Bayer HealthCare LLC Development Agreement Amendment Project

Initial Study

prepared by

City of Berkeley
Department of Planning & Development
1947 Center Street, 2nd Floor
Berkeley, California 94704
Contact: Leslie Mendez, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, California 94612

May 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Bayer HealthCare LLC Development Agreement Amendment Project

Initial Study

prepared by

City of Berkeley
Department of Planning & Development
1947 Center Street, 2nd Floor
Berkeley, California 94704
Contact: Leslie Mendez, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, California 94612

May 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

This report prepared on 50 percent
recycled paper with 50 percent post-consumer content

Table of Contents

Initial Study 1
1. Project Title 1
2. Lead Agency Name and Address 1
3. Contact Person and Phone Number 1
4. Project Location 1
5. Project Sponsor's Name and Address 4
6. General Plan Designation 4
7. Zoning 4
8. Background, Setting, and Surrounding Land Uses 4
9. Description of Project 7
10. Other Public Agencies Whose Approval is Required 23
11. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1? 23

Environmental Factors Potentially Affected 25

Determination 25

Environmental Checklist 27
1 Aesthetics 27
2 Agriculture and Forestry Resources 41
3 Air Quality 43
4 Biological Resources 47
5 Cultural Resources 53
6 Energy 55
7 Geology and Soils 71
8 Greenhouse Gas Emissions 79
9 Hazards and Hazardous Materials 81
10 Hydrology and Water Quality 85
11 Land Use and Planning 95
12 Mineral Resources 99
13 Noise 101
14 Population and Housing 105
15 Public Services 109
16 Recreation 115
17 Transportation 119
18 Tribal Cultural Resources 123
19 Utilities and Service Systems 125
20 Wildfire 129
21 Mandatory Findings of Significance 133

References 137
Bibliography 137
List of Preparers 141

Tables

Table 1 Existing Buildings on the Project Site 4
Table 2 Existing and Proposed Block Systems and Development Standards 11
Table 3 New, Renovated, and Demolished Buildings on Bayer Campus by Year 30 12
Table 4 Proposed Change in Automobile Parking Standards 14
Table 5 Proposed Sustainability Features 20
Table 6 Change in Buildout Projections for Project Site under the Proposed Project 22
Table 7 Total Demolition and New Construction under the Proposed Project 23
Table 8 1991 EIR Mitigation Measures: Visual Quality and Urban Design 29
Table 9 1991 EIR Mitigation Measures: Air Quality 44
Table 10 1991 EIR Mitigation Measures: Historic Resources 53
Table 11 1991 EIR Mitigation Measures: Energy 56
Table 12 2018 Annual Gasoline and Diesel Consumption 59
Table 13 2018 Electricity Consumption 59
Table 14 2018 Natural Gas Consumption 59
Table 15 Estimated Fuel Consumption during Construction 63
Table 16 Estimated Project Annual Operational Energy Consumption 64
Table 17 Project Consistency with Applicable Energy-Related Climate Action Plan Measures 68
Table 18 Project Consistency with Applicable Energy-Related General Plan Measures 69
Table 19 1991 EIR Mitigation Measures: Hydrology and Water Quality 87
Table 20 1991 EIR Mitigation Measures: Land Use 96
Table 21 1991 EIR Mitigation Measures: Noise 102
Table 22 Project's Contribution to Projected Population Growth through 2040 106
Table 23 1991 EIR Mitigation Measures: Public Services 110
Table 24 1991 EIR Mitigation Measures: Recreation 116
Table 25 1991 EIR Mitigation Measures: Transportation and Traffic 120
Table 26 1991 EIR Mitigation Measures: Utilities and Service Systems 126

Figures

Figure 1 Regional Location 2
Figure 2 Project Site Location 3
Figure 3 Existing Building Uses and Corridors 9
Figure 4 Proposed Conceptual Building Uses at Year 30 10
Figure 5 Proposed Retention, Renovation, and Demolition of Buildings 13
Figure 6 Conceptual Illustration of the Anticipated Campus at Year-10 15
Figure 7 Conceptual Illustration of the Anticipated Campus at Year-30 16
Figure 8 Visual Simulation Vantage Points 31
Figure 9 Key Viewpoint 8 Visual Simulations 32
Figure 10 Key Viewpoint 2 Visual Simulations 33
Figure 11 Key Viewpoint 13 Visual Simulations 34
Figure 12 Key Viewpoint 15 Visual Simulations 35

Appendices

Appendix A-1 Aesthetics Analysis
Appendix A-2 Bird Strike Risk Assessment
Appendix A-3 Energy Analysis Report

This page left intentionally blank

Initial Study

1. Project Title

Bayer HealthCare LLC Development Agreement Amendment Project

2. Lead Agency Name and Address

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

3. Contact Person and Phone Number

Leslie Mendez, Senior Planner, (510) 981-7426

4. Project Location

Regional and Neighborhood Location

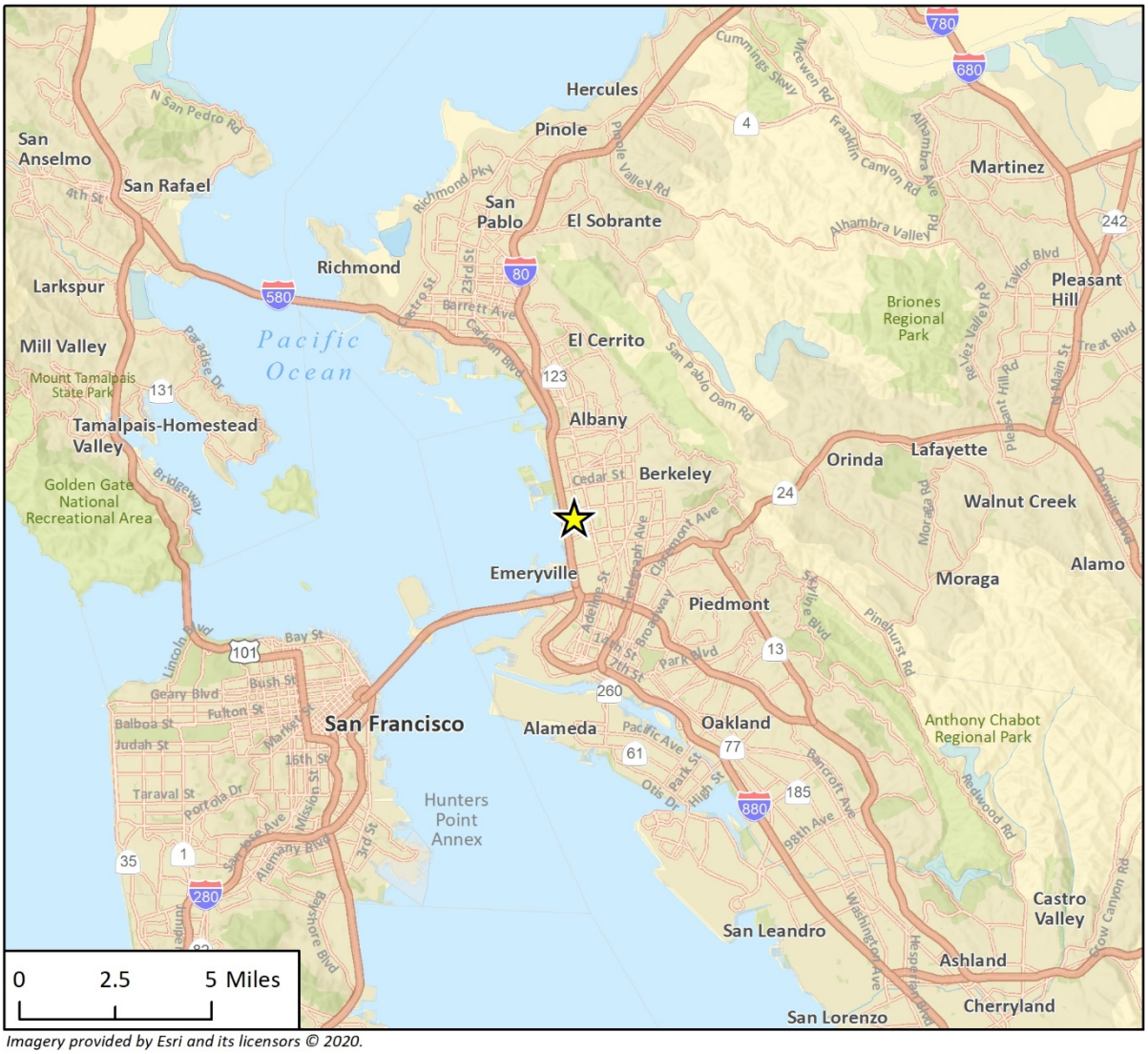
As shown in Figure 1, Regional Location, the project site is situated in the City of Berkeley. The site is in West Berkeley, as defined in the 1993 West Berkeley Plan (Berkeley 1993). West Berkeley extends from San Pablo Avenue (SR 123) on the east to the Eastshore Freeway (Interstate 80/I-580) on the west, and is bounded by the City of Albany to the north and the cities of Emeryville and Oakland to the south. West Berkeley supports a mix of land uses including manufacturing, retail, laboratory, and residential uses.

Project Site Location

The project site is Bayer HealthCare campus (generally known as the "Bayer Campus") in West Berkeley, approximately 2.5 miles west of Downtown Berkeley. As shown in Figure 2, Project Site Location, the Bayer Campus consists of approximately 46 acres generally bounded by the Union Pacific Railroad to the west, Dwight Way to the north, Seventh Street to the east, and Grayson Street to the south. In addition, the project site includes a surface parking lot on a property between Dwight Way, Seventh Street, Parker Street, and Eighth Street. The project site comprises two primary areas divided by Carleton Street:

- The North Properties at 800 Dwight Way, which includes 31.9 acres north of Carleton Street; and
- The South Properties at 801 Grayson Street, which includes 14.4 acres south of Carleton Street.

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2020.

Project Location

N

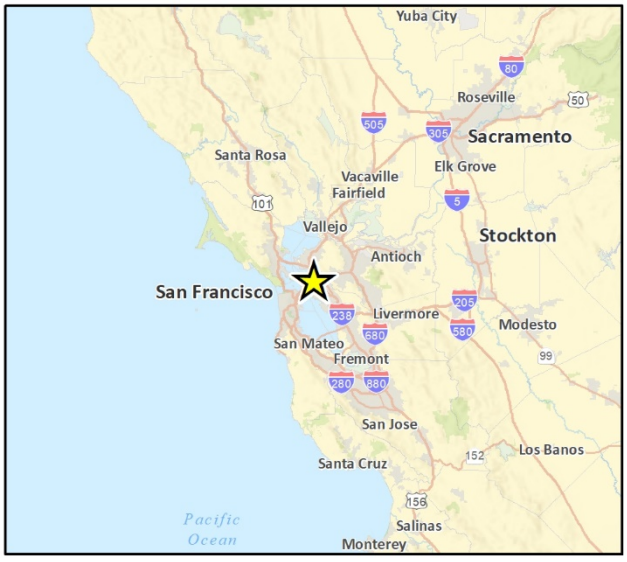


Figure 2 Project Site Location

Imagery provided by Microsoft Bing and its licensors © 2020.

Fig 2-2 Project Site Location

5. Project Sponsor's Name and Address

Bayer HealthCare LLC
800 Dwight Way
Berkeley, California 94710

6. General Plan Designation

Manufacturing

7. Zoning

The bulk of the project site, located west of Seventh Street, is zoned Mixed Manufacturing (MM). The portion of the project site to the east of Seventh Street is zoned Mixed Use-Light Industrial (MU-LI).

8. Background, Setting, and Surrounding Land Uses

Existing Site Setting and Conditions

The Bayer Campus currently has 35 buildings (counting main, annex, and temporary buildings). Table 1 lists each building and describes its functions. Building heights on the project site range from approximately 14 feet to the 100-foot building B83.[1]

Table 1 Existing Buildings on the Project Site

Building No.	Building Name	Functions
B28	GBD Laboratory	Quality control laboratory
B28A	GBD/QC Labs	Fire department and quality control laboratory
B44	Utilities	Water treatment system
B46	R&D Pathogen Safety Lab	Special access laboratory
B47	Warehouse	Spare parts warehouse
B48	Information Systems	Vacant; permitted for demolition in late 2020
B53	Office, Lab, and QA Documentation	Quality control laboratory
B54	Cold Storage	Refrigerated warehouse
B56	Engineering Offices	Engineering offices
B56A	Engineering Offices	Engineering offices
B56B	Engineering Offices	Engineering offices
B57	R&D Office and Labs	Analytical methodology laboratory
B58	Office and Auditorium	Administrative offices, auditorium
B59	Purified Water	Water treatment system
B60	rFVIII API Production	Production, biohazard storage, biotech wastewater treatment
B61	Main Electrical Substation	Electrical equipment facility
B62	Refrigeration	Process cooling

[1] Building B83 is the former Colgate-Palmolive tower on the South Properties.

Building No.	Building Name	Functions
B62A	Refrigeration	Process cooling
B63	Utilities Steam	Water treatment system
B64	Cafeteria/Administration	Administrative offices, cafeteria
B66	Clinical Manufacturing	Production, wastewater treatment
B67	Compressed Air Building	Clean dry air supply
B68	Cell Culture Technology Center[1]	Cell culture
B80	Warehouse	Product warehouse
B81	FPM Production	Sterile production, wastewater treatment
B82	Refrigeration	Process cooling
B83	Colgate-Palmolive Tower	General storage
B84	Vacant	General storage
B85	Quality Control Labs	Quality control laboratory
B87	Hazmat Storage[2]	Hazardous materials warehouse
B88	QC Office and Lab	Quality control laboratory, offices
SC-6	R&D Offices	Administrative and research offices
T6A[3]	Security	Security services
T50E	Security	Security services
T50F	Security	Security services

[1] Building B68 is currently under construction.

[2] Hazardous materials are also stored to lesser extents in B28, B28A, B44, B46, B47, B48, B53, B56A, B57, B58, B59, B60, B61, B63, B64, B66, B67, B80, B81, B82, B83, B85, B87 (Hazmat Storage), and B88, as identified in the Phase I ESA for the Bayer Campus.

[3] Building T6A is a temporary trailer.

Source: Farallon Consulting, LLC 2020a

The total floor area of existing buildings is approximately 1,087,000 square feet, including 567,000 square feet on the North Properties and 520,000 square feet on the South Properties. Existing development on the project site accommodates six land uses:

1. Production: pilot plants, processing areas, and fill and finishing areas;
2. Laboratories: research into production and manufacturing technologies, quality assurance examination and testing of therapeutic pharmaceuticals;
3. Warehouse: holding space for distribution of products;
4. Administration: offices, conference rooms, computer rooms, fitness/health facilities, security, training rooms, library, and cafeteria;
5. Utilities: equipment for water distillation, refrigeration, electrical operations, and steam generation; and
6. Maintenance: workshops and maintenance bays for repair, replacement, and preventative activities.

An ancillary use is parking. Eight surface parking lots with a total of approximately 1,082 spaces are dispersed around the project site. Most of the project site is covered with impervious surfaces (i.e., buildings or pavement) and unvegetated. However, the site includes some trees in landscaped strips around buildings and parking lots and a small amount of open space. The project site is generally flat with elevations ranging from 20 to 35 feet above mean seal level.

Background

Development Agreement for North Properties

The North Properties are subject to an existing DA between Miles, Inc. and the City of Berkeley, which was approved in February 1992. Miles, Inc. was a subsidiary of Bayer AG at the time and was consolidated into the parent company in 1995. The existing DA has a term of 30 years and expires in February 2022. The DA's Site Development Plan allows for construction of up to 1,167,000 square feet of new gross floor area, retention of up to 179,000 square feet of gross floor area in existing buildings, and associated surface parking lots or parking structures. It allows for phased construction of new buildings and phased demolition of existing buildings on the project site over the 30-year lifespan of the agreement. To date, Bayer has partially built out the additional floor area allowed under the existing DA. Bayer has also demolished 32 of the 39 buildings that were permitted for demolition on the North Properties under the original DA.

Exhibit C (Site Development Plan) in the existing DA defines permitted uses, building heights, and floor area ratios on the North Properties, and identifies the locations of permitted uses. Exhibit D (Site Development Standards) sets additional height standards; minimum roadway widths; access, parking, and loading standards; and landscape treatment standards. These site-specific development standards supersede standards in the Zoning Ordinance for the MM and MU-LI zoning districts, which were adopted in 1999. However, where the DA's development "standards are silent with regard to any standard or definition, the standards and definitions set forth in the City of Berkeley 1991 Zoning Ordinance… shall apply."

Exhibit G-8 (Environmental Protection) includes requirements for the proper use of hazardous materials, energy and water conservation, waste reduction, dust suppression, noise reduction, and seismic safety.

Exhibit J (Special Conditions) includes conditions pertaining to the processing and issuance of the discretionary approvals for the project (see also the "Land Use Review" section). This exhibit establishes the process and requirements for design review and use permit applications for future development on the North Properties.

Ordinance 6106-N.S. to adopt the original DA specified that the DA was not subject to the provisions of Chapter to 3.24 of the Berkeley Municipal Code (Landmarks Preservation Ordinance).

Use Permit for South Properties

The South Properties are subject to a Use Permit approved by the City on July 21, 2000. This permit remains in effect and does not have an expiration date. The Use Permit allows for the following actions:

- Construction of a 210,000 square-foot warehouse packaging facility;
- Construction of a 120,000 square-foot sterile fill building;
- Refurbishing and reuse of four buildings as office and warehouse space with 207,900 square feet;
- Demolition of vacant buildings;
- Construction of parking spaces; and
- Modification of applicable development standards for parking facilities.

Bayer has partially built out the South Properties under the Use Permit. The sterile fill building (B81) is 46,143 square feet, and Bayer is not seeking to expand this building to the permitted 120,000 square feet. Refurbishing and reuse of four buildings as office and warehouse space also has not occurred.

Surrounding Land Uses

The project site is bordered by a mixture of industrial, commercial, and residential land uses. As discussed above, the Bayer Campus partially surrounds three parcels on the northwest corner of Carleton Street and Seventh Street that are not owned by Bayer. These properties include a provider of industrial metal coatings (Electro-Coatings), an electronic bicycle store (Pacific E-Bike), and the former Macaulay Foundry (currently vacant).

The railroad right-of-way is immediately west of the project site. Farther to the west are the City's Aquatic Park (approximately 100 feet away), Interstate 80/580 (I-80/580), and the San Francisco Bay Trail on the west side of I-80/I-580, with the San Francisco Bay shoreline beyond.

Industrial and commercial uses occur to the south of the project site. These include manufacturers of adhesives (Henkel Corporation) to the south of Grayson Street and of medical products (Berkeley Advanced Biomaterials) on Seventh Street to the south of Grayson Street. A restaurant, 900 Grayson, is located southeast of the project site at the corner of Grayson and Seventh Street, with single family residential uses existing farther east. A day care center is located at 830 Heinz Avenue, approximately 800 feet south of the project site's frontage on Grayson Street.

Primarily commercial, educational, and institutional land uses are located to the east of the project site. Commercial, industrial, and residential uses occur to the north of Dwight Way: several multi-family residences between Seventh Street and Eighth Street; multi-family residences on Fifth Street; a mechanical engineering consulting firm (Acrokin Engineering, Inc.); a courier service (Bay Area Mailing Services); a mobility equipment supplier (Rio Mobility); a custom apparel manufacturer (G-Bear Prints); and an industrial warehouse east of the railroad tracks.

9. Description of Project

The proposed project would extend Bayer's DA, which is currently set to expire in February 2022 for another 30 years to February 2052. While the existing DA only applies to the North Properties, the proposed project would amend the DA to cover both the North Properties and South Properties. The amended DA would also modify certain development standards and other aspects of the existing DA (mainly in Exhibits C and D). Specific elements of the proposed project are discussed below.

Permitted Uses and Activities

Exhibit C of the existing DA allows six land uses in addition to the ancillary use of parking: administration, laboratories, maintenance, production, utilities, and warehouses. The proposed project would not change the type or definition of allowed land uses in Exhibit C. Currently, non-product oriented recombinant DNA (rDNA) research is prohibited in Exhibit M of the existing DA. The proposed project would revise the list of activities allowed in Exhibit M to include the following types of DNA research:

- Creating new cell lines for manufacture of protein therapeutics, viral vectors, or cell therapies using gene editing technologies such as clustered regularly interspaced short palindromic repeats (CRISPR).
- Manufacture of gene editing reagents. These include short- and long-chain RNA, nucleases, plasmids and synthetic nanoparticles. RNA molecules may be manufactured via chemical synthesis or in vitro transcription methods. Nucleases and plasmids may be manufactured using prokaryotic cells.
- Manufacture of non-replication-competent viral vectors.
- Manufacture of cell therapy products derived from stem cells or other donor cells. Cell therapy products may include engineered tissues for engraftment into humans.

To the extent not covered above, rDNA research including (1) exploration of new types of organisms as hosts and vectors for transmission of genes, or expression of genes; (2) research to develop new rDNA techniques; and (3) investigations to develop new ways to construct rDNA and new ways to insert rDNA into host cells.

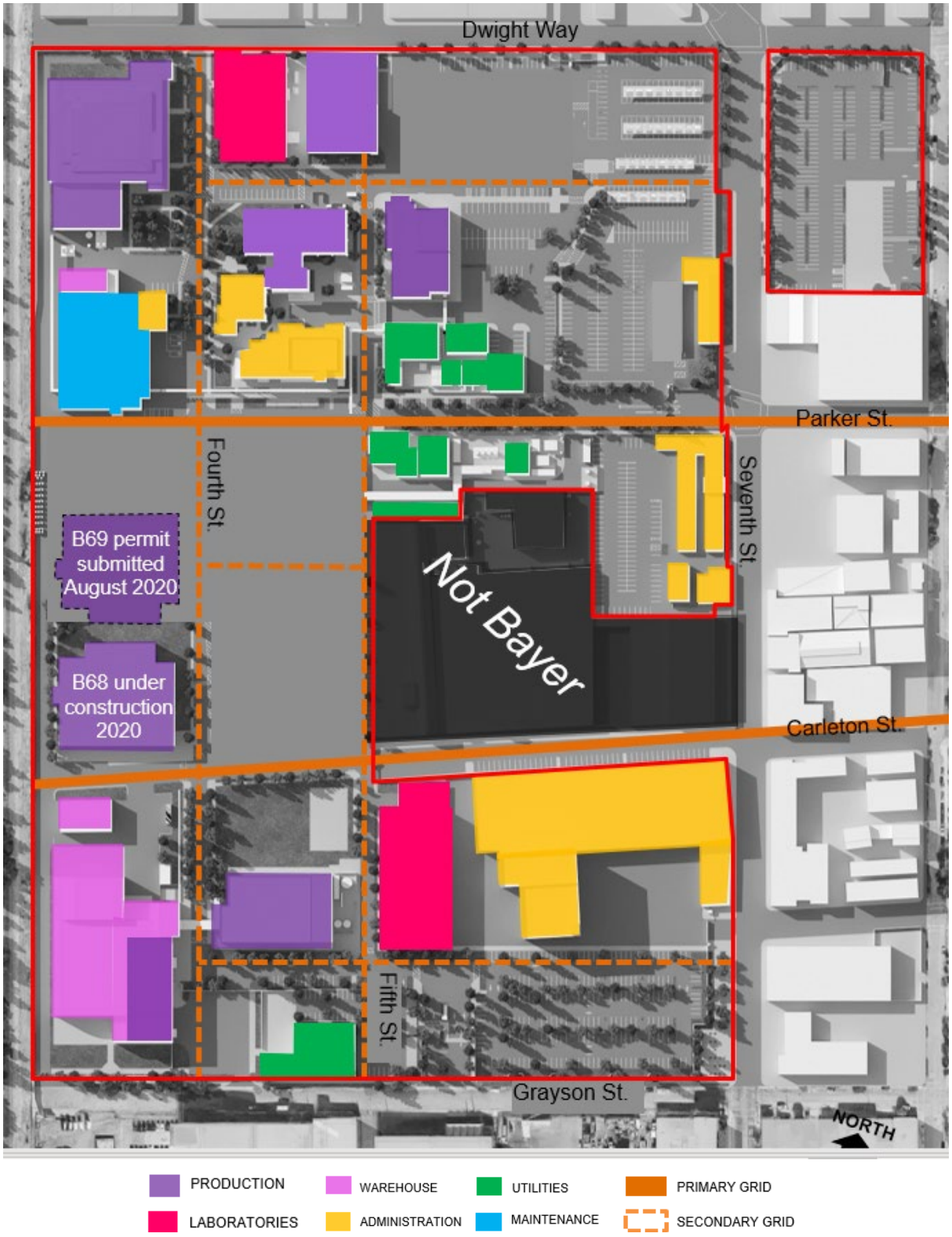
Site Layout and Massing

The proposed project would modify the location and massing of permitted uses and new development on the Bayer Campus from that shown in Exhibits C and D of the existing DA. This is intended to foster a cohesive identify, sense of place, and collaboration among Bayer's various departments, while preserving existing view corridors on Dwight Way, Parker Street, and Carleton Street. Whereas the existing DA organizes the North Properties into eight "blocks," each with certain permitted uses, the amended DA would simplify this layout into four blocks that apply to the entire project site.

Table 2 lists the development standards for the existing and proposed block systems. As shown in this table, the proposed project would alter the location of building height limits on the Bayer Campus, but the overall limit of 80 feet would remain. Currently, the north-central portion of the project site has an 80-foot height limit. The proposed project would shift the 80-foot height limit to the west-central portion of the site. The maximum floor areas per block represent maximum densities for those blocks. Consistent with the existing DA terms, surface and structural parking may not be counted toward floor area ratio nor maximum floor area square feet.

Figure 3 shows the uses of existing buildings on the project site; Figure 4 shows conceptual building uses after buildout of the amended DA.

Figure 3 Existing Building Uses and Corridors



Source: Bayer 2021

Figure 4 Proposed Conceptual Building Uses at Year 30

Source: Bayer 2021

Table 2 Existing and Proposed Block Systems and Development Standards

Block	Permitted Uses	Maximum Building Height (feet)	Maximum Floor Area per Block (sf)	Maximum Floor Area Ratio (FAR)
Existing				
I	Production Warehouse	80 45	500,000	1.84
II	Administration, Utility, Maintenance	25	30,000	0.72
III	Production Warehouse, Laboratory, Maintenance	65 45	260,000	1.52
IV	Production, Laboratory, Utility, Maintenance, Administration	45	225,000	0.58
V	Production, Warehouse, Maintenance, Utility, Laboratory	80 45	250,000	2.00
VI	Warehouse, Maintenance, Parking, Laboratory	45	160,000	0.77
VII	Administration, Laboratory	45	75,000	1.52
VIII	Administration, Parking[1]	25	30,000	0.27
South Properties	N/A	45[2]	540,000	0.86
Proposed				
A	All	65	1,500,000	1.35
B	Manufacturing All others	80 6	495,000	1.37
C	All	45	400,000	0.94
D	Administrative, Parking	45	30,000	0.27

[1] Block VIII permits both surface and structured parking.

[2] The height limit for new construction at the South Properties is governed by the MM zoning district, i.e., 45 feet; however, the existing Colgate-Palmolive tower (building B83) is approximately 100 feet tall.

Source: Bayer 2020

New, Renovated, and Demolished Buildings

The amended DA would alter the disposition of buildings (to be demolished or retained) from Exhibit C of the existing DA. Table 3 shows the new, renovated, and demolished buildings envisioned by the end of the term of the amended DA. This table excludes buildings which Bayer has already demolished in accordance with the existing DA and temporary trailers that would be removed (i.e., building T6A). shows the location of existing buildings proposed for retention, renovation, and demolition by year 30 of the amended DA.

Table 3 New, Renovated, and Demolished Buildings on Bayer Campus by Year 30

Block	New Building	Renovated Building[1]	Demolished Building[2]
North Properties			
A-North	Three production buildings for biological development Two production buildings for technology development Laboratory building	Expansion of manufacturing building (B53)	B28 B28A B57 SC-6
B-North	Six production buildings		
C-North	Administration entrance building Utilities building		B56A B56B B56
D-North	Parking structure		
South Properties			
A-South	Two laboratory/ administration buildings	Renovation of Colgate-Palmolive tower (B83)	B84 B85
C-South	Parking structure	Expansion of primary warehouse building (B80)	

[1] In addition to the renovated buildings listed in this table, the proposed project envisions expanding other maintenance facilities.

