feet. These parcels are currently developed with 250,606 square feet of industrial buildings, the majority of which are vacant (see Table 3.A in Chapter 3.0, Project Description for details). This alternative would also require a minimum 100-foot buffer between any existing residential use and proposed new non-residential use, including surface parking lots or structures. Accordingly, future development on the project site would need to be set back from the existing building at 1306 Third Street. Focusing development on the Pacific Steel Casting site with a required buffer would reduce the overall buildout potential of the project site by approximately 50 percent, resulting in up to

[1] Criteria for defining a structure of merit are outlined under BMC Section 3.24.110.

566,300 square feet of non-residential space and a minimum of 566 off-street automobile parking spaces.

5.5 NO ACTION ALTERNATIVE

The following provides a description of the No Action Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the No Action Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the No Action Alternative would reduce, eliminate, or create new significant environmental impacts, and whether it would or would not meet the objectives of the proposed project.

5.5.1 Description of Alternative

The No Action Alternative assumes that the project site would remain unchanged from existing conditions. The project site would retain its land use designation as Manufacturing in the Berkeley General Plan and M zoning pursuant to the Berkeley Zoning Ordinance and West Berkeley Area Plan. The project site would continue to be occupied by industrial buildings with manufacturing and warehouse uses, the majority of which are currently vacant. There are multiple leaking underground storage tank (LUST) sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List"). The contaminated soil, groundwater, and soil gas would remain present on the site because the remediation efforts associated with implementation of the proposed project would not occur. No modifications to existing site access or infrastructure would take place.

5.5.2 Ability to Meet Project Objectives

Implementation of the No Action Alternative would not meet any of the identified project objectives as the No Action Alternative would not reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses, establish a Manufacturing, Research and Development zoning district, facilitate future development by adopting zoning standards, or improve mobility at an entry corridor to West Berkeley. In addition, the No Action Alternative would not result in the remediation effort at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

5.5.3 Comparison of Environmental Impacts

The potential impacts associated with the No Action Alternative are described below. As discussed, the No Action Alternative would avoid the significant and unavoidable impacts of the proposed project associated with cultural resources, air quality, and GHG emissions.

5.5.3.1 Land Use and Planning

Implementation of the No Action Alternative would not result in any changes to the existing General Plan designation or zoning of the project site and the project site would continue to be occupied by industrial buildings with manufacturing and warehouse uses, the majority of which are vacant.

Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** related to land use and planning. However, it should be noted that the site would continue to be underutilized and would likely remain predominantly vacant under the No Action Alternative, as the existing buildings were found to be contaminated with hazardous materials (asbestos-containing materials and lead-based paint),[2] and thus would not be safe for adaptive reuse without additional investments.

5.5.3.2 Cultural Resources

Implementation of the No Action Alternative would result in no changes to the existing conditions of the project site and would not result in the demolition of existing structures on the site. Therefore, the existing structure at 1306 Third Street, which is considered a historic resource as defined in *State CEQA Guidelines* Section 15064.5, would not be demolished, and Mitigation Measures CUL-1 would not be required. Therefore, compared to the **significant and unavoidable impacts** of the proposed project, the No Action Alternative would have **no impact** on built-environment historic resources as defined in *State CEQA Guidelines* Section 15064.5.

In addition, implementation of the No Action Alternative would not include construction or other ground disturbance activities that could result in the accidental discovery of archeological and/or cultural resources, including human remains; therefore, and Mitigation Measures CUL-2a through CUL-2d and CUL-3 would not be required, and for the same reason, City *COA: Archaeological Resources* and *COA: Human Remains* would not be applicable. Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** on cultural resources, including human remains. Overall, implementation of the No Action Alternative would avoid the **significant and unavoidable impacts** of the proposed project associated with cultural resources.

5.5.3.3 Tribal Cultural Resources

Implementation of the No Action Alternative would result in no changes to the existing conditions of the project site and would not facilitate nor include construction or ground disturbance activities that could result in the accidental discovery of tribal cultural resources, and Mitigation Measures CUL-2a through CUL-2d and CUL-3 would not be required. In addition, City *COA: Archaeological Resources* and *COA: Human Remains* would not be applicable to the No Action Alternative. Therefore, compared to the **less than significant impacts** with mitigation of the proposed project, the No Project alternative would have **no impact** on tribal cultural resources.

5.5.3.4 Transportation

Implementation of the No Action Alternative would not result in any changes to the General Plan and zoning designation of the project site and would not result in any increases in automobile, transit, bicycle, or pedestrian travel to or from the project site, because the site is anticipated to remain in its current predominantly vacant condition. In addition, modifications to the project plans

[2] AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

to avoid design hazards and provide adjacent emergency access, as identified in Mitigation Measure TRA-1, would not be required as no changes to the circulation system would occur, and for the same reasons City *COA: Transportation Demand Management*, *COA: Nonresidential Electric Vehicle, COA: Transportation Construction Plan, COA: Construction/No Parking Permits, COA: Loading*, and *COA: Required Bike Parking* would not be required. Therefore, compared to the **less than significant impacts** with mitigation of the proposed project, there would be **no impact** related to conflicts with applicable transportation-related plans, policies and ordinances; vehicle miles traveled (VMT); design hazards; or emergency access.

5.5.3.5 Air Quality

Implementation of the No Action Alternative would not include demolition or construction activity within the project site. As a result, pollutant and odor concentrations would not be increased and dust, exhaust, and organic emissions related to construction would not be generated. Similarly, this alternative would not result in new exposure of residents to toxic air contaminants (TACs). Implementation of the No Action Alternative would not result in an increase in operational vehicle trips in the city. Because no construction would occur at the project site under the No Action Alternative, Mitigation Measures AIR-1 and AIR-2 would not be required. Implementation of the No Action Alternative would also avoid the **significant and unavoidable** health risk impacts during construction and operation of the proposed project, and Mitigation Measures AIR-3 through AIR-5 would not be applicable. Lastly, because the No Action Alternative would not facilitate any development at the project site, no other emissions (such as those leading to odor) would be generated and Mitigation Measure AIR-6 would not be required.

For the same reasons, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would not be applicable. Accordingly, the No Action Alternative would not result in impacts related to Clean Air Plan implementation. Therefore, compared to the **significant and unavoidable** air quality impacts associated with the proposed project, there would be **no impact** on air quality.

5.5.3.6 Greenhouse Gas Emissions

The No Action Alternative would not result in the generation of construction-period GHG emissions. Similarly, the No Action Alternative would not result in an increase in VMT, daily vehicle trips, or utility use (i.e., electricity, natural gas, water, and wastewater) on the project site; therefore, the No Action Alternative would not result in any impacts related to project operations. Because the No Action Alternative would not facilitate any development at the project site, Mitigation Measure GHG-1 would not be implemented. For the same reasons, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, and *COA: Nonresidential Electric Vehicle Charging* would not be applicable. The No Action Alternative would also not include any new natural gas usage and would therefore avoid the proposed project's **significant and unavoidable impact** related to conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions, and it would have **no impact**.

5.5.3.7 Energy

The No Action Alternative would not result in construction-related energy demand. Similarly, the No Action Alternative would not result in an increase in VMT, daily vehicle trips, or utility use (i.e., electricity and natural gas) on the project site; therefore, the No Action Alternative would not result in impacts related to operational-period energy usage. Mitigation Measure GHG-1 and City *COA: Construction and Demolition Diversion* would not be applicable to the No Action Alternative. Therefore, compared to the proposed project's **less than significant** energy impact, there would be **no impact** on energy.

5.5.3.8 Noise

The No Action Alternative would not expose surrounding land uses to short-term noise or vibration during construction. Noise at the project site would not increase above that already occurring on the site and no increase in traffic noise would occur. City COAs related to noise, including *COA: Construction Noise Reduction Program*, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website,* would not be applicable to the No Action Alternative. Therefore, compared to the proposed project's **less than significant impact**, there would be **no impact** related to noise.

5.5.3.9 Hazards and Hazardous Materials

Implementation of the No Action Alternative would not include any demolition or construction activity within the project site. The soil, groundwater, and soil gas that have been impacted with hazardous materials, including total petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls (PCBs), would remain present on the site as the remediation efforts associated with implementation of the proposed project would not occur.

Therefore, the No Action Alternative would not create significant hazards to the public, including schools within one-quarter mile, or to the environment through the routine transport, use, or disposal of hazardous materials or as a result of an accident involving the release of hazardous materials into the environment. No modifications to existing site access or infrastructure would occur, and therefore no impacts related to emergency evacuation plans would occur. The No Action Alternative would also not result in any impacts related to hazardous materials sites pursuant to airport-related safety hazards, or wildland fires. With implementation of the No Action Alternative, there would be **no impact** related to hazards and hazardous materials and Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2e would not be applicable to the No Action Alternative.

5.5.3.10 Hydrology and Water Quality

Implementation of the No Action Alternative would not include any demolition or construction activity within the project site, and the project site would continue to be occupied with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. As no construction activities would occur and the site would remain the same as existing conditions, implementation of the No Action Alternative would not increase the potential for pollutants of concern from vehicle traffic (e.g., fuels and lubricants, tire wear particulates, brake dust, and fallout from exhaust emissions) to be generated on the project site and conveyed in runoff during storm

events. Therefore, the No Action Alternative would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality and Mitigation Measures HYD-1 and HYD-2, respectively, would not be required. In addition, because the No Action Alternative would not result in increased use of the project site, require additional water supply, or result in increased impervious surface area at the site, implementation of the No Action Alternative would not substantially decrease groundwater supplies, interfere substantially with groundwater recharge, or substantially alter the existing drainage pattern of the site, and Mitigation Measure HYD-3 would not be required. Implementation of the No Action Alternative would also not increase the risk of release of pollutants due to inundation beyond existing conditions and would not require flood proof hazardous materials storage during construction, as described in Mitigation Measure HYD-4, as no construction or changes to the project site or on-site uses would occur. Implementation of the No Action Alternative would also not conflict with applicable water quality control or sustainable groundwater management plans. Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** on hydrology and water quality.

5.5.3.11 Biological Resources

As implementation of the No Action Alternative would not result in any changes at the project site there would be no impacts to nesting birds or the loss of bat roosts, and no impact on special-status species would occur. Therefore, City *COA: Avoid Disturbance of Nesting Birds* would not be applicable to the proposed project; further, Mitigation Measure BIO-1a through BIO-1f would not be required. Similar to the proposed project, the No Action Alternative would not have a substantial adverse effect on any riparian habitat, other sensitive natural community, or federally protected wetlands as defined by Section 404 of the Clean Water Act. In addition, the No Action Alternative would not interfere with the movement of any native resident or migratory fish or wildlife species, impede the use of native wildlife nursery sites, conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources (such as a tree preservation policy or ordinance), or conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** on biological resources.

5.6 GENERAL PLAN COMPLIANT ALTERNATIVE

The following provides a description of the General Plan Compliant Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the General Plan Compliant Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the General Plan Compliant Alternative would reduce, eliminate, or create new significant environmental impacts and whether it would or would not meet the objectives of the proposed project.

5.6.1 Description of Alternative

The General Plan Compliant Alternative assumes the project site would be developed consistent with the current General Plan and zoning designations. The project site is currently designated as Manufacturing in the Berkeley General Plan and West Berkeley Plan and is zoned Manufacturing (M)

per the Berkeley Zoning Ordinance. The purpose of the M district, pursuant to BMC Section 23.206.060, is to, at a high level:

- Encourage development dedicated to manufacturing and industrial uses, including "heavy manufacturing;"
- Encourage the creation and continuation of well-paid (often unionized) industrial jobs for people without advanced degrees;
- Retain the stock of manufacturing and industrial buildings wherever possible;
- Support the development of industrial businesses that contribute to the maintenance and improvement of the environment;
- Maintain and improve the quality of West Berkeley environment while allowing operation of the full range of manufacturers; and
- Support the development of retail automobile sales uses, and provide opportunities for vehicle sales.

Implementation of the General Plan Compliant Alternative would allow development of approximately 1,005,365 square feet of manufacturing and industrial uses on the 11.54-acre project site, which is a slight reduction in square footage in the site's development potential as compared to the proposed project. Building height would not exceed 45 feet, unless a modification of development standards is requested. The General Plan Compliant Alternative would not result in direct changes to the project site but rather assumes future development would occur. Unlike the proposed project, the General Plan Compliant Alternative would not allow for light manufacturing, R&D, laboratory, and/or office uses because those uses are currently not permitted in the M district.

Implementation of the General Plan Compliant Alternative would facilitate the demolition of all existing onsite structures and construction activity within the project site as it is assumed the site would be redeveloped pursuant to the existing General Plan land use designation.

5.6.2 Ability to Meet Project Objectives

Implementation of the General Plan Compliant Alternative would meet some, but not all of the identified project objectives as the General Plan Compliant Alternative would not reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses or establish a Manufacturing, Research and Development zoning district. However, the General Plan Compliant Alternative would result in future development and would likely improve mobility at an entry corridor to West Berkeley. In addition, the General Plan Compliant Alternative would result in remediation efforts at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

5.6.3 Comparison of Environmental Impacts

The potential impacts associated with the General Plan Compliant Alternative are described below. As discussed, the General Plan Compliant Alternative would avoid some, but not all, of the significant and unavoidable air quality impacts of the proposed project. Specifically, the General Plan Compliant Alternative would avoid the significant and unavoidable air quality impacts associated with construction health risks. However, the General Plan Compliant Alternative would not avoid or reduce the significant and unavoidable impact of the proposed project on built historic resources.

5.6.3.1 Land Use and Planning

Similar to the proposed project, future development applications for industrial and manufacturing uses would be required to include site and circulation plans that would be refined in coordination with the City of Berkeley and designed to conform to City standards and policies to ensure that implementation of the General Plan Compliant Alternative would not limit or impede access to the site and adjacent uses. Further, development occurring under the General Plan Compliant Alternative would be required to adhere to all relevant policies found in the City's General Plan and West Berkeley Plan, and all applicable ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, the General Plan Compliant Alternative would have a **less than significant** impact related to land use and planning, similar to the proposed project.

