

CHAPTER V

Mitigation Monitoring and Reporting Program

Introduction

This Mitigation Monitoring and Reporting Program (MMRP) addresses mitigation measures (MMs) identified in the Building 51 and Bevatron Demolition Project EIR. The MMRP is included as a condition of project approval. The MMRP is prepared to comply with Section 15097 of the CEQA Guidelines, which requires that the Lead Agency “adopt a program for monitoring or reporting the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects.”

Mitigation Monitoring

LBNL both monitors and reports on its project mitigation measures. The project-specific monitoring would determine and report whether:

- Appropriate project-specific and 1997 LRDP, as amended, mitigation measures were included in basic project planning;
- Construction/Demolition contracts included LRDP and specific mitigation provisions;
- Project management mitigations were implemented; and,
- Relevant 1997 LRDP, as amended and project-specific mitigation measures were implemented throughout the demolition process.

Table VI-1 lists measures specific to the Building 51 and Bevatron Demolition Project, while Table VI-2 lists 1987 LRDP EIR, as amended, mitigation measures that apply to the project. The first column of each table shows the impact identified in the EIR, The second column shows the measure or practice recommended to address that impact. Column three shows the timing during the development or conduct of the project when the mitigation would be required; the timing milestones correspond to the project funding and implementation process. The fourth column identifies those parties responsible for ensuring implementation of each mitigation measure. (In some instances, a person or unit implements the practice or measure; in some instances, a person or unit has responsibility to track and manage a process to ensure that it is implemented.)

Implementation of this MMRP would ensure that every potentially significant impact identified in the EIR, with the exception of the one cultural impact identified as significant and unavoidable, would be reduced to a less than significant level.

At LBNL, the Facilities Planning Group maintains MMRP records for each project. The reporting procedures of the MMRP document the on-going implementation of the required mitigation measures for the project. Reporting generally involves the following:

- Distribution of checklists to responsible entities.
- Responsible entities verify compliance by preparing written reports on checklist-mandated measures, and returning those reports to the Lab's chief Environmental Planner for record keeping.
- The Environmental Planner prepares a summary report on mitigation compliance.
- All reports and checklists related to a project's MMRP are available for agency and public review upon request.

The University reserves the right to make amendments and/or substitutions of MMs if, in the University's discretion, it is determined that the amended or substituted MM will eliminate the potential for an environmental impact to at least the same degree as the original MM and where the amendment or substitution would not result in a new significant impact on the environment which cannot be mitigated.

Reporting

The individuals or organizations designated in the tables with responsibility for compliance are required to prepare periodic progress reports on all of the assigned measures within their respective areas of responsibility. The progress reports shall analyze the progress to date, evaluate the ability to complete the mitigation measures on schedule and propose corrective actions as necessary. The LBNL Facilities Planning group will collect and consolidate progress reports, prepare summaries, and maintain these in a reporting record.

The LBNL Director is ultimately responsible for the enforcement of the adopted mitigation measures. All progress reports, summaries and correction instructions will be publicly available upon request from the Facilities Planning group.

**TABLE V-1
PROJECT-SPECIFIC MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Project-Specific Mitigation Measure	Timing	Responsibility
C. Biological Resources			
<p>IV.C-1: Noise and activities associated with demolition may indirectly disturb nesting special-status birds such that they abandon their nests or such that their reproductive efforts fail.</p>	<p>Project Measure IV.C-1: Pre-Demolition Special-Status Avian Survey and Subsequent Actions. No more than two weeks in advance of any demolition activity involving concrete breaking or similarly noisy or intrusive activities that will commence during the breeding season (February 1 through July 31), a qualified wildlife biologist shall conduct pre-demolition surveys of all potential special-status bird nesting habitat in the vicinity of the Building 51 project site and, depending on the survey findings, the following actions shall be taken to avoid potential adverse effects on nesting special-status nesting birds:</p> <ol style="list-style-type: none"> 1. If active nests of special-status birds are found during the surveys, a no-disturbance buffer zone will be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them will be determined through consultation with the California Department of Fish and Game (CDFG), taking into account factors such as the following: <ol style="list-style-type: none"> a. Noise and human disturbance levels at the project site and the nesting site at the time of the survey and the noise and disturbance expected during the construction activity; b. Distance and amount of vegetation or other screening between the project site and the nest; c. Sensitivity of individual nesting species and behaviors of the birds. 2. If pre-demolition surveys indicate that no nests of special-status birds are present or that nests are inactive or potential habitat is unoccupied, no further mitigation is required. 3. Pre-demolition surveys are not required for demolition activities scheduled to occur during the non-breeding season (August 1 through January 31). 4. Noisy demolition activities as described above (or activities producing similar noise and activity levels in the vicinity) commencing during the non-breeding season and continuing into the breeding season do not require surveys (as it is assumed that any breeding birds taking up nests would be 	<p>Pre-demolition</p>	<p>Building 51 and Bevatron Demolition Project Manager LBNL Environmental Planning staff</p>