[2] The locations of buildings to be demolished are shown in Figure 5.

Source: Bayer 2020

The locations of buildings new, renovated, and demolished buildings are shown in Figure 5.

Figure 5 Proposed Retention, Renovation, and Demolition of Buildings

Source: Bayer 2021

Phasing

The project would alter the phasing plan shown in Exhibit E of the existing DA. The existing phasing plan consists of three phases: Phase I (Year 1 to 10), Phase II (Year 5 to 20), and Phase III (Year 10 to 30). Under the amended DA, buildout would occur in two phases: an initial 10-year phase through 2032, followed by a 20-year phase through 2052. Figure 6 shows the conceptual 10-Year buildout (Phase I) and Figure 7 shows the conceptual 30-year buildout (Phase II).

Parking

The project would modify the parking standards listed in Exhibit D of the existing DA by reducing the existing parking standard for laboratory buildings from 1.5 spaces per 1,000 square feet of floor area to 1 space per 1,000 square feet. In addition, while the existing DA lacks parking standards for utilities and maintenance uses, the amended DA would apply a parking standard of 1 space per 5,000 square feet for these uses. Table 4 compares the existing to proposed parking standards for land uses on the Bayer Campus. Existing standards for production, warehouse, and administration uses would remain the same.

Table 4 Proposed Change in Automobile Parking Standards

Land Use Type	Existing Parking Standard	Proposed Parking Standard
Production	1 parking space per 1,000 sf	1 parking space per 1,000 sf
Laboratories	1.5 parking spaces per 1,000 sf	1 parking space per 1,000 sf
Warehouse	1 parking space per 5,000 sf	1 parking space per 5,000 sf
Administration	2 parking spaces per 1,000 sf	2 parking spaces per 1,000 sf
Utilities	N/A	1 parking space per 5,000 sf
Maintenance	N/A	1 parking space per 5,000 sf

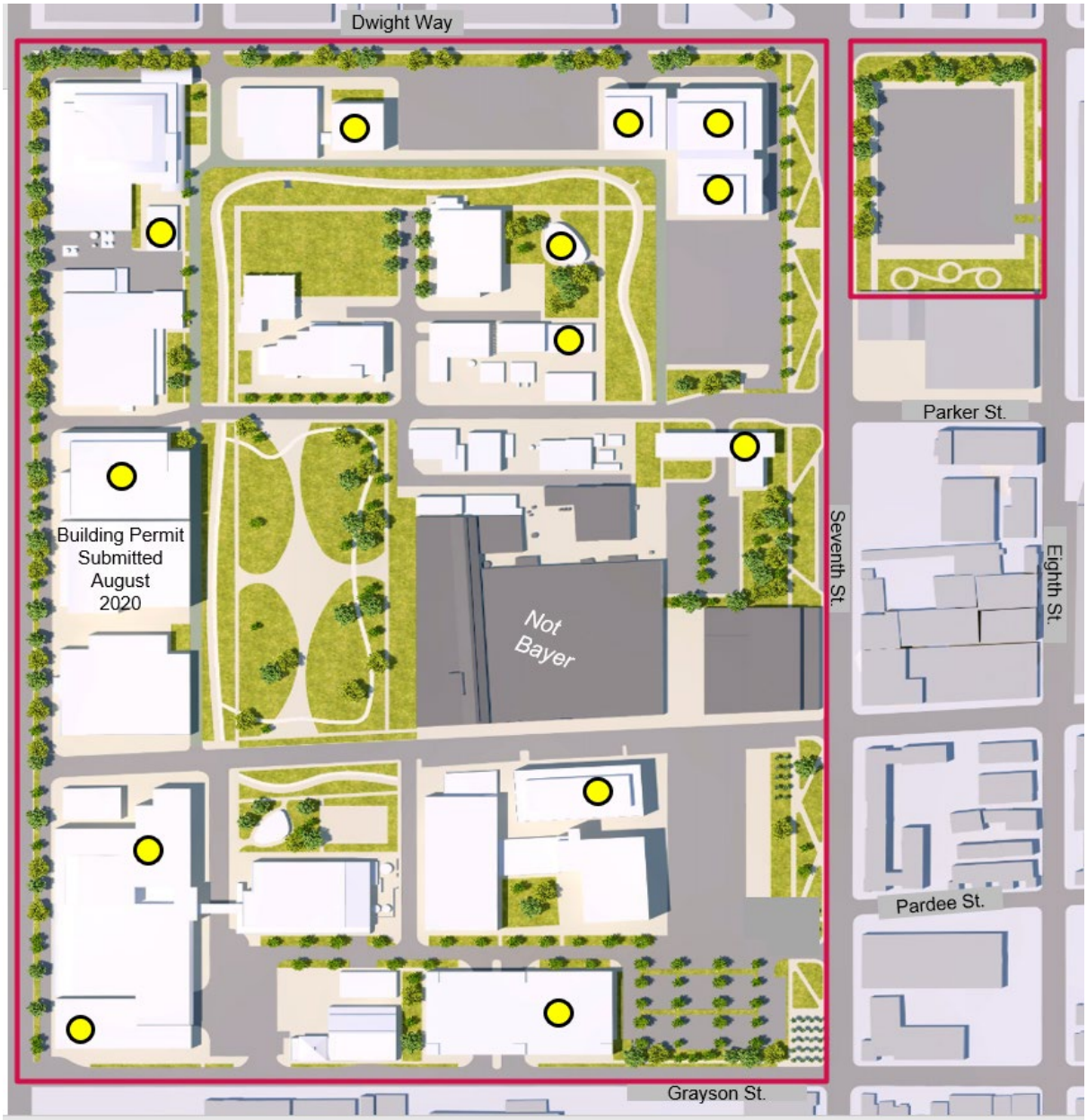
sf = square feet

Sources: Berkeley 1992; Bayer 2020

Based on the existing DA's parking standards and buildout under baseline conditions, it is projected that the Bayer Campus would have 1,965 parking spaces by the year 2052. The proposed project would reduce the parking standard for laboratories and also reduce overall buildout relative to baseline conditions. Both proposed changes would reduce the total amount of required parking to 1,825 spaces by the year 2052, a reduction of 140 spaces.

The amended DA assumes construction of one new parking structure by year 10 and a second parking structure by year 30. Most parking spaces would be located in parking structures rather than in surface parking lots, and the conceptual development plan conservatively estimates two parking garages consisting of 830 parking spaces (approximately 370,000 square feet) in a structure located in Block C-South and 925 parking spaces (approximately 410,000 square feet) in a structure located in Block D-North. New parking structures could include underground parking. The amended DA assumes that new buildings in the following areas may incorporate parking: along the northeast perimeter of the site, near the intersection of Dwight Way and Seventh Street, near the intersection of Seventh Street and Parking Street, and adjacent to building B83 near the intersection of Seventh Street and Carleton Street. The foregoing parking facilities are conservatively estimated; the amended DA's proposed development standards include provisions to allow for reduced parking insofar as such reductions are supported by a traffic study.

Figure 6 Conceptual Illustration of the Anticipated Campus at Year-10

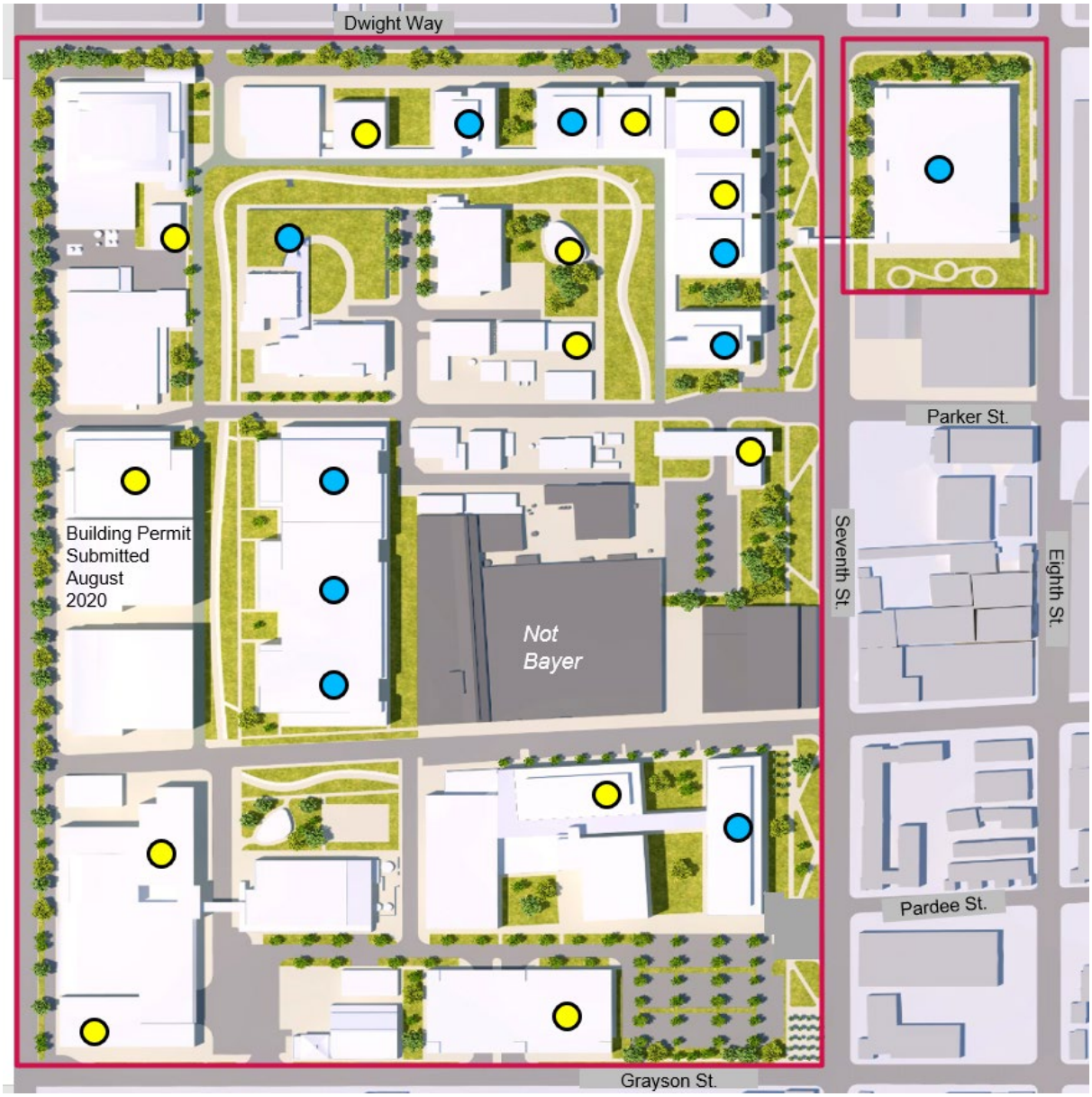


Existing buildings do not have yellow circles.

New at Year 10

Source: Bayer 2021

Figure 7 Conceptual Illustration of the Anticipated Campus at Year-30



Existing buildings do not have circles.

New at Year 30

New at Year 10

Source: Bayer 2021

Transportation demand management programs, as detailed below, reasonably could result in decreased parking demand.

The proposed project would comply with the City's current provisions for bicycle parking of1 space per 2,000 square feet of gross floor area for new floor area construction and expansions irrespective of use type. The amended DA would result in an increase in the provision of bicycle parking.

Pursuant to Exhibit G-6 of the existing DA, Bayer currently provides a Transportation Demand Management (TDM) Program to reduce single-occupant automobile trips generated by the project site. As part of the existing TDM program, Bayer funds the West Berkeley Shuttle, which operates between the Ashby BART Station and the Bayer Campus on weekdays during the peak commute periods and is used by about 120 daily riders. Other components of the TDM program include pretax transit benefits, bicycle commuting incentives including secure bicycle parking and showers, and telecommuting options for qualified employees. Bayer would continue to provide the TDM program as part of the proposed project.

In addition, Bayer currently operates its own emergency vehicle and equipment to respond to most emergency needs within the project site. Under the amended DA, this existing emergency vehicle would continue to serve the project site, and Bayer's emergency response team would continue to be supplemented by outside emergency response personnel, including the City of Berkeley's Fire Department, when necessary.

The proposed project would include pedestrian and bicycle trails located both internal to the project site and at the project frontages. These trails would be intended to provide safe and efficient bicycle and pedestrian connections between parking areas, buildings, and other amenities. At project site frontages, trails and street sidewalks would link to existing public right-of-way facilities, including sidewalks and public open space. Pedestrian amenities would include benches and outdoor eating/gathering areas. Bicycle parking would be located in proximity to trails and within a roughly five-minute walk of existing and new buildings. Bayer also currently provides three showers (for example, for employees that bike) to work, located in buildings B80 and B88, and would continue to provide showers for employees.

Consistent with the existing DA's loading standards, off-street loading docks for individual buildings would not be required because delivery and shipping of materials to and from the project site occurs from a central warehouse (Building B80).

Lighting

Exhibit I in the existing DA sets lighting standards for parking structures and surface parking lots but lacks comprehensive lighting standards. The amended DA would set comprehensive lighting standards that apply to the entire Bayer Campus. New exterior lighting would be architecturally integrated with the character of structures, energy-efficient, fully shielded or recessed, and where feasible, would utilize motion sensors or timers to prevent unnecessary energy use and light pollution. In addition, outdoor lighting fixtures would be designed and installed so that light rays are not emitted across property lines, to the extent feasible.

Hazardous Materials

The amended DA would expand an existing warehouse in the southwestern corner of the project site (B80), which would continue to receive deliveries of hazardous materials (such

as radioactive, chemical, and biological materials) to the project site. Hazardous materials would be stored in a similar manner to existing conditions: in the B87 building and in laboratories and production spaces during research, development, and manufacturing activities. Hazardous materials and petroleum products are also stored in various quantities in buildings B28, B28A, B44, B46, B47, B53, B56A, B57, B58, B59, B60, B61, B63, B64, B66, B67, B80, B81, B82, B83, B85, B88 and B90. The use of hazardous materials would occur within a slightly different development footprint, as reflected in the proposed year-30 site layout shown in Figure 7.

The disposal of hazardous waste would continue to follow protocols in the existing DA and current regulations and best practices. Medical waste is collected from various locations throughout the site by specialist contractors and delivered to B84 for removal by a licensed contractor. All waste is ultimately collected for export through the Parker Street entrance.

The proposed project would not alter the basic types of hazardous materials handled on-site. The amended DA would continue to authorize the use of risk group 1 and 2 biological agents, as defined by guidelines published by the National Institutes of Health (NIH) Recombinant Advisory Committee. Group 1 agents are bacterial, fungal, viral, rickettsia, and chlamydial agents that are found in the environment and do not cause disease in healthy humans. Group 2 includes moderate-risk agents that occur in the community and are associated with human disease of varying severity, and risks associated with such are generally similar to the risks one encounters at an outpatient medical facility. The amended DA would continue to prohibit the use of materials in risk Groups 3 and 4. In addition, the amended DA would lift the current restriction on the use of non-mammalian cells. Bayer would adhere to biosafety measures according to guidelines adopted by the NIH and the Centers for Disease Control and Prevention (CDC).

While the existing DA does not include the use of gamma irradiation devices, the amended DA plans for the installation of up to two fully-protected gamma irradiation devices.[2] These devices would be allowable equipment at production and laboratory uses on the Bayer Campus, and subsequent City approval would not be required for their installation and operation. They would be designed to enable safe operation by employees without requiring additional personal protective equipment (PPE). In terms of location, the two contemplated irradiation rooms would be situated within Block B in designated production space located along the project site's westerly edge and in designated production space located at the corner of Seventh Street and Dwight Way.

Open Space

Exhibit I of the existing DA sets design guidelines for open space, such as recommendations for types of open space (e.g., courtyards, promenades, landscape beds) and suggested locations, but does not specify the acreage of open space. The amended DA includes at least six acres of open space by year 10 of buildout and at least nine acres of open space by year 30, which would exceed the existing three acres on-site. Open space would consist of fields, sports courts, pedestrian trails, bicycle trails, outdoor eating areas, and landscaping. Most new open space would only be accessible to Bayer employees. However, the proposed project also would expand existing publicly accessible open space at street frontages. Existing public open space includes about 1.0 acre along Seventh Street and 0.3 acre along Dwight Way. The open space area along Seventh Street would be

[2] Fully protected gamma irradiation devices have a de minimis radiation output at their surface (i.e., a dose rate of less than 3 µSv/h). They require no additional protection measures to reduce radiation output, and no radiation surveillance with dosimeters is required for staff.

expanded to approximately 1.6 acres by Year 10 of the amended DA (with 0.8 acres being provided by Year 5).

Bayer would landscape open space areas with drought-tolerant species and design them to minimize water demand, in compliance with all local and state regulations. The proposed project entails the removal of no trees, and it is anticipated that future open space areas would accommodate dozens of new trees in open space areas, including along pedestrian and bicycle paths; parking areas, in part to avoid urban heat island effects; and along project frontages so as to enhance the interface between the project site and surrounding community, and promote compatibility. Species of trees and other plants would include native Californian species requiring minimal water supplies.

Utilities

Several water mains managed by the East Bay Municipal Utility District (EBMUD) serve the project site, including eight-inch diameter lines under Dwight Way, Seventh Street, Parker Street, Carleton Street, and Grayson Street; a six-inch diameter line under Fourth Street; and a 36-inch diameter main under Seventh Street. It is anticipated that the proposed project may involve upgrades to on-site water conveyance pipes and upsizing of offsite water mains. The existing eight-inch diameter pipes along Dwight Way, Seventh Street, and Grayson Street may be replaced with 12-inch diameter pipes. Upgraded utility pipes within the project site and public rights-of-way would be located from four to six feet below roadway surfaces, all consistent with existing utilities.

Under the amended DA, there would be no changes to the site's electric or gas infrastructure, with the exception that electrical transmission feeder lines might be necessary to install on the South Properties in order to ensure that the site has adequate electrical capacity.

Mechanical Equipment

The proposed project would add two new emergency back-up generators along Grayson Street, in addition to the six existing above-ground generators on the project site. It is anticipated that Bayer would replace the three remaining generators in the central portion of the site with newer models by year 30 and would retire the generator in Building B47. Bayer only operates these generators during routine tests that occur twelve times per year (for 30 minutes at a time and once a year for 1 hour) and when the primary power supply is lost. In addition, one new boiler is proposed in the North Properties.

Sustainability Features

The amended DA would include sustainability features as required by existing regulations as well as voluntary measures that go beyond regulatory compliance. Table 5 lists proposed sustainability features under the amended DA.

Table 5 Proposed Sustainability Features

Category	Feature
Transportation	▪ Provide employee vanpool/shuttle[1] ▪ Encourage telecommuting and alternative work schedules
Energy	▪ Provide infrastructure to electrify landscaping equipment ▪ Purchase 100 percent of electricity from renewable sources by 2030 such as through purchase of electricity through East Bay Community Energy (per Bayer's 2030 Sustainability Targets)[2] ▪ Obtain LEED certification or equivalent of new buildings, except where a production process makes certification infeasible[3] ▪ Install solar panels on new parking areas and rooftops of new buildings (and potentially on existing facilities) ▪ Install Energy Star appliances: laboratory ceiling fans, refrigerators, washers, dryers
Water	▪ Provide leak detection and preventative maintenance ▪ Install low-flow faucets (i.e., bathroom, kitchen, toilet, shower) ▪ Turf reduction[4] ▪ Install water -efficient irrigation systems including energy and water efficient irrigation systems and use of recycled water for irrigation/landscaping ▪ Install water -efficient landscape, including drought tolerant landscaping
Waste	▪ Purchase sustainably sourced building materials for construction ▪ Purchase environmentally preferable products for waste prevention ▪ Implement reuse/deconstruction principles in building design ▪ Use lower energy and chemicals in cleaning processes ▪ Implement a construction and demolition recycling program

[1] The shuttle service normally runs every 15 minutes during peak travel hours, timed to align with BART trains. If demand exceeds the capacity of existing shuttles, shuttles would be upsized to accommodate more people. Bayer anticipates that many employees would frequently work from home, so usage of shuttles is not expected to increase.

[2] PG&E offers 100 percent renewable electricity options. Community choice energy (CCE) programs also are capable of providing 100 percent carbon-free electricity at a rate equivalent to the electrical utility's base offering. Bayer would use one of these verified means of purchasing renewable energy by 2030.

[3] Bayer anticipates that most if not all new production buildings would feasibly attain LEED certification.

[4] In new construction, consistent with the WELO ordinance, turf would not be included.

Source: Bayer 2020

Bayer would also comply with the requirement for all-electric new construction in Chapter 12.80 of the Berkeley Municipal Code, except that Bayer anticipates the need for exemptions to provide natural gas at new manufacturing lab and production buildings. Bayer subscribes to the Montreal and Kyoto protocols for the use of refrigerants. All refrigerants used at the site would continue to be handled consistent with California and U.S. EPA regulation, which are designed to minimize any release of greenhouse gas emissions. The Bayer Campus has a fully dedicated building for refrigeration (B62) where ammonia is the primary refrigerant; ammonia has a zero value in terms of global warming potential and, therefore, there are no active plans to immediately phase out its use. In addition, Bayer would comply with the City's requirements for the provision of electric vehicle (EV) charging stations. The project site has 22 EV chargers, and Bayer anticipates having as many as 182 chargers by year 30 of the amended DA.

Special Events

Currently the Bayer Campus hosts approximately four special events per year. While the existing DA does not address special events at the North Properties, the amended DA

includes that the Bayer Campus would host about four special events per year during non-business hours, including conferences, seminars, and employee gatherings. Bayer would manage event sizes such that event-related parking demand does not exceed the on-site parking supply.

Land Use Review

The special conditions and discretionary review processes established in Exhibit J of the existing DA state that the following proposed actions require approval of an Administrative Use Permit (AUP):

- Buildings of less than 40,000 square feet;
- Temporary buildings;
- Temporary surface parking; and
- Demolition of buildings.

The project proposes to modify this process in the following ways:

- Requiring AUP approval for new construction of buildings 40,000 square feet and greater (instead of less than 40,000 square feet as under the existing DA); and
- Allowing new construction of buildings of less than 40,000 square feet, demolition of buildings, temporary trailers, and temporary surface parking by right.

For construction of buildings taller than 45 feet, the existing DA requires verification that the additional height is necessary to meet the constraints of the manufacturing process. The proposed project would add energy efficiency as an allowable justification for construction of buildings taller than 45 feet. In addition, the proposed project would memorialize the variance procedures vested into by the DA (i.e., the procedures existing in 1992), for convenience. The amended land use review procedures in the DA would include other revisions in order to conform with other amended elements of the DA, to remove antiquated procedures/considerations to streamline review where substantial environmental review has already occurred, and to be more consistent with modern zoning format expectations.

Construction

The existing DA does not include requirements for on-site construction activities, the amended DA would add the following requirements:

- Prohibition on the use of pile drivers; piles would be auger -drilled, if needed for foundations;
- Follow best management practices of the Bay Area Air Quality Management District (BAAQMD), including watering of exposed areas to minimize dust, reducing vehicle speed on unpaved roads, and minimizing idling times for heavy equipment; and Use Tier 4 equipment or electric equipment where available.

Construction activity under the amended DA also would be required to comply with required construction hours in Chapter 13.40 of the Berkeley Municipal Code. It is anticipated that construction activity would typically involve excavation to a depth of up to 10 feet below ground surface (bgs). However, excavation for pilings in areas subject to potential liquefaction hazards could extend 30 to 60 feet bgs

CEQA Baseline

The CEQA baseline for this analysis is the maximum allowable development under the existing DA at the North Properties (1,346,000 square feet), in addition to existing development at the South Properties (520,000 square feet), for a total of 1,866,000 square feet.

Existing development at the South Properties is 20,000 square feet less than the 540,000 square feet allowed by the Use Permit; however, for a conservative analysis the baseline includes existing conditions on the South Properties. It is assumed that Bayer would not utilize this remaining development potential under baseline conditions. This results in a more conservative analysis of environmental impacts associated with the projected change in buildout.

Buildout Assumptions

This Initial Study compares projected buildout of the amended DA to the allowable buildout under baseline conditions.

Projected buildout represents Bayer's proposed modified entitlement for development on the project site over the 30-year time horizon of the amended DA (through 2052). Although actual development may be less than the modified entitlement, this Initial Study assumes that maximum buildout may occur. To ensure a conservative approach in analyzing environmental effects under CEQA, EIRs typically analyze what could be considered a maximum reasonable impact scenario in order to capture as many significant environmental impacts as could be reasonably expected as a result of the project.

Table 6 compares baseline conditions to projected buildout for each land use on the Bayer Campus. Although the development potential for production and administration uses would increase with respect to baseline conditions, it would decrease for laboratory, maintenance, utilities, and warehouse uses. Production space would represent roughly half of all development potential. Accounting for all land uses on the project site, the projected buildout of 1,738,000 square feet would represent a net decrease of 128,000 square feet from the baseline buildout of 1,866,000 square feet. The projected buildout does not impose a limit on floor area for individual land uses but does place a limit on overall floor area.

Table 6 Change in Buildout Projections for Project Site under the Proposed Project

Land Use Type	Existing Entitlements[1] (sf)	Projected Buildout at Year 30 (sf)	Change in Buildout[2] (sf)
Production	793,598	978,000	+184,402
Laboratories	415,832	230,000	(185,832)
Warehouse	295,659	157,000	(138,659)
Administration	244,225	284,000	+39,775
Utilities	79,743	71,000	(8,743)
Maintenance	36,955	18,000	(18,955)
Total	**~ 1,866,000**	**1,738,000**	**(128,000)**

[1] Existing entitlements are defined as inclusive of maximum allowable buildout of the North Properties under the existing DA and existing development on the South Properties under the Use Permit.

[2] () indicates subtraction.

sf = square feet

Table 7 shows the overall proposed construction and demolition by phase for the entire campus (North Properties and South Properties combined). Total, the proposed project would involve an estimated 267,000 square feet of demolition and 918,000 square feet of new construction. Compared to existing conditions (1,087,000 square feet of development[3]), the proposed project would allow for a maximum net increase of 555,000 square feet at the North Properties and 96,000 square feet at the South Properties. This would amount to a net increase of 651,000 square feet on the Bayer Campus beyond existing conditions.

Table 7 Total Demolition and New Construction under the Proposed Project

	Existing (2020)	Year 10 (2032)	Year 30 (2052)	Total
Existing	1,087,000 sf[1]	1,188,000 sf	1,738,000 sf	–
Demolition	–	(267,000 sf)	0	(267,000 sf)
New Construction	–	368,000 sf	550,000 sf	918,000 sf

[1] The existing floor area of 1,087,000 square feet on the Bayer Campus includes the 97,000 square-foot B69 building, for which Bayer submitted a building permit application to the City in August 2020.

[2] () indicates subtraction.

sf = square feet

Currently the Bayer Campus has approximately 1,000 employees. Under baseline conditions (buildout of the existing DA on the North Properties and existing development on the South Properties), it is estimated that the project site would have 1,892 employees by the year 2052. The proposed project would result in an estimated 2,000 employees by 2052. This represents a net increase of 108 employees beyond baseline conditions, and a doubling of employees relative to existing numbers.

10. Other Public Agencies Whose Approval is Required

The proposed project would require approval of the amended DA by the City Council of the City of Berkeley. This Initial Study is intended to provide the information and environmental analysis necessary to assist the City in considering the approvals and actions necessary to adopt and implement the project.

11. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

California Native American Tribes have requested consultation pursuant to Public Resources Code Section 21080.3.1. Subsequent outreach and potential consultation will be discussed in a Subsequent EIR.

3 The existing floor area of 1,087,000 square feet on the Bayer Campus includes the 97,000 square-foot B69 building, for which Bayer submitted a building permit application to the City in August 2020.

