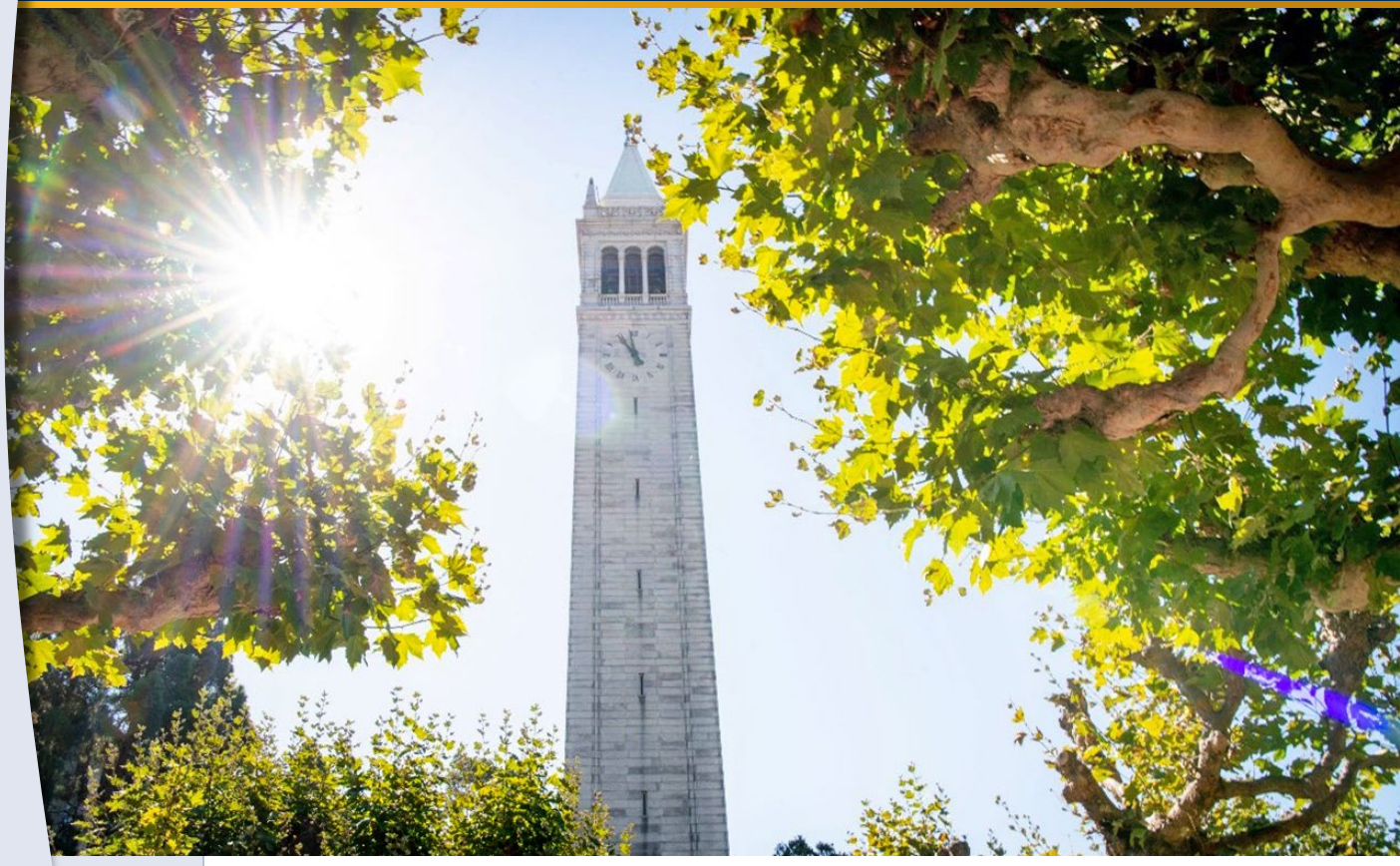
FINAL ENVIRONMENTAL IMPACT REPORT FOR THE

UC Berkeley Innovation Zone

State Clearinghouse No. 2023100861



Prepared for:

Berkeley
UNIVERSITY OF CALIFORNIA

May 2024

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1 INTRODUCTION

The Board of Regents (the Regents) of the University of California (University), as the lead agency, and in cooperation with the University of California, Berkeley (UC Berkeley), prepared this final environmental impact report (Final EIR) in accordance with the requirements of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines (Section 15132). This Final EIR presents comments received on the Draft EIR for the proposed UC Berkeley Innovation Zone Project (project), responses to those comments, and revisions to the Draft EIR.

1.1 PURPOSE OF THE DOCUMENT

This Final EIR, which has been prepared in compliance with CEQA, provides responses to comments received on the Draft EIR for the approval and implementation of the project. The Draft EIR identifies significant impacts associated with the project, identifies and considers alternatives to the project, and identifies feasible mitigation measures and continuing best practices (CBPs) to avoid or reduce potential environmental impacts.

This Final EIR also contains text revisions to the Draft EIR. This Final EIR, together with the Draft EIR, constitutes the complete EIR for the project.

1.2 ENVIRONMENTAL REVIEW PROCESS

According to CEQA, lead agencies are required to consult with public agencies having jurisdiction over a proposed project, and to provide the general public with an opportunity to comment on the Draft EIR. This Final EIR has been prepared to respond to comments received on the Draft EIR. UC Berkeley issued a notice of preparation (NOP), on October 30, 2023, to responsible agencies, trustee agencies, interested parties and organizations, and individuals who could have interest in the project. The NOP indicated that a Draft EIR would be prepared and requested comments on its scope and contents. The NOP was available online at https://capitalstrategies.berkeley.edu/resources-notices/public-notices. UC Berkeley also held a public scoping meeting on November 15, 2023, to provide information on the project and solicit public input on the scope and content of the EIR. All comments on environmental issues received during the NOP public comment period and at the scoping meeting were considered and addressed via the analysis in the Draft EIR.

The Regents circulated the Draft EIR for public review and comment for a period of 45 days, from February 9, 2024, through March 25, 2024. Written comments on the Draft EIR were received from two agencies, as well as one nongovernmental organization. Chapter 4, "Comments and Responses," identifies the entities that commented, present their respective comments, and provide responses to these comments.

Before approving the project, the Regents, as the lead agency, is required to certify that the Final EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency. This Final EIR will be presented at the Regents' public hearing on May 14 to 16, 2024, at which the Regents will advise on approval and certification of the EIR.

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2 EXECUTIVE SUMMARY

This chapter presents an overview of the project and provides the conclusions of the analysis in Sections 3.1 through 3.16 of the Draft EIR. This executive summary describes the organization of this document, provides a summary of the project, and provides a list of each significant effect on the environment with the proposed mitigation, if any, that corresponds with the environmental issues discussed in the Draft EIR.

2.1 DOCUMENT ORGANIZATION

This document is organized into the following chapters:

- Chapter 1: Introduction. This chapter discusses the purpose of the document, provides a summary of the project, and provides a summary of the environmental review process.
- Chapter 2: Executive Summary. This chapter is a summary of the project and the findings of the Draft EIR and this document.
- Chapter 3: Revisions to the Draft EIR. Additional corrections to the text and graphics of the Draft EIR are contained in this chapter. Underlined text represents language that has been added to the EIR; text with ~~strikethrough~~ has been deleted from the Draft EIR. These revisions do not contain "significant new information," as defined in State CEQA Guidelines Section 15088.5, which includes new or substantially more severe environmental impacts, new feasible mitigation measures or alternatives that UC Berkeley declined to adopt, or information indicating that the Draft EIR is so fundamentally or basically inadequate as to preclude meaningful public review and comment.
- Chapter 4: Comments and Responses. This chapter lists the comments received on the Draft EIR and provides responses to those comments.
- Chapter 5: Mitigation Monitoring and Reporting Program. This chapter lists the mitigation measures in the Draft EIR for the project and identifies programs for monitoring and reporting the progress on implementing these measures.
- Chapter 6: Continuing Best Practices Implementation and Monitoring. This chapter lists the CBPs that are applicable to the project and identifies programs for monitoring and reporting the progress on implementing these CBPs.
- Appendix: A: Comment Letters

2.2 SUMMARY OF THE PROJECT

The project would be located in the City of Berkeley on a site immediately west of the UC Berkeley Campus Park. The project site currently comprises the UC Berkeley's University Hall and its Annex, the university parking lot immediately to the west of University Hall, and two UC-owned commercial buildings located at 2136-2140 University Avenue (Ernest A. Heron Building) and 2154-2160 University Avenue (Martha E. Sell Building), which are city-designated landmarks. The project would demolish all existing structures and redevelop the project site with two laboratory buildings with vehicle parking. The two buildings, referred to as the South Building and the North Building, would include space for academic research in the field of materials science, offices, and other collaborative meeting spaces. Researchers, faculty, and students from across multiple disciplines would be users of the buildings. The project would not result in UC Berkeley student population growth but would result in an increase in employment on the project site.

The South Building would provide an approximately 176,000-gross-square-foot new laboratory building that includes five above-ground floors, a non-occupied mechanical space at the roof, and a below-grade basement. The building would include wet and dry laboratory research and laboratory support space, research and administrative offices,

meeting rooms and conference space, shared administrative support space and research space for other users. The South Building would provide space for permanent occupancy of up to 340 people.

The North Building would provide an approximately 310,000-gross-square-foot building with 11 above-ground floors, a non-occupied mechanical space at the roof, and a below-ground basement. The North building would include space for laboratory and office uses, as well as a parking garage with up to 350 spaces. This building would also include roughly 5,000 gross square feet of ground-floor commercial space. The North Building would provide space for permanent occupancy of up to 750 people.

A linear-shaped courtyard, approximately 40-foot-wide by 200-foot-long, would be located between the South and North Buildings. In addition, streetscape features, including trees, bicycle racks, and trash receptacles, would be installed along the northern, eastern, and southern sides of the site perimeter and sidewalks. Landscaping would include native and/or climate adaptive and drought-resistant plant materials.

2.3 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

This section provides a brief review of the significant impact conclusions identified for the project in Sections 3.1 through 3.16 of the Draft EIR. As described in Chapter 3, "Revisions to the Draft EIR," revisions were made to mitigation measures for noise and vibration. Table 2-1 lists the finalized mitigation measures. As shown in Table 2-1, the project would result in significant impacts related to archaeological, historical, and tribal cultural resources and noise and vibration.

Table 2-1 Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Significance After Mitigation
Aesthetics		
No significant impacts		
Air Quality		
Impact 3.2-3: Expose Sensitive Receptors to Substantial Toxic Air Contaminants Concentration Construction activities would result in temporary emission of toxic air contaminants (TACs), primarily diesel particulate matter (diesel PM). Operation activities would result in long-term emission of TACs from chemical uses in the new laboratories and the use of emergency backup generators. TACs emissions from the project construction and operation activities would not result in health risks exceeding the BAAQMD's thresholds for cancer, chronic hazards, and fine particulate matter ($PM_{2.5}$). However, the sum of existing sources in the project vicinity exceeds the cumulative threshold for both cancer risk and annual $PM_{2.5}$ concentrations. The project's contribution to the health conditions would be cumulatively considerable.	**Mitigation Measure 3.2-3: Clean Equipment During Construction** UC Berkeley shall use equipment that meets the EPA Tier 4 emissions standards or higher for off-road diesel-powered construction equipment with more than 50 horsepower, unless it can be demonstrated to UC Berkeley that such equipment is not commercially available. For purposes of this mitigation measure, "commercially available" shall mean the availability of Tier 4 engines similar to the availability for other large-scale construction projects in the City occurring at the same time and taking into consideration factors such as (i) potential significant delays to critical-path timing of construction and (ii) geographic proximity to the project site of Tier 4 Final equipment. Where such equipment is not commercially available, as demonstrated by the construction contractor, Tier 3 equipment shall be used. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Tier 4 interim emissions standard for a similarly sized engine, as defined by CARB's regulations. The requirement to use Tier 4 interim equipment or higher for engines over 50 horsepower shall be identified in construction bids.	Less than Significant
Biological Resources		
Impact 3.3-2: Interfere with Bird Migration and Movement and Increase the Likelihood of Bird Strikes Project implementation would result in construction of two new buildings. The buildings would be located within the Pacific Flyway and in close proximity to the San Francisco Bay, which could result in disturbance to the typical movement and migration patterns of birds or bird strikes potentially leading to injury or death of birds.	**Mitigation Measure 3.3-2: Implement Bird-Friendly Building Design Elements to Reduce Collison Risk** Structures and buildings that are new or are taller than existing structures and buildings shall be designed to minimize the potential risk of bird collisions. This should at a minimum include the following design considerations and management strategies: (1) avoid the use of highly reflective glass as an exterior treatment, which appears to reproduce natural habitat and can be attractive to some birds; (2) limit reflectivity and prevent exterior glass from attracting birds in building plans by utilizing low-reflectivity glass and providing other non-attractive surface treatments; (3) use low-reflectivity glass or other bird safe glazing treatments for the majority of the building's glass surface, not just the lower levels; (4) for office and commercial buildings, interior light "pollution" should be reduced during evening hours through the use of a lighting control system programmed to shut off during non-work hours and between 10 p.m. and sunrise; (5) exterior	Less than Significant

Significant Impacts	Mitigation Measures	Significance After Mitigation
	lighting should be directed downward and screened to minimize illuminating the exterior of the building at night, except as needed for safety and security; (6) untreated glass skyways or walkways, freestanding glass walls, and transparent building corners should be avoided; (7) transparent glass should not be allowed at the rooflines of buildings, including in conjunction with green roofs; and (8) all roof mechanical equipment should preferably be covered by low-profile angled roofing or other treatments so that obstacles to bird flight are minimized. These strategies shall be incorporated at the direction of the Campus Architect during plan review, and the Campus Architect shall confirm the incorporation of these strategies into architectural plans prior to building construction.	
Archaeological, Historical, and Tribal Cultural Resources		
Impact 3.4-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource The project would include the demolition of two historical resources: the Ernest A. Heron Building and the Martha E. Sell Building. These two buildings are individually listed as Berkeley Landmarks and are also contributors to the Shattuck Avenue Downtown Historic District. The project would cause a substantial adverse change in the significance of these three historical resources by removing the two Berkeley Landmarks.	**Mitigation Measure 3.4-1a: Historic American Building Survey** UC Berkeley shall have Historic American Building Survey Level II documentation completed for the Heron and Sell buildings. UC Berkeley shall submit digital copies of the documentation to an appropriate historical repository, including UC Berkeley's Bancroft Library, UC Berkeley Environmental Design Archives, or the California Historical Resources Information System Northwest Information Center. This documentation shall include a historical narrative, photographs, and/or drawings: ▶ Historical Overview: A professional meeting the Secretary of the Interior's Professional Qualification Standards in Architectural History or History shall assemble historical background information relevant to the historical resource. ▶ Photographs: Photo-documentation of the historical resource will be prepared to Historic American Building Survey standards for archival photography, prior to demolition. Historic American Building Survey standards require large-format black-and-white photography, with the original negatives having a minimum size of four inches by five inches. Digital photography, roll film, film packs, and electronic manipulation of images are not acceptable. All film prints, a minimum of four inches by five inches, must be hand-processed according to the manufacturer's specifications and printed on fiber-base, single-weight paper and dried to a full gloss finish. A minimum of 12 photographs shall be taken, detailing the site, building exterior, building interior, and character-defining features. Photographs must be identified and labeled using Historic American Building Survey standards. ▶ Drawings: Existing historic drawings of the historical resource, if available, will be digitally scanned or photographed with large-format negatives. In the absence	Significant and Unavoidable