TABLE VI-1 (continued)
PROJECT-SPECIFIC MITIGATION MONITORING AND REPORTING PROGRAM

Impact	Project-Specific Mitigation Measure	Timing	Responsibility
C. Biological Resources (cont.)			
IV.C-1 (cont.)	<p>acclimated to project-related activities already under way). However, if trees and shrubs are to be removed during the breeding season, the trees and shrubs will be surveyed for nests prior to their removal, according to the survey and protective action guidelines 1a through 1c, above.</p> <ol style="list-style-type: none"> 5. Nests initiated during demolition activities are presumed to be unaffected by the activity, and a buffer is not necessary. 6. Destruction of active nests of special-status birds and overt interference with nesting activities of special-status birds shall be prohibited. 7. The noise control procedures for maximum noise, equipment, and operations identified in Section IV.I of the Draft EIR shall be implemented. 8. After consideration of LRDP Mitigation Measure III-D-2c, shrubs that have been determined to be unoccupied by special-status birds may be removed as long as they are located outside of any buffer zones established for active nests. 		
IV.C-2: Noise and activities associated with demolition on the project site could indirectly cause roost abandonment and death of the young of special-status bats roosting in the trees immediately to the east and south of the project site.	<p>Project Measure IV.C-2: Pre-Demolition Special-Status Bat Survey and Subsequent Actions. No more than two weeks in advance of any demolition activity involving concrete breaking or similarly noisy or intrusive activities, that will commence during the breeding season (March 1 through August 31), a qualified bat biologist, acceptable to the CDFG, shall conduct pre-demolition surveys of all potential special-status bat breeding habitat in the vicinity of the Building 51 project site.</p> <p>Under such surveys, potentially suitable habitat shall be located visually. Bat emergence counts shall be made at dusk as the bats depart from any suitable habitat. In addition, an acoustic detector shall be used to determine any areas of bat activity. At least four nighttime emergence counts shall be undertaken on nights that are warm enough for bats to be active, as determined by a qualified bat biologist.</p> <p>Depending on the survey findings, the following actions shall be taken to avoid potential adverse effects on breeding special-status bats:</p>	Pre-demolition	<p>Building 51 and Bevatron Demolition Project Manager</p> <p>LBNL Environmental Planning staff</p>

TABLE VI-1 (continued)
PROJECT-SPECIFIC MITIGATION MONITORING AND REPORTING PROGRAM

Impact	Project-Specific Mitigation Measure	Timing	Responsibility
C. Biological Resources (cont.)			
IV.C-2 (cont.)	<ol style="list-style-type: none"> 1. If active roosts are identified during pre-demolition surveys, a no-disturbance buffer will be created, in consultation with the CDFG, around active roosts during the breeding season. The size of the buffer will take into account factors such as the following: <ol style="list-style-type: none"> a. Noise and human disturbance levels at the project site and the roost site at the time of the survey and the noise and disturbance expected during the construction activity; b. Distance and amount of vegetation or other screening between the project site and the roost; and c. Sensitivity of individual nesting species and the behaviors of the bats. 2. If pre-demolition surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required. 3. Pre-demolition surveys are not required for demolition activities scheduled to occur during the non-breeding season (September 1 through February 28). 4. Noisy demolition activities as described above (or activities producing similar noise and activity levels in the vicinity) commencing during the non-breeding season and continuing into the breeding season do not require surveys (as it is assumed that any bats taking up roosts would be acclimated to project-related activities already under way). However, if trees are to be removed during the breeding season, the trees would be surveyed for roosts prior to their removal, according to the survey and protective action guidelines 1a through 1c, above. 5. Bat roosts initiated during demolition activities are presumed to be unaffected by the activity, and a buffer is not necessary. 6. Destruction of roosts of special-status bats and overt interference with roosting activities of special-status bats shall be prohibited. 7. The noise control procedures for maximum noise, equipment, and operations identified in Section IV.I of the Draft EIR shall be implemented. 		