This page intentionally left blank.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

■	Aesthetics	□	Agriculture and Forestry Resources	■	Air Quality
■	Biological Resources	■	Cultural Resources	□	Energy
■	Geology/Soils	■	Greenhouse Gas Emissions	■	Hazards and Hazardous Materials
■	Hydrology/Water Quality	□	Land Use/Planning	□	Mineral Resources
■	Noise	□	Population/Housing	■	Public Services
■	Recreation	■	Transportation	■	Tribal Cultural Resources
■	Utilities/Service Systems	□	Wildfire	■	Mandatory Findings of Significance

Determination

Based on this initial evaluation:

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

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

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

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

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

Signature	May 18, 2021
	Date
Leslie Mendez	Senior Planner
Printed Name	Title

Environmental Checklist

1 Aesthetics

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Except as provided in Public Resources Code Section 21099, would the project:						
a.	Have a substantial adverse effect on a scenic vista?	EIR Pages 5-C10 through 5-C52	No	No	No	N/A
b.	Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	N/A	No	No	No	N/A
c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	EIR Pages 5-C5 through 5-C55	No	No	No	Yes
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	EIR Pages 5C-14 and 5C-22	No	No	No	Yes

1991 EIR Summary

Chapter 5C (Visual Quality and Urban Design) of the 1991 EIR analyzes the existing DA's impacts on visual quality. This chapter identifies three important view corridors on and adjacent to the North Properties – Dwight Way, Parker Street, and Carleton Street – which provide views of open sky and trees lining or terminating the view corridors, as well as views of water on clear days. Chapter 5C provides an extensive analysis of visual impacts, organized by the three phases of development under the existing DA. Visual impacts identified in the 1991 EIR are summarized as follows:

- **Heights:** The EIR finds that buildout of the DA would result in eight to ten mid- to high-rise buildings on the North Properties, substantially increasing building heights in West Berkeley. Mitigation measures to reduce building heights to 45 feet on Seventh Street and on Dwight Way between Seventh and Eighth Streets, to step back buildings height than 45 feet, and to reduce the coverage of top floors above 45 feet were determined to substantially reduce the visual impacts.
- **Building Bulk and Compatibility with Streetscape:** The EIR finds that new building envelopes could result in "boxy buildings with unarticulated façades that turn their backs on public streets," making new buildings incompatible with streetscapes. This impact was determined to be less than significant with mitigation incorporated.
- **Architectural Identity:** The EIR finds that planned development under the DA would lack an architectural identity and a clear entrance to the project, resulting in a less than significant impact with mitigation incorporated.
- **Parking Structure:** The EIR states that the proposed parking structure along Seventh Street and Dwight Way would lack an attractive ground floor and would be incompatible with residential uses, resulting in a less than significant impact with mitigation incorporated.
- **Warehouse:** The EIR finds that a proposed warehouse on Seventh Street and Dwight Way would not be an attractive use. Mitigation measures would require reducing its height to 65 feet, articulating the long Seventh Street façade, and providing visually interesting ground-floor use. Implementation of these measures was determined to substantially reduce the warehouse's visual impact, but not to a level of insignificance. As alternatives to the above mitigation measures, the EIR provides optional mitigation measures to reduce the warehouse's height to 45 feet or relocate it to the interior of the site. These alternative measures were found to result in a less than significant impact.
- **Seventh Street and Dwight Way:** The EIR finds that the existing DA's site plan and building configurations could adversely affect urban design on the prominent corner of Seventh Street and Dwight Way, resulting in a less than significant impact with mitigation incorporated.
- **Scenic Views of Berkeley Hills and Waterfront:** At buildout of the existing DA, the EIR finds that the North Properties would be a prominent component of the viewshed from distant locations, obstructing ridgeline views from Aquatic Park and blocking waterfront views. The EIR states that mitigation to reduce building heights was rejected as infeasible by the project sponsor. Therefore, it determines that this impact on scenic views would be cumulatively significant.
- **Near-Range Views from Aquatic Park:** The EIR states that the construction of buildings up to 80 feet tall along the western side of the North Properties would adversely affect views from multiple parts of Aquatic Park, including the eastern path, the picnic area, and the west side of the park. This impact was determined to be significant even after implementation of mitigation measures.

- **Views from I-80:** The EIR determines that the DA would have a less than significant impact on views available to motorists on I-80 because existing vegetation along the freeway obscures views of the North Properties.
- **Light and Glare:** The EIR finds that glass on the western façades of production buildings could cause glare that annoys people, resulting in a less than significant impact with mitigation incorporated to prohibit the use of reflective glass or glazing that causes glare.

The 1991 EIR does not address the issue of impacts to scenic resources within state scenic highways.

Table 8 lists the mitigation measures from the 1991 EIR related to aesthetics. This list excludes most mitigation measures pertaining to aesthetics, which are narrowly tailored to specific elements of the existing DA and would not apply to the amended DA. The full list can be viewed in the 1991 EIR (City of Berkeley 1991).[4] This list also excludes mitigation measures relevant to cumulative development because the 1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Table 8 1991 EIR Mitigation Measures: Visual Quality and Urban Design

Mitigation Measure	Description
Phase 1 Impacts	
Visual Quality and Urban Design Impact 5: Glare	
Mitigation 1	Prohibit the use of reflective glass or other glazing that would cause glare as the sun sets.
Phase 2 Impacts	
Visual Quality and Urban Design Impact 17: View from Dwight Near Eighth Looking West	
Mitigation 1	The garage shall be designed to maximize visual compatibility with the low-rise, low intensity uses to the north and east.
Mitigation 2	The Eighth Street façade of the garage shall be broken up and articulated. A setback as well as landscape and streetscape amenities shall be provided. Setbacks shall also be provided along Eight[h] Street.

Source: Berkeley 1991

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

Policy UD-31 in the Urban Design and Preservation Element of the Berkeley General Plan identifies views toward San Francisco Bay, the Berkeley Hills, and landmarks such as the Campanile, Golden Gate Bridge, and Alcatraz Island as significant views (Berkeley 2001a). This policy states that construction should avoid blocking significant views. In the vicinity of the project site, Figure 24 in the Urban Design and Preservation Element also labels Dwight Way as an example of a view corridor looking toward the Berkeley Hills and waterfront. Dwight Way is adjacent to the northern boundary of the project site.

The Aesthetics Analysis prepared by FirstCarbon Solutions for the project evaluates the project's impacts on scenic vistas, including photo simulations that compare projected baseline views under buildout of the existing DA to proposed views under buildout of the amended DA (FirstCarbon Solutions 2020). Refer to Appendix A-1 of the Initial Study for the

[4] The 1991 EIR is incorporated by reference and available on the City's website at: https://www.cityofberkeley.info/Planning_and_Development/Zoning_Adjustment_Board/Bayer_Development_Agreement.aspx.

complete Aesthetics Analysis. Computer-generated visual simulations were prepared at 15 key viewpoints based on the projected change in building massing under the amended DA. Figure 8 shows the locations and directions of each key viewpoint and Figures 7 through 10 show the simulations. As discussed in the Aesthetics Analysis, street trees and buildings would partially block baseline views from Dwight Way looking east toward the Berkeley Hills. Key Viewpoints 8 and 2 show eastward viewpoints along Dwight Way near the railroad tracks and Sixth Street, respectively. These simulations indicate that building massing under the project would not alter baseline views of the Berkeley Hills from Dwight Way, which would remain partially obscured by intervening trees and development.

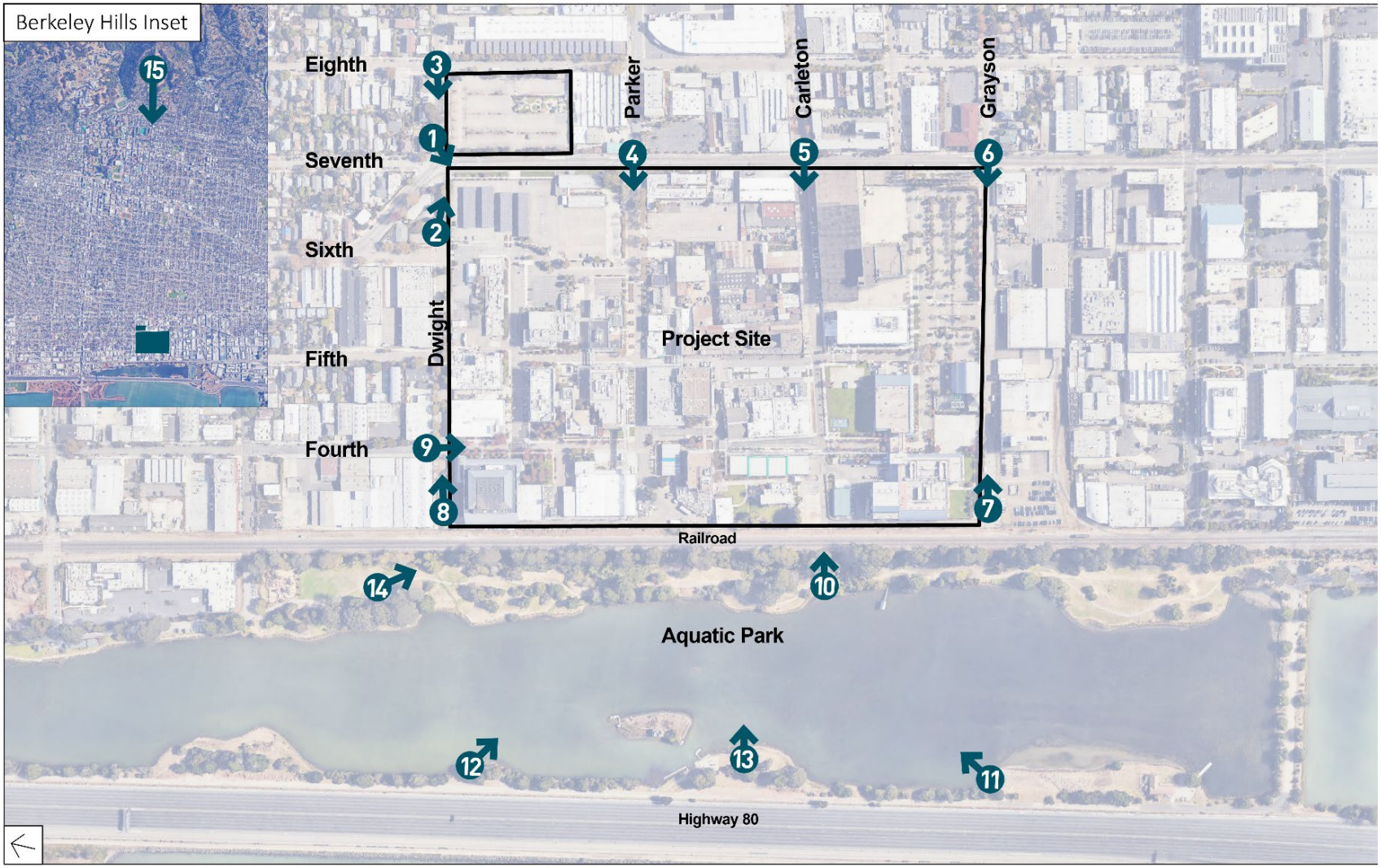
Key Viewpoint 13 in the Aesthetics Analysis simulates baseline and proposed views from the western portion of Aquatic Park, looking east toward the Berkeley Hills. This viewpoint is representative of eastward views from a trail that parallels the western boundary of the park, near I-80/I-580. Views from this vantage point primarily consist of water within Aquatic Park, as well as trees located near the park's border with the railroad tracks and “pocket views” between the trees. In combination with existing trees, buildout of the existing DA would largely obstruct views of the Berkeley Hills, leaving a small fragment of hills visible to park users. The simulation of proposed conditions shows that buildout of the amended DA would further obstruct this already limited view, blocking visibility of the Berkeley Hills. Because the baseline view would be limited in scope and largely obstructed, further obstruction of the view under the project would not amount to a substantial adverse effect on scenic vistas of the Berkeley Hills.

Key Viewpoint 15 in the Aesthetics Analysis shows westward views of the Bay from trails in the Berkeley Hills (FirstCarbon Solutions 2020). Visual simulations of baseline conditions at Key Viewpoint 15 demonstrate that buildings on the Bayer Campus would be fairly prominent features at the Berkeley waterfront and would marginally obstruct views of the Bay shoreline; however, they would not substantially infringe on views of the Bay and would not obstruct views of the Golden Gate Bridge. A simulation of proposed buildout on the Bayer Campus indicates that the project would alter the arrangement of building massing along the Bay waterfront, but such buildings would not further obstruct views of the Bay or Golden Gate Bridge. Therefore, the project would not adversely affect such scenic views.

The project site itself and intervening streets within the site offer views of the Berkeley Hills that are partially obstructed by existing trees and buildings (FirstCarbon Solutions 2020).

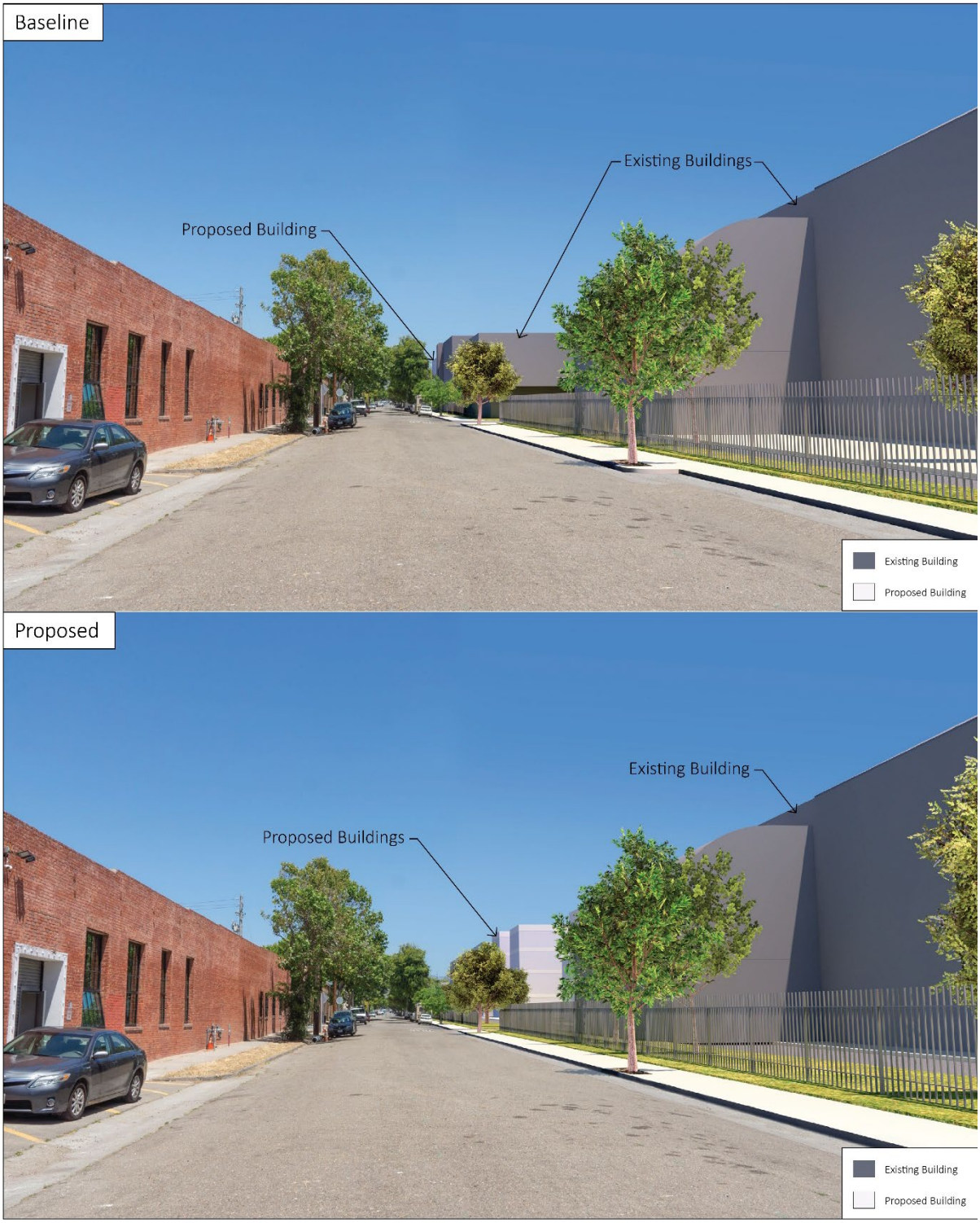
The existing DA’s setback and stepback requirements protect view corridors on Dwight Way, Parker Street, and Carleton Street. The proposed setbacks and stepbacks are intended to preserve these view corridors. Accordingly, visual simulations at Key Viewpoint 2, along Dwight Way east of Sixth Street, show no change in hillside views between baseline and project conditions. Similarly, simulations at Key Viewpoint 7, along Grayson Street east of the railroad corridor, show that hillside views next to the southern boundary of the Bayer Campus would remain visible to the same extent. Furthermore, the project would maintain the existing DA’s overall height limit of 80 feet, except for the existing 100-foot B83 building on the South Properties. Therefore, the proposed setbacks, stepbacks, and height limits would protect existing view corridors through the project site.

Figure 8 Visual Simulation Vantage Points



Source: FirstCarbon Solutions, September 2020.

Figure 9 Key Viewpoint 8 Visual Simulations



Source: FirstCarbon Solutions, October 2020.

Figure 10 Key Viewpoint 2 Visual Simulations

Source: FirstCarbon Solutions, October 2020.

Figure 11 Key Viewpoint 13 Visual Simulations

Source: FirstCarbon Solutions, October 2020.

Figure 12 Key Viewpoint 15 Visual Simulations

Source: FirstCarbon Solutions, October 2020.

Scenic vistas from gateways, key streets, scenic corridors, and scenic routes would not be substantially obstructed or degraded as a result of the implementation of the project compared to baseline (potential buildout under the existing DA) conditions. Therefore, the overall impact on scenic vistas would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

As noted above, the 1991 EIR does not address the impact of buildout of the existing DA on scenic resources within a state scenic highway. The closest designated State scenic highway to the project site is I-580 east of the Highway 24/I-580 interchange, which is located approximately 2.5 miles southeast of the site (FirstCarbon Solutions 2020; Caltrans 2019). The nearest eligible State scenic highway is the segment of State Route 13 to the southeast of State Route 24 in the Berkeley Hills, which is located approximately 3.5 miles east of the project site. The project site is not visible from either highway segment. Therefore, the project would not adversely affect views of scenic resources from any designated or eligible State scenic highway, and no impact would occur. Further analysis in the Subsequent EIR is not warranted.

NO IMPACT

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

The project site and its surroundings are fully urbanized, except for Aquatic Park to the west of the site. Therefore, this analysis focuses on whether the project would conflict with applicable zoning and other regulations governing scenic quality. This section also evaluates whether the project would substantially degrade the existing visual character or quality of public views, based on a view corridor analysis provided in FirstCarbon Solution's Aesthetics Analysis for the project (Appendix A-1).

Regulations Governing Scenic Quality

As discussed in Section 9, *Surrounding Land Uses and Setting*, site-specific development standards in the existing DA would supersede standards in the Zoning Ordinance for the MM and MU-LI zoning districts. These site-specific development standards include provisions relevant to scenic quality, such as height limits and landscape treatment standards. The project would amend the existing DA's development standards and extend their application to the entire Bayer Campus, including the North Properties and South Properties. With approval of the project, buildout of the amended DA would proceed in accordance with the revised development standards which supersede local zoning. In addition, as explained in Item 1.a, the proposed setbacks, stepbacks, and height limits would generally protect existing view corridors through the project site, preventing conflicts with Policy UD-31 in the Berkeley General Plan by generally avoiding obstruction of significant scenic views toward San Francisco Bay, the Berkeley Hills, and important

landmarks. Therefore, the project would not conflict with applicable zoning or other regulations governing scenic quality.

Visual Character and Quality

The project would allow for increased building heights on portions of the Bayer Campus, although the overall height limit of 80 feet would remain in place. It would also allow for construction of new buildings that would be visible from public view corridors. The Aesthetics Analysis prepared by FirstCarbon Solutions provides a set of visual simulations comparing baseline to proposed views at 15 key viewpoints. Refer to Appendix A-1 for the full set of visual simulations. Based on this analysis, the baseline views on the project site and adjacent areas consist of urban development (office, commercial, and residential uses) as well as Aquatic Park. The project would not alter the overall character of the project site or surrounding areas, and the project site would retain an urban industrial look, consistent with this part of West Berkeley. As shown by the simulations at key viewpoints 1 through 15, the proposed conditions would not significantly block or impair views of protected scenic corridors. Buildout of the project would retain the baseline visual character by renovating existing buildings, updating project frontages, and constructing new buildings for office and commercial uses which are in keeping with the project site's setting. The project also would expand an existing open space area at the site's frontage along Seventh Street from 1.0 acres to approximately 1.6 acres, including landscaping with drought-tolerant plants. Additional landscaping would improve existing visual quality from the perspective of viewers on Seventh Street.

Similar to the existing DA, the proposed amended DA includes a proposed parking structure to the south of Dwight Way between Seventh Street and Eighth Street. As discussed in the 1991 EIR, a parking structure in this location could present a massive and unvaried façade to the land uses on the east side of Eighth Street. Therefore, this component of the proposed amended DA would have a potentially significant impact on visual quality.

Mitigation Measures

AES-1 Parking Structure Design (Updated 1991 EIR MM)

The proposed parking structure between Dwight Way, Seventh Street, Eighth Street, and Parker Street shall be designed to maximize visual compatibility with the low-rise, low intensity uses to the north and east, in terms of the parking structure's massing, color, and adjacent landscaping. The Eighth Street façade of the garage shall be articulated to add texture and depth to the structure. A setback as well as landscape and streetscape amenities shall be provided on the perimeter of the parking structure. Stepbacks shall also be provided along Eighth Street.

Significance After Mitigation

With implementation of 1991 EIR Mitigation Measure AES-1, which has been adapted from the 1991 EIR, Bayer would design the parking structure to maximize visual compatibility with land uses to the north and east, and articulate the structure's façade and providing stepbacks along Eighth Street. These measures would avoid a degradation of visual quality near the parking structure, resulting in a less than significant impact on visual quality. This mitigation measure will be included in the Subsequent EIR's Executive Summary and in the project's Mitigation Monitoring and Reporting Program. With mitigation, there would be no

new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Light

The project would allow for redevelopment of the Bayer campus, including the construction of new buildings with interior and exterior lighting, as well as landscaped areas with outdoor light fixtures. Because the project would reduce maximum buildout of the Bayer Campus by a projected 128,000 square feet relative to baseline conditions (potential buildout under the existing DA), it is not expected that the project would result in a net increase in ambient light levels. Furthermore, the project would strengthen existing lighting standards in the DA. Whereas the existing DA sets lighting standards for certain uses like parking structures, the amended DA would set comprehensive lighting standards that apply to the entire Bayer Campus. Proposed standards would require that new exterior lighting be architecturally integrated with the character of structures, energy-efficient, fully shielded or recessed, and completely turned off or significantly dimmed at close of business hours when not essential for security and safety. In addition, they would require that all outdoor lighting fixtures be designed and installed so that light rays are not emitted across property lines, to the extent feasible. Lighting at individual buildings also would be reviewed and approved by the City of Berkeley Department of Planning and Development during design review of project plans (FirstCarbon Solutions 2020).

Consistency with these standards and practices would reduce light spillover from new sources of light onto neighboring properties to the maximum extent practicable. With implementation of these lighting standards, the project would not generate substantial ambient light that adversely affects views, and this impact would be less than significant.

Glare

New and renovated buildings on the project site could generate glare if they have reflective windows or exterior surfaces, especially on western façades toward the setting sun. Pages 5C-14 and 5C-22 of the 1991 EIR find that glass windows on new buildings along the western property line could generate glare that is hazardous to motorists on I-80 and annoying to users of Aquatic Park. While the project would largely maintain existing buildings along the western property line, it would still involve the construction of new or renovated buildings in this area. Therefore, it could introduce significant new sources of glare near the western property line. The project would increase the setback between on-site buildings and Seventh Street, with additional trees planted, which would obstruct sightlines to and from reflective windows in the eastern portion of the Bayer Campus. However, the project would have a potentially significant impact related to glare near the western property line.

Shadows

The height and massing of new and renovated buildings on the project site would affect shadows cast on neighboring properties. As discussed in Section 8, *Description of Project*, the project would alter the location of building height limits on the Bayer Campus, but the overall limit of 80 feet would remain. Currently, the north-central portion of the project site

has an 80-foot height limit. The project would shift the 80-foot height limit to the west-central portion of the site, along the railroad tracks. Proposed changes to height limits, as well as to setbacks, stepbacks, and minimum building corridors, would alter shadow effects.

A shadow study prepared by FirstCarbon Solutions finds that the project would marginally increase the amount of shadows cast from the project site relative to baseline conditions (potential buildout under the existing DA) (Appendix A-1). For the most part, increased shading would affect the Bayer Campus itself, without extending to neighboring properties. However, additional shading would occur at the following sensitive uses: Aquatic Park and two residences on the north side of Dwight Way between Seventh Street and Eighth Street. In the morning between the spring and fall, the project would result in extended shadows in wooded areas that are already shaded. Additional shadows would not affect sensitive areas at Aquatic Park such as trails.

The two residences along Dwight Way would experience additional shadows on portions of their front yards during morning and evening time periods near the winter solstice (Appendix A-1). However, existing street trees already shade these areas, and it is expected that project-related shadows would not be noticeable. At no other times during the year would buildout of the project cast shadows onto sensitive uses. In addition, the project would not cast shadows onto the residences' roofs or windows and would not inhibit potential solar photovoltaic electricity generation. Therefore, impacts related to shadows and shade would be less than significant.

Mitigation Measures

AES-2 Glare Reduction (Updated 1991 EIR MM)

For new and renovated buildings along and visible from the western property line, the use of reflective glass or other glazing or highly reflective exterior materials that would cause glare as the sun sets shall be prohibited.

Significance After Mitigation

With implementation of 1991 EIR Mitigation Measure AES-2, which has been adapted from the 1991 EIR, new and renovated buildings under the amended DA would not cause glare that is hazardous to motorists on I-80 or annoying to users of Aquatic Park. In addition, implementation of Mitigation Measure BIO-2, as detailed in Item 4, *Biological Resources*, would reduce glare from reflective surfaces near the western property line, for the purpose of protecting birds at Aquatic Park. As a result, the proposed project would have a less than significant impact from light or glare with mitigation incorporated. This mitigation measure will be included in the Subsequent EIR's Executive Summary and in the project's Mitigation Monitoring and Reporting Program. With mitigation, there would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

This page left intentionally blank

2 Agriculture and Forestry Resources

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	N/A	No	No	No	N/A
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	N/A	No	No	No	N/A
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	N/A	No	No	No	N/A
d. Result in the loss of forest land or conversion of forest land to non-forest use?	N/A	No	No	No	N/A
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	N/A	No	No	No	N/A

1991 EIR Summary

The 1991 EIR does not address the issue area of agricultural and forestry resources.

Impact Analysis

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

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

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

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

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

The project site is located in an urban area in the city of Berkeley. There are no agricultural resources, Williamson Act-contracted land, or forest land located on or near the project site. The California Department of Conservation classifies the site and all surrounding properties classified as “Urban and Built-Up Land” (2016). The project would not allow for conversion of agricultural land to non-agricultural uses or result in the loss of forest land or conversion of forest land to non-forest use. The site’s urban zoning designations and land uses would not change. Therefore, the project would have no impact related to agricultural resources. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

3 Air Quality

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:						
a.	Conflict with or obstruct implementation of the applicable air quality plan?	N/A	Yes	Yes	No	N/A
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	EIR Pages 5F-5 through 5F-12	Yes	No	No	No
c.	Expose sensitive receptors to substantial pollutant concentrations?	EIR Pages 5F-7 to 5F-8	Yes	Yes	No	No
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	N/A	Yes	Yes	No	N/A

1991 EIR Summary

Chapter 5F (Air Quality) of the 1991 EIR analyzes the existing DA's air quality impacts. This chapter does not address the issues of conflicts with air quality plans or other emissions such as odors.