Significant Impacts	Mitigation Measures	Significance After Mitigation
	of existing drawings, full-measured drawings of the building's plan and exterior elevations shall be prepared prior to demolition. The Campus Architect shall verify compliance with this mitigation measure prior to the initiation of any site or building demolition or construction activities. Mitigation Measure 3.4-1b: Notification to Local Historical Societies and Architectural Salvage Companies UC Berkeley shall give local historical societies or local architectural salvage companies the opportunity to salvage character-defining or significant features from the Heron and Sell buildings for public information or reuse in other locations. UC Berkeley shall contact local historical societies and architectural salvage companies and notify them of the available resources and make them available for removal. If, after 30 days, no organization is able and willing to salvage the significant materials, demolition can proceed. The Campus Architect shall verify compliance with this measure prior to the initiation of any demolition activities that could affect the resources.	
Impact 3.4-2: Cause a Substantial Adverse Change in the Significance of unique Archaeological Resources No known archaeological resources were identified on the project site. However, project-related ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5, which would result in a potentially significant impact to previously undiscovered archaeological resources.	**Mitigation Measure 3.4-2: Archaeological Resources Protection Measures** UC Berkeley shall implement the following steps to ensure impacts to archaeological resources will be less than significant. ▶ Ground-Disturbing Activities. ▪ Prior to soil disturbance, UC Berkeley shall confirm that contractors have been notified of the procedures for the identification of federal- or state-eligible cultural resources, and that the construction crews are aware of the potential for previously undiscovered archaeological resources or tribal cultural resources on site, of the laws protecting these resources and associated penalties, and of the procedures to follow should they discover cultural resources during project-related work. ▪ If a resource is discovered during construction (whether or not an archaeologist is present), the following measures shall be implemented: • All soil disturbing work within 35 feet of the find shall cease. • UC Berkeley shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project.	Less than Significant

Significant Impacts	Mitigation Measures	Significance After Mitigation
	• Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archaeologist. • If the resource is a tribal cultural resource, the consulting archaeologist, approved by UC Berkeley in consultation with the appropriate tribe as determined by the Native American Heritage Commission, shall consult with the appropriate tribe to evaluate the significance of the resource and to recommend appropriate and feasible avoidance, testing, preservation or mitigation measures, in light of factors such as the significance of the find, proposed project design, costs, and other considerations. • If avoidance is infeasible, other appropriate measures (e.g., data recovery) may be implemented. • If the resource is a non-tribal resource determined significant under CEQA, a qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. • The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources if appropriate. • The report shall be submitted to the City of Berkeley, California Historic Resources Information System Northwest Information Center, and the State Historic Preservation Office, if required. ▶ Areas with High Archaeological Sensitivity. In addition to the requirements above for ground-disturbing activities, for projects in areas with moderately high to extreme archaeological sensitivity (as shown on the confidential Figure 11, Prehistoric Cultural Sensitivity Overlay Analysis Results) ground-disturbing activities shall be monitored by both an archaeologist and a tribal representative from the outset. Monitoring shall occur at the project site in areas with moderately high archaeological sensitivity for soil removal, parcel grading, new utility trenching, and foundation-related excavation in those areas that extend into previously undisturbed soils. If resources discovered are indigenous in nature, archaeological monitoring must be undertaken by a qualified archaeologist approved by UC Berkeley in consultation with the appropriate tribe as determined by the Native American Heritage Commission	

Significant Impacts	Mitigation Measures	Significance After Mitigation
	or the appropriate tribe, who is familiar with a wide range of prehistoric archaeological or tribal remains and is conversant in artifact identification, human and faunal bone, soil descriptions, and interpretation. Based on project-specific daily construction schedules, field conditions, and archaeological observations, full-time monitoring may not be warranted following initial observations	
Impact 3.4-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource Tribal consultation under Assembly Bill 52 has not resulted in the identification of tribal cultural resources on the project site. However, the project could cause a substantial adverse change in the significance of previously undiscovered tribal cultural resources.	Implement Mitigation Measure 3.4-2 above	Less than Significant
Energy		
No significant impacts		
Geology and Soils		
No significant impacts		
Greenhouse Gas Emissions and Climate Change		
Impact 3.7-1: Generate GHG Emissions, Either Indirectly or Directly, That May Have a Significant Impact on the Environment The project would not increase Scope 1 and Scope 2 emissions relative to existing conditions. However, Scope 3 emissions would increase with implementation of the project.	**Mitigation Measure 3.7-1: Project-Specific Carbon Offsets** In addition to compliance offsets required by cap and trade, UC Berkeley shall purchase GHG carbon offsets from a voluntary GHG carbon offset provider with an established protocol that requires projects generating GHG carbon offsets to demonstrate that the reduction of GHG emissions are real, permanent, quantifiable, verifiable, enforceable, and additional (per the definition in California Health and Safety Code Sections 38562(d)(1) and (2)).UC Berkeley shall purchase GHG carbon offsets from UC developed voluntary carbon offset projects that are real, permanent, quantifiable, peer verifiable, enforceable, and additional. Definitions for these terms follow. a. Real: Estimated GHG reductions should not be an artifact of incomplete or inaccurate emissions accounting. Methods for quantifying emission reductions should be conservative to avoid overstating a project's effects. The effects of a project on GHG emissions must be comprehensively accounted for, including unintended effects (often referred to as "leakage"). To ensure that GHG reductions are real, CARB requires the reduction be a direct reduction within a confined project boundary.	Less than Significant

Significant Impacts	Mitigation Measures	Significance After Mitigation
	b. Additional: GHG reductions must be additional to any that would have occurred in the absence of the Climate Action Reserve, or of a market for GHG reductions generally. "Business as usual" reductions (i.e., those that would occur in the absence of a GHG reduction market) should not be eligible for registration. c. Permanent: To function as offsets to GHG emissions, GHG reductions must effectively be "permanent." This means, in general, that any net reversal in GHG reductions used to offset emissions must be fully accounted for and compensated through the achievement of additional reductions. d. Quantifiable: The ability to accurately measure and calculate GHG reductions or GHG removal enhancements relative to a project baseline in a reliable and replicable manner for all GHG emission sources, GHG sinks, or GHG reservoirs included within the offset project boundary, while accounting for uncertainty and activity-shifting leakage and market-shifting leakage. e. Verified: GHG reductions must result from activities that have been verified. Verification requires third-party (or peer review if UC-developed voluntary carbon offset projects) of monitoring data for a project to ensure the data are complete and accurate. f. Enforceable: The emission reductions from offset must be backed by a legal instrument or contract that defines exclusive ownership and can be enforced within the legal system in the country in which the offset project occurs or through other compulsory means. Please note that for this mitigation measure, only credits originating within the United States are allowed.	
Hazards and Hazardous Materials		
No significant impacts		
Hydrology and Water Quality		
No significant impacts		
Land Use and Planning		
No significant impacts		

Significant Impacts	Mitigation Measures	Significance After Mitigation
Noise and Vibration		
Impact 3.11-1: Generate Substantial Temporary (Construction) Noise Construction activities associated with the project would expose nearby noise-sensitive receptors to noise levels that exceed applicable noise standards resulting in a potentially significant noise impact.	**Mitigation Measure 3.11-1: Implement Construction-Noise Reduction Measures** Where construction noise could exceed the applicable noise thresholds of significance (see City of Berkeley Municipal Code Section 13.40.070, Prohibited Acts) for maximum construction noise levels (dBA L_{max}), or that involve impulse equipment such as jackhammers, hoe rams, and pile driving, temporary noise barriers at least 12 feet high shall be erected, as necessary and feasible, to reduce construction noise levels. Temporary noise barriers shall be constructed with solid material with a density of at least 1.5 pounds per square foot with no gaps from the ground to the top of the temporary noise barrier and may be lined on the construction side with an acoustical blanket, curtain, or equivalent absorptive material. UC Berkeley shall verify compliance with this measure prior to issuance of demolition, grading, and/or building permits.	Significant and Unavoidable
Impact 3.11-2: Generate Substantial Temporary (Construction) Vibration Levels The project would generate excessive vibration levels during construction activities that could exceed the FTA criterion for structural damage at the nearest buildings and human annoyance at the nearest residential dwellings resulting in a potentially significant vibration impact.	**Mitigation Measure 3.11-2: Implement Construction Vibration Measures** UC Berkeley shall implement the following steps to ensure impacts from vibration causing construction activities/equipment will be less than significant to surrounding structures. ▶ Step 1 (Activity/Equipment Screening Distances): UC Berkeley shall use the FTA construction vibration screening standards shown in Table 3.11-2 and Table 3.11-3 to determine if the construction activity/equipment is within the vibration screening distances that could cause building damage/human annoyance. If the construction activity/equipment is within the screening distance, then Step 2 (Alternative Methods/Equipment) shall be implemented. ▶ Step 2 (Alternative Methods/Equipment): When the anticipated vibration-causing construction activity/equipment is within the screening standards in Step 1 (Activity/Equipment Screening Distances), UC Berkeley shall consider whether alternative methods/equipment are available and shall verify that the alternative method/equipment is shown on the construction plans prior to the beginning of construction. Alternative methods/equipment may include, but are not limited to: ▪ For pile driving, the use of caisson drilling (drill piles) vibratory pile drivers, oscillating or rotating pile installation methods, and jetting or partial jetting of piles into place using a water injection at the tip of the pile shall be used, where feasible. ▪ For paving, use of a static roller in lieu of a vibratory roller shall be implemented.	Less than Significant

Significant Impacts	Mitigation Measures	Significance After Mitigation
	▪ For grading and earthwork activities, use the smallest practical and available equipment, or use diesel alternatives (e.g., hybrid, electric), where such equipment is commercially available and can feasibly complete the desired construction / engineering outcome, such as completing the project within its construction schedule, in comparison to the traditional equipment. Modern equipment with standard noise mufflers and backup alarms that meet OSHA standards will be used. When equipment and associated auxiliary equipment is not in use all engines will be shut down (no idling). Where alternative methods/equipment to vibration causing activities/equipment are not feasible, then Step 3 (Construction Vibration Monitoring Program) shall be implemented. ▶ Step 3 (Construction Vibration Monitoring Program): Prior to any project-related excavation, demolition, or construction activity within the screening distances referenced in Step 1 (Activity/Equipment Screening Distances) and where alternative methods/equipment to vibration causing activities/equipment are not feasible pursuant to Step 2 (Alternative Methods/Equipment), UC Berkeley shall prepare a construction vibration monitoring program. The program shall be prepared and implemented by a qualified acoustical consultant or structural engineer. Where the vibration sensitive receptors are historic resources, the program shall be prepared and implemented by a structural engineer with a minimum of five years of experience in the rehabilitation and restoration of historic buildings and a historic preservation architect meeting the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards. The program shall include the following: ▪ Prepare an existing conditions study to establish the baseline condition of the vibration sensitive resources in the form of written descriptions with a photo survey, elevation survey, and crack-monitoring survey for the vibration-sensitive building or structure. The photo survey shall include internal and external crack monitoring in the structure, settlement, and distress, and document the condition of the foundation, walls, and other structural elements in the interior and exterior of the building or structure. Surveys will be performed prior to, in regular intervals during, and after completion of all vibration-generating activity. Where receptors are historic resources (Heywood Apartments and The Studio Building), the study shall describe the physical characteristics of the resources that convey their historic significance.	

Significant Impacts	Mitigation Measures	Significance After Mitigation
	▪ Determine the number, type, and location of vibration sensors and establish a vibration velocity limit (as determined based on a detailed review of the proposed buildings), method (including locations and instrumentation) for monitoring vibrations during construction, and method for alerting responsible persons who have the authority to halt construction should limits be exceeded or damaged observed. ▪ Perform monitoring surveys prior to, in regular intervals during, and after completion of all vibration-generating activity and report any changes to existing conditions, including, but not limited to, expansion of existing cracks, new spalls, other exterior deterioration, or any problems with character-defining features of a historic resource that are discovered. UC Berkeley shall establish the frequency of monitoring and reporting, based upon the recommendations of the qualified acoustical consultant or structural engineer or by the historic architect and structural engineer for the historic Heywood Apartments and The Studio Building. Monitoring reports shall be submitted to UC Berkeley's designated representative responsible for construction activities. ▪ Develop a vibration monitoring and construction contingency plan, which shall identify where monitoring would be conducted, establish a vibration monitoring schedule, define structure-specific vibration limits, and require photo, elevation, and crack surveys to document conditions before and after demolition and construction activities. Construction contingencies would be identified for when vibration levels approach the limits. If vibration levels approach limits, suspend construction, and implement contingencies to either lower vibration levels or secure the affected structure. ▪ Report substantial adverse impacts to vibration sensitive buildings including historic resources related to construction activities that are found during construction to UC Berkeley's designated representative responsible for construction activities. UC Berkeley's designated representative shall adhere to the monitoring team's recommendations for corrective measures, including halting construction or using different methods, in situations where demolition, excavation/construction activities would imminently endanger historic resources. UC Berkeley's designated representative would respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by UC Berkeley's designated representative. Any new cracks or other damage to any of the identified properties will be compared to pre-construction conditions and a determination made as to whether the	

Significant Impacts	Mitigation Measures	Significance After Mitigation
	proposed project could have caused such damage. If the project is demonstrated to have caused any damage, such damage would be repaired to the pre-existing condition. Site visit reports and documents associated with claims processing would be provided to the relevant government body with jurisdiction over the neighboring historic resource, as necessary. ▪ Conduct a post-survey of the structure where either monitoring has indicated high levels or complaints of damage and make appropriate repairs where damage has occurred as a result of construction activities. ▪ Prepare a construction vibration monitoring report that summarizes the results of all vibration monitoring and submit the report after the completion of each phase identified in the project construction schedule. The vibration monitoring report shall include a description of measurement methods, equipment used, calibration certificates, and graphics as required to clearly identify vibration-monitoring locations. An explanation of all events that exceeded vibration limits shall be included together with proper documentation supporting any such claims. The construction vibration monitoring report shall be submitted to UC Berkeley within two weeks of completion of each phase identified in the project construction schedule. ▪ Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such a person shall be clearly posted in one or more locations at the construction site	
Impact 3.11-4: Exposure of Existing Sensitive Receptors to new Stationary Noise Sources Loading dock activities would generate noise levels exceeding the City of Berkeley daytime noise standard at the nearest noise sensitive receptors.	**Mitigation Measure 3.11-4a: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of Loading Docks** To reduce the increases in noise associated with onsite truck and loading/unloading activities, the following measures shall be adopted as conditions of approval and implemented by the University: ▶ Strategic scheduling: The University shall schedule truck deliveries and all loading and unloading activities during the hours of 7:00 a.m. to 10:00 p.m. per Section 13.40.070 of the Berkeley Municipal Code to minimize sleep disturbance and evening leisure activities at the residential dwellings. ▶ Quiet equipment: The University shall provide quiet equipment for unloading and loading such as electric pallets jacks, low-noise forklifts or pallet jacks. ▶ Engine Idling: The University shall post a clear, visible, and legible sign for truck drivers instructing them to turn off engines as soon as possible to avoid unnecessary truck engine noise.	Significant and Unavoidable

Significant Impacts	Mitigation Measures	Significance After Mitigation
	▶ Regular maintenance: University maintenance staff shall provide regular and routine maintenance to loading dock equipment, such as dock levelers, doors, pallet jacks or forklifts to prevent unnecessary noise caused by mechanical and wear and tear issues. ▶ Dock levelers and bumpers: The University shall upgrade or maintain dock levelers and bumpers to minimize noise generated by the impact of pallet jacks, forklifts, and other equipment during loading operations. ▶ Dock seals and shelters: The University shall install high-quality dock seals or shelters around the loading area to create a better seal between the dock and trucks, reducing noise leakage during loading and unloading. ▶ Loading activities: The building staff shall be directed to handle loading activities with care to minimize noise generation. This includes, but is not limited to, carefully lowering pallets, lifts gates, and similar materials to reduce noise impact. **Mitigation Measure 3.11-4b: Implement Design Measures to Reduce Long-Term Noise Impacts of Loading Docks** The University shall hire a qualified acoustical specialist to prepare a noise minimization plan that will identify site-specific parameters (e.g., number of trucks accessing the site), design strategies, and noise attenuation features to reduce noise generated by on-site loading dock activity to levels that are below City of Berkeley daytime noise standards for multi-family and high-density residential uses (i.e., 60 dBA L_{50}). The noise minimization plan shall include, but not be limited to, a combination of the following measures (or other measures demonstrated to be equally effective). ▶ Design the South Building such that the structure serves as a barrier protecting off-site receptors from noise generated by loading dock activity. The typical sound level reduction a building could provide ranges from 12 dB with windows open to 27 dB with windows closed (EPA 1978: 11) and additional reduction is achievable if masonry exterior walls are used in the building's construction (Caltrans 2020: 7-37). ▶ Enclose the loading dock area with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors and the facility. The wall shall be constructed of solid material (e.g., concrete, brick), scenic quality factors shall be considered during design, and barriers shall be designed to blend into the landscape on the project site, to the extent feasible. Generally, a barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction.	