TABLE VI-1 (continued)
PROJECT-SPECIFIC MITIGATION MONITORING AND REPORTING PROGRAM

Impact	Project-Specific Mitigation Measure	Timing	Responsibility
C. Biological Resources (cont.)			
IV.C-2 (cont.)	8. After consideration of LRDP Mitigation Measure III-D-2c, shrubs that have been determined to be unoccupied by special-status bats and that are located outside the no-disturbance buffer for active roosts may be removed.		
K. Transportation and Traffic			
IV.K-1: The proposed project, including demolition and earthmoving activities such as excavation, backfill, and grading, would temporarily and intermittently increase traffic volumes on roadways used by demolition-related vehicles.	Project Measure IV.K-1: The frequency of truck trips (loaded or empty) shall be no greater than (a) one every 10 minutes (six truck trips per hour) during the a.m. and p.m. peak commute hours, and (b) one every five minutes (12 truck trips per hour) during periods other than the a.m. and p.m. peak commute hours.	Throughout project	Building 51 and Bevatron Project Manager

TABLE VI-2
1987 LRDP EIR MITIGATION MONITORING AND REPORTING PROGRAM

Impact	1987 LRDP EIR, as amended, Mitigation Measure	Timing	Responsibility
A. Aesthetics			
	Mitigation Measure III-D-2a: Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses will be included as part of all new projects.	Pre-demolition	Building 51 and Bevatron Demolition Project Manager
B. Air Quality			
	Mitigation Measure III-J-1: Construction contract specifications would require that during construction exposed surfaces would be wetted twice daily or as needed to reduce dust emissions. In addition, contract specifications would require covering of excavated materials. (LBNL Facilities Department Master Specifications require that contractors comply with all BAAQMD Rules and Regulations such as, for example, the use of acceptable solvent-based products such as coatings and sealants.)	Project Design	Building 51 and Bevatron Demolition Project Manager
C. Biological Resources			
	Mitigation Measure III-D-2a: Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses will be included as a part of all new projects.	Post-demolition	Building 51 and Bevatron Demolition Project Manager
	Mitigation Measure III-D-2b: Invasion of opportunistic colonizer trees and shrubs will be controlled. A maintenance program for controlling further establishment of eucalyptus, green wattle acacia, French broom, cotoneaster, and other opportunistic colonizer shrubs and trees in disturbed areas on-site will be undertaken. Herbicides will not be used for this purpose.	Throughout Project	LBNL Environmental Planning staff
	Mitigation Measure III-D-2c: Removal of native trees and shrubs will be minimized. (To the greatest extent possible, the removal of large coast live oak, California bay, and Monterey pine trees will be avoided.)	Throughout Project	
D. Cultural Resources			
	Mitigation Measure III-E-1a: A photographic record will be made of all structures demolished as part of future projects.	Project Design	LBNL Environmental Planning staff
	Mitigation Measure III-E-1b: An individual well-versed in the history of science in the twentieth century will evaluate the significance of specific pieces of equipment that may be replaced due to obsolescence or a change in the vector of research.	Project Design	