5.6.3.2 Cultural Resources

The General Plan Compliant Alternative could include demolition of the existing structure at 1306 Third Street, which is considered a historic resource under CEQA, as it would facilitate future development of the project site, similar to the proposed project. Therefore, impacts to built historic resources would be **significant and unavoidable**. Implementation of Mitigation Measure CUL-1, would reduce, but not avoid, adverse impacts to the historic resource, similar to the proposed project. Therefore, implementation of the General Plan Compliant Alternative would not avoid or reduce the proposed project's **significant and unavoidable impact** of historic resources. Impacts would be **significant and unavoidable**.

The General Plan Compliant Alternative would include demolition and construction activities similar to the proposed project on the 11.54 acres site. Accordingly, implementation of the General Plan Compliant Alternative would result in similar, potentially significant impacts on archeological resources. The General Plan Compliant Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d for future development, similar to the proposed project. Therefore, implementation of the General Plan Compliant Alternative would result in **less than significant impacts** on archaeological resources, similar to the proposed project.

Overall, implementation of the General Plan Compliant Alternative would not avoid or reduce the proposed project's **significant and unavoidable impact** on built historic resources, as it would result in demolition of a historic structure. Therefore, impacts on cultural resources would be **significant and unavoidable**, similar to the proposed project.

5.6.3.3 Tribal Cultural Resources

Implementation of the General Plan Compliant Alternative would result in similar, potentially significant impacts on tribal cultural resources. The General Plan Compliant Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d. Therefore, implementation of the General Plan Compliant Alternative would result in **less than significant impacts** on tribal cultural resources, similar to the proposed project.

5.6.3.4 Transportation

Implementation of the General Plan Compliant Alternative would facilitate development of manufacturing and industrial uses on the project site, consistent with the development standards of the M zoning district. Therefore, the General Plan Compliant Alternative would result in increases in automobile, transit, bicycle, or pedestrian travel to or from the project site, as the site is currently predominantly vacant. The General Plan Compliant Alternative would be required to comply with City *COA: Transportation Demand Management* which requires preparation of a Transportation Demand Management Plan (TDM Plan). In addition, future development at the project site under the General Plan Compliant Alternative would be required to comply with *COA: Transportation Construction Plan* (if necessary); *COA: Construction/No Parking Permits* during construction; *COA: Loading* During Operation; and *COA: Required Bike Parking* would ensure that adequate bicycle parking is available at the site. With adherence to City COAs, no inconsistencies with adopted plans, guidelines, or policy standards would occur, and potential impacts related the surrounding circulation system would be **less than significant**, similar to the proposed project.

Implementation of a TDM Plan (as required by *COA: Transportation Demand Management)* would likely reduce the average daily VMT per employee for the General Plan Compliant Alternative to below applicable thresholds of significance, as the implementation of the required TDM Plan could achieve a 10 percent VMT reduction. Therefore, with implementation of the proposed TDM Plan, the General Plan Compliant Alternative would result in a **less than significant impact** associate with VMT rates, similar to the proposed project.

Implementation of the General Plan Compliant Alternative would facilitate changes to the existing circulation system. Similar to the proposed project, as the scope of the changes are unknown at the time, Mitigation Measures TRA-1 and TRA-2 would be required.

With adherence to applicable City COAs and implementation of Mitigation Measures TRA-1 and TRA-2, implementation of the General Plan Compliant Alternative would result in **less than significant** transportation impacts, similar to the proposed project.

5.6.3.5 Air Quality

Pollutant and odor concentrations would be increased and dust, exhaust, and organic emissions related to construction would be generated, similar to the proposed project, with implementation of the General Plan Compliant Alternative. Similarly, this alternative may result in new exposure of nearby sensitive receptors to TACs. Therefore, implementation of City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would be required. In addition, Mitigation Measure

AIR-1 would also be implemented as part of the General Plan Compliant Alternative, as construction activities would be similar to those under the proposed project. With compliance with City COAs and Mitigation Measure AIR-1, emissions associated with construction of the General Plan Compliant Alternative would be below the BAAQMD's thresholds of significance.

In addition, the General Plan Compliant Alternative would result in the development of new uses at the site which would result in an increase in long-term air pollutant emission impacts associated with mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas combustion), area sources (e.g., architectural coatings and the use of landscape maintenance equipment), and stationary sources (e.g., emergency generators). While the General Plan Compliant Alternative would not result in direct physical changes, it would facilitate development as permitted under the existing zoning code. Some of the currently allowed uses, like dry cleaning yard, construction materials manufacturing, and recycled materials processing, would potentially emit higher air pollutant concentrations and would be more energy intensive uses. Accordingly, potential development under the General Plan Compliant Alternative could result in a significant impact due to operational emissions, and Mitigation Measure AIR-2 would be required. Therefore, operation of buildout envisioned under the General Plan Compliant Alternative could result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standard, due to the heavy manufacturing uses allowed under the current zoning, unlike the proposed project where impacts would be **less than significant with mitigation**.

The General Plan Compliant Alternative would result in the demolition of all existing structures on the project site, including the sensitive receptor at 1306 Third Street, similar to the proposed project, and thus impacts to sensitive health receptors during construction would be below BAAQMD thresholds. Unlike the proposed project, the conceptual development project would not be allowed under the General Plan Compliant Alternative and therefore Mitigation Measures AIR-3 and AIR-4 would not be required and there would be no **significant and unavoidable** impacts related to construction health risk.

Similar to the proposed project, industrial processes associated with the M zone (e.g., industrial, heavy manufacturing, and warehouse/storage) allowed under the General Plan Compliant Alternative would be expected to release TACs. Emissions of TACs would be controlled through BAAQMD Regulation 2, Rule 5 permits and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Similar to the proposed project, since it is not possible to determine the amount of TAC concentrations at the time of this analysis, Mitigation Measure AIR-5 would be required, and impacts associated with the General Plan Compliant Alternative would be **significant and unavoidable**, similar to the proposed project.

Lastly, operation of future development under the General Plan Compliant Alternative could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and future project sponsors would be required to implement Mitigation Measure AIR-6, similar to the proposed project; therefore, impacts would be **less than significant with mitigation**.

Therefore, even with adherence to application City COAs and implementation of Mitigation Measures AIR-1, AIR-2, AIR-5, and AIR-6, implementation of the General Plan Compliant Alternative would result in **significant and unavoidable** air quality impacts. However, as the General Plan Compliant Alternative would result in the demolition of all existing structures on the project site, including the sensitive receptor at 1306 Third Street, implementation of the alternative would avoid the conceptual development project's **significant and unavoidable** construction health risk impacts at 1306 Third Street.

5.6.3.6 Greenhouse Gas Emissions

The General Plan Compliant Alternative would result in the generation of construction-period GHG emissions. Similarly, the General Plan Compliant Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity, natural gas, water, and wastewater) on the project site; therefore, the General Plan Compliant Alternative would result in the generation of operational-period GHG emissions and would potentially conflict with applicable plans, policies, or regulations adopted for the purposes of reducing the emission of GHGs. Therefore, Mitigation Measure GHG-1 would be required. In addition, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction; COA: Air Quality – Diesel Particulate Matter Controls During Construction;* and *COA: Nonresidential Electric Vehicle Charging* would be applicable to the General Plan Compliant Alternative.

Similar to the proposed project, the General Plan Compliant Alternative assumes future development of the project site could include new natural gas usage at the project site and would therefore not avoid the proposed project's **significant and unavoidable impact** related to conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, compared to the proposed project's **significant and unavoidable impact** associated with GHG emissions, implementation of the General Plan Compliant Alternative would also result in a **significant and unavoidable impact** associated with GHG emissions.

5.6.3.7 Energy

The General Plan Compliant Alternative would result in an increase in energy demand during construction. Similarly, the General Plan Compliant Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity and natural gas) on the project site, increasing energy demand during operation. Energy demand associated with construction and operation of the General Plan Compliant Alternative would likely be similar to the proposed project and would not cause or result in the need for additional energy facilities or an additional or expanded delivery systems. Therefore, fuel consumption during construction and operation of development under the General Plan Compliant Alternative would not be inefficient, wasteful, or unnecessary, and this impact would be **less than significant**. Therefore, implementation of the General Plan Compliant Alternative would result in **less than significant** energy impacts, similar to the proposed project.

5.6.3.8 Noise

Implementation of the General Plan Compliant Alternative would expose surrounding land uses to short-term noise and vibration during construction and implementation of Mitigation Measure NOI-1 would be required. In addition, City COAs, including *COA: Construction Noise Reduction*

Program, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website* would be implemented reduce construction noise impacts on any off-site sensitive receptors in the vicinity. During operation of the General Plan Compliant Alternative, noise at the project site would increase compared to existing conditions and an increase in traffic noise would occur.

In addition, rooftop mechanical equipment associated with the General Plan Compliant Alternative would be required to comply with BMC Section 13.40 noise standards and City *COA: HVAC Noise Reduction*. Accordingly, it is not expected that the General Plan Compliant Alternative would substantially increase noise levels over existing conditions and impacts would be **less than significant**, similar to the proposed project.

Overall, with adherence to application City COAs and implementation of Mitigation Measure NOI-1, implementation of the General Plan Compliant Alternative would result in **less than significant** noise impacts, similar to the proposed project.

5.6.3.9 Hazards and Hazardous Materials

Hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site during implementation of the General Plan Compliant Alternative. However, management of soil and hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit. In addition, the City performs inspections of all construction sites in accordance with the requirements of the San Francisco Bay RWQCB's Municipal Regional Stormwater NPDES Permit (MRP) to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed.

Construction of the General Plan Compliant Alternative would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that could be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by the Department of Transportation (DOT), Resource Conservation and Recovery Act (RCRA), and State regulations.

Operation of the General Plan Compliant Alternative would likely involve the routine storage and use of hazardous materials associated with manufacturing and industrial uses, including "heavy manufacturing." Section 15.12.070 of the BMC requires obtaining all necessary permits and registrations from the City's hazardous materials manager[3] to handle any quantity of hazardous material or waste subject to disclosure under Section 15.12.050 of the BMC and compliance with *COA: Toxics (F and G).*

Compliance with *COA: Toxics (F and G)* and applicable regulations, including Occupational Safety and Health Administration (OSHA) and California Occupational Safety and Health Administration

[3] The City's hazardous materials manager is the manager of the Certified Unified Program Agency (CUPA) or hazardous materials programs of the City (currently the TMD) or other equivalent position, or their designee.

(Cal/OSHA) regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, would be mandatory to ensure that the General Plan Compliant Alternative would not create a significant hazard due to handling or transportation of hazardous materials. Therefore, similar to the proposed project, these impacts would be **less than significant**.

Due to the age of the buildings on the project site, hazardous building materials such as ACM, lead-based paint (LBP), and PCB-containing equipment/materials, and mercury containing devices may be present in the buildings. Therefore, to control the risk of releasing PCBs into the environment from potential PCB-contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 would be applicable to the General Plan Compliant Alternative, similar to the proposed project.

Subsurface hazardous materials, including methane in soil vapor and potential contamination within the public right-of-way, may also be released into the environment during construction and operation associated with future development of the project site under the General Plan Compliant Alternative. To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, future projects under the General Plan Compliant Alternative would be required to implement Mitigation Measures HAZ-2a through HAZ-2e.

Similar to the proposed project, to ensure that implementation of the General Plan Compliant Alternative would not result in impacts related to emergency evacuation plans, Mitigation Measure TRA-1 would be required.

Overall, with adherence to application City COAs and implementation of identified mitigation measures, implementation of the General Plan Compliant Alternative would result in **less than significant impacts** related to hazards and hazardous materials, similar to the proposed project.

5.6.3.10 Hydrology and Water Quality

Future development that would be facilitated by the implementation of the General Plan Compliant Alternative would be required to comply with the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements*, *COA: Toxics (A through D),* and would be required to implement Mitigation Measures HAZ-1, HAZ-2, HYD-1, and HYD-2, similar to the proposed project, due to potential construction and operation activities.

The General Plan Compliant Alternative would not alter the course of a stream or a river; however, the General Plan Compliant Alternative would redevelop the project site and therefore would have substantial effects with regards to altering drainage patterns and stormwater drainage systems on the project site. To control the risk of exceeding the capacity of stormwater drainage systems which could result in flooding, the General Plan Compliant Alternative would implement Mitigation Measure HYD-3 and *COA: Drainage Patterns*. In addition, to control the risk of releasing pollutants into surface water due to future flooding or tsunami inundation at the project site, projects under the General Plan Compliant Alternative would also implement Mitigation Measure HYD-4. Lastly, the General Plan Compliant Alternative would not conflict with or obstruct implementation of the Basin

Plan or the Groundwater Sustainability Plan for the Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin.

Overall, redevelopment of the project site under the General Plan Compliant Alternative would result in similar hydrology and water quality impacts as the proposed project, and would be required to comply with the same existing regulations, City COAs, and mitigation measures. Impacts would be **less than significant**, similar to the proposed project.

5.6.3.11 Biological Resources

Implementation of the General Plan Compliant Alternative would facilitate the demolition of all existing onsite structures and construction activity within the project site as the site would be redeveloped pursuant to existing General Plan land use designation. Accordingly, implementation of the General Plan Compliant Alternative would result in potential impacts to nesting birds and the loss of bat roosts, and City *COA: Avoid Disturbance of Nesting Birds* and Mitigation Measure BIO-1a through BIO-1f would be required. With adherence to *COA: Avoid Disturbance of Nesting Birds* and implementation of Mitigation Measure BIO-1a through BIO-1f, development pursuant to the General Plan Compliant Alternative would result in **less than significant impacts** on special-status species. Similar to the proposed project, the General Plan Compliant Alternative would not have a substantial adverse effect on any riparian habitat, other sensitive natural community, or federally protected wetlands as defined by Section 404 of the Clean Water Act. In addition, the General Plan Compliant Alternative would not interfere with the movement of any native resident or migratory fish or wildlife species, impede the use of native wildlife nursery sites, conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources (such as a tree preservation policy or ordinance), or conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the General Plan Compliant Alternative would result in **less than significant impacts** on biological resources, similar to the proposed project.