Significant Impacts	Mitigation Measures	Significance After Mitigation
	▶ Provide sound absorbing surfaces in available areas within the loading dock to reduce noise buildup and propagation. ▶ Enclose the loading dock area within the building with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors. The wall(s) shall be constructed of solid material (e.g., concrete, brick). Measures identified in the noise minimization plan shall be incorporated into the project design and identified on the final site plan. Prior to the approval of the final site plan, UC Berkeley shall verify that the measures are included in the site plan.	
Population, Employment, and Housing		
No significant impacts		
Public Services and Recreation		
No significant impacts		
Transportation		
No significant impacts		
Utilities and Service Systems		
No significant impacts		
Wildfire		
No significant impacts		

3 REVISIONS TO THE DRAFT EIR

Staff-initiated modifications were made to the Draft EIR text to clarify or make minor corrections to EIR contents. Changes in the text are signified by strikeouts (~~strikethrough~~) where text is removed and by underline (<u>underline</u>) where text is added. None of the information added to the Final EIR constitutes "significant new information" as defined by CEQA (State CEQA Guidelines Section 15088.5); therefore, recirculation of the Draft EIR is not warranted. The following Draft EIR chapters and sections contain text revisions.

3.1 EXECUTIVE SUMMARY

Impact 3.2-3 summary in Table ES-1 on page ES-6 of the Draft EIR is hereby amended as follows:

> Impact 3.2-3: Expose Sensitive Receptors to Substantial ~~Taxic~~ <u>Toxic</u> Air Contaminants Concentration
>
> Construction activities would result in temporary emission of ~~taxic~~ <u>toxic</u> air contaminants (TACs), primarily diesel particulate matter (diesel PM). Operation activities would result in long-term emission of TACs from chemical uses in the new laboratories and the use of emergency backup generators. TACs emissions from the project construction and operation activities would not result in health risks exceeding the BAAQMD's thresholds for cancer, chronic hazards, and fine particulate matter ($PM_{2.5}$). However, the sum of existing sources in the project vicinity exceeds the cumulative threshold for both cancer risk and annual $PM_{2.5}$ concentrations. The project's contribution to the health conditions would be cumulatively considerable.

Mitigation Measure 3.11-2 in Table ES-1 pages ES-17 and ES-18 of the Draft EIR is hereby amended as follows:

> Mitigation Measure 3.11-2: Implement Construction Vibration Measures
>
> UC Berkeley shall implement the following steps to ensure impacts from vibration causing construction activities/equipment will be less than significant to surrounding structures.
>
> - Step 1 (Activity/Equipment Screening Distances): UC Berkeley shall use the FTA construction vibration screening standards shown in Table 3.11-2 and Table 3.11-3 to determine if the construction activity/equipment is within the vibration screening distances that could cause building damage/human annoyance. If the construction activity/equipment is within the screening distance, then Step 2 (Alternative Methods/Equipment) shall be implemented.
> - Step 2 (Alternative Methods/Equipment): When the anticipated vibration-causing construction activity/equipment is within the screening standards in Step 1 (Activity/Equipment Screening Distances), UC Berkeley shall consider whether alternative methods/equipment are available and shall verify that the alternative method/equipment is shown on the construction plans prior to the beginning of construction. Alternative methods/equipment may include, but are not limited to:
>   - For pile driving, the use of caisson drilling (drill piles) vibratory pile drivers, oscillating or rotating pile installation methods, and jetting or partial jetting of piles into place using a water injection at the tip of the pile shall be used, where feasible.
>   - For paving, use of a static roller in lieu of a vibratory roller shall be implemented.
>   - <u>For grading and earthwork activities, use the smallest practical and available equipment, or use diesel alternatives (e.g., hybrid, electric), where such equipment is commercially available and can feasibly complete the desired construction / engineering outcome, such as completing the project within its construction schedule, in comparison to the traditional equipment. Modern equipment with standard noise mufflers and backup alarms that meet OSHA standards will be used. When equipment and associated auxiliary equipment is not in use all engines will be shut down (no idling).</u> ~~For grading and earthwork activities, off-road equipment shall be limited to 100 horsepower or less.~~

Where alternative methods/equipment to vibration causing activities/equipment are not feasible, then Step 3 (Construction Vibration Monitoring Program) shall be implemented.

- Step 3 (Construction Vibration Monitoring Program): Prior to any project-related excavation, demolition, or construction activity within the screening distances referenced in Step 1 (Activity/Equipment Screening Distances) and where alternative methods/equipment to vibration causing activities/equipment are not feasible pursuant to Step 2 (Alternative Methods/Equipment), UC Berkeley shall prepare a construction vibration monitoring program. The program shall be prepared and implemented by a qualified acoustical consultant or structural engineer. Where the vibration sensitive receptors are historic resources, the program shall be prepared and implemented by a structural engineer with a minimum of five years of experience in the rehabilitation and restoration of historic buildings and a historic preservation architect meeting the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards. The program shall include the following:
  - Prepare an existing conditions study to establish the baseline condition of the vibration sensitive resources in the form of written descriptions with a photo survey, elevation survey, and crack-monitoring survey for the vibration-sensitive building or structure. The photo survey shall include internal and external crack monitoring in the structure, settlement, and distress, and document the condition of the foundation, walls, and other structural elements in the interior and exterior of the building or structure. Surveys will be performed prior to, in regular intervals during, and after completion of all vibration-generating activity. Where receptors are historic resources (Heywood Apartments and The Studio Building), the study shall describe the physical characteristics of the resources that convey their historic significance.
  - Determine the number, type, and location of vibration sensors and establish a vibration velocity limit (as determined based on a detailed review of the proposed buildings), method (including locations and instrumentation) for monitoring vibrations during construction, and method for alerting responsible persons who have the authority to halt construction should limits be exceeded or damaged observed.
  - Perform monitoring surveys prior to, in regular intervals during, and after completion of all vibration-generating activity and report any changes to existing conditions, including, but not limited to, expansion of existing cracks, new spalls, other exterior deterioration, or any problems with character-defining features of a historic resource that are discovered. UC Berkeley shall establish the frequency of monitoring and reporting, based upon the recommendations of the qualified acoustical consultant or structural engineer or by the historic architect and structural engineer for the historic Heywood Apartments and The Studio Building. Monitoring reports shall be submitted to UC Berkeley's designated representative responsible for construction activities.
  - Develop a vibration monitoring and construction contingency plan, which shall identify where monitoring would be conducted, establish a vibration monitoring schedule, define structure-specific vibration limits, and require photo, elevation, and crack surveys to document conditions before and after demolition and construction activities. Construction contingencies would be identified for when vibration levels approach the limits. If vibration levels approach limits, suspend construction, and implement contingencies to either lower vibration levels or secure the affected structure.
  - Report substantial adverse impacts to vibration sensitive buildings including historic resources related to construction activities that are found during construction to UC Berkeley's designated representative responsible for construction activities. UC Berkeley's designated representative shall adhere to the monitoring team's recommendations for corrective measures, including halting construction or using different methods, in situations where demolition, excavation/construction activities would imminently endanger historic resources. UC Berkeley's designated representative would respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by UC Berkeley's designated

representative. Any new cracks or other damage to any of the identified properties will be compared to pre-construction conditions and a determination made as to whether the proposed project could have caused such damage. If the project is demonstrated to have caused any damage, such damage would be repaired to the pre-existing condition. Site visit reports and documents associated with claims processing would be provided to the relevant government body with jurisdiction over the neighboring historic resource, as necessary.

- Conduct a post-survey of the structure where either monitoring has indicated high levels or complaints of damage and make appropriate repairs where damage has occurred as a result of construction activities.
- Prepare a construction vibration monitoring report that summarizes the results of all vibration monitoring and submit the report after the completion of each phase identified in the project construction schedule. The vibration monitoring report shall include a description of measurement methods, equipment used, calibration certificates, and graphics as required to clearly identify vibration-monitoring locations. An explanation of all events that exceeded vibration limits shall be included together with proper documentation supporting any such claims. The construction vibration monitoring report shall be submitted to UC Berkeley within two weeks of completion of each phase identified in the project construction schedule.
- Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such a person shall be clearly posted in one or more locations at the construction site.

Mitigation Measure 3.11-4a in Table ES-1 pages ES-21 and ES-22 of the Draft EIR is hereby amended as follows:

Mitigation Measure 3.11-4a: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of Loading Docks

To reduce the increases in noise associated with onsite truck and loading/unloading activities, the following measures shall be adopted as conditions of approval and implemented by the University:

- Strategic scheduling: The University shall schedule truck deliveries and all loading and unloading activities during the hours of 7:00 a.m. to 10:00 p.m. per Section 13.40.070 of the Berkeley Municipal Code to minimize sleep disturbance and evening leisure activities at the residential dwellings.
- Quiet equipment: The University shall provide quiet equipment for unloading and loading such as electric pallets jacks, low-noise forklifts or pallet jacks.
- Engine Idling: The University shall post a clear, visible, and legible sign for truck drivers instructing them to turn off engines as soon as possible to avoid unnecessary truck engine noise.
- Regular maintenance: University maintenance staff shall provide regular and routine maintenance to loading dock equipment, such as dock levelers, doors, pallet jacks or forklifts to prevent unnecessary noise caused by mechanical and wear and tear issues.
- Dock levelers and bumpers: The University shall upgrade or maintain dock levelers and bumpers to minimize noise generated by the impact of pallet jacks, forklifts, and other equipment during loading operations.
- Dock seals and shelters: The University shall install high-quality dock seals or shelters around the loading area to create a better seal between the dock and trucks, reducing noise leakage during loading and unloading.
- <u>Loading activities: The building staff shall be directed to handle loading activities with care to minimize noise generation. This includes, but is not limited to, carefully lowering pallets, lifts gates, and similar materials to reduce noise impact.</u>

Mitigation Measure 3.11-4b in Table ES-1 page ES-22 of the Draft EIR is hereby amended as follows:

> Mitigation Measure 3.11-4b: Implement Design Measures to Reduce Long-Term Noise Impacts of Loading Docks
>
> The University shall hire a qualified acoustical specialist to prepare a noise minimization plan that will identify site-specific parameters (e.g., number of trucks accessing the site), design strategies, and noise attenuation features to reduce noise generated by on-site loading dock activity to levels that are below City of Berkeley daytime noise standards for multi-family and high-density residential uses (i.e., 60 dBA L_{50}). The noise minimization plan shall include, but not be limited to, a combination of the following measures (or other measures demonstrated to be equally effective).
>
> - Design the South Building such that the structure serves as a barrier protecting off-site receptors from noise generated by loading dock activity. The typical sound level reduction a building could provide ranges from 12 dB with windows open to 27 dB with windows closed (EPA 1978: 11) and additional reduction is achievable if masonry exterior walls are used in the building's construction (Caltrans 2020: 7-37).
> - Enclose the loading dock area with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors and the facility. The wall shall be constructed of solid material (e.g., concrete, brick), scenic quality factors shall be considered during design, and barriers shall be designed to blend into the landscape on the project site, to the extent feasible. Generally, a barrier that breaks the line of ~~site~~ sight between a source and a receiver will typically result in at least 5 dB of noise reduction.
> - Provide sound absorbing surfaces in available areas within the loading dock to reduce noise buildup and propagation.
> - Enclose the loading dock area within the building with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors. The wall(s) shall be constructed of solid material (e.g., concrete, brick).
>
> Measures identified in the noise minimization plan shall be incorporated into the project design and identified on the final site plan. Prior to the approval of the final site plan, UC Berkeley shall verify that the measures are included in the site plan.

3.2 CHAPTER 2, PROJECT DESCRIPTION

The citation on page 2-2 of the Draft EIR is hereby corrected as follows:

> University Hall was constructed in 1959 and is approximately 145,090 gross square feet, with seven stories above ground and one story below ground. Prior to summer 2023, University Hall provided office and meeting space for UC Berkeley with a small component used for instructional and study space. The building is currently unoccupied. University Hall was evaluated for seismic performance in 2020 and has been determined to have a seismic performance rating of VI (Priority for Improvement) (UC Berkeley ~~2022~~2020).

3.3 SECTION 3.11, NOISE AND VIBRATION

The citation on page 3-11 of the Draft EIR is hereby corrected as follows:

> Detailed information regarding the make and model of the stationary equipment to be installed is not available at this time. However, noise levels commonly associated with air conditioning systems can reach levels of up to 78 dB at 3 feet (Lennox ~~2018~~2020).

The evaluation of loading docks noise impacts on pages 3.11-23 and 3.11-24 of the Draft EIR is hereby amended as follows:

> Loading Docks
> The primary noise sources associated with loading docks are truck engine idling and contact noise from equipment (e.g., electric or manual pallets jacks) interacting with the truck, ramp, or ground during loading

and unloading. A reference noise measurement conducted for another project for loading and unloading activities showed average noise levels of 59 dBA at a distance of 100 feet from a loading dock (Ascent 2023). The referenced noise level captured engine idling and loading and unloading activity noise. This noise level is conservatively assumed to be constant over the period of an hour to be consistent with the most restrictive limits used by the City of Berkeley Municipal Code (30 minutes of an hour, L_{50}). The nearest noise sensitive receptor to the loading areas is the Heywood Apartments located approximately 30 feet west of the South Building. The adjusted reference noise level at 30 feet would be 70 dBA L_{eq}. This would exceed the applicable City of Berkeley daytime and nighttime noise standards of 60 and 55 dBA, respectively. However, it should be noted that the City of Berkeley Municipal Code only regulates noise levels from loading operations during nighttime hours (13.40.070.B.6).

The second closest receptor to the loading areas is the Rise at Berkeley apartment building, located approximately 155 feet to the west. When adjusted to 155 feet, the reference noise level would be 55 dBA L_{50} ~~L_{eq}~~. Therefore, the noise generated from the loading areas would not exceed the applicable City of Berkeley noise standards at sensitive receptors located beyond the Heywood Apartments.

Mitigation Measures 3.11-2 on pages 3.11-20 and 3.11-21 of the Draft EIR is hereby amended as follows:

Mitigation Measure 3.11-2: Implement Construction Vibration Measures

UC Berkeley shall implement the following steps to ensure impacts from vibration causing construction activities/equipment will be less than significant to surrounding structures.

- Step 1 (Activity/Equipment Screening Distances): UC Berkeley shall use the FTA construction vibration screening standards shown in Table 3.11-2 and Table 3.11-3 to determine if the construction activity/equipment is within the vibration screening distances that could cause building damage/human annoyance. If the construction activity/equipment is within the screening distance, then Step 2 (Alternative Methods/Equipment) shall be implemented.
- Step 2 (Alternative Methods/Equipment): When the anticipated vibration-causing construction activity/equipment is within the screening standards in Step 1 (Activity/Equipment Screening Distances), UC Berkeley shall consider whether alternative methods/equipment are available and shall verify that the alternative method/equipment is shown on the construction plans prior to the beginning of construction. Alternative methods/equipment may include, but are not limited to:
  - For pile driving, the use of caisson drilling (drill piles) vibratory pile drivers, oscillating or rotating pile installation methods, and jetting or partial jetting of piles into place using a water injection at the tip of the pile shall be used, where feasible.
  - For paving, use of a static roller in lieu of a vibratory roller shall be implemented.
  - For grading and earthwork activities, use the smallest practical and available equipment, or use diesel alternatives (e.g., hybrid, electric), where such equipment is commercially available and can feasibly complete the desired construction / engineering outcome, such as completing the project within its construction schedule, in comparison to the traditional equipment. Modern equipment with standard noise mufflers and backup alarms that meet OSHA standards will be used. When equipment and associated auxiliary equipment is not in use all engines will be shut down (no idling). ~~For grading and earthwork activities, off-road equipment shall be limited to 100 horsepower or less.~~

Where alternative methods/equipment to vibration causing activities/equipment are not feasible, then Step 3 (Construction Vibration Monitoring Program) shall be implemented.