Table 9 lists the 1991 EIR's mitigation measures related to air quality. This list excludes mitigation measures relevant to cumulative development because the 1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Table 9 1991 EIR Mitigation Measures: Air Quality

Mitigation Measure	Description
Demolition and Construction Impacts	
Impact 1: Asbestos	
Mitigation 1	Miles Inc./Cutter biological will follow accepted asbestos abatement standards for removing friable asbestos from existing buildings prior to demolition. The asbestos will be removed from the site and disposed by a licensed contractor.
Mitigation 2	If, despite mitigation, residual asbestos-containing material is discovered during demolition, all activity on the site would be discontinued until all proper safety procedures can be implemented by qualified personnel.
Impact 2: Building Decontamination	
Mitigation 1	To assure that *Yersinia pestis* is completely inactivated, the building will be decontaminated by fumigation. The effectiveness of the treatment will be verified with swab sampling, which involves culturing samples to indicate the presence or absence of the plague organism.
Impact 3: Fumigation	
Mitigation 1	To protect workers and the environment, the plague building would be sealed prior to the release of formaldehyde. That is, the air handling systems would be turned off and all entrances would be closed. (This is a BL3 building, which is described in Volume 2, Technical Appendix to this EIR.) The formaldehyde would be released and would be combined with potassium permanganate, which would form a vapor. The formaldehyde would settle back into a solid state by the next day, Workers would enter with respirators to remove the black dust that forms and dispose of it according to the pertinent regulations.
Impact 4: Construction Dust	
Mitigation 1	When Miles Inc./Cutter Biological applies for a use permit to build components of the project, estimates of particulate generation will be made.
Mitigation 2	Unpaved construction sites will be sprinkled with water at least twice per day to moisten loose dirt, thereby reducing the likelihood that individual particles will be required whenever the wind speed exceeds 15 mph.
Mitigation 3	Stockpiles of soil, sand, and other such materials will be covered.
Mitigation 4	Trucks hauling debris, soil, sand, or other such materials will be covered.
Mitigation 5	Streets surrounding construction sites will be swept at least once per day to minimize the amount of construction-generated particulates lifted into the air by automobiles traveling on these streets.
Mitigation 6	Paving and planting will be done as soon as possible to cover or consolidate loose dirt.
Mitigation 7	If Berkeley Department of Health and Human Services (DHHS) determines that dust is an extreme health hazard, despite all mitigations, Miles Inc./Cutter Biological will cooperate with the City in taking further measures recommended by DHHS *to ensure that dust is reduced to a level of significance acceptable to DHHS.*
Impact 5: Construction Vehicles	
Mitigation 1	Miles Inc./Cutter Biological shall specify in the construction contracts that construction equipment engines shall not be kept idling when not in use and should receive periodic maintenance. This would reduce emissions of air pollutants associated with their se and, consequently, reduce the likelihood of spot violations of the CO standards and odor complaints

Mitigation Measure	Description
Operational Impacts	
Impact 10: Nitrogen Oxide (NO_x)	
Mitigation 1	Miles Inc./Cutter Biological must apply for a permit from the BAAQMD and comply with any applicable regulations requiring modification of operations and/or installation of pollution control equipment such that NO_x emissions are reduced.
Mitigation 2	Miles Inc./Cutter Biological could elect to modify the operations of the boilers and/or install pollution abatement equipment to reduce NO_x even if not required by BAAQMD. Reductions of 70 – 90% are possible.
Impact 12: Emissions from Fuel Oil Combustion	
Mitigation 1	Miles Inc./Cutter Biological is required to apply to the BAAQMD for a permit to operate the new boiler with fuel oil. The boiler will comply with BAAQMD regulations requiring the installation of emissions abatement equipment and the use of fuel containing less than 0.5% sulfur

Source: Bayer Healthcare 2020

Impact Analysis

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

The updated regulatory setting with regard to the 2017 Plan would represent a change in the circumstances under which the 1991 EIR was written. In addition, the project would alter the existing DA's buildout and the size of land uses on the Bayer Campus, affecting the levels of construction-period and operational emission of air pollutants. Modeling of air pollutant emission using CalEEMod would be needed to determine if the project would be consistent with the 2017 Plan's goals and control measures. Therefore, the project could have a potentially significant impact related to conflicts with air quality plans, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

The construction and operation of new facilities during buildout of the project would generate emissions of air pollutants. As discussed in Item 3.a, the project would alter the existing DA with respect to buildout and the size of land uses on the Bayer Campus, requiring further analysis to estimate construction-period and operational emissions generated by the project. Because modification of buildout under the DA could result in emissions that conflict with the BAAQMD's criteria, this impact would be potentially significant and will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

Sources of pollutant concentrations that can adversely affect sensitive receptors near a project site include and toxic air contaminants (TACs). The BAAQMD's 2017 *CEQA Air Quality Guidelines* provides criteria for determining significant impacts related to TAC emissions. This current regulatory setting would represent a change in the circumstances under which the 1991 EIR was written. In addition, construction activity during buildout of the amended DA could potentially expose sensitive receptors to temporary health hazards associated with TACs generated by construction equipment. Therefore, the project would have a potentially significant impact from the exposure of sensitive receptors to pollutant concentrations, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

The 1991 EIR does not analyze the issue of odors and other emissions, but construction activities on the project site would potentially generate odors from vehicle exhaust and fumes from fuel and architectural coatings. Therefore, this impact would be potentially significant and will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

4 Biological Resources

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	N/A	No	No	No	N/A
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	N/A	No	No	No	N/A
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	N/A	No	No	No	N/A

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	N/A	No	No	No	N/A
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	N/A	No	No	No	N/A
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	N/A	No	No	No	N/A

1991 EIR Summary

The 1991 EIR does not address the issue area of biological resources.

Impact Analysis

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

The project site is located in an urbanized part of Berkeley. Most of the project site is covered with impervious surfaces (i.e., buildings or pavement) and unvegetated. However, the Bayer Campus includes some trees in landscaped strips around buildings and parking lots. Typical observed bird species in developed areas of California like the project site include American crow (*Corvus brachyrhynchos*), California gull (*Larus californicus*), mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), common sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and Canada goose (*Branta canadensis*) (Appendix A-2). Rare, sensitive, or special-status species, including birds, that require specific habitat conditions do not typically use developed areas.

Nonetheless, trees and other vegetation on-site could potentially provide habitat for migratory birds protected by the California Fish and Game Code, serving as nesting sites. Buildout under the proposed amended DA would involve vegetation removal as part of redevelopment of the Bayer Campus over the 30-year period of the amended DA. Impacts to protected nesting birds could occur if active nests are present in vegetation to be removed, or if birds in the vicinity are disturbed.

Potential buildout under the proposed amended DA also would allow the construction of new multi-story buildings that can cause injury or mortality in birds. Although the project would maintain the existing DA's overall height limit of 80 feet, new multi-story buildings allowed under this height limit could cause "bird strikes." This refers to birds in flight mistaking reflective glass for open air and colliding with windows, resulting in injury or death. Bird strikes may be the largest single cause of human-related avian mortality in the U.S. (Klem Jr. 1990). Potential victims are fit and unfit birds alike, of abundant as well as rare, threatened, and endangered species.

The project site's proximity to important bird habitat increases the likelihood of bird strikes. The Bayer Campus is approximately 100 feet east of the Eastshore Wetlands, which includes Aquatic Park and other bayshore lands. The Audubon Society recognizes these wetlands on the margins of the San Francisco Bay as an Important Bird Area with global significance (Audubon 2004; Appendix A-2). The Eastshore Wetlands is situated on the coastal migration path of the Pacific Flyway, one of the four flyways used by migratory birds in North America. Some migratory species pass through the Bay Area region, flying southward in autumn en route to their winter feeding grounds, then returning northward in spring to establish territories in summer breeding grounds. Additionally, resident bird species are well-adapted to urban life, and may remain in the region year-round.

In September 2020, FirstCarbon Solutions prepared a Bike Strike Risk Assessment for the proposed amended DA project (Appendix A-2). This study notes that a wide range of waterfowl are known to occur at Aquatic Park, including but not limited to mallards, Canada geese and American coots, and shorebirds such as willets, black-necked stilts, as well as brown pelicans and several species of gulls and terns, double-crested cormorants, snowy egrets, great egrets, black-crowned night herons, great blue herons, northern harriers and belted kingfishers (Appendix 2). Based on a reconnaissance-level avian and avian habitat survey of the project site and its surroundings on July 23, 2020, some portions of Aquatic Park along the project site include shrubs and trees that would be in direct line-of-sight of the west-facing facades of new buildings on-site. These shrubs and trees provide well-utilized bird habitat for land-based birds, including passerines, corvids, and potentially birds of prey that nest, forage or perch in trees and shrubs.

FirstCarbon Solutions estimates that the project would result in 2,250 square feet of glazed surface area on the building façades looking toward the avian habitats of Aquatic Park, which would represent a net decrease of 38 square feet from baseline conditions on the project site (2,212 square feet) (Appendix A-2). This could lead to an incremental decrease in potential bird strikes. However, as discussed above, reflective glass on west-facing facades at new buildings could result in fatal window collisions. Head trauma after birds leave a perch in an attempt to reach habitat seen through or reflected in clear and tinted panes can result in death. The extent of bird fatality through window collision is correlated with the surface area of untreated transparent or reflective glass. Additionally, transparent glass under certain conditions (including in combination with nighttime indoor lighting) may be perceived by birds as clear flight path, potentially resulting in injury or death.

Therefore, impacts to special-status species, with regard to both nesting birds and bird strikes at new buildings, would be potentially significant.

Mitigation Measures

The following mitigation measures are required to reduce impacts to less than significant levels.

BIO-1 Nesting Bird Surveys and Avoidance

Demolition, grading, construction and tree removal activities shall be conducted outside of the migratory bird nesting season (February 1 through August 31) to reduce any potentially significant impact to birds that may be nesting in the project site. If construction and tree removal activities must occur during the migratory bird nesting season, an avian nesting survey of the project site shall be conducted for active nests of protected migratory birds. The avian nesting survey of areas that would be affected by construction and tree removal activities shall be performed by a qualified wildlife biologist within seven days prior to the start of ground or vegetation disturbance or building demolition activities. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans, along with an appropriate no disturbance or protection buffer based on site conditions, which shall be determined by the biologist based on the species sensitivity to disturbance (generally, standard buffers can be 50-250 feet for passerines and 250-500 feet for raptors and special-status species, but site- and species-specific adjustments can be made within the discretion of the biologist, with different buffers established with respect to different levels of disturbance). Work within the nest avoidance buffer shall be prohibited or otherwise restricted per requirements determined by the biologist until the juveniles have fledged. The nest buffer shall be demarcated in the field with flagging and stakes or construction fencing.

BIO-2 Bird Strike Avoidance

New structures or structures undergoing exterior renovations shall include the following:

- One hundred (100) percent of the window area of the west-facing façades of new, expanded, and renovated buildings adjacent to or directly visible from Aquatic Park shall consist of verified bird-safe glazing products, e.g., American Bird Conservancy-endorsed products such as Arnold Glass Ornilux Mikado, Acopian Birdsavers, Bendheim Channel Glass, GlasPro Bird Safe Glass, Guardian Glass SunGuard SN68, Viracon, or others. Alternatively, the reflective or transparent surface area visible to the west-facing frontage of the property shall employ bird-safe glazing treatments, including fritting, netting, permanent stencils, frosted glass, exterior screens, physical grids placed on the exterior of glazing or UV patterns visible to birds. To qualify as bird-safe glazing treatment, vertical elements of the window patterns shall be at least 1/4-inch wide at a maximum spacing of 4 inches, or have horizontal elements at least 1/8-inch wide at a maximum spacing of 2 inches.
- Automatic shades shall be installed on windows and shall be programmed to operate between 10:00 p.m. and sunrise on new building facades facing the western boundary of the project site. Non-emergency exterior lighting shall be shielded to minimize light emission.
- Transparent glass shall not be allowed on rooftops of new, expanded, and renovated buildings, including in conjunction with green roofs.
- The cumulative area of glass façades for newly constructed or expanded buildings facing the project site's westerly boundary shall not exceed 2,250 square feet.

Prior to issuance of a building permit, Bayer shall provide to the City site plans or specifications demonstrating compliance with the above bird-safe construction requirements.

Significance After Mitigation

With implementation of Mitigation Measure BIO-1, nesting birds would be protected from disturbance during construction on the project site. Mitigation Measure BIO-2 has been adapted from the Bird Strike Risk Assessment (Appendix A-2). Implementation of this measure would minimize the risk of bird strikes to the extent feasible, by requiring glazing of windows at new, expanded, and renovated buildings facing Aquatic Park, using control mechanisms for light fixtures that reflect off buildings surfaces, prohibiting transparent glass at rooflines, and restricting the area of glass façades to no greater than under baseline conditions. Bird-safe treatment of transparent or reflective surfaces and/or shading enables birds to recognize glazed surfaces with bird-safe treatment as solid obstacles from a great enough distance to avoid collision. After implementing these measures, the project would have a less than significant impact on birds and other special-status species. These mitigation measures will be included in the Subsequent EIR's Executive Summary and in the project's Mitigation Monitoring and Reporting Program. With mitigation, there would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

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

The project site is located in an urbanized part of Berkeley, and most of the site is covered with impervious surfaces (i.e., buildings or pavement). There are no riparian areas or other sensitive natural communities on or directly adjacent to the project site. According to the National Wetlands Inventory, the nearest mapped wetland area to the project site is the lagoon at Aquatic Park, which is located at least 100 feet west of the project site (USFWS 2020). Development or ground disturbance under the amended DA would not take place within at least 100 feet from the lagoon or its banks. Because the project site lacks sensitive natural communities and protected wetlands, the project would not have a direct adverse effect on such biological resources.

As discussed in Item 10, *Hydrology and Water Quality*, due to groundwater seepage into Aquatic Park, there is a potential for pharmaceutical and other activities on the project site to contribute to water pollution in freshwater wetlands at the park. However, with implementation of Mitigation Measures HWQ-1 through HWQ-7, adapted from the 1991 EIR, Bayer would continue to control pollutants at the source, contribute to monitoring of groundwater seepage into the park's wetlands, and contribute to remediation if necessary. Therefore, the project would have a less than significant impact on sensitive natural communities with mitigation incorporated. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

As discussed in Item 4.a, the project site faces important bird habitat at Aquatic Park that is part of a key flyway for migratory birds. The project would allow for the construction of new buildings with reflective façades looking toward Aquatic Park, which could result in injury or mortality to migratory birds from bird strikes. This would interfere with the movement of migratory wildlife. However, with implementation of Mitigation Measure BIO-2, listed above, the project would minimize the risk of bird strikes. In addition, the project site itself is an urbanized part of Berkeley and lacks natural habitats or riparian corridors, and does not connect habitat or open space areas. Therefore, with mitigation incorporated, the project would not interfere substantially with wildlife movement, and this impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The City's Oak Tree Removal Ordinance protects single-stemmed coast live oak trees with a circumference of 18 inches or more and multi-stemmed coast live oak trees with an aggregate circumference of 26 inches or more (Berkeley 1998). The project would not involve removal of coast live oak trees. Therefore, it would not conflict with City's tree protection ordinance, and no impact would occur. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

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

No adopted Habitat Conservation Plans, Natural Community Conservation Plans or other approved local, regional, or state habitat conservation plans apply to the project site. Therefore, the project would have no impact on implementation of such plans. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

5 Cultural Resources

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:						
a.	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	EIR Pages 5D-7 to 5D-8	Yes	Yes	No	No
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	N/A	Yes	No	No	N/A
c.	Disturb any human remains, including those interred outside of formal cemeteries?	N/A	Yes	No	No	N/A

1991 EIR Summary

Chapter 5D (Historic Resources) of the 1991 EIR analyzes the existing DA's impacts on historic resources. The 1991 EIR states that buildout of the DA would involve demolition of Building 12, a locally designated Structure of Merit. However, the 1991 EIR finds that this building is most visible from the south side, where major modifications to its original structure can be seen. Therefore, the 1991 EIR determines that demolition of the building would result in a less than significant impact on historic resources. The loss of Building 12 is nonetheless considered a contribution to the overall loss of historic buildings in Berkeley, which the 1991 EIR finds to be a significant cumulative impact. The 1991 EIR did not address archaeological resources or human remains. Building 12 was demolished in 2001 after receiving all necessary approvals. Table 8 lists the mitigation measures from the 1991 EIR related to historic resources.

Table 10 1991 EIR Mitigation Measures: Historic Resources

Mitigation Measure	Description
Historic Resources Impact 1: Building 12	
Mitigation 1	If Building 12 were to be demolished, one of the several measures could be taken to mitigate the loss. A model or plaque could be constructed or photographs could be taken of Building 12 to explain the historic significance of this building to industrial development in West Berkeley. The model, photographs, or plaque should be placed in a location visible to the public.

Source: City of Berkeley 1991

Impact Analysis

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

Since the turn of the twentieth century, the project site and its vicinity have been characterized primarily by industrial development (see the Cultural Resources Technical Report in Appendix D to the Subsequent EIR). This history is reflected in the Bayer Campus' architecture, which includes approximately 30 low-to-mid-rise industrial and office buildings constructed between 1918 and 2019. While most buildings on the campus are utilitarian and industrial in character, several buildings constructed in the twentieth century exhibit characteristics of a varied range of architectural styles, including Streamline Moderne, Late Moderne, Mid-Century Modern, and Brutalism. The project would involve demolition or modification of 10 buildings on the Bayer Campus, including buildings that were not planned for alteration in the 1991 EIR. By virtue of their age, these buildings could potentially be eligible for listing as historic resources. Therefore, a survey will be conducted to determine the historic eligibility of buildings that are proposed for demolition. The change in proposed demolition and modification of buildings under the proposed amended DA, as compared to the existing DA, would have a potentially significant impact on historic resources, and this issue will be analyzed further in the Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

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

Buildout of the project would involve substantial ground disturbance on the Bayer Campus. It is anticipated that construction activity would typically involve excavation to a depth of up to 10 feet below ground surface (bgs). However, excavation for pilings in areas subject to potential liquefaction hazards would extend up to 30 to 60 feet bgs. Ground disturbance over the 30-year life of the amended DA would have the potential to disturb archaeological resources and human remains. The change in proposed ground disturbance relative to the existing DA would have a potentially significant impact on archaeological resources and human remains, and this issue will be analyzed further in the Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

6 Energy

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:						
a.	Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Final EIR Pages 5M-1 through 5M-5	No	No	No	N/A
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Final EIR Pages 5M-1 through 5M-5	No	No	No	Yes

1991 EIR Summary

Chapter 5M (Energy and Waste) of the 1991 EIR analyzes the existing DA's impacts on energy. The chapter describes that operation under the existing DA would cause electricity and natural gas consumption to increase by approximately 400 percent compared to conditions prior to adoption of the existing DA. To reduce impacts associated with this increase, the 1991 EIR identifies several mitigation measures related to energy. Table 11 shows the mitigation measures related to energy.

Table 11 1991 EIR Mitigation Measures: Energy

Mitigation Measure	Description
Energy and Waste Impact 1: Electrical Energy Consumption	
Mitigation 1	Miles Inc. /Cutter Biological will continue to reduce electrical energy consumption by thermostat control and energy conservation technology that turns cooling tower fans on and off depending on the water temperature. The technology will be extended to a majority of the site on a phased basis.
Mitigation 2	Miles Inc./Cutter Biological will continue to reduce electrical consumption by using motion sensors that turn office lights on only when personnel are present, a technology that will be extended to a majority of the site on a phased basis.
Mitigation 3	Miles Inc./Cutter Biological will continue to reduce electrical consumption by HVAC (heating, ventilation, air conditioning) controls systems that economize on heating and cooling energy use in buildings, which will be extended to a majority of the site on a phased basis.
Mitigation 4	A feasibility study is under way to replace current systems using chlorofluorocarbons (CFCs) with ammonia systems to conserve energy.
Energy and Waste Impact 2: Natural Gas Consumption	
Mitigation 1	Gas consumption will be reduced by computer control of sterilizers and SIP (steam in place) systems that minimize steam usage.
Mitigation 2	New boilers, with high.er efficiency than many existing units, will be installed as part of the Long Range Utility Plan
Mitigation 3	The project sponsors will make a commitment to reduce energy consumption by 10% for each phase of development. A plan to conserve this much energy shall be submitted with each application for a major use permit.
Mitigation 4	Miles Inc./Cutter Biological will undertake an energy audit with assistance from PG&E to determine ways to reduce fuel consumption. This would enable Miles Inc. /Cutter Biological to learn how effective its conservation measures are, and whether they can be improved.

Source: City of Berkeley 1991

Energy Setting

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

Energy Supply

PETROLEUM

California is one of the top producers of petroleum in the nation with drilling operations occurring throughout the state but concentrated primarily in Kern and Los Angeles counties.

A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received at ports in Los Angeles, Long Beach, and the San Francisco Bay area (California Energy Commission [CEC] 2020a). According to the United States Energy Information Administration, California's field production of crude oil totaled 161.5 million barrels in 2019 (United States Energy Information Administration 2020a).

PETROLEUM INFRASTRUCTURE IN THE WEST BERKELEY

There are no gasoline stations or petroleum refineries within or directly adjacent to the project site. The nearest gasoline station is approximately 0.8 miles south of the project site (United States Energy Information Administration 2020b; GasBuddy 2020). According to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources, there is no oil or gas extraction infrastructure, either operational or formerly operational, in the Southside Area (California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2020).

ALTERNATIVE FUEL INFRASTRUCTURE IN THE WEST BERKELEY

A variety of alternative fuels are used to reduce petroleum-based fuel demand. Their use is encouraged through various statewide regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32, which codifies the State's target of reducing GHG emissions by 40 percent below 1990 levels. Alternative vehicle fuels include hydrogen, biodiesel, and electricity. Currently, 42 hydrogen and 10 biodiesel refueling stations are located in California, but none are located in West Berkeley. There are three publicly available electric vehicle charging stations in West Berkeley (United States Department of Energy 2020).

Electricity

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

EAST BAY COMMUNITY ENERGY

East Bay Community Energy (EBCE) supplies electricity to Berkeley using transmission infrastructure operated and maintained by Pacific Gas and Electric (PG&E). EBCE is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses. As of 2018, EBCE's energy intensity factor for its base plan (Bright Choice), which consists of 41 percent eligible renewable energy resources, was 101 metric tons of carbon dioxide equivalents per megawatt-hour (EBCE 2019 and EBCE 2020). PG&E is one of the nation's largest electric and gas utility companies, and it maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (PG&E 2020a). According to PG&E's 2018 Integrated

Resource Plan, PG&E anticipates meeting a 2030 energy load demand of between 36,922 gigawatt-hours and 37,370 gigawatt-hours (PG&E 2018).

ELECTRIC POWER INFRASTRUCTURE IN WEST BERKELEY

There are no electric power plants in West Berkeley (United States Energy Information Administration 2020b).

Natural Gas

California's net natural gas production for 2018 was 180.6 billion cubic feet, or approximately 187,282 billion British thermal units (Btu; California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2019). The state relies on out-of-state natural gas imports for nearly 90 percent of its supply (CEC 2020d). The CEC estimates that approximately 45 percent of the natural gas burned across the state is used for electricity generation, and the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. Building and appliance energy efficiency standards account for up to 39 percent in natural gas demand savings between 1975 and 2010 (CEC 2020d).

NATURAL GAS INFRASTRUCTURE IN WEST BERKELEY

No natural gas processing plants are located in the area (United States Energy Information Administration 2020b). In West Berkeley near the project site, natural gas transmission lines run along Seventh Street, Grayson Street, Carleton Street, and Parker Street (PG&E 2020b). Further, there are natural gas distribution lines to supply natural gas to existing development.

Energy Demand

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

PETROLEUM

As shown in Table 12, Alameda County consumed an estimated 569 million gallons of gasoline and 62 million gallons of diesel fuel in 2018, which was approximately four percent of statewide gasoline consumption and approximately four percent of statewide diesel fuel consumption (CEC 2019b).

Table 12 2018 Annual Gasoline and Diesel Consumption

Fuel Type	Alameda County (gallons)	California (gallons)	Proportion of Statewide Consumption[1]
Gasoline	569,000,000	15,471,000,000	3.7%
Diesel	62,000,000	1,777,000,000	3.5%

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

Source: CEC 2019a

ELECTRICITY

As shown in Table 13, communitywide development in Berkeley consumed approximately 440 gigawatt-hours in 2018, which was approximately four percent of electricity consumption in Alameda County and approximately 0.2 percent of statewide electricity consumption (CEC 2019b). In comparison, the population of Berkeley is approximately 7.3 percent for Alameda County and approximately 0.3 percent for California (California Department of Finance 2020). Therefore, per capita electricity consumption in Berkeley is lower than the countywide and statewide average.

Table 13 2018 Electricity Consumption

Energy Type	Berkeley (GWh)	Alameda County (GWh)	California (GWh)	Proportion of Alameda County Consumption[1]	Proportion of Statewide Consumption[1]
Electricity	440	10,417	284,436	4.2%	0.2%

GWH = gigawatt-hours

[1] For reference, the population of Berkeley (122.580 persons) is approximately 7.3 percent of the population of Alameda County (1,670,834 persons) and approximately 0.3 percent of the population of California (39,782,870 persons) (California Department of Finance 2020).

Source: CEC 2019b; City of Berkeley 2018

NATURAL GAS

As shown in Table 14, communitywide development in Berkeley consumed approximately 32 million US therms in 2018, which was approximately nine percent of natural gas consumption in Alameda County and approximately 0.3 percent of statewide natural gas consumption (CEC 2019b). In comparison, the population of Berkeley is approximately 7.3 percent for Alameda County and approximately 0.3 percent for California (California Department of Finance 2020). Therefore, per capita natural gas consumption in Berkeley is higher than the countywide average but approximately equal to the statewide average.

Table 14 2018 Natural Gas Consumption

Energy Type	Berkeley (millions of US therms)	Alameda County (millions of US therms)	California (millions of US therms)	Proportion of Alameda County Consumption1	Proportion of Statewide Consumption[1]
Natural Gas	32	377	12,666	8.5%	0.3%

[1] For reference, the population of Berkeley (122.580 persons) is approximately 7.3 percent of the population of Alameda County (1,670,834 persons) and approximately 0.3 percent of the population of California (39,782,870 persons) (California Department of Finance 2020).

Source: CEC 2019b; City of Berkeley 2018

Regulatory Setting

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

California Code of Regulations, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. The 2019 Building Energy Efficiency Standards (California Energy Code), adopted on May 9, 2018, became effective on January 1, 2020. The 2019 Standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018).

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

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

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

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

Specifically with regard to energy, the 2019 mandatory standards require:

- Inspections of energy systems to ensure optimal working efficiency;
- Dedicated circuitry to facilitate installation of electric vehicle charging stations in nonresidential development; and
- Designation of a certain quantity (depending on the total number of parking spaces) of parking spaces for non-residential developments as electric vehicle charging spaces capable of supporting future electric vehicle supply equipment.

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

The City of Berkeley has adopted amendments to 2019 CALGreen in BMC Chapter 19.37, which require more stringent sustainability features. Specifically with regard to energy, these amendments include requiring at least ten percent of parking spaces at new non-residential developments to include electric vehicle chargers and at least 40 percent of parking spaces to include raceways to facilitate future electric vehicle supply equipment.

CITY OF BERKELEY CLIMATE ACTION PLAN

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

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

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

Since publication of the CAP, the City has outlined several additional climate commitments:

- 100 percent renewable electricity by 2035
- Carbon neutrality by 2045, in alignment with Gov. Brown's Executive Order B-55-18
- Declaration of a Climate Emergency and resolution to become a Fossil Fuel Free City

Berkeley Resilience Strategy

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

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

Natural Gas Prohibition in New Buildings

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

Electric Mobility Roadmap

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

Methodology

This analysis is based on the Energy Analysis Report prepared for the project by Ramboll US Consulting, Inc. dated January 25, 2021 (Appendix A-3). The analysis provides construction and operational energy use estimates for the proposed project and the CEQA baseline (see "CEQA Baseline" section on Page 20). The analysis then uses this information to evaluate whether this energy use would be considered wasteful, inefficient, or unnecessary, taking into account available energy supplies and existing use patterns, the proposed project's energy efficiency features, and compliance with applicable standards and policies aimed to reduce energy consumption, including the City of Berkeley's CAP and California's Title 24 Energy Efficiency Standards.

This analysis assumes the project would be constructed in two development stages, each occurring in two phases: the "Year 10 Project" construction is expected to occur in 2024 and 2029, while the "Year 30 Project" construction is expected to occur in 2034 and 2049. For the purpose of this analysis and to obtain conservative results, the full buildout operational years are expected to be 2025 and 2035, for Year 10 Project and Year 30 Project, respectively. This approach yields conservative results because energy usage factors are expected to become more efficient in later years due to increasingly stringent appliance and fuel efficiency standards and newer technologies.

The energy analysis includes quantification of electricity, natural gas, gasoline, and diesel fuel that would be required to construct and operate the proposed project as compared to the CEQA Baseline. Construction energy use includes off-road equipment and on-road mobile sources. Sources of operational energy use include building energy use (including boilers), on-road mobile sources, water distribution and treatment, and emergency generators.