5.7 REDUCED DEVELOPMENT ALTERNATIVE

The following provides a description of the Reduced Development Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the Reduced Development Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the Reduced Development Alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.7.1 Description of Alternative

The Reduced Development Alternative assumes the project site would be limited to the Pacific Steel Casting site, consistent with the City Council referral. The Pacific Steel Casting zoning boundary includes nine parcels totaling 354,317 square feet. These parcels are currently developed with 250,606 square feet of industrial buildings, the majority of which are vacant (see Table 3.A in Chapter 3.0, Project Description for details). As shown on Figure 5-1, the zoning boundary under this alternative would not include the five parcels associated with Berkeley Forge and Tool (84,397 square feet) or the four parcels under other ownership (63,919 square feet). This alternative would

also require a minimum 100-foot buffer between any existing residential use and proposed new non-residential use, including surface parking lots or structures. Accordingly, future development on the project site would need to be set back 100 feet from the existing building at 1306 Third Street. Focusing development on the Pacific Steel Casting site with a required buffer would result in a total buildout out potential of 566,300 square feet of building area on 50 percent of the project site. The Reduced Development Alternative would reduce the overall buildout potential of the project site by approximately 50 percent, resulting in up to 566,300 square feet of non-residential space and a minimum of 566 off-street automobile parking spaces.

5.7.2 Ability to Meet Project Objectives

Implementation of the Reduced Development Alternative would partially meet the identified project objectives. The Reduced Development Alternative would reinvent the former Pacific Steel Casting site from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses; however, the adjacent sites would not be redeveloped. The Reduced Development Alternative would also establish a Manufacturing, Research and Development zoning district, facilitate future development by adopting zoning standards, and improve mobility at an entry corridor to West Berkeley. In addition, the Reduced Development Alternative would result in remediation of the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood prior to development.

5.7.3 Comparison of Environmental Impacts

The potential impacts associated with the Reduced Development Alternative are described below. As discussed, the Reduced Development Alternative would avoid the **significant and unavoidable impact** of the proposed project on built historic resources and would achieve most project objectives. However, the Reduced Development Alternative would not avoid the **significant and unavoidable** air quality and greenhouse gas emissions impacts associated with the proposed project, as development program details are not known at this time. However, these potential impacts would be reduced by the Reduced Development Alternative.

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LSA

Reduced Development Alternative Site

FIGURE 5-1

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SOURCES: Google Earth, 8/6/2020; LSA, 2022

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Gilman Gateway Rezone Project EIR
Reduced Development Alternative

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5.7.3.1 Land Use and Planning

Similar to the proposed project, future development applications would be required to include site and circulation plans that would not limit or impede access to the site and adjacent uses. Further, future development under the Reduced Development Alternative would be required to adhere to all relevant policies found in the City's General Plan and West Berkeley Plan, and all applicable ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, the Reduced Development Alternative would have **a less than significant impact** related to land use and planning, similar to the proposed project.

5.7.3.2 Cultural Resources

The Reduced Development Alternative would not include demolition of the existing structure at 1306 Third Street, which is considered a historic resource under CEQA. Therefore, implementation of the Reduced Development Alternative would avoid the **significant and unavoidable impacts** of the proposed project on built historic resources, and impacts would be **less than significant**. Implementation of Mitigation Measure CUL-1, which requires documentation of the historic resource in accordance with the Historic American Building Survey (HABS) standards, would not be required.

The Reduced Development Alternative would include demolition and construction activities similar to the proposed project, but on nine parcels totaling 354,317 square feet rather than the entire 11.54-acre project site. Implementation of the Reduced Development Alternative would result in similar, **potentially significant impacts** on archaeological resources. The Reduced Development Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d. Therefore, implementation of the Reduced Development Alternative would result in **less than significant impacts** on archaeological resources, similar to the proposed project.

Implementation of the Reduced Development Alternative would avoid the proposed project's **significant and unavoidable impact** on built historic resources, because it would not result in the demolition of a historic structure, or physical alteration to a degree that would impair its eligibility for listing. Therefore, impacts on cultural resources would be **less than significant**.

5.7.3.3 Tribal Cultural Resources

Implementation of the Reduced Development Alternative would result in similar, **potentially significant impacts** on tribal cultural resources as the proposed project. The Reduced Development Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d. Therefore, implementation of the Reduced Development Alternative would result in **less than significant impacts** on tribal cultural resources, similar to the proposed project.

5.7.3.4 Transportation

Because the Reduced Development Alternative would result in a smaller footprint program than the proposed project, it would result in a smaller increase in automobile, transit, bicycle, and pedestrian travel to and from the project site. Any future development facilitated by the Reduced Development Alternative would be required to comply with City *COA: Transportation Demand Management; COA: Transportation Construction Plan* (if necessary); *COA: Construction/No Parking Permits*; *COA:*

Loading During Operation; and *COA: Required Bike Parking* would ensure that potential impacts associated with the proposed alternative would be avoided. With adherence to City COAs, no inconsistencies with adopted plans, guidelines, or policy standards would occur, and potential impacts related to the surrounding circulation system would be **less than significant**, similar to the proposed project.

As discussed in Section 4.4, Transportation, future development facilitated by the proposed project would result in higher VMT rates than the applicable thresholds. Since the potential development program under the Reduced Development Alternative would result in similar uses as the proposed project, it is expected that the alternative also would result in VMT generation rates above the applicable thresholds of significance, and implementation of the required TDM Plan would be required. Similar to the proposed project, TDM Plan implementation would achieve a 10 percent VMT reduction. Therefore, with implementation of the proposed TDM Plan, the Reduced Development Alternative would result in a **less than significant impact** associated with VMT rates, similar to the proposed project.

Implementation of the Reduced Development Alternative would facilitate changes to the existing circulation system. Similar to the proposed project, because the scope of the changes are unknown at this time, Mitigation Measures TRA-1 and TRA-2 would be required.

With implementation of City COAs and implementation of Mitigation Measures TRA-1 and TRA-2, implementation of the Reduced Development Alternative would result in **less than significant** transportation impacts, similar to the proposed project.

5.7.3.5 Air Quality

Pollutant and odor concentrations, as well as dust, exhaust, and organic emissions related to construction would be generated; however, with implementation of the Reduced Development Alternative the levels would be lower than the proposed project. This alternative would result in new exposure of residents to toxic air contaminants. Therefore, implementation of City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would be required. Mitigation Measure AIR-1 would also be implemented as part of the Reduced Development Alternative, because construction activities would be similar to those under the proposed project. With compliance with City COAs and Mitigation Measure AIR-1, emissions associated with construction of the Reduced Development Alternative would be below the BAAQMD's thresholds of significance, and impacts would be **less than significant with mitigation**, but lower than the proposed project.

The Reduced Development Alternative would result in the development of new uses at the site which would result in an increase in long-term air pollutant emission impacts associated with mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas), area sources (e.g., architectural coatings and the use of landscape maintenance equipment), and stationary sources (e.g., emergency generators).

The Reduced Development Alternative would not demolish the existing structure at 1306 Third Street because the Reduced Development Alternative site would only include the Pacific Steel

Casting site. As explained in Section 4.5, Air Quality, Table 4.5.L the mitigated cancer risk at the residential receptor MEI, 1306 Third Street, would be 17.33 in 1 million, which would exceed the BAAQMD cancer risk of 10 in 1 million from implementation of the conceptual development program. School and worker receptors would not experience pollution more than the BAAQMD thresholds for cancer risk from either the project or conceptual development. The development potential under this alternative would be reduced by 50 percent, therefore reducing potential cancer risk impacts. While a 50 percent reduction in the number of square feet developed would reduce the potential cancer risk, without knowing the construction schedule or time intervals associated with potential phases of construction it cannot be determined at this time that no significant impact would occur. Therefore, without further information it is assumed that the Reduced Development Alternative, would be required to implement Mitigation Measure AIR-3 and AIR-4. With the 50 percent reduction in development on the project site and implementation of MM AIR-3 and AIR-4, the Reduced Development Alternative would result in lower impacts than the conceptual development project, however due to the uncertainty regarding project phasing this impact would remain **significant and unavoidable**.

Similar to the proposed project, commercial and industrial processes associated with the M-RD zone (e.g., industrial, manufacturing, and warehouse/storage) allowed under the Reduced Development Alternative would be expected to release TACs. Emissions of TACs would be controlled through BAAQMD Regulation 2, Rule 5 permits, and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Similar to the proposed project, since it is not possible to determine the amount of TAC concentrations at the time of this analysis, Mitigation Measure AIR-5 would be required, and impacts associated with the Reduced Development Alternative would remain **significant and unavoidable**, although reduced compared to the proposed project.

Lastly, operation of future development under the Reduced Development Alternative could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and would be required to implement Mitigation Measure AIR-6, similar to the proposed project; therefore, impacts would be **less than significant with mitigation**.

Implementation of the Reduced Development Alternative would reduce the **significant and unavoidable** construction health risk impacts at 1306 Third Street and impacts as the development potential would be reduced by 50 percent; however, without knowing the construction schedule or time intervals associated with potential phases of construction this impact would remain **significant and unavoidable**.

5.7.3.6 Greenhouse Gas Emissions

The Reduced Development Alternative would result in the generation of construction-period GHG emissions, which would be lower than the proposed project. Similarly, the Reduced Development Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity, natural gas, water, and wastewater) on the project site; therefore, the Reduced Development Alternative would result in the generation of operational-period GHG emissions and potential conflicts with applicable plans, policies, and regulations adopted for the purposes of reducing the

emission of GHGs. Therefore, Mitigation Measure GHG-1 would be required. In addition, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction; COA: Air Quality – Diesel Particulate Matter Controls During Construction;* and *COA: Nonresidential Electric Vehicle Charging* would be applicable to the Reduced Development Alternative. The Reduced Development Alternative would result in **less than significant impacts** related to GHG emissions, and the emissions would be lower than the proposed project.

Similar to the proposed project, the Reduced Development Alternative assumes future development of the project site could include new natural gas usage at the project site and, therefore, would not avoid the proposed project's **significant and unavoidable impact** related to conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, like the proposed project implementation of the Reduced Development Alternative would result in **significant and unavoidable impacts** associated with GHG emissions.

5.7.3.7 Energy

The Reduced Development Alternative would result in an increase in energy demand during construction. Similar to the proposed project, the Reduced Development Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity and natural gas) on the project site, increasing energy demand during operation, although lower than the proposed project. Energy demand associated with construction of the Reduced Development Alternative also would be lower than the proposed project. Similar to the proposed project, the Reduced Development Alternative would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. Therefore, fuel consumption during construction and operation of development under the Reduced Development Alternative would not be inefficient, wasteful, or unnecessary, and this impact would be **less than significant**. In addition, *COA: Construction and Demolition Diversion* and Mitigation Measure GHG-1 requiring future development projects to provide electric vehicle charging capabilities would be implemented to ensure consistency with the applicable General Plan policies. Therefore, implementation of the Reduced Development Alternative would result in **less than significant** energy impacts, however lower than the proposed project.

5.7.3.8 Noise

Implementation of the Reduced Development Alternative would expose surrounding land uses to short-term noise and vibration during construction. Implementation of Mitigation Measure NOI-1 would be required. In addition, City COAs, including *COA: Construction Noise Reduction Program*, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website* would be implemented to reduce construction noise impacts on any off-site sensitive receptors in the vicinity. During operation of the Reduced Development Alternative, noise at the project site would increase compared to existing conditions and an increase in traffic noise would occur, however at a lower level than the proposed project.

In addition, rooftop mechanical equipment associated with the Reduced Development Alternative would be required to comply with BMC Section 13.40 noise standards and City *COA: HVAC Noise Reduction*. Therefore, it is not expected that the Reduced Development Alternative would

substantially increase noise levels over existing conditions and impacts would be **less than significant**.

Overall, with adherence to application City COAs and implementation of Mitigation Measure NOI-1, implementation of the Reduced Development Alternative would result in **less than significant** noise impacts, similar to the proposed project.

5.7.3.9 Hazards and Hazardous Materials

Hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site during implementation of the Reduced Development Alternative. However, management of soil and hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit. In addition, the City performs inspections of all construction sites in accordance with the requirements of the MRP to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed.

Construction of the Reduced Development Alternative would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that could be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by DOT, RCRA, and State regulations.

Operation of the Reduced Development Alternative would involve the routine storage and use of hazardous materials similar to the proposed project. Section 15.12.070 of the BMC requires obtaining all necessary permits and registrations from the City's hazardous materials manager[4] to handle any quantity of hazardous material or waste subject to disclosure under Section 15.12.050 of the BMC and compliance with *COA: Toxics (F and G).*

Compliance with *COA: Toxics (F and G)* and applicable regulations, including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, would be mandatory and would ensure that the Reduced Development Alternative would not create a significant hazard due to handling or transportation of hazardous material. Therefore, similar to the proposed project, these impacts would be **less than significant**.

Due to the age of the buildings on the project site, hazardous building materials such as ACM, LBP, and PCB containing equipment/materials, and mercury containing devices may be present in the buildings. Therefore, to control the risk of releasing PCBs into the environment from potential PCB contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 would be applicable to the Reduced Development Alternative, similar to the proposed project.

Subsurface hazardous materials, including methane in soil vapor and potential contamination within the public right-of-way, may also be released into the environment during construction and

[4] The City's hazardous materials manager is the manager of the CUPA or hazardous materials programs of the City (currently the TMD) or other equivalent position, or their designee.

operation associated with future development of the project site under the Reduced Development Alternative. To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, the Reduced Development Alternative would be required to implement Mitigation Measures HAZ-2a through HAZ-2e.

