

## **CHAPTER III**

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# **Persons and Organizations Commenting on the Draft EIR**

### **A. Organizations Commenting in Writing**

- A. Bay Area Air Quality Management District (BAAQMD), March 21, 2007
- B. East Bay Municipal Utilities District (EBMUD), March 22, 2007
- C. City of Berkeley, March 22, 2007
- D. Berkeley Alliance of Neighborhood Associations (BANA), March 23, 2007
- E. Berkeley Architectural Heritage Association (BAHA), March 23, 2007
- F. Committee to Minimize Toxic Waste, March 22, 2007
- G. Friends of Strawberry Creek Watershed, March 23, 2007
- H. Preserve the Strawberry Creek Watershed Alliance
- I. Sierra Club, North Alameda County Group, March 21, 2007
- J. Urban Creeks Council (UCC), March 23, 2007

### **B. Individuals Commenting in Writing**

- K. Gene Bernardi, March 23, 2007
- L. Robert Breuer, March 23, 2007
- M. Ignacio Chapela, March 23, 2007
- N. Maureen Daggett, February 26, 2007
- O. Nancy Delaney, February 26, 2007
- P. Hank Gehman, March 22, 2007
- Q. Tom Kelly, February 26, 2007
- R. Merrilie Mitchell, March 23, 2007
- S. Phil Price, February 26, 2007
- T. Matthew Taylor, February 26, 2007
- U. Janice Thomas, March 23, 2007
- V. Mike Vandeman, March 23, 2007
- W. Jane White, February 26, 2007

## **C. Individuals Commenting at the Public Hearing**

The following persons provided public comments at the formal Public Hearing on the Draft EIR, held at the North Berkeley Senior Center on February 26, 2007. The transcript of the hearing is contained in Chapter IV, Responses to Comments, and immediately precedes the responses to such comments.

- Tom Kelly
- Maureen Daggett
- L.A. Wood
- Mark McDonald
- Nancy Delaney
- Matthew Taylor
- Doug Buckwald
- Phil Price
- Lisa Thompson
- Jane White
- Janice Thomas
- Jim Sharp
- Pamela Sihvola
- Jim Cunningham

## **CHAPTER IV**

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# **Comments on the Draft EIR and Responses to Comments**

This chapter presents comments received on the Draft EIR and responses to those comments. Each comment letter is included in this chapter preceding the responses to the comments in that letter. The public hearing transcript follows written comments, and responses to the substantive comments on the Draft EIR made at the public hearing follow the hearing transcript. Unless otherwise specified, all references to chapters and page numbers pertain to the Draft EIR.

Where responses have resulted in changes to the text of the Draft EIR, these changes also appear in Chapter II of this Final EIR.

**Insert**

**Bay Area Air Quality Management District (BAAQMD), March 21, 2007  
(Comment Letter A)**

**Page 1 of 2**

**Insert**

**Bay Area Air Quality Management District (BAAQMD), March 21, 2007  
(Comment Letter A)**

**Page 2 of 2**

## **Bay Area Air Quality Management District (BAAQMD), March 21, 2007 (Comment Letter A)**

### ***Response A-1***

The comment regarding the BAAQMD's agreement with the DEIR's conclusion that Impact AQ-2 being less than significant is noted. Concerning the recommendation that the LRDP "include a policy that requires future projects in the Plan to include any new feasible air quality mitigation that becomes available," it is noted that, among the LRDP Planning Strategies (included in DEIR Appendix B) are several strategies to reduce the use of single-occupant vehicles by Lab employees and visitors (see pp. B-3 – B-4). In addition, as described on p. IV.D-37 of the DEIR text, the Lab has developed a draft Transportation Demand Management (TDM) Program, aimed in substantial part at reducing pollutant emissions. The draft TDM Program includes a phased implementation of steps to reduce vehicle travel as Berkeley Lab grows in average daily population over the lifetime of the LRDP. The draft TDM Program also includes a provision whereby the Lab would undertake an additional traffic study either 10 years following certification of this EIR, or at the time that the Lab formally proposes a project that will result in the overall development of 375 or more parking spaces pursuant to the 2006 LRDP. The results of the new traffic study could result in additional enhancements to the TDM Program to further reduce air emissions, traffic impacts, and parking demand.

This draft TDM Program was included in its entirety in DEIR Appendix F. Since publication of the DEIR, the draft TDM Program has been refined, and the revised Program is presented in this document in Appendix B.

### ***Response A-2***

The comment recommending that Berkeley Lab include a parking cash-out program for employees<sup>1</sup> is noted. As stated on DEIR p. IV.B-37, "LBNL currently offers and would continue to offer, under the LRDP, financial incentives for alternatives to driving alone, both in the form of pre-tax payments, for either transit passes or for vanpool expenses. The Laboratory also participates in Alameda County's Guaranteed Ride Home program, under which employees who ride transit or carpool to work can obtain a ride home in the event of an emergency or if they miss their carpool. LBNL promotes the BAAQMD's Spare the Air program by annually notifying Laboratory employees of its program through the Laboratory's electronic daily newsletter, and by encouraging employees to sign up for Spare the Air alert messages. Finally, LBNL encourages carpooling by providing links on its website to the Metropolitan Transportation Commission carpool-matching program."

Additionally, the draft TDM Program referred to in the previous response includes a measure, under Implementation Phase 2, stating, "Parking Fee: Currently there is no fee for parking at the Laboratory, although permits are limited. Investigate charging a fee for parking to help discourage personal vehicle use and to pay for other TDM measures." It is noted that not all

<sup>1</sup> Under such a program, if employees are offered free parking, employees are also to be offered a cash payment to forego their parking space. In this way, employees who voluntarily elect not to drive to work are provided with a financial reward.

LBNL employees are provided with free parking. As stated in footnote 13 on p. IV.L-36 of the DEIR, the existing ratio of average daily population to parking spaces at the Lab's hill site is approximately 1.9, and this ratio would remain the same with implementation of the project.

### **Response A-3**

As noted in the DEIR on p. IV.B-37, Berkeley Lab has already implemented some of the recommended measures, including having switched its shuttle fleet to "biodiesel" fuel and installed a new fueling station for an alternative fuel (E85, or 85 percent ethanol and 15 percent gasoline), becoming one of the first three E85 fueling stations in California. The Lab has also replaced a number of its own gasoline vehicles with alternative fuel vehicles (ethanol, electric, hybrid, etc.). Gas cards for vehicles capable of operating on E85 are programmed to restrict dispensing to E85 fuel only.

Concerning operation of diesel-powered auxiliary equipment on trucks parked at loading docks, the California Air Resources Board has adopted a regulation that requires so-called diesel Transport Refrigeration Units ("TRUs," which cool refrigerated trailers) to equip those units with approved exhaust filters, beginning in 2008. This regulation is anticipated to reduce diesel exhaust from each TRU by 50 percent or more. Additionally, most of the Lab's loading docks are equipped with electrical power hook-ups.

### **Response A-4**

"Greenhouse gases" (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly associated with "global warming." These greenhouse gases contribute to an increase in the temperature of the earth's atmosphere by reflecting heat (i.e., long wave radiation) back toward the earth's surface in much the same way as glass in a greenhouse. Thus, this condition is often referred to as the "greenhouse effect." In its "natural" condition, the greenhouse effect is responsible for maintaining a habitable climate on earth, but human activity has caused increased concentrations of these gases in the atmosphere, thereby contributing to an increase in global temperatures and resulting variability in weather.

The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. Of these gases, carbon dioxide and methane are emitted in the greatest quantities from human activities. Emissions of carbon dioxide are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs – with much greater heat-absorption potential than carbon dioxide – include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. There is international scientific consensus that human-caused increases in GHGs have contributed to and will continue to contribute to global warming, although there is much uncertainty concerning the magnitude and rate of the warming.

Some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and

more drought years.<sup>2</sup> Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects, according to the Intergovernmental Panel on Climate Change:<sup>3</sup>

- Snow cover is projected to contract, with permafrost areas sustaining thawing.
- Sea ice is projected to shrink in both the Arctic and Antarctic.
- Hot extremes, heat waves, and heavy precipitation events are likely to increase in frequency.
- Future tropical cyclones (typhoons and hurricanes) will likely become more intense.
- Non-tropical storm tracks are projected to move poleward, with consequent changes in wind, precipitation, and temperature patterns. Increases in the amount of precipitation are very likely in high-latitudes, while decreases are likely in most subtropical regions.
- Warming is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic ocean.

There are also many secondary impacts that are projected to result from global warming, including global rise in sea level, effects on agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

The California Energy Commission estimated that in 2004 California produced 500 million gross metric tons (about 550 million U.S. tons) of carbon dioxide-equivalent GHG emissions.<sup>4</sup> The CEC found that transportation is the source of 38 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent and industrial sources at 13 percent.<sup>5</sup>

In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for just over half of the Bay Area's 85 million tons of GHG emissions in 2002. Industrial and commercial sources were the second largest contributors of GHG emissions with about one-fourth of total emissions. Domestic sources (e.g., home water heaters, furnaces,

<sup>2</sup> California Air Resources Board (ARB), 2006a. Climate Change website (<http://www.arb.ca.gov/cc/120106workshop/intropres12106.pdf>) accessed March 24, 2007.

<sup>3</sup> Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: The Physical Science Basis; Summary for Policymakers*, February 5, 2007. Available on the internet at: <http://www.ipcc.ch/SPM2feb07.pdf>. The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation.

<sup>4</sup> Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

<sup>5</sup> California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report*, publication # CEC-600-2006-013-SF, December 22, 2006; and January 23, 2007 update to that report. Available on the internet at: <http://www.arb.ca.gov/cc/ccei/emsinv/emsinv.htm>.

etc.) account for about 11 percent of the Bay Area's GHG emissions, followed by power plants at 7 percent. Oil refining currently accounts for approximately 6 percent of the total Bay Area GHG emissions. In the Bay Area as a whole, carbon dioxide makes up 90 percent of GHG emissions, measured in terms of carbon dioxide equivalency.<sup>6</sup>

California has taken a leadership role in addressing the trend of increasing GHG emissions, with the passage in 2006 of California Assembly Bill 32 (AB 32), the Global Warming Solutions Act. AB 32 requires the California Air Resources Board (ARB) to establish a statewide GHG emission cap for 2020 based on 1990 emission levels. AB 32 requires ARB to adopt regulations by January 1, 2008, that will identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and ARB is authorized to enforce compliance with the program that will be developed. Under AB 32, ARB also is required to adopt, by January 1, 2008, a statewide GHG emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, ARB is required to adopt rules and regulations (which shall become operative January 1, 2012), to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. AB 32 permits the use of market-based compliance mechanisms to achieve those reductions. AB 32 also requires ARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts. Although ARB has not yet adopted the target-year (1990) GHG emissions level, the California Energy Commission estimates GHG emissions for 1990 at approximately 433 million gross metric tons (477 million U.S. tons), meaning that to reach the AB 32 goals, California would have to reduce GHG emissions by approximately 13 percent from 2004 levels, by 2020.

Implementation of the 2006 LRDP would contribute to long-term cumulative increases in GHGs as a result of traffic increases (mobile sources) and building heating (area sources), as well as indirectly, through electricity generation. These sources would represent the great majority of GHGs that would be produced in association with the proposed project, because the Lab does not, and would not, emit industrial or agricultural gases, and thus would generate little in the way of GHGs other than carbon dioxide. While certain research activities may incorporate other GHGs, their use typically results in minimal emissions. Moreover, while some refrigeration units at LBNL use a hydrofluorocarbon chemical, such as HFC-134a, this class of chemical is a U.S. EPA-acceptable alternative to the more harmful ozone depleting substances (chlorofluorocarbons) that were banned in the 1990s. The Lab's refrigeration units are closed-loop systems that do not emit during normal operation. When work is performed on these systems, EPA-certified refrigerant recovery equipment is used, which effectively eliminates emissions.

On-road transportation sources (i.e., automobiles, trucks, and buses), would represent the largest source of GHG emissions, consistent with existing Bay Area and statewide patterns of GHG emissions, as described in the setting. Electricity generation (both from in-state and out-of-state

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<sup>6</sup> BAAQMD, *Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2002*, November 2006. Available on the internet at: [http://www.baaqmd.gov/pln/ghg\\_emission\\_inventory.pdf](http://www.baaqmd.gov/pln/ghg_emission_inventory.pdf).

power plants) would be the second largest source of GHG emissions under the proposed 2006 LRDP (although, as noted, some of this would occur outside the Bay Area).

The project's incremental increases in GHG emissions associated with traffic increases, increased energy demand, and space heating would contribute to regional and global increases in GHG emissions and associated climate change effects. The project would not have a project-specific impact, but will make some contributions to cumulative emissions of greenhouse gasses. Neither the BAAQMD nor any other agency has adopted significance criteria or methodologies for estimating a project's contribution of GHGs or evaluating its significance. Further, technical reports on climate change conclude that climate models do not yet reflect local land use changes, so in addition to the lack of regulatory guidance or methodology, there is not yet a scientific basis for quantitatively determining the significance of emissions pursuant to a plan such as an LRDP.<sup>7</sup> Thus, no quantitative significance determination can be made at this time. Nevertheless, it is clear that GHGs and their contribution to global climate change pose a serious worldwide challenge.

Qualitatively, however, the proposed LRDP includes numerous provisions that will substantially lessen the LBNL's contribution to global climate change. The proposed LRDP would encourage use of transit and alternative transportation modes (such as through implementation of the Lab's Transportation Demand Management Program), which could help reduce transportation-related GHG emissions, relative to what would otherwise occur. New construction at the Lab would also be required to meet California Energy Efficiency Standards in the state Building Code, helping to reduce future energy demand as well as reduce the project's contribution to regional GHG emissions.

Moreover, subsequent individual projects under the 2006 LRDP would implement GHG emission reduction strategies through compliance with the UC Policy on Sustainable Practices and the Guidelines for implementation of this policy. Emission reduction strategies instituted under this policy include practices related to green building design, clean energy, climate protection, transportation, operations, recycling and waste management, and environmentally preferable procurement.<sup>8</sup> The Lab would also expect reductions in GHG emissions from any regulatory requirements affecting existing sources as well. Because projects would implement emissions reduction, implementation of the LRDP would not interfere with implementation of AB 32 and Berkeley Lab's emission reduction strategies may assist in meeting AB 32 goals, once ARB adopts regulations for achieving those goals.

In summary, implementation of the 2006 LRDP would result in increased GHG emissions associated with construction and operation, particularly from the operation of vehicles. However, the Lab would institute emission reduction strategies through continuation of existing programs

<sup>7</sup> e.g., National Research Council, *Radiative Forcing of Climate Change: Expanding the Concept and Addressing Uncertainties* (Washington, D.C., 2005) p. 125; Intergovernmental Panel on Climate Change, *IPCC Meeting on Current Understanding of the Processes Affecting Terrestrial Carbon Stocks and Human Influences Upon Them* (Geneva 2003) pp. 2-3; see also, Pacific Institute, *Climate Change and California Water Resources: A Survey and Summary of the Literature* (California Energy Commission, Sacramento 2003) p. 5.

<sup>8</sup> The UC Policy on Sustainable Practices is periodically updated and expanded. The current full text can be viewed on-line at <http://www.ucop.edu/ucophome/coordrev/policy/PP032207ltr.pdf> or obtained through the Universitywide Policy Office, Office of the President, 1111 Franklin Street, 12th Floor, Oakland, CA 94607.

that reduce GHG emissions, compliance with the UC Policy on Sustainable Practices, and compliance with existing and future emission reduction strategies set forth by the State of California. Together, these emission reduction practices would substantially lessen LBNL's contribution to global climate change. Thus, the Lab's contribution to GHG emissions from buildout under the 2006 LRDP would not be cumulatively considerable, and the cumulative impact of the project would therefore be less than significant.

**Insert**

**East Bay Municipal Utility District (EBMUD), March 22, 2007  
(Comment Letter B)  
Page 1 of 4**

**Insert**

**East Bay Municipal Utility District (EBMUD), March 22, 2007  
(Comment Letter B)  
Page 2 of 4**

**Insert**

**East Bay Municipal Utility District (EBMUD), March 22, 2007  
(Comment Letter B)  
Page 3 of 4**

**Insert**

**East Bay Municipal Utility District (EBMUD), March 22, 2007  
(Comment Letter B)  
Page 4 of 4**

## **East Bay Municipal Utility District (EBMUD), March 22, 2007 (Comment Letter B)**

### ***Response B-1***

The comment concerning scheduling of any necessary system upgrades with EBMUD is noted. Berkeley Lab would be responsible for any on-site system upgrades required to accommodate the project. The Lab would coordinate with EBMUD regarding any necessary off-site facilities upgrades.

### ***Response B-2***

Section IV.F, Hazards and Hazardous Materials, of the Draft EIR describes various contaminants identified in soil and groundwater beneath the project site. As stated in the DEIR on page IV.F-5, “LBNL identified areas of soil and groundwater contamination that existed as a result of historical releases of hazardous materials into the environment. The primary chemical constituents of concern are volatile organic compounds, mostly degreasing solvents used to clean equipment. Other detected constituents include PCBs, petroleum hydrocarbons, and very small amounts of polynuclear aromatic hydrocarbons, semivolatile organic compounds, and metals. The principal radioactive contaminant is tritium. These areas of soil and groundwater contamination are all confined within the boundary of LBNL’s main hill site. The geographic extent of groundwater contaminant plumes at LBNL and primary constituents of concern are shown on Figure IV.F-1 of the DEIR (see page IV.F-6). The locations and extent of these plumes have been determined using more than 300 wells over a period of more than 14 years.”

As stated on page IV.F-27, “Potential exposure of workers, the public, and the environment to hazardous materials would be minimized through development of Construction Site Health and Safety Plans and proper handling, storage, and disposal of contaminated soil and groundwater.” As such, the project would not result in any significant effects with regard to site contamination that could not be reduced to a less-than-significant level through mitigation identified in the DEIR.

### ***Response B-3***

Policy EM-26 of the City of Berkeley General Plan is to promote water conservation through City programs and requirements. An action under Policy EM-26 is to *consider* participation in EBMUD’s East Bayshore Recycled Water Project to make recycled water available for irrigation and other non-potable uses (emphasis added). This policy is noted in the compilation of Berkeley General Plan policies that are relevant to the proposed project. Based upon the comment, this policy could not be implemented in the context of the Berkeley Lab hill site. However, the policy remains applicable to water consumption in Berkeley in general, in areas subject to the Berkeley General Plan, and no change to the EIR is necessary.

**Response B-4**

This proposal is conceptually incorporated into the Final EIR by virtue of its inclusion in the comment letter. No textual revision to the DEIR is necessary. The specific CEQA analysis related to a forthcoming proposal for this project will need to follow when that information becomes available, including size, location, and timing of such a project. LBNL looks forward to working with EBMUD as planning for this proposed project develops. It is not expected at this time, however, given what is available about this proposal, that addition of a single storage tank would result in any substantially greater impacts related to construction. Berkeley Lab understands that this proposed tank would serve areas downslope of the Lab's hill site, and that it may require some discretionary approval from the University of California.

**Insert**

**City of Berkeley, March 22, 2007 (Comment Letter C)**

**(37 pages)**

## City of Berkeley, March 22, 2007 (Comment Letter C)

### **Response C-1**

The project objectives are written in the form of “The Scientific Vision for Berkeley Lab” as taken from the draft LRDP, pages 30-33. The replacement of existing facilities and construction of additional facilities will be required to meet the demands of the next generations of scientific endeavors. Technical challenges presented by the problems to be addressed and the scale of systems that must be understood—from sustainable sources of carbon-neutral fuels to understanding dark energy—exceed Berkeley Lab’s current capabilities. New facilities, specifically designed to address major challenges of our time, will be required for Berkeley Lab to achieve its scientific vision. The LRDP is neither a mandate nor a driver for growth at LBNL. Rather, it is a planning tool that would be used to reasonably and responsibly project and accommodate potential growth that may occur over an approximately 20-year period.

The wide variety of facility types at Berkeley Lab makes comparisons of sitewide square-footage-per-person problematic. However, space occupied per person cannot be reduced to a single formula for all types of building space at Berkeley Lab. For example, office space may be 135 sf/person, biology space 350-450 sf/person, accelerator space 1,000-1,500 sf/person, and high performance computing space 2,000-2,500 sf/person. As our scientific mission drives changes in space types, the sitewide nsf/person is no longer comparable to prior-year values.

### **Response C-2**

The commenter correctly notes that the UC Regents are the approving body for both the 2020 LRDP and the proposed Lawrence Berkeley National Laboratory (LBNL) 2006 LRDP. LBNL and UC Berkeley also share some research appointments; two LBNL buildings (Donner and Calvin Laboratories) are located on the UC Berkeley “Campus Park.” In addition, some of the research interests of UC Berkeley and LBNL are complementary and interlinked.

The two institutions are, however, separate and independent. UC Berkeley is one of the University’s campuses engaged in teaching, research, and public service. LBNL is a Department of Energy (DOE) national laboratory – a federally funded research center - managed by the University of California, with distinct institutional objectives, and therefore is subject to its own LRDP, which is a separate and distinct project under CEQA from the LRDP for UC Berkeley.

That UC Berkeley and LBNL have the same lead agency (UC Regents) for their respective LRDPs under CEQA does not make the UC Berkeley and LBNL LRDPs one project. The Regents act as the lead agency under CEQA and under Public Resources Code Section 21080.09 for all University campuses and medical centers.

LBNL has the responsibility for formulating and preparing the plan for properties under its jurisdiction, as UC Berkeley has had the responsibility for formulating and preparing the plan for properties under its jurisdiction. Nothing in CEQA or the CEQA Guidelines would require that a single EIR be prepared for these different projects.

Public Resources Code section 21080.09 specifies that a long range development plan means a physical development and land use plan for a “particular” campus. The approval of projects “on a particular campus” is subject to CEQA and may be addressed in an environmental analysis basis upon a long range development plan EIR.

Moreover, the UC Berkeley 2020 LRDP has already undergone public review and been approved by The Regents, and projects under the 2020 LRDP are under way. Finally, LBNL disagrees with the comment that the cumulative impacts of the UCB LRDP and the LBNL LRDP are obscured. Both UCB’s 2020 LRDP EIR and LBNL’s 2006 LRDP EIR include cumulative impact analyses, which fully evaluate possible combined effects of both LRDPs.

The comment mentions two particular proposed actions, the Energy Biosciences Institute and the Helios Research Facility. The EBi project is one of three programs currently planned to be housed in the Helios Energy Research Facility (represented in the Draft EIR Illustrative Development Scenario for analytical purposes as Building S-9 and/or S 12). As stated in the LRDP DEIR, Helios is included as part of the reasonable foreseeable future development under the Lab’s 2006 LRDP, and its impacts are evaluated in the EIR. It would be implemented under LBNL’s LRDP and build-out projections.

### **Response C-3**

If the EIR is certified and the 2006 LRDP is approved by the Regents, implementation of the LRDP would include implementation of DEIR Mitigation Measures TRANS-1a, TRANS-1b, TRANS-1c, and TRANS-8. These mitigation measures would commit the Berkeley Lab to contribute funding, on a fair-share basis, to be determined in consultation with UC Berkeley and the City of Berkeley, for a periodic (annual or biennial) signal warrant check and for design and installation of a signal at the Gayley Road/Stadium Rim Way and Durant/Piedmont intersections when a signal warrant analysis shows that a signal is needed, regardless of whether federal funding is allowed. In addition, if the City determines that alternative mitigation measures may reduce or avoid the significant impact these mitigation measures address, Berkeley Lab would work with the City and UCB to identify and implement these measures.

LBNL acknowledges the City’s concern about negotiating with two parties with separate funding mechanisms and would work to ensure that any obstacles to negotiating and working with the City to assess impacts and mitigate them through fair-share arrangements are avoided. LBNL’s effort in consulting with the City on the 2006 LRDP and LRDP EIR is evidence of its good faith. This effort included more than 15 meetings with various City of Berkeley officials in the past year (2006-2007) that addressed, among various areas of discussion, the Lab’s science-driven growth, its facilities, space, population, transportation, parking, hazards, air quality and cumulative issues. These discussions have included a workshop between City planning and engineering staff and LBNL staff on March 15, 2006 to review utilities and stormwater issues; a September 26, 2006 meeting between City, LBNL, and UCOP legal staffs to discuss LRDP and EIR issues; several meetings from September 2006 through January 2007 between LBNL planning and community relations staff and City planning and transportation department staff to discuss transportation and parking issues; and a LBNL staff presentation of a Draft EIR preview

to City of Berkeley staff on January 19, 2007 (in advance of formal publication). Moreover, these interactions with the City of Berkeley spurred the Laboratory's reduction of the long range development plan project by 140,000 gsf of net new occupiable space as described in the DEIR pp. I-5 through I-7. To date, the City has not presented the Laboratory with any request relating to a specific signalization project or any other specific traffic-related project. The inclusion of a fair share contribution by the Laboratory to periodic signal warrant checks as part of the mitigation measures described above is reflective of the Laboratory's commitment to work with the City to ensure that impacts on traffic are tracked and mitigated.

Finally, the comment asks which LRDP governs determination of "fair share." The provisions of the 2006 LBNL LRDP will govern development at LBNL and the LBNL LRDP EIR identifies impacts and mitigation measures for development proposed under the LBNL LRDP, including the LBNL LRDP EIR traffic mitigation measures described above.

#### **Response C-4**

The Berkeley Lab Design Guidelines are not "mitigation measures," but are instead an integral part of the proposed project. As stated in Chapter III, Project Description, of the DEIR, on page III-2, "The 2006 LRDP contains descriptions of Berkeley Lab science and technology goals and development principles for site and facilities development. In addition, a separate, companion document, the Berkeley Lab Design Guidelines, will provide direction for physical development under the 2006 LRDP. These proposed Design Guidelines are proposed to be adopted by the Lab following The Regents approval of the LRDP. These principles, strategies, and design guidelines are listed in Appendix B and are referred to in the Project Description and the various technical sections of this EIR, as appropriate."

As the LBNL Design Guidelines is a reference document for the LRDP and the EIR, it is anticipated to be refined over time to address on-going site planning, architectural and environmental issues.

LBNL instituted an Architectural Design Review Board two years ago. The Board reviews all building projects at LBNL and provides advice to the project team. Within the last year, LBNL has instituted the practice of inviting UCB and City of Berkeley planning staff to attend these architectural design reviews

LBNL has found the collaborative participation by UCB and the City to be mutually beneficial and is committed to continuing it in the future. While Berkeley Lab will consider the City of Berkeley's request for early public review (prior to schematic design) as an independent effort, at this time, there are no formal plans to institute the City's suggestion.