TABLE VI-2 (continued)
1987 LRDP EIR MITIGATION MONITORING AND REPORTING PROGRAM

Impact	1987 LRDP EIR, as amended, Mitigation Measure	Timing	Responsibility
E. Geology and Soils			
	<p>Mitigation Measure III-B-1: Geologic and soils studies will be undertaken during the design phase of each LBNL building project. Recommendations contained in those studies would be followed to ensure that the effects of landsliding, lurching, and liquefaction potential will not represent a significant adverse impact during a seismic event.</p>	Project Design	
	<p>Mitigation Measure III-B-2a: Excavation and earth moving will be designed for stability, and accomplished during the dry season when feasible. Drainage will be arranged to minimize silting, erosion, and landsliding. Upon completion, all land will be restored, covering exposed earth with planting.</p> <p>Mitigation Measure III-B-2c: Excavations will be shored as required by law to preclude minor short-term landslides during construction.</p>	Project Design / Implementation	
	<p>Mitigation Measure III-B-2d: Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses will be included as part of all new projects.</p>	After all demolition and grading	
F. Hazards and Hazardous Materials			
	<p>Mitigation Measure IV-K-1: LBNL will prepare an annual self-assessment summary report. The report will summarize environment, health, and safety program activities, and identify any areas where LBNL is not in compliance with laws and regulations governing hazardous materials, hazardous waste, hazardous materials transportation, regulated building components, worker safety, emergency response, and remediation activities.</p>	Throughout project	Building 51 and Bevatron Project Manager
	<p>Mitigation Measure IV-K-2a: Prior to shipping any hazardous materials to any hazardous waste treatment, storage or disposal facility, LBNL will confirm that the facility is licensed to receive the type of waste LBNL is proposing to ship to that facility.</p>		
	<p>Mitigation Measure IV-K-2b: LBNL will continue its waste minimization programs and strive to identify new and innovative methods to minimize hazardous waste generated by LBNL activities.</p>		

TABLE VI-2 (continued)
1987 LRDP EIR MITIGATION MONITORING AND REPORTING PROGRAM

Impact	1987 LRDP EIR, as amended, Mitigation Measure	Timing	Responsibility
	<p>Mitigation Measure IV-K-3: LBNL will require hazardous waste haulers to provide evidence that they are appropriately licensed to transport the type of wastes being shipped from LBNL.</p> <p>Mitigation Measure IV-K-5: In addition to implementation of the numerous employee communication and training requirements included in regulatory programs, LBNL will undertake the following additional measures as ongoing reminders to workers of health and safety requirements:</p> <ul style="list-style-type: none"> • Posting, in areas where hazardous materials are handled, of phone numbers of LBNL offices, which can assist in proper handling procedures and emergency response information. • Continuing to post "Emergency Response and Evacuation Plans" in all LBNL buildings. • Continuing to post all sinks in areas where hazardous materials are handled with signs reminding users that hazardous wastes cannot be poured down the drain. • Continuing to post dumpsters and central trash collection areas where hazardous materials are handled with signs reminding users that hazardous wastes cannot be disposed of as trash. <p>Mitigation Measure IV-K-6: LBNL will update its emergency preparedness and response program on an annual basis, and will provide copies of this program to local emergency response agencies and to members of the public upon request.</p>		
<hr/>			
G. Hydrology and Water Quality			
	<p>Mitigation Measure III-B-2a: Excavation and earth moving will be designed for stability, and accomplished during the dry season when feasible. Drainage will be arranged to minimize silting, erosion, and landsliding. Upon completion, the land will be restored, covering exposed earth with planting.</p> <p>Mitigation Measure III-B-2d: Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses, will be included as part of all new projects.</p> <p>Mitigation Measure III-C-2: Each individual project will continue to be designed and constructed with adequate storm drainage facilities to collect surface water from roofs, sidewalks, parking</p>	Design and throughout Project	Building 51 and Bevatron Project Manager

TABLE VI-2 (continued)
1987 LRDP EIR MITIGATION MONITORING AND REPORTING PROGRAM

Impact	1987 LRDP EIR, as amended, Mitigation Measure	Timing	Responsibility
	lots, and other surfaces and deliver it into existing channels which have adequate capacity to handle the flow. Cumulative Impacts: Potential adverse impacts to water quality can be reduced if LBNL adopts feasible mitigation measures to control surface water runoff, prevent erosion, and maintain adequate drainage facilities.		
H. Land Use and Planning	None required.		
I. Noise	Mitigation Measure III-K-1: Projected noise levels will be compared with ambient noise levels and the Berkeley Noise Ordinance limits, or other applicable regulations. Acoustical performance standards would be included in future contract documents. LBNL will continue to design, construct and operate buildings and building equipment taking into account measures to reduce the potential for excessive noise transmission. Mitigation Measure III-K-2: Noise-generating construction equipment will be located as far as possible from existing buildings. If necessary, windows of laboratories or offices will be temporarily covered to reduce interior noise levels on-site.		Building 51 and Bevatron Project Manager
J. Public Services	None required.		
K. Transportation and Traffic	None required.		
L. Utilities, Service Systems and Energy	Mitigation Measure III-M-1: Prior to construction of any project which may add significant sewer load to the city sanitary sewer system, LBNL will investigate the potential impact of the project on the city system. LBNL will identify mitigation measures to accommodate the sewer load if the impact investigation indicates that the city system could not accommodate the additional sewage. LBNL will reimburse the City of Berkeley and/or EBMUD for its fair share of allowable and necessary sewer improvement capital costs which are needed to accommodate increased demand and mitigate sewer impacts resulting from implementation of the LBNL LRDP.	Project Design	Building 51 and Bevatron Project Manager