Similar to the proposed project, to ensure that implementation of the Reduced Development Alternative would not result in impacts related to emergency evacuation plans, Mitigation Measures TRA-1 and TRA-2 would be required.

Overall, with adherence to application City COAs and implementation of identified mitigation measures, implementation of the Reduced Development Alternative would result in **less than significant impacts** related to hazards and hazardous materials, similar to the proposed project.

5.7.3.10 Hydrology and Water Quality

Future development facilitated by implementation of the Reduced Development Alternative would be required to comply with the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements*, *COA: Toxics (A through D),* and would be required to implement Mitigation Measures HAZ-1, HAZ-2, HYD-1, and HYD-2, similar to the proposed project, due to potential construction and operation activities.

The Reduced Development Alternative would not alter the course of a stream or a river; however, the Reduced Development Alternative would redevelop the project site and therefore would have substantial effects with regards to altering drainage patterns and stormwater drainage systems on the project site. To control the risk of exceeding the capacity of stormwater drainage systems which could result in flooding, the Reduced Development Alternative would implement Mitigation Measure HYD-3 and *COA: Drainage Patterns*, requiring a hydraulic study of drainage during construction and operation. In addition, to control the risk of releasing pollutants into surface water due to future flooding or tsunami inundation at the project site, the Reduced Development Alternative would also implement Mitigation Measure HYD-4. The Reduced Development Alternative also would not conflict with or obstruct implementation of the Basin Plan or the Groundwater Sustainability Plan for the Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin.

Overall, redevelopment of the project site under the Reduced Development Alternative would result in similar hydrology and a water quality impact as the proposed project, and would be required to comply with the same existing regulations, City COAs, and mitigation measures. Impacts would be **less than significant**, similar to the proposed project.

5.7.3.11 Biological Resources

Implementation of the Reduced Development Alternative would facilitate the demolition of existing on-site structures and construction activity within the project site. Accordingly, implementation of the Reduced Development Alternative would result in potential impacts to nesting birds and the loss of bat roosts, and City *COA: Avoid Disturbance of Nesting Birds* and Mitigation Measure BIO-1a through BIO-1f would be required. With adherence to *COA: Avoid Disturbance of Nesting Birds* and implementation of Mitigation Measure BIO-1a through BIO-1f, the Reduced Development

Alternative would result in **less than significant impacts** on special-status species. Similar to the proposed project, the Reduced Development Alternative would not have a substantial adverse effect on any riparian habitat, other sensitive natural community, or federally protected wetlands as defined by Section 404 of the Clean Water Act. In addition, the Reduced Development Alternative would not interfere with the movement of any native resident or migratory fish or wildlife species, impede the use of native wildlife nursery sites, conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources (such as a tree preservation policy or ordinance), or conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the Reduced Development Alternative would result in **less than significant impacts** on biological resources, similar to the proposed project.

5.8 COMPARISON OF ALTERNATIVES AND ENVIRONMENTALLY SUPERIOR ALTERNATIVE

5.8.1 Alternatives Summary Comparison of Impacts and Ability to Meet Project Objectives

Table 5.A identifies the level of impact for the proposed project and each alternative (e.g., no impact, less than significant impact, less than significant impact with mitigation, significant and unavoidable impact, or significant and unavoidable impact with mitigation) and whether the impact of the alternative would be the same as, less than, or greater than the proposed project impacts. In some cases, the proposed project and alternative would result in the same significance determination, but the degree of that impact with the alternative might be less than or greater than the proposed project.

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
4.1: LAND USE AND PLANNING				
Impact LU-1: The proposed project, including the conceptual development project, would not physically divide an established community.	LTS	NI <	LTS =	LTS =
Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.	LTS	NI <	LTS =	LTS =
4.2: CULTURAL RESOURCES				
Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5 because implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to *State CEQA Guidelines* Section 15064.5.	SU	NI <	SU =	LTSM <
Impact CUL-1b: The conceptual development project would not cause a substantial adverse change in the significance of a historical resources as defined in *State CEQA Guidelines* Section 15064.5.	LTS	NI <	LTS =	LTS =
Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in	LTSM	NI <	LTSM =	LTSM =

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
the significance of a unique archaeological resources, as defined in *State CEQA Guidelines* Section 15064.5.				
Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin.	LTSM	NI <	LTSM =	LTSM =
4.3: TRIBAL CULTURAL RESOURCES				
Impact TCR-1: Ground disturbance associated with future development of the project site has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	LTSM	NI <	LTSM =	LTSM =
4.4: TRANSPORTATION				
Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LTS	NI <	LTS =	LTS =
Impact TRA-2: The proposed project, including the conceptual development project, would not result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).	LTS	NI <	LTS =	LTS =
Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.	LTSM	NI <	LTSM =	LTSM =
Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.	LTSM	NI <	LTSM =	LTSM =
4.5: AIR QUALITY				
Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.	LTS	NI <	LTS <	LTS <
Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}).	LTSM	NI <	LTSM =	LTSM =
Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.	LTSM	NI <	LTSM =	LTSM =
Impact AIR-2b.2: Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD.	LTS	NI <	LTSM =	LTSM =
Impact AIR-2c: Implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards.	LTS	NI <	LTS =	LTS =
Impact AIR-3a.1: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations.	LTSM	NI <	LTSM =	LTSM =
Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that	SU	NI <	LTSM <	SU =

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations.				
Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city.	SU	NI <	SU =	SU =
Impact AIR-4. Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people.	LTSM	NI <	LTSM =	LTSM =
4.6: GREENHOUSE GAS EMISSIONS				
Impact GHG-1a: If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	SU	NI <	SU =	SU =
Impact GHG-1b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	LTSM	NI <	LTSM =	LTSM >
Impact GHG-2a: If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	SU	NI <	SU =	SU =
Impact GHG-2b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	LTSM	NI <	LTSM =	LTSM =
4.7: ENERGY				
Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	LTS	NI <	LTS =	LTS =
Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTSM	NI <	LTSM =	LTSM =
4.8: NOISE				
Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds.	LTSM	NI <	LTSM =	LTSM =
Impact NOI-2: Construction and operation of the proposed project, including the conceptual development project, would not expose persons to or generation of excessive ground-borne vibration or ground borne noise levels.	LTS	NI <	LTS =	LTS =
4.9: HAZARDS AND HAZARDOUS MATERIALS				

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
Impact HAZ-1: The proposed project, including the conceptual development project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation.	LTS	NI <	LTS =	LTS =
Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.	LTSM	NI <	LTSM =	LTSM =
Impact HAZ-3: The proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	NI <	LTS =	LTS =
Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant.	LTSM	NI <	LTSM =	LTSM =
Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTSM	NI <	LTSM =	LTSM =
4.10: HYDROLOGY AND WATER QUALITY				
Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination.	LTSM	NI <	LTSM =	LTSM =
Impact HYD-2: The proposed project, including the conceptual development project, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project or conceptual development project may impede sustainable groundwater management of the basin.	LTS	NI <	LTS =	LTS =
Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding.	LTSM	NI <	LTSM =	LTSM =
Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site.	LTSM	NI <	LTSM =	LTSM =
Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin.	LTSM	NI <	LTSM =	LTSM =
4.11: BIOLOGICAL RESOURCES				

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats.	LTSM	NI <	LTSM =	LTSM =

AB = Assembly Bill
BAAQMD = Bay Area Air Quality Management District
CDFW = California Department of Fish and Wildlife
CO = carbon monoxide
EBP Subbasin = East Bay Plain
EO = Executive Order
GHG = greenhouse gas
GSP = groundwater sustainability plans
NI = No Impact
LTS = Less Than Significant Impact
LTSM = Less Than Significant with Mitigation
LUST = leaking underground storage tank
PCBs = polychlorinated biphenyls
PRC = Public Resources Code
ROG = reactive organic gas
SB = Senate Bill
SU = Significant and Unavoidable Impact (all SU impacts are shown in bold)
TAC = toxic air contaminants
USFWS = United States Fish and Wildlife Service
< (less than)
= (equal to)

A comparison of each alternative and its ability to meet the project objectives compared to the proposed project is summarized below in Table 5.B, and evaluated in more detail in the subsequent discussion.

Table 5.B: Summary of Ability of Alternatives to Address Project Objectives

Project Objective	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
Reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing land use designation that adds significantly to the City's economic base and facilitates job creation.	Yes	No	No	Yes
Establish a Manufacturing, Research and Development zoning district with land use and development standards that are consistent with the General Plan Manufacturing land use designation and policies of the West Berkeley Plan to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, research and development (R&D), laboratory, and office.	Yes	No	No	Yes
Facilitate future development by adopting zoning standards that permit construction of buildings that accommodate allowable uses.	Yes	No	Partial	Yes
Improve mobility at an entry corridor to West Berkeley by encouraging and supporting current and future transit use and transportation demand management strategies that reduce vehicle miles traveled, while providing sufficient parking to meet the needs of employment-generating uses.	Yes	No	Partial	Yes
Clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.	Yes	No	Yes	Yes

Source: LSA, 2024

5.8.1.1 No Action Alternative

Based on the above analysis, the No Action Alternative would have the fewest impacts and would be the environmentally superior alternative. Under CEQA, if the No Action Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (*State CEQA Guidelines* Section 15126.6(e)(2)). While the No Action Alternative would be environmentally superior in the technical sense in that contribution to the aforementioned impacts would not occur, it would also fail to achieve any of the project's objectives and would not result in the remediation of the hazardous conditions at the project site.

5.8.1.2 General Plan Compliant Alternative

The General Plan Compliant Alternative would avoid some, but not all, of the **significant and unavoidable** air quality impacts of the proposed project. Specifically, the General Plan Compliant Alternative would avoid the **significant and unavoidable** project air quality impacts associated with construction health risks. However, the General Plan Compliant Alternative would not avoid or reduce the **significant and unavoidable impact** of the proposed project on built historic resources. As indicated in Table 5.B the General Plan Compliant Alternative would not meet the first and second project objectives, as they relate to facilitation of new uses; and would partially meet third, and fourth project objectives. This alternative would fully meet the fifth project objectives, as clean up activities would be required to facilitate development.

5.8.1.3 Reduced Development Alternative

The Reduced Development Alternative would avoid the **significant and unavoidable impact** of the proposed project related to built historic resources. As described above, development facilitated under the Reduced Development Alternative would not include demolition of the existing structure at 1306 Third Street, because the parcel would not be rezoned. Under the Reduced Development Alternative impacts would be lower compared to the proposed project, because this alternative would include 50 percent less development than the proposed project. This alternative would also reduce the proposed project's significant and unavoidable construction health risk impacts at 1306 Third Street, as development potential would be reduced by 50 percent. As shown in Table 5.B, the Reduced Development Alternative would meet all of the project objectives and it would facilitate the development of similar uses at the project site and would apply all mitigation measures and City COAs as identified for the proposed project.

5.8.2 Environmentally Superior Alternative

Because the Reduced Development Alternative would avoid the proposed project's **significant and unavoidable impacts** on built historic resources and would have lower impacts than the proposed project as they relate to the air quality **significant and unavoidable impact,** the Reduced Development Alternative is considered as the Environmentally Superior Alternative. As discussed above, none of the other alternatives would avoid the **significant and unavoidable impacts** to air quality or GHG emissions, due to the lack of construction details and the usage of natural gas. However, as the Reduced Development Alternative would include approximately 50 percent less development at the site, it would lower said impacts. In addition, the Reduced Development Alternative would meet all of the proposed project objectives. Accordingly, the Reduced Development Alternative is considered the environmentally superior alternative.

6.0 CEQA-REQUIRED CONCLUSIONS

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

As required by the California Environmental Quality Act (CEQA), this chapter discusses the following types of impacts that could result from implementation of the proposed project and the conceptual development project: (1) growth-inducing impacts; (2) significant irreversible changes; (3) effects found not to be significant with implementation of standard conditions, regulatory compliance measures or mitigation measures; and (4) significant unavoidable effects. Section 6.3, below, specifically addresses the following environmental issue topics that were found not to be significant: aesthetics, agricultural resources, geology and soils, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire.

6.1 GROWTH INDUCEMENT

As required by *State CEQA Guidelines* Section 15126.2(e), this section summarizes the project's potential growth-inducing impacts on the surrounding community. Pursuant to *State CEQA Guidelines* Section 15126.2(d), a project is typically considered growth-inducing if it would foster economic or population growth or the construction of additional housing; if it would remove obstacles to population growth or tax community services to the extent that the construction of new facilities would be necessary; or if it would encourage or facilitate other activities that cause significant environmental effects. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped.

Implementation of the proposed zoning and General Plan/West Berkeley Plan amendments would facilitate future development of up to 1,005,266 square feet of non-residential space on an underutilized infill site in an urban area of West Berkeley (i.e., proposed project). Development of the proposed project would not result in direct population growth within the city, because it would not include residential units. However, the proposed project would generate job growth, as it would facilitate future buildout of a mix of light manufacturing, R&D, and laboratory or office uses on the project site. Full buildout of the proposed project would result in 2,681 employees at the project

site.[1,2,3] As discussed in Chapter 3.0, Project Description, approximately 56 persons are currently employed on the project site. Therefore, buildout of the project site under the proposed project could introduce up to 2,215 new employees to the project site, and could induce indirect population growth resulting from employees moving to the city as a result of their employment. As discussed in Section 6.3.6, Population and Housing, below, a fraction of the 2,215 new future employees may move to the city solely for reasons of employment, although employees would likely commute from various communities throughout the Bay Area, due to the proximity of the Interstate 80/Interstate 580 (I-80/I-580) corridor and nearby transit opportunities provided by Alameda-Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit (BART). AC Transit operates two routes (12 and 72) that provide service to the project site with the closest bus stop at Gilman Street and Sixth Street, approximately 900 feet east of the project site. The nearest BART station is the North Berkeley Station at 1750 Sacramento Street, 1.06 miles east of the project site. Local roadways providing access to the project site include Gilman Street, I-80/I-580, and Camelia Street. In addition, the City of Berkeley (City) adopted the 2023–2031 Housing Element (February 17, 2023, Resolution 70,669-N.S.), which includes the City's strategy for meeting its share of the Regional Housing Needs Allocation (RHNA). The total RHNA for the Bay Area region in the 2023–2031 period is 441,176 units; the share of the RHNA allocated to the city is 8,934 residential units. Therefore, the proposed increase in employees would be accommodated by planned growth in the city and region, and the proposed project would not directly or indirectly induce substantial population growth on the site or in the surrounding area through the increase in employment on the site.