- Step 3 (Construction Vibration Monitoring Program): Prior to any project-related excavation, demolition, or construction activity within the screening distances referenced in Step 1 (Activity/Equipment Screening Distances) and where alternative methods/equipment to vibration causing activities/equipment are not feasible pursuant to Step 2 (Alternative Methods/Equipment), UC Berkeley shall prepare a construction vibration monitoring program. The program shall be prepared and implemented by a qualified

acoustical consultant or structural engineer. Where the vibration sensitive receptors are historic resources, the program shall be prepared and implemented by a structural engineer with a minimum of five years of experience in the rehabilitation and restoration of historic buildings and a historic preservation architect meeting the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards. The program shall include the following:

- Prepare an existing conditions study to establish the baseline condition of the vibration sensitive resources in the form of written descriptions with a photo survey, elevation survey, and crack-monitoring survey for the vibration-sensitive building or structure. The photo survey shall include internal and external crack monitoring in the structure, settlement, and distress, and document the condition of the foundation, walls, and other structural elements in the interior and exterior of the building or structure. Surveys will be performed prior to, in regular intervals during, and after completion of all vibration-generating activity. Where receptors are historic resources (Heywood Apartments and The Studio Building), the study shall describe the physical characteristics of the resources that convey their historic significance.
- Determine the number, type, and location of vibration sensors and establish a vibration velocity limit (as determined based on a detailed review of the proposed buildings), method (including locations and instrumentation) for monitoring vibrations during construction, and method for alerting responsible persons who have the authority to halt construction should limits be exceeded or damaged observed.
- Perform monitoring surveys prior to, in regular intervals during, and after completion of all vibration-generating activity and report any changes to existing conditions, including, but not limited to, expansion of existing cracks, new spalls, other exterior deterioration, or any problems with character-defining features of a historic resource that are discovered. UC Berkeley shall establish the frequency of monitoring and reporting, based upon the recommendations of the qualified acoustical consultant or structural engineer or by the historic architect and structural engineer for the historic Heywood Apartments and The Studio Building. Monitoring reports shall be submitted to UC Berkeley's designated representative responsible for construction activities.
- Develop a vibration monitoring and construction contingency plan, which shall identify where monitoring would be conducted, establish a vibration monitoring schedule, define structure-specific vibration limits, and require photo, elevation, and crack surveys to document conditions before and after demolition and construction activities. Construction contingencies would be identified for when vibration levels approach the limits. If vibration levels approach limits, suspend construction, and implement contingencies to either lower vibration levels or secure the affected structure.
- Report substantial adverse impacts to vibration sensitive buildings including historic resources related to construction activities that are found during construction to UC Berkeley's designated representative responsible for construction activities. UC Berkeley's designated representative shall adhere to the monitoring team's recommendations for corrective measures, including halting construction or using different methods, in situations where demolition, excavation/construction activities would imminently endanger historic resources. UC Berkeley's designated representative would respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by UC Berkeley's designated representative. Any new cracks or other damage to any of the identified properties will be compared to pre-construction conditions and a determination made as to whether the proposed project could have caused such damage. If the project is demonstrated to have caused any damage, such damage would be repaired to the pre-existing condition. Site visit reports and documents associated with claims processing would be provided to the relevant government body with jurisdiction over the neighboring historic resource, as necessary.

- Conduct a post-survey of the structure where either monitoring has indicated high levels or complaints of damage and make appropriate repairs where damage has occurred as a result of construction activities.
- Prepare a construction vibration monitoring report that summarizes the results of all vibration monitoring and submit the report after the completion of each phase identified in the project construction schedule. The vibration monitoring report shall include a description of measurement methods, equipment used, calibration certificates, and graphics as required to clearly identify vibration-monitoring locations. An explanation of all events that exceeded vibration limits shall be included together with proper documentation supporting any such claims. The construction vibration monitoring report shall be submitted to UC Berkeley within two weeks of completion of each phase identified in the project construction schedule.
- Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such a person shall be clearly posted in one or more locations at the construction site.

Mitigation Measure 3.11-4a on page 3.11-24 of the Draft EIR is hereby amended as follows:

Mitigation Measure 3.11-4a: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of Loading Dock

To reduce the increases in noise associated with onsite truck and loading/unloading activities, the following measures shall be adopted as conditions of approval and implemented by the University:

- Strategic scheduling: The University shall schedule truck deliveries and all loading and unloading activities during the hours of 7:00 a.m. to 10:00 p.m. per Section 13.40.070 of the Berkeley Municipal Code to minimize sleep disturbance and evening leisure activities at the residential dwellings.
- Quiet equipment: The University shall provide quiet equipment for unloading and loading such as electric pallets jacks, low-noise forklifts or pallet jacks.
- Engine Idling: The University shall post a clear, visible, and legible sign for truck drivers instructing them to turn off engines as soon as possible to avoid unnecessary truck engine noise.
- Regular maintenance: University maintenance staff shall provide regular and routine maintenance to loading dock equipment, such as dock levelers, doors, pallet jacks or forklifts to prevent unnecessary noise caused by mechanical and wear and tear issues.
- Dock levelers and bumpers: The University shall upgrade or maintain dock levelers and bumpers to minimize noise generated by the impact of pallet jacks, forklifts, and other equipment during loading operations.
- Dock seals and shelters: The University shall install high-quality dock seals or shelters around the loading area to create a better seal between the dock and trucks, reducing noise leakage during loading and unloading.
- <u>Loading activities: The building staff shall be directed to handle loading activities with care to minimize noise generation. This includes, but is not limited to, carefully lowering pallets, lifts gates, and similar materials to reduce noise impact.</u>

Mitigation Measure 3.11-4b on pages 3.11-24 and 3.11-25 of the Draft EIR is hereby amended as follows:

Mitigation Measure 3.11-4b: Implement Design Measures to Reduce Long-Term Noise Impacts of Loading Docks

The University shall hire a qualified acoustical specialist to prepare a noise minimization plan that will identify site-specific parameters (e.g., number of trucks accessing the site), design strategies, and noise attenuation features to reduce noise generated by on-site loading dock activity to levels that are below City of Berkeley

daytime noise standards for multi-family and high-density residential uses (i.e., 60 dBA L_{50}). The noise minimization plan shall include, but not be limited to, a combination of the following measures (or other measures demonstrated to be equally effective).

- Design the South Building such that the structure serves as a barrier protecting off-site receptors from noise generated by loading dock activity. The typical sound level reduction a building could provide ranges from 12 dB with windows open to 27 dB with windows closed (EPA 1978: 11) and additional reduction is achievable if masonry exterior walls are used in the building's construction (Caltrans 2020: 7-37).
- Enclose the loading dock area with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors and the facility. The wall shall be constructed of solid material (e.g., concrete, brick), scenic quality factors shall be considered during design, and barriers shall be designed to blend into the landscape on the project site, to the extent feasible. Generally, a barrier that breaks the line of ~~site~~ sight between a source and a receiver will typically result in at least 5 dB of noise reduction.
- Provide sound absorbing surfaces in available areas within the loading dock to reduce noise buildup and propagation.
- Enclose the loading dock area within the building with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors. The wall(s) shall be constructed of solid material (e.g., concrete, brick).

Measures identified in the noise minimization plan shall be incorporated into the project design and identified on the final site plan. Prior to the approval of the final site plan, UC Berkeley shall verify that the measures are included in the site plan.

3.4 CHAPTER 6, ALTERNATIVES

The citation on page 6-8 of the Draft EIR is hereby corrected as follows:

UC Berkeley evaluated three potential scenarios for the No Project Alternative, taking into account the existing condition of the University Hall structure. As described in Section 2.4.1, "Existing Uses," University Hall was evaluated for seismic performance in 2020 and was determined to have a seismic performance rating of VI, Priority for Improvement (UC Berkeley ~~2022~~2020).

3.5 CHAPTER 8, REFERENCES

The reference for Chapter 2 on page 8-1 of the Draft EIR is hereby corrected as follows:

University of California, Berkeley. ~~2022~~2020 (August 26). Certificate of Seismic Performance Level for the University Hall.

The reference for Section 3.11 on page 8-9 of the Draft EIR is hereby corrected as follows:

Lennox. ~~2018~~2020. 16ACX Merit Series Product Specifications.

The reference for Chapter 6 on page 8-15 of the Draft EIR is hereby corrected as follows:

———. ~~2022~~2020 (August 26). Certificate of Seismic Performance Level for the University Hall.

The title for Section 3.4 on page 8-3 of the Draft EIR is hereby corrected as follows:

Section 3.4 ~~Cultural and Historical Resources~~ Archaeological, Historical, and Tribal Cultural Resources

4 COMMENTS AND RESPONSES

This chapter presents comments received during the public review period for the Draft EIR, which concluded on March 25, 2024. In conformance with Section 15088(a) of the State CEQA Guidelines, responses are provided to comments on environmental issues.

4.1 LIST OF COMMENTS ON THE DRAFT EIR

Table 4-1 presents the list of commenters, including the numerical designation of each comment letter received, the author of the comment letter, and the date of the comment letter. Each comment letter is included in Appendix A of this Final EIR.

Table 4-1 List of Commenters

Letter No.	Commenter	Date
Public Agency		
A1	East Bay Municipal Utility District (EBMUD)	March 14, 2024
A2	Department of Toxic Substances Control (DTSC)	March 20, 2024
Organization		
O1	BioLab Watch	March 25, 2024

4.2 COMMENTS AND RESPONSES

Table 4-2 presents comments received on the Draft EIR and responses to each of those comments. Letters are arranged by date received. Comments are represented in their original format in Appendix A, along with annotations that identify each individual comment number.

Table 4-2 Responses to Comments Received on the Draft EIR

Letter/Comment No.	Comment	Response
Public Agency		
A1: David Rehnstrom, Manager of Water Distribution Planning, EBMUD, March 14, 2024		
A1-1	East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Draft Environmental Impact Report (EIR) for the UC Berkeley Innovation Zone Project located in the City of Berkeley. EBMUD commented on the Notice of Preparation of a Draft EIR for the project on November 2, 2023. EBMUD's original comments (see enclosure) still apply regarding water service, wastewater planning, water recycling, and water conservation. EBMUD has the following additional comments.	The comment serves as an opening remark. EBMUD's original comments regarding water service are addressed in Section 3.15-1 of the Draft EIR and comments regarding wastewater service are addressed in Section 3.15-2 of the Draft EIR. EBMUD's original comments regarding water recycling and water conservation area addressed under Impacts 3.15-1 and 3.15-2 in Section 3.15-1 of the Draft EIR. Please also see Response A1-2 below for a more detailed response to the introductory statement regarding water service.
A1-2	WATER SERVICE On page 3.15-2 of the Draft EIR, the second paragraph, under 3.15 Utilities and Service Systems, states "Senate Bill (SB) 610 and SB 221 were enacted to: (1) ensure better coordination between local water supply and land use decisions and (2) confirm that there is an adequate water supply for new development. Both statutes require city and county decision-makers to review detailed information regarding water availability prior to the approval of large development projects. SB 610 requires the preparation of a water supply assessment for certain types of projects subject to CEQA. UC Berkeley is not subject to the requirements of SB 610 and SB 221; therefore, a water supply assessment is not required for the project." Although UC Berkeley is not a city or county, EBMUD notes that historically, UC Berkeley has requested WSAs for projects that meet the threshold of a project per CEQA Guidelines Section 15155 (e.g., University Village & Albany/Northwest Berkeley Properties Master Plan Amendments and UC Berkeley 2020 Long Range Development Plan), and EBMUD recommends that UC Berkeley request a WSA to confirm that there is an adequate water supply for the project.	The impacts related to water supplies are discussed in Impact 3.13-2 in Section 3.15, Utilities and Service Systems, of the Draft EIR. As discussed in Impact 3.13-2, the growth anticipated from the project would be within the employment projection in UC Berkeley's 2021 Long Range Development Plan (2021 LRDP). In a response to UC Berkeley's request to confirm that the water demand associated with the build-out of its 2021 LRDP, EBMUD provided confirmation on February 8, 2021 that EBMUD accounted for the water demand associated with the 2021 LRDP in EBMUD's 2015 Urban Water Management Plan. Therefore, the water demand associated with the project would be accounted for in EBMUD's 2015 Urban Water Management Plan.
A1-3	If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.	This comment serves as a closing remark. No response is required.

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Letter A1 Attachment	EBMUD's November 20, 2023 Response to the project's NOP of the Draft EIR.	The attachment provides a response from EBMUD on November 20, 2023, to UC Berkeley's NOP for the project EIR. The attachment is acknowledged for the record. Please see Response A1-2 regarding water service comment.
A2: Tamara Purvis, Associated Environmental Planner, DTSC, March 20, 2024		
A2-1	The Department of Toxic Substances Control (DTSC) received a DEIR for the University of California (UC) Berkeley Innovation Zone Project. The project would demolish all existing structures and redevelop the project site with two laboratory buildings and vehicle parking. The two proposed buildings, referred to as the South Building and the North Building, would include offices and other collaborative meeting spaces in addition to a North Building parking garage. The project would not result in UC Berkeley student population growth but would result in an increase in employment. After reviewing the project, DTSC recommends and requests consideration of the following comments:	The comment serves as an opening remark. No response is required.
A2-2	If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's Update to June 2006 Phase I Addendum Guidance.	DTSC's concerns regarding the presence of chemicals in on-site buildings are noted. Section 3.8 of the Draft EIR discusses impacts related to hazards and hazardous materials, including asbestos-containing materials (ACMs) and lead-based paint (LBP) that may be found in the buildings. As discussed under Impact 3.8-1 of Section 3.8 (pages 3.8-17 through 3.8-19), an ACM survey is recommended by the project's Phase I Environmental Site Assessment to confirm the presence or absence of ACMs before demolition of on-site building. Similarly, the collection of material samples would be required to determine where LBP is present. To ensure compliance with laws and regulations governing hazards and hazardous materials, UC Berkeley will implement CBP HZA-4 as part of the project, which requires UC Berkeley to perform hazardous materials surveys in existing UC Berkeley buildings and to comply with federal, state, and local regulations governing the abatement and handling of hazardous building materials.
A2-3	In the DEIR, under the Hazards and Hazardous Materials Section Impact 3.8-4: it states, "As part of the project, UC Berkeley would prepare and implement a soils management plan that would require further site assessment to determine whether soil and groundwater contamination is present and identify and implement remedial actions in coordination with the applicable oversight agency, if necessary. Regulatory processes and implementation of UC Berkeley's CBP HAZ-5	The recommendation to handle soil or groundwater contamination is noted. As discussed on page 3.8-25 of the Draft EIR, in accordance with the requirements of CBP Haz-5, UC Berkeley would prepare and implement a soils management plan. The soils management plan would identify, as necessary, permitting requirements, soil-testing methods and results, procedures for the removal of contaminated soil, and safety protocols for construction workers handling contaminated soils. Any cleanup and

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	would be sufficient to ensure that implementing the project would not create a significant hazard to the public or the environment if soil or groundwater contamination is identified at the project site." If soil and groundwater contamination is present, DTSC recommends that UC Berkley enter into DTSC's Standard Voluntary Agreement (SVA) program or work with the appropriate Certified Local Agency Resource, Alameda County Department of Environmental Health, so a proper evaluation of the Project is completed. If entering into an SVA with DTSC, the FLUXX portal link is provided and the page also has a link to the Fluxx User Guide that can help you navigate the system. You will need to create a new profile and once in the system, click "Start a Request for Lead Agency Oversight Application. If you have any questions about the application portal, please contact the DTSC Brownfield Coordinator Gregory Shaffer or contact the Application Portal Inbox.	remediation actions recommended as part of the assessment would be implemented before project construction in compliance with requirements of the applicable oversight agency, such as DTSC or the Alameda County Department of Environmental Health. Project construction would be permitted after the cleanup and remediation actions are completed to the satisfaction of the oversight agency. The links provided in the comment related to local agency resources and SVA portal have been reviewed. UC Berkeley will follow the recommendation provided in the comment if contaminated soil or groundwater is discovered.
A2-4	DTSC appreciates the opportunity to comment on the DEIR for the UC Berkeley Innovation Zone Project. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like any clarification on DTSC's comments, please respond to this letter or via email for additional guidance.	This comment serves as a closing remark. No response is required.
Organization		
O1: BioLab Watch		
O1-1	As per UC Berkeley's Notice of Preparation of an Environmental Impact Report regarding its intended "Innovation Zone," Biolab Watch Berkeley submitted 31 questions as part of the CEQA review. To date, we have received no reply. We note UCB's recent DEIR for this project and are aware of the presence of the Biolab Watch questions in the Appendices. We are interested, however, in receiving answers to the questions. Can you please advise?	UC Berkeley received BioLab Watch's response to the Draft EIR NOP on November 29, 2023, which raised 31 questions regarding the types of laboratory activities that would occur and types of hazardous materials that would be present within the project site. Under CEQA, formal responses to NOP comments are not required. However, consistent with CEQA requirements, UC Berkeley did consider and address the questions raised by BioLab Watch, where appropriate, during preparation of the Draft EIR. On page 3.8-1 of the Draft EIR, UC Berkeley acknowledged the public comments received during the NOP public review period: In response to the notice of preparation (NOP), UC Berkeley received comments requesting information related to the types of laboratory activities that would occur during project operation that could pose a hazard to the public and the environment; the types of hazardous materials that would be used and stored at the project site; the public health and environmental

Letter/Comment No.	Comment	Response
		effects that could result from accidental releases of hazardous materials; protocols to ensure public safety; and the entities responsible for oversight and enforcement of safety protocols. All of the aforementioned concerns are addressed, where appropriate, as part of the environmental analysis presented in this section. The NOP and comments received during the public scoping period are provided in Appendix A. Although the Draft EIR does not provide individual responses to each question raised by BioLab Watch, the Draft EIR does address the comments received during the NOP public review period as they pertain to the evaluation of physical environmental impacts. Because the specific operation of the proposed laboratories is unknown at this time, the Draft EIR provides a conservative approach to identifying the hazardous materials that could be present in the labs and analyzing the potential impacts associated with the project by accounting for all the potential activities that could take place within the proposed laboratories. Specifically, Chapter 2, Project Description, of the Draft EIR, explains that the proposed laboratories would be designated as Biosafety Levels-1 and -2 and no Biosafety Levels-3 and -4 activities would occur and that laboratory operations would be conducted in a manner consistent with applicable regulations and safety requirements Impact 3.8-1 in Section 3.8, Hazards and Hazardous Materials, discusses all the hazardous materials and chemicals that would have the potential to be present in the proposed laboratories, including nonradioactive hazardous materials, radioactive hazardous materials, biohazardous materials, biohazardous waste, transgenic material, laboratory animals, and nonionizing radiation. Because BioLab Watch is interested in receiving answers to the questions raised in their comment letter to the NOP, UC Berkeley has provided an individual response to each question posed in the NOP letter. Please see Table 4-3.