APPENDIX E

Technical Memorandum, July 3, 2007

TECHNICAL MEMORANDUM

1. Purpose of the Memorandum

On October 21, 2005, the University of California released for public review a Draft Environmental Impact Report (DEIR) for the Demolition of Building 51 and the Bevatron at the Lawrence Berkeley National Laboratory (LBNL) in Berkeley, California. The DEIR evaluated the environmental impacts of the demolition of this inactive research facility. As analyzed in the DEIR, the specific sequence of events for the demolition was as follows:

“Under the proposed project, the concrete shielding blocks that surround the Bevatron would be removed, the Bevatron apparatus would be disassembled, Building 51 and the shallow foundation underneath the building demolished, and the resulting debris and other materials removed. The site would then be backfilled, and the fill compacted and leveled.” (DEIR p. II-1)

The sequence of demolition activities assumed that the existing cranes present in the building would be used for the removal of the shielding blocks. Subsequent analysis and consideration developed a project variant that uses an alternative sequence for the project demolition activities as follows:

The project would begin with appropriate sampling and surveys for hazardous building construction materials and debris followed by removal and abatement of all hazardous materials within Building 51. Prior to demolition of the building structures, systems and components, the project would set up additional stormwater drainage and collection systems. Once the building is demolished down to the grade level concrete slab, the Bevatron shielding blocks and equipment would be dismantled and removed with the use of two modern mobile cranes. Finally, the project would demolish and remove the building foundations, tunnels, trenches and slabs and backfill with suitable clean fill material.

In addition, an alternative-schedule project variant was developed to reduce the minimum duration of the project activities from four years to three and one-half years.

The primary purposes of this technical memorandum are to assess these potential changes to the schedule or sequence of activities as originally proposed and to determine whether the alternative-sequence project variant or the alternative-schedule project variant, operating individually or together, would: 1) introduce new impacts, 2) change the level of significance of identified impacts, or 3) require additional mitigation measures to control identified impacts, old or new.

2. Background

The project site is part of the LBNL campus, located in the cities of Berkeley and Oakland in Alameda County, on property owned by the University of California. The proposed project would ultimately convert approximately 2.25 acres (the “demolition zone”) from a developed area (i.e., occupied by Building 51) to an undeveloped area for an indeterminate time, until another use is proposed, approved, and initiated. The remaining part of the four-acre site would be used for parking and staging.

Building 51 is a large (approximately 126,500-gross-square-foot) steel-frame shed-like structure that was built to shelter the Bevatron apparatus and its associated mechanical, electrical, shop, and office functions. The facility began construction in 1949 and was occupied by 1950. The approximately 180-foot-diameter Bevatron was constructed in 1954 and used as a proton synchrotron—a particle accelerator that studied high-energy nuclear processes. Later modifications of the Bevatron enabled researchers to accelerate heavy ions and expand the facility’s usefulness in additional areas, including medical research, cancer treatment, and cosmic ray experiments. The facility operated from 1954 until 1993. Since the end of the Bevatron’s operations in 1993, Building 51 has had limited use for equipment storage, office space, and dry laboratories (e.g., for computer repair).

Hazardous materials that were used or generated at the project site include asbestos-containing materials (ACMs) as part of construction, polychlorinated biphenyls (PCBs) and mercury used in electrical and research equipment, lead shielding, lead-based paint, residual lead dust, radioactive waste, beryllium from the Bevatron components, as well as other hazardous materials.

The project site is entirely paved or developed except for two small areas of ornamental landscaping at the entrance to Building 51. Except for two small ornamental trees there, no trees would require removal to allow for demolition of any of the proposed facility components.