The energy analysis is based on default values in latest versions California Emission Estimator Model (CalEEMod®) and Emission Factors Model version 2017 (EMFAC2017), which have not been updated for the most recent executive orders, specifically Executive Order N-79-20 which bans the sale of gasoline-powered cars in California by 2035; and Executive Order B-55-18 which set as a goal carbon neutrality in California by 2045. Both of

these Executive Orders, if implemented, will change the energy mix in California for both the Year 10 and Year 30 Projects, decreasing substantially, fossil fuel usage and increasing electricity usage. However, there is insufficient information to incorporate these executive orders into this analysis; to do so would be speculative. Accordingly, this energy analysis has been conducted with the most recent available tools prepared and accepted by the regulatory agencies.

Impact Analysis

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

Buildout and operation under the proposed amended DA would use nonrenewable resources for construction and operation of the project. Natural resources that would be utilized by the project include petroleum-based fuels for vehicles and equipment, operational building energy usage, and operational water consumption. The anticipated use of these resources is detailed in the following subsections.

Construction Energy Demand

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. The project would require demolition, site preparation and grading, paving, building construction, architectural coating, and landscaping.

The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from the air pollutant and GHG emission modeling prepared in the Energy Environmental Impact Report prepared by Ramboll in 2020 (Appendix A-3). As shown in Table 15, construction equipment and hauling and vendor trips would consume approximately 371,259 gallons of diesel fuel over the Year 10 construction period and 251,387 gallons of diesel fuel over the Year 30 construction period. Construction worker trips would consume approximately 18,310 gallons of gasoline over the Year 10 construction period and 19,361 over the Year 30 construction period. These construction energy estimates are conservative because they assume that the construction equipment used in each phase of construction is operating over one year.

Table 15 Estimated Fuel Consumption during Construction

	Fuel Consumption (gallons)	
Source	**Gasoline**	**Diesel**
Year 10		
Construction Equipment & Hauling Trips	–	371,259
Construction Worker Vehicle Trips	18,310	–
Year 30		
Construction Equipment & Hauling Trips	–	251,387
Construction Worker Vehicle Trips	19,361	–

Source: Ramboll 2021 (Appendix A-3)

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as 2019 California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11), the project would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct the project. In the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and construction-related impacts would be less than significant.

Operational Energy Demand

Operation of the project would contribute to area energy demand by consuming electricity, natural gas, and transportation fuels. Natural gas and electricity would be used for heating and cooling systems, lighting, appliances, water use, and overall operation of the project. Gasoline and diesel fuel consumption would be attributed to the trips generated by visitors, employees, and deliveries. Table 16 summarizes estimated operational energy consumption for the CEQA baseline, Year 10 conditions and Year 30 conditions on the existing entitlement.

Table 16 Estimated Project Annual Operational Energy Consumption

Source	Energy Consumption[1]	
CEQA Baseline[2]		
Transportation Fuels[3]		
Gasoline	688,162 gallons	75,551 MMBtu
Diesel	197,455 gallons	25,168 MMBtu
Electricity	103 GWh	351,451 MMBtu
Natural Gas Usage	268,833 MMBtu	268,833 MMBtu
Total Project Energy Consumption		**721,003 MMBtu**
Year 10 Project		
Transportation Fuels[3]		
Gasoline	459,602 gallons	50,458 MMBtu
Diesel	149,785 gallons	19,092 MMBtu
Electricity	73 GWh	249,086 MMBtu
Natural Gas Usage	379,217 MMBtu	379,217 MMBtu
Total Project Energy Consumption		**697,853 MMBtu**

Source	Energy Consumption[1]	
Year 30 Project		
Transportation Fuels[3]		
Gasoline	489,003 gallons	53,686 MMBtu
Diesel	179,580 gallons	22,890 MMBtu
Electricity	106 GWh	361,687 MMBtu
Natural Gas Usage	382,134 MMBtu	382,134 MMBtu
Total Existing Energy Consumption		**820,397 MMBtu**
Net Energy Consumption (CEQA Baseline [Existing DA] – Year 10)[3]		
Transportation Fuels[3]		
Gasoline	(228,56) gallons	(25,093) MMBtu
Diesel	(47,670) gallons	(6,076) MMBtu
Electricity	(30) GWh	(102,364) MMBtu
Natural Gas Usage	110,385 MMBtu	110,385 MMBtu
Total Existing Energy Consumption		**(23,148) MMBtu**
Net Energy Consumption (CEQA Baseline [Existing DA] – Year 30)[3]		
Transportation Fuels		
Gasoline	(199,159) gallons	(21,865) MMBtu
Diesel	(17,875) gallons	(2,278) MMBtu
Electricity	3 GWh	10,533 MMBtu
Natural Gas Usage	113,301 MMBtu	113,301 MMBtu
Project Net Energy Consumption		**99,691 MMBtu**

MMBtu: million metric British thermal units; GWh: gigawatt hours

[1] Energy consumption is converted to MMBtu for each source

[2] See CEQA Baseline discussion on Page 20. The CEQA Baseline for the energy analysis is the existing DA.

[3] The estimated number of average daily trips associated with the project is used to determine the energy consumption associated with fuel use from operation of the project. See Appendix A-3.

Parentheses indicate negative values

Source: Ramboll 2021 (Appendix A-3)

As shown in Table 16, Year 10 project operation would require approximately 459,602 gallons of gasoline and 149,785 gallons of diesel fuel for transportation fuels, 73 gigawatt hours (GWh) of electricity, and 379,217 million metric British thermal units (MMBtu) of natural gas. For Year 30 operation, the project would require approximately 489,003 gallons of gasoline and 179,580 gallons of diesel fuel for transportation fuels, 106 gigawatt hours (GWh) of electricity, and 382,164 MMBtu of natural gas. Transportation of workers, customers, and deliveries would represent the greatest operational use of energy associated with the proposed project. Compared to the CEQA baseline the proposed project would result in reduced transportation fuel use for Year 10 and Year 30 project operation and reduced electricity use for year 10 operation. The proposed project would result in increased electricity use for Year 30 operation and increased natural gas use for both Year 10 and Year 30 operation.

The net decrease in transportation fuel consumption under the Year 10 and Year 30 Projects as compared to the existing DA is primarily due to continued implementation of the project's TDM program and the increase in the fuel efficiency of vehicles over time. The net

decrease in electricity consumption for the Year 10 Project is mainly the result of decreased square footage for the manufacturing labs, production, and utility spaces as compared to buildout under the existing DA. The net increase in electricity consumption for the Year 30 Project as compared to buildout under the existing DA is largely due to the conversion of existing administration, production, maintenance, and warehouse buildings to all-electric buildings as required under BMC Chapter 12.80, which would involve replacement of appliances and other infrastructure currently powered by natural gas with alternatives powered by electricity.

The net increase in natural gas usage is primarily due to the conservative assumption that an additional natural gas boiler will be installed during the Year 10 Project, which will allow for the expected increase in production capacity and research intensity of the proposed amended DA.[5] (This analysis conservatively assumes that manufacturing and laboratory operations would qualify for an exception to or exemption from the natural gas prohibition pursuant to BMC Chapter 12.80; however, ultimate determination of an exemption or exception would be at the discretion of the City.) Despite the increase in natural gas consumption from boilers, the proposed amended DA would be compliant with the City of Berkeley's natural gas prohibition for all other buildings, as evidenced by the net decrease in building natural gas usage (non-boiler) for the Year 10 Project and Year 30 Project. Furthermore, natural gas usage may decrease from what is estimated in both the Year 10 Project and Year 30 Project due to future revisions to Title 24 energy standards and installation of even more energy efficient equipment (Ramboll 2021).

Overall, the proposed project would result in a net decrease in energy use by 23,148 MMBtu compared to CEQA baseline for Year 10 operation, and a net increase in energy use by 99,691 MMBtu for Year 30 operation.

The project's new entitlement would be required to comply with all standards set in California Building Code (CBC) Title 24, and any locally adopted amendments which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. California's CALGreen standards (California Code of Regulations, Title 24, Part 11) and BMC Chapter 19.37 require implementation of energy-efficient light fixtures and building materials into the design of new construction projects, limit the use of natural gas infrastructure in new development, and provide for electric-ready infrastructure for natural gas appliances in new buildings. Furthermore, the 2019 Building Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) and BMC Chapter 19.36 require newly constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. CALGreen requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. The project's new entitlements would be subject to the requirements of the most recent iteration of CALGreen, and any locally adopted amendments, which includes provisions for electric vehicle charging infrastructure. For example, BMC Section 19.37.040 requires 10 percent of parking spaces for new nonresidential development to include EV chargers and 40 percent of parking spaces to include raceways to facilitate future electric vehicle supply at all parking facilities. The Title 24 standards are updated every three years and each iteration is more energy efficient than the previous standards.[6] According to the CEC, nonresidential

[5] It is possible that a more efficient and/or less energy-intensive alternative would be installed given that technology is likely to continue evolving over the timeframe of the proposed DA.
[6] Local jurisdictions can adopt more stringent requirements than the Title 24 standards, as the City has done for the 2019 California Energy Code and CALGreen.

buildings built to the 2019 standards use about 30 percent less energy than those built to the 2016 standards due to energy efficiency measures, particularly lighting upgrades (CEC 2018). Furthermore, the project would continue to reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by PG&E continues to increase to comply with Senate Bill (SB) 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

To achieve compliance with Title 24, the project applicant proposes to incorporate several energy efficient features into overall project design, as described in the proposed amended DA. Energy efficient design features include use of passive solar by including large windows with overhangs, energy-efficient appliances and lighting, water-efficient indoor fixtures throughout the project site, and drought tolerant landscaping. In addition, the existing entitlement provides electric vehicle (EV) chargers for employees and includes 22 charging stations, while the proposed amendment would include electric vehicle charging stations that meet the City's requirements for electric vehicle charging stations, at a minimum. (Currently under BMC Chapter 19.37, ten percent of parking spaces must include electric vehicle chargers and 40 percent of parking spaces must include raceways to facilitate future electric vehicle supply equipment.). The project applicant would continue implementing a Transportation Demand Management Program under the amended DA. Moreover, as described in Section 4.6, *Transportation,* and with Mitigation Measure T-1, the proposed amended DA would implement a TDM program that would include continued funding of the West Berkeley Bart Shuttle from Bayer to the Ashby BART station. During normal conditions (i.e., non-pandemic conditions), the shuttles run every 15 minutes during peak hours and are timed to align with BART trains. In the event that demand increases under the proposed DA, Bayer would either increase shuttle capacity, increase service frequency, or both, which would reduce vehicle trips (and related energy consumption) associated with the proposed DA below those estimated herein. These features would incentivize the use of public transit, active transportation, and fuel-efficient vehicles for accessing the project site.

Operation of the project would consume transportation fuels, natural gas, and electricity; however, the project would be required to conform to the latest version of California's Green Building Standards Code, Building Energy Efficiency Standards, and locally-adopted amendments and would therefore not lead to wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

The City's CAP contains goals intended to increase energy efficiency and expand the use of renewable energy. As shown in Table 17 the proposed amendments would be consistent with the goals of the City's CAP related to energy efficiency and renewable energy, including Sustainable Transportation and Land Use Goals 3, 7, and 8 and Building Energy Use Goals 1 and 4.

Table 17 Project Consistency with Applicable Energy-Related Climate Action Plan Measures

Recommended Goals	Project Consistency
Sustainable Transportation and Land Use	
Goal 3: Manage parking more effectively to minimize driving demand and to encourage and support alternatives to driving	**Consistent:** The proposed project would reduce the parking standard for laboratories and also reduce overall buildout relative to baseline conditions. Also, the proposed project would encourage and support alternatives to driving by continuing to implement a Transportation Demand Management (TDM) program, which includes facilitating alternative transportation modes, including car sharing and ride sharing programs such as a shuttle to the Ashby BART station. Finally, The project would comply with the City's current provisions for bicycle parking of one space per 2,000 square feet of gross floor area for new floor area construction and expansions irrespective of use type. These measures would reduce reliance on single-occupancy vehicles and encourage use of alternate modes of transportation.
Goal 7. Enhance and expand car sharing and ride sharing programs.	**Consistent.** The project applicant would continue to implement a TDM to encourage alternative transportation including car sharing and ride sharing programs, such as a shuttle to the Ashby BART station.
Goal 8: Encourage the use of low-carbon vehicles and fuels.	**Consistent:** The proposed amended DA would be subject to the requirements of the most recent iteration of CALGreen and the City's associated amendments, which includes provisions for electric vehicle charging infrastructure. The amended DA would include electric vehicle charging stations that meet the City's requirements for electric vehicle charging stations, at a minimum. (Currently under BMC Chapter 19.37 10 percent of parking spaces must include electric vehicle chargers and 40 percent of parking spaces must include raceways to facilitate future electric vehicle supply equipment.)
Building Energy Use	
Goal 1: Make green building business as usual in the new construction & remodel market.	**Consistent**: Individual structures constructed under the proposed amended DA would be required to be constructed in accordance with the latest iteration of CALGreen and the California Energy Code, including locally adopted amendments, which include green building practices. In addition, new construction would be required to be all electric per the requirements of BMC Section 12.80 (unless it is physically infeasible or installation of natural gas infrastructure is in the public interest), which would reduce GHG emissions associated with energy usage.
Goal 4: Increase residential and commercial renewable energy use	**Consistent.** As shown in Table 3, the proposed amended DA would involve installation of solar panels on parking areas or rooftops.

Source: City of Berkeley 2009

Table 18 summarizes the project's consistency with the applicable policies of the City's General Plan related to energy efficiency and renewable energy. As shown therein, the proposed amendment would be consistent with applicable General Plan policies. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

Table 18 Project Consistency with Applicable Energy-Related General Plan Measures

Policies	Project Consistency
Transportation Element	
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.	**Consistent:** Newly constructed buildings under the proposed amendment would be subject to the requirements of the most recent iteration of CALGreen, which includes provisions for electric vehicle charging infrastructure. For example, BMC Section 19.37.040 requires 20 percent of parking spaces to be electric vehicle charging spaces capable of supporting future electric vehicle chargers and 80 percent of parking spaces to be capable of supporting future electric vehicle supply equipment with raceways. In addition, the existing entitlement includes 22 charging stations, while the proposed amended DA would include electric vehicle charging stations that meet the City's requirements for electric vehicle charging stations, at a minimum. (Currently under BMC Chapter 19.37 ten percent of parking spaces must include electric vehicle chargers and 40 percent of parking spaces must include raceways to facilitate future electric vehicle supply equipment.). Furthermore, the continued implementation a TDM program to encourage alternative transportation modes, including car sharing and ride sharing programs, as well as a shuttle to the Ashby BART station, would be consistent with reduction of nonrenewable energy consumption of automobiles.
Environmental Management Element	
Policy EM-5 "Green" Buildings. Promote and encourage compliance with "green" building standards.	**Consistent**: Individual development projects facilitated by the proposed amendment would be required to be constructed in accordance with the latest iteration of CALGreen and the California Energy Code, which include green building practices. In addition, new construction would be required to reduce wasteful and inefficient energy resources per the requirements of California Building Code (Title 24, Part 6).
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.	**Consistent**: Individual development projects facilitated by the proposed amendment would be required to divert at least 65 percent of nonhazardous construction and demolition debris and 100 percent of asphalt, concrete, excavated soil, and land-clearing debris per the requirements of CALGreen and BMC Chapter 19.37.
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.	**Consistent**: Individual development projects facilitated by the proposed DA amendment would be required to be constructed in accordance with the latest iteration of CALGreen and the California Energy Code, which include requirements for the use of energy-efficient design and technologies as well as provisions for incorporating renewable energy resources into building design.

Policies	Project Consistency
Policy EM-41 Fossil Fuel. Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.	**Consistent:** The project is located in an existing urban area and the applicant would continue to implement a Transportation Demand Management Program to encourage alternative transportation. In addition, new construction would be required to reduce wasteful and inefficient energy resources per the requirements of California Building Code (Title 24, Part 6).
Urban Design Element	
Policy UD-33 Sustainable Design. Promote environmentally sensitive and sustainable design in new buildings.	**Consistent:** Individual development projects facilitated by the proposed amendment would be required to be constructed in accordance with the latest iteration of CALGreen and the California Energy Code, which include environmentally sensitive and sustainable design practices. In addition, new construction (except for manufacturing and production uses) would be required to be fully electric per the requirements of BMC Section 12.80, which would reduce consumption of nonrenewable energy resources.

Source: City of Berkeley 2003

NO IMPACT

7 Geology and Soils

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	N/A	No	No	No	N/A
2. Strong seismic ground shaking?	N/A	No	No	No	N/A
3. Seismic-related ground failure, including liquefaction?	N/A	No	No	No	N/A
4. Landslides?	N/A	No	No	No	N/A
b. Result in substantial soil erosion or the loss of topsoil?	N/A	No	No	No	Yes
c. Be located on a geologic unit or soil that is made unstable as a result of the project, and potentially result in on or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	N/A	No	No	No	N/A

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	N/A	No	No	No	N/A
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	N/A	No	No	No	N/A
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	N/A	No	No	No	N/A

1991 EIR Summary

The 1991 EIR does not address the issue area of geology and soils.

Environmental Setting

Berkeley is located in the Coast Range Geomorphic Province. This province is characterized by parallel northwest trending mountain ranges formed over the past 10 million years or less by active uplift related to complex tectonics of the San Andreas fault/plate boundary system (CGS 2002). The city is bordered on the west by the San Francisco Bay and on the east by the Berkeley Hills. The eastern portion of the city descends somewhat steeply from the Berkeley Hills to the generally flat alluvial floodplain. The western portion of the city, including the project site, slopes gently towards the bay. Elevation in Berkeley ranges from over 1,000 feet above sea level in the hills to the east to just a few feet above sea level along the shore of the San Francisco Bay to the west.

The San Francisco Bay Area is one of the more seismically active areas in the world, based on its record of historical earthquakes and its position relative to the North American and Pacific Plate boundaries. The project site is not located in an Earthquake Fault Zone mapped by the California Geological Survey (Berkeley 2014a). No Quaternary geologic faults that have been active in the last 1.6 million years occur on-site (U.S. Geological Survey 2020a and 2020b). The nearest active fault, a branch of the Hayward fault, runs on a northwest-southeast axis through the Berkeley Hills, as close as approximately 2.4 miles from the project site (Dibblee and Minch 2005). The Hayward fault is designated by the Alquist-Priolo Earthquake Fault Zoning Act as an active fault that has experienced displacement within the last 11,000 years (Berkeley 2014b).

A study assessing the probability of earthquakes across California was released in 2015 by the USGS Working Group on California Earthquake Probabilities (Field et al. 2015). The results of the study indicate there is a 72 percent probability of at least one magnitude 6.7 or greater earthquake striking the Bay Area in the 30-year period after 2007. As part of the study, individual probabilities for generating a magnitude 6.7 quake or greater were assigned to specific known major faults. The study estimated that the Hayward-Rodgers Creek fault has a 31 percent probability of generating a magnitude of 6.7 or greater in the analyzed 30-year period.

West Berkeley is relatively flat and not in a hilly area subject to landslides. Low-lying portions of Berkeley to the west of San Pablo Avenue, including the project site, are at risk of liquefaction (Berkeley 2014a). This occurs when soil grains consolidate during an earthquake, pushing water toward the surface. The ground surface may sink or spread laterally. Liquefaction can destroy pavement and dislodge foundations. An earthquake on the Hayward fault is most likely to trigger substantial liquefaction in Berkeley. However, the likelihood of liquefaction drops radically just east of the Union Pacific railroad tracks.

Impact Analysis

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

As discussed above, the project site is not located within an Earthquake Fault Zone mapped by the California Geological Survey, and no active faults occur within approximately 2.4 miles of the site. Therefore, the project would not be subject to risks associated with rupture of a known fault. This impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The Bay Area is a seismically active region. Ground shaking has the potential to damage buildings. However, Bayer would continue to implement a seismic safety program as described in Exhibit G-8 of the DA, with minor amendments. Relevant portions of this program include the following measures:

1. New structures will be designed to withstand the effects of ground shaking. This included compliance with the seismic requirements of the most current Uniform Building Code, incorporation of the best current knowledge about earthquake-resistant design and incorporation of engineering recommendations by a qualified geotechnical engineer.
2. All building foundations will be constructed on strong native soil areas, or properly engineered fill as approved by a geotechnical engineer.
3. All proper engineering procedures will be undertaken to reduce the potential for structural damage to the site and foundation preparation from an earthquake during construction.
4. Potentially hazardous chemical and industrial processes will be designed with redundant and back-up safety systems.

5. A qualified structural engineer will evaluate all existing occupied buildings. A copy of the structural engineer's report shall be filed with the City. Any occupied building that requires seismic safety modification will be corrected as recommended by the structural engineer.

By adhering to these seismic safety requirements, new buildings on the project site would be designed to resist adverse effects from seismic ground-shaking and existing buildings would be retrofitted for seismic safety in accordance with the recommendations of a qualified structural engineer. Therefore, the impact associated with strong seismic ground-shaking would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The project site is located in an area at risk of liquefaction during seismic events. Liquefaction can upset the ground surface or cause lateral spreading, dislodging building foundations. However, as discussed in Item 7.a.2, new buildings on the project site would be subject to seismic safety requirements in Exhibit G-8 of the DA, as amended. Adherence to these requirements would minimize the risk of seismic-related ground failure including liquefaction. The site-specific seismic safety requirements are consistent with Policy S-14 in the Berkeley General Plan, which states that soil investigation and/or geotechnical reports are required on sites within designated hazard zones such as areas with high potential for soil erosion, landslide, fault rupture, liquefaction and other soil-related constraints (Berkeley 2001b). Section 1803 of the 2019 CBC, as adopted in BMC Chapter 19.28, also requires the preparation of geotechnical investigations for new buildings on the project site. Therefore, the project would not result in substantial adverse effects involving seismic-related ground failure. This impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is located in the Berkeley flatlands and is not located near any hills. There are no known landslides near the project site, nor is the site in the path of any known or potential landslides (Berkeley 2014b). Therefore, the project would not be subject to substantial risks from landslides. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Grading and excavation activity during the construction of new structures on the project site could result in soil erosion. However, as described in Section 10, *Hydrology and Water Quality*, with compliance with existing regulations, substantial erosion during construction would not occur. Therefore, this impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

As discussed above, with adherence to the seismic safety program in Exhibit G-8 of the DA, with minor amendments, new buildings on the project site would not be subject to a substantial risk of liquefaction or lateral spreading. The project site is not located in an area at risk of landslides. Therefore, new buildings would be sited or designed so as to minimize issues associated with geologic instability. This impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

Although a Soils Report prepared for the South Properties Use Permit does not identify the presence of expansive soils, the West Berkeley Project EIR finds that expansive soils may be present in West Berkeley (Berkeley 2010 and 2014). New buildings on the North Properties could potentially be located on expansive soils. Bayer would be required to evaluate the potential risk of expansive soils in compliance with General Plan Policy S-14, which states that soil investigation and/or geotechnical reports are required on sites within designated hazard zones such as areas with high potential for soil erosion, landslide, fault rupture, liquefaction and other soil-related constraints (Berkeley 2001b). In addition, Section 1803 of the 2019 CBC, as adopted in BMC Chapter 19.28, requires the preparation of geotechnical investigations for new buildings on the project site. The City would require that new buildings adhere to recommendations in geotechnical investigations to minimize risks from expansive soils, if present. Therefore, the impact from expansive soils would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

As discussed in Item 19, *Utilities and Service Systems*, of the Environmental Checklist, the project site is served by a sanitary sewer system maintained by the City of Berkeley for the collection system, and by the East Bay Municipal Utility District (EBMUD) for interceptor lines. New and renovated buildings on the project site would have access to these systems, and the use of septic systems would be neither required nor permitted. The project would

therefore have no impact in this regard. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

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

Paleontological resources include fossil plants and animals, and evidence of past life such as trace fossils and tracks (Berkeley 2014b). Ground disturbance in geologic units from which fossil resources have been obtained could potentially result in disturbance of paleontological resources. The project site is mapped as underlain by alluvial fan deposits (Qhaf), consisting of gravely sand or sandy gravel that generally grades upward to sandy or silty clay (Helley and Graymer 1997). These are young deposits from the Holocene era since the end of the last ice age (the last 11,700 years) (UC Berkeley 2011).

The West Berkeley Project EIR found that no paleontological resources are known to exist in West Berkeley, and no documentation suggests that they occur on the South Properties (Berkeley 2010 and 2014). No existing documentation of paleontological resources on the North Properties is available. It is anticipated that most ground disturbance on the North and South Properties during buildout of the amended DA would occur in already disturbed areas that were graded for earlier development on the Bayer Campus or for historic industrial uses, where it is unlikely that intact fossil resources would be encountered. However, construction activities could potentially uncover and disturb paleontological resources beneath the surface (Berkeley 2014b). Typical excavation on the project site is expected to reach a depth of up to 10 feet bgs, and excavation for pilings in areas subject to potential liquefaction hazards would extend up to 30 to 60 feet bgs. Therefore, Mitigation Measure GEO-1 would be required to protect fossil discoveries if unearthed during ground-disturbing activities.

Mitigation Measures

GEO-1 Discovery of Paleontological Resources

If a project would solely involve the refurbishment of an existing building and no ground disturbance would occur, this measure would not be required. Prior to ground-disturbing activities, the project applicant shall retain a qualified paleontologist to provide on-call services in the event of an unanticipated discovery. A qualified paleontologist is defined by the Society of Vertebrate Paleontology (SVP) standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years (SVP 2010). Prior to the start of construction, the qualified paleontologist shall conduct a Paleontological Worker Environmental Awareness Program (WEAP), a training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be fulfilled at the time of a preconstruction meeting at which a Qualified Paleontologist shall attend.

In accordance with SVP (2010) guidelines, , all work shall halt in the immediate vicinity of a find and the qualified paleontologist shall evaluate the discovery. The qualified paleontologist shall determine the significance of the discovery and identify whether additional mitigation or treatment is warranted. Measures may include testing, data

recovery, reburial, archival review and/or transfer to the appropriate museum or educational institution, such as the University of California Museum of Paleontology. All testing, data recovery, reburial, archival review or transfer to research institutions related to monitoring discoveries shall be determined by the qualified paleontologist and shall be reported to the City. Work in the area of the discovery may resume after the find is properly documented and authorization is given to resume construction work.

Significance After Mitigation

Mitigation Measure GEO-1 would apply to all ground disturbance for construction of new and expanded facilities associated with buildout of the amended DA, ensuring that potential impacts to paleontological resources would be less than significant by providing for the recovery, identification and curation of previously unrecovered fossils. Therefore, this impact would be less than significant with mitigation incorporated. This mitigation measure will be included in the Subsequent EIR's Executive Summary and the project's Mitigation Monitoring and Reporting Program. With mitigation, there would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

This page intentionally left blank.

8 Greenhouse Gas Emissions

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	N/A	Yes	Yes	No	N/A
b. Conflict with any applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of greenhouse gases?	N/A	Yes	Yes	No	N/A

1991 EIR Summary

The 1991 EIR does not address the issue area of greenhouse gas (GHG) emissions.

Impact Analysis

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

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

During buildout under the proposed amended DA, construction activities and the operation of new and renovated buildings would generate GHG emissions. The project would allow for a buildout of 1,738,000 square feet, representing a net decrease of 128,000 square feet from the baseline buildout of 1,866,000 square feet. Although overall floor area would decrease relative to baseline conditions, the floor area of individual land uses on the Bayer Campus (i.e., production and administration uses) is expected to increase. Therefore, the project would involve changes to the existing DA that could potentially increase GHG emissions relative to baseline conditions. Moreover, California has adopted multiple GHG regulations since certification of the 1991 EIR, resulting in a change in the circumstances under which the 1991 EIR was written. Therefore, the project would have a potentially significant impact from GHG emissions, and this issue will be analyzed further in the Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

This page intentionally left blank.

9 Hazards and Hazardous Materials

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	EIR Pages 5H-15 through 5I-35	Yes	No	No	No
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	EIR Pages 5H-15 through 5I-35	Yes	No	No	No
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	N/A	No	Yes	No	N/A
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	N/A	No	Yes	No	N/A
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	N/A	No	Yes	No	N/A
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	N/A	No	Yes	No	N/A

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	N/A	No	No	No	N/A

1991 EIR Summary

Chapter 5H (Bio Safety) of the 1991 EIR analyzes the existing DA's impacts related to biological hazards, which are defined as conditions that could result in the release of infectious agents capable of harming people or the natural environment. This chapter covers potential biohazards associated with the manufacture of vaccines and human plasma products, and with the use of mammalian cell lines. The 1991 EIR determines that impacts related to the following biohazards would be less than significant with mitigation incorporated with mitigation related to: Epstein-Barr Virus, plasma and fractionation products, plague bacilli, Class 1 and 2 microorganisms, and other infectious materials.