Table 4-3 Responses to BioLab Watch NOP Comment Letter

NOP Comment No.	Comment	Response
NOP-1	1. Will ammonia or other hazardous non-biological materials be stored at the site. If so, is the area zoned for such material? How will changing the zoning to allow for the use of such materials be appropriate for a busy downtown area where sheltering in place may not be practical for people visiting the area?	Chemical hazardous materials would be stored and utilized on the project site, as noted in the Draft EIR. Impact 3.8-1 in Section 3.8, "Hazards and Hazardous Materials," discusses all the hazardous materials and chemicals that would have the potential to be present in the proposed laboratories, including nonradioactive hazardous materials, radioactive hazardous materials, biohazardous materials, biohazardous waste, transgenic material, laboratory animals, and nonionizing radiation. As stated in Impact 3.8-1, UC Berkeley would continue to implement health and safety plans, programs, practices, and procedures related to the use, storage, disposal, or transportation of hazardous materials and wastes (including chemical, radioactive, and biohazardous materials and waste), as described in CBP HAZ-1. While the chemical hazard classifications are unknown at this time, the safe storage, access, and allowable quantities would be subject to pertinent Fire Code regulations. The project site is owned by UC Berkeley and has housed research activities with hazardous chemicals in the past. While UC Berkeley is constitutionally exempt from local governments' regulations, such as city and county general plans, land use policies, and zoning regulations, whenever using property under its control in furtherance of its educational purposes, in this downtown location, the City of Berkeley zoning code allows "Laboratory: Commercial Physical or Biological" if an Administrative Use Permit (AUP) is granted by the City.
NOP-2	2. Will the labs be working with any microorganisms? a. If so, at what biosafety level will the labs work? b. Will any of those microorganisms be a health risk if they escaped the lab? If they did escape, what are the environmental implications for such an event should it occur in a busy downtown area?	Berkeley Innovation Zone laboratories would work with a variety of micro-organisms that fall under Risk Group categories 1 and 2. a. The labs would work at Biological Safety Level (BSL) 1 and 2, and perhaps Animal Biological Safety Level (ABSL) 1 and 2 as well. b. Loss of containment and environmental release are two of the many considerations that the UC Berkeley Institutional Biosafety Committee (IBC) takes into consideration when reviewing the defined risk mitigation strategies that biological researchers outline in their Biological Use Authorization (BUA). All biological work on campus is reviewed and approved by UC Berkeley's institutional IBC prior to the start of work, including biological work at the various start up incubators located on campus. Per Risk Group 2 definition, some of the microorganisms could potentially cause disease in a healthy human being. However, the diseases they cause are rarely serious and preventative or therapeutic interventions are often available. Risk Group 1 organisms are not associated with disease in healthy human beings. It is unlikely that an

NOP Comment No.	Comment	Response
		escape event would have significant environmental implications; for example, a sick person in the shedding phase of an illness who is walking down the street likely poses a larger risk to the public.
NOP-3	3. Will the labs be working with any natural or select microorganisms? a. Could any of the natural or select microorganisms be considered harmful or infectious to humans or animals? b. Will the university provide public disclosure to the types of natural or select microorganisms it uses at its facilities and at what biosafety level of containment?	It is likely that the proposed laboratories would work with natural or select microorganisms. ▶ It is possible that natural and select microorganisms that may be used could be considered harmful or infectious to humans or animals. ▶ The UC Berkeley Office of Environment, Health & Safety (EH&S) provides the City of Berkeley with an annual report on the etiological agents that are used on campus. Additionally, monthly IBC meetings for campus research are open to the public. See this link for meeting information: https://ehs.berkeley.edu/safety-subjects/biological-safety/committee-laboratory-and-environmental-biosafety-cleb
NOP-4	4. Will the labs be using or producing any genetically engineered (GE) microorganisms on its site? If so, Will the university provide public disclosure of the types of genetically engineered (GE) microorganisms and to the general types of vectors it uses at its facilities and at what biosafety level of containment?	Laboratories are likely to use or produce genetically engineered microorganisms, while working under BSL 1 or BSL 2 conditions. The UC Berkeley EH&S office provides the City of Berkeley with an annual report on the etiological agents that are used on campus. This list does not provide the specifics of the genes that are engineered as it is likely to be any and all within any given model.
NOP-5	5. Will the facility be using any replicative deficient GE microorganism that still has the capacity to enter inside a human or animal cell to transfer itself or any part of itself (i.e., its molecular components, nucleic acid, or GE vector) inside the cell's cytoplasm or nucleus?	Yes, replicative deficient GE microorganism is a common technique utilized in modern biological research, e.g., lentiviral and adeno-associated viral vectors are commercially available throughout the world.
NOP-6	6. Will the facility be using any GE microorganism that could be considered harmful to humans or animals?	Future laboratory facilities could potentially use genetically engineered microorganisms considered harmful to humans and animals. The use and transport of potential hazardous harmful materials are discussed in Impacts 3.8-1 and 3.8-2 of the Draft EIR (pages 3.8-17 through 3.8-23).
NOP-7	7. Will any of those microorganisms be a health risk if they escaped the lab?	See response to NOP-2 above.
NOP-8	8. If they did escape what would be the environmental implications should it occur in a busy downtown area?	It is unlikely that an escape event of genetically engineered microorganisms would have significant environmental implications; a sick person in the shedding phase of their illness who is walking down the street poses a larger public risk. The impacts related to accidental release of hazardous materials are discussed in Impact 3.8-2 of the Draft EIR (pages 3.8-22 and 3.8-23).

NOP Comment No.	Comment	Response
NOP-9	9. Will the labs' design, produce or work with genetically engineered viruses?	Laboratories associated with the project would work with genetically engineered viruses. This is a common technique utilized in modern biological research, e.g., lentiviral and adeno-associated viral vectors are commercially available throughout the world.
NOP-10	10. Will the university monitor any public health parameters in the area with transparency and disclosure to the public on a regular basis?	As part of the project, UC Berkeley would adhere to practices already in place (e.g., UC Berkeley's Hazardous Waste Business Plan and Routine Reporting for Sanitary Sewer) to ensure the same levels of transparency and disclosure to the public continue to be followed when the facilities are operational.
NOP-11	11. Will the facility have any labs or departments that will use, work, or manipulate human embryos?	It is unknown at this time whether this work would be conducted within the laboratory facilities
NOP-12	12. Will there be any gain of function research?	Gain of function research could potentially be conducted on site. Gain of function is one of many considerations the IBC evaluates when performing a risk assessment during review of a new BUA for biological work on campus.
NOP-13	13. Who will conduct the research? UC employees or corporate partners or affiliates?	As described in Chapter 1, "Introduction," and 2, "Project Description," of the Draft EIR, building occupants would include UC Berkeley researchers, faculty, and students from multiple disciplines, as well as unaffiliated employees.
NOP-14	14. Will the university commit to a binding agreement to prohibit any occupant of the lab from engaging in genetic manipulation of viral particles designed to enhance pathogenicity?	All biological research work within the laboratory facilities would be reviewed and approved by the UC Berkeley IBC prior to the start of research to ensure the work is conducted in the safest way possible and in accordance with applicable regulations. UC Berkeley's IBC does not set rules or restrictions on the type of research that can be conducted on campus. However, if something is deemed high risk there must be a clear scientific justification, as well as a thoroughly convincing case that the work can be conducted safely.
NOP-15	15. Will the facility house any labs that use, work with or manipulate human embryos?	It is unknown at this time whether research concerning working with or manipulating human embryos would be conducted within laboratory facilities.
NOP-16	16. Will the University commit to a binding agreement to prohibit any occupant of the lab from engaging in research aimed at creating "heritable alterations to the human germline" (i.e., to embryos, ova, or sperm)?	It is unknown at this time whether work aimed at creating "heritable alterations to the human germline" would be conducted within laboratory facilities. If so, the work will undergo comprehensive institutional oversight review by all necessary committees. These committees would collectively ensure that the procedures, facility, and staff are adequate to safely carry out this type of research in a safe, compliant, and ethical capacity.

NOP Comment No.	Comment	Response
NOP-17	17. Will the university enter a legally binding agreement to prohibit any occupant of the lab to conduct Dual Use Research of Concern or work with select agents?	UC Berkeley does not have a select agent registration and the laboratory buildings are not designed to conduct research at BSL 3 and above. Since UC Berkeley does not have a select agent registration, gain of function experiments that fall under the Dual Research of Concern policy are not possible.
NOP-18	18. Who will conduct safety oversight and enforcement of any agreements between the city and the university regarding research in the building? What mechanisms will be in place to monitor and enforce violations of safety protocols and other violations of the terms and condition of conduct at the labs?	Safety oversight would be provided by building/department staff and the UC Berkeley EH&S office. The mechanisms used to monitor and address safety violations would depend on the activity and the affiliation of the individuals/entities performing the job. Spaces are expected to be inspected regularly and groups must follow the terms and conditions of their Memorandum of Understandings and/or BUAs to continue operating in the building.
NOP-19	19. If the labs of non-university organizations will be housed at the building, what mechanisms will be in place to monitor and enforce violations by those non-university organizations of safety protocols and other violations of the terms and conditions of conduct at the labs?	UC Berkeley has already demonstrated success in this format with the Bakar BioEnginuity Hub. UC Berkeley employees oversee the day-to-day operations of the building as a whole, this includes on-site personnel who oversee the daily safety actions of the various companies that occupy the space. All tenants that perform biological research must have an approved BUA through the UC Berkeley IBC, which includes annual site inspections, standard operating procedures, and validation of proper waste handling procedures. This format would likely be adopted for the new buildings.
NOP-20	20. In the case of environmental harm due to the release of dangerous pathogens and/or harmful chemicals into the environment what recourse will members of the public have for receiving compensation from the responsible parties for the harm they have suffered as a result of such releases?	California law generally provides for recovery of economic damages when an individual suffers personal injury or an individual or entity suffers property damage that results from intentional or negligent harmful conduct. UC Berkeley is not immune from these legal obligations, nor would its tenants be immune.
NOP-21	21. Will any lab work be on projects involving high risk vectors (e.g. lentivirus) or targets (e.g., random gRNA libraries or obvious tumor suppressor gene targets)?	Laboratory research at the project site would include projects involving high risk vectors (e.g., lentivirus) or targets (e.g., random gRNA libraries or obvious tumor suppressor gene targets).
NOP-22	22. Is gene editing, genome modification, or similar technology (CRISPR, TALENs, zinc fingers, etc.) being used as the part of the protocol? If yes, describe the experimental design, including: a. How will the gRNA and Cas9 be delivered to the cells or tissues? b. How was/were the targeting sequence(s) designed? c. How was/were off-target site/s evaluated?	Any and all delivery and targeting mechanisms are possible in the new laboratory facilities, as well as novel approaches that have not been considered by others. Off-site targeting is a strong consideration in all CRISPR work on campus and many of the means by which this analysis is performed is novel and propriety information. Nevertheless, the rigor with which this analysis addresses the concern is acceptable to the UC Berkeley IBC. As with all biological research on campus, future research would be

NOP Comment No.	Comment	Response
		reviewed and approved by the IBC prior to the start of research to ensure the work would be conducted in the safest way possible.
NOP-23	23. Which organism(s) is (are) being modified? Targeting of human cells presents additional risk to laboratory workers due to the potential for accidental ingestion, inhalation, injection or other routes of administration. Describe how these risks are reduced in your experiments.	Any and all potential organisms could be targeted for modification. Exposure mitigation strategies are an active part of the risk mitigation that would be implemented when carrying out research on campus. These strategies would be described in the BUA and require approval by the campus IBC prior to start of research.
NOP-24	24. Will CRISPR work be done in cell culture, in whole organisms, or both?	CRISPR work in both cell culture and whole organisms is likely to be conducted in the new laboratory facilities.
NOP-25	25. How will CRISPR-Cas9 be delivered (e.g., viral vector, plasmid, liposome, nanoparticles, etc.)? If it is a viral delivery, will the Cas9 and gRNA be delivered together on a single transfer vector/plasmid or on separate transfer vectors/plasmids?	In the new facilities, any and all delivery mechanisms are possible, as well as novel ones that have not been considered by others.
NOP-26	26. Are you using a CRISPR pooled library?	A CRISPR pooled library is being used.
NOP-27	27. If animal work is involved, will syringes be used for injections?	If there is animal work conducted in new laboratory facilities, needles and syringes would be used for injections.
NOP-28	28. Will the research involve the creation of a gene drive experiment (i.e., a system that greatly increases the probably that a trait will be passed on to offspring)?	It is unknown at this time whether work involving the creation of a gene drive experiment would be conducted within new laboratory facilities.
NOP-29	29. Will the gene editing technology be used to target embryos/germ line cells? If so, the biosafety protocol must include an approved or submitted IACUC number.	It is unknown at this time whether gene editing technology to target embryos/germ line cells would be conducted within new laboratory facilities. If this technology would be conducted on-site, any work would undergo comprehensive institutional oversight review by all necessary committees such as the Animal Care and Use Committee (ACUC), IBC, the Stem Cell Research Oversight (SCRO), and Institutional Review Board (IRB).
NOP-30	30. Will the gene editing technology be used for human gene therapy research? If so, the biosafety protocol must include IRB submission information.	It is unknown whether gene editing technology used for human gene therapy research would be conducted within new laboratory facilities. If so, the work would undergo comprehensive institutional oversight review by all necessary committees such as ACUC, IBC, SCRO, and IRB.
NOP-31	31. Will any lab work on projects involving high risk vectors (e.g. lentivirus) or targets (e.g., random gRNA libraries or obvious tumor suppressor gene targets)?	See response to NOP-21.

5 MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the project. The purpose of the MMRP is to ensure the implementation of mitigation measures identified as part of the environmental review for the project. The MMRP includes the following information:

- The full text of the mitigation measures;
- The party responsible for implementing the mitigation measures;
- The timing for implementation of the mitigation measure;
- The agency responsible for monitoring the implementation; and
- The monitoring action and frequency.

The mitigation measures in this MMRP shall be applied to the project, where applicable for each project component. UC Berkeley must adopt this MMRP, or an equally effective program, if it approves the project with the mitigation measures that were adopted or made conditions of project approval.