The proposed project would facilitate redevelopment of an existing urbanized site and would not require the extension of utilities or roads into undeveloped areas or directly or indirectly lead to the development of greenfield sites. Circulation improvements would be designed to City standards and would facilitate movement to and through the project site, including access improvements to adjacent roadways and sidewalks. Due to the location of the project site and the presence of existing uses on and in the vicinity of the site, construction facilitated under the proposed project would not induce unplanned growth in the area. Therefore, the growth that would occur as a result of the proposed project would not be substantial or adverse.

6.2 SIGNIFICANT IRREVERSIBLE CHANGES

As required by *State CEQA Guidelines* Section 15126.2(d), an EIR must identify any significant irreversible environmental changes that could result from implementation of a proposed project.

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1 The number of employees associated with buildout of the proposed project was determined based on data available from a combination of reports including *Envision 2040, 4-Year Review, Market Overview and Employment Lands Analysis* prepared for the City of San Jose and dated January 28, 2016, and *The Innovation Ecosystem in West Berkeley, An Economic Snapshot* prepared by the City of Berkeley Office of Economic Development Report dated January 2023. Based on the available data, an employment density factor for office and R&D land uses is between 300 and 375 square feet per employee. To provide a conservative analysis, the employment density factor of 375 square feet per employee was used to estimate employment generate from buildout of the proposed M-RD zoning district.

2 Strategic Economics. 2016. *Envision 2040, 4-Year Review, Market Overview and Employment Lands Analysis.* January 28.

3 City of Berkeley, Office of Economic Development. 2023. *The Innovation Ecosystem in West Berkeley, An Economic Snapshot.* February 1.

These may include current or future uses of non-renewable resources, and secondary growth-inducing impacts that commit future generations to similar uses. CEQA suggests that irreversible commitments of resources should be evaluated to assure that such current consumption is justified. Each of these three categories is further detailed below.

6.2.1 Changes in Land Use Which Commit Future Generations

The 11.54-acre project site is composed of 18 parcels and is currently developed with industrial buildings that support manufacturing and warehouse uses, the majority of which are vacant. The proposed project would create a new zoning district –M-RD – to facilitate future development of up to 1,005,266 square feet of non-residential space. This EIR also evaluates buildout of the conceptual development project for up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses on an approximately 10.26-acre portion of the project site. The City has not received a formal application. The project site is currently considered underutilized within an urbanized area of West Berkeley, and contains a building occupied by an incompatible land use based on the City's growth patterns.

The project site and immediate area are surrounded by a mix of industrial, commercial, and residential development, and the project site is designated as Manufacturing, which is intended for areas containing manufacturing establishments and industrial uses. The proposed project would take place on an infill site in which a variety of land uses related to manufacturing and industrial uses, such as light manufacturing, research and development (R&D), laboratory, and/or office uses, may be considered under the General Plan and Berkeley Municipal Code (BMC) Section 23.206.020. In addition, at the end of the useful life of the proposed project, the project site could be rezoned and repurposed (similar to this current process), and the use could change again. Therefore, implementation of the proposed project would not commit future generations to a significant change in land use.

6.2.2 Irreversible Damage from Environmental Accidents

As discussed in greater detail in Section 4.9, Hazards and Hazardous Materials, the project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials including petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls.

In addition, there are multiple leaking underground storage tanks (LUST) on the project site that are included on the lists of hazardous material release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List"). GeoTracker identifies the properties at 600 Gilman Street (a former gas station in the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site in the central portion of the project site) as LUST sites. As discussed in the Report of Findings[4], although the LUST site for the former Pacific

[4] Langan. 2023. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8. The Report of Findings summarizes the findings of subsurface investigations performed between 2013 and 2023 at the Proposed Berkeley Forge Development Project site.

Steel Casting site is listed on GeoTracker under the address of 1333 Second Street, which is the address associated with the former Pacific Steel Casting site office, the LUSTs were actually located on other properties within the project site, including a property in the northeast portion of the project site with the address of 640 Gilman Street (Assessor's Parcel Number 59-2345-1), a property in the southwest corner of the project site with the address of 1433 Eastshore Highway (Assessor's Parcel Number 59-2341-3-2); and, a property in the central portion of the projects site with the address of 1320 Second Street (Assessor's Parcel Number 59-2344-4-1).

Further, the Report of Findings indicates that previous investigations identified contamination of soil with hazardous materials including total petroleum hydrocarbon (TPH) compounds, volatile organic compounds (VOCs) (primarily chlorinated solvents and those associated with petroleum products), and heavy metals at concentrations that exceed current commercial/industrial Environmental Screening Levels (ESLs) in various areas of the project site. Groundwater contamination from TPH compounds and VOCs at concentrations exceeding ESLs, and areas of TPH free product [5] have also been identified at the project site. The Report of Findings also describes two previous spills of polychlorinated biphenyls (PCBs) that occurred in the southwest portion of the project site (shown on Figure 4.9-1 in Section 4.9, Hazards and Hazardous Materials), remediation (removal of affected concrete and soil) from the larger and more recent spill area identified as PCB Spill 1, and soil and groundwater sampling activities performed in the un-remediated areas of the PCB spills. Additional sampling indicated that the extent of contamination from PCBs in the spill areas was limited and had not affected groundwater. The Report of Findings also indicates that, based on the limited extent of groundwater impacts, it is anticipated that the impacts to soil are limited to the fill zone, are not widespread, and have not migrated off-site. The Report of Findings also indicates that, although areas across the project site exhibit impacts, migration of these contaminants in groundwater appears to be attenuated by the high clay content in subsurface soil. Additionally, contaminated groundwater in the fill zone may not be considered potable due to concentrations of total dissolved solids or low water production.

As discussed in Section 4.9, Hazards and Hazardous Materials, the proposed project would be required to comply with identified City standard conditions of approval (COAs) prior to the City's issuance of any building and safety permits (demolition or construction). Compliance with City COAs and the regulations described under Impact HAZ-1 of Section 4.9, Hazards and Hazardous Materials, including Occupational Safety and Health Administration and California Occupational Safety and Health Administration regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, California Code of Regulations, United States Department of Transportation, Resource Conservation and Recovery Act, and other federal, State, regional, and local regulations are mandatory and would ensure that the proposed project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials by ensuring that these materials are properly handled during construction and operation of the proposed project. Compliance with City conditions of approval and the regulations described in Impact HAZ-2 of Section 4.9, Hazards, would also ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction and operation of future development facilitated by the

[5] Free product is a term used to describe a separate phase liquid (typically petroleum products) that floats on top of the groundwater surface.

proposed project, including the conceptual development project, would be determined to be **less than significant**.

In addition, implementation of Mitigation Measure HAZ-1 and Mitigation Measure HAZ-2a through HAZ-2f, would be required to ensure potential impacts related to hazardous materials or contamination would be less than significant. To control the risk of releasing PCBs into the environment from potential PCB contaminated concrete during demolition or renovation activities, implementation of Mitigation Measure HAZ-1 requires the hazardous building materials survey that is required by existing regulations and City COAs to be conducted prior to renovation or demolition activities to include sampling and analysis for PCBs in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1 in Section 4.9, Hazards); (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids); and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, Mitigation Measures HAZ-2a through HAZ-2f, which requires additional site characterization, remediation of PCBs, a vapor mitigation system, specific utility designs, and the avoidance of petroleum fuel pipelines, has been prescribed. Compliance with City COAs and Mitigation Measure HAZ-1 would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed such that the risk of hazardous building materials and PCB-contaminated concrete being released into the environment during construction of future development facilitated by the proposed project, including the conceptual development project, would be reduced to **less than significant with mitigation.** Compliance with City COAs and Mitigation Measures HAZ-2a through HAZ-2f would ensure that that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriated performed, such that potential impacts related to the accidental release of hazardous materials into the environment during construction and operation of future development facilitated by the proposed project, including the conceptual development project, would be **less than significant with mitigation**.

Overall, Section 4.9, Hazards, concluded that impacts associated with hazards or hazardous materials would be less than significant with implementation of prescribed mitigation measures and compliance with identified COAs. Further, as prescribed by Mitigation Measure HAZ-2, development of the project site would require remediation of on-site hazardous materials through implementation of a Response Plan approved by the Department of Toxic Substances Control. Therefore, implementation of the proposal project and the conceptual development project would not result in irreversible damage from environmental accidents.

As described in Chapter 3.0, Project Description, because implementation of the proposed project would require site clean-up actions, it would improve existing conditions. The proposed project would facilitate development on the project site, like the conceptual development project, which would increase project site accessibility due to soil cleanup and include development up to current standards.

6.2.3 Consumption of Non-Renewable Resources

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. As discussed in Section 6.3.2, Agricultural Resources, below, the State Department of Conservation designates the site as "Urban and Built-Up Land," and the site is in an urbanized area of West Berkeley. Therefore, no existing agricultural lands would be converted to non-agricultural uses. In addition, as discussed in Section 6.3.4, Mineral Resources, below, the project site does not contain known mineral resources and does not serve as a mining reserve; thus, development of the proposed project and the conceptual development project would not result in the loss of access to mining reserves.

Construction of future development facilitated by the proposed project, including the conceptual development project, would require the use of energy, including energy produced from non-renewable resources. As discussed in Section 4.7, Energy, Table 4.7.A, development envisioned under the proposed project would consume 1,684,799.0 gallons of diesel fuel and 1,082,963.2 gallons of gasoline during construction. As discussed above, construction associated with future development facilitated by the proposed project is expected to take approximately 8 years; therefore, when averaged over 8 years, the proposed project would consume 210,599.9 gallons of diesel fuel per year and 135,370.4 gallons of gasoline per year during construction. Based on fuel consumption obtained from EMFAC2021, trips in Alameda County will consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel in 2024. Therefore, construction of future development as envisioned under the proposed project would increase the annual construction generated fuel use in Alameda County by 0.1 percent for diesel fuel usage and by less than 0.1 percent for gasoline fuel usage.

Accordingly, construction of future development facilitated by the proposed project would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Alameda County's overall use of the State's available energy resources, as discussed further in Section 4.7. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. In addition, construction activities are not anticipated to result in an inefficient use of energy because gasoline and diesel fuel would be supplied by construction contractors, who would conserve the use of their supplies to minimize their costs on the project. The proposed project would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. For these reasons, fuel consumption during construction would not be inefficient, wasteful, or unnecessary and this impact would be **less than significant**.

Energy consumption would also take place during the operational period of future development facilitated by the proposed project. As discussed in Section 4.7, in Table 4.7.C, the estimated potential increase in electricity demand associated with future development envisioned under the buildout of the proposed project is 24,679,742 kWh per year. Total electricity consumption in Alameda County in 2022 was 10,395 GWh (10,395,384,395 kWh). Therefore, operation of future development facilitated by the proposed project would increase the annual electricity consumption in Alameda County by 0.2 percent.

Electricity demand associated with future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. All future development would be required to comply with all federal, State, and local requirements for energy efficiency, including the current California Energy Code, latest Title 24 California Green Building Standards Code (CALGreen) standards, local amendments as adopted in the Berkeley Green Code, and the Berkeley Energy Code. Title 24 building energy efficiency standards establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting, which would reduce energy usage. In addition, with implementation of Mitigation Measure GHG-1, which requires the project sponsor for individual future development projects to provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Tier 2 Voluntary Standards, the proposed project and the conceptual development project would be consistent with the City's General Plan. Therefore, impacts associated with energy would be **less than significant with mitigation**.

Additionally, as discussed in Section 4.4, Transportation, a Transportation Demand Management Plan (TDM Plan) would be implemented for the proposed project in order to reduce project-generated vehicle trips and vehicle miles traveled and encourage travel by other modes. In addition, public transit facilities serve the project area and bicycle and pedestrian facilities would be required to conform to City standards, which would also help to reduce the demand for travel by single -occupancy vehicles. Therefore, fuel consumption associated with vehicle trips generated by operation of future development facilitated by the proposed project, including the conceptual development project, would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and this impact would be **less than significant**.

Further, the proposed project and the conceptual development project would not require the construction of major new infrastructure to deliver energy or natural gas, as these services are already provided in the area. Therefore, the proposed project and the conceptual development project would not result in a significant impact associated with the consumption of nonrenewable resources.

6.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

The environmental topics analyzed in Chapter 4.0, Setting, Impacts, and Mitigation Measures, are topics that have the potential for adverse impacts associated with development of the proposed project and the conceptual development project. The following topics are not further analyzed in this EIR because impacts related to these topics either would not occur or would be less than significant with implementation of applicable standard conditions and regulatory compliance measures.

6.3.1 Aesthetics

Public Resources Code (PRC) Section 21099(d)(1)provides in part, "aesthetics…impacts of a residential, mixed-use residential, or employment center project[6] on an infill site[7] located within a transit priority area[8] shall not be considered significant impacts on the environment." The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. with frequent and nearby local and regional transit services, including AC Transit and Amtrak. As implementation of the proposed project would result in zoning and General Plan/West Berkeley amendments that facilitate future development of up to 1,005,266 square feet of non-residential space and includes buildout of the conceptual development project with up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses, which would provide employment opportunities, the proposed project meets the definition of a "employment center project"[9] on an infill site within a transit priority area. Accordingly, an evaluation of aesthetic impacts is not required. Proposed project elements that relate to changes to aesthetic conditions at the project site and vicinity, such as proposed building heights, architecture, and effects of new light and glare, among others, will, however, be considered as part of the planning approval process, including through design review. Therefore, there would be **no impact** related to aesthetics.