#### **Response C-5**

All future proposed development projects would be evaluated for consistency with the 2006 LRDP. A proposed project's scope of development, location, population, and objectives would be reviewed for consistency with the LRDP and a finding of conformance would be an essential first

component to any proposed project. Any deviations from the LRDP would be fully explained and analyzed, as appropriate, under CEQA.

Should future development beyond that described in the 2006 LRDP be proposed (i.e., development beyond a net 980,000 gsf of new research or support space, or population above 1,000 net new Adjusted Daily Population, or net new parking spaces above 500) the future project would require an amendment of the LRDP and analysis as required by CEQA. In addition, as described in the DEIR page IV.L-32, the Lab is committed through its new Transportation Demand Management program to reevaluate traffic impacts 10 years from the certification of the EIR, or at the time the Lab proposes a project that will result in the development of 375 parking spaces or more. To meet this commitment, the Lab will arrange annual or biennial tracking of the parking spaces and Adjusted Daily Population and notify the City of the results. As stated on page I-13 of the DEIR, “If this [subsequent] traffic study indicates that the traffic analysis and mitigation in this EIR are still appropriate for the review of future projects, then the Lab will continue to rely upon the traffic analysis in this EIR.” If this traffic study indicates that further mitigation is appropriate, then the addition of that recommended mitigation will be considered by the Lab in consultation with the City of Berkeley.

### ***Response C-6***

The Berkeley Lab Design Guidelines were not included in the list of references or the bibliography of the Draft EIR because the Design Guidelines were reproduced in their entirety in Appendix B of the DEIR. (The inclusion of the design guidelines in Appendix B is noted throughout the DEIR, including the Aesthetics section, p. IV.A-8. The design objectives contained within the Berkeley Lab Design Guidelines were also reproduced in the Aesthetics section, on pp. IV.A-10 – 11.) Neither the Berkeley Lab Design Guidelines nor the 2006 LRDP itself is included among the references cited in the DEIR, because these two documents compose the project that is analyzed in the DEIR, along with the height map (DEIR Figure III-6, p. III-24). Please see also the response to Comment C-4.

### ***Response C-7***

Please see Response C-4.

### ***Response C-8***

Comment noted. Despite explaining that “the Lab’s hill site would continue to appear as a vegetated hillside with buildings among trees and shrubs, that the natural and manmade topography of the site limits views from any one vantage point to a relatively small portion of the hill site, and that development under the LRDP would be guided by the LRDP principles and strategies and LBNL Design Guidelines” (DEIR p. IV.A-19), and that “future buildings would be generally in scale with buildings they would surround and within already developed portions of the site to allow for more efficient site planning” (DEIR p. IV.A-22), the DEIR does not equivocate in its conclusions with respect to Impacts VIS-2 and VIS-3, both of which were found to be significant and unavoidable, because the project “could alter views of the LBNL site, and could result in a substantial adverse effect to a scenic vista or substantially damage scenic

resources” (VIS-2) and “would alter the existing visual character of the Lab site and could substantially degrade the existing visual character and quality of the site and its surroundings” (VIS-3).

### **Response C-9**

Draft EIR p. III-23, III.D.2 Height Zones, provides an explanation that “a “combination of (existing) geomorphic features, screening trees and terrain, built and natural elements, and availability to off-site viewpoints” are key considerations in the design guidelines and building height map. “Chief among these opportunities and constraints are aesthetic considerations involving how different building heights and scales might affect the visual character of the Lab as viewed from important off-site locations.” The LRDP EIR analysis does not rely on a presumption that building height shall be addressed simply by post-project landscaping, but rather acknowledges that the building height map and other siting and design considerations consider the variety of potential building sites at Berkeley Lab in context with existing screening features and availability of off-site viewpoints.

As stated on DEIR page IV.A-10, “The design guidelines would be applied to all new applicable projects constructed at the LBNL main site under the 2006 LRDP program. As part of the design review and approval process, new projects would be evaluated for adherence to the LRDP Land Use Map, the design guidelines, the Building Heights Map, and any other relevant plans and policies. Approvals would be subject to satisfactory compliance with these provisions.” Moreover, “many individual projects or buildings that could be constructed pursuant to the LRDP would not result in a substantial change,” and therefore would not result in a project-specific significant impact (DEIR, page IV.A-19). Application of the LBNL Design Guidelines would thus serve to minimize, and in some instances avoid, any project-specific contribution to the cumulative impact identified for the LRDP as a whole. In addition, aesthetic issues for specific buildings will be considered at a project level to determine if impacts could be minimized or avoided.

### **Response C-10**

A “natural backdrop” to a proposed building on the LBNL site would be an object(s) or geomorphic feature(s) (a hillside, trees and vegetation, other buildings, etc.) that would provide a visual background to that proposed building as apparent from a given viewpoint. The concept is that a building that is constructed against an existing backdrop would be much less visually noticeable and prominent than a building that is silhouetted against the sky, as one on the top of a naked ridge would be from lower elevations. This is evident from viewpoints in downtown Berkeley, where development (antenna towers, for example) is much more noticeable on the skyline ridge of the Berkeley hills than are similar structures below the skyline where the hills and vegetation serve as a backdrop, and thus reduce the visual distinction of such structures.

### **Response C-11**

Please refer to Reduced Growth Alternative 1 and Reduced Growth Alternative 2, as well as the No Project and Off-Site Alternatives, in the Draft EIR Alternatives chapter (Chapter V).

Accompanying visual simulations conceptually illustrate the potential differences between aesthetic effects of the proposed project and these alternatives on selected viewpoints. Visual simulations shown in Draft EIR Chapter IV.A, Aesthetics and Visual Quality, do incorporate some visual screening (i.e., screening that could reasonably grow during the lifetime of the LRDP).

### **Response C-12**

Comment noted. As the City noted, the Design Guidelines do include an objective to minimize and break up the mass of larger buildings. As noted above, LBNL invites City of Berkeley planning staff to provide input for its design reviews for all new building projects at the Lab and attend associated design review meetings. The Lab has found UC Berkeley's and the City's involvement beneficial and is committed to continuing it in the future. As noted in Response C-4, while Berkeley Lab will consider the City of Berkeley's request for early public review as an independent effort, at this time, there are no formal plans to institute the City's suggestion.

### **Response C-13**

Comment noted. Also see response to C-11, above.

### **Response C-14**

Comment noted. The Berkeley Lab Design Guidelines include objectives to minimize cut and fill slopes and other impacts to existing hill terrain; these objectives would include the strategy of "stepping back" buildings when practicable.

### **Response C-15**

Although such a provision (requiring outside vendors to meet low emissions standards) is not currently part of the 2006 LRDP, Berkeley Lab will consider as part of its sustainability efforts a requirement that requiring air quality performance standards on vendors, haulers, and delivery trucks meet low emissions standards and other similar "green contracting" provisions in the future.

### **Response C-16**

As stated on page IV.B-32, construction activities would result in the emission of criteria air pollutants from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. "Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NO<sub>x</sub> from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during project construction. The *BAAQMD CEQA Guidelines* recognize that construction equipment emits ozone precursors, but indicate that such emissions are included in the emission inventory that is the basis for regional air quality plans. Therefore construction emissions are not expected to impede attainment or maintenance of ozone standards in the Bay Area [reference omitted]. The impact would therefore be less than significant."

LBNL shall also require its construction contractors to comply with specific measures to mitigate equipment exhaust emissions (see page IV.B-34). As part of these measures, construction equipment will be properly tuned and maintained in accordance with manufacturers' specifications. Best management construction practices shall be used to avoid unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would turn their engines off when not in use).

Any stationary motor sources such as generators and compressors located within 100 feet of a sensitive receptor shall be equipped with a supplementary exhaust pollution control system as required by the BAAQMD and the California Air Resources Board. In addition, construction-worker trips shall be reduced by ride-sharing or alternative modes of transportation.

Sensitive receptors are discussed on p. IV.B-23 of the DEIR, where it is noted that such receptors include "residences, open space areas, student dormitories, and day care centers." The provision in Mitigation Measure AQ-1b requiring additional exhaust controls for stationary construction equipment within 100 feet of sensitive receptors is based on the concept that emissions from any particular piece of motorized stationary construction equipment will be substantially less concentrated at 100 feet from the source than within a 100-foot zone around the source. Thus, this aspect of the mitigation measure would reduce exposure for sensitive receptors closest to these emissions sources.

The DEIR analysis of construction emissions notes, on p. IV.B-32, that emissions of toxic air contaminants associated with construction activity are addressed separately under Impact AQ-4. Impact AQ-4 addresses emissions of toxic air contaminants, including diesel particulate emissions from construction equipment, which was factored into the human health risk assessment conducted for the LRDP and summarized in the DEIR. The DEIR concluded, on p. IV.B-45, that diesel particulate emissions from construction equipment would not exceed significance criteria either for cancer risk or for the chronic non-cancer hazard index (except for an area near the Lab's boundary, where no receptors are present), and that the impact of construction equipment emissions would therefore be less than significant.

Nevertheless, in recognition of the risks attributed to diesel particulate emissions, Berkeley Lab would include in its future construction specifications that construction contractors take the maximum feasible steps towards incorporating the cleanest available engines in construction equipment. Specifically, Berkeley Lab shall request that construction diesel engines rated at 100 horsepower or more meet the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines (as specified in California Code of Regulations, Title 13, Section 2423(b)(1)), and that if a Tier 2 engine is not available, that equipment shall be outfitted with a Tier 1 engine or with a catalyzed diesel particulate filter (soot filter). LBNL would investigate the possibility of offering incentives in the contract-awarding process to construction contractors who comply with these requirements.

The Lab would require that contractors limit idling time of diesel-powered construction equipment to three minutes and that all diesel engines used by LBNL construction contractor(s) at the site, or for on-road hauling of construction material, be post-1996 models.

**Response C-17**

Comment noted. The references provided in the DEIR are provided in a consistent format and are sufficiently detailed to allow the reader to check the source. In the case of the reference noted in this comment, the References portion of DEIR Section IV.D, Cultural Resources, provides the following: “City of Berkeley, City of Berkeley General Plan, *Urban Design and Preservation Element, Figure 25: City-Designated Landmarks, Structures of Merit and Districts as of November 2001*, adopted April 23, 2002.”

Concerning Building 51, the last two sentences of the final paragraph on DEIR page IV.D-8 (continuing to page IV.D-9) have been revised to provide updated information about the Bevatron/Building 51 landmark designation (new text underlined; deleted text indicated in ~~strikethrough~~):

~~The landmark designation is currently pending appeal the Berkeley City Council.~~  
In January 2007, the Berkeley City Council upheld the Landmarks Preservation Commission’s decision on appeal.

**Response C-18**

The text concerning Buildings 71 and 88 was incorrectly stated due to an editorial error. The last two sentences of the first full paragraph on page IV.D-14 of the DEIR have been revised to clarify potential impacts to Buildings 71 and 88 (new text underlined):

There are no current plans to demolish Buildings 71 and 88. However, demolition of Buildings 71 and 88 during the LRDP term is possible, particularly if driven by future safety concerns or programmatic needs. ~~Should the buildings prove to be~~ formally found eligible for National Register listing, and were their demolition to be proposed and to occur under the 2006 LRDP, such demolition would result in a significant and unavoidable impact and implementation of Mitigation Measure D.2 would be required. (See Appendix E for additional discussion of Buildings 71 and 88.)

**Response C-19**

As there are no current plans under the 2006 LRDP to demolish Buildings 71 and 88, there are no requirements under CEQA to provide additional evaluations beyond that which was provided in the DEIR, including identification of additional mitigation measures, or consideration of additional alternatives.

As described on DEIR pages IV.D-14 – 15, Mitigation Measure CUL-1 is included in the EIR for the proposed demolition of Building 51/Bevatron, and that this mitigation measure is applicable to the LRDP as well. As stated in the DEIR, “removal of buildings determined eligible for listing on the National Register would result in a substantial adverse change that cannot be fully mitigated; thus, the impact after mitigation would remain significant and unavoidable.”

The DEIR provides sufficient information regarding the future disposition of historic resources without requiring additional CEQA review. With regard to the comment about Alternative V.F, *Preservation Alternative with Non-LBNL Use of Historic Resources*, is one way of avoiding potential impacts to historic resources, and is not intended to be an exhaustive list of all possible preservation alternatives.

As stated on page IV.D-13 of the DEIR, a Memorandum of Agreement (MOA) was reached among Department of Energy, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation in connection with the proposed demolition of the Building 51 complex, including the Bevatron. Such an MOA typically allows a federal agency to proceed with an action in compliance with both the National Historic Preservation Act and the National Environmental Policy Act. However, under CEQA, as stated on DEIR page IV.D-15, “Based on the CEQA Guidelines, removal of buildings determined eligible for listing on the National Register would result in a substantial adverse change that cannot be fully mitigated; thus, the impact after mitigation would remain significant and unavoidable.” Accordingly, demolition of determined National Register-eligible buildings would result in a significant and unavoidable impact. If proposals were brought forward in the future to demolish buildings that are found to be historic resources, appropriate project-specific CEQA review and processes under the National Historic Preservation Act would be undertaken at that time.

### **Response C-20**

The Building 51 complex, including the Bevatron, is the only known historical resource proposed for demolition at the present time. The wording of the statement on DEIR page VI-8 is deliberately expansive because it cannot be stated with certainty that other historical resources, including those yet to be identified as such, would not be demolished during the time frame covered by the 2006 LRDP. However, there is no “maximum” number of resources proposed for demolition; only demolition of the Building 51 complex is now proposed or reasonably foreseeable, and this is identified as a significant, unavoidable impact in Section IV.D, Cultural Resources, and in Section VI.A, Significant Unavoidable Impacts.

### **Response C-21**

A cultural landscape is defined by the National Park Service as “a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.”<sup>9</sup>

Although not necessarily required for CEQA evaluation purposes, cultural landscape information in the standard National Park Service format would typically include a history of the use and development of an important landscape, including a cultural landscape chronology, identification of its potential boundaries, and a description of the character defining features of the landscape.

<sup>9</sup> U.S. Department of the Interior-National Park Service. *Preservation Brief 36, Protecting Cultural Landscapes Planning, Treatment and Management of Historic Landscapes*, Charles A. Birnbaum, ASLA.

Strawberry Canyon has not been designated a cultural landscape. The canyon forms a geographic area that extends far beyond the boundaries of LBNL; from the Ecological Study area to the east of the Lab site, to the UC Berkeley Main Campus to the west of the Lab; it is defined by a variety of environments and ecological zones that are both natural, human-made, and a combination of the two, including such designed landscapes as the Berkeley Botanical Gardens, semi-natural landscapes such as the Stephen Mather Redwood Grove, and older residential neighborhoods such as the Panoramic Hill Historic District.

While additional research facilities would be added to the Lab in coming years, those areas within the south-facing slope of Strawberry Canyon are anticipated to retain a strong sense of open space and landscaping. The 2006 LRDP includes plans to reinforce this natural appearance, both from outside views as well as from views within the site. The Land Use Plan identifies areas of Berkeley Lab's hill site that would remain undeveloped, and the proposed Landscape Framework further defines the ways in which these various open spaces would be planted and otherwise improved. These are summarized below as applicable to the Strawberry Canyon area.

In the vicinity of Strawberry Canyon, the LRDP Land Use Plan identifies the Perimeter Open Space land use zone. As described on page III-26 of the DEIR, "the Perimeter Open Space land use zone would encompass the remaining areas of the Lab's hill site and indicate areas of the Lab where future development would be primarily reserved for minor maintenance or support structures or paths and where the open, wooded, or grassland character of the hillside site would be retained to the extent feasible. Much of the Perimeter Open Space zone would comprise parts of the site where development potential is restricted due to constraints such as habitat quality and vegetation, seismic risk, utility easements, adjacent uses, and similar limitations. Throughout these areas various maintenance activities would continue to preserve and enhance appropriate vegetation characteristics.

The LRDP Landscape Framework Plan identifies two categories of landscape treatments in the vicinity of Strawberry Canyon; *Rustic*, and *Screening*. As described on page III-32 of the DEIR, "the vast majority of the Lab site is characterized by the rustic, diverse landscape mosaic of oak and mixed hardwood forests, native and non-native grasslands, chaparral, coastal scrub, marsh and wetland communities, and riparian scrubs and forests that would be retained in their naturalistic state. Maintenance activities would be undertaken to maintain the health of these areas. Pedestrian paths would be carefully aligned through these areas, but in general most Lab activities would not occur in these rustic zones."

In terms of *Screening* landscape, the DEIR states that "important stands of trees that currently screen Lab buildings from view from the surrounding community would be maintained, and additional screening would be added where it can help maintain the distinctive character of the site. Screening trees would also be added within the main site along Centennial Drive, which passes alongside and, on one overpass, over a portion of the Lab (though fencing restricts Lab access to Centennial Drive users). Screening this area would provide a visual buffer for those passing the Lab site on Centennial Drive on the way to areas higher up in the hills, such as the Lawrence Hall of Science or the University's Space Sciences area."

As those portions of Lab within or adjacent to the south-facing slopes of Strawberry Canyon would be managed in accordance with the Perimeter Open Space land use zone and the Landscape Framework Plan's *Rustic* and *Screening* categories, the 2006 LRDP would have no significant adverse effects on a potential Strawberry Canyon cultural landscape, were this portion of the canyon to be identified as a contributor to the landscape as a result of future evaluations. Similarly, the 2006 LRDP would have no potential to degrade or otherwise affect the Berkeley Botanical Garden as a potential contributor to a potential Strawberry Canyon cultural landscape. As no significant effects to this area as a potential cultural landscape are anticipated as a result of the LRDP, no alternative sites for the proposed development(s) would need to be analyzed.

### **Response C-22**

The DEIR adequately addresses surface fault rupture, ground shaking hazards, earthquake induced slope failure, and ingress and egress in the event of a catastrophic event involving earthquakes. The Setting section describes slope instability under static conditions (DEIR, page IV.E-7) and under earthquake (dynamic) conditions (DEIR, page IV.V-13) and describes the existing fault rupture hazards (DEIR, page IV.E-10). The Impacts and Mitigations section discusses how earthquake fault rupture would impact the project (DEIR, page IV.E-21, Impact Geo-1) as well as the effects of earthquake-induced slope failure (DEIR, page IV.E-23, Impact GEO-2). The Hazards section discusses the LBNL hill site evacuation plans and procedures in the event of a catastrophic event on the LBNL hill site (DEIR, page IV.F-32, Impact HAZ-5).

The DEIR did consider the combined effects of both fault rupture and slope failure and the effects of those occurrences on the ingress and egress at LBNL. As stated in the DEIR (page IV.F-37), "Under a catastrophic earthquake scenario, many roadways in the region could be rendered unusable for reasons including earthquake damage, landslides, loss of more remote area roads and bridges, heightened congestion from other evacuating motorists, and increased emergency vehicle use on the roadways." The ground disturbance caused by an earthquake, such as fault rupture or slope failure, cannot be predicted but there is a potential for these two failure mechanisms to occur in a particular locale. Whether the combined effect of fault rupture and slope failure could affect vehicular access is also uncertain but it is possible.

LBNL has in place policies and procedures to ensure health and welfare of LBNL staff and visitors and manage vehicular traffic through the hill site in the event of a catastrophic event such as an earthquake. These are discussed in detail in the DEIR (pages IV.F-32 through IV.F-37). If there was a major earthquake that caused ground rupture and slope failure, it is very possible that LBNL safety officials would limit access to the hill site. The DEIR states on page IV.F-37:

Under the 2006 LRDP, EOC measures would not allow uncontrolled vehicle evacuation of the site if conditions did not warrant this. During or after a catastrophic event, the Lab's perimeter gates would be controlled. For example, gates may be closed to all vehicles except for emergency services, as warranted by the EOC. Any decision to evacuate would be coordinated through EOC command, including with the UC Berkeley Police Department, City of Berkeley Police Department, Alameda County Sheriff's Department, and the California Highway Patrol to ensure an informed and coordinated response. Uncontrolled evacuation by vehicle, particularly during a wildland fire and on

roads that would affect constricted areas such as the Panoramic Hill neighborhood, would not be permitted.

Contrary to what is suggested in the comment, the DEIR does not describe the exposure of 1,000 more people to the seismic and other risks in this location as a significant and unavoidable impact. Rather, the DEIR analysis concluded that the impact of attracting an additional population would be less than significant because, because, among other measures, LBNL would ensure that:

- Construction under the 2006 LRDP would comply with requirements of the latest California Building Code, University of California seismic design safety policies, federal standards, and LBNL's lateral force design criteria. Such construction would help to minimize the potential injuries, damage, and subsequent fire that could result from a seismic event. (DEIR, page IV.F-36)
- Some of the buildings constructed pursuant to the LRDP would be occupied by staff relocated from other, older LBNL facilities, some of which were constructed in accordance with less stringent building code requirements than those that would apply to future construction. As of 2003, 14 percent of LBNL buildings were over 60 years old. Many of these buildings were constructed as temporary structures that were never replaced. The LRDP specifically proposes the demolition of some 30 outdated buildings that together include approximately 250,000 square feet. In this regard, implementation of the LRDP would result in a beneficial seismic safety impact (DEIR, page IV.V-24)

LBNL would continue to maintain and update its Master Emergency Program Plan (MEPP), which establishes policies, procedures, and an organizational structure for responding to and recovering from a major disaster at LBNL (DEIR, page IV.F-36).

Please see also the Response C-28.

### ***Response C-23***

The DEIR provides ample information and data to clearly evaluate the seismic risks at the LBNL hill site and surrounding environs. The DEIR (pages IV.E-3 through 7) provides a detailed description of the regional seismic setting with an in-depth discussion of the nearby active faults (the Hayward and San Andreas); these faults are capable of generating significant events. The DEIR (pages IV.E-10 through 11) provides a detailed discussion of the earthquake faults on the LBNL hill site and the previous studies that have further defined their potential for surface rupture.

In general, the analysis of earthquake risk for the proposed LRDP is controlled by the proximity to the adjacent Hayward fault, one of the most active faults in the Bay Area. The other potentially active faults, which can be considered part of the Hayward fault system, are less likely to individually generate an earthquake of considerable magnitude due to their length and age. Previous fault studies on the LBNL hill site "confirmed the absence of evidence needed to classify either the Wildcat fault or east Canyon fault as active" and therefore it was concluded that there is a low potential for fault rupture from these potentially active faults (DEIR,

page IV.E-11). The lack of a detailed fault map does not render the DEIR deficient, especially in light of the detailed narrative describing the current regional and site-specific seismic setting. It should be noted that the comment incorrectly states that it was the Northridge Earthquake that “demonstrated that supposedly inactive faults must be considered a potential hazard”. One of the primary lessons of the Northridge earthquake was that active “blind thrust” faults are present underlying areas of Los Angeles area and that earthquakes generated from these “blind thrust” faults can generate considerable ground shaking. The Hayward fault system is not a “blind thrust” fault. There have been many studies that conclude that ancient, inactive faults and shear zones in the San Andreas Fault System are not considered a potential hazard.

The comment incorrectly states that the EIR only includes two large-scale maps to identify faults and landslide hazards. The EIR provides four maps that, in conjunction with the narrative in the setting and impact analysis of the Geology and Seismicity (DEIR, Section IV-E), presents sufficient specific information to assess the geologic and seismic impacts at the LBNL site. Figure IV.E-1 is a regional fault map that is necessary to determine seismic risk not just from the Hayward Fault but from the other regional faults capable of causing a damaging earthquake at the LBNL site. Figure IV.E-2 is a Seismic Hazard Zone Map, which is based on the California Geological Surveys assessment of seismic shaking and earthquake-induced landslide hazards. The state of California is required to produce these maps under the California Seismic mapping Act of 1990. This map shows the LBNL site and its relationship to areas considered as high risk for earthquake-induced landslides. Figure IV.E-3 is a detailed site-specific Slope Stability Map, which shows low, medium, and high risk landslide areas including repaired landslides within the LBNL facility. This map is more detailed than Figure IV.E-2 and depicts landslide risk relative to LBNL facilities. Figure IV.E-4 (DEIR page IV.E-12) provides a map that shows the LBNL site relative the active Hayward fault and the Alquist-Priolo Fault Zone. This map, however, does not show the potentially active faults because, as stated above, these faults are not considered a seismic threat to the LBNL facility. The maps provided in the DEIR provide adequate information to assess the seismic risk in the EIR.

### ***Response C-24***

The comment incorrectly states that “significantly increasing the population in a high-geologic hazard area cannot be mitigated to a less than significant level solely through engineering.” In the case of the proposed LRDP projects, modern geotechnical and structural engineering analysis and design allows for construction in hilly areas adjacent to active faults with assurances that the structures can withstand excessive ground shaking. When compared to older buildings, new structures designed using modern earthquake design criteria can withstand earthquake ground shaking without collapse and with less incidents of injury. Modern engineering and construction methods are being employed at many development sites in the Bay Area where hillside slopes and nearby faults present unique engineering challenges. The comment mentions the UC Berkeley’s Southeast Campus Integrated Projects (SCIP) EIR and states that “exposure of people or structures to risks associated with fault rupture and ground shaking were significant and unavoidable.” Considering that the SCIP EIR analyzed a project that will lie across the active trace of the Hayward Fault underlain by alluvium, and that the SCIP project involves upgrades to

the California Memorial Stadium with a future anticipated capacity in excess of 60,000 attendees and a proposed increase in the number of events at the stadium, it is reasonable that fault rupture hazard and ground shaking hazards would be significant and unavoidable in the case of the SCIP project. The LBNL project site is in a different setting than the projects proposed under SCIP, namely, the buildings proposed under the LRDP would not be constructed on active fault traces and the underlying material is a more competent bedrock.

As stated above in the response to Comment C-22, the DEIR analysis concluded that the impact of attracting an additional site population would be less than significant because, among other measures, LBNL would ensure that 1) construction under the 2006 LRDP would comply with requirements of the latest California Building Code, University of California seismic design safety policies, federal standards, and LBNL's lateral force design criteria. Such construction would help to minimize the potential injuries, damage, and subsequent fire that could result from a seismic event (DEIR, page IV.F-36), and 2) some of the buildings constructed pursuant to the LRDP would be occupied by staff relocated from other, older LBNL facilities, some of which were constructed in accordance with less stringent building code requirements than those that would apply to future construction (DEIR, page IV.F-24).