Table 5-1 Mitigation Monitoring and Reporting Program

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
Air Quality					
Mitigation Measure 3.2-3: Clean Equipment During Construction UC Berkeley shall use equipment that meets the EPA Tier 4 emissions standards or higher for off-road diesel-powered construction equipment with more than 50 horsepower, unless it can be demonstrated to UC Berkeley that such equipment is not commercially available. For purposes of this mitigation measure, "commercially available" shall mean the availability of Tier 4 engines similar to the availability for other large-scale construction projects in the City occurring at the same time and taking into consideration factors such as (i) potential significant delays to critical-path timing of construction and (ii) geographic proximity to the project site of Tier 4 Final equipment. Where such equipment is not commercially available, as demonstrated by the construction contractor, Tier 3 equipment shall be used. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Tier 4 interim emissions standard for a similarly sized engine, as defined by CARB's regulations. The requirement to use Tier 4 interim equipment or higher for engines over 50 horsepower shall be identified in construction bids.	Include requirements in construction bid documents; Construction contractors	Prior to ground disturbance	Director of Campus Building Department	Review demolition and grading plans and confirm compliance during regularly scheduled site inspection	Once for review of documents; monthly during regularly scheduled site inspections for compliance verification
Biological Resources					
Mitigation Measure 3.3-2: Implement Bird-Friendly Building Design Elements to Reduce Collison Risk Structures and buildings that are new or are taller than existing structures and buildings shall be designed to minimize the potential risk of bird collisions. This should at a minimum include the following design considerations and management strategies: (1) avoid the use of highly reflective glass as an exterior treatment, which appears to reproduce natural habitat and can be attractive to some birds; (2) limit reflectivity and prevent exterior glass from attracting birds in building plans by utilizing low-reflectivity glass and providing other non-attractive surface treatments; (3) use low-reflectivity glass or other bird safe glazing treatments for the majority of the building's glass surface, not just the lower levels; (4) for office and commercial buildings, interior light "pollution" should be reduced during evening hours through the use of a lighting control system programmed to shut off during non-work hours and between 10 p.m. and sunrise; (5) exterior lighting should be directed downward and screened to	Include requirements in construction bid documents; Capital Projects and Project architects	Prior to approval of final building plans	Campus Architect	Review architectural plans	Once

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
minimize illuminating the exterior of the building at night, except as needed for safety and security; (6) untreated glass skyways or walkways, freestanding glass walls, and transparent building corners should be avoided; (7) transparent glass should not be allowed at the rooflines of buildings, including in conjunction with green roofs; and (8) all roof mechanical equipment should preferably be covered by low-profile angled roofing or other treatments so that obstacles to bird flight are minimized. These strategies shall be incorporated at the direction of the Campus Architect during plan review, and the Campus Architect shall confirm the incorporation of these strategies into architectural plans prior to building construction.					
Archaeological, Historical, and Tribal Cultural Resources					
Mitigation Measure 3.4-1a: Historic American Building Survey UC Berkeley shall have Historic American Building Survey Level II documentation completed for the Heron and Sell buildings. UC Berkeley shall submit digital copies of the documentation to an appropriate historical repository, including UC Berkeley's Bancroft Library, UC Berkeley Environmental Design Archives, or the California Historical Resources Information System Northwest Information Center. This documentation shall include a historical narrative, photographs, and/or drawings: ▶ Historical Overview: A professional meeting the Secretary of the Interior's Professional Qualification Standards in Architectural History or History shall assemble historical background information relevant to the historical resource. ▶ Photographs: Photo-documentation of the historical resource will be prepared to Historic American Building Survey standards for archival photography, prior to demolition. Historic American Building Survey standards require large-format black-and-white photography, with the original negatives having a minimum size of four inches by five inches. Digital photography, roll film, film packs, and electronic manipulation of images are not acceptable. All film prints, a minimum of four inches by five inches, must be hand-processed according to the manufacturer's specifications and printed on fiber-base, single-weight paper and dried to a full gloss finish. A minimum of 12 photographs shall be taken, detailing the site, building exterior, building interior, and character-defining features. Photographs must be identified and labeled using Historic American Building Survey standards.	Consulting architectural historian	Prior to any demolition activities	Campus Architect	Review documentation for compliance with mitigation measure	Once

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
▶ Drawings: Existing historic drawings of the historical resource, if available, will be digitally scanned or photographed with large-format negatives. In the absence of existing drawings, full-measured drawings of the building's plan and exterior elevations shall be prepared prior to demolition. The Campus Architect shall verify compliance with this mitigation measure prior to the initiation of any site or building demolition or construction activities.					
Mitigation Measure 3.4-1b: Notification to Local Historical Societies and Architectural Salvage Companies UC Berkeley shall give local historical societies or local architectural salvage companies the opportunity to salvage character-defining or significant features from the Heron and Sell buildings for public information or reuse in other locations. UC Berkeley shall contact local historical societies and architectural salvage companies and notify them of the available resources and make them available for removal. If, after 30 days, no organization is able and willing to salvage the significant materials, demolition can proceed. The Campus Architect shall verify compliance with this measure prior to the initiation of any demolition activities that could affect the resources.	Capital Projects	Prior to any demolition activities	Campus Architect	Confirm notification sent to historical societies and architectural salvage companies	Once
Mitigation Measure 3.4-2: Archaeological Resources Protection Measures UC Berkeley shall implement the following steps to ensure impacts to archaeological resources will be less than significant. ▶ Ground-Disturbing Activities. ▪ Prior to soil disturbance, UC Berkeley shall confirm that contractors have been notified of the procedures for the identification of federal- or state-eligible cultural resources, and that the construction crews are aware of the potential for previously undiscovered archaeological resources or tribal cultural resources on site, of the laws protecting these resources and associated penalties, and of the procedures to follow should they discover cultural resources during project-related work. ▪ If a resource is discovered during construction (whether or not an archaeologist is present), the following measures shall be implemented: • All soil disturbing work within 35 feet of the find shall cease. • UC Berkeley shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the deposit, and assessment of the remainder of the site within	Include requirements in construction bid documents; Project construction crews and qualified archaeologist	Prior to ground disturbance	Project Manager, Capital Projects and Office of Physical & Environmental Planning; archaeologist and Native American monitor	Confirm conformance	During regularly scheduled site inspections

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
the project area to determine whether the resource is significant and would be affected by the project. • Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archaeologist. • If the resource is a tribal cultural resource, the consulting archaeologist, approved by UC Berkeley in consultation with the appropriate tribe as determined by the Native American Heritage Commission, shall consult with the appropriate tribe to evaluate the significance of the resource and to recommend appropriate and feasible avoidance, testing, preservation or mitigation measures, in light of factors such as the significance of the find, proposed project design, costs, and other considerations. • If avoidance is infeasible, other appropriate measures (e.g., data recovery) may be implemented. • If the resource is a non-tribal resource determined significant under CEQA, a qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. • The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources if appropriate. • The report shall be submitted to the City of Berkeley, California Historic Resources Information System Northwest Information Center, and the State Historic Preservation Office, if required. ▶ Areas with High Archaeological Sensitivity. In addition to the requirements above for ground-disturbing activities, for projects in areas with moderately high to extreme archaeological sensitivity (as shown on the confidential Figure 11, Prehistoric Cultural Sensitivity Overlay Analysis Results) ground-disturbing activities shall be monitored by both an archaeologist and a tribal representative from the outset. Monitoring shall occur at the project site in areas with moderately high archaeological sensitivity for soil removal, parcel grading, new utility trenching, and foundation-related excavation in those					

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
areas that extend into previously undisturbed soils. If resources discovered are indigenous in nature, archaeological monitoring must be undertaken by a qualified archaeologist approved by UC Berkeley in consultation with the appropriate tribe as determined by the Native American Heritage Commission or the appropriate tribe, who is familiar with a wide range of prehistoric archaeological or tribal remains and is conversant in artifact identification, human and faunal bone, soil descriptions, and interpretation. Based on project-specific daily construction schedules, field conditions, and archaeological observations, full-time monitoring may not be warranted following initial observations.					
Greenhouse Gas Emissions and Climate Change					
Mitigation Measure 3.7-1: Project-Specific Carbon Offsets In addition to compliance offsets required by cap and trade, UC Berkeley shall purchase GHG carbon offsets from a voluntary GHG carbon offset provider with an established protocol that requires projects generating GHG carbon offsets to demonstrate that the reduction of GHG emissions are real, permanent, quantifiable, verifiable, enforceable, and additional (per the definition in California Health and Safety Code Sections 38562(d)(1) and (2)).UC Berkeley shall purchase GHG carbon offsets from UC developed voluntary carbon offset projects that are real, permanent, quantifiable, peer verifiable, enforceable, and additional. Definitions for these terms follow. a. Real: Estimated GHG reductions should not be an artifact of incomplete or inaccurate emissions accounting. Methods for quantifying emission reductions should be conservative to avoid overstating a project's effects. The effects of a project on GHG emissions must be comprehensively accounted for, including unintended effects (often referred to as "leakage"). To ensure that GHG reductions are real, CARB requires the reduction be a direct reduction within a confined project boundary. b. Additional: GHG reductions must be additional to any that would have occurred in the absence of the Climate Action Reserve, or of a market for GHG reductions generally. "Business as usual" reductions (i.e., those that would occur in the absence of a GHG reduction market) should not be eligible for registration. c. Permanent: To function as offsets to GHG emissions, GHG reductions must effectively be "permanent." This means, in general, that any net reversal in	Office of Sustainability & Carbon Solutions	According to timeline specified in mitigation measure	Office of Physical & Environmental Planning	Confirm offsets and perform reporting requirements specified in mitigation measure	Annual

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
GHG reductions used to offset emissions must be fully accounted for and compensated through the achievement of additional reductions. d. Quantifiable: The ability to accurately measure and calculate GHG reductions or GHG removal enhancements relative to a project baseline in a reliable and replicable manner for all GHG emission sources, GHG sinks, or GHG reservoirs included within the offset project boundary, while accounting for uncertainty and activity-shifting leakage and market-shifting leakage. e. Verified: GHG reductions must result from activities that have been verified. Verification requires third-party (or peer review if UC-developed voluntary carbon offset projects) of monitoring data for a project to ensure the data are complete and accurate. f. Enforceable: The emission reductions from offset must be backed by a legal instrument or contract that defines exclusive ownership and can be enforced within the legal system in the country in which the offset project occurs or through other compulsory means. Please note that for this mitigation measure, only credits originating within the United States are allowed.					
Noise and Vibration					
Mitigation Measure 3.11-1: Implement Construction-Noise Reduction Measures Where construction noise could exceed the applicable noise thresholds of significance (see City of Berkeley Municipal Code Section 13.40.070, Prohibited Acts) for maximum construction noise levels (dBA L_{max}), or that involve impulse equipment such as jackhammers, hoe rams, and pile driving, temporary noise barriers at least 12 feet high shall be erected, as necessary and feasible, to reduce construction noise levels. Temporary noise barriers shall be constructed with solid material with a density of at least 1.5 pounds per square foot with no gaps from the ground to the top of the temporary noise barrier and may be lined on the construction side with an acoustical blanket, curtain, or equivalent absorptive material. UC Berkeley shall verify compliance with this measure prior to issuance of demolition, grading, and/or building permits.	Include requirements in construction bid documents; Construction contractors	Prior to issuance of demolition, grading, and/or building permits	Capital Projects and Office of Environment, Health & Safety	Review construction schedule and inspect barriers	During regularly scheduled site inspections
Mitigation Measure 3.11-2: Implement Construction Vibration Measures UC Berkeley shall implement the following steps to ensure impacts from vibration causing construction activities/equipment will be less than significant to surrounding structures.	Include requirements in construction bid documents; Construction contractors	Prior to ground disturbance	Capital Projects	Verify screening and construction activity/equipment	Regularly during all vibration-generating activities

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
▶ Step 1 (Activity/Equipment Screening Distances): UC Berkeley shall use the FTA construction vibration screening standards shown in Table 3.11-2 and Table 3.11-3 to determine if the construction activity/equipment is within the vibration screening distances that could cause building damage/human annoyance. If the construction activity/equipment is within the screening distance, then Step 2 (Alternative Methods/Equipment) shall be implemented. ▶ Step 2 (Alternative Methods/Equipment): When the anticipated vibration-causing construction activity/equipment is within the screening standards in Step 1 (Activity/Equipment Screening Distances), UC Berkeley shall consider whether alternative methods/equipment are available and shall verify that the alternative method/equipment is shown on the construction plans prior to the beginning of construction. Alternative methods/equipment may include, but are not limited to: ▪ For pile driving, the use of caisson drilling (drill piles) vibratory pile drivers, oscillating or rotating pile installation methods, and jetting or partial jetting of piles into place using a water injection at the tip of the pile shall be used, where feasible. ▪ For paving, use of a static roller in lieu of a vibratory roller shall be implemented. ▪ For grading and earthwork activities, use the smallest practical and available equipment, or use diesel alternatives (e.g., hybrid, electric), where such equipment is commercially available and can feasibly complete the desired construction / engineering outcome, such as completing the project within its construction schedule, in comparison to the traditional equipment. Modern equipment with standard noise mufflers and backup alarms that meet OSHA standards will be used. When equipment and associated auxiliary equipment is not in use all engines will be shut down (no idling). Where alternative methods/equipment to vibration causing activities/equipment are not feasible, then Step 3 (Construction Vibration Monitoring Program) shall be implemented. ▶ Step 3 (Construction Vibration Monitoring Program): Prior to any project-related excavation, demolition, or construction activity within the screening distances referenced in Step 1 (Activity/Equipment Screening Distances) and where alternative methods/equipment to vibration causing					

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
activities/equipment are not feasible pursuant to Step 2 (Alternative Methods/Equipment), UC Berkeley shall prepare a construction vibration monitoring program. The program shall be prepared and implemented by a qualified acoustical consultant or structural engineer. Where the vibration sensitive receptors are historic resources, the program shall be prepared and implemented by a structural engineer with a minimum of five years of experience in the rehabilitation and restoration of historic buildings and a historic preservation architect meeting the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards. The program shall include the following: ▪ Prepare an existing conditions study to establish the baseline condition of the vibration sensitive resources in the form of written descriptions with a photo survey, elevation survey, and crack-monitoring survey for the vibration-sensitive building or structure. The photo survey shall include internal and external crack monitoring in the structure, settlement, and distress, and document the condition of the foundation, walls, and other structural elements in the interior and exterior of the building or structure. Surveys will be performed prior to, in regular intervals during, and after completion of all vibration-generating activity. Where receptors are historic resources (Heywood Apartments and The Studio Building), the study shall describe the physical characteristics of the resources that convey their historic significance. ▪ Determine the number, type, and location of vibration sensors and establish a vibration velocity limit (as determined based on a detailed review of the proposed buildings), method (including locations and instrumentation) for monitoring vibrations during construction, and method for alerting responsible persons who have the authority to halt construction should limits be exceeded or damaged observed. ▪ Perform monitoring surveys prior to, in regular intervals during, and after completion of all vibration-generating activity and report any changes to existing conditions, including, but not limited to, expansion of existing cracks, new spalls, other exterior deterioration, or any problems with character-defining features of a historic resource that are discovered. UC Berkeley shall establish the frequency of monitoring and reporting, based upon the recommendations of the qualified acoustical consultant or structural engineer or by the historic architect and structural engineer for					

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
the historic Heywood Apartments and The Studio Building. Monitoring reports shall be submitted to UC Berkeley's designated representative responsible for construction activities. ▪ Develop a vibration monitoring and construction contingency plan, which shall identify where monitoring would be conducted, establish a vibration monitoring schedule, define structure-specific vibration limits, and require photo, elevation, and crack surveys to document conditions before and after demolition and construction activities. Construction contingencies would be identified for when vibration levels approach the limits. If vibration levels approach limits, suspend construction, and implement contingencies to either lower vibration levels or secure the affected structure. ▪ Report substantial adverse impacts to vibration sensitive buildings including historic resources related to construction activities that are found during construction to UC Berkeley's designated representative responsible for construction activities. UC Berkeley's designated representative shall adhere to the monitoring team's recommendations for corrective measures, including halting construction or using different methods, in situations where demolition, excavation/construction activities would imminently endanger historic resources. UC Berkeley's designated representative would respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by UC Berkeley's designated representative. Any new cracks or other damage to any of the identified properties will be compared to pre-construction conditions and a determination made as to whether the proposed project could have caused such damage. If the project is demonstrated to have caused any damage, such damage would be repaired to the pre-existing condition. Site visit reports and documents associated with claims processing would be provided to the relevant government body with jurisdiction over the neighboring historic resource, as necessary. ▪ Conduct a post-survey of the structure where either monitoring has indicated high levels or complaints of damage and make appropriate repairs where damage has occurred as a result of construction activities. ▪ Prepare a construction vibration monitoring report that summarizes the results of all vibration monitoring and submit the report after the completion of each phase identified in the project construction schedule. The vibration monitoring report shall include a description of					