6.3.2 Agricultural Resources

The project site and surrounding area are within an urban area in West Berkeley. The site is currently designated as Manufacturing in the General Plan and West Berkeley General Plan and is zoned Manufacturing (M) per the Zoning Ordinance and West Berkeley Area Plan. The purpose of the M district is to encourage development dedicated to manufacturing and industrial uses, including "heavy manufacturing". Although the M district allows Urban Agriculture, which includes the production of horticultural crops for harvest, sale, and/or donation, including community gardens, the M zoning district does not allow for development of the project site for traditional agricultural uses such that the site is considered important farm or agricultural land (BMC Table 23.206-1). Further, there is no history of agricultural use of the project site.

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6 Public Resources Code Section 21099(a) defines an "employment center project" as a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area. This definition is intended to identify uses that provide employment opportunities.

7 Public Resources Code Section 21099(a) defines an "infill site" as a lot located within an urban area that has been previously developed, or a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses.

8 Public Resources Code Section 21099(a) defines a "transit priority area" 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 or service interval of 15 minutes or less during the morning and afternoon peak commute periods.

9 Pursuant to PRC 21099(a)(1), and "employment center project" means a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area.

The proposed project would result in zoning and General Plan/West Berkeley amendments to create a new zoning district—M-RD—to facilitate future development of up to 1,005,266 square feet of non-residential space. The M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D. The proposed M-RD zoning district would not allow for development of the project site for agricultural uses.

In addition, the project site is designed as "Urban and Built-Up Land" by the State Department of Conservation.[10] Therefore, development of the project site as facilitated by the proposed project, including the conceptual development project, would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. No portion of the proposed project is under a Williamson Act contract. Therefore, the proposed project and conceptual development project would not conflict with existing zoning for agricultural use or a Williamson Act contract and there would be **no impact**.

The project site is not used for timberland production, nor is it zoned for forest land or timberland. No forest lands or timberland resources are on the project site. Therefore, the proposed project and conceptual development project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland, nor would the proposed project result in the loss of any forest land or convert forestland to non-forest use. Therefore, there would be **no impact** to agricultural and forestry resources.

6.3.3 Geology and Soils

The project site is not in an Alquist-Priolo Fault Zone. Therefore, the proposed project would have a less than significant impact on people and structures related to fault rupture at the site. However, the project site is in a seismically active area. A significant earthquake on one of the regional faults near the project site, such as the Hayward, Calaveras, San Andreas, San Gregorio, Greenville and Monte Vista-Shannon faults, would likely produce strong to violent ground shaking during the life of the project. According to the Preliminary Geotechnical Investigation[11], the project site can be classified as Site Class D, in accordance with the 2022 California Building Code (CBC), codified in Title 24 of the California Code of Regulations. Site classes are determined based on the upper 100 feet of soil and rock. Site Class D is associated with "stiff soil"[12] and is often used "where the soil properties are not known in sufficient detail to determine the site class."[13] Accordingly, the Preliminary Geotechnical Investigation recommends site-specific response spectra be developed as part of the design-level geotechnical investigation and seismic design parameters be used in accordance with the 2022 CBC to account for earthquake ground motions. The design and construction of the proposed project is required to conform with, or exceed, current best standards for earthquake resistant construction in accordance with the 2022 CBC and with the generally accepted standards

10 California Department of Conservation. n.d. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/dlrp/cliff/app/ (accessed January 24, 2023).

11 Langan. 2023. *Preliminary Geotechnical Investigation, Berkeley Forge Development Project, 1330 and 1333 Second Street, Berkeley, California, Langan Project No. 750675902.* January 13.

12 Dominic, K. 2006. *Seismic Site Classification for Structural Engineers.* December.

13 Ibid.

of geotechnical practice for seismic design in Northern California. Therefore, compliance with the CBC would ensure that the potential impacts associated with ground shaking would be less than significant.

According to the Preliminary Geotechnical Investigation, the project site is within a liquefaction zone as designated by the California Geological Survey. Final grading, foundation, and building plans must be designed in accordance with the 2022 CBC. These designs would include measures that would address the potential for differential settlement related to liquefaction. Therefore, compliance with the CBC would ensure that the potential impacts associated with liquefaction would be less than significant. The Preliminary Geotechnical Investigation indicated that the potential for lateral spreading is considered to be low due to the lack of a nearby free slope face. Therefore, the proposed project and the conceptual development project would have a less than significant impact related to lateral spreading. According to the Preliminary Geotechnical Investigation, the project site is not within a Seismic Hazard Zone for earthquake-induced landslides. Therefore, the proposed project would have a less than significant impact related to seismically-induced landslides.

Construction activities, such as vegetation grubbing, grading, and other excavation, would disturb surface soils, rendering them susceptible to erosion from wind and water. However, as discussed in Section 4.10, Hydrology and Water Quality, the proposed project and conceptual development project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, NPDES No. CAS000002(Construction General Permit)[14], including preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is required to include best management practices to be implemented during the construction phase that would reduce erosion in accordance with MRP regulations. In addition, the project site would be covered with asphalt, concrete, and landscaping materials during operation, which would minimize soil erosion and the loss of topsoil post-construction. Further, stormwater runoff during operation of developments on the project site would be treated in accordance with the requirements of the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008 (MRP)[15], which would minimize the amount of silt and pollutants in stormwater runoff compared to the existing condition. Therefore, the proposed project and conceptual development project would have a **less than significant** impact related to soil erosion or the loss of topsoil during construction and operation.

The Preliminary Geotechnical Investigation indicated that laboratory testing of the near-surface soils determined that the soils would have a moderate to very high expansion potential at the project site. However, the foundations, slabs, and concrete flatwork would be designed and constructed to reduce the effects of the expansive soils. Final designs prepared in compliance with the CBC would include measures to mitigate these effects such as moisture-conditioning the expansive soil and

[14] SWRCB. 2022. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order WQ 2022-0057-DWQ, NPDES No. CAS000002. Adopted September 8.

[15] San Francisco Bay Regional Water Quality Control Board. 2022. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008. May 11.

providing select, non-expansive fill below interior and exterior slabs-on-grade and supporting foundations below the zone of severe moisture change. Incorporation of the recommendations of the Preliminary Geotechnical Investigation into the final geotechnical report would ensure that the potential impacts associated with expansive soils would be **less than significant**.

In addition, no septic tank system or alternative wastewater disposal system is proposed for the project site as part of the proposed project or conceptual development project; therefore, no impact would occur relating to the ability of on-site soils to support a septic tank.

Overall, adherence to the CBC, compliance with application NPDES permits, and the incorporation of the recommendations in the Preliminary Geotechnical Investigation into the final geotechnical report and final project design would ensure that the potential impacts associated with geology and soils would be **less than significant**.

6.3.4 Mineral Resources

The City of Berkeley General Plan indicates that, due to the City's long-established urbanized character, there are no active mineral extraction industries within city limits.[16] Additionally, the California Geologic Survey does not identify known mineral resources or mineral recovery sites within or adjacent to the project site.[17] Therefore, the proposed project and conceptual development project would not result in the loss of availability of a known mineral resource of value to the region or residents of the State or the loss of availability of a locally important mineral resource recovery site. **No Impact** would occur.

6.3.5 Population and Housing

The proposed project would create a new zoning district—M-RD—to facilitate future development of up to 1,005,266 square feet of non-residential space on the project site. The new M-RD zoning district would not allow for residential uses and, as a result, the proposed project and conceptual development project would not include new on-site housing. Therefore, the proposed project and conceptual development project would not directly induce population growth on the project site through the introduction of new residents on the site. In addition, the project site is within an urban area and is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Introducing new light manufacturing, R&D, laboratory, or office uses to an underutilized site would not result in the extension of infrastructure beyond which is needed to serve the proposed project and conceptual development project or expand roadway capacity within the site's vicinity. A fraction of the 2,215 new future employees may move to the city solely for reasons of employment, although most employees would likely commute from various communities throughout the Bay Area due to the proximity of the I-80/I-580 corridor and nearby transit opportunities. Therefore, the proposed project and conceptual development project would

16 City of Berkeley. 2002. *General Plan, Environmental Management Element*. April 23.

17 California Department of Conservation. n.d. California Geologic Survey, SMARA Mineral Land Classification. Website: https://www.conservation.ca.gov/cgs/minerals/mineral-land-classification-smara (accessed January 25, 2023).

not directly or indirectly induce substantial population growth on the site or in the surrounding area due to the increase in employment on the site.

As previously discussed, the project site is currently primarily occupied by industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. However, the 1306 Third Street (Assessor's Parcel Number 58-2345-2-1) building currently contains seven non-conforming commercial tenant spaces and four non-conforming residential units, three of which are occupied by 11 individuals; the fourth is currently vacant. These dwelling units were construction within proper use permits or building permits. Implementation of the proposed project would facilitate development of the entire project site and assumes demolition of all existing structures on the project site. Therefore, implementation of the proposed project may result in the displacement of people and housing. However, any future development that eliminates the non-conforming residential units would facilitate the relocation of the current residents and would have to comply with City regulations addressing replacement of occupied residential structures found in BMC Chapter 23.326 (Demolition and Dwelling Unit Controls). As required by BMC Section 23.326.030(B), demolition of one or more residential units is allowed subject to approval of a Use Permit. To approve the Use Permit, the Zoning Adjustments Board must find that (1) the building containing the residential units is hazardous or unusable and is infeasible to repair; (2) the building containing the residential units will be moved to a different location in the city with no net loss of units and no change in the rent levels of the units; or (3) the demolition is necessary to permit construction approved pursuant to Chapter 23.326 of at least the same number of residential units. However, BMC Section 23.326.030(B)(3) provides that, in the event of a demolition of a residential unit created without proper zoning approvals or building permits, as with the dwelling units at 1306 Third Street, the Building Official, Zoning Officer, or Fire Marshal may determine that the replacement of such a unit is infeasible and not required. The determination must include a finding that the replacement of the unit could not occur in compliance with the Zoning Code, Building Code, Fire Code, or other regulations related to public health and safety.

As required by BMC Section 23.326.030(E), the project sponsor shall provide all sitting tenants and the Rent Stabilization Board notice of the application to demolish the building, including notice of their rights under BMC Section 13.76 (Rent Stabilization and Eviction for Good Cause Program), Chapter 13.77 (Requirements, Procedures, Restrictions and Mitigations Concerning the Withdrawal of Residential Rental Accommodations from Rent or Lease), 13.79 (Tenant Protections: Automatically Renewing Leases and Buyout Agreements), and 13.84 (Relocation Services and Payments for Residential Tenant Households), and shall provide moving and relocation assistance equivalent to the requirements set forth in BMC Chapter 13.84 or Government Code section 66300.6(b)(4)(A), whichever requires greater relocation assistance to displaced tenants. The project sponsor shall subsidize the rent differential for a comparable replacement unit until the new units are ready for occupancy. Therefore, the proposed project would not result in the displacement of substantial numbers of people or housing requiring the construction of new housing elsewhere in the city, as the 11 existing residents at 1306 Third Street could be accommodated in the existing housing stock within the city. With compliance with City requirements found in the BMC, impacts related to the displacement of people and housing through demolition of the existing structure at 1306 Third Street would be less than significant.

1306 Third Street is located outside the boundaries of the conceptual development project (refer to Figure 3-2 in Chapter 3.0, Project Description; the 1306 Third Street parcel is shown outside of this boundary just southwest of the Gilman Street and UPRR intersection); therefore, implementation of the conceptual development project would not include any removal or alteration of the existing building associated with 1306 Third Street. Consequently, demolition and construction associated with the conceptual development project would not displace any people or housing.

The City requires applicants for large-scale non-residential projects (e.g., office, retail, industrial, and/or other commercial development projects) to off-set the project's impacts on the demand for affordable housing and for affordable child care. The proposed project would be subject to the requirements set forth for construction of new non-residential projects, which requires an in-lieu fee for affordable housing not to exceed $6.28 per square foot of the project's net new floor area devoted to office, R&D, restaurant, hotel/lodging and/or retail end use, and $3.14 per square foot of the project's net new floor area devoted to industrial/manufacturing end use as of July 1, 2024.[18] The in-lieu fee for affordable child care would not exceed $1.75 per square foot of the project's net new floor area devoted to office, restaurant, or retail end use, $1,05 per square foot of industrial/manufacturing end use, $2,09 per square foot of hotel/lodging end use, $0.87 per square foot of warehouse/storage end use, and $1.12 per square foot of R&D space. These fees are revised annually on July 1, based on the change in the Consumer Price Index. The project sponsor would be required to pay the appropriate fees prior to issuance of a building permit for construction. With payment of in-lieu fees and because the city contains enough available housing to accommodate the 11 existing residents at 1306 Third Street who could be displaced, the proposed project would have a **less than significant** impact on population and housing.

6.3.6 Public Services

The following section addresses the project's potential effects on fire service, police service, schools, parks, and other public facilities. Impacts to public services would occur if the proposed project increased demand for services such that new or expanded facilities would be required, and these new facilities would themselves cause environmental impacts.

6.3.6.1 Fire Protection

The Berkeley Fire Department provides fire protection and emergency medical services to the project site. The Berkeley Fire Department operates seven fire stations including seven engine companies, two truck companies, and three ambulances.