Design of new building and other facilities under the LRDP would undergo site specific, design-level geotechnical investigations within the LBNL hill site. These investigations are intended to determine geologic and seismic constraints, including landslide hazards and location of faults to inform the structural design of the new facilities. The new facilities, including roads and walkways, would be designed in accordance with current building code standards. It is important to note that most, if not all, of the 1,000 or so people the 2006 LRDP project would add to the hill site, would occupy newly constructed buildings meeting current building codes, or buildings that have been seismically upgraded or are slated for seismic upgrade. No new occupants would be placed in buildings rated "very poor," because Lab policy is to move occupants out of "very poor" buildings.

Current building design and construction in the Bay Area does benefit from years of research and an extensive body of data on the performance of the underlying geology during a characteristic Bay Area earthquake, especially in the areas of fill and Bay mud along the Bay margin. California's building codes, some of the most stringent in the U.S., are based on a vast body of earthquake engineering research and the codes are consistently updated as new findings on earthquake response are revealed. The building design process; from the geotechnical engineer analyzing the soil and earthquake risk, to the structural engineer incorporating that data into the foundation design, analyzes the geologic conditions and how those conditions will impact a building during an earthquake.

### ***Response C-25***

The City urges the adoption of the precautionary principle to avoid adverse impacts to human health and the environment. The impact of LBNL operations and resulting hazards was evaluated in the EIR as part of Impact HAZ-3, and with the imposition of mitigation measures, those impacts are reduced to a less than significant level. Those mitigation measures include the

continued preparation of assessment reports evaluating compliance with laws and regulations governing hazardous materials, worker safety, and environmental protection.

In response to the comment regarding the City's Nanoparticle Ordinance, on DEIR p. IV.B-13, the following is added prior to the heading "City of Oakland General Plan" in recognition of the City of Berkeley nanoparticles ordinance (all text is newly added):

*City of Berkeley Manufactured Nanoparticle Disclosure Ordinance*

The City of Berkeley in 2006 approved a change to the Hazardous Materials and Wastes Management portion of its Municipal Code. The amendment adds to facilities subject to reporting requirements, in addition to facilities that handle hazardous material or waste in certain quantities, those facilities "that manufacture or use manufactured nanoparticles," and requires such facilities to disclose "current toxicology of the materials reported, to the extent known, and how the facility will safely handle, monitor, contain, dispose, track inventory, prevent releases and mitigate such materials."

Although the City's Nanoparticle Ordinance does not apply to LBNL as a federal facility, LBNL intends to provide on-going information of interest to the City in regard to the Lab's work in the nanoscience and nanotechnology areas. However, the commenter does not provide any evidence for the assertion that nano-science research activities could result in a potentially significant impact. For further information regarding nanotechnology, please see response to Comment F-7.

**Response C-26**

When needed, qualified, licensed contractors are hired to administer pesticides and herbicides in compliance with all applicable regulations, and as follows:

- Only one type of herbicide is used at LBNL; an herbicide which is directly applied to eucalyptus tree trunks after cutting to prevent re-sprouting. No broadcast spraying is allowed.
- Pesticide use is limited to termites, roaches, ants, and other non-flying insects that infest buildings. No pesticides are administered for flying insects at LBNL, and no broadcast spraying is allowed. Rodents and other larger pests are controlled by non-pesticide means (e.g., trapping).

Berkeley Lab's Environment, Health & Safety Division reviews these practices on an annual basis.

**Response C-27**

The Draft EIR does identify and address a conservatively large estimated increase in hazardous materials generation, storage, transportation, and disposal at Berkeley Lab under the proposed project. However, based on recent performance, coupled with adherence to federal, state, and

local procedures, and accounting for the practice of identified mitigation measures, this is not found to be a significant impact.

Berkeley Lab's current practices of using, storing, and disposing of hazardous materials do not create a significant impact on the surrounding environment and community, as shown in the Sitewide Air Quality Human Health Risk Assessment prepared for this project and the Lab's safety record; therefore, the potentially increased risks posed by incremental increases in hazardous materials and waste are not significant.

Please refer to response to the response to Comment C-28, below, for further discussion of effects related to catastrophic events.

### **Response C-28**

Catastrophic risks posed by a major wildland fire and/or earthquake are analyzed in Draft EIR section IV.F, Impact HAZ-5. Issues such as loss of City support and emergency services, evacuation, and regional loss of water supply are addressed. Given the presence of the Lab's own internal water supply (600,000 gallon capacity), stocked cafeteria and food supply, medical facilities and staff, fire station and emergency response staff, emergency generators and fuel supply, security staff, on-site heating and cooling systems (that can be powered by generators), secure perimeter and security staff, communications and EMS system, and on-site construction crews and craftspeople, the Lab is optimally situated in the region for a shelter-in-place emergency situation. In fact, given the wealth of resources and services available to the Lab population and the relatively small concentration of people within the Lab's 202-acre site, it is foreseeable that the Lab would be a more desirable location than nearby urban areas with densely concentrated populations and potentially less per capita access to resources, provisions, security, and services under certain regional disaster scenarios.

The Draft EIR does provide substantial evidence to conclude that impacts associated with potential catastrophic events to the incrementally increased population and facilities of LBNL would not be significant or substantially more severe than under current conditions. New, state-of-the-art, code-compliant buildings would be far safer, under earthquake and fire conditions, than the outdated buildings that would be demolished. The Lab is projected to incrementally increase in population over a 20-year period, but this population would be well served by on-site medical, emergency, fire, safety, and other support services, as well as an intensive emergency management system plan and network, so this incrementally increasing population would not represent a significant or substantial increase impact related to catastrophic events or hazards.

The Draft EIR analysis of potential catastrophic events discusses the scenario of a major earthquake and fire occurring at the same time.

According to the head of LBNL's emergency command center, the Laboratory is prepared to be self-sustaining for at least three days, which is the FEMA recommendation.<sup>10</sup>

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<sup>10</sup> Royce Saunders, LBNL Environment, Health & Safety Division, personal communication, June 14, 2007.

### **Response C-29**

The comment incorrectly states that the Draft EIR provides insufficient information in support of its analysis of hydrological impacts. The DEIR quantifies the area of the Strawberry Creek North and South Forks watershed pertinent to LBNL (see DEIR page IV.G-1) and illustrates this “watershed study area” in Figure IV.G-1 on DEIR page IV.G-2. The DEIR further illustrates the area in question, including the divide between the North and South Forks of Strawberry Creek in Figure IV.G-2, page IV.G-3. The DEIR further quantifies the area of “run-on” that drains from upslope off-site locations to the Lab’s hill site on page IV.G-4; this area is illustrated in Figure IV.G-3, page IV.G-5.

In terms of potential changes and impacts due to the project, the commenter states that the Illustrative Development Scenario is an inadequate basis for the evaluation of impacts. This comment is incorrect. For a program EIR, such as the LBNL LRDP EIR, where few specific development projects are identified, let alone sited, it is necessary to make assumptions about the physical changes that are anticipated to occur during the lifetime of the LRDP. As described in Chapter I, Introduction, the Illustrative Development Scenario “is a conceptual portrayal of potential development under the LRDP ... [intended] to provide a basis for some of the quantified modeling that has been completed for the LRDP.” Without the Illustrative Development Scenario, or some similar alternative approach to forecasting potential physical changes under the LRDP, there would be no way to measure the physical impacts of the project.

As stated on DEIR page IV.G-23 (and as revised herein on page IV.G-25 of the revised Hydrology section contained in Appendix A) approximately 10 acres of impervious surfaces would be added to the LBNL hill site with full implementation of the LRDP, based on the assumptions contained in the Illustrative Development Scenario concerning development of building space, parking lots and structures, and new roads, and this increase in impervious surfaces would translate to an increase in peak runoff flows of about 10 cfs, or about 0.6 percent, over the current estimated total of 1,686 cfs (DEIR page IV.G-25) without implementation of BMPs. Through the use of both LBNL and UC Berkeley-identified BMPs, LBNL is committed to ensuring that post-development runoff volumes approximate pre-project runoff volumes for all construction projects, regardless of project size. Table IV.G-1, which was inadvertently omitted from the DEIR and is presented below, identifies how peak flow would be expected to be distributed across each sub-watershed if no BMPs were implemented.

### **Response C-30**

Comment noted. Refer also to response to Comment C-26. The Regional Water Control Board Resolution to consider the presence of the pesticide diazinon in all urban creeks of the Bay Area does not change the conclusions in the DEIR, change existing impact significance, or result in any new impacts. The following text of the section under the heading **Total Maximum Daily Load (TMDL) – Section 303(d) of the Clean Water Act** on page IV.G-11 (Hydrology and Water Quality) is revised as shown below (new text underlined; deleted text indicated in ~~strikethrough~~):

**TABLE IV.G-1  
EXISTING AND PROJECTED FUTURE PEAK FLOWS GENERATED BY LBNL  
AND SURROUNDING PROPERTIES (CFS<sup>1</sup>)**

| Sub-watershed    | Existing Conditions |              | Total        | Project<br>Increment | Future<br>Total |
|------------------|---------------------|--------------|--------------|----------------------|-----------------|
|                  | Devel. Areas        | Undev. Areas |              |                      |                 |
| Upper Strawberry | 62                  | 860          | 922          | 4                    | 926             |
| Chicken Creek    | 48                  | 81           | 129          | 2                    | 131             |
| Panoramic        | 52                  | 91           | 143          | 0                    | 143             |
| Stadium Hill     | 49                  | 87           | 136          | 0                    | 136             |
| North Fork       | 149                 | 207          | 356          | 4                    | 360             |
| <b>Total</b>     | <b>360</b>          | <b>1,326</b> | <b>1,686</b> | <b>10</b>            | <b>1,696</b>    |

<sup>1</sup> cfs = cubic feet per second.

SOURCE: Kuntz, 2004; Blair, 2006.

### **Total Maximum Daily Load (TMDL) – Section 303(d) of the Clean Water Act**

California has identified waters that are polluted and need further attention to support their beneficial uses. These water bodies are listed pursuant to Clean Water Act Section 303(d). Specifically, Section 303(d) requires that each state identify water bodies or segments of water bodies that are “impaired” (i.e., not meeting one or more of the water quality standards established by the state). Approximately 500 water bodies or segments have been listed in California. Once the water body or segment is listed, the state is required to establish “Total Maximum Daily Load,” or TMDL, for the pollutant causing the conditions of impairment. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating water quality standards. Listing of a water body as impaired does not necessarily suggest that the pollutants are at levels considered hazardous to humans or aquatic life or that the water body segment cannot support the beneficial uses. The intent of the 303(d) list is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for continued water quality degradation.

In accordance with Section 303(d) of the Water Code, the San Francisco Bay RWQCB has identified impaired water bodies within its jurisdiction and the pollutant or stressor impairing water quality, and prioritized the urgency for developing a TMDL. While San Francisco Bay is included on the Section 303(d) list, Strawberry Creek is not. However, the RWQCB has found that Bay Area urban creeks do not consistently meet the Basin Plan’s narrative water quality objectives pertaining to toxicity. In response, the RWQCB has adopted a Basin Plan amendment that establishes a water quality attainment strategy and TMDL to reduce diazinon and pesticide-related toxicity in urban creeks (RWQCB, 2005).<sup>11</sup> The amendment specifies a concentration target of 100 nanograms per liter (as a one-hour average) as well as generic pesticide-related toxicity targets to

<sup>11</sup> The TMDL has been adopted by the RWQCB, but will need to be approved by the SWRCB, Office of Administrative Law, and then the U.S. EPA. The Basin Plan amendment will become effective upon U.S. EPA approval.

comply with the applicable water quality objectives established to protect and support beneficial uses. Pollutants or stressors identified on the Section 303(d) list for Central San Francisco Bay include chlordane, dichlorodiphenyltrichloroethane (DDT), diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, non-dioxin-like polychlorinated biphenyls (PCBs), PCBs (dioxin-like), and selenium.

A TMDL has been established for San Francisco Bay for mercury, and the RWQCB is working on TMDLs for the Bay for PCBs, pesticides, and selenium, as well as a revision to the mercury TMDL. ~~The RWQCB has also adopted a TMDL for pesticide toxicity in urban creeks. (TMDLs are also being developed for other water bodies, such as the Napa River, Guadalupe River, and Sonoma Creek.)~~ Although it is not anticipated that any future TMDLs would affect LBNL, due to lack of discharge of such substances, LBNL will comply with applicable regulations.

### **Response C-31**

As stated on DEIR page IV.G-16, “LBNL is a federal facility operated by the University of California and conducting work within the University’s mission on land that is owned or controlled by The Regents of the University of California. As such, LBNL is generally exempted by the federal and state constitutions from compliance with local land use regulations, including general plans and zoning. However, LBNL seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible.” While LBNL strives for cooperation with local jurisdictions and their plans, these plans are generally not “applicable” (CEAQ Guidelines Sec. 15125(d)) to LBNL by virtue of its status as a facility owned by the state and operated by the University on behalf of the federal government.

### **Response C-32**

The Draft EIR concludes that potential stormwater contaminant load from parking lots under LRDP conditions would be less than that associated with current conditions, because, according to the LRDP and as depicted under the Illustrative Development Scenario, there would likely be a reduction in parking lot area exposed to stormwater runoff. Since stormwater contaminant load would be a function of parking lot area exposed to stormwater runoff (assuming, for the purposes of this programmatic analysis, that the Lab’s parking lots collect pollutants at the same rate), this is a logical conclusion.

The Draft EIR Illustrative Development Scenario depicts an increase in net new impervious surface area of approximately 10 acres. Draft EIR Tables III-6 and III-7 indicate only building and parking lot surface area. As the commenter surmises, this total building area is not equivalent to the projected 10 acres because much of the new building and parking lot area would be sited on already developed (i.e., already impervious) land.

An estimate for how much of this construction would take place on “redevelopment” areas can be achieved by subtracting the projected 16.5 acres of development from the new impervious surface area measurement taken from the IDS (10 acres), which yields 6.5 acres. Of course, as described in the Draft EIR, the actual project under consideration for approval is substantially smaller than what is depicted in the IDS, as is the amount of potentially new impervious surface area that would likely be created.

All development taking place under the LRDP would be subject to all applicable stormwater-related permits and standards, as described in Draft EIR section III.G

### ***Response C-33***

Table IV.G-1 was inadvertently omitted from the DEIR. It is shown above, in the response to Comment C-29. LBNL is committed to maintaining peak stormwater flows at both the North and South Forks of Strawberry Watershed at approximately pre-project levels, which is consistent with current regulatory objectives. In addition, total post project runoff would approximate pre-project conditions.

Berkeley Lab believes that its system of hydraugers is appropriate, effective, and a relatively environmentally unobtrusive means for stabilizing slopes that might otherwise become oversaturated with water.

### ***Response C-34***

Parking areas would be engineered to treat runoff, either with stormceptor structures or natural systems as mention in the comment.

Berkeley Lab agrees that the watershed areas in its vicinity are sensitive, ecologically important areas that must be managed responsibly. Draft EIR section IV.G-9 describes LBNL’s current and proposed new measures for doing this, including its continued adherence to water quality regulations and permits designed specifically for this purpose, and its use and proposed use of engineering controls and management practices for managing stormwater, particularly during construction (please see DEIR IV.G-12 – IV.G-16, as well as impact statements HYDRO-1, HYDRO-2, HYDRO-3, and HYDRO-4).

Of the bulleted items sought by the commenter, the first and second bulleted items are found on 2006 LRDP page 58 (Development Framework Strategies), the third bulleted item is found on 2006 LRDP page 66 (Vehicle Access, Circulation, and Parking Strategies), and the fourth bulleted item is found on 2006 LRDP page 76 (Open Space and Landscape Strategies). All strategies and policies advanced in the 2006 LRDP are part of the project by definition and are included in the EIR analysis.

**Response C-35**

The newest hydraugers installed at LBNL were emplaced more than 12 years ago. While LBNL does rely on existing hydraugers to dewater unstable areas and improve slope stability, most areas of the site have been assessed and there are no current plans to install additional hydraugers.

Berkeley Lab believes that its system of hydraugers is appropriate, effective, and a relatively environmentally unobtrusive means for stabilizing slopes that might otherwise become oversaturated with water. Were any future hydraugers to be proposed, these would be designed and constructed on an individual, project-specific basis and are not prescribe or analyzed in this LRDP and its EIR.

**Response C-36**

The Draft EIR describes the LBNL site context and relationship to the Strawberry Creek watershed in both the Biological Resources analysis (Section IV.C) and Hydrology and Water Quality analysis (Section IV.G). These analyses include impacts and mitigation discussion in regard to water quality and groundwater recharge. LBNL has begun meeting with UC Berkeley to discuss common hydrologic issues. Although participation in a joint watershed management plan is not part of the 2006 LRDP or within the scope of this EIR, LBNL welcomes the opportunity to discuss this proposal with the City and UCB and will await a formal proposal to do so from the City.

**Response C-37**

RWQCB has indicated to LBNL that it is the RWQCB that is responsible for enforcement of the NPDES General Industrial Permit with LBNL; the City of Berkeley supports RWQCB in its oversight/enforcement role.

**Response C-38**

As stated in response to Comment C-33, LBNL is committed to ensuring that post-project flows approximate pre-project flows in the upper reaches of Strawberry Creek.

**Response C-39**

Please see the response to Comment C-38.

**Response C-40**

Each chapter of the 2006 LRDP EIR evaluating environmental impacts discusses the policies from the City of Berkeley's and the City of Oakland's General Plans that are relevant to the impact analysis set forth in that chapter. These policies thus are part of the overall record that will be presented to the Regents in connection with the environmental impact review for the LRDP as well as their policy decision regarding the LRDP.

LBNL respectfully disagrees with the City's footnote comment relating to the City's General Plan EIR. The LRDP EIR references the City EIR as an informational document, and does not

otherwise rely on that EIR. The fact that LBNL is not subject to the Berkeley General Plan does not render it inappropriate for the LRDP EIR to cite the City's General Plan EIR as an informational document.

### **Response C-41**

The DEIR addressed the impacts the project would have on population and housing. As stated on page IV.J-14, "The increase in permanent employees would add to the residential population in Berkeley, other nearby communities, and the rest of the region and would add to the demand for permanent housing."

The DEIR concluded that individual projects identified in the Illustrative Development Scenario would increase the Lab's permanent employment and Lab guest population, but would not induce substantial population growth in the City of Berkeley or elsewhere in the region, either directly or indirectly. For full implementation of the LRDP, the impact would be less than significant (see page IV.J-18).

The DEIR stated, "Generally, the housing demand associated with permanent employment growth under the proposed LRDP would be satisfied by the housing that could be added in Berkeley and other nearby communities. In most communities where LBNL employees live, housing demand associated with increases in LBNL employment under the LRDP would account for less than one percent of the total increase in households projected for those communities. In Berkeley and Albany, Lab employee households would represent 5.7 percent of the increase expected between 2000 and 2025. In Lafayette, Moraga, and Orinda, Lab employee households would represent about 1.6 percent of the expected household increase" (DEIR, page IV.J-16).

Page IV.J-17 states that the employee population growth under the proposed LRDP in conjunction with housing supply constraints, are elements of an overall imbalance between housing supply and demand in the City of Berkeley, which has existed for some time. While these conditions are projected to continue under current land use policies, the new "smart growth" regional projections from the Association of Bay Area Governments assume a loosening of constraints and implementation of local and regional policies and government financing incentives to encourage private investment that, over the long term, would improve the balance of housing supply and demand in Berkeley and other central cities in the region.

The commenter is correct in noting the cumulative impact analysis set forth in the DEIR. The DEIR concluded that the proposed LRDP, in conjunction with the proposed UC Berkeley 2020 LRDP and other projects that could be developed in Berkeley, would induce population growth in the City of Berkeley and the Bay Area, but the contribution of the 2006 LRDP to this impact would not be cumulatively considerable.

The DEIR concluded that many students, faculty, and staff prefer to live in Berkeley close to the Lab's hill site. "Therefore, the employment and enrollment growth associated with the two LRDPs, in conjunction with other projected population growth, would represent substantial cumulative population growth and a concentration of population in the City of Berkeley. The

employee population growth associated with the proposed 2006 LBNL LRDP would contribute to this cumulative impact; however, as discussed further under Impact J.1, increases in population growth associated with the implementation of the LRDP would represent about two percent of the total number of people projected to be living in the Berkeley and Albany in 2025, and less than one percent of total projected population in 2025 in all other places of residence. Housing demand associated with implementation of the LRDP could account for less than one percent of the total increase in households projected for most communities where LBNL employees live. As stated above, in Berkeley and Albany, Lab employee households could represent 5.7 percent of the increase expected between 2000 and 2025, and in Lafayette, Moraga, and Orinda, Lab employee households would represent about 1.6 percent of the expected increase in households. These increases under the LRDP represent a less-than-significant impact under existing conditions, and therefore would not be considered a cumulatively considerable contribution to potential population and housing impacts” (see pages IV.J-20-21). This conclusion is supported by the fact that the potential growth in population under the LRDP would represent a small part of the overall population growth that has already been forecast for Berkeley by ABAG. Moreover, as stated on DEIR page IV.J-21, the City of Berkeley General Plan EIR found that an increase in population in Berkeley “would result in a net benefit both to the city and to the region as a whole,” because it would improve the City’s jobs-housing balance by resulting in more housing growth relative to employment growth than in the recent past.

Concerning housing affordability, in general, changes in housing affordability does not result in physical impacts on the environment that are considered under CEQA. Rather, this is a potential social and/or economic impact. In general, “Economic or social effects of a project shall not be treated as significant effects on the environment” (California CEQA Guidelines, Sec. 15131(a)). However, “Economic or social effects of a project may be used to determine the significance of physical changes caused by the project” (CEQA Guidelines, Sec. 15131(b)). That is, a physical change brought about by a project may be determined to be significant if it results in substantial adverse social or economic changes. No direct physical changes relative to housing would occur with as a result of implementation of the proposed 2006 LRDP. To the extent that the project would result in indirect physical changes, including the construction of more or less housing in Berkeley and other communities, the question to be answered under CEQA is whether these indirect physical changes brought about by the project would result in social or economic effects that would be substantial and adverse, such that the physical changes would be considered significant effects on the environment. As noted above, the DEIR concluded that such changes would not be substantial and adverse, and therefore, the proposed 2006 LRDP would not result in a significant effect with respect to population and housing. It is also noted that it is less likely that housing demand by Berkeley Lab employees, particularly, highly skilled technical staff, would substantially increase the demand for below-market-rate housing in Berkeley or elsewhere, than might be the case for a project that would generate increased employment in lower-wage positions.

**Response C-42**

Under its mutual aid agreements, the Lab's fire station is the primary responder for all of the UC Berkeley Campus and portions of the City of Berkeley. Berkeley Lab responds to between 400 and 500 off-site calls annually (in addition to about 160 calls on-site). In return, the City of Berkeley Fire Station responds to about 20 calls per year at the LBNL site. About half of those calls are for medical emergencies. Most of the other half are secondary fire support responses provided because LBNL's fire engine is out responding to fire emergency calls in the City of Berkeley or on the UC Berkeley campus.

Because new buildings would be generally more fire safe and less hazardous than outdated buildings, and because fire emergencies at LBNL are very rare, projected construction under the LBNL program would not be expected to have a significant impact on the City of Berkeley's secondary emergency fire support to the Lab.

Because medical emergency rates are partly a function of population size, some proportionate increase in medical emergency calls may be assumed. However, with a projected increase of approximately 20-25 percent in population, the proportionate increase in emergency medical calls by the City of Berkeley to the Lab would be approximately two-to-three per year at full buildout.

The Draft EIR clearly articulates that the scope of analysis for the EIR is the LRDP, which itself "sets forth plans and policies that are intended to guide the physical development of the LBNL hill site" (DEIR page I-5). CEQA does not generally require that social or economic effects of a project be analyzed, except to the extent that these social or economic effects may be used to determine the significance of physical effects on the environment (CEQA Guidelines Sec. 15131). Here, no physical effect was identified, and thus social and economic concerns are not evaluated.

**Response C-43**

Please see response to Comment C-42, above, for quantification of mutual aid support and for reasoning behind less than significant impact conclusion. Berkeley Lab appreciates the City of Berkeley's suggestion to require Berkeley Fire Department review and input as part of LBNL's standard development review process. Independently of this proposed project and LRDP EIR, Berkeley Lab is currently exploring with the City of Berkeley ways in which to involve City departments – including the fire department – in the development and design review processes in a way that serves the interests of both LBNL and the City.

As discussed in the Draft EIR and in response to Comment C-42, above, implementation of the Berkeley Lab 2006 LRDP would not "result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives for ... Fire protection" (significance criterion, DEIR page IV.K-15).

For a fire services cumulative impact to be significant, the impacts of the proposed 2006 LRDP, together with the impacts of cumulative development (e.g., SCIP project) must result in a significant impact (as per the significance criteria listed above from DEIR page IV.K-15), *and* the contribution of the LRDP to this impact must be considerable. (DEIR page IV.K-23) Due to the current challenge to the SCIP EIR, it is not clear whether the SCIP conclusion of less than significant impacts to fire services will be upheld. However, it is clear, as demonstrated in response to comment C-42, above; that any Berkeley Lab contribution to a cumulative fire services impact would be a less than considerable contribution, and therefore the cumulative impact would be less than significant.

### **Response C-44**

Comment noted. As stated therein, the Draft EIR is a programmatic document that cannot reliably foresee specific design details that would be developed during the individual design processes for various future projects.

Building 49 is not part of this program and is not considered to be reasonably foreseeable (DEIR page III-17). The “stepped” and partially subterranean basement levels projected to occur in some future projects at the Lab are not novel and are similar to several buildings existing on the main hill site. Lab roadways are graded to be serviceable to all sorts of mainstream vehicles, including heavy trucks, low-powered electrical vehicles, and fire trucks. As mentioned in response to Comment C-43, above, Berkeley Lab is currently exploring with the City of Berkeley ways in which to involve City departments – including the fire department – in the development and design review processes in a way that serves the interests of both LBNL and the City

### **Response C-45**

The commenter’s reference to UC Berkeley’s responses to City comments on the Draft EIR for the SCIP projects cannot be confirmed. To the contrary, the response to Comment 5A-106, in the SCIP FEIR, affirms that EIR’s continued use of the SCIP DEIR’s significance criterion that is based on percent contribution to traffic volumes at an intersection operating at an unacceptable level of service without the addition of project traffic. The 2006 LBNL LRDP EIR uses the same significance criterion as was employed by UC Berkeley in both its SCIP EIR and its 2020 LRDP EIR.