Chapter 5I (Chemical Hazards) of the 1991 EIR analyzes the existing DA's impacts related to chemicals, carcinogens, and radioactive materials. The 1991 EIR determines that impacts related to the following issues would be less than significant with mitigation incorporated related to: chemical inventory reporting, release of laboratory chemicals or radionuclides, upset in the laboratory, upset during preparation of hazardous materials for disposal, chemical use in production, delivery and storage of caustic materials and gas, acid storage and delivery, accidental mixing of acid and caustic materials, release of fuel during delivery, release of hazardous materials from storage tanks, and use and release of ammonia.

The 1991 EIR does not directly address the issues of hazardous materials in proximity to schools, listed hazardous material sites, airport safety hazards, or conflicts with emergency response and evacuation plans.

The 1991 EIR's mitigation measure related to hazards and hazardous materials would not apply to the proposed project because they are covered by current regulations or specific to the development plan of the existing DA. Further, mitigation measures relevant to cumulative development would not apply because the 1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Impact Analysis

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

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

Buildout under the proposed amended DA would include demolition of existing structures, grading for planned development, and construction of administrative structures, parking lots, and manufacturing land uses that could involve the use, storage, disposal, or transportation of hazardous materials. Upset or accident conditions in the project could involve the release of hazardous materials into the environment. The operation of new laboratories and other facilities also would involve the routine transport, use, and disposal of biohazards and chemical hazards, as well as the potential for upset and accident conditions that cause release of such materials. The regulatory setting for biohazards and chemical hazards has changed since certification of the 1991 EIR, resulting in a change in circumstances. The project also could alter the location and types of hazardous of materials on-site. Therefore, it would have a potentially significant impact related to the transport, use, and disposal of hazardous materials, and related to upset and accident conditions, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The 1991 EIR does not explicitly address the exposure of schools to hazardous materials from the North Properties. However, two schools are located with 0.25 mile of the project site: the Center for Early Intervention on Deafness (approximately 0.2 mile to the east) and Ecole Bilingue De Berkeley (approximately 0.14 mile to the east-southeast). Buildout of the amended DA would involve the continued use of hazardous materials in proximity to schools. This would represent a circumstance not analyzed in the 1991 EIR. Therefore, the project would have a potentially significant impact from the emission or handling of hazardous materials near schools, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

The 1991 EIR does not analyze potential impacts from listed hazardous material sites, but the project site is host to four known release cases with residual soil and/or groundwater impacts (Farallon 2020a). Additionally, there are four former underground storage tank locations on-site where affected soil remains, and several known releases of hazardous materials adjacent to the project site. These hazardous material sites represent a change in the circumstances analyzed in the 1991 EIR. Therefore, the project would have a potentially significant impact related to listed hazardous material sites, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

The nearest airport to the project site is Oakland International Airport, which is located approximately 8.5 miles to the south. The project site is outside of the area of the land use plan for the airport (Alameda County 2010). There are no private airstrips near the project site. Because there are no airports or airstrips near the project site, the project would not result in a safety hazard for people residing or working in the project area. No impact would occur. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

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

The 1991 EIR does not address the issue of adverse effects on emergency response or evacuation plans, but the project would affect traffic volumes on designated emergency access and evacuation routes. Two designated routes, Sixth Street and Dwight Way, are adjacent to the project site (Berkeley 2001b). This represents a change in the circumstances analyzed in the 1991 EIR. The project would have a potentially significant impact related to impairing implementation of an emergency response or evacuation plan, and this issue will be analyzed further in the Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

As discussed in Item 20, *Wildfire*, the project site is not located in or near a very high fire hazard severity zone mapped by CAL FIRE, and is outside the City's Wildland-Urban Interface Fire Area. Therefore, the project would not expose people or structures to significant risks involving wildland fires. This impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	EIR Pages 5L-3 through 5-L5, 5-L16 through 5-L18	No	No	No	Yes
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	EIR Page 5-L16	No	No	No	Yes
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:					
(i) Result in substantial erosion or siltation on- or off-site;	N/A	No	No	No	N/A
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	N/A	No	No	No	N/A
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	EIR Page 5-L3	No	No	No	No
(iv) Impede or redirect flood flows?	N/A	No	No	No	N/A

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	N/A	No	No	No	N/A
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	N/A	No	No	No	N/A

1991 EIR Summary

Chapter 5L (Hydrology and Drainage, Wastewater and Groundwater) of the 1991 EIR analyzes the existing DA's impacts related to hydrology and water quality. The 1991 EIR finds that the existing DA would have a less than significant impact on stormwater runoff rates because it would not result in a substantial change in runoff quantities and peak flow from the North Properties. Implementation of the existing DA would involve modifications to the storm drain system, which the 1991 EIR states would alleviate flooding. Therefore, the 1991 EIR determines that the existing DA would have a less than significant impact on storm drain capacity.

The 1991 EIR finds that buildout of the existing DA would contribute pollutants to downstream receiving waters, including heavy metals, suspended solids, nutrients, and floatables. It also identifies a potential for additional outdoor storage of hazardous or toxic materials (e.g., diesel fuel and phosphoric acid) to spill or leak, polluting stormwater runoff. These adverse effects on water quality were determined to be less than significant impacts with mitigation incorporated.

The 1991 EIR determines that the existing DA would have a less than significant impact on groundwater recharge because of the minimal extent of pervious surface at the North Properties and the presence of a stiff clay soil layer that precludes significant recharge. Buildout of the existing DA also was found to have no effect on the investigation and cleanup of leaking underground tanks on-site. Nonetheless, the 1991 EIR recommends mitigation measures to protect monitoring wells and complete soil remediation or excavation before construction of permanent foundations. The 1991 EIR does find that contaminated soil or groundwater could affect groundwater seepage at Aquatic Park, resulting in a less than significant effect with mitigation incorporated.

Table 19 lists mitigation measures related to hydrology and water quality in the 1991 EIR.

Table 19 1991 EIR Mitigation Measures: Hydrology and Water Quality

Mitigation Measure	Description
Surface Hydrology and Drainage Impact 3: Runoff Water Quality	
Mitigation 1	Best Management Practices. The City of Berkeley will ultimately require large contributors to non-point runoff pollution to establish Best Management Practices to minimize the potential for pollution. The project would likely be included in this category; consequently, the Best Management Practices document will be produced. Typical elements of such a document would include addressing the possibility of substituting less toxic compounds in manufacturing and research and development and proper handling of those toxic compounds used.
Mitigation 2	Source Control. The project sponsor will be ultimately required to demonstrate the proper application and use of various pollutants at the project site such that they are not easily mobilized and discharged into storm water runoff. This will involve configuring fuel storage under roofed areas and preventing on-site runoff from flowing through these areas.
Mitigation 3	Parking Areas. Uncovered parking areas shall receive street sweeping frequently to remove pollutants, oils, and greases before they are mobilized by runoff.
Mitigation 4	Monitoring. Quarterly sampling and testing of storm water runoff from the project site shall be performed. The extent and location of this monitoring will be based upon the degree of source runoff controls implemented. Monitoring shall be used primarily to ensure source controls are working and to detect any additional or accidental pollutants in storm water runoff.
Mitigation 5	Removal. The project sponsor shall be required to further install some type of system to remove various pollutants from storm water runoff before it leaves the site. This may involve physical removal or chemical or biological treatment depending on the type of pollutants that would be present.
Surface Hydrology and Drainage Impact 4: Spill Hazard	
Mitigation 1	Hazardous materials stored in uncovered areas shall be fully contained, and covered such that they do not come into contact with rainfall.
Mitigation 2	Storm drains downstream of hazardous materials storage areas will be equipped with manual shut-off valves. In the event of a spill, these valves will be immediately closed, and will remain closed until clean-up has been completed.
Groundwater Impact 3: Underground Tank Releases	
Mitigation 1	Protect the existing monitoring wells from damage due to construction activities.
Mitigation 2	Monitoring wells may have to be relocated prior to building construction.
Mitigation 3	Soil remediation or excavation should be completed before construction of permanent foundations.
Groundwater Impact 4: Seepage into Aquatic Park	
Mitigation 1	Periodic groundwater sampling and monitoring will be performed where the groundwater seeps from the 10- to 12-foot-high embankment along the western edge of the Southern Pacific Railroad. Initially, the City should perform this monitoring. If Miles Inc./Cutter Biological is determined to have contributed to any contamination, they shall contribute to the funding of continued monitoring and remediation, if necessary.
Mitigation 2	To minimize the potential for future contamination of the local groundwater, the project will have to be designed with appropriate safeguards, monitoring, and contingency measures which have recently become standard practice. Such measures include roofing and berming of storage areas, lining storage areas to prevent infiltration, and installing shutoff valves in downslope storm drain lines.
Mitigation 3	The need for any further remedial measures will be dictated by the concentrations of any contaminants detected in the seepage which supports the narrow freshwater wetland between the main pond and the railroad.

Source: Berkeley 1991

Impact Analysis

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

Construction Impacts

The proposed amended DA would allow for construction activities on the Bayer Campus that have the potential to cause soil erosion from exposed soil, an accidental release of hazardous materials used for equipment such as vehicle fuels and lubricant, or temporary siltation from storm water runoff. Soil disturbance would occur during excavation for proposed building foundations, demolition of existing buildings, and grading activity. If uncontrolled during construction, soil erosion and water pollutants could have adverse offsite effects on water quality, for instance at nearby wetlands in Aquatic Park. However, future development on the project site would be required to comply with state and local water quality regulations designed to control erosion and protect water quality during construction. This includes compliance with the requirements of the State Water Resources Control Board (SWRCB) Construction General Permit, which requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for projects that disturb one acre or more of land.

The SWPPP must include erosion and sediment control Best Management Practices (BMPs) that would meet or exceed measures required by the Construction General Permit, as well as those that control hydrocarbons, trash, debris, and other potential construction-related pollutants. Construction BMPs would include project scheduling, inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management. Post-construction stormwater performance standards are also required to specifically address water quality and channel protection events. Implementation of these BMPs would prevent or minimize environmental impacts and ensure that discharges during construction on the project site would not cause or contribute to the degradation of water quality in receiving waters.

In addition, BMC Chapter 21.40 requires that proposed projects comply with grading, erosion, and sediment control regulations on file in the Public Works Department, and BMC Chapter 17.20 requires BMPs to be implemented to minimize non-stormwater discharges during construction. Required BMPs for construction and development in BMC Section 17.20.050.B, such as the provision of filter materials at catch basins to prevent pollutants from entering the storm drain system, would apply to construction activity regardless of size, include projects less than one acre in size on the Bayer Campus. Compliance with local and state regulatory requirements and implementation of construction BMPs would minimize discharges from construction activity during buildout of the amended DA. Construction activity therefore would not result in the degradation of water quality in receiving waters; construction-related water quality impacts would be less than significant.

Operational Impacts

The project would result in a significant impact if new development on the Bayer Campus conflicts with applicable water quality permits or waste discharge requirements during its operation. New development under buildout of the project would be subject to continuing water quality requirements included in the proposed amended DA as listed in Exhibit G-8 of the proposed amended DA. Exhibit G-8 establishes a Surface Water Run-off Program that requires quarterly sampling of surface water discharge prior to entering the City's storm drain system, to ensure that waste from the Bayer Campus does not discharge into the

system. In addition, it requires that Bayer use BMPs in accordance with NPDES guidelines to reduce contamination of surface waters. Sampling of surface water discharge must demonstrate no contribution to degradation of surface waters at Aquatic Park.

New development on the project site also would be subject to the requirements of the currently applicable Municipal Regional Stormwater NPDES Permit issued by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). This permit regulates the City of Berkeley's stormwater discharges to San Francisco Bay. The most recent permit, known as MRP2, was issued on November 19, 2015, and expired on December 31, 2020 (NPDES Permit No. CAS612008). An administrative draft of the next permit (MRP3) is currently under review with a scheduled Tentative Order release in summer 2021 and a planned effective date of July 1, 2022.

Compliance with the applicable NPDES Permit at the time of development on the Bayer Campus would include operational and maintenance control measures, or BMPs, and construction-related BMPs. Provisions specified in MRP2 or the applicable NPDES Permit that affect construction projects generally include requirements to employ appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects; to address stormwater runoff pollutant discharges; and to prevent increases in runoff flows from new development and redevelopment projects by mimicking a site's predevelopment hydrology.

Water quality in stormwater runoff is also regulated locally by the City. Provision C.3 of MRP2 or similar provisions in the applicable NPDES Permit addresses post-construction stormwater requirements for new development and redevelopment projects that add and/or replace 10,000 square feet or more of impervious area or special land use categories that create and/or replace 5,000 square feet of impervious surfaces, such as auto service facilities, retail gas stations, restaurants, and uncovered parking lots. (The proposed MRP3 would lower the threshold for new development and redevelopment projects to 5,000 square feet of impervious area.) These "regulated" projects are required to meet certain criteria: 1) incorporate site design, source control, and stormwater treatment measures into the project design; 2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and 3) minimize increases in runoff flows as compared to pre-development conditions. Additionally, projects in Berkeley that drain to a natural water body must also construct and maintain hydromodification measures to ensure that estimated post-project runoff peaks and durations do not exceed estimated pre-project peaks and duration.

Compliance with the applicable state, local, and DA requirements described above would increase infiltration of stormwater, decrease stormwater runoff, promote capture and use, and would reduce the risk of water contamination within the project site from operation of new and existing activities on the site to the maximum extent practicable. However, relevant mitigation measures from the 1991 EIR, as adapted below, would continue to apply to the proposed project to avoid adverse effects on surface water quality from stormwater runoff.

Mitigation Measures

HWQ-1 Best Management Practices (Updated 1991 EIR MM)

The project applicant shall prepare documentation of Best Management Practices to minimize the potential for water pollution. Typical elements of such a document would include addressing the possibility of substituting less toxic compounds in manufacturing and research and development and proper handling of those toxic compounds used.

HWQ-2 Source Control (Updated 1991 EIR MM)

The project applicant shall manage pollutants on the project site such that they are not easily mobilized and discharged into stormwater runoff. This shall involve configuring fuel storage under roofed areas and preventing on-site runoff from flowing through these areas. Hazardous materials stored in uncovered areas shall be fully contained or covered such that they do not come into contact with rainfall.

HWQ-3 Water Quality Monitoring (Updated 1991 EIR MM)

The project applicant shall perform sampling and testing of stormwater runoff from the project site four times per year. The extent and location of this monitoring will be based upon the degree of source runoff controls implemented. Monitoring shall be used primarily to ensure source controls are working and to detect any additional or accidental pollutants in stormwater runoff.

HWQ-4 Pollutant Removal (Updated 1991 EIR MM)

The project applicant shall install systems to remove pollutants before stormwater runoff leaves the project site. This may involve physical removal or chemical or biological treatment depending on the type of pollutants that would be present. Uncovered parking areas shall receive street sweeping monthly to remove pollutants, oils, and greases before they are mobilized by runoff. Storm drains downstream of hazardous materials storage areas shall be equipped with manual shut-off valves. In the event of a spill, these valves shall be immediately closed, and shall remain closed until clean-up has been completed.

HWQ-5 Management of Underground Tanks (Updated 1991 EIR MM)

The project applicant shall protect from damage existing wells that monitor potential releases of pollutants from underground tanks and may be required to relocate them if they would be affected by construction. Remediation or excavation of soil contaminated by underground tank releases, if necessary, shall be completed before construction of permanent foundations.

HWQ-6 Monitoring and Remediation of Seepage into Aquatic Park (Updated 1991 EIR MM)

The project applicant shall contribute to the funding of (as determined by the City) or perform periodic groundwater sampling and monitoring where groundwater seeps from the 10- to 12-foot-high embankment along the western edge of the Southern Pacific Railroad. If the City determines that the Bayer Campus' use of hazardous material has contributed to contamination of groundwater seepage which supports the narrow freshwater wetland between the main lagoon at Aquatic Park and the railroad, Bayer shall contribute to the funding of remediation, if necessary. If the City determines that contamination of groundwater seepage originates from properties outside the Bayer Campus, then the project applicant shall not be responsible for funding remediation of such contamination.

HWQ-7 Source Control for Groundwater Contamination (Updated 1991 EIR MM)

The project applicant shall implement standard safeguards, monitoring, and contingency measures to minimize the potential for future contamination of the local groundwater. Such measures include roofing and/or berming of storage areas, lining storage areas to prevent infiltration, and/or installing shutoff valves in downslope storm drain lines.

Significance After Mitigation

With implementation of adapted 1991 EIR Mitigation Measures HWQ-1 through HWQ-7, potential contamination of surface water and groundwater from the Bayer Campus would be monitored, controlled at the source, and remediated if necessary. In addition, the project would be required to comply with current State, local, and DA requirements to manage stormwater runoff. Therefore, the project would not violate water quality standards or waste discharge requirements, would not significantly contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and would not substantially degrade water quality. This impact would be less than significant with mitigation incorporated. These mitigation measures will be included in the Subsequent EIR's Executive Summary and in the project's Mitigation Monitoring and Reporting Program. With mitigation, there would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

New development allowed by under the proposed amended DA on the Bayer Campus would not use or deplete groundwater resources. EBMUD supplies water to the project site. The groundwater aquifer beneath Berkeley is not currently used for water storage or drinking water supply. Therefore, new development under the project would not include installation of new groundwater wells or use of groundwater from existing wells.

The project site is in a fully urbanized area in West Berkeley and is almost entirely covered with impervious surface, including structures, parking lots, and roadways. Redevelopment would not substantially increase the amount of impervious surface; in fact, the proposed addition of six new acres of open space on the Bayer Campus would decrease the amount of impervious surface. Therefore, the project would not interfere with groundwater recharge. However, as described above under Item 10.a, new development on the project site would be required to comply with measures that promote infiltration in Provision C.3 of MRP2 or the applicable NPDES Permit. Implementation of low-impact development measures would increase absorption of stormwater runoff and the potential for groundwater recharge.

Therefore, the project would not result in a net deficit in aquifer volume or a lowering of the groundwater table. This impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

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

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

New development allowed by the project could alter site-specific drainage patterns. Stormwater runoff generated by new development allowed by the project would be collected by drainage inlets and conduits and conveyed to the San Francisco Bay, as under current conditions. The project site lacks surface waters and is not located within a flood hazard area designated by the Federal Emergency Management Agency (FEMA) (Berkeley 2014a). As discussed in Item 10.b, the project site largely consists of impervious surface, and new or modified development under the proposed amended DA would not increase the amount of impervious surface. Therefore, the project would not cause the rate or amount of surface runoff to substantially increase.

New development or redevelopment on the Bayer Campus that creates or replaces 10,000 square feet of impervious surfaces (5,000 square feet under the proposed MRP3) or 5,000 square feet or more of impervious surface for special land use categories (i.e., uncovered parking lots, restaurants, auto service facilities, and gasoline stations) also would be "regulated projects" under the NPDES Permit and would be required to implement site design measures, source control measures, and stormwater treatment measures to reduce stormwater pollution during operation. Regulated projects subject to stormwater treatment measures would require the implementation of LID features, such as harvesting and reuse, bioretention areas, pervious paving, green roofs, and flow-through planters. Such state-of-the-art measures could reduce stormwater runoff flows from the project site, relative to existing conditions. Therefore, the project would not introduce substantial additional surface water discharges and would not result in flooding on- or off-site.

All regulated projects on the project site would be required to prepare a Stormwater Management Plan (SWMP) that includes the post-construction BMPs that control pollutant levels. All SWMPs would be reviewed by the City of Berkeley prior to the issuance of building permits. In areas within the city that have soils with low permeability and/or area with high water tables, BMPs that do not rely on infiltration are most appropriate. As discussed in Item 10.a, Bayer would also continue to implement a Surface Water Run-off Program in Exhibit G-8 of the DA, which requires that sampling of surface water discharge to demonstrate no discharge of waste into the City's storm drain system and no contribution to degradation of waters at Aquatic Park.

Compliance with applicable State and local regulations and requirements in the DA would increase infiltration of stormwater and reduce stormwater runoff from operation of new developments to the extent practicable. Therefore, development that could be facilitated by the project would not substantially alter the existing drainage pattern of the site or area or alter the course of any stream or river, would not result in erosion or siltation, and would not substantially increase the rate of surface runoff in a manner which would result in flooding on- or off-site or exceed capacity of a stormwater system. This impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

The project site is not located in a FEMA-designated flood hazard zone or tsunami hazard zone (Berkeley 2014a). Aquatic Park is mapped as a 100-year flood zone, and the California Emergency Management Agency has mapped the area west of the railroad line as a tsunami hazard zone. However, the project site is outside of these zones. No enclosed large surface water bodies that might be subject to potential impacts from seiches are located in the project vicinity (the lagoons in Aquatic Park are too small to generate a damaging seiche) (Berkeley 2014b). Therefore, the risk of inundation that causes the release of pollutants from the project site would be minimal, and this impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

As discussed under Item 10.a, buildout of the project would not violate water quality standards or degrade water quality during construction or operation.

Berkeley is under the jurisdiction of the SFBRWQCB, which is responsible for preparing the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The Basin Plan serves as the basis for the SFBRWQCB's regulatory programs and incorporates an implementation plan for achieving water quality objectives. With adherence to the State and local water quality standards discussed in Items 10.a and 10.c, the project would not have an adverse effect on water quality and would not interfere with the objectives and goals in the Basin Plan. Therefore, this impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

This page intentionally left blank.

11 Land Use and Planning

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Physically divide an established community?	N/A	No	No	No	N/A
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	EIR Pages 5B-14 through 5B-23	No	No	No	No

1991 EIR Summary

Chapter 5B (Land Use and Recreation) of the 1991 EIR analyzes the existing DA's impacts related to land use. The 1991 EIR finds that impacts related to floor area, parking, and cumulative development would be less than significant with mitigation incorporated. As discussed in Chapter 6 (Required CEQA Considerations) of the 1991 EIR, building heights up to 80 feet tall are determined to have an unavoidable adverse impact related to land use compatibility. Although the EIR states that reducing building heights to 45 feet would avoid this impact, it notes that the project sponsor has rejected such a height limit as infeasible. The 1991 EIR does not address the issue area of physical division of an established community.

Table 20 lists mitigation measures related to land use in the 1991 EIR. This list excludes mitigation measures relevant to cumulative development because the 1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Table 20 1991 EIR Mitigation Measures: Land Use

Mitigation Measure	Description
Phase 1 Impacts	
Land Use Impact 4: Height	
Mitigation 1	Building heights could be reduced so that the height limit would not be exceeded
Mitigation 2	The height impacts of the project can be mitigated with design controls that are discussed in the visual impact section of the EIR.
Land Use Impact 9: Pilot Plant Height	
Mitigation 1	The height of the pilot plant could be reduced to 45 feet so that the height limit would not be exceeded.
Mitigation 2	The apparent height of the pilot plant as seen from Dwight Way will be reduced by setbacks and other architectural features as described in the Visual Impact Section, Chapter 5C of this EIR.
Phase 2 Impacts	
Land Use Impact 10: Floor Area	
Mitigation 1	This impact could be mitigated by reducing the amount of square footage proposed by 20 percent.
Mitigation 2	The project site size could be reduced onsite by eliminating the garage and providing parking in off-site lots of parking structures. The garage site could then be used for manufacturing or laboratory space and the remaining buildings could be spread throughout the rest of the site.
Mitigation 3	Design guidelines will be used to reduce the apparent bulk of the project.
Land Use Impact 13: Height	
Mitigation 1	Reduce building heights so that the height limit is not exceeded.
Mitigation 2	Same as Impact 4, Mitigation 2.
Phase 3 Impacts	
Land Use Impact 16: Floor Area	
Mitigation 1	Same mitigation as Impact 10
Land Use Impact 19: Height	
Mitigation 1	Reduce the heights of the administration and warehouse buildings to 45 feet, which would be more compatible with nearly buildings.
Mitigation 2	Reduce the heights of other tall buildings up to 45 feet or less.
Mitigation 3	Same as Impact 4, Mitigation 2,

Source: City of Berkeley 1991

Impact Analysis

a. Would the project physically divide an established community?

The Bayer Campus is located in an urban area with a fully developed street grid. The project does not include elements that would physically divide established communities in West Berkeley. For example, no new roads or other large or linear facilities would be constructed that would physically divide the established community or otherwise impede access or interaction across or within West Berkeley. Existing road segments within the overall envelope of the Bayer Campus would not be closed or reconfigured. The North and South Properties are closed to public access and would remain so. Therefore, no land use impact related to the physical division of an established community would occur as a result of the proposed project. There would be no new or substantially more severe impacts than what

was analyzed in the 1991 EIR, no mitigation from the 1991 EIR would apply, and further analysis is not warranted.

NO IMPACT

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

Government Code §65867.5(b) states that "[a] development agreement shall not be approved unless the legislative body finds that the provisions of the agreement are consistent with the general plan and any applicable specific plan." In addition, BMC §22.16.050.H.2 provides that "[t]he City Council shall not approve a proposed development agreement unless it finds that its provisions are consistent with the general plan and any applicable specific plan."

This section analyzes the project's consistency with the BMC, the Berkeley General Plan, and the West Berkeley Plan with regard to policies and regulations adopted to avoid or mitigate environmental effects.

Consistency with Berkeley Municipal Code

Development agreements are contracts negotiated between project proponents and public agencies that govern the land uses that may be allowed in a particular project. Allowable land uses must be consistent with the General Plan and West Berkeley Plan, but may be negotiated to supersede zoning requirements in the Berkeley Municipal Code. Exhibit G-8 of the existing DA sets development standards, which would supersede related zoning requirements. The project would extend the DA through 2052, expand its applicability to cover the Southern Properties, and modify some development standards, including standards for height, floor area ratio, parking, and setbacks. As described in the analysis below, the amended DA would be consistent with the General Plan and the West Berkeley Plan. Since the standards in the DA would supersede requirements in the Berkeley Municipal Code and since development within the project site would be required to comply with the standards in the amended DA, the project would not result in conflicts with BMC regulations.

Consistency with Berkeley General Plan

The Berkeley General Plan applies a land use designation of Manufacturing to the project site. This designation is "intended to maintain and preserve areas of Berkeley for manufacturing and industrial uses necessary for a multi-faceted economy and job growth" (Berkeley 2001c). Consistent with the Manufacturing designation, the project would maintain the Bayer Campus as a site for biopharmaceutical manufacturing. In addition, the General Plan allows floor area ratio (FAR) in the manufacturing designation to range "between less than 1 and 2." Under the amended DA, the proposed FAR within each block would range from 0.27 to 1.37. Therefore, the project would be consistent with the type of development and FAR allowed under the General Plan.

During buildout of the amended DA, new development on the project site also would be required to adhere to applicable environmental and land use policies in the Berkeley General Plan. For instance, as discussed in Item 7, *Geology and Soils*, development would be consistent with Policy S-14 in the Berkeley General Plan, which states that soil investigation and/or geotechnical reports are required on sites within designated hazard zones such as areas with high potential for soil erosion, landslide, fault rupture, liquefaction

and other soil-related constraints (Berkeley 2001b). As discussed in Item 1, *Aesthetics*, the proposed height limits would protect substantial obstruction of scenic vistas protected by Policy UD-31 in the Urban Design and Preservation Element of the Berkeley General Plan. As discussed in Item 4, *Biological Resources,* the project would not result in significant impacts to natural habitats and would therefore be consistent with Policy EM-28, which calls for the City to restore and protect valuable, significant, or unique natural habitat areas. The project would also be consistent with Policy LU-34, which calls for the City to protect industrial uses in West Berkeley; the amended DA would allow continued operation of the existing industrial uses (manufacturing, laboratories, etc.) within the Bayer Campus through 2052. Therefore, the project would not result in conflicts with Berkeley General Plan policies that were adopted to avoid or mitigate environmental effects.