Primary services to the project site are provided by Station 1 at 2442 Eighth Street (at Dwight Way) and Station 6, at 999 Cedar Street (at Ninth Street). These stations are 1.2 miles southeast and 0.4 mile southeast of the project site, respectively. Station 1 houses one engine company (Engine 2) and one ambulance (Medic 1), and is continually staffed by three firefighters and two paramedics. Station 6 houses an engine company (Engine 6) and is continually staffed by three firefighters. Station 2, at 2029 Berkeley Way, provides hazardous materials response and is 1.9 miles east of the site. The station houses one engine company (Engine 2), one aerial ladder truck (Truck 2), one ambulance (Medic 2), a paramedic supervisor (EMS-2) and a battalion chief (B-2). The station is

[18] Resolution No. 66,617-N.S and No. 66,618-N.S, adopted June 3, 2014.

staffed by 9 firefighters and 2 paramedics, of which 4 are specially trained hazardous materials response technicians.

Currently, the Fire Department is staffed with 138 sworn firefighters, 16 sworn paramedics, and 23 civilian staff.[19] The City's goal for staffing is reviewed each budget cycle and considers historical and current year information related to fire and emergency services. Due to increased call volume, the Fire Department has identified a need for additional ambulance response capability and fire response capability.[20]

The City of Berkeley General Plan includes a standard response time goal "…from initial call to arrival…of four minutes from the nearest station to all parts of the city…"[21] The Fire Department has an average response time of 9 minutes and 32 seconds from when the station receives the call to the first unit arriving on the scene.

Development facilitated under the proposed project, including the conceptual development project, would increase the daytime population on the project site and in West Berkeley in general, incrementally increasing the demand for emergency fire services as well as hazardous materials emergencies. The proposed project would increase the maximum allowable building height on the project site to 105 feet. The Fire Department's aerial ladder truck reaches 100 feet, and the Department has the appropriate equipment to access this building. Future development facilitated by the proposed project, including the conceptual development project, would be required to comply with all applicable codes for fire safety and emergency access and, during the entitlement review process, the Fire Department would ensure that the appropriate measures are implemented to reduce hazardous conditions at the site. Additionally, Measure FF funds would allow the Fire Department to address increased call volumes and emergency medical needs that result from city-wide increases in population, including the anticipated additional employees contemplated by implementation of the proposed project and the conceptual development project.[22] As a result, the proposed project and the conceptual development project would not adversely affect existing response times to the site or within the City. The Berkeley Fire Department would continue to provide services to the project site and would not require additional firefighters to serve the proposed project or the conceptual development project. The construction of new or expanded fire stations would not be required to meet response time goals. Therefore, the proposed project would not result in a substantial adverse physical impact associated with the provision of additional fire facilities or services.

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19 City of Berkeley. 2021. Proposed Annual Budget, Fiscal Year 2022. June 29.

20 City of Berkeley. 2024. Standards of Cover Study and Community Risk Assessment Study (SOC). Website: https://berkeleyca.gov/sites/default/files/documents/2024-01-24%20%20%20Final%20report%20recommendations%20from%20the%20Standards%20of%20Coverage%20and%20Community%20Risk%20Assessment%20Study.pdf. January 24.

21 City of Berkeley. 2002. *Berkeley General Plan: A Guide for Public Decision Making*. Disaster Preparedness and Safety Element, Policy S-22 Fire Fighting Infrastructure, C. 2002.

22 City of Berkeley. n.d.-b. Measure FF: Emergency Response and Preparedness Parcel Tax. Website: https://berkeleyca.gov/your-government/our-work/bond-revenue-measures/measure-ff.

In addition, the Berkeley Fire Department administers the Uniform Fire Code and applicable sections of the California Health and Safety Code, California Administrative Codes, Title 19, Public Safety and Title 24, Building Standards in reviewing and improving plans for development. Future development facilitated by the proposed project, including the conceptual development project, would be required to comply with all applicable codes for fire safety and emergency access and additional review by the Fire Department to ensure that appropriate measures are implemented to reduce hazardous conditions at the site and provide for adequate emergency access. Compliance with the Uniform Fire Code would further ensure that potential impacts to fire services would be **less than significant**.

6.3.6.2 Police Protection

The Berkeley Police Department provides police protection to the project site. Police headquarters is at 2100 Martin Luther King Jr. Way, 1.7 miles southeast of the project site. The Police Department consists of 285 employees, including 195 sworn officers.[23] This allows for a ratio of 1.5 sworn officers per 1,000 residents. The City reviews its goal for staffing each budget cycle and considers historical and current year information related to police services. City population increases are not weighed in the Police Department's staffing needs.

On March 29, 2023, the City Manager announced that the Berkeley Police Department would transition from a 16-Beat system to a 14-Beat configuration on April 1, 2023.[24] The transition was due to decreased police staffing leading to consistently understaffed shifts. Primary law enforcement concerns in the project area include vehicle break-in/theft, burglary, disturbing the peace, and larceny.[25] The standard city-wide response time for Priority 1 calls (life-threatening situations) is 5 minutes from the time of dispatch.

Development facilitated by the proposed project, including the conceptual development project, would increase the daytime population on the site and within West Berkeley in general, incrementally increasing the demand for police services. However, the increased daytime population and "open sight-line" onsite landscaping would discourage illegal activity in the area by providing more active uses and more "eyes on the street" compared to existing conditions.[26] Increased demand for police services on the site would not require the alteration of existing police facilities or construction of new facilities to maintain existing service standards or staffing ratios. Therefore, the proposed project and conceptual development project would result in a **less than significant** environmental impact related to demand for police services.

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23 City of Berkeley. n.d.-b. Measure FF: Emergency Response and Preparedness Parcel Tax. Website: https://berkeleyca.gov/your-government/our-work/bond-revenue-measures/measure-ff.

24 Williams-Ridley, D., City Manager. 2023. *Memorandum to Honorable Mayor and Members of the City Council, Berkeley Police Department transitioning to a 14-beat configuration.* March 29.

25 CrimeMapping. 2020. Home. Website: www.crimemapping.com/home (accessed January 31, 2023).

26 Connect Our Future. *Crime Prevention through Environmental Design*. Website: https://connectourfuture.org/tools/crime-prevention-through-environmental-design-cpted/ (accessed September 23, 2024).

6.3.6.3 Schools

The Berkeley Unified School District (BUSD) operates 20 schools, including 11 public elementary schools (grades K–5), 3 middle schools (grades 6–8), 1 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.[27] The BUSD has not developed student generation rates to estimate the number of students that might be anticipated with new development. However, the proposed project and conceptual development project do not include any residential uses and would not directly affect student population. As previously discussed in Section 6.3.6, a fraction of the 2,215 new employees may move to the city solely for employment, but this growth would only result in a minimal increase in student population and may be spread amongst the whole school district, depending upon place of residence.

Senate Bill (SB) 50, which revised the existing limitation on developer fees for school facilities, was enacted as urgency legislation that took effect on November 4, 1998, as a result of the California voters approving a bond measure (Proposition 1A). Senate Bill (SB) 50 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.

The BUSD requires payment of a school impact fee of $0.84 per square foot of new commercial and industrial development. Future development facilitated by the proposed project, including the conceptual development project, would be required to pay this fee prior to issuance of a certificate of occupancy. The BUSD is responsible for implementing the specific methods for mitigating school impacts under the Government Code. These fees would be directed towards maintaining adequate service levels, which would ensure that any impact to schools that could result from the proposed project would be offset by development fees, and in effect, reduce potential impacts to a **less-than-significant** level.

6.3.6.4 Parks

The city has more than 53 parks, with various amenities including picnic areas, open space, landscaping and trees, play structures, trails, sports fields and courts, and recreation facilities that are available for reservation. There are seven parks within 1 mile of the project site, including Tom Bates Regional Sports Complex, 0.08 mile west from the project site across I-80/I-580; McLaughlin Eastshore State Park (the Shoreline Strip and North Basin Strip) (980 feet west); Bay Trail (400 feet west), César E. Chávez Park, 0.6 mile west; Harrison Park (Gabe's sports fields and the Berkeley Skatepark) 0.17-mile northeast; Fielding sports fields at UC Albany Village (1,400 feet northeast); UC Village Little League ballfields (2,400 feet northeast); James Kenney Park (2,100 feet southwest); Ocean View Park, 0.55 mile northeast[28]; Cedar Rose Park, 0.85 mile east; and Aquatic Park, 0.7 mile south of the project site.

[27] Berkeley Unified School District. 2020. Website: www.berkeleyschools.net/about-the-district/about (accessed February 3, 2023).

[28] Operated by the City of Albany, California.

Development facilitated by the proposed project, including the conceptual development project, could increase the use of these parks as well as other parks within the city and within the region. However, this increase is expected to be minimal due to the absence of residential uses in the proposed project and is not expected to adversely affect the physical conditions of local and regional open space areas or recreational facilities or require the provision of new parks of facilities to meet established service goals. Therefore, although the proposed project and conceptual development project would be expected to increase use at surrounding parks, this increase is not expected to require the need for new or physically altered recreational facilities, and this impact would be **less than significant.**

6.3.6.5 Other Public facilities

Development facilitated by the proposed project, including the conceptual development project, is unlikely to increase the demand for other public services, including libraries, community centers, and public health care facilities, because no direct population growth would occur. Therefore, the proposed project and conceptual development project are not expected to substantially increase the use of these facilities such that new facilities would be needed to maintain service standards, and this impact would be **less than significant**.

6.3.7 Recreation

As discussed in Section 6.3.7.4, Parks, above, tenants, employees, and visitors to the project site would be expected to use local parks and community facilities in the city as well as regional recreational facilities. Although future development facilitated by the proposed project, including the conceptual development project, would incrementally increase use of these facilities, this minor increase in use is not expected to result in substantial physical deterioration of local parks, trails, and community centers, and this impact would be less than significant. In addition, Measure T-1 funds would allow the Parks, Recreation and Waterfront Department to pay for future improvements to City parks. For example, Measure T-1 funding is supporting improvements to the Tom Bates Regional Sports Complex.

The proposed project would consist of the rezoning of the site to M-RD, which allows for the development of the site for office, industrial and heavy commercial, laboratory, R&D and light manufacturing uses. The proposed project and the conceptual development project do not include or require the construction or expansion of existing public recreational facilities. Therefore, development facilitated by the proposed project, including the conceptual development project, and associated recreational opportunities for use by future occupants would not result in additional environmental effects beyond those described in this document. Impacts to recreational resources would be **less than significant**.

6.3.8 Utilities and Service Systems

The following section addresses the project's potential effects on utilities and services systems such as water, wastewater, stormwater, solid waste, electricity, natural gas, and telecommunication services. Impacts to utilities and service would occur if the project increased demand for services such that new or expanded facilities would be required—and these new facilities would themselves cause environmental impacts; for example, if there would be insufficient water supply to serve the

project site; if there would be insufficient capacity to serve the project site's expected wastewater demand; or if the project generated solid waste in excess of State or local standards.

6.3.8.1 Water

The East Bay Municipal Utility District (EBMUD) Orinda Water Treatment Plant serves the project site and surrounding area.[29] Future development on the site would connect to existing water delivery systems within the vicinity of the site. Connections to existing infrastructure would take place within the adjacent public rights-of-way. Future development would connect to these existing facilities, and it is anticipated that these pipelines would have sufficient capacity to support project water and wastewater flows. However, as a condition of project approval, the project sponsor would be required to coordinate with EBMUD, the City's Fire Department, and the City's Public Works Department to assess water and wastewater flow and ensure the proposed project would comply with the applicable requirements.

Water service at the project site and in the project area is provided by EBMUD. According to the 2020 Urban Water Management Plan (2020 UWMP), EBMUD obtains approximately 90 percent of its water from the Mokelumne River watershed and transports it through pipe aqueducts to temporary storage reservoirs in the East Bay hills. EBMUD has water rights and facilities to divert up to a daily maximum of 325 million gallons per day (mgd) from the Mokelumne River.[30] Average daily water demand within the entire EBMUD service area is projected to be 254 mgd in 2030, 277 mgd in 2040, and 297 mgd in 2050.[31]

According to the Water Supply Assessment (WSA) EBMUD prepared on May 23, 2023 (Appendix K),[32] the existing land uses, which consist of surface parking, and industrial, commercial, and residential uses, have a historical water use of 13,100 gallons per day (gpd). At project build out, EBMUD estimated the proposed project would require 164,900 gpd. EBMUD's projected water demand accounts for projected growth within the region as identified by the Association of Bay Area Governments. Although implementation of the proposed project would increase water demand at the project site, the WSA indicated that the water demand of the proposed project is accounted for in EBMUD's water demand projections contained in the 2020 UWMP and provided above. Further, the WSA determined that the proposed project's future development and operations would not change EBMUD's 2050 demand projection. Therefore, EBMUD would not require new or expanded water entitlements to serve the proposed project. Therefore, EBMUD would have adequate water supply to provide water service to development facilitated by the proposed project, including the conceptual development project.

Although the WSA found that there would be sufficient water supply to serve the project, future users of the site (and all EBMUD customers) must comply with Policy EM-26 in the City of Berkeley General Plan that promotes water conservation through City programs and requirements, including

[29] East Bay Municipal Utility District. 2021. *2020 Urban Water Management Plan*. June.

[30] Ibid.

[31] East Bay Municipal Utility District. 2021. *2020 Urban Water Management Plan, Table 3-1: Average Annual Water Demand Forecast 2050 Demand Projections (MGD)*. June.

[32] East Bay Municipal Utility District. 2023. *Water Supply Assessment – Gilman Gateway Rezone Project.* May 23.

cooperation with EBMUD to make recycled water available for irrigation and other uses. Policy EM-26 of the City's General Plan, as described below, provides direction for incorporating water conservation measures into proposed projects within the city.

> **Policy EM-26:** Water Conservation. Promote water conservation through City programs and requirements.
>
> - **Action EM-26 A**: Encourage drought-tolerant landscaping and low-flow irrigation systems.
>
> - **Action EM-26 B**: Consider participation in the East Ba Municipal Utility District's East Bay-shore Recycled Water Project to make recycled water available for irrigation and other non-potable uses.