The only study intersection where a less-than-significant impact determination is made on the basis of the five-percent threshold of significance was Bancroft Way/Gayley Road-Piedmont Avenue, where LOS F conditions would prevail in 2025 without traffic from LRDP development. Because the LRDP-generated increase in traffic volumes at this intersection would represent increases of 4.3 percent and 3.4 percent in the a.m. and p.m. peak hours, respectively, the project would not result in a significant impact. (The similar determination for the Channing Way / Piedmont Avenue intersection in the DEIR is no longer applicable because this intersection, which now operates as a roundabout, would operate at an acceptable LOS as a roundabout under all analysis scenarios.) It is common practice to use a percent-increase threshold for LOS F conditions for a far-term analysis year.

**Response C-46**

The Commenter's suggestions for the Transportation Demand Management (TDM) Plan have been received by Berkeley Lab and have influenced the revised TDM Plan included in this Final EIR (see Appendix B). Furthermore, several of the commenter's suggestions will continue to be considered and acted upon as the TDM Plan is further refined, particularly in the next few months. (As stated in the Draft EIR, the TDM is subject to change and continual refinement as conditions change and thinking evolves). LBNL will continue to work closely with the City of Berkeley towards this effort, and will make the updated versions of the TDM Plan available on-line for agency and public review.

**Response C-47**

The paragraph under "LBNL Trip Generation", on page IV.L-6, is revised as follows (new text underlined; deleted text indicated in ~~strikethrough~~):

Traffic entering and leaving the Berkeley Lab hill site was counted at each of the three LBNL gates on Thursday, October 29, 2003. The counts indicated that daily vehicle trip generation is approximately 5,700 (split roughly evenly between inbound and outbound traffic), with about 61 percent using the Blackberry Canyon gate, 21 percent using the Grizzly Peak gate, and 18 percent using the Strawberry Canyon gate. During the morning peak hour, approximately 610 vehicle trips were made to and from the site, 540 of which were inbound (the peak direction). In the afternoon peak hour, 660 vehicle trips were made to and from the site, 585 of which were outbound (the peak direction). Use of the three gates during the morning and afternoon peak hours is relative similar to the above-stated pattern.

**Response C-48**

As the commenter notes, the information sought by the commenter (intersection turning movement volumes) is provided as part of the DEIR (in Appendix I), and is readily available to interested parties from the LBNL web site's page for the Long Range Development Plan (as well as in hard-copy from the Berkeley Lab). The DEIR's disclosure of relevant information in support of the impact analysis is therefore sufficient.

**Response C-49**

The commenter's assertion about improved traffic flow conditions at the intersection of Channing Way / Piedmont Avenue as a roundabout is acknowledged. Using techniques shown in the Federal Highway Administration (FHWA) publication "Roundabouts: An Informational Guide" and the TRAFFIX software, re-analysis of levels of service for all scenarios in the DEIR results in conditions no worse than LOS B (see revised the revised LOS tables in Chapter II of this document).

**Response C-50**

Table IV.L-3, DEIR page IV.L-12, is replaced by a revised version (see Chapter II of this document) to add the traffic control at each study intersection. The DEIR presents LOS and delay values under the various analysis scenarios in support of impact determinations. The *2000 Highway Capacity Manual* indicates that delay greater than 50 seconds for unsignalized intersections and 80 seconds for signalized intersections is LOS F, and the DEIR presents delay values to the tenth of a second unless the calculated delay is greater than the above-cited thresholds. It was the judgment of LBNL staff and the EIR consultants that presentation of high delay values in the text of the DEIR does not further an understanding of traffic conditions. However, in order to facilitate the commenter's understanding of the LOS tables, with one exception, actual calculated delay values are presented in the revised LOS tables in Chapter II of this document). The ">50" for the study intersection of Bancroft Way at Gayley Road / Piedmont Avenue has been replaced by a footnote reference because, as described in table footnote "b", the LOS F condition was derived on the basis of field-observed, not calculated or field-measured delay.

**Response C-51**

See the response to Comment C-50 regarding presentation of calculated delay values higher than the thresholds for LOS F conditions, and the revised LOS tables in Chapter II of this document.

**Response C-52**

See Response C-48 regarding presentation of intersection turning movement volumes.

**Response C-53**

See Response C-50 regarding presentation of calculated delay values higher than the thresholds for LOS F conditions, and the revised LOS tables in Chapter II of this document. See Response C-57 regarding improved traffic flow conditions at the intersection of Channing Way / Piedmont Avenue as a roundabout.

The paragraphs under "Affected Intersections", on page IV.L-28, are revised as follows (new text underlined; deleted text indicated in ~~strikethrough~~):

With implementation of the 2006 LRDP, significant deterioration in LOS would occur at three intersections:

- Hearst Avenue at Gayley Road/La Loma Avenue (#6; signalized) would be at LOS E during both peak hours without the LRDP; the LRDP would cause the p.m. peak-hour service level to degrade to LOS F, and would increase traffic by more than 5 percent (i.e., 6.7% [a.m.] and 6.4% [p.m.]) during both peak hours.

- Gayley Road at Stadium Rim Way (#7; all-way-stop-controlled) would be at LOS F during both peak hours without and with the LRDP; the LRDP would increase traffic by more than 5 percent (i.e., 6.2% [a.m.] and 5.1% [p.m.]) during both peak hours.<sup>10</sup>
- Durant Avenue at Piedmont Avenue (#8; all-way-stop-controlled) would be at LOS E and LOS D during the a.m. and p.m. peak hours, respectively, without the LRDP; the LRDP would cause the peak-hour LOS to degrade one service level, to LOS F in the a.m. peak hour and to LOS E in the p.m. peak hour.

The intersections of ~~Channing Way/Piedmont Avenue (#17; two-way stop)~~ and Bancroft Way/Gayley Road-Piedmont Avenue (#20; all-way stop) would be at ~~LOS E or~~ LOS F in 2025 in both the morning and afternoon peak hours without traffic from LRDP development. Because the LRDP-generated increase in traffic volumes would be less than the significance threshold of a 5-percent increase (i.e., 4.3% and 3.4% in the a.m. and p.m. peak hours, respectively) at ~~these~~ this intersections, the project would not result in a significant impact.

### **Response C-54**

See Response C-50 regarding presentation of calculated delay values higher than the thresholds for LOS F conditions, and the revised LOS tables in Chapter II of this document.

### **Response C-55**

Gayley Road / Stadium Rim Way. As stated in Footnote 10, page IV.L-28, the EIR for the Southeast Campus Integrated Projects (SCIP), published by UC Berkeley in October 2006, identifies installation of a traffic signal as mitigation for a significant impact due to the Integrated Projects analyzed in that EIR. The footnote goes on to say that, for purposes of a conservative analysis of potential impacts associated with the LBNL LRDP, it was not presumed that the SCIP will be approved and implemented (i.e., not relying on the fact the traffic signal mitigation measure would be implemented should the SCIP be implemented, thus avoiding the significant impact at this intersection due to the LBNL 2006 LRDP). The text of Footnote 10 could have been repeated as part of the presentation of Mitigation Measure TRANS-1a on page IV.L-28, but the fact that it wasn't doesn't mean that the DEIR does not reflect the existence of the SCIP mitigation for this intersection.

Hearst Avenue at Gayley Road / La Loma Avenue. The requirement to thoroughly explore the feasibility of measures to mitigate significant impacts is acknowledged, and as described on page IV.L-32, the Lab did that. As stated on that page, physical geometric limitations constrain improvements within its current right-of-way, with all four intersection corners occupied by

<sup>10</sup> The EIR for the Southeast Campus Integrated Projects (SCIP), published by UC Berkeley in October 2006 (UC Berkeley, 2006), identifies a significant impact due to the Integrated Projects analyzed in that EIR, and identifies installation of a traffic signal as mitigation for that impact. Because this mitigation measure would be implemented prior to construction of the Maxwell Family Field parking structure (one of the Integrated Projects) should the SCIP be implemented, this would avoid the significant impact at this intersection due to the LBNL 2006 LRDP. However, this EIR identifies the significant impact because, for purposes of a conservative analysis, it is not presumed that the SCIP will be approved and implemented.

existing UC Berkeley facilities. Analyses of possible improvements (e.g., reconfiguring the eastbound Hearst Avenue, and/or the northbound Gayley Road, approach(es) to provide separate turn lane(s) that meet standards for lane widths) indicate that little can be done to mitigate future LOS conditions to acceptable levels without acquiring additional right-of-way or prohibiting certain turning movements. Although it might be possible to lengthen the existing very short dedicated right-turn lanes, or to create a short northbound left-turn lane (as suggested by the commenter), the aforementioned physical constraints would limit the length of such lanes, and as such, the turn lane(s) would not result in appreciable improvement in intersection operations. For example, the peak-hour demand for a northbound left-turn lane would require at least a 225-foot storage length (on average), and the 80-foot-long suggested by the commenter would result in continued impedence (delays) to through traffic on that approach. Mitigation that would modify signal phasing/timing also was examined, and was found to not improve future LOS conditions to acceptable levels.

The DEIR used conservative assumptions for its analysis of intersection LOS so as to not underestimate potential project impacts. For example, even though the approach widths at this intersection allow drivers to maneuver past other vehicles as they near the intersection, the absence of pavement striping to delineate separate lanes dictated that the DEIR analysis conservative assume all vehicle movements on each approach are made on a single lane. Similarly, without the certainty that standard lane widths (and adequate storage lengths), alluded to above, could be provided, possible improvement measures were not relied on to judge that significant impacts would be mitigated to less-than-significant levels. The Lab stands by the conclusion of the DEIR that, after examining possible mitigation measures and judging their success with a conservative standard, there is no feasible mitigation available that would improve future LOS conditions to acceptable levels (i.e., the significant impact at this intersection is unavoidable). However, as a result of continuing consultation with the City on this issue, the Lab has committed to fund and conduct a further study to re-evaluate whether there may be feasible mitigation (with design standards acceptable to the City) at this intersection. Examples of possible mitigation that would be studied include the following:

- Determine locations of right-of-way lines for the four intersection approaches, and examine feasibility of acquiring additional right-of-way without causing secondary significant impacts.
- Eastbound Approach – shift the double-yellow centerline on Hearst Avenue (west leg) to the north to achieve sufficient eastbound width to stripe a separate right-turn lane and shared left-turn/through lane; achieve a greater length of right-turn lane by prohibiting on-street motorcycle parking on the north side of Hearst Avenue farther away from the intersection.
- Optimize traffic signal timing at this intersection, and how signal timing here would relate to the new traffic signal proposed for the Gayley Road / Stadium Rim Way intersection.

That additional study will be conducted by the Lab as part of the TDM program set forth below as Mitigation Measure TRANS-1c. If such mitigation is determined by Berkeley Lab to be feasible, then Berkeley Lab shall contribute funding on a fair share basis, to be determined in consultation with UC Berkeley and the City of Berkeley, for the installation of the improvements.

Durant Avenue / Piedmont Avenue. As stated at the top of page IV.L-32, with the implementation of this mitigation measure (install a traffic signal), the Durant Avenue / Piedmont Avenue intersection would operate at an acceptable level of service (LOS B or better) during both the a.m. and p.m. peak hours. The LOS calculation sheets documenting that improvement, which was inadvertently omitted from Appendix I of the DEIR, is presented herein (see Chapter II of this document).

Concerning the historic character of Piedmont Avenue and potential effects of installing a traffic signal, it is unlikely that such a change could be deemed a substantial alteration such that the physical characteristics of the Piedmont Avenue that convey its historic character would be materially altered, and that could therefore be judged a significant impact under CEQA. Piedmont Avenue today has many characteristics that are not historically part of the street, including existing stop signs and bollards and chains along the median. Thus, addition of traffic signals to Piedmont Avenue would constitute a significant impact on historic resources.

Bancroft Avenue / Piedmont Avenue. See response to Comment C-37 regarding the threshold of significance used for the DEIR, and response to Comment C-45 regarding the percent increase in traffic volumes (less than the five-percent threshold of significance) attributable to the LRDP.

### ***Response C-56***

Berkeley Lab agrees that the City of Berkeley, UC Berkeley, and Berkeley Lab should work together to develop a methodology for reducing impacts associated with development under each of these entities' jurisdictions. Regarding existing facilities, under CEQA, a lead agency is required to assess the impacts of a proposed project through comparing the effect of the project to existing, i.e. baseline, conditions. CEQA requires a lead agency to reduce a proposed project's significant environmental impacts (or contribution to significant cumulative environmental impacts) to less than significant levels if feasible, through implementation of appropriate mitigation measures.

### ***Response C-57***

See Response C-55 regarding treatment of mitigation measures for the intersections of Hearst Avenue at Gayley Road / La Loma Avenue, and Gayley Road / Stadium Rim Way.

### ***Response C-58***

Best Practice TRANS-6a on DEIR p. IV.L.39 is revised as follows to include LBNL's commitment to work with the City of Berkeley and, where necessary, UC Berkeley, to minimize construction-related traffic impacts (new text is underlined):

Early in construction period planning, LBNL shall meet with the contractor for each construction project to describe and establish best practices for reducing construction period impacts on circulation and parking in the vicinity of the project site. The Lab will work with the City of Berkeley Transportation and Public Works Departments to review the truck routes and the Construction Traffic Management Plans, as appropriate. Where construction traffic could interact with traffic from construction traffic from UC Berkeley, UC Berkeley staff would be invited to participate in these discussions between LBNL and the City.

### ***Response C-59***

If the draft LRDP is approved and implemented, LBNL would request that the City identify truck routes for all major construction activities. LBNL would direct contractors to use designated truck routes that are identified in consultation with the City of Berkeley.

### ***Response C-60***

As part of LBNL's Transportation Demand Management (TDM) Plan, LBNL would agree to participate in the monitoring and analyses of the Hearst/Gayley and Gayley at Stadium Rim Way intersections.

### ***Response C-61***

The City of Berkeley is correct that the TDM Plan does not specifically mention satellite locations at which LBNL employees work, in addition to those at the main hill site. The DEIR states that the total amount of offsite leased space under the LRDP is not anticipated to change substantially, and analyzes a project variant in which Berkeley Lab would consolidate personnel on the main hill site and therefore the total amount of off-site leased space would be reduced. The DEIR analyzes impacts associated with implementation of the LRDP such as traffic impacts associated with development at Berkeley Lab's main hill site and is required to include measures such as the TDM Plan to reduce the effects of significant impacts. The TDM plan does not address off-site leased spaces because under the proposed LRDP no substantial increases from baseline conditions are anticipated, and therefore no significant traffic impacts are anticipated, for offsite leased spaces.

It would be inappropriate to include parking cash-out law measures in the TDM plan because such measures do not address employer-owned parking spaces, such as those at LBNL's main hill site.

### ***Response C-62***

The Lab's TDM Program has been updated to include coordinating construction truck activities with UC Berkeley construction projects (see Appendix B of this Comments and Responses document).

**Response C-63**

Wastewater distribution improvements would be coordinated with UCB and costs would be shared between UCB and LBNL as appropriate. Optional selection criteria include environmental impacts, cost, existing reserve capacities and growth flexibility. Any subsequent wastewater system improvements would be evaluated under CEQA to identify physical environmental effects and, if applicable, identify mitigation measures. As described in Draft EIR pages IV.M-20 – IV.M-21, these improvements would be planned and timed so as to accommodate “additional wastewater flows” that would otherwise be routed into constrained portions of sub-basin 17-503. Appropriate environmental review would be conducted as such proposals are developed.

**Response C-64**

As mentioned previously, LBNL encourages meetings with UC Berkeley and the City of Berkeley on hydrologic issues of common interest. Furthermore, Berkeley Lab will consult with the City on planned storm system improvements that may be of interest to the City’s Creeks Task Force.

**Response C-65**

The comment makes reference to a policy statement in the Berkeley General Plan, which is cited on page IV.M-11 of the DEIR:

Policy EM-23 Water Quality in Creeks and San Francisco Bay, Action E): “Ensure that new development pays its fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.”

As stated in the DEIR, notwithstanding the fact that LBNL generally is not subject to local plans and policies, the Lab seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible. Regardless of the applicability of the Plan, consistency or the lack thereof with a single policy “action” does not, in itself, result in any physical environmental impact that would require analysis under CEQA. Nevertheless, as stated on DEIR pages IV.M-20 – 21, Berkeley Lab is investigating, along with UC Berkeley and the City of Berkeley, alternative potential improvements to address the Lab’s contribution to wastewater collection capacity issues in connection with the City of Berkeley’s sub-basin 17-503, and LBNL intends to proceed with one of three options under consideration and move forward with the improvement independent of the new LRDP. Mitigation Measure UTILS-2, DEIR page IV.M-21, states, “LBNL shall implement programs to ensure that additional wastewater flows from the Lab are directed into unconstrained sub-basins.... Final design and implementation of these improvements shall be negotiated between the appropriate parties and shall undergo appropriate environmental review and approval. LBNL shall closely coordinate the planning, approval, and implementation of this mitigation with the City of Berkeley and the UC Berkeley, as appropriate.”

**Response C-66**

The comment concerning the applicability of National Pollutant Discharge Elimination System (NPDES) permits is noted. As described on DEIR page IV.G-13 and noted by the commenter, LBNL is subject to a different NPDES permit for stormwater than is the City of Berkeley. The DEIR did not identify a significant impact with respect to the potential increase in stormwater runoff from the Lab's hill site as a result of implementation of the proposed 2006 LRDP. Therefore, no mitigation is required.

Nevertheless, as described in the revised EIR Hydrology section (presented in its entirety in Appendix A of this document), Berkeley Lab, has agreed to coordinate stormwater management efforts for the Strawberry Creek watershed with UC Berkeley. Therefore, and in anticipation of regulatory changes in the State Water Resources Control Board's permitting program, LBNL's enhanced stormwater management program reflects UC Berkeley's Continuing Best Practices, as cited in the UC Berkeley 2020 LRDP EIR. These expanded Berkeley Lab practices include: verify compliance with all applicable requirements and Best Management Practices (BMPs) during design of individual projects; implementation of an urban runoff management program containing the BMPs included in the Strawberry Creek Management Plan; design of landscaped areas of development sites to absorb runoff from rooftops and walkways where feasible and the use of open or porous paving systems wherever feasible, to minimize impervious surfaces and absorb runoff; ongoing storm drain system maintenance; limiting new development's encroachment on creek channels and riparian zones; management of runoff into storm drain systems such that the aggregate effect of projects implementing the LRDP is to approximate pre-project runoff volumes; and preparation of a hydrologic modification analysis for any subsequently proposed development project with the potential to alter drainage patterns.

**Response C-67**

Pages IV.M-4 and IV.M-6 of the DEIR have been revised accordingly (the changes do not affect the conclusions of the DEIR.) On page IV.M-4, the last sentence of the third full paragraph is revised as follows (new text underlined):

The City of Berkeley's sewer system transports the effluent from both monitoring stations to EBMUD's north interceptor sewer and the EBMUD Adeline Interceptor originating at Woolsey St/Adeline St in Berkeley and then to the treatment facility in Oakland.

On page IV.M-6, the third sentence under the heading "Sewer System Conditions and Upgrade" is revised as follows (new text underlined; deleted text indicated in ~~striketrough~~):

The City of Berkeley's infiltration/inflow correction program was initiated in 1987 and includes rehabilitation or replacement of 50 percent of the City's existing system over 30 years, as well as installation of 12 miles of new sewer lines to accommodate overflow conditions by the year ~~2007~~ 2017.

On page IV.M-6, the fourth sentence under the heading “Sewer System Conditions and Upgrade” is revised as follows (new text underlined; deleted text indicated in ~~strikethrough~~):

A ~~22-mile~~ 3-mile interceptor line along Adeline Street, completed in 1992, now conveys wet weather flow to EBMUD’s storage and treatment facilities.

### **Response C-68**

The Draft EIR relied upon the UCB LRDP EIR, the SCIP projects, and the City of Berkeley General Plan in its cumulative analysis. Both the UCB LRDP EIR and the LBNL LRDP EIR are programmatic documents. As program-level EIRs, these documents evaluate the effects of implementation of their entire respective LRDPs. Moreover, in Section VI.C, page VI-3, the DEIR presents extensive documentation concerning projects accounted for in the assumptions underlying the DEIR’s cumulative analysis.

Additional future LBNL projects proposed for implementation under the 2006 LRDP would be evaluated to determine whether the LRDP EIR has fully analyzed the project impacts, or whether additional CEQA review is necessary. Any proposal for future development at LBNL must be approved by the LBNL Director, by the President of the University of California, or The Regents, as appropriate, and be in compliance with CEQA.

As for mitigation of cumulative impacts, the DEIR identifies only three cumulative impacts for which mitigation was deemed infeasible: the proposed LRDP’s contribution to regional toxic air contaminant (TAC) emissions, for which the lifetime cancer risk would remain in excess of 10 in one million—due almost entirely to existing and future TAC concentrations from sources other than LBNL; cumulative effects related to construction noise—a conservative finding, in that it cannot be stated with certainty that there would not be instances during the lifetime of the 2006 LRDP when construction noise emanating from a location on the Lab hill site would contribute to cumulative construction noise impacts; and cumulative effects on traffic at local intersections—deemed significant and unavoidable (please see response to Comment C-55 regarding mitigation measures for the intersections of Hearst Avenue at Gayley Road / La Loma Avenue, and Gayley Road / Stadium Rim Way). All other cumulative effects of the proposed LRDP were found to be less than significant or mitigated to a less-than-significant level.

### **Response C-69**

While the Off-Site Alternative would generally result in lesser impacts on the LBNL main hill site than would the proposed 2006 LRDP, it would not avoid the project’s significant and unavoidable impacts on cultural resources, visual quality, noise, and air quality (page II.18). The Off-Site Alternative would result in new development at the Richmond Field Station (RFS) to accommodate a portion of the Lab’s projected growth. Aesthetic impacts at the RFS site would not be expected to be significant. For purposes of conservative analysis, the EIR concluded that the proposed LRDP, would potentially have a substantial adverse effect on scenic vistas, and might be found by some observers to substantially damage scenic resources. Because the Off-Site

Alternative would still develop more than half of the Lab's new space at the main hill site, visual impacts would remain significant and unavoidable with implementation of this alternative.

Compared to the proposed project, the Off-Site Alternative would result in similar construction air quality impacts. Less development at the hill site would result in proportionately lower local air quality impacts than the 2006 LRDP. However, as with the project, this alternative would result in a cumulatively significant impact with regard to toxic air contaminant emissions.

Cultural resource impacts of the Off-Site Alternative would be similar to those of the proposed project, resulting in a significant and unavoidable impact at the hill site due to the loss of historical resources. Significant and unavoidable impacts related to demolition and construction activities that could affect as-yet unidentified historical resources, and the demolition of the Bevatron, would remain under this alternative.

The DEIR concluded that geology and soils impacts at the hill site under the Off-Site Alternative would generally be the same as described for the proposed project, however, there would be a reduction in exposure to geologic and seismic hazards.

Hazards and hazardous materials impacts at the hill site under the Off-Site Alternative would also generally be the same as described for the proposed project, although impacts associated with hazards and hazardous materials would be incrementally less, because of less development at the hill site. However, the RFS site has a history of soil and groundwater contamination and any residual contamination would be required to be remediated in compliance with applicable regulatory standards prior to implementation of the Off-Site Alternative.

Construction noise impacts and the increase in the ambient noise level at the hill site under the Off-Site Alternative would be incrementally less than the proposed project. The decrease in noise impacts would result from less construction and demolition activity, as well as a smaller overall development program at the hill site. Mitigation measures adopted as part of the proposed project would apply to this alternative and would reduce the severity of these impacts, but likely not to a less-than-significant level, and construction noise would remain significant and unavoidable, as with the project.

Similar to the proposed project, the Off-Site Alternative would require installation of traffic signals at two intersections (Gayley Road/Stadium Rim Way and Durant Avenue/Piedmont Avenue) to mitigate significant impacts, and mitigation measures identified for the project (installation of traffic signals) would be required to reduce these impacts to less-than-significant levels. Also as with the project, because LBNL could not implement these measures on its own, the impact at these intersections would be considered significant and unavoidable (see pages 39-43).

### **Response C-70**

Adequate analysis for the Off-Site Alternative was conducted in compliance with CEQA. For further discussion of the impacts under the Off-Site Alternative, please see Response C-56.

**Insert**

**Berkeley Alliance of Neighborhood Associations (BANA)**

**March 23, 2007 (Comment Letter D)**

**Page 1 of 2**

**Insert**

**Berkeley Alliance of Neighborhood Associations (BANA)**

**March 23, 2007 (Comment Letter D)**

**Page 2 of 2**

## **Berkeley Alliance of Neighborhood Associations (BANA), March 23, 2007 (Comment Letter D)**

### ***Response D-1***

Comment noted. The DEIR fully analyzed all of the issues raised by the commenter in regard to traffic.

### ***Response D-2***

Each topic addressed in the comment was fully analyzed in the DEIR, as well as the cumulative impacts under each topic area. Areas where cumulative impacts were determined to be significant and unavoidable include Air Quality, Noise, and Traffic. These impacts were addressed and Mitigation Measures were identified for each. However, while the mitigation measures would reduce the identified impacts, they would not reduce the impacts to a less-than-significant level.

Cumulative Impact AQ-6 states that even though cumulative emissions of toxic air contaminants would decrease, implementation of the LBNL 2006 LRDP, in combination with other potential contributing projects, would contribute to cumulative emissions of toxic air contaminants that result in an excess cancer risk that exceeds, and would continue to exceed, 10 in one million.

Cumulative Impact NOISE-5 found that development under the proposed LRDP would result in temporary contributions to cumulative noise impacts related to construction and demolition activities.

Cumulative Impact TRANS-8 determined that development pursuant to the 2006 LRDP, when combined with development under the UC Berkeley LRDP as well as surrounding development in Berkeley and nearby communities that could affect the study intersections, would contribute to a degradation of level of service at local intersections.

Based on the above, these cumulative impacts were found to be significant and unavoidable. The DEIR evaluates a number of alternatives to the proposed project in Chapter V, Alternatives. As stated in that chapter, the above-noted cumulative impacts related to air quality and noise would remain significant and unavoidable even with implementation of the No Project Alternative, because the contribution to cumulative air toxics impacts from continued operation of Berkeley Lab (even without implementation of the 2006 LRDP) would remain significant and unavoidable, and because future redevelopment on the hill site pursuant to the existing 1987 LRDP EIR, as amended, would result in temporary contributions to cumulative noise impacts related to construction and demolition activities. The No Project Alternative would avoid the project's contribution to significant traffic impacts because the No Project Alternative would not include the increases in on-site parking that are part of the proposed project.