Consistency with the West Berkeley Plan

The West Berkeley Plan established land use/zoning districts in West Berkeley. The underlying zoning of the bulk of the project site, located west of Seventh Street, is Mixed Manufacturing (MM). The portion of the project site to the east of Seventh Street has the underlying Mixed Use-Light Industrial (MU-LI) zoning designation. As discussed above, site-specific development standards and environmental standards in the amended DA would supersede BMC standards on the project site. The uses that the amended DA would continue to permit on the Bayer Campus also would be consistent with the intent of the West Berkeley Plan's MM and MU-LI zones to promote manufacturing and light industrial operations. Therefore, the project would not result in conflicts related to land use policies in the West Berkeley Plan.

Policy 1.B of the West Berkeley Plan calls for "Providing, through zoning districts, development standards, and other tools, space and incentives for expansion of manufacturing firms, particularly the growing light manufacturing sector." The Plan does not include discreet development standards; instead, development standards are provided through zoning requirements in the BMC. As described above, the standards in the DA would supersede requirements in the Berkeley Municipal Code and since development within the project site would be required to comply with the standards in the amended DA, the project would not conflict with the development standards in the BMC.

The Environmental Quality chapter of the West Berkeley Plan provides a set of goals and policies to protect public health and the environment. Policies that apply to the amended DA address hazardous materials, air quality, and noise, among other environmental issues. Environmental impacts related to these issues will be analyzed further in a subsequent EIR.

12 Mineral Resources

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	N/A	No	No	No	N/A
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	N/A	No	No	No	N/A

1991 EIR Summary

The 1991 EIR does not address the issue area of mineral resources.

Impact Analysis

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

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

The project site is in a fully urbanized area that is incompatible with mineral resource extraction. The Berkeley General Plan's Environmental Management Element states that "due to its long-established urbanized character, Berkeley has no active…mineral extraction" industry (Berkeley 2001d). Therefore, the project would not result in the loss of availability of valuable mineral resources or mineral resource recovery sites. No impact would occur. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

This page left intentionally blank

13 Noise

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project result in:					
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	EIR Pages 5G-3 through 5G-9	Yes	No	No	No
b. Generation of excessive ground-borne vibration or groundborne noise levels?	N/A	No	Yes	No	N/A
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	N/A	No	No	No	N/A

1991 EIR Summary

Chapter 5G (Noise) of the 1991 EIR analyzes the existing DA's impacts related to on-site operational noise, traffic noise, and construction noise. The 1991 EIR finds that mechanical equipment at utility buildings, including compressors, boilers, and cooling tower fans could increase noise levels on the project site. This impact was determined to be less than significant with mitigation incorporated. The 1991 EIR also states that the existing DA would increase the number of employees working during nighttime hours, which could increase noise from the parking garage, resulting in a less than significant impact with mitigation incorporated. The 1991 EIR estimated that construction and demolition would generate noise ranging from 78 to 91 dBA, causing a less than significant impact with mitigation incorporated. The 1991 EIR does not address the issue areas of groundborne vibration or aircraft noise.

Table 21 lists mitigation measures related to noise in the 1991 EIR.

Table 21 1991 EIR Mitigation Measures: Noise

Mitigation Measure	Description
Impact 1: Operational Noise	
Mitigation 1	Boilers, compressors and other significant noise sources will be enclosed.
Impact 3: Nighttime Traffic Noise	
Mitigation 2	Prior to City design review of the parking garage, Miles Inc./Cutter Biological should commission a noise study by a qualified acoustical consultant. The study shall estimate maximum noise levels generated by the anticipated nighttime use of the garage at residences along Dwight Way. If it is determined that nighttime use of the garage as proposed will result in a violation of City noise standards, the report will specify any design modifications and/or operating policies necessary to meet City noise standards. Miles Inc./Cutter Biological will implement any measures necessary to meet City noise standards.
Impact 4: Overall Construction Noise	
Mitigation 1	Noise levels could be reduced to levels of 75-80 dBA through feasible noise control measures using procedures and equipment selected to minimize noise. Miles Inc./Cutter Biological shall require in construction contracts that all feasible noise controls be implemented by the contractor to achieve the noise reductions noted in Table 5G-3.
Mitigation 2	To determine whether noise mitigation 1 would reduce impacts to a level of insignificance, on-site noise measurements shall be made during phase 1 construction to quantify noise levels in Aquatic Park and residences near the site. The construction noise standards of Berkeley's noise ordinance shall be the measure of significance. If construction noise exceeds these standards, further mitigation shall be recommended to achieve the standards.
Phase 1 Construction Impacts	
Impact 5: North of the Site; Impact 6: West of the Site – Demolition; Impact 7: West of the Site – Construction; Impact 8: North of the Site; and Impact 9: West of the Site – Construction	
Mitigation 1	Construction shall be limited to the hours of 7 AM through 7 PM Monday through Friday
Mitigation 2	All equipment shall use state-of-the art mufflers, silencers and noise control features.
Mitigation 3	When possible, the quietest procedures and machinery shall be used, such as electric instead of diesel-powered equipment.
Mitigation 4	Unnecessary engine warm-up, idling and acceleration shall be prohibited.
Mitigation 5	Construction equipment shall be monitored and inspected at periodic intervals to ensure that the equipment is properly maintained and equipped with manufacturer's standard noise abatement devices.
Mitigation 6	The project sponsor should designate an individual to respond to noise complaints during building demolition and construction to ensure adequate noise control measures are implemented.
Mitigation 7	The project sponsor will install a construction safety barrier around the periphery of the building sites using plywood panels.
Phase 2 Construction Impacts	
Impact 10: North of the Site	
Mitigation 1	Measures 1-6 under Impact 5
Mitigation 2	The project sponsor will install a construction safety barrier around the periphery of the building sites using plywood panels. If properly designed, a plywood construction barrier can reduce line-of-sight noise levels by up to 15 dBA. This measure along with above mitigation (1-6, Impact 5) would reduce demolition and construction noise to less than 70 dBA, the appropriate background level near residences in the site vicinity.

Mitigation Measure	Description
Impact 11: West of the Site - Demolition	
Mitigation 1	Measures 1-6 under Impact 5
Mitigation 2	If the proposed noise wall along the freeway reduces background noise levels at the Aquatic Park such that the above mitigation measures 1-6 are insufficient to reduce construction and demolition noise to an acceptable level, a temporary noise wall will be constructed for the project.
Impact 12: West of the Site - Construction	
Mitigation 1	Measures 1-6 under Impact 5
Mitigation 2	If the proposed noise wall along the freeway reduces background noise levels at the Aquatic Park such that the above mitigation measures 1-6 are insufficient to reduce construction and demolition noise to an acceptable level, a temporary noise wall will be constructed for the project.

Source: Berkeley 1991

Impact Analysis

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

The project would reorganize the layout of land uses and buildings on the Bayer Campus, which would allow for construction activity in different areas of the Bayer Campus than assumed in the 1991 EIR. Sensitive receptors located near construction activity could potentially be exposed to higher noise levels than estimated in the 1991 EIR. Buildout of the amended DA also would involve the installation of new stationary sources of operational noise, including emergency back-up generators; a boiler; heating, ventilation, and cooling (HVAC) equipment at new and renovated buildings and parking structures. In addition, buildout under the proposed amended DA would add approximately 108 more employees at Year 30 of the amended DA than under baseline conditions (potential buildout under the existing DA), which could generate additional vehicle trips and roadway noise. To serve additional employees and expanded facilities, delivery and trash hauling trips to the project site may increase as well. Therefore, changes in the project could generate additional temporary and permanent noise. The project would have a potentially significant impact from increased ambient noise levels, and this issue will be analyzed further in the Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

Over a 30-year buildout period, the project would allow for demolition, excavation, grading, buildout construction, and paving activity that temporarily generates groundborne vibration on the project site. Typical construction equipment that causes vibration includes vibratory rollers, bulldozers, and loaded trucks. The amended DA would prohibit the use of pile drivers, which cause the strongest vibration levels among standard construction equipment. However, sensitive receptors and buildings located near the Bayer Campus could be exposed to substantial vibration levels from other construction equipment. This could result in human annoyance and structural damage from vibration. Groundborne vibration was not analyzed in the 1991 EIR. Therefore, potential effects from vibration would represent a change in circumstances from the noise impacts analyzed in the 1991 EIR. The project

would have a potentially significant impact from vibration, and this issue will be analyzed further in the Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

As discussed in Item 9, *Hazards and Hazardous Materials*, the nearest airport to the project site is Oakland International Airport, which is located approximately 8.5 miles to the south. The project site is outside of the area of the land use plan for the airport, including the noise contours associated with the airport (Alameda County 2010). There are no private airstrips near the project site. Because there are no airports or airstrips near the project site, the project would not result in the exposure of people to excessive noise levels from aircraft. No impact would occur. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

14 Population and Housing

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:						
a.	Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	EIR Pages 6-1 to 6-2	No	No	No	Yes
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	N/A	No	No	No	N/A

1991 EIR Summary

Chapter 6 (Required CEQA Considerations) of the 1991 EIR analyzes the existing DA's impacts on growth inducement. This chapter finds that buildout of the existing DA would increase the value of the North Properties, which could increase nearby property values, inducing redevelopment of less intensive land uses. The 1991 EIR includes a mitigation measure stating that any potential impact could be reduced to a less than significant level if the City denies applications for intensification of use that exceed the limits of the General Plan or the goals of the West Berkeley Plan.

The 1991 EIR estimates that buildout of the existing DA would add 380 new permanent jobs and 200 temporary construction jobs, having a beneficial effect on employment in the city and region. It also estimates that 80 new employees would seek housing in Berkeley, which could lead to the construction of new housing. Mitigation measures require the applicant to offset increased housing demand by providing housing or paying an in-lieu fee, and by employing people who are currently unemployed. The 1991 EIR determines that the impact on housing needs would be less than significant with mitigation.

The 1991 EIR also finds that new residents would increase demand for services, which could lead to growth of government services. However, it determines that growth inducement related to government services would have a less than significant impact because the existing DA would generate revenues in excess of public costs.

In addition, the 1991 EIR finds that the DA would require infrastructure improvements and expansion of roads, sewer, and water lines, which could be sized to accommodate additional growth in future. Mitigation states that the City should not approve projects that deviate from types and amount of growth implicit in General Plan and West Berkeley Plan. The impact of growth inducement related to infrastructure was determined to be less than significant with mitigation.

The 1991 EIR's mitigation measures related to population and housing would not apply to the proposed project because they are matters of regulatory compliance or do not pertain to environmental effects.

Impact Analysis

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

The project would not allow for construction of new residences but would facilitate growth in employees. Currently the Bayer Campus has approximately 1,000 employees. Under baseline conditions, it is estimated that the project site would have 1,892 employees by the year 2052. The proposed project would result in an estimated 2,000 employees by 2052. This represents a net increase of 108 employees beyond baseline conditions (potential buildout under the existing DA), or 5.7 percent more employees on the Bayer Campus. Because many of these jobs would be specialized, requiring technical or management expertise, new employees could move to Berkeley, resulting in population growth in the city. The 1991 EIR assumed that approximately 21 percent of new employees would seek housing in Berkeley, based on an estimate by the City's Office of Economic Development (Berkeley 1991). Applying the same rate, the projected net increase of 108 employees would result in an increase of 23 households in Berkeley. Based on the current average household size of 2.26 in Berkeley, it is estimated that additional employees and their households would increase the citywide population by 52 people. This population increase would be incremental over the 30-year period of the amended DA through the year 2052.

Table 22 shows the project's expected contribution to population growth by the year 2040, the latest year for which regional agencies have forecasted populations in Bay Area jurisdictions. This analysis makes the conservative assumption that full buildout of the project and resulting population growth could occur by 2040.

Table 22 Project's Contribution to Projected Population Growth through 2040

	Population
Net Potential Growth Under Project Relative to Baseline Conditions	52
Projected Citywide Growth in Berkeley[1]	18,355
City of Berkeley Total Projected[1]	140,935
Net Potential Growth Under Project Relative to Total City Population	0.04%

[1] Projected citywide growth is derived by subtracting the existing population of 122,580 from the projected population of 140,935 in the year 2040.

Sources: ABAG and MTC 2017; California Department of Finance 2020

As shown in Table 22, the estimated population increase of 52 people would not exceed the projected increase of 18,355 in citywide population by the year 2040. In addition, it would represent less than 0.1 percent of total citywide population in 2040. Therefore, the project would not result in an exceedance of projected population growth in Berkeley.

It is anticipated that the project may involve upgrades to on-site water conveyance pipes and upsizing of offsite water mains serving the project site, including eight-inch lines on Dwight Way, Seventh Street, and Grayson Street. The existing eight-inch pipes along these roadways may be replaced with 12-inch pipes. This expansion of the capacity of water lines would be consistent with the assumptions of the 1991 EIR. Therefore, expanded

infrastructure would not lead to unplanned population growth in West Berkeley, and the project would have a less than significant impact related to population. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

The project would involve redevelopment of Bayer's existing campus on the North and South Properties, which lack any housing units. Therefore, the project would not displace existing people or housing. No impact would occur. Further analysis in the Subsequent EIR is not warranted. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

NO IMPACT

This page left intentionally blank

15 Public Services

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:						
a.	Fire protection?	EIR Pages 5K-2 to 5K-4	No	No	No	No
b.	Police protection?	EIR Pages 5K-1 to 5K-2	No	No	No	Yes
c.	Schools?	N/A	No	No	No	N/A
d.	Parks?	EIR Pages 5B-23 to 5B-24	No	No	No	Yes
e.	Other public facilities?	EIR Pages 5K-7 through 5K-13; 5L-8 through 5L-12	Yes	Yes	No	No

1991 EIR Summary

Section 5K (Public Services and Facilities) of the 1991 EIR analyzes the existing DA's impacts related to public services. The 1991 EIR states that the Berkeley Police Department does not anticipate the need for more employees, equipment, or costs due to the DA, unless the applicant fails to take proper security precautions. This impact on police services was determined to be less than significant with mitigation incorporated.

Section 5K also evaluates impacts related to emergency services, including fire hazards and water supply for fire flow. It cites a statement by the Fire Department that the DA would not necessitate additional employees and equipment as long as the applicant complies with the Uniform Fire Code. The impact related to fire hazards was determined to be less than significant with mitigation incorporated.

The 1991 EIR states that the applicant must retain a sufficient water supply to meet fire flow requirements prior to construction of new buildings. With implementation of mitigation measures, the 1991 EIR determines that the DA would have a less than significant impact related to fire flow.

The 1991 EIR does not address the issue area of schools. Chapter 5B (Land Use and Recreation) of the 1991 EIR analyzes the existing DA's impacts on parks. Refer to Item 16, *Recreation*, for a summary of the 1991 EIR's discussion of impacts related to recreational facilities. Refer to Item 19, *Utilities and Service Systems*, for a summary of the 1991 EIR's discussion of impacts related to other public facilities, including water supplies.

Table 23 lists the 1991 EIR's mitigation measures related to public services. This list excludes mitigation measures relevant to cumulative development because the 1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Table 23 1991 EIR Mitigation Measures: Public Services

Mitigation Measure	Description
Security Impact 1: Police	
Mitigation 1	Mitigation measures recommended by the Berkeley Police Department are: ▪ Have the Police Department do a Crime Prevention Evaluation Analysis Report with the applicant; ▪ Continue to employ a highly visible security guard; ▪ Continue to provide good lighting in parking areas and around buildings in use in the evenings; and ▪ Train employees in security measures. ▪ Any buildings containing pharmaceuticals should have solid walls and/or be provided with burglar alarms and/or have safety glazing on the windows.
Emergency Services Impact 1: Fire Department	
Mitigation 1	Miles Inc./Cutter Laboratories will comply with Fire Code requirements by providing adequate access to the site. Design of internal roadways and building access will be reviewed by the Fire Department.
Mitigation 2	Miles Inc./Cutter Laboratories will install Fire Department approved automatic sprinkler systems in all our buildings except where alternative fire control systems using CO2 or other non-water systems are appropriate.
Mitigation 3	Miles Inc./Cutter Laboratories will install a Fire Department approved fire alarm system.
Mitigation 4	Miles Inc./Cutter Laboratories will comply with Fire Code requirements by providing adequate access to the site. Design of internal roadways and building access will be reviewed by the Fire Department.
Mitigation 5	Should it be determined that on-site conditions would result in hazards that require special equipment for fire fighting, Miles Inc./Cutter Biological will provide such special equipment for Fire Department use. The equipment will be stored on-site and subject to appropriate maintenance and inspection.
Mitigation 6	Buildings that are more than 75 feet in height are defined as "high-rise" buildings by Title 24 of the State Building Code. All such buildings on the site must comply with fire safety regulations pertaining to high rises. Special requirements which apply to high rises include: installation of an automatic sprinkler system, a fire alarm system, a built-in communication system for the Fire Department (so that the fire chief can go to a locked box on the ground floor and communicate with firefighters on the other floors), and special requirements regarding building materials.

Source: City of Berkeley 1991

Environmental Setting

The Berkeley Fire Department serves the project site. The nearest fire station to the site, Station 1, is located at 2442 Eighth Street, which is approximately 100 feet north of the North Properties. Bayer's emergency response system includes trained Emergency Response Team (ERT) members, Security, and Health, Environmental, Safety, and Security (HESS) staff. Bayer maintains a "Pre-Fire Plan" which provides facility-wide maps showing fire hydrant locations and building-specific information regarding fire protection equipment (Berkeley 2014b).

The Berkeley Police Department provides law enforcement services for the city, including the project site. Police headquarters are located at 2100 Martin Luther King Jr. Way, less than two miles northwest of the project site (Berkeley 2014b).

Bayer's Security Department is the first point of formal contact when an incident is discovered (Berkeley 2014b). Upon receiving a call or alarm, the Security Department

radios appropriate ERT members and HESS management. The Bayer emergency responder will initiate calls to the fire department, police, or other agency as needed. Bayer maintains a protocol for the type of emergency incidents that trigger response by the Berkeley Fire Department. In addition to on-site emergency responders, Bayer has maintained a relationship with the City of Berkeley Fire Department and Police Department to coordinate emergency services.

Impact Analysis

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Buildout of the Bayer Campus under baseline conditions (potential buildout under the existing DA), including existing entitlements on the North Properties and existing development on the South Properties, would total 1,866,000 square feet. The project would involve a net reduction of 128,000 square feet in buildout relative to baseline conditions. Because the project would not allow for an increase in development potential, the 1991 EIR's finding that buildout of the existing DA would not necessitate additional employees and equipment given compliance with the Uniform Fire Code would continue to apply. New structures constructed under the amended DA would be required to comply with basic building designs and standards as mandated by the Berkeley Fire Code, under BMC Section 19.48.

Future development on the project site also would be required to comply with abatement of fire-related hazards and pre-fire management prescriptions as outlined under the California Health and Safety Code and the California Fire Plan. Typical fire-related requirements included in these codes include:

a. Adequate marking of exterior building openings
b. Openings and fire escape stairs and balconies
c. Internal access, including via hallways and doorways
d. Manual and automatic fire alarm systems
e. Fire Fighter Air Replenishment Systems
f. Internal building sprinkler systems
g. New fire hydrants
h. External fire protection (setbacks, fire-resistant materials, etc.)

New development allowed by the project would be reviewed for compliance with these requirements and compliance with other building and safety regulations several times during different phases of project development. In addition, as discussed in the proposed amended DA, Bayer would continue to adhere to existing protocols for emergency response as discussed above. Therefore, the project would not contribute to the need for new or expanded fire protection facilities, and this impact would be less than significant. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

As discussed in Item 15.a, the project would involve a net reduction of 128,000 square feet in buildout of the Bayer Campus. Because the project would not allow for an increase in development potential, the 1991 EIR's finding that buildout of the existing DA would not necessitate additional employees and equipment, with adherence to proper security precautions, would continue to apply. However, mitigation measures in the 1991 EIR would still be necessary to reduce the risk of on-site crime that requires police protection services. Therefore, the project would have a potentially significant impact related to police protection facilities.

Mitigation Measures

PS-1 Security Measures (Updated 1991 EIR MM)

The project applicant shall continue implementing the following measures recommended by the Berkeley Police Department including but not limited to:

- Prepare a Crime Prevention Evaluation Analysis Report in coordination with the Police Department;
- Employ a highly visible security guard;
- Provide adequate lighting in parking areas and around buildings in use in the evenings; and
- Utilize solid walls, burglar alarms, and/or safety glazing on the windows for buildings containing pharmaceuticals.

Significance After Mitigation

With implementation of 1991 EIR Mitigation Measure PS-1, which has been adapted from the 1991 EIR, Bayer would continue existing practices to reduce demand for police protection services at the project site, such as employing visible private security and providing adequate security lighting. The project also would not allow for an increase in development potential relative to baseline conditions. Therefore, it would not contribute to the need for new or expanded police protection facilities, and this impact would be less than significant with mitigation incorporated. This mitigation measure will be included in the Subsequent EIR's Executive Summary and in the project's Mitigation Monitoring and Reporting Program. With mitigation, there would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The project would not allow for residential development that could directly increase demand for school facilities. However, it is anticipated that buildout of the project would add 108 employees to the Bayer Campus relative to baseline conditions, and some new employees

with school-age children could move to Berkeley. As discussed in Item 14, *Population and Housing*, it is estimated that the increase of 108 employees would lead to 23 more households in Berkeley. Applying student generation rates that were developed for a mixed-use project in Los Angeles, the new households would include an estimated six children in grades K-12 (RPM Consulting 2003).[7] School-age children at new households with Bayer employees would marginally increase demand for school facilities in Berkeley. Pursuant to Senate Bill 50, Bayer would be required to pay school impact fees established to offset potential impacts from new development on school facilities. Therefore, although adoption and development under the project could indirectly increase resident populations and potential student enrollment in Berkeley, payment of the fees mandated under SB 50 is the mitigation prescribed by statute, and payment of such fees is "...deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Pursuant to CGC §65994(h), the project would have a less than significant impact relating to school facilities.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Refer to Section 16, *Recreation*, for an analysis of impacts related to the need for new or physically altered parks. This impact was found to be less than significant with mitigation incorporated from the 1991 EIR. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

e. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

As discussed in Item 10, *Hydrology and Water Quality,* impacts related to stormwater facilities would be less than significant. Impacts related to water and wastewater water facilities are discussed in Item 19, *Utilities and Service Systems.* As discussed in that section, impacts related to water and wastewater facilities are potentially significant and will be analyzed further in a Subsequent EIR. No significant impacts to other public services are anticipated.

POTENTIALLY SIGNIFICANT IMPACT

[7] Student generation rates for commercial development include 0.135 students/household for grades K-5, 0.061 students/household for grades 6-8, and 0.063 students/household for grades 9-12 (RPM Consulting 2003).

This page intentionally left blank.

16 Recreation

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:					
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	EIR Pages 5B-23 to 5B-24	No	No	No	Yes
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	N/A	No	No	No	N/A

1991 EIR Summary

Chapter 5B (Land Use and Recreation) of the 1991 EIR analyzes the existing DA's impacts on existing recreational facilities. The 1991 EIR finds that the project could result in greater use of Aquatic Park because it would add an anticipated 380 more employees at the North Properties without increasing on-site recreational facilities. Greater use of Aquatic Park is found to necessitate additional park maintenance. Therefore, the 1991 EIR includes a mitigation measure requiring a fair-share contribution to the cost of maintenance at Aquatic Park. The 1991 EIR determines that implementation of this measure would reduce the impact related to park maintenance to a less-than-significant level. Pursuant to Exhibit 10 of the 1999 DA Amendments, Bayer is currently making fair-share contributions to maintenance of Aquatic Park.

The 1991 EIR also states that employees walking to Aquatic Park would have to undertake a hazardous crossing of the railroad tracks to the west of the North Properties. A mitigation measure requires a contribution to the City's proposed at-grade connections at Channing Way between the Bayer Campus and Aquatic Park. The 1991 EIR finds that implementation of this measure would significantly reduce the hazard to employees that would have crossed the tracks at undesignated locations. Alternatively, the 1991 EIR requires implementation of a mitigation measure to provide on-site recreational amenities for employees. These measures are found to potentially reduce the hazard to a less-than-significant level.

Table 24 lists the 1991 EIR's mitigation measures related to recreation. This list excludes mitigation measures relevant to cumulative development because the 1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Table 24 1991 EIR Mitigation Measures: Recreation

Mitigation Measure	Description
Land Use and Recreation Impact 21: Aquatic Park	
Mitigation 1	The project sponsors will contribute a fair share of the cost of the park maintenance in Aquatic Park, because it will benefit their employees.
Land Use and Recreation Impact 22: Hazardous Conditions for Park Users	
Mitigation 2	Miles Inc./Cutter Biological could provide on-site recreational amenities for employees.

Source: City of Berkeley 1991

Impact Analysis

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

Currently the Bayer Campus has approximately 1,000 employees. Under baseline conditions (potential buildout under the existing DA), it is estimated that the project site would have 1,892 employees by the year 2052. The proposed project would result in an estimated 2,000 employees by 2052. This represents a net increase of 108 employees beyond baseline conditions, or 5.7 percent more employees on the Bayer Campus. By increasing the number of employees on-site, the project would increase demand for recreational facilities in Berkeley. Additional employees who reside in the Berkeley area could use City parks outside of work hours. However, park use by 108 additional employees would have a marginal effect on overall use of City parks and would not substantially contribute to physical deterioration of park facilities.

The project also would accommodate greater demand by expanding on-site recreational facilities to serve employees. The amended DA would add at least nine acres of open space, which would triple the existing three acres on-site. Open space would consist of fields, sports courts, pedestrian trails, bicycle trails, outdoor eating areas, and landscaping. Most new open space would only be accessible to Bayer employees. The proposed expansion of recreational space serving employees on the Bayer Campus would reduce demand for off-site parks including Aquatic Park during work hours.

By increasing the availability of convenient on-site facilities to meet on-site employees' recreational demand, the project would reduce demand during work hours for offsite recreational facilities including Aquatic Park. However, it is expected that some Bayer employees would continue to use Aquatic Park. Under the existing entitlement, Bayer is required to contribute funding to the City for improvements and maintenance at Aquatic Park, including annual increments of $5,000 plus Consumer Price Index costs, for ongoing park maintenance to address potential impacts from employees using the park. Without continued payment for this maintenance or other improvements, operation under the amended DA may result in physical deterioration of the park without alternative funding to offset it. Therefore, this impact is potentially significant, and Mitigation Measure REC-1 is required to ensure continued funding for park maintenance and improvements.

Mitigation Measures

REC-1 (Updated 1991 EIR MM)

The project applicant shall contribute to park maintenance and improvements related to Aquatic Park through an upfront payment of $385,000. The contribution shall be paid to the City of Berkeley Parks, Recreation, and Waterfront Department by February 25, 2022.

Significance After Mitigation

With implementation of 1991 EIR Mitigation Measure REC-1, Bayer would pay a sum that would fund ongoing Aquatic Park improvements. Furthermore, it is anticipated that the project would not increase the use of Aquatic Park or other offsite recreational facilities beyond baseline demand. Therefore, this impact would be less than significant with mitigation incorporated. This mitigation measure will be included in the Subsequent EIR's Executive Summary and in the project's Mitigation Monitoring and Reporting Program. With mitigation, there would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

As discussed in Item 16.a, buildout under the proposed amended DA would include on-site recreational facilities, including fields, sports courts, pedestrian trails, bicycle trails, outdoor eating areas, and landscaping. The amended DA includes making at least six acres of open space available by year 10 of buildout and at least nine acres by year 30, which would exceed the existing three acres on-site. This element of the project would implement a mitigation measure from the 1991 EIR to provide on-site recreational amenities (as shown in Table 24); therefore, this measure would no longer be required. The construction of proposed recreational facilities could have environmental impacts described elsewhere in this Initial Study, before implementation of mitigation measures. As discussed in Section 4, *Biological Resources*, impacts to nesting birds during construction would be potentially significant. Section 7, *Geology and Soils*, notes that impacts to paleontological resources from ground disturbance could be significant. Mitigation measures in these respective sections would reduce potential environmental impacts to a less-than-significant level. However, this Initial Study finds that impacts related to the following environmental impacts would be potentially significant and will be analyzed further in a Subsequent EIR: air quality, cultural resources, GHG emissions, hazards and hazardous materials, noise, transportation, and tribal cultural resources. Therefore, the corresponding impacts related to new recreational facilities would be potentially significant and will analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

This page left intentionally blank

17 Transportation

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:						
a.	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	EIR Pages 5E-25 through 5E-38	Yes	No	No	No
b.	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	N/A	Yes	Yes	No	N/A
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	Final EIR Page 5E-30	Yes	No	No	No
d.	Result in inadequate emergency access?	N/A	No	No	No	N/A

1991 EIR Summary

Chapter 5E (Transportation) of the 1991 EIR analyzes the existing DA's impacts on traffic, pedestrian conditions, and parking availability. This chapter finds that the DA would have less than significant impacts on traffic flow at intersections with mitigation incorporated. However, the 1991 EIR determines that the project, in combination with other planned development in West Berkeley, would contribute to a significant cumulative traffic impact at several intersections. The 1991 EIR also finds that that a pedestrian crossing of Seventh Street between a parking structure and all buildings to the west would need special controls. This impact related to traffic hazards was determined to be less than significant with mitigation incorporated.