Compliance with Policy EM-26 by incorporating water conservation measures into the design of future development facilitated by the proposed project, including the conceptual development project, would ensure efficient use of water at the project site and minimize the potential water demand such that the project's impact would be **less than significant**.

EBMUD also imposes a system capacity charge on new developments to fund system maintenance and the development of new water sources. The project sponsor for future development projects, including the conceptual development project, would be required to pay this fee and undertake water conservation measures to conserve water such as the installation of low-flow toilets. In addition, the individual project sponsors would also be required to comply with the following condition of approval related to water efficient landscaping:

> ***COA: Water Efficient Landscaping*** *(prior to the issuance of any building [construction] permit)*. Landscaping, totaling 500 square feet of more of new landscaping or 2,500 square feet or more of renovated irrigated area, shall comply with the State's Model Water Efficient Landscape Ordinance (MWELO). MWELO-compliant landscape documentation including a planting, grading, and irrigation plan shall be included in site plans. Water budget calculations are also required for landscapes of 2,500 square feet or more and shall be included in site plans. The reference evapotranspiration rate for Berkeley is 41.8.

The City requires individual project sponsors to submit a Bay-Friendly Basics Landscape Checklist that includes detailed notes of any measures that would not be fully met by the project (if any).[33] Landscape improvements are required to be consistent with the current versions of the State's Water Efficient Landscape Ordinance and Section 31 of EBMUD's Water Service Regulations (Water Efficiency Requirements), which require that applicable water-efficiency measures be installed on water-using equipment at the project sponsor's expense. Future project sponsors would also be required to coordinate with EBMUD and the City of Berkeley Fire Department to assess fire flow requirements and comply with them as part of the project.

[33] City of Berkeley. 2016. *Stormwater Requirements Overview*. June 6.

6.3.8.2 Wastewater

In the city, sanitary sewage flows through the City of Berkeley's collection system to the EBMUD's North Interceptor, which then directly flows to EBMUD's Main Wastewater Treatment Plant (MWWTP) in Oakland for treatment and disposal. Berkeley's collection system consists of lower laterals and sewer mains. Buildings connect to the City's collection system through the upper laterals which are privately owned and maintained. Within the city, there are approximately 260 miles of sanitary sewer mains, with an estimated 28,000 lateral connections. The sewer mains vary from 1 to 100 years old, and vary in size from 6 to 48 inches in diameter.[34] The City, EBMUD, and the MWWTP serve the project site and the surrounding area.

The City operates sanitary sewer infrastructure in the surrounding streets and sidewalks. Facilities typically range in size from 8 inches to 18 inches in diameter. The EBMUD North Interceptor is approximately 48 inches in diameter and runs through the project site along Second Street. Future development on the site facilitated by the proposed project, including the conceptual development project, would increase wastewater generation at the project site, which would increase demand on wastewater treatment infrastructure. Future development connect to existing sanitary sewer systems within the vicinity of the site and would be required to conduct sewer capacity analysis to determine if the existing sewer infrastructure would be able to accommodate wastewater flows from the project and identify impacts to flow capacity, pipeline alignments, need for easements, and chemical and physical character of wastewater. If the sewer capacity analysis determines that there is insufficient capacity, the project sponsor would be required to improve the infrastructure to accommodate increased wastewater flows. In addition, due to the proximity of existing sewer infrastructure to the project site, such as along the Third Street frontage, future development on the project site facilitated by the proposed project, including the conceptual development project, would be required to determine if existing facilities would be impacted by additional structural loadings from development. Future projects, including the conceptual development project, would be required to identify appropriate mitigation, as necessary.

In addition, individual project sponsors would be required to coordinate with EBMUD, the City's Fire Department, and the City's Public Works Department to assess water and wastewater flow and ensure the future development would comply with the applicable requirements.

The City's sewer system is connected to trunk lines that convey flows to the MWWTP. The MWWTP has a primary treatment capacity of 320 mgd and a secondary treatment capacity of 168 mgd.[35] Storage basins provide plant capacity for a short-term hydraulic peak of 415 mgd. The average annual daily flow into the MWWTP is approximately 63 mgd, representing approximately 37.5 percent of the plant's secondary treatment capacity. Treated effluent is disinfected, dechlorinated, and discharged through a deep-water outfall 1 mile off the East Bay shoreline into San Francisco Bay.

[34] East Bay Municipal Utility District. 2021. *2020 Urban Water Management Plan*. June.

[35] East Bay Municipal Utility District. 2016. Wastewater Treatment. Website: www.ebmud.com/wastewater/collection-treatment/wastewater-treatment (accessed February 6, 2023).

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 uses a comprehensive asset management approach based on complex and evolving hydrologic and hydraulic modeling and condition assessments to repair, replace, or upgrade the City's portion of the sanitary sewer system, ultimately to aid EBMUD in eliminating discharges from their Wet Weather Facilities (which provide additional treatment capacity during storm events) by the end of 2035.

According to a capacity assessment conducted for the City's sewer system,[36] future development within the West Berkeley area includes a total projected development of 1,420 dwelling units and 2 million square feet of non-residential uses. Individual project sponsors are required to submit projected flow rate information during the building permit process to ensure whether upgrades to the sanitary sewer would be needed to meet future demand.

Future development on the project site, including the conceptual development project, would generate wastewater that will be treated and disposed by EBMUD in accordance with NPDES requirements. In addition, future development must not use any of EBMUD's wet weather treatment capacity and the property owners will be responsible for maintaining their private sewer laterals and site plumbing to ensure no water infiltration and inflow enters the sewer system pursuant to BMC Sections 17.24.030(A)(2), 17.24.030(A)(3), and 17.06.020. In the absence of an official wastewater generation estimate, wastewater generated by full buildout associated with the zoning and General Plan amendments is assumed to be 90 percent of water demand, or 148,410 gpd, which comprises less than 1 percent of the average annual daily flow of the MWWTP.[37] Therefore, the proposed project would not generate wastewater exceeding the wastewater treatment and disposal requirements of the RWQCB.

Wastewater discharges that may occur at the project site would be required to comply with the terms of the applicable MRP and may be subject to monitoring by EBMUD to ensure that the development's sewage discharge does not impair the ability of the MWWTP to meet wastewater treatment objectives and requirements. Therefore, the impact to wastewater collection, treatment, and disposal requirements would be **less than significant**.

6.3.8.3 Stormwater

Most of the existing 11.54-acre project site is covered by impervious surfaces, including existing buildings, roadways, and other paved surfaces. Future development would include new connections and upgrades to existing stormwater infrastructure. Development facilitated by the proposed project, including the conceptual development project, would result in a reduction in impervious surfaces on the site. Runoff would be treated in accordance with the applicable MRP, including C.3 requirements, before flowing to the City's storm drain. Please see Section 4.10, Hydrology and

[36] RMC Water and Environment. 2012. *Final Report, Sewer System Hydraulic Modeling and Capacity Assessment*. October.

[37] 148,410 gpd / 63,000,000 gpd = 0.0024

Water Quality, for a complete discussion of stormwater drainage facilities and associated impacts, which would be **less than significant**.

6.3.8.4 Solid Waste

The City operates its own refuse collection system. The City provides curbside recycling, compost and refuse collection services to the project site. There are two permitted landfills in Alameda County with the capacity to accommodate solid waste generated in the city: Altamont Landfill and the Vasco Road Sanitary Landfill. The combined remaining capacity of waste for these two landfills is 76 million cubic yards. According to CalEEMod, the proposed project is estimated to generate approximately 76.4 tons (58.41 cubic yards) of solid waste per year and the conceptual development project is estimated to generate approximately 68.4 tons (52.29 cubic yards) of solid waste per year. Therefore, the proposed project and conceptual development project would not exceed the combined remaining capacity of waste for these two landfills. Solid waste from the site would be transported to the Berkeley Transfer Station, located at 1021 Second Street, and then on to the Altamont Landfill and Resource Recovery Facility, near the Altamont Pass, northeast of Livermore. Future development would be served by a landfill with sufficient capacity to accommodate the waste disposal needs associated with full buildout and this impact would be **less than significant**.

The existing project site consists of industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The conceptual development project would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site. The State requires 65 percent diversion (recycling and reuse) of construction waste, and the City requires 100 percent of concrete, asphalt, and land clearing debris to be diverted from landfills. Accordingly, construction debris, such as old foundations, pavements, and structures, would be collected and hauled off site for recycling. All demolition and construction waste would be recycled consistent with State and City requirements. Individual project sponsors would be required to prepare and submit to the City a Construction Demolition Recycling Plan prior to issuance of a Demolition Permit for the proposed project. The purpose of the plan is to divert as much debris as possible from the waste stream, consistent with State and City requirements.

Prior to approval of large development projects, the City of Berkeley Zero Waste Division staff reviews proposed plans for the adequate design of trash, compost and recycling facilities. In 2022, SB 1383 was passed to reduce the amount of food scraps and other compostable materials sent to landfills. In Alameda County, SB 1383 regulations are implemented and enforced under the Organics Reduction and Recycling Ordinance, which requires composting of yard waste, food scraps and food soiled paper for all businesses, multifamily dwelling units and single-family homes. Additionally, development projects that require a use permit are required to comply with the City's COA: Recycling and Organics Collection that addresses these potential impacts

> ***COA: Recycling and Organics Collection.*** Applicant shall provide recycling and organics collection areas for occupants, clearly marked on plans, which comply with the Alameda County Organics Reduction and Recycling Ordinance (2021-02). Contact the Zero Waste Division's Recycling Program Manager, Julia A. Heath, at jheath@berkeleyca.gov.

Future development at the project site facilitated by the proposed project, including the conceptual development project, would be required to provide trash enclosure space (inside or outside for large dumpsters) and trash, compost, fiber recycling and container recycling collection bins be co-located in tenant facing trash rooms.

Therefore, the proposed project and conceptual development project would not generate solid waste in excess of local standards. Further, the proposed project would comply with all federal, State, and local solid waste statutes and/or regulations related to solid waste. Impacts relating to solid waste would be **less than significant**.

6.3.8.5 Electric Power, Natural Gas, and Telecommunications

The project site is currently served by electrical, natural gas, and telecommunications facilities. Full buildout of the project site under the new zoning district would include the use of natural gas. As described above, natural gas infrastructure currently exists on the project site. The conceptual development project would be all electric and would not require connections to natural gas infrastructure. The proposed project and conceptual development project would consist of infill development on a previously developed site that is currently served by utilities, and expansion of electrical, nature gas, or telecommunications facilities would not be required. Therefore, this impact would be **less than significant**.

6.3.9 Wildfire

The project site and adjacent areas are not located in a Very High Fire Hazard Severity Zone as mapped by CAL FIRE and is not within any State responsibility areas for fire service.[38] The project site is generally level and is in an urban area bounded by existing development. Therefore, the proposed project and the conceptual development project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and this impact would be **less than significant**.

6.4 SIGNIFICANT UNAVOIDABLE AND CUMULATIVE IMPACTS

The Draft EIR identifies significant and unavoidable impacts after implementation of mitigation measures associated with historic architectural resources, air quality (health risk assessment), and greenhouse gas (GHG) emissions (see Chapter 4.0, Setting, Impacts, and Mitigation Measures), as summarized below:

6.4.1.1 Cultural Resources

Historic Architectural Resources. The proposed project would cause a substantial adverse change in the significance of a historic resource as defined in CEQA Guidelines Section 15064.5 because implementation of the proposed project would facilitate the demolition of the existing building at 1306 Third Street, which is eligible for listing as a City of Berkely landmark and in the California Register of Historical Resources. Therefore, impacts to built historical resources would be **significant**

[38] California Department of Forestry and Fire Protection. *Fire Hazard Severity Zone Viewer* Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/ (accessed June 27, 2024).

and unavoidable. Cumulative impacts to built historical resources would also be **significant and unavoidable** (see Section 4.2.2.3 and Impact CUL-1a).

6.4.1.2 Air Quality

Project Construction Health Risk Assessment. Construction associated with the proposed project would not exceed Bay Area Air Quality Management District (BAAQMD) thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations with implementation of identified mitigation measures. However, construction associated with any future projects facilitated by the proposed project that would take place prior to demolition of the structure at 1306 Third Street (a sensitive receptor), such as the conceptual development project, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts related to exposing sensitive receptors to substantial pollutant concentrations during construction of any future projects facilitated by the proposed project that would take place prior to demolition of the structure at 1306 Third Street would be **significant and unavoidable**. Cumulative impacts to related to exposing sensitive receptors to substantial pollutant concentrations during construction would also be **significant and unavoidable** (see Section 4.5.2.3 and Impact AIR-3a.2).

Project Operation Health Risk Assessment. Operation of future projects at the project site, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations associated with increased truck traffic and could result in potential health risks that would cumulatively contribute to elevated health risks in the city. Therefore, impacts related to exposing sensitive receptors to substantial pollutant concentrations during operation would be **significant and unavoidable**. Cumulative impacts to related to exposing sensitive receptors to substantial pollutant concentrations during operation would also be **significant and unavoidable** (see Section 4.5.3.2 and Impact AIR-3b).

6.4.1.3 Greenhouse Gas Emissions

Project Operation Greenhouse Gas Emissions. If future development at the project site includes natural gas, the proposed project would be inconsistent with a GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). Inconsistency with a local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b) would result in a significant impact related to GHG emissions. Therefore, impacts related to operational greenhouse gas emissions would be **significant and unavoidable**. Cumulative impacts related to operational greenhouse gas emissions would also be **significant and unavoidable** (see Section 4.6.2.3 and Impact GHG-1a).

Inconsistency with Plans, Policies or Regulations Adopted for the Purpose of Reducing Greenhouse Gas Emissions. If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets in Assembly Bill (AB) 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. As such, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **significant and unavoidable**. Cumulative impacts related to

inconsistency with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions would also be **significant and unavoidable** (see Section 4.6.2.3 and Impact GHG-2a).

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