**Insert**

**Berkeley Architectural Heritage Association**

**March 23, 2007 (Comment Letter E)**

**Page 1 of 4**

**Insert**

**Berkeley Architectural Heritage Association**

**March 23, 2007 (Comment Letter E)**

**Page 2 of 4**

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**Berkeley Architectural Heritage Association**

**March 23, 2007 (Comment Letter E)**

**Page 3 of 4**

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**Berkeley Architectural Heritage Association**

**March 23, 2007 (Comment Letter E)**

**Page 4 of 4**

## **Berkeley Architectural Heritage Association, March 23, 2007 (Comment Letter E)**

### ***Response E-1***

As stated in Chapter I, Introduction, page I-11, the 2006 LRDP is a land use plan that guides the physical development of the LBNL main site. The LRDP is not an implementation plan, and adoption of the LRDP does not constitute a commitment to any specific project, construction schedule, or funding priority. Rather, it describes the entire development program including construction of approximately 660,000 net new occupiable gsf for the site through 2025. The 2006 LRDP EIR is a program-level EIR that evaluates the effects of implementation of the entire LRDP. The DEIR provides a summary of available information on reasonably foreseeable future projects under the 2006 LRDP EIR, including the Computational Research and Theory (CRT) Building and the Helios Research Facility (see DEIR page III-19 and Appendix D), as well as information on two buildings proposed for implementation under the current LRDP EIR, as amended, the User Support Building and the Guest House (the respective environmental documents for which were issued for public review from November 6 through December 8, 2006, and from May 1 to May 31, 2007, respectively). The DEIR's impact analysis included impacts from these reasonably foreseeable projects based on available information about them, in accordance with CEQA.

Additional future LBNL projects proposed for implementation under the 2006 LRDP, including CRT and Helios, would be evaluated to determine whether the LRDP EIR has fully analyzed the project impacts, or whether additional CEQA review is necessary.

### ***Response E-2***

The DEIR included an Illustrative Development Scenario, which is a conceptual portrayal of potential development under the LRDP that would be consistent with the 2006 LRDP goals and objectives, the 2006 LRDP Land Use Map, the LBNL Design Guidelines, and the LRDP's proposed development uses and square footages (see DEIR page III-36).

The Illustrative Development Scenario was intended to serve as a conservative basis for the analysis of environmental impacts. The actual locations of buildings, configurations, uses, and the like may vary as specific projects are considered for approval in the future. The Illustrative Development Scenario is not intended to be a precise representation of the actual development program that would take place over the 20-year planning horizon of the 2006 LRDP, as the Laboratory's needs and opportunities will change over time, at any given site.<sup>12</sup>

Concerning the UC Berkeley Botanical Garden, located across Centennial Drive from the southeast corner of LBNL, any new construction associated with the proposed LRDP would occur on LBNL property and would have no direct or indirect effects on the use and enjoyment of the Botanical garden. In addition, any new development associated with the proposed project

<sup>12</sup> It is not possible to forecast accurately the complex series of development opportunities and decisions, including future building locations, sizes, configurations, uses, construction schedules, etc., that would comprise full development of the LRDP program.

would be over 100 feet away and separated by the width of Centennial Drive from the main portion of the Botanical Garden, in particular.

The Mather Redwood Grove is tucked into a curve of Centennial Drive, across Centennial Drive from the main portion of the Botanical Garden and immediately adjacent to Berkeley Lab boundaries. The grove is available for individuals to visit and also contains an amphitheater that is available for rental for group events. Although the amphitheater is generally shielded by the grove of redwood trees from the LBNL site, the potential exists that construction activities in the Lab's East Canyon area could result in intermittent and temporary annoyance to users of the Mather Redwood Grove due to noise from construction and demolition activities. (As stated in DEIR Section IV.I, Noise, construction noise effects would be significant and unavoidable, albeit temporary. Mitigation measures were identified in the DEIR to reduce the severity of this impact; however, the impact could not be fully mitigated in all cases. As stated on DEIR page IV.I-17, "Although in most instances, it can reasonably be anticipated that construction noise impacts on off-site receptors would be reduced to a less-than-significant level through implementation of the above mitigation measures, there may be individual construction and/or demolition projects undertaken during the life of the 2006 LRDP that result in noise impacts that could not be fully mitigated."

In terms of indirect effects on the Botanical Garden, as noted in the response to Comment C-8, the DEIR identified a significant, unavoidable effect on aesthetics and visual quality because the project "could alter views of the LBNL site, and could result in a substantial adverse effect to a scenic vista or substantially damage scenic resources" (Impact VIS-2) and "would alter the existing visual character of the Lab site and could substantially degrade the existing visual character and quality of the site and its surroundings" (Impact VIS-3). Depending on the ultimate placement and design of proposed new structures at LBNL, this effect could be experienced by visitors to the Botanical Garden, as is illustrated in the visual simulation depicted in DEIR Figure IV.A-7, page IV.A-23.

It is noted that the visual simulations are not intended to depict actual proposed building designs: as stated on DEIR page IV.A-13, "The simulations are based on buildings identified in the Illustrative Development Scenario, which is a conceptual portrayal of potential development that could occur at particular locations under the 2006 LRDP. This scenario is not a definitive representation of buildout under the LRDP." Moreover, all individual projects proposed subsequent to adoption of the LRDP would undergo their own environmental review. As is noted in the DEIR (page IV.A-8), "Before approving any later activity under the LRDP as being within the scope of the project covered by this program EIR, the Lab will evaluate whether the aesthetic impacts of that later activity implemented pursuant to the LRDP were examined in the program EIR." This statement would apply to the proposed Helios project, under consideration for an East Canyon location in proximity to the Botanical Garden.

### **Response E-3**

The commenter is addressing the suitability of developing the project in a different location. As stated on page II-18 of the DEIR, while the Off-Site Alternative would generally result in lesser

impacts on the LBNL main hill site than would the proposed 2006 LRDP, it would not avoid the project's significant and unavoidable impacts on cultural resources (demolition of the Building 51 complex and the Bevatron and other potential resources), visual quality (changes in views and visual character), noise (project-specific and cumulative construction noise impacts), and air quality (significant unavoidable cumulative impact related to emissions of toxic air contaminants).

The Off-Site alternative would avoid the project's significant traffic impact at the Hearst-Gayley/La Loma intersection, but would have project-specific and cumulative significant and unavoidable impacts at other local intersections, in a manner similar to the project.

As stated on DEIR page V-38, the Richmond Field Station (RFS), which is University-owned property in Richmond used for research purposes, "occupies approximately 162 acres on the shore of San Francisco Bay, about six miles to the northwest of the LBNL main site. The RFS site consists of approximately 90 acres of upland, industrially zoned land that is used primarily for research and development, and 72 acres of marsh and tidal mudflat. The site is in a historically industrialized zone." Existing soil and groundwater contamination at the Lab's main hill site in Berkeley and Oakland is discussed extensively in DEIR Section IV.F, Hazards and Hazardous Materials.

Page V-41 notes that the "RFS site has a history of soil and groundwater contamination." UC Berkeley is working with the California Regional Water Quality Control Board to implement a cleanup and restoration plan for contaminated areas of RFS and an adjacent marsh, including from industrial activities that took place prior to UC ownership of the site polluted parts of RFA and the marsh. Additional information can be found on UC Berkeley's Richmond Field Station website, at: [http://www.cp.berkeley.edu/RFS\\_MarshRR.html](http://www.cp.berkeley.edu/RFS_MarshRR.html).

The comment regarding the appropriateness of Berkeley Lab's objective to "limit" its activities to the main hill site concerns the proposed LRDP itself, and does not address the environmental review of the proposed LRDP. For information, it is noted that the third bulleted project objective on DEIR page III-20, is "Provide flexibility to return staff from its off-site facilities leased in Berkeley and Oakland to the main site *in order to enhance collaboration, productivity, and efficiency*" (emphasis added).

The comment concerning providing leadership regarding environmental solutions is noted, but does not address the environmental review of the proposed LRDP.

#### **Response E-4**

Please see the response to Comment C-21.

**Insert**

**Committee to Minimize Toxic Waste**

**March 22, 2007 (Comment Letter F)**

**(28 pages)**

## **Pamela Sihvola, Committee to Minimize Toxic Waste, March 22, 2007 (Comment Letter F)**

### ***Response F-1***

The commenter expresses support for relocation of LBNL facilities to a location away from the Lab's main hill site, such as the Richmond Field Station (RFS). The DEIR analyzes an Off-Site Alternative under which a portion of the growth proposed under the 2006 LRDP would, in fact, occur at the RFS (see DEIR page V-38).

Concerning the commenter's statement regarding a "Nuclear-Nanotech Industrial Complex," LBNL is not classified as a "nuclear" facility under Department of Energy definitions.

### ***Response F-2***

Geological and seismic conditions on the Lab's hill site are discussed in Section IV.E, Geology and Soils; site contamination is discussed in Section F, Hazards and Hazardous Materials.

### ***Response F-3***

Per the Illustrative Development Scenario of June 2005, which provides a conservative (given the reduction in the scope of the project) scenario for analysis in the Draft EIR, net new impervious area for buildings would be a maximum of 5.1 acres, net new impervious area for parking would be a maximum of 2.2 acres, and net new impervious for roads would be a maximum of 2.7 acres, for a total of 10.0 acres. While many outdated buildings are identified for potential demolition in the Illustrative Development Scenario, each of these subsequent individual projects would undergo appropriate environment and health and safety review, including for historic and health and safety issues, at the time when demolition were proposed. In the case of the Bevatron and Building 51, an environmental impact report was prepared and publicly circulated that analyzed such issues. Building 10, which is being demolished to accommodate the User Support Building, was analyzed in a mitigated negative declaration for that project. (Building 10 was found to be not eligible for listing on the National Register by the State Historic Preservation Office and the Department of Energy.)

Concerning exposure to hazardous materials from demolition activities, Impact HAZ-1, DEIR page IV.F-23, states, "Compliance with laws, regulations, policies, and procedures described in this chapter, coupled with continuation of the Lab's current management practices, would ensure that exposure of workers and the public resulting from the demolition and renovation of LBNL buildings would result in less-than-significant impacts." Berkeley Lab's policies and procedures, detailed in the discussion under Impact HAZ-1, include, "a survey and/or review of existing data is conducted to determine whether hazardous substances or radioactivity, whether in the building or the subsurface, may be encountered," and appropriate remediation, if applicable. The Lab has "detailed project specifications that are required of all subcontractors performing various activities, including demolition," with specific protocols established for work in radiation areas, such as a "Radiation Work Permit." As a result, effects related to building demolition were deemed less than significant.

**Response F-4**

Please see the response to Comment C-23 concerning earthquake faults. Please see also the response to Comment F-17, below.

**Response F-5**

Figure IV.E-3 does show all of the known landslides areas within the LBNL boundary. In addition, the Draft EIR discusses an historic slide that was recently discovered but which is still the subject of on-going study (p. IV.E-7). Emergency ingress and egress to the Hazardous Waste Handling Facility was not blocked due to a 2006-2007 landslide on Centennial Drive.

**Response F-6**

DEIR Figure IV.F-1 shows areas of chemical (volatile organic compounds) and radioactive (tritium) contamination at the Lab's main hill site. Recent observations by LBNL show that the concentrations and the extent of tritium contamination have been decreasing and will continue to decrease as a result of natural processes. The potential presence of contaminated soil would be considered as part of the planning process, after more definitive plans are reached for building development. When specific projects are planned, soil sampling and appropriate control measures would be considered to ensure that human health and the environment are protected.

**Response F-7**

The Molecular Foundry is a completed project, for which adequate CEQA and National Environmental Policy Act (NEPA) review was undertaken. An Initial Study/Mitigated Negative Declaration, which was tiered from the 1987 LRDP EIR, as amended, fully analyzed potential environmental impacts of the Molecular Foundry project and was circulated for public review between December 10, 2002, and February 5, 2003, prior to approval of the Foundry project in 2003. The Initial Study/Mitigated Negative Declaration included applicable mitigation measures from the 1987 LRDP EIR, as amended, along with project specific mitigation measures. The building was completed in 2006 and is now operational.

The commenter expresses concern about the Molecular Foundry's "health and environmental effects of nanoparticle emissions (including nanoscale bacteria and viruses)."

Bacteria and viruses, which in their elementary state are generally nano-scale in size, have historically been studied and researched at Berkeley Lab in appropriately controlled conditions and pursuant to all applicable environmental, health, and safety laws and protocols. Such research would be expected to continue and increase at Berkeley Lab, with or without implementation of the 2006 LRDP. Accordingly, biological research of this nature would continue to be conducted safely and under tightly controlled conditions, and no uncontrolled releases of such organisms would be expected to occur.

Nano-scale research (and the use of laboratory chemicals) at the Molecular Foundry was discussed in the Molecular Foundry Mitigated Negative Declaration and Environmental Assessment. The Foundry would not be a large-scale manufacturer of nanoparticles, but rather

would work only with very small quantities necessary for analyzing the behavior and interactions of such particles – sometimes at the individual particle level. Moreover, these limited quantities of nanoparticles would be used in highly controlled environments – negative pressure laboratories and often in sealed containers or suspended in inert media – thus very limited amounts of nanoparticles would ever be subject to uptake and release in fume hoods. Further, any particles being so released from fume hoods would be automatically dispersed and rendered to undetectable concentrations almost immediately and certainly long before air patterns would allow such particles to reach sensitive receptors (It should be noted that many types of nanoparticles – including many of those that would be studied at the Molecular Foundry – exist naturally and benignly in the atmosphere). Studies that purport to show harmful effects of nanoparticles such as carbon nanotubes required high concentrations of those particles to be forced into the lung tissue of mice, creating a physical clogging effect. It would not be possible to create, emit, and transmit such high concentrations from the Molecular Foundry (or any Berkeley Lab facility) to a sensitive receptor under Molecular Foundry or 2006 LRDP operating conditions.

### ***Response F-8***

The BP funded program is called the Energy Biosciences Institute and is one of three programs currently planned to be housed in the Helios Energy Research Facility (represented in the Draft EIR Illustrative Development Scenario for analytical purposes as Building S-9 and/or S-12). As stated on page I-11 of the DEIR, the draft 2006 LRDP “is not an implementation plan, and adoption of the LRDP does not constitute a commitment to any specific project, construction schedule, or funding priority [and] the LRDP EIR “is a program-level EIR that evaluates the effects of implementation of the entire LRDP. Any proposal for future development at LBNL must be approved by the LBNL Director, by the President of the University of California, or The Regents, as appropriate, and comply with CEQA.” Information on Helios is provided on page III-19 and in Appendix D of the DEIR. Details of the Helios Energy Research Facility will be provided in the environmental document for that project, which will undergo its own project-level review and analysis under CEQA. The labs for this project will be designed for containment of all hazardous and/or bioengineered materials per building code and environmental regulatory requirements.

### ***Response F-9***

The Computational Research and Theory (CRT) Building, as currently projected, will likely be a six-story, 165,000-gross-square-foot building near the Blackberry Canyon Gate entrance to the Lab (Project Description, page II-19).

As stated in Appendix D, in conformance with the Alquist-Priolo Act, a geologic fault investigation was performed in September 2006. The investigation revealed no traces of an active fault on the proposed project site.

As stated in response to the previous comment, the LRDP EIR “is a program-level EIR that evaluates the effects of implementation of the entire LRDP. Any proposal for future development at LBNL must be approved by the LBNL Director, by the President of the University of

California, or The Regents, as appropriate, and comply with CEQA.” Details of the CRT project will be provided in a project-level environmental document pursuant to CEQA. It is currently anticipated that CEQA review for this facility will be conducted sometime in mid- to late 2007. Any potential impacts that could result from implementation of the CRT Building will be assessed in that review.

The CRT building as depicted in the Illustrative Development Scenario and as currently proposed was purposefully sited so as to avoid impacts to the drainage referred to as Cafeteria Creek.

Watershed management and issues pertaining to Strawberry Creek and its tributaries are discussed in the Draft EIR Hydrology and Water Quality section and Biological Resources sections.

### ***Response F-10***

The tritium plume was considered and the Helios building is planned to be sited so as not to disturb the plume. The building is planned for an area where there is no detectable tritium. DEIR pages IV.F-5 through IV.F-7 discuss the tritium plume present in groundwater mentioned by the commenter, including the corrective measures that have been taken by LBNL under DOE oversight pursuant to the Atomic Energy Act. It should be noted that all tritium concentrates in all monitoring wells at Berkeley Lab are at levels less than the drinking water standard.

### ***Response F-11***

The negative declaration for the proposed Guest House project, which fully investigated geotechnical issues and found no significant impacts, was circulated for public review and comment in May 2007.

Please see also the response to Comment F-16, below, concerning the commenter’s reference to the “Cyclotron Fault.”

### ***Response F-12***

The DEIR on page IV.E-11 discusses the Wildcat fault and explains that it has never been considered active where it traverses LBNL.

### ***Response F-13***

The DEIR discusses earthquake-induced landslide hazards on page IV.E-23.

### ***Response F-14***

The so-called Shively Well is outside the LBNL management area and is not expected to be affected by the proposed project.

According to existing geologic maps, a very small section of the Lennert Aquifer extends into the LBNL property on the east side of Building 77, which is adjacent to Centennial Drive near the

Grizzly Gate. UC Berkeley pumps any water out of the Shively Well and discharges it to the UC Berkeley storm drain network where it eventually flows into the North Fork of Strawberry Creek.

### **Response F-15**

Please see response A-4 regarding global warming. In addition, assertions that rainfall intensity at LBNL will increase (or decrease) due to global warming or other climate change factors that may occur during the lifetime of the project are speculative. This conclusion is based on the July 2006 report of the California Department of Water Resources entitled *Progress on Incorporating Climate Change Into Management of California's Water Resources*, available online at [www.baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf](http://www.baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf). That report states that increasing precipitation is generally expected as a result of climate change but there will be significant regional variations on this global trend, and more analysis of precipitation trends in California is needed to determine whether changes in California precipitation are caused in part by global warming (section 2.5.2). The report also notes there may be increased variability in precipitation (*id.*). In evaluating projected changes in future precipitation, the report notes that climate model projections for precipitation in California are mixed, with some projecting moderate decreases and some projecting moderate increases (section 2.5.4.1). All new facilities planned and constructed under the project would be designed in consideration of seismic and landslide hazards of the site.

### **Response F-16**

The commenter suggests that other faults in Strawberry Canyon should be considered active based upon the earthquake record. The commenter is correct that earthquakes have occurred northeast of the Hayward Fault in the vicinity of LBNL. These events have historically been deeper than 5 kilometers below the surface, and have typically had an earthquake magnitude of 4 or less. These events, by definition, indicate there are active faults in the subsurface northeast of the Hayward Fault in the vicinity of LBNL. However, the commenter is using the term “active” to denote a fault capable of generating an earthquake of any size in this context. This alone is not sufficient to indicate these faults constitute a hazard, however. The two main hazards from faults are surface rupture and ground shaking (with attendant subsidiary hazards such as liquefaction).

The faults generating earthquakes northeast of the Hayward Fault at LBNL are not active in terms of surface rupture. As described in the DEIR, the California Geological Survey has not zoned any faults other than the Hayward Fault at the lab as active with regard to surface rupture, and further investigations of the Wildcat and East Canyon faults above and beyond that required by state regulation have shown that these faults are not active with regard to surface rupture at the lab. The Lab has not specifically investigated the possibility of surface activity of the fault referred to as the “Cyclotron Fault” by the commenter because there is no evidence that this fault is active. The “Cyclotron Fault” referred to by the commenter is a northeast-striking, shallowly northeast-dipping fault. The catalogue of earthquakes for the area does not contain hypocenter clusters or focal mechanisms consonant with activity on this fault plane. Rather, the hypocenter clusters and focal mechanisms are indicative of motion on north by northeast-striking, nearly vertical faults, such as the Hayward Fault.

In regard to the hazard from ground shaking, the existence of faults generating low magnitude earthquakes is not sufficient to show these faults can generate significantly damaging earthquakes. Rather these events must be shown to be occurring on regionally extensive faults, as significant fault length is required to generate damaging earthquakes. No such faults northeast of the Hayward Fault in the vicinity of LBNL have been identified in the peer-reviewed literature or elsewhere.

### ***Response F-17***

The depiction of a number of the faults shown on the figures included with the comments, including Figure 12 showing the “Zones of Concern” is inaccurate, and a number of the depicted faults do not exist. Specifically, the existence of several of the faults shown on the map., including the University fault, New fault, Space Sciences fault, and members of the Lawrence Hall of Science fault complex was based solely on conjectured groundwater flow suggested in an early landslide study, and not on field observations. Subsequent detailed geologic and hydrogeologic studies conducted at LBNL have yielded no evidence to support their existence.

Although the ability of earth materials to transmit water can be higher in some fault zones, in other cases faults have little or no effect on flow and the fine-grained materials formed by fault movement in many cases serve to impede flow. At LBNL, there is no evidence to support the comment that geologic faults act as conduits for migration of contaminated groundwater. Based on data collected over the past 15 years, the groundwater contaminant plumes at LBNL are stable or attenuating, the plumes are not migrating, and the distribution of contaminated groundwater in the subsurface is not indicative of preferential flow along fault zones. Issues related to soil and groundwater contamination, including any land use restrictions that may be required due to soil and groundwater contamination, are being addressed as part of the Resource Conservation and Recovery Act (RCRA) Corrective Action Process (CAP) under the regulatory oversight of the California Department of Toxic Substances Control (DTSC). Implementation of corrective actions as part of CAP has led to significant reduction of the magnitude and extent of soil and groundwater contamination at the Lab. Any land use restrictions imposed by DTSC as part of that process will be considered in any future building development.

Additional sampling is outside the scope of the DEIR.

### ***Response F-18***

The current levels of tritium found in the Strawberry Creek Watershed are below EPA drinking water limits, and it should be noted that groundwater below the LBNL site is not used for the public drinking water supply. This level does not pose a hazard to the health of the public or environment. There are no plans to treat the tritium in the groundwater, as there is no technically viable method to remove tritium from a water source. LBNL has continued to monitor the groundwater and the data indicates a slow decrease in the level of tritium since the closure of the NTLF. Results for tritium and all contaminants in the groundwater are reported quarterly to regulatory agencies, and these reports are placed in the Berkeley Public Library and posted at the Environmental Restoration website.

**Response F-19**

Information about the Lab's current shuttle bus system is presented in Draft EIR pages IV.L-16 through IV.L-18. This information includes shuttle service routes and schedules/frequencies. Several questions presented by the commenter ask for information that is not maintained by LBNL and is thus unavailable.

The DEIR transportation analysis projects that shuttle ridership may increase by up to 40 people (including 10 bicyclists) during a.m. and p.m. peak commute hours. Mitigation Measure TRANS-3 (DEIR page IV.L-35) would have LBNL accommodate this projected demand, which might mean that bus frequency is slightly increased during peak commute hours. Such increases might be offset by decreases in off-peak bus trips, which would have to be determined in the future based on shuttle user patterns, so it is not possible to predict the exact increase or decrease, if any, of aggregate bus trips.

Assumptions about shuttle bus diesel emissions were factored into the Human Health Risk Assessment (HRA) that is discussed in DEIR Section IV.B, Air Quality, including UC Berkeley's buses for the HRA cumulative analysis. In addition, as discussed in Section IV.B, risk from diesel emissions is expected to decrease during the lifetime of the project due to new regulations, diesel formations, and technology.

Berkeley Lab buses are not available for ridership by the general public due to practical considerations (i.e., they would be overwhelmed by non-Lab users and thus would defeat the purpose of providing convenient transit to Lab workers conducting Lab business while minimizing the need for Lab personal vehicles and parking), and for security reasons.

**Response F-20**

Building 90 at LBNL had solar hot water panels installed in the 1970s that operated through the 1990s. These panels are no longer cost effective to maintain and have been deactivated. Berkeley Lab has performed several studies on adding both solar hot water panels and photovoltaic panels to existing buildings and new buildings, but has not been able to calculate a payback period acceptable to the federal government, which is less than 10 years. Nevertheless, placing solar panels on the Helios Energy Research Facility is an important consideration that will be pursued and implemented if feasible at the time that project is considered for construction.

**Response F-21**

LBNL recognizes there are a number of natural occurrences that could disrupt the operations of the Laboratory. In order to better prepare for such disruptions, LBNL is conducting a multi-year planning effort to develop a Continuity of Operations Plan, anticipating hazards and mitigating their impact on Lab operations. Phase I of this plan, which covers environment, health and safety, and emergency operations has already been completed. In conjunction with the Continuity of Operations Plan, the Lab has a Master Emergency Program Plan and a Pandemic Flu Plan in place. Together, these plans ensure that essential services such as fire protection and emergency

response will be maintained even in the event of a flu pandemic or other natural occurrence that might disrupt Lab operations.

In addition, the Lab actively participates in the National Incident Management System (see discussion of catastrophic scenario planning and response under DEIR Impact HAZ-5, for example). Furthermore, Berkeley Lab shuts down and operates with a skeleton crew for approximately 10 days annually between the Christmas and New Years Holidays, which provides practical and on-going experience in safely maintaining the Lab under conditions similar to those described by the commenter.

### ***Response F-22***

Please refer to discussion under DEIR Impact HAZ-5, which addresses potential catastrophic events such as earthquakes, potential evacuation scenarios, and their potential effects on LBNL. Also refer to the description entitled “Emergency Program” in DEIR section IV.K-5, which describes Berkeley Lab’s Master Emergency Program Plan, Emergency Management System, Incident Command System, and Emergency Operations Center programs. These systems, supported by the Lab’s trained staff and physical resources, would oversee operations at LBNL during a catastrophic emergency. Please see also the response to Comment C-28.

In post-script of Comment letter “F,” the commenter cites its comment letter on the Notice of Preparation for this EIR. This letter was evaluated in preparing the EIR. The EIR evaluates the potential safety and other impacts of all aspects of Berkeley Lab's operations.