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
measurement methods, equipment used, calibration certificates, and graphics as required to clearly identify vibration-monitoring locations. An explanation of all events that exceeded vibration limits shall be included together with proper documentation supporting any such claims. The construction vibration monitoring report shall be submitted to UC Berkeley within two weeks of completion of each phase identified in the project construction schedule. ▪ Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such a person shall be clearly posted in one or more locations at the construction site					
Mitigation Measure 3.11-4a: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of Loading Docks To reduce the increases in noise associated with onsite truck and loading/unloading activities, the following measures shall be adopted as conditions of approval and implemented by the University: ▶ Strategic scheduling: The University shall schedule truck deliveries and all loading and unloading activities during the hours of 7:00 a.m. to 10:00 p.m. per Section 13.40.070 of the Berkeley Municipal Code to minimize sleep disturbance and evening leisure activities at the residential dwellings. ▶ Quiet equipment: The University shall provide quiet equipment for unloading and loading such as electric pallets jacks, low-noise forklifts or pallet jacks. ▶ Engine Idling: The University shall post a clear, visible, and legible sign for truck drivers instructing them to turn off engines as soon as possible to avoid unnecessary truck engine noise. ▶ Regular maintenance: University maintenance staff shall provide regular and routine maintenance to loading dock equipment, such as dock levelers, doors, pallet jacks or forklifts to prevent unnecessary noise caused by mechanical and wear and tear issues. ▶ Dock levelers and bumpers: The University shall upgrade or maintain dock levelers and bumpers to minimize noise generated by the impact of pallet jacks, forklifts, and other equipment during loading operations. ▶ Dock seals and shelters: The University shall install high-quality dock seals or shelters around the loading area to create a better seal between the dock and trucks, reducing noise leakage during loading and unloading.	Building Manager	Prior to project operation	Capital Projects and Office of Environment, Health & Safety	Verify implementation of noise reduction measures	Annual, or more frequently if necessary

Mitigation Measure	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
▶ Loading activities: The building staff shall be directed to handle loading activities with care to minimize noise generation. This includes, but is not limited to, carefully lowering pallets, lifts gates, and similar materials to reduce noise impact.					
Mitigation Measure 3.11-4b: Implement Design Measures to Reduce Long-Term Noise Impacts of Loading Docks The University shall hire a qualified acoustical specialist to prepare a noise minimization plan that will identify site-specific parameters (e.g., number of trucks accessing the site), design strategies, and noise attenuation features to reduce noise generated by on-site loading dock activity to levels that are below City of Berkeley daytime noise standards for multi-family and high-density residential uses (i.e., 60 dBA L_{50}). The noise minimization plan shall include, but not be limited to, a combination of the following measures (or other measures demonstrated to be equally effective). ▶ Design the South Building such that the structure serves as a barrier protecting off-site receptors from noise generated by loading dock activity. The typical sound level reduction a building could provide ranges from 12 dB with windows open to 27 dB with windows closed (EPA 1978: 11) and additional reduction is achievable if masonry exterior walls are used in the building's construction (Caltrans 2020: 7-37). ▶ Enclose the loading dock area with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors and the facility. The wall shall be constructed of solid material (e.g., concrete, brick), scenic quality factors shall be considered during design, and barriers shall be designed to blend into the landscape on the project site, to the extent feasible. Generally, a barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. ▶ Provide sound absorbing surfaces in available areas within the loading dock to reduce noise buildup and propagation. ▶ Enclose the loading dock area within the building with one or more walls such that it serves as a sound barrier between all adjacent sensitive receptors. The wall(s) shall be constructed of solid material (e.g., concrete, brick). Measures identified in the noise minimization plan shall be incorporated into the project design and identified on the final site plan. Prior to the approval of the final site plan, UC Berkeley shall verify that the measures are included in the site plan.	Include requirements in construction bid documents; Capital Projects and qualified acoustical specialist	Prior to construction	Capital Projects	Review noise minimization plan	Once

6 CONTINUING BEST PRACTICES IMPLEMENTATION AND MONITORING PROGRAM

CBPs represent actions that UC Berkeley will continue to implement throughout the life of the project. This chapter indicates which CBPs are applicable to the project evaluated in this EIR. This chapter identifies the following information:

- The full text of the CBPs;
- The party responsible for implementing the CBPs;
- The timing for implementation of CBPs;
- The agency or individual responsible for monitoring the implementation; and
- The monitoring action and frequency.

Table 6-1 shows all the CBPs that are applicable to the project.

Table 6-1 Continuing Best Practices Implementation and Monitoring Program

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
Aesthetics					
CBP AES-1: New projects will as a general rule conform to the Physical Design Framework. While the guidelines in the Physical Design Framework would not preclude alternate design concepts when such concepts present the best solution for a particular site, UC Berkeley will not depart from the Physical Design Framework except for solutions of extraordinary quality.	Capital Projects and project architect	Prior to final design approval	Project Manager, Capital Projects	Review project design for conformance to Physical Design Framework	Ongoing during project development and review
CBP AES-2: Major new campus projects will continue to be reviewed at each stage of design by the UC Berkeley Design Review Committee. The provisions of the LRDP, as well as project-specific design guidelines prepared for each such project, will guide these reviews.	UC Berkeley Design Review Committee	During project design	Campus Architect	Review project	At least once during each stage of design
CBP AES-4: UC Berkeley will make informational presentations of major projects in the city environs of the Cities of Berkeley and Oakland, and the Clark Kerr Campus, to the relevant city commission(s) and board(s). Relevant commissions and boards, to be determined jointly by the Campus Architect and appropriate City Planning Director, may include the Berkeley Zoning Adjustments Board and Berkeley Landmarks Preservation Commission. Major projects in the Hill Campus East within the city of Oakland may also be presented to relevant City of Oakland boards or commissions, after consultation and mutual agreement between those agencies and UC Berkeley. Major projects may include new construction or redevelopment projects with substantial community interest as determined by UC Berkeley. Whenever a major project in the city environs or Clark Kerr Campus is under consideration, the Campus Architect may invite the appropriate city planning director or their designee to attend and comment on the project at the UC Berkeley Design Review Committee.	Physical & Environmental Planning	Prior to project approval	Campus Architect	Attend meeting(s) and invite City of Berkeley planning director to meetings, as appropriate	At least once prior to approval of project
CBP AES-6: Lighting for new development projects will be designed to include shields and cut-offs that minimize light spillage onto unintended surfaces and minimize atmospheric light pollution. The only exception to this principle will be in those areas where such features would be incompatible with the visual and/or historic character of the area.	Capital Projects and project architect	Prior to final design approval	Campus Architect	Review lighting plans and specifications	Once
CBP AES-7: As part of UC Berkeley's design review procedures, light and glare will be given specific consideration and measures will be incorporated into the project design to minimize both. In general, exterior surfaces will not be reflective; architectural screens and shading devices are preferable to reflective glass.	UC Berkeley Design Review Committee	During design review	Campus Architect	Confirm incorporation of measures to minimize light and glare	Once

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
Air Quality					
CBP AIR-1: UC Berkeley will continue to implement the same or equivalent transportation programs as currently exist, that strive to reduce the use of single-occupant and/or greenhouse gas emitting (internal combustion engine) vehicles by students, staff, faculty, and visitors to the UC Berkeley campus.	Parking & Transportation	Ongoing	Director of Parking & Transportation	Confirm implementation of programs	Annual
CBP AIR-2: UC Berkeley will continue to comply with the current Bay Area Air Quality Management District basic control measures for fugitive dust control. The requirement to comply with the basic control measures will be identified in construction bids. The Bay Area Air Quality Management District's current basic control measures include: ▶ Water all active construction areas at least twice daily, or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water will be used whenever possible. ▶ Pave, apply water twice daily or as often as necessary to control dust, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▶ Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). ▶ Sweep daily (with water sweepers using reclaimed water if possible) or as often as needed all paved access roads, parking areas and staging areas at the construction site to control dust. ▶ Sweep public streets daily (with water sweepers using reclaimed water if possible) in the vicinity of the project site, or as often as needed, to keep streets free of visible soil material. ▶ Hydroseed or apply nontoxic soil stabilizers to inactive construction areas. ▶ Enclose, cover, water twice daily, or apply nontoxic soil binders to exposed stockpiles (dirt, sand, etc.). ▶ Limit vehicle traffic speeds on unpaved roads to 15 miles per hour. ▶ Replant vegetation in disturbed areas as quickly as possible.	Include requirements in construction bid documents; Construction contractors	During construction	Director of Campus Building Department	Confirm incorporation of measures in construction bids; confirm implementation during regularly scheduled site visits	Once for construction contract; regularly for implementation
CBP AIR-3: UC Berkeley will continue to implement the following control measures to reduce emissions of diesel particulate matter and ozone precursors from construction equipment exhaust:	Include requirements in construction bid documents;	During construction	Director of Campus Building Department and Office of	Confirm compliance through documentation	During regular site inspections

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
▶ Equipment will be properly serviced and maintained in accordance with the manufacturer's recommendations. ▶ Construction contractors will also ensure that all nonessential idling of construction equipment is restricted to five minutes or less, in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9	Construction contractors		Environment, Health & Safety	review and during regularly scheduled site inspections	
Biological Resources					
CBP BIO-1: Avoid disturbance or removal of bird nests protected under the federal Migratory Bird Treaty Act and California Department of Fish and Game Code when in active use. This will be accomplished by taking the following steps. ▶ If tree removal and initial construction is proposed during the nesting season (February 1 to August 31), a focused survey for nesting raptors and other migratory birds will be conducted by a qualified biologist within 14 days prior to the onset of tree and vegetation removal in order to identify any active nests on the site and surrounding area within up to 500 feet of proposed construction, with the distance to be determined by a qualified biologist based on project location. The site will be resurveyed to confirm that no new nests have been established if vegetation removal and demolition has not been completed or if construction has been delayed or stopped for more than seven consecutive days during the nesting season. ▶ If no active nests are identified during the construction survey period, or development is initiated during the non-breeding season (September 1 to January 31), tree and vegetation removal and building construction may proceed with no restrictions. ▶ If bird nests are found, an adequate setback will be established around the nest location and vegetation removal, building demolition, and other construction activities shall be restricted within this no-disturbance zone until the qualified biologist has confirmed that birds have either not begun egg-laying and incubation, or that the juveniles from those nests are foraging independently and capable of survival outside the nest location. Required setback distances for the no-disturbance zone will be based on input received from the California Department of Fish and Wildlife and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone will be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the site. ▶ A report of findings will be prepared by the qualified biologist and submitted to the UC Berkeley's Office of Physical & Environmental Planning for review and approval prior to initiation of vegetation removal, building demolition and other construction activities during the nesting season. The report will either confirm absence of any active nests or	Include requirements in construction bid documents; Consulting biologist	Prior to vegetation removal, demolition, and/or construction	Office of Physical & Environmental Planning	Review and approve report of findings	Once prior to tree and vegetation removal if work is proposed during nesting season. Regularly scheduled site inspection if active nests are identified.

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
confirm that any young are located within a designated no-disturbance zone and construction can proceed. No report of findings is required if vegetation removal and other construction activities are initiated during the non-nesting season and continue uninterrupted according to the above criteria.					
Archaeological, Historical, and Tribal Cultural Resources					
CBP CUL-1: UC Berkeley will follow the procedures of conduct following the discovery of human remains that have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (California Environmental Quality Act [CEQA]). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the California Native American Heritage Commission (NAHC) within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the NAHC is unable to identify an MLD, the MLD fails to make a recommendation within 48 hours after being notified, or the landowner rejects the recommendation of the MLD, and mediation by the NAHC fails to provide measures acceptable to the landowner, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance.	Include requirements in construction bid documents; Construction crews and County Coroner	During construction	Project Manager, Capital Projects and Office of Physical & Environmental Planning	Confirm conformance during regularly scheduled site inspections	During regularly scheduled site inspections
Geology and Soils					
CBP GEO-1: UC Berkeley will continue to comply with the California Building Code and the University of California Seismic Safety Policy.	Campus Building Department	Prior to construction	Director of Campus Building Department	Review building plans	Once
CBP GEO-2: Site-specific geotechnical studies will be conducted under the supervision of a California Registered Certified Engineering Geologist or licensed geotechnical engineer and UC Berkeley will incorporate recommendations for geotechnical hazard prevention and abatement into project design.	Consulting geologist or engineer	Prior to construction	Project Manager, Capital Projects	Confirm studies	Once
CBP GEO-3: The UC Berkeley Seismic Review Committee will continue to review all seismic and structural engineering design for new and renovated existing buildings on campus.	UC Berkeley Seismic Review Committee	Prior to construction	Director of Capital Projects	Confirm review	Once

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
CBP GEO-4: UC Berkeley will continue to use site-specific seismic ground motions for analysis and design of campus projects. Site-specific ground motions provide more current geo-seismic data than the U.S. Geological Survey (USGS) and are used for performance-based analyses.	Consulting geologist or engineer	Prior to construction	Project Manager, Capital Projects	Confirm studies	Once
CBP GEO-9: Campus construction projects must comply with the Campus Design Standards, which contain regulatory and other campus requirements for construction-phase and post-construction stormwater management.	Capital Projects	Prior to construction	Director of Campus Building Department	Review building plans	Once
CBP GEO-10: In the event that a unique paleontological resource is identified during project planning or construction, the work will stop immediately, and the find will be protected until its significance can be determined by a qualified paleontologist. If the resource is determined to be a "unique resource," a mitigation plan will be formulated pursuant to guidelines developed by the Society of Vertebrate Paleontology and implemented to appropriately protect the significance of the resource by preservation, documentation, and/or removal, prior to recommencing activities. The plan will be prepared by the qualified paleontologist and submitted to the UC Berkeley project manager for review and approval prior to initiation or recommencement of construction activities in the area of effect.	Include requirements in construction bid documents; Construction crews and qualified paleontologist	During construction	Project Manager, Capital Projects and Office of Physical & Environmental Planning	Confirm conformance during regularly scheduled site inspections and, if required, review and approve mitigation plan	During regularly scheduled site inspections
Hazards and Hazardous Materials					
CBP HAZ-1: UC Berkeley will continue to implement the same (or equivalent) health and safety plans, programs, practices, and procedures related to the use, storage, disposal, or transportation of hazardous materials and wastes (including chemical, radioactive, and biohazardous materials and waste) during the LRDP planning horizon. These include, but are not limited to: ▪ Requirements for safe transportation of hazardous materials ▪ UC Berkeley Office of Environment, Health & Safety training programs and oversight ▪ The Hazard Communication Program ▪ Publication and promulgation of the Water Protection Policy, the drain disposal guidelines, the Wastewater Toxics Management Plan, and the Slug Control Plan ▪ Requirements that laboratories have Chemical Hygiene Plans and a chemical inventory database ▪ The Aboveground Storage Tank Spill Prevention Control and Countermeasure Plan and monitoring of underground storage tanks ▪ Implementation of the hazardous waste disposal program and policies	UC Berkeley (various departments)	Ongoing	Executive Director of Office of Environment, Health & Safety	Confirm continued implementation of programs and procedures	Annual, or more frequently as necessary

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
▪ The Green Labs Program ▪ The Biosafety Program ▪ The Medical Waste Management Program ▪ The Laser Safety Program ▪ The Radiation Safety Program ▪ The Drain Disposal Restrictions These programs may be subject to modification as regulations or UC Berkeley policies are developed or if the programs become obsolete through replacement by other programs that incorporate similar or more effective health and safety protection measures. However, any modifications must incorporate similar or more effective health and safety protection measures.					
CBP HAZ-2: UC Berkeley will continue to implement the same (or equivalent) programs related to laboratory animal use during the LRDP planning horizon, including, but not necessarily limited to, compliance with United States Public Health Service Regulations, the National Research Council Guide for the Care and Use of Laboratory Animals, and Animal Welfare Act regulations. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar or more effective health and safety protection measures.	UC Berkeley (various departments)	Ongoing	Biosafety Officer, Office of Environment, Health & Safety	Confirm continued implementation of programs	Annual, or more frequently as necessary
CBP HAZ-3: UC Berkeley will continue to implement the same (or equivalent) programs related to transgenic materials use during the LRDP planning horizon, including, but not necessarily limited to, compliance with the National Institute of Health Guidelines for Research Involving Recombinant DNA Molecules, United States Department of Agriculture requirements for open-field-based research involving transgenic plants, and requiring registration with the UC Berkeley Office of Environment, Health & Safety for all research involving transgenic plants. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar or more effective health and safety protection measures.	UC Berkeley (various departments)	Ongoing	Biosafety Officer, Office of Environment, Health & Safety	Confirm continued implementation of programs	Annual, or more frequently as necessary
CBP HAZ-4: UC Berkeley will continue to perform hazardous materials surveys prior to capital projects in existing UC Berkeley buildings. UC Berkeley will continue to comply with federal, State, and local regulations governing the abatement and handling of hazardous building materials and each project will address this requirement in all construction.	Office of Environment, Health & Safety	Prior to construction	Project Manager, Capital Projects	Confirm surveys and review construction documents	Once