The 1991 EIR does not address the issue areas of consistency with *CEQA Guidelines* Section 15064.3, subdivision (b) or the adequacy of emergency access.

Table 25 lists the 1991 EIR's mitigation measures related to transportation. This list excludes other mitigation measures from the 1991 EIR and 1999 IS-MND for the 1999 DA Amendments that are specific to the existing DA's development plan or relevant to traffic congestion. Pursuant to Public Resource Code, § 21099 (b)(2), traffic congestion, while potentially an inconvenience to drivers, is not itself an environmental impact. Therefore, issues related to traffic congestion are currently outside the scope of CEQA analysis. This list also excludes mitigation measures relevant to cumulative development because the

1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Table 25 1991 EIR Mitigation Measures: Transportation and Traffic

Mitigation Measure	Description
Transportation Impact 8: Trucks and Loading Impacts	
Mitigation	Miles Inc./Cutter Biological shall prepare a report on loading/unloading operations at each phase of development. The report shall indicate the number of vehicles visiting the site on a daily basis, the size of these vehicles, the parking space needed for these vehicles, and the number of loading docks needed based on diurnal variation of the truck visits. If the loading/unloading facilities are not adequate to serve the flow, Miles Inc./Cutter Biological shall provide additional docks and/or parking on site.
Transportation Impact 14: Pedestrian Impact	
Mitigation 1	The mitigation calling for a traffic signal at 7th and Cutter will provide safe crossing opportunities for pedestrians. The signal will include a pedestrian signal head and a call button.
Mitigation 2	The following sidewalk improvements are needed: sidewalk construction along the property frontage on Seventh Street and new sidewalk on the south side of Dwight between Fifth and Seventh.
Transportation Impact 15: Air Quality	
Mitigation 1	This impact can be reduced to the extent that future employees at Miles Inc./Cutter Biological purchase cleaner electric cars. About 8% of Miles Inc./Cutter Biological employees live in Berkeley, this is the potential market for lightweight electric power vehicles. These vehicles may be too slow to be a practical choice for employees who live at more distance locations. They could also pose hazards when mixed with faster and bigger vehicles. Although the use of less polluting vehicles is a matter of consumer choice, Miles Inc./Cutter Biological could distribute literature that discusses cleaner vehicles to employees.
Transportation Impact 16: Cumulative traffic impacts	
Mitigation 2	Miles Inc./Cutter Biological Transportation Demand Management Program: An overall Transportation Demand Management program shall be implemented by Miles Inc./ Cutter Biological and other project sponsors in West Berkeley. The components of such a program are detailed in Chapter 5E of [the 1991 Draft EIR], and include ride sharing, ride matching, vanpools, preferential parking, variable work hours, bicycle programs and transit programs.

Source: Berkeley 1991

Impact Analysis

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

The project would involve changes to the Bayer Campus that would affect circulation, including a rearranged campus layout, demolition of multiple buildings, construction of approximately twelve new buildings for production, laboratory, and administrative uses, and replacement of surface parking with two new parking structures and new underground parking facilities. These proposed changes to the existing DA are not analyzed in the 1991 EIR. Therefore, the project would have a potentially significant impact related to conflicts with programs, plans, ordinances, and policies addressing the circulation system, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

CEQA Guidelines Section 15064.3 requires an analysis of a project's effect on vehicle miles traveled (VMT). The 1991 EIR was certified before the adoption of statewide VMT standards pursuant to Senate Bill 743, and before the *CEQA Guidelines* was amended to incorporate the issue of VMT. This represents a change in the circumstances under which the 1991 EIR was prepared, requiring further analysis. Therefore, the project would have a potentially significant impact related to consistency with VMT standards, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

d. Would the project result in inadequate emergency access?

The proposed layout of the Bayer Campus would differ substantially from the existing DA's site layout, which could potentially result in new hazards due to geometric design features (e.g., pedestrian crossings of dangerous intersections) and effects on emergency access. These impacts would be potentially significant and will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

This page left intentionally blank

18 Tribal Cultural Resources

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	N/A	No	Yes	No	N/A
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?	N/A	No	Yes	No	N/A

1991 EIR Summary

The 1991 EIR does not address the issue area of tribal cultural resources.

Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

The issue of tribal cultural resources was added to the Appendix G checklist of environmental issues in the *CEQA Guidelines* after certification of the 1991 EIR. This represents a change in the circumstances of the 1991 EIR's analysis. Ground disturbance during buildout of the amended DA could potentially disturb tribal cultural resources.

Therefore, this impact would be potentially significant and will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

19 Utilities and Service Systems

		Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Would the project:						
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	EIR Pages 5K-7 through 5K-13; 5L-8 through 5L-12	Yes	No	No	No
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	EIR Pages 5K-7 through 5K-13	Yes	Yes	No	No
c.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	EIR Pages 5L-8 through 5L-12	Yes	Yes	No	N/A
d.	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	N/A	Yes	Yes	No	N/A
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	N/A	Yes	Yes	No	N/A

1991 EIR Summary

Chapter 5K (Public Services and Facilities) of the 1991 EIR analyzes the existing DA's impacts related to water supplies. The 1991 EIR finds that buildout of the DA would increase water consumption from the North Properties, which could exceed water supplies if conservation measures are not applied in the event of a five-year drought. Chapter 6 (Required CEQA Considerations) of the 1991 EIR determines that water consumption during the production process would have an unavoidable adverse impact during five-year droughts, even with mitigation incorporated. Chapter 5K also addresses impacts related to water pipeline capacity for fire flow, which are discussed under Item 15, *Public Services*.

Chapter 5L (Hydrology and Drainage, Wastewater and Groundwater) of the 1991 EIR analyzes the existing DA's impacts related to wastewater. The 1991 EIR states that buildout of the existing DA would generate additional sewage flows which could aggravate capacity problems in sewer lines. This impact is determined to be less than significant with mitigation incorporated. In addition, the 1991 EIR finds that the generation of wastewater with chemical and biological oxygen demand, sugars, chemicals, and amino acids would have a less than significant impact on EBMUD's wastewater treatment plant with mitigation incorporated.

The 1991 EIR does not address the issues of construction or relocation of electric power, natural gas, or telecommunications facilities, or of solid waste generation.

Table 26 shows the 1991 EIR mitigation measures related to utilities and service systems. This list excludes mitigation measures relevant to cumulative development because the 1991 EIR's cumulative setting consists of approved projects when the existing DA was proposed. This historic cumulative setting does not apply to the proposed project.

Table 26 1991 EIR Mitigation Measures: Utilities and Service Systems

Mitigation Measure	Description
Public Services Impact 4: Water supply	
Mitigation 1	The project sponsor shall undertake a water conservation program to reduce consumption by at least 10% over any mandatory water rationing imposed by EBMUD.
Mitigation 2	The sponsor shall incorporate water conservation measures into the construction process, and shall use drought-resistant landscape species. Miles Inc./ Cutter Biological would comply with City ordinances requiring drought resistant landscaping.
Mitigation 3	The sponsor shall request a water audit from EBMUD and abide by recommendations to reduce water consumption. The sponsor further agrees to consult with EBMUD at each phase of development to increase conservation.
Public Services Impact 5: Water infrastructure	
Mitigation 1	If it is determined by EBMUD that the project would demand water in excess of existing supply capacity, the project will be required to pay its fair share of the costs to upgrade the lines, including study and construction costs.
Public Services Impact 6: Cumulative water demand	
Mitigation 2	A systemwide water conservation program will be implemented by EBMUD which shall include the following: leak detection and pipeline rehabilitation, distribution of water-saving devices, water audits, landscape consultations, public information dissemination and demonstration gardens.

Mitigation Measure	Description
Hydrology Wastewater and Groundwater Impact 3: Wastewater flows	
Mitigation 1	The sponsor shall perform a sewer capacity evaluation to determine improvements needed to handle project flows for all phases of development.
Mitigation 2	The sponsors will pay sewer connection fees in proportion to the project's wastewater flow to enable the City to review existing capacities and make the necessary improvements.
Hydrology Wastewater and Groundwater Impact 4: Wastewater capacity	
Mitigation 2	The sponsor shall upgrade all on-site sewer lines to desired City standards unless it can be shown that there is no excessive inflow/ infiltration to the line.
Hydrology Wastewater and Groundwater Impact 7: Constituents in wastewater	
Mitigation 1	The sponsors shall increase quarterly wastewater monitoring to include the above constituents. A discharge limit should be established in consultation with EBMUD.
Hydrology Wastewater and Groundwater Impact 8: Wastewater collection system	
Mitigation 1	The sponsor shall upgrade all on-site 4-inch to 6-inch, unless it can be shown that there is no excessive inflow/infiltration to the line. The existing 6-inch line should be upgraded to a minimum of 8 inches.
Energy and Waste Impact 1: Cumulative energy impacts	
Mitigation 1:	The City shall develop an energy conservation program with requirements to reduce consumption by target amounts at specific points in time. Showing ability to achieve the targets shall be a condition of approval.
Energy and Waste Impact 2: Solid waste	
Mitigation 1	The City's recycling program substantially reduces solid waste impacts. The City should require all projects to comply with the City Source Reduction and Recycling Element and the County Source Reduction and Recycling plan. The City should investigate the possibility of recycling mixed paper and plastic in order to further reduce solid waste impacts.

Source: City of Berkeley 1991

Impact Analysis

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

It is anticipated that the project may involve upgrades to on-site water conveyance pipes and upsizing of offsite water mains the construction of which may cause environmental effects. Therefore, the impact related to construction of new utility lines would be potentially significant, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

Proposed changes to the existing DA include the demolition of existing buildings and construction and operation of new buildings that were not analyzed in the 1991 EIR. These changes would alter demand for water supplies relative to baseline conditions. Since certification of the 1991 EIR, circumstances have also changed with regard to the availability of water supplies, especially during multi-year droughts. Therefore, the project would have a potentially significant impact on water supplies, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

Proposed changes to the existing DA include the demolition of existing buildings and construction and operation of new buildings that were not analyzed in the 1991 EIR. These changes would alter wastewater generation relative to baseline conditions. Since certification of the 1991 EIR, circumstances have also changed with regard to the inflow at EBMUD's wastewater treatment plant serving the project site. Therefore, the project would have a potentially significant impact related to the wastewater treatment plant's capacity, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

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

Proposed changes to the existing DA include the demolition of existing buildings and construction and operation of new buildings that were not analyzed in the 1991 EIR. These changes would alter solid waste generation relative to baseline conditions. Since certification of the 1991 EIR, circumstances have also changed with regard to the remaining capacity of the Altamont Landfill, which currently accommodates solid waste generated in Berkeley. Therefore, the project would have a potentially significant impact related to solid waste, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

20 Wildfire

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	N/A	No	No	No	N/A
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	N/A	No	No	No	N/A
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	N/A	No	No	No	N/A
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	N/A	No	No	No	N/A

1991 EIR Summary

The 1991 EIR does not directly address the issue area of wildfire. As detailed in Item 15, *Public Services*, Section 5K (Public Services and Facilities) of the 1991 EIR analyzes the existing DA's impacts related to on-site fire hazards and fire flow. The 1991 EIR determines that these impacts would be less than significant with mitigation incorporated.

Environmental Setting

A wildfire is a nonstructural fire that occurs in vegetative fuels, excluding prescribed fire. Wildfires can occur in undeveloped areas and spread to urban areas where the landscape and structures are not designed and maintained to be ignition resistant. A wildland-urban

interface is an area where urban development is near open space or "wildland" areas. The potential for wildland fires represents a hazard where development is adjacent to open space or near wildland fuels or designated fire severity zones. Steep hillsides and varied topography also contribute to the risk of wildland fires.

The California Department of Forestry and Fire Protection (Cal Fire) has mapped areas of significant fire hazards in the state through its Fire and Resources Assessment Program. These maps place areas of the state into different fire hazard severity zones (FHSZ) based on a hazard scoring system using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather where urban conflagration could result in catastrophic losses. As part of this mapping system, land where Cal Fire is responsible for wildland fire protection and generally located in unincorporated areas is classified as a State Responsibility Area (SRA). Where local fire protection agencies, such as the City of Berkeley Fire Department (BFD), are responsible for wildfire protection, the land is classified as a Local Responsibility Area (LRA). Cal Fire currently identifies Berkeley as an LRA. In addition to establishing local or state responsibility for wildfire protection in a specific area, Cal Fire designates areas as very high fire hazard severity zones (VHFHSZ) or non-VHFHSZ. West Berkeley, including the project site, is not designated as a VHFHSZ. The nearest such zone is located in the Berkeley Hills, approximately 2.2 miles east of the project site (California State Geoportal 2020).

The City of Berkeley has incorporated Cal Fire's LRA map into its identification of fire hazard three zones within City limits (BMC Section 19.28.030):

- **Zone 1** encompasses the portions of the City not designated within Cal Fire's VHFHS zone.
- **Zone 2** encompasses the portions of the City designated within the VHFHS zone and the Combined Hillside District, except the portions covered by Zone 2.
- **Zone 3** encompasses those areas designated in the VHFHS zone and the Environmental Safety--Residential Zoning District (ES-R). The BMC provides the following description the ES-R District: "Because of its substandard vehicular access, steep slopes, inadequate water pressure and proximity to the Hayward Fault and vegetated wildlands, the Panoramic Hill area is exceptionally vulnerable to severe damage or destruction from fire and earthquake hazards" (Section 23D.24.020).

Areas within Zones 2 and 3 encompass the City's Wildland-Urban Interface Fire Area, an area designated as at significant risk from wildfires (BMC Section 19.28.030). The project site is in Zone 1 and outside of the Wildland-Urban Interface Fire Area.

Impact Analysis

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

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

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

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

The project site, being in West Berkeley, is not located in or near a VHFHSZ: it is approximately 2.2 miles away from the nearest such zone, which is in the eastern margins of the city in the Berkeley Hills. It is also outside the City's Wildland-Urban Interface Fire Area. Therefore, the project would not impair an adopted emergency response or evacuation plan related to wildfire; exacerbate wildfire risks; or expose people to post-fire risks related to runoff, flooding, or landslides. No impact would occur. Further analysis in the Subsequent EIR is not warranted.

NO IMPACT

This page left intentionally blank

21 Mandatory Findings of Significance

	Where was Impact Analyzed in the EIR?	Does the Proposed Project Require Major Revisions to the EIR?	Do New Circumstances Require Major Revisions to the EIR?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do EIR Mitigation Measures Address and/or Resolve Impacts?
Does the project:					
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	N/A	Yes	Yes	No	N/A
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	N/A	Yes	Yes	No	N/A
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	N/A	Yes	Yes	No	N/A

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

As noted under Item 4, *Biological Resources*, development allowed under the proposed amended DA may have adverse effects on special-status species, including disturbance of nesting birds and bird strikes on reflective building surfaces. Mitigation measures BIO-1 through BIO-2 would reduce these potential impacts to a less than significant level. Implementation of these mitigation measures also would reduce potential impacts on wildlife migration corridors to less than significant. All other impacts related to biological resources would be less than significant or no impact would occur. There would be no new or substantially more severe impacts than what was analyzed in the 1991 EIR, and further analysis is not warranted. Therefore, with incorporation of mitigation, the proposed project would not result in substantially reduced habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, elimination of a plant or animal community, or reduced number or restricted range of a rare or endangered plant or animal. Nonetheless, as discussed in Item 5, *Cultural Resources*, the project could allow for demolition or modification of buildings that are eligible for designation as historic resources. Therefore, the project would have a potentially significant impact on important examples of the major periods of California history or prehistory, and this issue will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

As described in Items 3, 5, 8, 13, 17, 18, and 19 of the Environmental Checklist, buildout under the proposed amended DA could result in significant cumulative impacts to air quality, cultural resources, GHG, noise, transportation, tribal cultural resources, and utilities. These impacts will be analyzed further in a Subsequent EIR.

The project would have no impact, a less than significant impact, or a less than significant impact after mitigation with respect to all other cumulative environmental issues discussed in the checklist. There are no other known projects in development or under consideration that would affect those other resource areas.

POTENTIALLY SIGNIFICANT IMPACT

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

In general, impacts to human beings are associated with air quality, geologic hazards, GHGs, hazards and hazardous materials, noise, and traffic safety impacts. As described in Item 7 of the Environmental Checklist, impacts related to geologic hazards would be less than significant with mitigation incorporated. However, as detailed in the preceding responses, the project could result in effects on air quality, GHGs, hazards and hazardous materials, noise, and traffic safety that could be significant and will be analyzed further in a Subsequent EIR.

POTENTIALLY SIGNIFICANT IMPACT

This page left intentionally blank

References

Bibliography

Alameda County. 2010. *Oakland International Airport Land Use Compatibility Plan*. December 2010. https://www.acgov.org/cda/planning/generalplans/documents/OAK_ALUCP_122010_FULL.pdf

Audubon Society. 2004. “Important Bird Areas: Eastshore Wetlands, California.” https://www.audubon.org/important-bird-areas/eastshore-wetlands (accessed November 2020).

Bay Area Air Quality Management District (BAAQMD). 2017a. 2017 Clean Air Plan. April 2017. http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en (accessed April 2020).

_____. 2017b. California Environmental Quality Act Air Quality Guidelines. May 2017. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed April 2020).

Berkeley, City of. 1993. *The West Berkeley Plan*. Berkeley, CA. https://www.cityofberkeley.info/Planning_and_Development/Redevelopment_Agency/West_Berkeley_Plan_(The).aspx

_____. 2001a. *Berkeley General Plan: Urban Design and Preservation Element*. April 23, 2001. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Urban_Design_and_Preservation_Element.aspx (accessed January 2021).

_____. 2001b. *Berkeley General Plan: Disaster Preparedness and Safety Element*. April 23, 2001. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Disaster_Preparedness_and_Safety_Element.aspx (accessed December 2020).

_____. 2001c. *Berkeley General Plan: Land Use Element*. December 18, 2001. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Land_Use_Element_Introduction.aspx (accessed January 2021).

_____. 2001d. *Berkeley General Plan: Environmental Management Element*. April 23, 2001. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Environmental_Management_Element(2).aspx (accessed January 2021).

_____. City of Berkeley General Plan: A Guide for Public Decision-Making. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan__A_Guide_for_Public_Decision-Making.aspx (accessed January 2021).

_____. 2009a. Climate Action Plan. June 2009. https://www.cityofberkeley.info/climate/ (accessed January 2021)

_____. 2009b. “Existing General Plan Land Use Diagram.” https://www.cityofberkeley.info/uploadedFiles/IT/Level_3_-_General/gp_landuse.pdf (accessed October 2020).

_____. 2010. *West Berkeley Project Environmental Impact Report*. Berkeley, CA. October 2010.

_____. 2014a. *2014 Local Hazard Mitigation Plan*. https://www.cityofberkeley.info/uploadedFiles/Fire/Level_3_-_General/2014%20LHMP.pdf (accessed December 2020).

_____. 2014b. *Bayer HealthCare Product Testing Facility Initial Study*. Berkeley, CA. August 2014.

____. 2018. Detailed Greenhouse Gas Inventory Report. Provided via email by Justin Horner, Associate Planner, City of Berkeley to Karly Kaufman, Supervising Planner, Rincon Consultants, Inc. April 8, 2021.

____. 2020a. Berkeley Electric Mobility Roadmap. Adopted July 2020. https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Energy_and_Sustainable_Development/City%20of%20Berkeley%20Electric%20Mobility%20Roadmap_2020.pdf (accessed July 2021).

_____. 2020b. City of Berkeley Community GIS Portal. https://www.cityofberkeley.info/gisportal/ (accessed October 2020).

_____. 2020c. Berkeley Municipal Code. Last amended July 28, 2020. https://www.codepublishing.com/CA/Berkeley/ (accessed October 2020).

California Air Resources Board (CARB). 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011.

_____. 2017. California's 2017 Climate Change Scoping Plan. November 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed January 2021).

California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2019. *2018 Report of California Oil and Gas Production Statistics*. October 1, 2019. https://www.conservation.ca.gov/calgem/pubs_stats/annual_reports/Pages/annual_reports.aspx (accessed January 2021).

_____. 2020. *Division of Oil, Gas & Geothermal Resources – Well Finder*. https://maps.conservation.ca.gov/doggr/wellfinder/#close (accessed January 2021).

California Department of Finance. 2020. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (accessed January 2021).

California Energy Commission (CEC). 2003. Reducing California's Petroleum Dependence. Joint Agency Report with California Air Resources Board. https://ww3.arb.ca.gov/fuels/carefinery/ab2076final.pdf (accessed January 2021).

_____. 2007. State Alternative Fuels Plan. https://ww2.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF (accessed January 2021).

_____. 2012. 2012 Bioenergy Action Plan. Prepared by the Bioenergy Interagency Working Group. http://resources.ca.gov/docs/energy_and_climate_change/2012_Bioenergy_Action_Plan.pdf (accessed January 2021).

_____. 2018. “Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation.” May 9, 2018. https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first (accessed January 2021).

_____. 2019a. “California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets.” Last modified: July 1, 2019. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed January 2021).

_____. 2019b. “California Energy Consumption Database.” http://ecdms.energy.ca.gov/ (accessed January 2021).

_____. 2019c. *2019 California Energy Efficiency Action Plan*. November 2019. https://ww2.energy.ca.gov/business_meetings/2019_packets/2019-12-11/Item_06_2019%20California%20Energy%20Efficiency%20Action%20Plan%20(19-IEPR-06).pdf (accessed January 2021).

_____. 2020a. Oil Supply Sources to California Refineries. http://www.energy.ca.gov/almanac/petroleum_data/statistics/crude_oil_receipts.html (accessed January 2021).

_____. 2020b. “Electric Generation Capacity & Energy.” https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy (accessed January 2021).

_____. 2020c. *Final 2019 Integrated Energy Policy Report*. February 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report (accessed January 2021).

_____. 2020d. “Supply and Demand of Natural Gas in California.” https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed January 2021).

California Geological Survey (CGS). 2002. *Note 36: California Geomorphic Provinces*. https://www.contracosta.ca.gov/DocumentCenter/View/34134/CGS-2002-California-Geomorphic-ProvincesNote-36-PDF (accessed December 2020).

California Public Utilities Commission. 2008. 2008 Update to the Energy Action Plan. https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/2008%20Energy%20Action%20Plan%20Update.pdf (accessed January 2021).

California State Geoportal. 2020. “California Fire Hazard Severity Zone Viewer.” January 2020. https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414 (accessed January 2021).

Caltrans. 2019. *List of Eligible and Officially Designation State Scenic Highways*. August 2019. https://dot.ca.gov/-/media/dot-media/programs/design/documents/desig-and-eligible-aug2019_a11y.xlsx (accessed January 2021).

Dibblee T.W. and Minch, J.A. 2005. *Geologic Map of the Oakland East Quadrangle, Contra Costa and Alameda Counties, California*. [map]. Tabular digital data and vector digital data. 1:24,000. Dibblee Geological Foundation.

East Bay Community Energy (EBCE). 2020. "Our Power Mix." https://ebce.org/our-power-mix/ (accessed January 2021).

Farallon Consulting, LLC. 2020a. Phase I Environmental Site Assessment: Bayer Campus Parcels 1, 2, 3, and 4, 820 Parker Street, Berkeley, California. October 21, 2020.

_____. 2020b. Soil and Groundwater Management Plan: Bayer Campus Parcels 1, 2, 3, and 4, 820 Parker Street, Berkeley, California. December 28, 2020.

Field, Edward H., et al. 2015. *UCERF3: A New Earthquake Forecast for California's Complex Fault System*. Prepared for U.S. Geological Survey. Available at: http://dx.doi.org/10.3133/fs20153009 (accessed January 2019).

FirstCarbon Solutions. 2020. *Aesthetics Analysis for Bayer Development Agreement Extension Project*. Berkeley, CA. October 2020.

GasBuddy. 2020. "Gas Price Map." www.gasbuddy.com (accessed September 2020).

Helley, E.J., and R.W. Graymer. 1997. *Quaternary Geology of Alameda County and Surrounding Areas, California: Derived from the Digital Database Open-File 97-97*. [map]. Tabular digital data and vector digital data. 1:100,000. United States Geological Survey.

Klem Jr., Daniel. 1990. "Collisions Between Birds and Windows: Mortality and Prevention." *Journal of Field Ornithology*, 61(l), pp. 120-128.

National Highway Traffic Safety Administration. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed January 2021).

Pacific Gas & Electric (PG&E). 2018. I*ntegrated Resource Plan 2018*. August 1, 2018. https://www.pge.com/en_US/for-our-business-partners/energy-supply/integrated-resource-plan/integrated-resource-plan.page (accessed January 2021).

_____. 2020a. "Company Profile." https://www.pge.com/en_US/about-pge/company-information/profile/profile.page (accessed January 2021).

_____. 2020b. "Explore our natural gas transmission pipeline map." https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/gas-transmission-pipeline/gas-transmission-pipelines.page (accessed January 2021).

RPM Consulting. 2003. Student Generation Study: Village at Playa Vista Development. August 2003. https://planning.lacity.org/eir/PlayaVista/PlayaVistaDEIR/DISK2/text/App_L/App_L.pdf (accessed February 2021).

United States Department of Energy (U.S. DOE). 2020. "Alternative Fuels Data Center." https://afdc.energy.gov/fuels/biodiesel_locations.html#/find/nearest?fuel=BD&location=california&page=1 (accessed January 2021).

United States Department of Transportation. 2014. "Corporate Average Fuel Economy (CAFE) Standards." Last modified: August 11, 2014. https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards (accessed January 2021).

United States Energy Information Administration (U.S. EIA). 2020a. “Petroleum & Other Liquids, California Field Production of Crude Oil.” https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA1&f=M (accessed September 2020).

_____. 2020b. “U.S. Energy Mapping System.” https://www.eia.gov/state/maps.php (accessed January 2021).

_____. 2020c. Table P2. Primary Energy Production Estimates in Trillion Btu, 2018. Last modified: June 26, 2020. https://www.eia.gov/state/seds/sep_prod/pdf/P2.pdf (accessed January 2021).

United States Environmental Protection Agency (U.S. EPA). 2019. “Trump Administration Announces One National Program Rule on Federal Preemption of State Fuel Economy Standards.” https://www.epa.gov/newsreleases/trump-administration-announces-one-national-program-rule-federal-preemption-state-fuel (accessed January 2021).

_____. 2020. “History.” https://www.energystar.gov/about/history-0 (accessed January 2021).

U.S. Fish and Wildlife Service (USFWS). 2020. *National Wetlands Inventory*. https://www.fws.gov/wetlands/data/mapper.html (accessed November 2020).

University of Berkeley (UC Berkeley). 2011. “Holocene Epoch.” https://ucmp.berkeley.edu/quaternary/holocene.php#:~:text=The%20Holocene%20is%20the%20name,the%20Holocene%20has%20been%20a (accessed December 2020).

U.S. Geological Survey. 2020a. National Geological Map Database. https://ngmdb.usgs.gov/ngmdb/ngmdb_home.html (accessed December 2020).

_____. 2020b. “What is a ‘Quaternary’ Fault?” https://www.usgs.gov/faqs/what-a-quaternary-fault?qt-news_science_products=0#qt-news_science_products (accessed January 2020).

VCA Green. 2019. “5 Things to Expect from the CALGreen 2019 Code.” May 3, 2019. https://vca-green.com/5-things-to-expect-from-the-calgreen-2019-code/ (accessed January 2021).

List of Preparers

Rincon Consultants, Inc. prepared this Initial Study under contract to the City of Berkeley. Persons involved in data gathering analysis, project management, and quality control are listed below.

Abe Leider, AICP, Principal
Karly Kaufman, MESM, Project Manager
Jonathan Berlin, MESM, Senior Environmental Planner
Jacob Cisneros, Sustainability Associate
Annaliese Miller, Environmental Planer

This page left intentionally blank