**Insert**

**Fiends of Strawberry Creek Watershed**

**March 23, 2007 (Comment Letter G)**

**Page 1 of 3**

**Insert**

**Fiends of Strawberry Creek Watershed**

**March 23, 2007 (Comment Letter G)**

**Page 2 of 3**

**Insert**

**Fiends of Strawberry Creek Watershed**

**March 23, 2007 (Comment Letter G)**

**Page 3 of 3**

## **Friends of Strawberry Creek Watershed, March 23, 2007 (Comment Letter G)**

### ***Response G-1***

As stated in the DEIR on page IV.G-22, compliance with National Pollutant Discharge Elimination System (NPDES) permit requirements and LBNL's standard stormwater management practices and engineering controls would ensure that potential adverse impacts to surface waters associated with construction under the LRDP would be less than significant. The NPDES permit requirements include creation of project-specific Storm Water Pollution Prevention Plans (SWPPPs) and, ultimately, implementation of Best Management Practices (BMPs) that would minimize soil erosion and subsequent sedimentation of stormwater runoff or increased stormwater pollution associated with construction hazardous materials.

Compliance with LBNL's NPDES permit and associated SWPPP and SWMP, implementation of the LRDP design guidelines and development principles, and continued implementation of engineering controls and standard management practices would also ensure that potential stormwater quality impacts associated with the LRDP would be less than significant (see Section IV.G.3.5, page IV.G-24).

In addition, as stated on page IV.G-28, potential cumulative hydrologic and water quality impacts associated with the proposed LRDP would be less than significant. Other development in the area and the region that could contribute to water quality impacts on San Francisco Bay, for example, would be subject to similar programmatic requirements (NPDES permit regulations, stormwater pollution prevention plans, etc.), thereby further reducing the potential for cumulative adverse impacts.

Please see also the revised EIR Hydrology section, presented in its entirety in Appendix A of this document.

The commenter's position regarding the public trust doctrine is acknowledged.

### ***Response G-2***

The Lab remains committed to complying with all relevant aspects of the federal Clean Water Act and state regulations which seek to implement it. In 1991, the Lab was one of the first entities in California to apply for and receive a Stormwater Permit for Discharges Associated with Industrial Activity, and has remained in compliance with it and any subsequent separate permits for construction activity. Reporting is an essential element of any stormwater permit. The Lab annually reports results of its stormwater management program both to appropriate jurisdictions and in its publicly-available Site Environmental Report. The Lab recognizes the challenges of its physical location upstream of the City of Berkeley and the UC Berkeley campus in regard to the Strawberry Creek Watershed, and takes seriously its stewardship of this creek, its tributaries, and the entire grounds on which Berkeley Lab resides. Lab policy dictates that there be no construction over or near the creeks that flow through the site and that the quality of stormwater runoff from the site be protected.

In compliance with the provisions of the Clean Water Act, LBNL will continue to implement relevant standards from the LBNL NPDES General Industrial Permit and associated SWPPP and SWMP, implement appropriate source control measures as recommended in the California Stormwater Best Management Practice Handbook for New Development and Redevelopment, and preserve existing pervious surfaces to the greatest extent practicable to minimize the amount of storm runoff, in accordance with the recommendations provided in the Bay Area Stormwater Management Agencies Association (BASMAA) *Start at the Source Design Guidance Manual for Stormwater Quality Protection*. As stated in the revised Hydrology section (see Appendix A), LBNL is also committed to ensuring that post-project stormwater flows approximate pre-project flows.

In 1987, UC Berkeley initiated a comprehensive study of Strawberry Creek. The study began as a water quality management plan, which was later expanded to urban creek and riparian habitat preservation and restoration. An update to the Strawberry Creek Management Plan is being developed by UC Berkeley to reflect progress resulting from program implementation and to expand the scope to address the Strawberry Creek Watershed as a functional eco-hydrological unit (page IV.G-10).

In addition LBNL seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible. Both the City of Berkeley and the City of Oakland's General Plans include policies for water quality, creeks and watershed management. Pertinent policies were included in the Draft EIR (see page IV.G-16 – 18).

### **Response G-3**

The Draft EIR Hydrology and Water Quality section assessed hydrology and water quality on the project site, which included an assessment of waterways and watercourses. Throughout the DEIR, the word “drainage” is used synonymously with “waterway.” Pages IV.G-1 through IV.G-7 provides a comprehensive summary of surface conditions at the project site, which includes various watersheds, headwaters, and other watercourses. The DEIR defines watershed boundaries and location of headwaters. In addition, on page IV.G-7, the DEIR discusses perched groundwater, groundwater conditions, and geologic conditions affecting groundwater.

### **Response G-4**

Future development of the Lab site as proposed by this LRDP would continue to be guided by all environmental regulations in effect at the time of construction for each project. As advances in watershed science and technology are introduced and generally accepted by scientific authorities and by regulatory agencies through mechanisms such as permits and standards of operation, the Lab will continue to incorporate these advances into its own practices. Stormwater management is unique in that compliance practices that work well on flat sites may be quite inappropriate for a hillside setting, and vice versa. As such, water quality agencies continue to develop a wide range of acceptable practices intended to protect this vital resource and the environs through which it flows. The Lab has historically implemented, and will continue to implement, all such practices in order to protect the quality of water flowing through and discharging from its site.

As a leader in energy and environmental research, the laboratory has a responsibility to be a model for environmentally responsible development. New buildings will meet or exceed the UC Presidential Policy for Green Building Design. This policy includes goals and guidelines for implementing stormwater management, water efficient landscaping, innovative wastewater technologies, and water usage minimization.

### **Response G-5**

Most of the cast iron sanitary sewer mains were replaced in the mid-1990s with PVC pipes. The remaining cast iron pipes are building laterals that are usually less than 10 feet long. In the unlikely event of pipe leaks, the building occupants are expected to notify the maintenance personnel immediately, and it is unlikely that the sewer could flow to the creek without being detected by LBNL employees. In addition, the site is also patrolled by security personnel and maintenance personnel on 24/7 daily basis including holidays.

Wastewater at Berkeley Lab is discharged to the sanitary sewer system under one or more permits issued by the East Bay Municipal Utility District. Regular testing of this type of discharge is a requirement of each permit. Surface water discharge from Berkeley Lab that flows into the Strawberry Creek Watershed has been subject to water quality permit requirements since 1991. This permit requires regular sitewide inspections of potential areas of contaminants, monitoring of discharges, and annual reporting. Measures to properly manage stormwater runoff are called best management practices or BMPs in the regulations. A retention basin is one type of BMP, though such a structural feature has not been designed to date for any of the Lab's projects. However, when a specific development project is being designed at the Lab, many factors such as soil type, hillside slope, and structure size are considered when selecting the appropriate best management practice. When the development project includes demolition, historical use of the site is considered to determine whether temporary retention and additional water quality testing is necessary.

Concerning potential disturbance of contaminated soil or groundwater during construction, Impact HAZ-2 on DEIR page IV.F-26 acknowledges that "Future construction activities, including earth-moving activities such as excavation and grading, could expose construction workers or the environment to hazardous materials." This text notes that LBNL has performed site investigations for soil and groundwater contamination in accordance applicable laws and regulations, and concludes by stating, "Construction activities at LBNL would continue to comply with applicable laws and regulations that govern the exposure of workers, the public, and the environment to hazardous materials, as well as LBNL-specific policies. Potential exposure of workers, the public, and the environment to hazardous materials would be minimized through development of Construction Site Health and Safety Plans and proper handling, storage, and disposal of contaminated soil and groundwater. This would reduce impacts to less-than-significant levels." As a result, the impact of potential environmental exposure to contaminated soil or groundwater was found to be less than significant.

**Response G-6**

As stated in Section IV.F, Hazards and Hazardous Materials, LBNL identified areas of soil and groundwater contamination that existed as a result of historical releases of hazardous materials into the environment. These areas of soil and groundwater contamination are all confined within the boundary of LBNL's main hill site. The locations and extent of these plumes have been determined using more than 300 wells over a period of more than 14 years (Section IV.F, page IV.F-5).

All areas of soil contamination have been cleaned up to levels consistent with Berkeley Lab operations (designated as institutional land use) and acceptable to regulatory oversight agencies.

There are currently about 150 groundwater monitoring wells at LBNL, with an additional groundwater monitoring well located off-site. Groundwater under the LBNL site is not used for human consumption by the Lab or by local utilities, and groundwater contamination is therefore not a threat to the local drinking water supply.

Groundwater storage is built to seismic codes in order to withstand catastrophic events. In the unlikely event that an explosion, accident, landslide, new spring or seismic activity occurred, the possibility of change to groundwater condition is very low. Contamination concentrations are low enough that in the event of an unplanned release, it is likely that concentrations would remain low. A hypothetical scenario in which low levels of contamination would end up under residents' homes is speculative and requires no further consideration under CEQA.

**Response G-7**

Section 1, pages 14-19 describes the science conducted at Berkeley Lab from its inception through 2006, defining the development scientific program areas. Section 2 describes the "Scientific Vision for Berkeley Lab" and identifies which federal scientific initiatives will be pursued, including: (1) Develop New Energy Technologies and Environmental Solutions; (2) Discover the Composition of Matter and Energy in the Universe (3) Understand and Engineer Living Systems through Quantitative Biology (4) Create Designer Materials through Nanoscience (5) Advance X-ray and Ultrafast Science, and (6) Enable Scientific Discovery through Advanced Computing. The context of the Laboratory's scientific goals and the description of each the 6 priority initiative areas with 2-5 sub-component elements are found on pages 30-31. Appendix D, page 90, further references documents, including the "Ernest Orlando Lawrence Berkeley National Laboratory Institutional Plan, FY 2004 - FY 2008" which further elaborates the Laboratory vision and scientific priorities (available on the web at <http://www.lbl.gov/DIR/Institutional-Plan/>).

It is inappropriate to compare the period of the 1940's with the current. Comprehensive environmental and workplace safety regulations were not implemented until the 1970's. As they have matured, such regulations have evolved in their complexity and thoroughness. Included in requirements now that did not exist in the early years of the Lab is adequate environmental planning to identify and address issues before actions are taken that modify the environment. As articulated in the University's sustainability policies and in the strategies and policies that

comprise the 2006 LRDP, and as implemented by the Lab's current practices in regard to environment, health, and safety, Berkeley values worker and public safety and strives to fulfill its obligations as a responsible steward of the environment.

**Insert**

**Preserve the Strawberry Creek Watershed Alliance**

**March 22, 2007 (Comment Letter H)**

**(57 pages)**

## **Preserve the Strawberry Creek Watershed Alliance, March 22, 2007 (Comment Letter H)**

### ***Response H-1***

The Draft EIR, on page IV.F-5, states that remediation and monitoring of non-radioactive contamination in groundwater is being conducted under the Resource Conservation and Recovery Act of 1976 Corrective Action Program, while monitoring of a tritium plume in groundwater is being conducted under the Atomic Energy Act. “Tritium concentrations in all monitoring wells at the Lab are currently less than the drinking water standard. Following an extensive review by the California Department of Toxic Substances Control (DTSC), which included a public involvement phase, LBNL’s proposed corrective measures to remedy soil and groundwater contamination were approved by DTSC on October 20, 2005 [reference omitted]. These measures include cleaning up areas of soil contamination, stopping discharge of contaminated groundwater to surface waters, preventing further migration of contaminated groundwater, and cleaning up groundwater contaminations to the drinking water standard. Separate CEQA and National Environmental Policy Act (NEPA) reviews were conducted for these activities by DTSC and the U.S. Department of Energy (DOE), respectively” (see page IV.F-5).

Adequate Environmental review as required under CEQA and NEPA was conducted for the Molecular Foundry. An Initial Study/Mitigated Negative Declaration, which was tiered from the 1987 LRDP EIR, as amended, fully analyzed potential environmental impacts of the Molecular Foundry project and was circulated for public review between December 10, 2002, and February 5, 2003, prior to approval of the Foundry project in 2003. The Initial Study/Mitigated Negative Declaration included applicable mitigation measures from the 1987 LRDP EIR, as amended, along with project specific mitigation measures. The building was completed in 2006 and is now operational.

The Molecular Foundry CEQA and NEPA analyses included risk screening for chemical emissions. Based on this and on an assessment of the manner in which nanoresearch would be conducted at the facility, it was determined that the proposed nanoresearch would not pose a significant health risk to either lab staff or the public. For example, nanoresearch would be conducted on a small scale with very limited quantities of nanomaterials. These would be contained in vessels and negative pressure laboratories. The small percentage of nanoparticles that may be emitted through fume hoods would be limited in quantity and highly dispersed to immeasurable levels long before they would reach any sensitive receptors.

As stated on DEIR page IV.B-10, “nanoscience is an emerging area of research aimed at the development of structures and devices at the atomic, molecular, or macromolecular levels to produce materials with novel properties and perform functions at the molecular level. No regulatory standards have been developed. The U.S. Department of Energy has issued a secretarial Policy Statement on Nanoscale Safety. This policy statement was included in the DEIR, Appendix G.” LBNL’s ongoing and active hazardous materials/waste remediation, monitoring, management, disposal, and abatement programs are described in DEIR Section IV.F, Hazards and Hazardous Materials.

**Insert**

**Sierra Club, North Alameda County Group**

**March 21, 2007 (Comment Letter I)**

**Page 1 of 5**

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**Sierra Club, North Alameda County Group**

**March 21, 2007 (Comment Letter I)**

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**March 21, 2007 (Comment Letter I)**

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**Sierra Club, North Alameda County Group**

**March 21, 2007 (Comment Letter I)**

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**Sierra Club, North Alameda County Group**

**March 21, 2007 (Comment Letter I)**

**Page 5 of 5**

## **Sierra Club, North Alameda County Group, March 21, 2007 (Comment Letter I)**

### ***Response I-1***

The Draft EIR has adequately assessed impacts related to, and includes mitigation measures that would lessen the significant effects of impacts on, air quality, geology, and transportation. Please see the responses to more detailed comments, below.

### ***Response I-2***

Berkeley Lab expresses similar objectives to the commenter in the 2006 LRDP and, in that document, promotes many policies and strategies to preserve, maintain, and enhance the natural qualities and features of the main hill site. In both the 2006 LRDP and the Draft EIR, key stands of trees are identified and placed in the “perimeter open space” zone (where development is to be avoided), as are intermittent and ephemeral streams, and perennial streams and riparian habitat are identified as fixed constraints for development purposes.

### ***Response I-3***

As noted in Chapter III, Project Description (pp. III-43 – 44), some future construction activities would require excavation, and in some cases this would result in soil being transported off-site. The transportation and air quality analyses in the DEIR are based on an assumption of an average of “one-third of a cubic yard of excavated material for each square foot of project footprint, or about nine feet of excavation under the footprint of each building or parking structure identified in the Illustrative Development Scenario,” with all such material hauled off site. The Project Description notes that while “this ratio is likely to be exceeded with some projects, others would require less excavation or would be balanced cut-fill excavations.” The Lab would attempt to minimize soil hauled off site, both to minimize on- and off-site environmental effects such as those raised by the commenter, as well as to minimize the cost of soil hauling. The DEIR did not identify any significant air quality (or transportation) effects that would result from construction activities that could not be mitigated to a less-than-significant level.

### ***Response I-4***

Please see the response to Comment C-16.

### ***Response I-5***

Before any specific demolition project can take place, Berkeley Lab would conduct a hazard assessment to identify any monitoring and safety protocols necessary to protect worker and resident safety.

### ***Response I-6***

Please see the response to Comment H-1. Furthermore, as noted on DEIR p. IV.B-10, no federal regulatory standards have been developed for nanoparticle research. However, the U.S.

Department of Energy (DOE) has issued a secretarial Policy Statement on Nanoscale Safety (which was reproduced in the DEIR as Appendix G) and, as a DOE facility, the Lab complies with, and would continue to comply with this policy or subsequent updates thereof. The first bullet point in the DOE Nanoscale Policy reads, “DOE will adopt and implement, as appropriate, both existing and future environment, safety and health best practices, ‘National Consensus Standards,’ and guidance relating to nanotechnology developed by recognized standard-setting organizations. Further, any existing DOE Directives and Standards which contain provisions that are relevant to nanotechnology work must be appropriately applied.”

### **Response I-7**

As stated on DEIR p. IV.B-26, the human health risk assessment completed for Berkeley Lab was intended to evaluate “potential impacts of [toxic air contaminant] emissions resulting from expected growth and development of LBNL through 2025.” Thus, the health risk assessment accounts for anticipated future development at the Lab.

Berkeley Lab conducts extensive ongoing monitoring through its Environment, Health and Safety Division, which monitors, among other aspects of Laboratory activity, handling of hazardous and radioactive materials, employee health, soil and groundwater contamination and remediation, and all aspects of the Lab related to worker and community health and safety.

For example, the Lab prepares an annual *Site Environmental Report* that summarizes environment, health, and safety program performance, identifying any areas where LBNL is not in compliance with environmental laws and regulations governing hazardous materials, and worker safety, emergency response, and environmental protection. The *Site Environmental Report* presents annual monitoring data for fume stack emissions; ambient air quality; water quality of rainwater, creeks, and storm runoff; sewers; hazardous waste “fixed treatment units”; soil; sediment; and vegetation. The report also presents a detailed accounting of Berkeley Lab’s environmental performance in regard to the handling, storage, and transport of hazardous waste and low-level radioactive waste.

Additionally, the Lab’s *Environmental Monitoring Plan* details four major aspects of monitoring that the EH&S Division undertakes “to ensure that [Lab] activities are conducted in a manner that will protect and maintain environmental quality:

1. **Effluent Monitoring:** The collection and analysis of samples, or measurements of liquid and gaseous effluents for the purpose of characterizing and quantifying contaminants, assessing radiation exposures of members of the public, providing a means to control effluents at or near the point of discharge, and demonstrating compliance with applicable standards and permit requirements;
2. **Environmental Surveillance:** The collection and analysis of samples, or direct measurements, of air, water, soil, foodstuff, biota, and other media from the Berkeley Lab site and its environs for the purpose of determining compliance with applicable standards

and permit requirements, assessing radiation exposures of members of the public and assessing the effects, if any, on the local environment;

3. **Meteorological Monitoring:** The collection of representative meteorological data (e.g., wind speed and direction, precipitation, temperature, humidity, atmospheric pressure) to characterize atmospheric transport and diffusion conditions in the vicinity of the Berkeley Lab and to represent conditions which are important to environmental surveillance activities, such as air quality monitoring; and
4. **Pre-operational Monitoring:** An environmental study conducted prior to the startup of a new facility or process for the purpose of establishing a baseline for environmental conditions.

### ***Response I-8***

The Lab is regulated by the Department of Energy which requires compliance with specific security directives that are in the DOE / UCOP Contract. These security directives are the required minimum to support the Lab's research and form the foundation for the protection of DOE assets located at the Lab. While the Lab's research portfolio is focused on non-nuclear, biologic, and energy efforts, it involves some use of sensitive chemicals and processes that require security of laboratory spaces.

### ***Response I-9***

The comment is noted. As stated by the commenter, mitigation measures were identified in the Draft EIR to mitigate the impacts to biological resources to a less than significant level, including pre-construction surveys by qualified biologists. If the proposed 2006 LRDP is approved, the mitigation measures identified in the DEIR would be carried out and the Mitigation Monitoring Reporting Program (MMRP) would ensure that such is the case. The MMRP is contained in Chapter V of this document.

### ***Response I-10***

As stated on page IV.L-28, with implementation of the 2006 LRDP, significant deterioration in level of service would occur at the three intersections cited by the commenter. See response to Comment C-47 regarding the absence of feasible mitigation for the signalized intersection of Hearst Avenue at Gayley Road/La Loma Avenue. See response to Comment L-2 regarding the mitigating effect of installing traffic signals at unsignalized intersections, such as Gayley Road at Stadium Rim Way, and Durant Avenue at Piedmont Avenue. Traffic signals do not, in general, adversely affect pedestrians, and it is reasonable to assume that traffic control at intersections with high pedestrian volumes would include pedestrian signals, and as warranted, additional controls on vehicle movements (such as restrictions on right turns on a red signal). Potential impacts on pedestrian and bicycle facilities are addressed in the DEIR on pages IV.L-37 and IV.L-38 (under Impact TRANS-5). Bicycle parking is provided at LBNL, including near the entrances to Lab buildings. Bicycle parking will continue to be evaluated and, as required by demand, will be increased as needed as part of the Lab's normal transportation planning. In

addition, the Lab's TDM Program includes measures to assess the need for increased bicycle rack capacity on Lab shuttle buses.

### ***Response I-11***

The mitigation measures identified in the Draft EIR for effects on local intersections would, if implemented, reduce traffic effects of the proposed project to a less-than-significant level, (please see response to Comment C-55 regarding the Hearst/Gayley/La Loma intersection), where right-of-way constraints limit the potential for physical improvements to the intersection. Although it would be speculative to quantify the potential reduction in vehicle trip generation that might be obtained from aggressive implementation of the Lab's TDM Program, the commenter correctly notes that traffic impacts would be expected to be reduced in severity. Please see the revised draft TDM Program, included as Appendix B to this Comments and Responses document.

The commenter appears to suggest that the Lab should be committed to a diminished or zero-net increase in parking and single occupant vehicle ridership. This is not practical and the Lab cannot commit to this and continue to meet its institutional objectives. Instead, the Lab is committed in the 2006 LRDP and the DEIR to maintaining or improving its current drive-alone ratio, which is among the best in the Bay Area for an employer of its size. In addition, Berkeley Lab has already reduced its projected increase in parking under the 2006 LRDP by 20 percent (see DEIR page I-7).

The Draft EIR (Section IV.L) analyzes the project's projected "minor increase" in transit ridership and on traffic impacts in general. Significant impacts to the level of service on three intersections during peak commute hours are analyzed and mitigation is identified. Any AC transit vehicles that happen to be routed through the Gayley corridor during peak commute hours would be subject to experiencing the potential decreases in level of service at the three intersections that are described and analyzed in the Draft EIR, Impact TRANS-1.

### ***Response I-12***

The specific measures identified by the commenter, such as charging for parking and provision of transit passes, are identified for consideration in the draft TDM Program included in DEIR Appendix F. Please see the response to Comment I-11, as well as the revised draft TDM Program, included as Appendix B to this Comments and Responses document. LBNL has committed to implementing a Transportation Demand Management Program that would include various elements mentioned in this comment. The TDM Program would authorize study and possible implementation of parking fee plan. In addition, under the TDM Program, LBNL has committed to conducting a new, comprehensive traffic study to assess future traffic conditions and needs at a particular point in the project's development. This study and the TDM Program implementation in general, would be coordinated closely with the City of Berkeley.

### ***Response I-13***

LBNL has looked into the funicular concept in the past and determined that it has not been feasible. One key problem is that there is no apparent source of funding available for such a

project. Nevertheless, LBNL's Transportation Demand Management Program would re-open this funicular concept and seek to find feasible options.

### ***Response I-14***

Mitigation Measure TRANS-3 would, if implemented, reduce potential effects of the proposed project related to adequacy of bicycle racks on Lab shuttle buses to a less-than-significant level. The particular means that the Lab employs to implement this measure need not be described in the EIR in order for the measure to be adequate. In terms of the overall capacity of the Lab's shuttle bus service, the draft TDM Program (DEIR Appendix F) notes explicitly, "The TDM component that has the greatest impact on Lab traffic is the Berkeley Lab Shuttle system" (page F-3). The draft TDM Program includes development of coordinated shuttle service with other major Berkeley employers, including UC Berkeley, and other enhancements of the shuttle program. Please see the revised draft TDM Program, included as Appendix B to this Comments and Responses document. See also the response to Comment I-10. Impact TRANS-2 analyzes and concludes that the project would have "minor" and less-than-significant increases in ridership on public transit. Impact TRANS-3 adequately addresses the potential overcrowding of riders and bicyclists on Lab shuttles by committing the Lab to monitoring the supply and demand and then adding services as needed. The commenter's suggestion that the Lab describe the procurement process for adding potential future buses is outside the scope of this EIR. Berkeley Lab has actively monitored and adjusted (e.g., replaced, updated, upgraded, and added new shuttles) its shuttle fleet and services, and would continue to do so in the future and as committed to under Mitigation Measure TRANS-3.

### ***Response I-15***

If the draft LRDP is approved and implemented, LBNL would coordinate water usage, sanitary sewer discharge and storm drain discharge with EBMUD as well as City of Berkeley and UC Berkeley.

LBNL has received a letter from EBMUD indicating that the district can provide the additional water that would be demanded under the LRDP. LBNL has studied the feasibility of using greywater catchment and/or sinkwater diversion and on-site recycled water in the past and has determined that it is not economically feasible. However, the Lab continues to explore this concept and is currently studying this as an option for the proposed Helios project.

New porous pavement would be considered on a project-by-project basis depending on a project's location, particularly at locations sufficiently far from hillsides where landslides are not possible.

### ***Response I-16***

LBNL won awards in the late 1980s and early 1990s for reductions of water consumption and those practices continue today. LBNL minimizes water use for irrigation, all equipment cooling is by recirculated water systems, and waterless urinals were used in the Lab's most recent

construction project, The Molecular Foundry. In addition, LBNL is testing innovative water filters that allow the reduction of “blowdown” water from cooling towers and boilers.

**Insert**

**Urban Creeks Council, March 23, 2007 (Comment Letter J)**

**Page 1 of 2**

**Insert**

**Urban Creeks Council, March 23, 2007 (Comment Letter J)**

**Page 2 of 2**

## **Urban Creeks Council, March 23, 2007 (Comment Letter J)**

### ***Response J-1***

As indicated in Section IV.G, Hydrology and Water Quality, LBNL's Construction Standards and Design Requirements, which would include opportunities to reduce stormwater flow impacts and further improve water quality, are integrated into LBNL's overall planning. The impacts to Hydrology and Water Quality were found to be less than significant. For further discussion regarding the impacts on streams and water quality, please see Responses G-1 through G-5.

### ***Response J-2***

Disposal of toxic substances by burial at the LBNL site is not allowed. The Lab is committed to preserving the quality of the groundwater at its site and to complying with the State of California's policy for protecting the beneficial uses of groundwater (State Water Resources Control Board Resolution 68-16 "Statement of Policy with Respect to Maintaining High Quality of Waters in California"). When accidental spills occur (for example, vehicle oil spills), all appropriate measures are taken to cleanup the spilled material in order to restore the environment and ensure that groundwater is protected.

### ***Response J-3***

The Building 51/Bevatron project has been addressed in a separate EIR, the Draft of which was published on October, 21, 2005. The EIR on Building 51, which analyzed the potential for release of hazardous materials during demolition, concluded that the Bevatron demolition would not result in any significant impacts related to hazardous materials that could not be mitigated to less-than-significant levels through implementation of mitigation measures included in the 1987 LRDP EIR, as amended, and/or project-specific mitigation measures, except for the significant unavoidable impacts on historic resources resulting from the demolition.