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
CBP HAZ-5: UC Berkeley will continue to perform site histories and due diligence assessments of all sites where ground-disturbing construction is proposed, to assess the potential for soil and groundwater contamination resulting from past or current site land uses at the site or in the vicinity. The investigation will include review of regulatory records, historical maps and other historical documents, and inspection of current site conditions. UC Berkeley will act to protect the health and safety of workers or others potentially exposed should hazardous site conditions be found	Office of Environment, Health & Safety	Prior to construction	Project Manager, Capital Projects	Confirm investigations	Once
Hydrology and Water Quality					
CBP HYD-1: During the plan check review process and construction phase monitoring, UC Berkeley Office of Environment, Health & Safety will review each development project to determine whether project runoff would increase pollutant loading and verify that the proposed project complies with all applicable requirements (e.g., Regional Water Quality Control Board and Campus Design Standards requirements) and best management practices (e.g., those described in the California Stormwater Quality Association's Construction BMP Handbook).	Office of Environment, Health & Safety	During plan check review and construction monitoring	Environmental Specialist, Office of Environment, Health & Safety	Confirm review	Once
CBP HYD-2: UC Berkeley will continue implementing an urban runoff management program containing best management practices, as published in the Strawberry Creek Management Plan, and as developed through the Stormwater Permit Annual Reports completed for the Phase II municipal separate storm sewer system (MS4) permit. UC Berkeley will continue to comply with the MS4 stormwater permitting requirements by implementing construction and post-construction control measures and best management practices required by project-specific Stormwater Pollution Prevention Plans (SWPPPs) and by the Phase II MS4 permit to control pollution. SWPPPs will be prepared by the project contractor as required to prevent discharge of pollutants and to minimize sedimentation resulting from construction and the transport of soils by construction vehicles.	Include requirements in construction bid documents; Office of Environment, Health & Safety	Ongoing	Environmental Protection Manager, Office of Environment, Health & Safety	Confirm preparation of SWPPP	Once
CBP HYD-3: UC Berkeley will maintain a campuswide educational program regarding safe use and disposal of facilities maintenance chemicals and laboratory chemicals to prevent the discharge of these pollutants to Strawberry Creek and campus storm drains.	Office of Environment, Health & Safety	Ongoing	Executive Director of Office of Environment, Health & Safety	Confirm program implementation	Ongoing
CBP HYD-4: Where feasible, parking will be built in covered parking structures and not exposed to rain to address potential stormwater runoff pollutant loads.	Office of Physical & Environmental Planning	Prior to project approval	Project Manager, Capital Projects and Senior Planner, Office of Physical &	Review building plans	Once

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
			Environmental Planning		
CBP HYD-5: Landscaped areas of development sites will be designed to absorb runoff from rooftops and walkways. Open or porous paving systems will be included in project designs, where feasible, to minimize impervious surfaces and absorb runoff.	Include requirements in construction bid documents; Capital Projects	Prior to construction	Project Manager, Capital Projects	Review building plans	Once
CBP HYD-6: UC Berkeley will continue to develop and implement the recommendations of the Strawberry Creek Management Plan and its updates, and construct improvements as appropriate. These recommendations include, but are not limited to, minimization of the amount of land exposed at any one time during construction as feasible; use of temporary vegetation or mulch to stabilize critical areas where construction staging activities must be carried out prior to permanent cover of exposed lands; installation of permanent vegetation and erosion control structures as soon as practical; protection and retention of natural vegetation; and implementation of post-construction structural and non-structural water quality control techniques.	Include requirements in construction bid documents; Capital Projects	During construction	Director of Campus Building Department	Review construction documents	During regularly scheduled site inspections
CBP HYD-7: UC Berkeley will continue to review each development project, to determine whether rainwater infiltration to groundwater is affected. If it is determined that existing infiltration rates would be adversely affected, UC Berkeley will design and implement the necessary improvements to retain and infiltrate stormwater. Such improvements could include retention basins to collect and retain runoff, grassy swales, infiltration galleries, planter boxes, permeable pavement, or other retention methods. The goal of the improvement should be to ensure that there is no net decrease in the amount of water recharged to groundwater that serves as freshwater replenishment to Strawberry Creek. The improvement should maintain the volume of flows and times of concentration from any given site at pre-development conditions.	Include requirements in construction bid documents; Project Manager, Capital Projects	Prior to construction	Director of Campus Building Department and Environmental Specialist, Office of Environment, Health & Safety	Review construction documents	During regularly scheduled site inspections

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
CBP HYD-8: Dewatering, when needed, will be monitored and maintained by qualified engineers in compliance with the Campus Design Standards and applicable regulations	Include requirements in construction bid documents; Consulting engineers	During construction	Director of Campus Building Department	Confirm monitoring and maintenance	During all dewatering activities
CBP HYD-10: For projects in the City Environs Properties that affect drainage systems or patterns, improvements will be coordinated with the City of Berkeley's Public Works Department.	Capital Projects	Prior to construction	Project Manager, Capital Projects	Confirm coordination	Once
CBP HYD-13: UC Berkeley will continue to manage runoff into storm drain systems such that the aggregate effect of projects implemented pursuant to the LRDP creates no net increase in runoff over existing conditions.	Capital Projects	Prior to construction	Environmental Specialist, Office of Environment, Health & Safety and Project Manager, Capital Projects	Review building plans	Ongoing
Noise and Vibration					
CBP NOI-1: Mechanical equipment selection and building design shielding will be used, as appropriate, so that noise levels from future building operations would not exceed the City of Berkeley Noise Ordinance limits for commercial areas or residential zones as measured on any commercial or residential property in the area surrounding a project proposed to implement the LRDP. Controls typically incorporated to attain this outcome include selection of quiet equipment, sound attenuators on fans, sound attenuator packages for cooling towers and emergency generators, acoustical screen walls, and equipment enclosures.	Include requirements in construction bid documents; Capital Projects	Prior to construction	Environmental Protection Manager, Office of Environmental, Health & Safety	Review building plans	Once
CBP NOI-2: UC Berkeley will require the following measures for all construction projects: ▶ Construction activities will be limited to a schedule that minimizes disruption to uses surrounding the project site as much as possible. Construction outside the Campus Park will be scheduled within the allowable construction hours designated in the noise ordinance of the local jurisdiction to the full feasible extent, and exceptions will be avoided except where necessary. As feasible, construction equipment will be required to be muffled or controlled.	Include requirements in construction bid documents; Construction contractors	During construction	Director of Campus Building Department and Director of Communications, Capital Strategies	Confirm incorporation of measures in construction bids	Once for construction bid review; ongoing monitoring subject to corrective action and

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
▶ The intensity of potential noise sources will be reduced where feasible by selection of quieter equipment (e.g., gas or electric equipment instead of diesel powered, low noise air compressors). ▶ Functions such as concrete mixing and equipment repair will be performed off-site whenever possible. ▶ Stationary equipment such as generators and air compressors will be located as far as feasible from nearby noise-sensitive uses. ▶ At least 10 days prior to the start of construction activities, a sign will be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of UC Berkeley's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, they will investigate, take appropriate corrective action, and report the action to UC Berkeley. ▶ During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only. The construction manager will use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws. ▶ For projects requiring pile driving: ▪ With approval of the project structural engineer, pile holes will be pre-drilled to minimize the number of impacts necessary to seat the pile. ▪ Pile driving will be scheduled to have the least impact on nearby sensitive receptors. ▪ Pile drivers with the best available noise control technology will be used. For example, pile driving noise control may be achieved by shrouding the pile hammer point of impact, by placing resilient padding directly on top of the pile cap, and/or by reducing exhaust noise with a sound-absorbing muffler. ▪ Alternatives to impact hammers, such as oscillating or rotating pile installation systems, will be used where possible.					reporting requirements
CBP NOI-3: UC Berkeley will precede all new construction projects that are outside of the Campus Park, the Clark Kerr Campus, or adjacent to a non-UC Berkeley property with community notification, with the purpose of ensuring that the mutual needs of the particular construction project and of those impacted by construction noise are met, to the extent feasible.	Capital Projects	Prior to construction	Director of Communications, Capital Strategies	Confirm notification	Once

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
Public Services and Recreation					
CBP PS-1: The University of California Police Department will continue its partnership with the City of Berkeley police department to review service levels in the City Environs Properties.	UC Berkeley Police Department and City of Berkeley	Ongoing	UC Berkeley Chief of Police	Confirm review of service levels	Ongoing
CBP PS-2: UC Berkeley will continue its partnership with the Lawrence Berkeley National Laboratory, Alameda County Fire Department, Oakland Fire Department, and Berkeley Fire Department to ensure adequate fire and emergency service levels to UC Berkeley facilities. This partnership will include consultation on the adequacy of emergency access routes to all new UC Berkeley buildings. UC Berkeley will also continue to work closely with external fire management partners related to regional wildfire prevention, including the Hills Emergency Forum, Diablo Firesafe Council, and various neighborhood groups and internal interdisciplinary planning teams.	UC Berkeley (various department)	Ongoing	Campus Fire Marshal and Director of Campus Operations, Facilities Services	Confirm continued partnerships	Annual
Transportation					
CBP TRAN-1: UC Berkeley will implement bicycle, pedestrian, and transit access and circulation improvements as part of new building projects, major renovations, and landscape projects. Improvements will address the goal of increasing non-vehicular commuting and safety; improving access from adjacent campus or city streets and public transit; reducing multi-modal conflict; providing bicycle parking; and providing commuter amenities.	Capital Projects	During planning and design of new building	Project Manager, Capital Projects	Review project plans	Ongoing as necessary
CBP TRAN-4: UC Berkeley will continue to work with the City of Berkeley, AC Transit, and BART to coordinate transit access to new academic buildings, parking facilities, and campus housing projects, in order to accommodate changing locations or added demand.	Parking & Transportation, City of Berkeley, AC Transit, and BART	During planning and design of buildings and parking garage	Director of Parking & Transportation	Review project plans	Ongoing
CBP TRAN-5: UC Berkeley will require contractors working on major new construction or major renovation projects to develop and implement a Construction Traffic Management Plan that reduces construction-period impacts on circulation and parking within the vicinity of the project site. The Construction Traffic Management Plan will address job-site access, vehicle circulation, bicycle and pedestrian safety, and be coordinated with the City of Berkeley Public Works Department when projects require temporary modifications to city streets.	Include requirements in construction bid documents; Construction contractors	Prior to construction	Project Manager, Capital Projects	Confirm Construction Traffic Management Plan	Once

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
CBP TRAN-6: For each construction project, UC Berkeley will require the prime contractor to prepare a Construction Traffic Management Plan which will include the following elements: ▶ Proposed truck routes to be used, consistent with the City truck route map. ▶ Construction hours, including limits on the number of truck trips during the morning (AM) and evening (PM) peak traffic periods (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.), if conditions demonstrate the need. ▶ Proposed employee parking plan (number of spaces and planned locations). ▶ Proposed construction equipment and materials staging areas, demonstrating minimal conflicts with circulation patterns. ▶ Expected traffic detours needed, planned duration of each, and traffic control plans for each. ▶ Identifying bicycle and pedestrian detours and safety plan, including solutions to address impacts to accessible routes.	Include requirements in construction bid documents; Construction contractors	Prior to construction	Project Manager, Capital Projects	Confirm Construction Traffic Management Plan	Once
CBP TRAN-7: UC Berkeley will manage project schedules to minimize the overlap of excavation or other heavy truck activity periods that have the potential to combine impacts on traffic loads and street system capacity, to the extent feasible.	Include requirements in construction bid documents; Construction contractors	Prior to construction	Director of Capital Projects	Review project schedules	Ongoing
CBP TRAN-8: UC Berkeley will reimburse the City of Berkeley for its fair share of costs associated with damage to City streets from UC Berkeley construction activities, provided that the City adopts a policy for such reimbursements applicable to all development projects within Berkeley.	Project Manager, Capital Projects	As required by any City of Berkeley program	Director of Capital Projects	Confirm payment	As necessary
Utilities and Service Systems					
CBP USS-1: For development that increases water demand, UC Berkeley will continue to evaluate the size of existing distribution lines as well as pressure of the specific feed affected by development on a project-by-project basis, and necessary improvements will be incorporated into the scope of work for each project to maintain current service and performance levels. The design of the water distribution system, including fire flow, for new buildings will be coordinated among UC Berkeley, the East Bay Municipal Utility District, and the City of Berkeley Public Works Department and Fire Department.	Capital Projects, East Bay Municipal Utility District, City of Berkeley	Prior to project approval	Utility Engineering Department, Facilities Services	Review building plans	Once

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
CBP USS-3: UC Berkeley will continue to incorporate specific water conservation measures into project design to reduce water consumption and wastewater generation. This could include the use of special air-flow aerators, water-saving shower heads, flush cycle reducers, low-volume toilets, weather-based or evapotranspiration irrigation controllers, drip irrigation systems, and the use of drought resistant plantings in landscaped areas, and collaboration with the East Bay Municipal Utility District to explore suitable uses of recycled water.	Capital Projects	During project design	Project Manager, Capital Projects	Review building plans	Once
CBP USS-4: UC Berkeley will analyze water and sewer systems on a project-by-project basis to determine specific capacity considerations for both UC Berkeley systems and off-site municipal systems in the planning of any project proposed under the LRDP.	Capital Projects	Prior to project approval	Utility Engineering Department, Facilities Services	Review building plans	Once
CBP USS-5: Payments to service providers to help fund wastewater treatment or collection facilities will conform to Section 54999 of the California Government Code, including, but not limited to, the following provisions: ▶ Fees will be limited to the cost of capital construction or expansion. ▶ Fees will be imposed only after an agreement has been negotiated by UC Berkeley and the service provider. ▶ The service provider must demonstrate the fee is nondiscriminatory: i.e. the fee must not exceed an amount determined on the basis of the same objective criteria and methodology applied to comparable nonpublic users, and must not exceed the proportionate share of the cost of the facilities of benefit to the entity property being charged, based upon the proportionate share of use of those facilities. ▶ The service provider must demonstrate the amount of the fee does not exceed the amount necessary to provide capital facilities for which the fee is charged.	Office of Physical & Environmental Planning	Prior to issuance of occupancy permits	Office of the Chief Financial Officer	Confirm payment	Once
CBP USS-6: UC Berkeley will continue to implement the Zero Waste requirements of the UC Sustainability Policy designed to reduce the total quantity of campus solid waste that is disposed of in landfills.	Zero Waste staff	Ongoing	Manager, Zero Waste	Confirm implementation	Ongoing
CBP USS-7: In accordance with the CalGreen Code, and as required for Leadership in Energy and Environmental Design certification, contractors working for UC Berkeley will be required under their contracts to report their solid waste diversion according to UC Berkeley's waste management reporting requirements.	Include requirements in construction bid documents; Construction contractors	During construction	Project Management, Capital Projects	Confirm reports	Ongoing during construction

Continuing Best Practice (CBP)	Implementing Procedure and/or Party	Implementation Timing	Monitoring Party	Monitoring Action	Monitoring Frequency
Wildfire					
CBP WF-1: UC Berkeley will continue to comply with the California Public Resources Code Section 4291, which mandates firebreaks of 100 feet around buildings or structures in, upon, or adjoining any mountainous, forested, or brush- or grass-covered lands.	Campus Operations, Facilities Services	Ongoing	Campus Fire Marshal	Confirm maintenance of firebreaks	Ongoing
CBP WF-3: UC Berkeley will continue to plan and implement programs to reduce risk of wildland fires, including plan review and construction inspection programs that ensure that its projects incorporate fire prevention measures.	Campus Building Department	During plan review and site inspection	Director of Campus Building Department and Campus Fire Marshal	Confirm incorporation of fire prevention measures in construction plans	Once for plan review; during regularly scheduled site inspections
CBP WF-4: UC Berkeley will continue to plan and collaborate with other agencies through participation in the Hills Emergency Forum.	Facilities Services	Ongoing	Director of Campus Operations, Facilities Services	Confirm participation in the Hills Emergency Forum	Ongoing

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