### ***Response J-4***

LBNL has, and will, continue to conduct public participation activities that are beyond those mandated by regulatory standards. In addition, the Lab coordinates its activities with local jurisdictions and involves both City staff and interested advisory commissions. In the past 10 years, the City of Berkeley's Planning Department, Public Works Department, as well as the Planning, Transportation, Landmarks, Community Health and Community Environmental Advisory Commissions have been involved with LBNL programs. The Lab will continue to support these activities.

### ***Response J-5***

As stated in Section IV.G, Hydrology and Water Quality, approximately 10 acres of impervious surfaces would be added to the site under the proposed 2006 LRDP. The projection of approximately 10 acres of new impervious surface was calculated based on the aggregate increase of building, parking lot, and road surface area as posited under the Illustrative Development Scenario.

The additional 10 acres would increase the amount of impervious surface from 67 to 77 acres across the 202-acre LBNL site. As stated on DEIR page IV.G-25 (as revised in this document; see Appendix A), “This increased impervious surface area would constitute about 1.1 percent of the 878-acre Strawberry Creek watershed pertinent to LBNL and, without the implementation of BMPs, would only slightly increase peak flows by about 10 cfs, or about 0.6 percent, over the current estimated total of 1,686 cfs generated in this watershed during a 100-year storm event.”

The DEIR determined that there would be no or negligible effects on erosion and downstream flooding or other impacts to beneficial uses as a result of new impervious surface area, and impacts would be less than significant.

Please see the revised EIR Hydrology section, included in its entirety in Appendix A of this document.

**Insert**

**Gene Bernardi, March 23, 2007 (Comment Letter K)**

## **Gene Bernardi, March 23, 2007 (Comment Letter K)**

### ***Response K-1***

As described in Section III.E.3.2 of the Project Description, demolition is considered for buildings and structures that are seismically poor and not cost-effective to upgrade, no longer suitable for modern science, costly to maintain, and make inefficient use of valuable building sites within the existing developed zone of Berkeley Lab. As of 2004, more than 60 percent of LBNL buildings were more than 40 years old and 5 percent were over 60 years old, beyond the effective age of a typical laboratory building. Additionally, many of these buildings were constructed as temporary structures but were never removed or replaced.

In general, the 2006 LRDP foresees demolition of buildings that “can no longer reasonably meet modern mission needs and should be removed to make way for new modern structures.” Redevelopment of such buildings would allow not only for physical upgrade of the Lab, but would also provide opportunities for increased building efficiency, improvements to site circulation and utility systems, and implementation of sustainable design practices. In many cases, the Laboratory would demolish surplus or outdated facilities prior to the identification of particular replacement buildings. The Laboratory would upgrade utilities and roadways in order to create “plug-in” development sites within the central core of the Laboratory.

Furthermore, the 85 buildings identified for demolition in the Illustrative Development Scenario analysis were reduced (from 440,000 gsf to 320,000 gsf of demolition at full project implementation, as described in the DEIR Project Description, p. III-22). Given the 2003 baseline size of the Lab (1.76 million gsf of occupiable space), the proposed 320,000 gsf represents only about 18 percent of the Lab’s occupiable building space, and not “the entire, or almost the entire, stock of buildings on the site” as supposed by the commenter.

### ***Response K-2***

The commenter’s opinion on the continued operation of the Lab is noted.

The commenter’s suggestion that the Lab close for the purpose to clean up of toxic non-radioactive material and all decay-in-place of radioactive material is not necessary and would fail to meet the objectives of the project. The Lab’s ongoing corrective action program to address non-radioactive contamination and the monitoring of tritium contamination (which is below the drinking water standard and which is continuing to decay to lower levels) is described on Draft EIR page IV.F-5. Both of these activities are taking place while the Lab continues to operate.

### ***Response K-3***

The commenter’s advocacy for wildland use of the Lab hill site is noted, and it will be part of the overall record considered by LBNL and the Regents in determining whether to proceed with adoption of the proposed LRDP.

**Insert**

**Robert Breuer, March 23, 2007 (Comment Letter L)**

**Page 1 of 2**

**Insert**

**Robert Breuer, March 23, 2007 (Comment Letter L)**

**Page 2 of 2**

## **Robert Breuer, March 23, 2007 (Comment Letter L)**

### ***Response L-1***

The commenter's opinions about existing conditions of roadways, such as Centennial Drive, are noted. Discussion of emergency access and egress problems associated with the Panoramic Hill Neighborhood area is included under Draft EIR Impact HAZ-5, and traffic impacts to Stadium Rim Way are discussed in Section IV.L, Traffic and Transportation. While the commenter's suggestion that Stadium Rim Way road is "thoroughly inadequate" and "as inadequate a route that has ever existed," is noted, it should also be noted that Lab drivers can choose among three entrances and several approaches to the Lab and would most likely choose to avoid particularly inadequate or congested roads in favor of roads and entrances that are less congested or more adequate.

### ***Response L-2***

The DEIR analyzed potential impacts associated with the LRDP at intersections on roads used to access the LBNL hill site, and identified feasible measures to mitigate significant project impacts. The commenter's opinion about the mitigating effect of installing traffic signals at unsignalized intersections with lengthy delays for stop-sign-controlled traffic is noted, but traffic signals do not increase traffic volumes (which are generated by persons traveling to and from various land uses), although signals do increase the peak capacity of a given intersection. The DEIR accurately describes the improved levels of service after mitigation.

### ***Response L-3***

The DEIR describes conditions at the intersection of Panoramic Way/Canyon Road-Stadium Rim Way, which provides the only vehicular access to the Panoramic Hill residential neighborhood, and describes potential project impacts at that location. As stated on pages IV.L-29 and IV.L-31, LRDP traffic is estimated to add seven vehicles in the a.m. peak hour and eight vehicles in the p.m. peak hour, representing increases of 1.5 percent and 1.3 percent, respectively, over future no-project conditions. Given that the existing roadways, while narrow, appear to provide at least a minimum level of adequate access to Panoramic Hill, except in instances of illegal parking (an enforcement issue), and given the extremely small increment of project traffic at this intersection, LRDP traffic would not result in a significant impact on access (including emergency vehicle access) or traffic safety at this location.

### ***Response L-4***

See response to Comment C-2 regarding coordination between the SCIP EIR and the LRDP EIR.

The assumptions underlying the LBNL LRDP DEIR's cumulative traffic analysis included the proposed UCB SCIP project, including the proposed parking garage identified by the commenter. For further discussion of the Gayley Road/Stadium Rim Way intersection, please see response to Comment C-55.

**Response L-5**

The DEIR's assessment of potential impacts associated with the LRDP follows standard planning-level analysis practices, and established the framework for any future tiered analyses in connection with subsequent project approvals pursuant to the 2006 LRDP. The DEIR, on pages IV.L-26 and IV.L-27, describes the methodology used to develop a traffic growth factor for LBNL. For planning purposes, LBNL uses adjusted daily population, defined as full-time-equivalent employees plus 40 percent of the annual total of authorized visitors, who are assumed to be present on any given day. The DEIR analyzed potential impacts of the projected increase in traffic volumes on area roads associated with the LRDP at intersections on roads used to access the LBNL hill site, and identified feasible measures to mitigate significant project impacts.

It is noted that the DEIR analyzes the potential physical effects of implementation of the proposed 2006 LRDP. It is the draft LRDP, not the DEIR, which is a planning document.

**Insert**

**Ignacio Chapela, March 24, 2007 (Comment Letter M)**

**Page 1 of 3**

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**Ignacio Chapela, March 24, 2007 (Comment Letter M)**

**Page 2 of 3**

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**Ignacio Chapela, March 24, 2007 (Comment Letter M)**

**Page 3 of 3**

## **Ignacio Chapela, March 24, 2007 (Comment Letter M)**

### ***Response M-1***

LBNL disagrees with this comment. The EIR is based on substantial scientific analysis, and provides an adequate analysis of all issues required by CEQA.

### ***Response M-2***

Water management from the creation of new impervious surfaces was addressed in the DEIR. Please see DEIR pages IV.G-25 – IV.G-27 and Response J-5 for further discussion. (See also the revised Hydrology section of the EIR, presented in its entirety in Appendix A of this document.) Effects on biological resources are analyzed in DEIR Section IV.C.

### ***Response M-3***

Berkeley Lab follows biosafety regulations and guidelines prescribed by the National Institutes of Health, Centers for Disease Control, U.S. Occupational Safety and Health Administration, U.S. Department of Agriculture, and U.S. Department of Energy. Work with biological materials is evaluated and appropriate biosafety controls and containment levels are implemented. Biosafety containment levels consist of combinations of standard microbiological practices, safety equipment, and facilities needed to properly contain the biological work. Facilities are and would continue to be designed to the appropriate Biosafety Level (e.g., Biosafety Level 1 and Biosafety Level 2).

Concerning the Molecular Foundry, the commenter incorrectly implies that the this project was approved with inadequate CEQA review. On the contrary, adequate environmental review, pursuant to CEQA, was conducted of the Molecular Foundry. An Initial Study/Mitigated Negative Declaration, which was tiered from the 1987 LRDP EIR, as amended, fully analyzed potential environmental impacts of the Molecular Foundry project and was circulated for public review between December 10, 2002, and February 5, 2003, prior to approval of the Foundry project in 2003. The Initial Study/Mitigated Negative Declaration included applicable mitigation measures from the 1987 LRDP EIR, as amended, along with project specific mitigation measures. The building was completed in 2006 and is now operational.

### ***Response M-4***

Please see the response to Comment G-5. In addition, the Lab does not agree with the “complaints about the EIR for this proposed LRDP” alluded to by the commenter that the Lab has allegedly mishandled “pre-existing pollution (heavy metals, radioactivity, VOCs, persistent organic pollutants), and groundwater.” The Lab’s on-going corrective action program to address non-radioactive contamination and the monitoring of tritium contamination (which is below the drinking water standard and which is continuing to decay to lower levels) is described on Draft EIR page IV.F-5. The former program is conducted under the federal Resource Conservation and Recovery Act (RCRA), underwent public review, and was approved by the California Department of Toxic Substances Control in 2005; the latter is conducted under the Atomic Energy Act. The former seeks to clean up areas of soil contamination, stop discharge of

contaminated groundwater to surface waters, prevent further migration of contaminated groundwater, and clean up groundwater contamination to at or below the drinking water standard. The tritium plume present at LBNL is already below the drinking water standard. Additional information on this is contained in Draft EIR section IV.F, Hazards and Hazardous Materials.

***Response M-5***

This comment is directed at the project itself, and not the environmental review of the proposed LRDP. Moreover, the DEIR analyzes the potential impacts of the LRDP program to Berkeley Lab's hill site environs, including to Strawberry Canyon.

**Insert**

**Maureen Daggett, February 26, 2007 (Comment Letter N)**

**Page 1 of 2**

**Insert**

**Maureen Daggett, February 26, 2007 (Comment Letter N)**

**Page 2 of 2**

**Maureen Daggett, February 26, 2007 (Comment Letter N)*****Response N-1***

As stated in the Project Description, the 2006 LRDP is consistent with the University's Presidential Policy for Green Building Design and Clean Energy Standards, adopted in July 2003 (amended October 24, 2003), which seeks to minimize the University's impact on the environment and to reduce the University's dependence on non-renewable energy. The policy is based on the Leadership in Energy and Environmental Design (LEED) rating system promulgated by the U.S. Green Building Council. Berkeley Lab would design and build all new buildings developed pursuant to the draft LRDP to meet the LEED "certified" rating, at a minimum, and would strive to meet the higher "silver" rating with additional sustainability features proven to be lifecycle cost-effective. In addition, all new buildings will outperform the required provisions of the California Energy Code by at least 20 percent and the Lab will strive to achieve the goal of procuring at least 20 percent of its electricity needs from renewable resources by 2017. The 2006 LRDP states that Berkeley Lab will develop a sustainability strategy integrating the Lab's site, climate, and infrastructure-intensive facilities to achieve the most sustainable facility practicable (see page III-35).

***Response N-2***

Alternate forms of transportation were addressed in the DEIR. One of the development strategies set forth in the 2006 LRDP applicable to traffic includes the increased use of alternate modes of transit through improvements to the Laboratory's shuttle bus service. In addition the LRDP seeks to promote transportation demand management strategies such as vanpools and employee ride share programs (see page IV.L-24).

***Response N-3***

This comment appears to be directed at merits of the project itself, rather than environmental issues evaluated in the EIR, and it will be part of the overall record considered by LBNL and the Regents in determining whether to proceed with adoption of the proposed LRDP.

***Response N-4***

The commenter refers to the possible use of Clivus toilets instead of standard toilets that are serviced by the sanitary sewer system. The DEIR did not identify a significant unavoidable impact with respect to wastewater generation, and therefore no further mitigation is required. For information, Clivus toilets are a waterless composting toilet treatment system. LBNL has no plans to install such toilets.

**Insert**

**Nancy Delaney, February 26, 2007 (Comment Letter O)**

**Page 1 of 2**

**Insert**

**Nancy Delaney, February 26, 2007 (Comment Letter O)**

**Page 2 of 2**

## **Nancy Delaney, February 26, 2007 (Comment Letter O)**

### ***Response O-1***

As stated on page IV.F-4, existing buildings at LBNL range in age from less than 10 years [such as the new Molecular Foundry] to over a half century old. Some 30 outdated structures could be demolished under the LRDP, including the Bevatron complex (Building 51/51A). Structural demolition or renovation could involve exposure to hazardous materials historically used or present in these structures, such as lead-based paint, asbestos, polychlorinated biphenyls (PCBs), and/or radioactive materials. Prior to demolition or renovation of buildings where such hazards may exist, the Laboratory ensures that surveys are performed to determine the types and locations of hazards, and establishes procedures to safely perform this work. All demolition under the LRDP program would comply with all applicable regulations relating to control, handling and disposal of hazardous materials, including asbestos and lead. For additional information on such concerns as related to the proposed demolition of the Bevatron, please see the Draft EIR for the Demolition of Building 51 and the Bevatron, which has been publicly circulated for review in October / November 2005 and is currently available at the Berkeley Public Library.

### ***Response O-2***

The Comment lists several areas of concern.

Regarding GMO crops, the Commenter suggests that the EIR fails “to warn the public about GMO crops in our environs...” GMOs, or “genetically modified organisms,” are organisms whose genetic material has been altered – often with DNA from other organisms – so as to express or emphasize particular traits or characteristics. Although this is the same goal as traditional agricultural cross-breeding, this technique radically reduces the time needed to affect change and increases the precision with which desired characteristics can be selected. Such research may be conducted at Berkeley Lab, for example, in efforts to make plants more drought-tolerant and pest-resistant, and to require less fertilizer, pesticide, and irrigation.

Such research in this developing field would be expected to occur and increase in the future at Berkeley Lab, with or without implementation of the 2006 LRDP. Accordingly, biological research of this nature would be conducted safely and under tightly controlled conditions, and no uncontrolled releases of such organisms would be expected to occur. Instances where GMO-related research would take place, such as if it were part of the Helios project, would undergo individual project approval and appropriately detailed CEQA analyses at that time when project details became available. Future GMO research programs are not well defined at this time. However, as there would be no uncontrolled propagation or releases of GMOs, and because such research would take place within properly secured laboratories and greenhouse facilities, no significant cumulative impacts are anticipated as a result of GMO-related research.

Groundwater contamination areas that may coincide with the posed footprints of some Illustrative Development Scenario buildings are discussed in Chapter IV.F, Hazards and Hazardous Materials of the DEIR. Nano-particle concerns are addressed in response to Comment F-7.

Insert

**Hank Gehman, March 22, 2007 (Comment Letter P)**

**(19 pages)**

## Hank Gehman, March 22, 2007 (Comment Letter P)

### **Response P-1**

Please refer to the response to Comment C-22. In the event of an earthquake or other catastrophic event, LBNL would control ingress and egress from the hill site. The DEIR states on page IV.F-37, "Under the 2006 LRDP, EOC measures would not allow uncontrolled vehicle evacuation of the site if conditions did not warrant this. During or after a catastrophic event, the Lab's perimeter gates would be controlled. For example, gates may be closed to all vehicles except for emergency services, as warranted by the EOC. Any decision to evacuate would be coordinated through EOC command, including with the UC Berkeley Police Department, City of Berkeley Police Department, Alameda County Sheriff's Department, and the California Highway Patrol to ensure an informed and coordinated response. Uncontrolled evacuation by vehicle, particularly during a wildland fire and on roads that would affect constricted areas such as the Panoramic Hill neighborhood, would not be permitted." The ground disturbance caused by an earthquake and the resulting damage cannot be predicted and identifying the alternative emergency routes in the EIR would be premature and somewhat speculative. In the event of an earthquake or other emergency situation, LBNL emergency response staff would, as they would do currently, assess the situation and determine the best course of action, which may include the opening or closing of roads for emergency ingress and egress. Mitigation measure GEO-1 (DEIR, page IV.E-21) takes into account the standard emergency procedures and protocols in place at LBNL and that is why the emergency ingress and egress routes are not provided.

As noted in the above discussion, the Lab currently has emergency and earthquake procedures in place, along with access and egress routes. It also has its own emergency services on site. Under the 2006 LRDP, future buildings and population increases may drive new or updated emergency response and evacuation plans. It is appropriate to tailor such future emergency plans to the new conditions being specifically planned and proposed at that time. Accordingly, Mitigation Measure GEO-1 on DEIR p. IV.E-22 has been revised to clarify that emergency access plans are in place at LBNL, and that the mitigation measure is intended to apply to new projects developed pursuant to the LRDP:

Seismic emergency response and evacuation plans shall be prepared for each new project at LBNL that is developed pursuant to the 2006 LRDP. These plans shall incorporate potential inaccessibility of the Blackberry Canyon entrance and identify alternative ingress and egress routes for emergency vehicles and facility employees in the event of roadway failure from surface fault rupture.

Impact HAZ-5 of the Hazards and Hazardous Materials section of the DEIR (pages IV.F-32 – 39) discuss the likelihood for catastrophic events to occur, the direct and evacuation impacts of such events, and whether the implementation of the LRDP could increase exposure of people or structures to the associated hazards. In response to the commenter's concern for health and safety in the event of an earthquake and fire, the preventive measures and procedures that would be carried out by the LBNL emergency services during such an event are presented in bullets below. The current emergency procedures and protocols at LBNL coupled with the measures proposed

under the LRDP would adequately protect life and safety in the event of a large earthquake. Mitigation Measure GEO-1 is a small part of the overall emergency management planning.

- All new structures built on the LBNL main site would include installation of automatic fire-sprinkler systems.
- LBNL's main gas lines would be protected by automatic shut-off valves. With loss of system continuity or pressure occurring from a breach, this system would shut off and prevent an uncontrolled release of natural gas.
- Many older buildings built to less stringent standards would be replaced under the 2006 LRDP. This would remove people and property from structures that are potentially less able to withstand seismic events.
- LBNL would continue to provide for an on-site Alameda County fire station, which provides fire and emergency medical response.
- LBNL would continue to maintain its own medical clinic, which is staffed by doctors and other trained medical personnel during business hours.
- Construction under the 2006 LRDP would comply with requirements of the latest California Building Code, University of California seismic design safety policies, federal standards, and LBNL's lateral force design criteria. Such construction would help to minimize the potential injuries, damage, and subsequent fire that could result from a seismic event.
- LBNL would continue to maintain and update its Master Emergency Program Plan (MEPP), which establishes policies, procedures, and an organizational structure for responding to and recovering from a major disaster at LBNL.
- LBNL would continue to maintain its three 200,000-gallon emergency water tanks, which are spaced strategically throughout its site. These are designed to maintain pressure and supply of emergency water even in the event of loss of water supply from external sources.
- Hazardous materials emergency response (HAZMAT) services would continue to be provided by LBNL's on-site Alameda County fire station, which maintains an "around-the-clock" engine company staffed by four HAZMAT-certified firefighters. HAZMAT automatic aid is offered through the Berkeley Fire Department, when available, and the Alameda County Fire Department. Depending on the magnitude of an incident, additional HAZMAT response support is available through the formal Fire Mutual Aid Plan, which the Alameda County Fire Department coordinates. Additionally, the Lab has an "around-the-clock" contract with a private vendor for HAZMAT clean-up.

### **Response P-2**

The Geology and Soils section as a whole (including the setting and impact analysis) provides sufficient information to assess the geologic hazards and seismic risks at the LBNL Hill Site (Also refer to the responses to Comments C-23 and C-24). The comment apparently misinterpreted the information presented in the Geology and Soils section of the DEIR. Contrary to the comment, the DEIR does not assume that an earthquake with an expected earthquake magnitude of 6.7 or greater would impact the site. The 6.7 magnitude figure has been put forth by

the U.S. Geological Survey and the Working Group on California Earthquakes Probabilities in its conclusion as to the size of the next major earthquake to affect the Bay Area. As discussed in the DEIR, page IV.E-3 and IV.E-23, the U.S. Geological Survey and Working Group conclude that a **6.7 or greater** magnitude earthquake will strike the Bay Area in the next 30 years. The magnitude used to assess seismic response at the LBNL site is the maximum moment magnitude of 7.1, as shown in Table IV.E-1 and discussed on pages IV.E-3 through 7. The maximum moment magnitude is derived by the California Geological Survey and U.S Geological Survey and provides a measure of the size of a faulting event based on the size of a fault. The DEIR uses the U.S. Geological Survey/Working Group conclusion to present the reader with a reasonable estimation of the likelihood of an earthquake. The EIR uses the 7.1 magnitude figure to assess earthquake hazards and risks. Jack Boatwright's article of February 7, 2007, discusses the 1868 earthquake on the Hayward fault, which was thought to be a magnitude 6.7 event but Mr. Boatwright has estimated it was actually larger, approaching 7.0. As discussed above, the U.S. Geological Survey and California Geological Survey assume the Hayward fault could generate a magnitude 7.1 event.

The article written by Patrick Williams was not deliberately and "completely" ignored in the EIR. Mr. Williams is a well respected seismologist and has conducted several very noteworthy and comprehensive studies. Although the EIR analysis may not have cited Mr. Williams' study, the consultants preparing the EIR considered a number of similar studies that reach similar conclusions.. The findings of Mr. Williams' study do not change the conclusions of the EIR analysis, which is based on an assumption that a sizeable event of the Hayward fault will produce substantial ground shaking and will likely generate landslides and other secondary ground failures.

### **Response P-3**

Please refer to comment responses C-23 through C-24.

Concerning existing building codes, LBNL disagrees with the commenter's suggestion that such codes are "seismically obsolete." Current applicable building codes represent California-specific versions of commonly accepted codes that are the industry standard and that incorporate specific provisions to provide maximum feasible protection against seismic risks. It is true that, as more is learned about ground motion and earthquake effects, the seismic criteria in the California Building Code are adjusted and updated; that is the function of the California Building Standards Commission. It would be speculative to try to predict future changes in building codes, although it can be stated with reasonable certainty that the seismic design criteria will not be relaxed in the future. Finally, it is not necessarily the case the buildings must always be demolished. Some buildings can be renovated and upgraded to meet newer seismic standards. During the lifetime of the proposed 2006 LRDP, some existing buildings at LBNL would be demolished, while others would be renovated, as stated in DEIR Chapter III, Project Description.

**Response P-4**

Please see the response to Comment C-58, in which Berkeley Lab has committed to work with the City of Berkeley and, where necessary, UC Berkeley, to minimize construction-related traffic impacts.

Concerning cumulative construction-period impacts involving both the LBNL LRDP and UC Berkeley's SCIP project, the 10,000 one-way truck trips cited by the commenter represent the DEIR's projection of the maximum annual number of truck trips resulting from construction and demolition activities that could be undertaken pursuant to the LRDP, assuming overlapping construction and/or demolition activity occurring on more than one project during a given year (DEIR page IV.L-38). As further stated on page IV.L-38, "The peak annual truck traffic volume would average approximately 40 truck trips per day, based on a five-day work week, over the course of a peak construction year. Based on the EIR for a recently proposed building at LBNL, truck traffic could be concentrated on "peak-peak" days during periods when, for example, excavated soil might be removed from the LBNL site; in such instances, there could be times when as many as 65 one-way construction truck trips might be made to and from the LBNL hill site daily [reference omitted]. However, even such levels of truck activity (i.e., up to one truck every 6.5 minutes between 9:00 a.m. and 4:00 p.m.), which would not be expected to last for more than a few weeks at a time, would not cause significant traffic delays, and the number of construction trucks would be too small to result in any adverse change in off-peak levels of service. The primary impacts from construction truck traffic would include a temporary and intermittent reduction of roadway capacities due to the slower movements compared to passenger vehicles."

As stated in the Draft EIR on pages IV.L-39 – 40, under Best Practice TRANS-6b, all construction trucks would be required to use approved routes and would not be permitted to deviate (unless required by extraordinary circumstances, like detours, accidents, etc.). This system has long been in place at LBNL and is successful. Further, Best Practice TRANS-6c states, "LBNL shall 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."

Generally, trucks for LBNL construction and demolition activity would be expected to reach the Lab hill site via University Avenue, Oxford Street, and Hearst Avenue. LBNL construction trucks would be unlikely to travel on Gayley Road through the UC Berkeley campus. As a result, LBNL construction traffic would not aggregate with truck traffic from the proposed SCIP construction activities, which would occur on the opposite side of the UC Berkeley campus. While there could be overlap between LBNL trucks and SCIP trucks on major routes such as University Avenue, the LBNL LRDP's contribution to construction truck traffic (no more than one truck every 6.5 minutes) would not be "considerable" in the context of a high-capacity roadway like University Avenue, and therefore would not result in a significant cumulative impact related to construction traffic.

Both the LBNL LRDP EIR and the SCIP EIR identify best practices during construction, such as use of designated truck routes, potential limitations on construction hours and on peak-period truck trips, and parking management for construction workers. In addition, each EIR includes a best construction practice such as the LRDP DEIR's Best Practice TRANS-6a, which states, "Early in construction period planning, LBNL shall meet with the contractor for each construction project to describe and establish best practices for reducing construction period impacts on circulation and parking in the vicinity of the project site." All of the above construction-period best practices would serve to limit potential construction-period traffic impacts.

**Insert**

**Tom Kelly, February 26, 2007 (Comment Letter Q)**

**Page 1 of 2**

**Insert**

**Tom Kelly, February 26, 2007 (Comment Letter Q)**

**Page 2 of 2**

**Tom Kelly, February 26, 2007 (Comment Letter Q)**

***Response Q-1***

Please see Response A-4 for discussion regarding climate change.

**Insert**

**Merrilie Mitchell, March 23, 2007 (Comment Letter R)**

**Page 1 of 2**

**Insert**

**Merrilie Mitchell, March 23, 2007 (Comment Letter R)**

**Page 2 of 2**

## **Merrilie Mitchell, March 23, 2007 (Comment Letter R)**

### ***Response R-1***

This comment is directed at the merits of the LRDP and various projects undertaken to carry out LBNL's research mission, rather than environmental issues evaluated in the EIR. This comment will be part of the overall record considered by LBNL and by the Regents in determining whether to proceed with adoption of the LRDP.

**Insert**

**Phil Price, February 26, 2007 (Comment Letter S)**

**Page 1 of 2**

**Insert**

**Phil Price, February 26, 2007 (Comment Letter S)**

**Page 2 of 2**

## **Phil Price, February 26, 2007 (Comment Letter S)**

### ***Response S-1***

Impervious surface area would increase by approximately 10 acres as a result of the Project. The implications of the increase were adequately addressed in the DEIR. Please see Response J-5.

### ***Response S-2***

LBNL has not reduced shuttle service, although shuttle bus routes have been revised based on user needs and ridership patterns. As part of LBNL's TDM Program (see Appendix B of this document), LBNL would continue to study and assess the efficacy of its shuttle service routes and schedules and adjust them as appropriate. Such adjustments would include provision of more bicycle racks or services. Please see also the response to Comment I-14 concerning future improvements to shuttle service.

**Insert**

**Matthew Taylor, February 26, 2007 (Comment Letter T)**

**Page 1 of 2**

**Insert**

**Matthew Taylor, February 26, 2007 (Comment Letter T)**

**Page 2 of 2**

**Matthew Taylor, February 26, 2007 (Comment Letter T)*****Response T-1***

This comment is directed at the merits of the LRDP, rather than environmental issues evaluated in the EIR. The comment will be part of the overall record considered by LBNL and by the Regents in determining whether to proceed with adoption of the LRDP. LBNL disagrees with the comment that the LRDP represents continued genocide of Native Americans. The EIR discusses Native American resources both regionally and with respect to the LBNL site. Site surveys have not revealed artifacts or other indicia of Native American use of the site, the site is generally considered to have low to moderate potential for such artifacts, and the EIR includes mitigation to ensure that impacts to cultural resources are less than significant. With respect to genetically modified organisms and the commenter's general reference to that issue, please see the response to Comment O-2.

**Insert**

**Janice Thomas, March 23, 2007 (Comment Letter U)**

**Page 1 of 5**

**Insert**

**Janice Thomas, March 23, 2007 (Comment Letter U)**

**Page 2 of 5**

**Insert**

**Janice Thomas, March 23, 2007 (Comment Letter U)**

**Page 3 of 5**

**Insert**

**Janice Thomas, March 23, 2007 (Comment Letter U)**

**Page 4 of 5**

**Insert**

**Janice Thomas, March 23, 2007 (Comment Letter U)**

**Page 5 of 5**

## **Janice Thomas, March 23, 2007 (Comment Letter U)**

### ***Response U-1***

The DEIR addresses public safety impacts for both continuing and expanding operations at the existing hill site location. These impacts were found to be at a less-than-significant level (see DEIR Section IV.K, Public Services and Recreation).

### ***Response U-2***

Adequate environmental review under CEQA and NEPA was conducted for the Molecular Foundry. An Initial Study/Mitigated Negative Declaration, which was tiered from the 1987 LRDP EIR, as amended, fully analyzed potential environmental impacts of the Molecular Foundry project and was circulated for public review between December 10, 2002, and February 5, 2003, prior to approval of the Foundry project in 2003. The Initial Study/Mitigated Negative Declaration included applicable mitigation measures from the LRDP EIR, as amended, along with project specific mitigation measures. The building was completed in 2006 and is now operational.

### ***Response U-3***

Regarding the Lab fence line, Footnote 14 on DEIR p. III-13, states, "As occurred under the 1987 LRDP, it is possible following adoption of the 2006 LRDP that there might be changes in operational and jurisdictional control over some parts of the Berkeley Lab site; for example, it is possible that a facility might be proposed to be jointly operated by UC Berkeley and the Lab. If such changes are proposed, the location of boundary and security fencing may change accordingly. No such joint operations or changes are currently proposed, although it is possible that joint operation will be proposed for the Helios Research Facility." There are currently no increases (in linear feet) of the perimeter fence line anticipated as part of the 2006 LRDP. Effects of the existing fence are part of the environmental baseline conditions against which the EIR evaluates potential changes due to the proposed project. While the existing (cyclone) fence may interfere with the movement of common mammals, the biological resources analysis in DEIR Section IV.C identified potential special-status species, including several birds and insects and the Alameda whipsnake whose movement is unlikely to be affected by such fencing.

### ***Response U-4***

The landscape management program proposed under the LRDP and analyzed in the Draft EIR is described in the Draft EIR project description (page III-34). As the vegetation management program is an explicitly identified component of the "project," it is carried forward throughout the Draft EIR analysis. Biological impacts resulting from these practices were specifically addressed in the DEIR. Impact BIO-6 stated that project activities allowed under the LRDP, including vegetation management activities in designated Perimeter Open Space, could result in the take of special-status plant species. In addition, vegetation management activities could have the potential to disturb or result in mortality of these species or eliminate their habitat (see page IV.C-54).

Implementation of Mitigation Measures BIO-6a and BIO-6b would reduce these potential impacts to less-than-significant levels.

Existing landscape management activities have previously been analyzed pursuant to CEQA in the 1987 LRDP EIR, as amended. However, to be conservative, the 2006 LRDP EIR analyzes not just any projected change in activities, but the continuation of the entire program. The “footprint of the management area,” however, is not proposed for expansion in this LRDP.

### ***Response U-5***

As stated in Section IV.F, Hazards and Hazardous Materials, page IV.F-29, LBNL is required by the Department of Energy (DOE) to minimize hazardous waste production, and to detail waste minimization efforts in annual reports. Also, future operation of LBNL’s Hazardous Waste Handling Facility would continue to be subject to applicable California Department of Toxic Substances Control (DTSC) and DOE regulations and reporting requirements, as well as Department of Transportation hazardous materials regulations. For a detailed accounting of Berkeley Lab’s environmental performance in regard to the handling, storage, and transport of hazardous waste and low-level radioactive waste, please refer to Berkeley Lab’s Annual Site Environmental Report (and related reports) at: <http://www.lbl.gov/ehs/esg/tableforreports/tableforreports.htm>. In addition, LBNL regularly reports to the City of Berkeley on the types and quantities of such materials stored and used at the Lab in its annual Hazardous Materials Business Plan.

LBNL currently complies with measures identified in the 1987 LRDP EIR, as amended, to ensure that hazardous materials and wastes are stored, used, and generated at the site in a manner that minimizes potential exposure of individuals and the environment to hazardous conditions. These would be continued under the new LRDP. Continued compliance with these measures, and with applicable laws, regulations, and policies, would reduce impacts to less-than-significant levels.

In addition, the commenter’s assertion that “there is no way out of the lab or to the lab that does not include travel upon streets which are heavily residential” is not supported. Two of the major routes connecting Berkeley Lab to surrounding highways include University/Oxford/Hearst to the west and Centennial/Grizzly/Highway 13 to the east.

### ***Response U-6***

The commenter is incorrect. Both intersections were evaluated in the DEIR and would have no change in level of service as a result of the project. The DEIR thus found that no significant impact would result. Specific analysis for safety and emergency access was conducted for the Panoramic Way/Canyon Road-Stadium Rim Way Intersection. It was determined that the project would not result in a significant effect on this intersection (see pages IV.L-29 through IV.L-31). Please see also the response to Comment L-1.

Centennial Drive may be used by Lab employees traveling to and from Contra Costa County via Wildcat Canyon Road and Grizzly Peak Boulevard. However, use of this route would not affect

the intersections noted by the commenter, as this route does not pass along Centennial Drive below the Grizzly Peak Gate.

### ***Response U-7***

Please see the response to Comment E-2 concerning effects on the UC Berkeley Botanical Garden. Also please see the response to Comment C-21, concerning Strawberry Canyon in its entirety as a cultural landscape.

### ***Response U-8***

Please see the response to Comments C-21 and E-4.

### ***Response U-9***

Please see the response to Comment C-2 concerning the preparation of separate Long-Range Development Plans by Berkeley Lab and UC Berkeley. Concerning cumulative impacts, please see also the response to Comment C-68. Concerning the health risk assessment, please see the response to Comment I-7, where it is stated that the health risk assessment accounts for anticipated future development at the Lab. The assumptions relied upon in the health risk assessment represented the best available information at the time the assessment was conducted.

### ***Response U-10***

The commenter's concern regarding proper study of impact interaction is noted. Each of the areas addressed by the commenter was properly analyzed in Sections IV.D, IV.E, and IV.F of the DEIR. LBNL disagrees with the commenter's statement that impacts have been underestimated. Project-specific and cumulative impacts have been evaluated and mitigation identified, where applicable.

### ***Response U-11***

The commenter is addressing the use of the Richmond Field Station, which would occur under the Off-Site Alternative. Please see the response to Comment C-69 for discussion regarding this alternative.

### ***Response U-12***

The Berkeley Lab site was originally selected as a suitable site for the 184-inch cyclotron and to expand Ernest Lawrence's work, which had outgrown its accommodations on the UC Berkeley campus. The laboratory facilities expanded rapidly during the 1940s in response to national defense needs during World War II and the Cold War. The site in the Berkeley Hills was chosen not for its views of surrounding amenities, but for its separation from developed areas yet proximity to the UC Berkeley campus and its researchers, faculty, and staff.

**Insert**

**Mike Vandeman, March 9, 2007 (Comment Letter V)**

**Page 1 of 2**

**Insert**

**Mike Vandeman, March 9, 2007 (Comment Letter V)**

**Page 2 of 2**

**Mike Vandeman, March 9, 2007 (Comment Letter V)*****Response V-1***

This comment is directed at the merits of the LRDP and various projects undertaken to carry out LBNL's research mission, rather than environmental issues evaluated in the EIR. This comment will be part of the overall record considered by LBNL and by the Regents in determining whether to proceed with adoption of the LRDP. With respect to climate change issues, please see the response to Comment A-4. With respect to biological impact issues, the Draft EIR included a full evaluation of biological impacts and the potential loss of habitat, and based on site surveys and analysis, and the imposition of mitigation measures, the Draft EIR concluded that there would be no significant impacts.

**Insert**

**Jane White, February 26, 2007 (Comment Letter W)**

**Page 1 of 2**

**Insert**

**Jane White, February 26, 2007 (Comment Letter W)**

**Page 2 of 2**

**Jane White, February 26, 2007 (Comment Letter W)**

***Response W-1***

Please see the response to Comment A-4 for discussion regarding global warming.

## **Insert Public Hearing Transcript**

(59 pages)

## **Public Hearing, February 26, 2007, Comments from various speakers (Comments Lettered “X-1 through X-41”)**

### ***Response X-1***

As noted in the response given at the public hearing, the public was encouraged to ask questions at the hearing, and was advised that the responses to such questions would be included in this Final EIR. This Final EIR responds to all of the questions and comments that were raised relating to environmental issues.

### ***Response X-2***

As stated at the Public Hearing, the purpose of the hearing was for the Lab to briefly present the EIR and to then receive questions and comments on the merits of the EIR in a public forum. Questions posed by commenter’s were carefully recorded and then responded to in the Final EIR. The Public Hearing would not have been an appropriate forum for discussion or debate of various issues pertaining to the EIR, the project, or other projects at LBNL or the University. One reason is that complete, accurate, and fully considered answers could not be provided at such a limited forum – many of these questions would require deliberation and input from various technical experts. Another reason is that open-ended, two-way discussions on various issues would likely distract the meeting from its required purpose; to provide an opportunity for every person present to have their comments aired, recorded for the record and responded to in the Final EIR.

### ***Response X-3***

Please see Response A-4 for discussion regarding greenhouse gas emissions.

### ***Response X-4***

The 2006 LRDP is consistent with the University’s Presidential Policy for Green Building Design and Clean Energy Standards, adopted in July 2003 (amended October 24, 2003), which seeks to minimize the University’s impact on the environment and to reduce the University’s dependence on non-renewable energy (see page III-35). Alternate forms of transportation were also addressed in the DEIR, including the increased use of alternate modes of transit through improvements to the Laboratory’s shuttle bus service (see page IV.L-24).

In addition, the Helios Research Facility (which would incorporate the EBI program; see Response F-8), is a project that would be completed pursuant to the 2006 LRDP EIR. The goal of the Helios project is to accelerate the development of renewable and sustainable sources of energy using sunlight by developing fundamentally new and optimized materials for use in collectors, efficient processing steps, and energy handling. It is currently anticipated that a tiered CEQA review for this facility would be conducted in 2007. (See page III-19 and Appendix D).

### ***Response X-5***

The DEIR found that based on the current and expected demand for fire protection services and discussion with the Alameda County Fire Department, it is not anticipated that implementation of

the 2006 LRDP would result in the need for new facilities, staff or equipment to provide adequate fire protection and the impact would be less than significant (page IV.K-17).

In addition, as described in Section IV.C, Biological Resources, LBNL actively manages vegetation over the entire site to minimize fire damage in the event of a major wildland fire. The Lab's vegetation management program integrates aesthetic, view, horticultural, and fire safety factors. Site-wide, vegetation, or wildland fire fuel, is managed to protect the Lab's buildings and workspaces during a worst-case Diablo wind-driven fire (winds similar to the 1991 Oakland Hills Fire) and any lesser wildland fire.

### ***Response X-6***

The commenter's discussion regarding development since 1965 is noted. Recent development at LBNL has all undergone CEQA review, including tiered reviews based on the 1987 LRDP EIR, as amended. In those instances where less review was undertaken, (such as a tiered negative declaration rather than a separate EIR); it was because the project was within the parameters of the 1987 LRDP EIR. CEQA includes a number of provisions allowing lead agencies to tier their environmental reviews so that issues evaluated in a planning EIR (such as the 1987 LRDP EIR), do not need to be re-evaluated when particular projects consistent with that plan are considered.

### ***Response X-7***

The DEIR, page IV.F-5 states that all areas of soil contamination have been cleaned up to levels consistent with Berkeley Lab operations (designated as institutional land use) and acceptable to regulatory oversight agencies.

Currently, there are about 150 groundwater monitoring wells at LBNL, with an additional groundwater monitoring well located off-site. In addition, remediation and monitoring of non-radioactive contamination in groundwater is being conducted under the Resource Conservation and Recovery Act of 1976 Corrective Action Program, while monitoring of a tritium plume in groundwater is being conducted under the Atomic Energy Act.

Site cleanup activities are coordinated closely with the regulatory oversight agencies. LBNL submits quarterly progress reports to these agencies and meets with them periodically to review the status of these activities. Progress has also been reviewed by the City of Berkeley Community Environmental Advisory Commission and members of the community. Plans and reports of this project are maintained at the Berkeley Public Library and are available at the following LBNL web site: <http://www.lbl.gov/ehs/erp/html/documents.shtml> (see page IV.F-8).

Deed restrictions are generally a requirement of remediation activities, as noted by the commenter. Once clean-up has occurred to the required level, deed restrictions are imposed as a precautionary measure to prevent potential exposures from particular sensitive future uses.

**Response X-8**

As stated on page IV.B-41, a human health risk assessment was prepared to identify risks resulting from the implementation of the LRDP. The health risk assessment examined total lifetime excess risk (cancer and non-cancer) results to typical on-site workers and off-site residents from development during the LRDP period as well as existing LBNL operations at the start of the LRDP period and the potential cumulative risk from other contributing sources in the vicinity of LBNL.

The health risk assessment concluded that cancer risk and non-cancer hazard for off-site receptors, including residential receptors, resulting from air emissions from LBNL emission sources would not be significant relative to generally accepted regulatory thresholds. The majority of the risk and hazard are, and would continue to be, due to emissions of diesel particulate matter, which is a ubiquitous pollutant in the Berkeley and greater Bay Area. Furthermore, LBNL has already taken steps to help reduce diesel particulate emissions from the Laboratory, including use of a bio-diesel fuel in diesel combustion sources (mobile and stationary, as practicable) and the addition of control devices (i.e., catalytic oxidation units, diesel particulate filters) on new emergency back-up electrical generators, both of which reduce emissions of diesel particulate matter and other toxic pollutants. Further, the area subject to the modeled exceedance of health risk will decrease substantially in the future, and this decrease will occur with or without the project. For on-site (worker) receptors, one location was identified where the increase in lifetime cancer risk would exceed the 10-in-one-million threshold, resulting in a significant impact. Implementation of Mitigation Measure AQ-4a, as set forth in the DEIR on page IV.B-46, would reduce the impact to a less-than-significant level. The impact of non-cancer hazard to on-site receptors would be less than significant.

**Response X-9**

The increase in impervious surface area was adequately addressed in the DEIR. Please see Response J-5 for further discussion.

**Response X-10**

The DEIR, in Impact TRANS-7 (page IV.L-41), evaluated potential effects of truck traffic on local streets in Berkeley and determined that the effect would be less than significant. Specifically, the analysis considered truck traffic anticipated to result from implementation of the draft LRDP (including traffic resulting from the Building 51/Bevatron demolition project) and found that “an asphalt overlay over the current roadway would likely not be needed in order for the streets analyzed to accommodate the additional truck traffic resulting from LRDP-related construction.”

With specific regard to the proposed Building 51/Bevatron demolition project, the Draft EIR for that project (available on the Berkeley Lab website at: <http://www.lbl.gov/Community/ERD-DEIR-bldg-51.html>) analyzed accident potential on several roadways leading to and from Berkeley Lab and found that the Bevatron demolition “would neither change the physical characteristics of the street network serving the site, nor generate traffic that is incompatible with

existing traffic patterns [and that it] would be unlikely that the rate of motor vehicle accidents (i.e., accidents per number of vehicles) would increase as a result of the project.”<sup>13</sup>

### **Response X-11**

Please see Response X-8. In addition, commenter is concerned with the Lab’s continued operation in proximity to residential uses. LBNL is an existing operation, not resulting in any land use change. For further discussion, please see Section IV.H in the DEIR.

### **Response X-12**

Please see Response J-3.

### **Response X-13**

Please see Response O-2 for discussion regarding GMO’s and biohazards. In regard to nanotechnology, please see Response H-1.

### **Response X-14**

With regard to impervious surfaces, please see Response J-5. For discussion regarding earthquake risks, please see Response C-23, as well as Section IV.E of the DEIR.

### **Response X-15**

Commenter’s opinions are noted. Please see Response T-1.

### **Response X-16**

LBNL disagrees with the comment about the adequacy of the public participation process. This process included substantial consultation with the public and with the City of Berkeley, which went beyond the legal requirements of CEQA. CEQA does not require any public hearings, however LBNL scheduled one to take additional comments on the EIR.

The three-minute time limit imposed at the hearing is consistent with time limits often imposed at public hearings. That time limit is important so that no one speaker monopolizes a public hearing. Speakers at the hearing were also allowed to present additional comments at the end of the hearing. In addition, anyone who wished to submit more lengthy comments was able to do so by submitting written comments, which many members of the public did.

### **Response X-17**

Please see Response J-5.

### **Response X-18**

Please see Response S-2

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<sup>13</sup> LBNL, *Demolition of Building 51 and the Bevatron Draft EIR*, page IV.K-16.

**Response X-19**

This comment is directed at the merits of the LRDP and various projects undertaken to carry out LBNL's research mission, rather than environmental issues evaluated in the EIR. This comment will be part of the overall record considered by LBNL and by the Regents in determining whether to proceed with adoption of the LRDP.

**Response X-20**

Please see Response O-2.

**Response X-21**

For discussion on global warming, please see Response A-4. For discussion regarding GMO's, please see Response O-2.

**Response X-22**

The commenter is apparently addressing the proposed cooperative research agreement between the University of California and BP, and the commenter's opinion is noted. The comment does not address the environmental review of the proposed LRDP. Under CEQA, no further response is required.

**Response X-23**

In addition to the Project itself, the DEIR included a range of project alternatives, in compliance with CEQA. A substantial portion of the proposed development under the draft LRDP does consist of infill within the already developed areas of the Lab's hill site, including the potential demolition of outdated buildings and construction of new buildings in their stead. As stated in the Project Description, DEIR page III-31, "Most new buildings would be located on infill sites and/or adjacent to existing facilities, resulting in a higher density of development within each cluster and retention of more undeveloped space between clusters." DEIR page III-30 states further that areas of the Lab designated Perimeter Open Space on the land use map (DEIR Figure III-3) "would encompass areas set aside due to constraints that require that minimal intrusion or activity occur, and other areas that are intended to remain primarily as open space because they enhance the visual image of the Lab from within and outside the site."

Moreover, the draft 2006 LRDP itself includes numerous goals and policies aimed at minimizing loss of open space areas on the Lab's hill site. Among the strategies in the draft LRDP, as set forth in DEIR Appendix B, are the following, which speak to clustering of development outside of open space:

- Protect and enhance the site's natural and visual resources, including native habitats, riparian areas and mature tree stands by focusing future development primarily within the already developed areas of the site
- Configure and consolidate uses to improve operational efficiencies, adjacencies and ease of access

- Minimize the visibility of Laboratory development from neighboring areas
- Increase development densities within areas corresponding to existing clusters of development to preserve open space, enhance operational efficiencies and access
- To the extent possible, site new projects to replace existing outdated facilities and ensure the best use of limited land resources
- To the extent possible, site new projects adjacent to existing development where existing utility and access infrastructure may be utilized
- Preserve and enhance the native rustic landscape and protect sensitive habitats
- Maintain and enhance tree stands to reduce the visibility of Laboratory buildings from significant public areas in neighboring communities

As stated in response to Comment D-2, Chapter V of the DEIR found that cumulative impacts related to air quality and noise would remain significant and unavoidable even with implementation of the No Project Alternative, because the contribution to cumulative air toxics impacts from continued operation of Berkeley Lab (even without implementation of the 2006 LRDP) would remain significant and unavoidable, and because future redevelopment on the hill site pursuant to the existing 1987 LRDP EIR, as amended, would result in temporary contributions to cumulative noise impacts related to construction and demolition activities. Likewise, an alternative in which all new buildings were constructed at the locations of existing buildings or other existing development (e.g., roads, parking areas) would not avoid these cumulative significant impacts, nor would it avoid the project's cumulative traffic impacts, nor the project-specific impacts of the proposed LRDP related visual quality, temporary construction noise, or traffic, assuming the general intensity of development were the same. Therefore, such an alternative would not reduce or eliminate any of the project's significant, unavoidable impacts. In addition to the Project itself, the DEIR included a range of project alternatives, in compliance with CEQA. A substantial portion of the development does consist of infill, and of construction of new facilities on sites where unsuitable facilities are to be removed. Construction of new facilities only as infill would not provide Berkeley Lab the planning flexibility it needs to meet its project objectives (Draft EIR p. 20), and which may be needed to support alternatively financed and collaborative projects such as Helios and CRT.

### ***Response X-24***

The commenter is incorrect regarding the inexistence of a LRDP in the years 2000 and 2001. LBNL's existing LRDP and EIR were approved in 1987. The EIR was updated by a Supplemental EIR in 1992 and an Addendum in 1997. These projects were tiered from the 1987 LRDP, as amended.

The project involves the adoption and implementation of the proposed LBNL 2006 LRDP. The Draft LRDP was published concurrently with this EIR in January 2007 and is incorporated by reference into the EIR. The proposed 2006 LRDP has been publicly circulated with the EIR.

**Response X-25**

Commenter's opinion regarding stewardship on the part of the Lab is noted. The comment does not specifically address the DEIR and thus, no further response is required.

**Response X-26**

Please see Response F-6.

**Response X-27**

Please see Responses F-4 through F-7.

**Response X-28**

Please see Response F-17.

**Response X-29**

Please see Response F-13.

**Response X-30**

The Project Description specifically notes the interrelation between the UC Berkeley campus and the Lab. The DEIR both acknowledges and discloses this joint interaction.

**Response X-31**

Please see response J-5.

**Response X-32**

Please see Responses C-9 and J-3.

**Response X-33**

Packaging and labeling of hazardous and radioactive materials is discussed in Chapter IV.F, Hazards and Hazardous Materials. DOT requirements for the transportation of these materials in commerce are specified in Title 49 of the Code of Federal Regulations (CFR), Subchapter C. Where any material meets the DOT definition of hazardous or radioactive, it would be transported in compliance with these requirements. This may or may not require the use of specified packaging, depending on the potential for dispersion of the material during transit. Materials that are not defined as hazardous or radioactive in accordance with DOT regulations have no specified packaging requirements. There are numerous other basic transportation requirements that govern the transportation of all materials in commerce. For example, loads must be secured using DOT-approved hold down devices which would ensure that materials do not fall from a vehicle during transportation. Where small objects or debris which cannot themselves be adequately secured to a vehicle are transported, such materials would be packaged in a "strong, tight" package which is designed to contain materials during all conditions incident

to normal transportation. Examples of such containers include metal boxes or covered roll-off containers. General non-hazardous construction debris or soil which would be transported in a dump truck must conform to requirements for a cover on the load to prevent release of materials to the roadway or otherwise endanger other vehicles while in transit. Transportation of demolition debris would be conducted in compliance with all applicable Federal, State, and local regulations. LBNL intends to use only transportation companies that are fully licensed and registered for commercial transportation activities

**Response X-34**

Please see Response G-6 regarding groundwater contamination.

**Response X-35**

Please see Response O-2.

**Response X-36**

As stated in Response X-16, LBNL disagrees with the statements that the public participation process for this EIR was inadequate. The evolution of this LRDP from what was originally proposed contradicts the commenter's criticism that the participation process was simply to clear the way for a project that was already finalized or completed. Here, in contrast, the scope of the proposed LRDP was substantially revised in response to the consultation process, in particular the consultation with the City of Berkeley.

**Response X-37**

This comment is directed at the merits of the LRDP and various projects undertaken to carry out LBNL's research mission, rather than environmental issues evaluated in the EIR. This comment will be part of the overall record considered by LBNL and by the Regents in determining whether to proceed with adoption of the LRDP.

**Response X-38**

The comments regarding "demilitarization" of the University are noted. LBNL does not perform military research. Much of the ongoing research at LBNL that will be facilitated by implementation of the LRDP will be research on renewable energy sources and related fields.