Small areas of the site are underlain by the edges of two groundwater plumes containing volatile organic compounds (VOCs). Soils underneath portions of the site were contaminated by VOCs, petroleum hydrocarbons, polychlorinated biphenyls (PCBs), and/or mercury that were released at unknown times during the period when the Bevatron was in operation. Starting in the early 1990s, investigation and cleanup actions have been undertaken. These actions are under the oversight of the California Department of Toxic Substances Control, which consults with such other agencies as the San Francisco Bay Regional Water Quality Control Board, DOE, and the City of Berkeley Toxics Management Division. As a result of the completion of interim corrective measures at two soil units at Building 51 under the Laboratory’s Environmental Restoration Program, soil contaminants have been reduced to levels considered “protective of human health and the environment” under U.S. Environmental Protection Agency risk assessment guidelines. Groundwater contamination continues to be remediated under the Environmental Restoration Program.

3. Project Variants

A. Alternative-Sequence Variant

The alternative-sequence variant for the project would revise the sequence of demolition activities without changing the overall objective of the project – namely, to demolish the entire building and Bevatron. The following is an outline of the main categories of project activities, in the order in which they would be accomplished under the alternative sequence:

- Utilities and Cold and Dark. The preliminary measures of locating and rerouting electrical and mechanical utilities as necessary would remain as initial actions to secure the site.
- Hazardous Materials and Waste Abatement. Next would come hazardous materials and waste abatement, which would include sampling and surveys to identify hazardous materials contained within the building and in building construction materials, including asbestos, lead-based paint, PCBs, Mercury, Beryllium, and lead dust, as well as removal of all hazardous materials that can be removed by hand methods. Materials such as the heavy depleted uranium blocks, lead paint, lead dust fixed by painting and solvent spills to be disposed of as part of the floor slabs would be protected from demolition activities until the time when they can be removed individually or disposed of as part of the demolition debris.
- Removal and Abatement of Hazardous Building Materials. The asbestos-containing siding materials (transite) would be removed by extracting the fasteners and then removing the siding panels.
- Construction of Retaining Wall. Prior to remaining demolition activities, construct an approximately 170 foot long retaining inside Building 51 along the uphill side of the structure for slope stability. The foundation wall of the existing wall in this area currently provides slope stability but will be removed as part of the project. The new retaining wall would become a permanent feature of the project but would not protrude above ground
- Construct Site Drainage and Collection Systems. In anticipation of rain or potential stormwater runoff that could potentially come in contact with the exposed building interior features or Bevatron components, drainage controls would be installed at the site. The purpose of the site drainage control and collection systems would be to appropriately collect and retain stormwater for analysis to assure that runoff meets discharge requirements prior to discharge into sanitary sewer or storm drains.
- Non-Hazardous Non-Structural Materials. Remove and abate remaining non-hazardous, non-structural building materials.
- Removal of Structural Materials. Demolish remaining load-bearing structural elements of the building down to grade level with the use of excavators, mobile cranes, heavy equipment, and torch/mechanical cutting methods.
- Bevatron and Shielding Block Demolition. Remove the 750 to 800 concrete shielding blocks that surround the Bevatron. Removal of the shielding blocks is anticipated to be completed in less than 100 days. The Bevatron and associated appurtenances such as the steel yokes, magnets, and beamline pipes would then be disassembled using pneumatic impact tools, mechanical saws, and torches.

- **Building Foundations and Backfill.** Finally, the project would involve removal of the shallow foundations of the building, tunnels, trenches, and slabs. The resultant subsurface pit would be backfilled with imported clean fill and compacted to surface grade according to engineering specifications. Prior to backfilling, some areas where subsurface soil is suspected to be contaminated would be evaluated and potentially remediated by the Laboratory’s Environmental Health and Safety Division under the oversight of the appropriate regulatory agency.

The remaining elements of the proposed project such as hydro-seeding the demolition zone with native grasses and leaving the groundwater monitoring wells in place would be identical to that as originally proposed in the DEIR.

B. Alternative Schedule Variant

The alternative-schedule variant for the project would revise the minimum duration of the project from four years to three and one-half years, with the maximum duration of the project remaining at seven years. This schedule variant could apply to the project and to the alternative-sequence variant.

4. Potential Environmental Impacts and Changes to Impacts

The following describes those impacts identified in the DEIR and then discusses potential for changes in impacts or in the significance of those environmental impacts for each of the 12 resource categories that were analyzed in the DEIR. Unless otherwise stated, the following analysis and discussions refer to effects of the Alternative-Sequence Project Variant, under either the project schedule or under the alternative schedule variant. Effects that are due exclusively to the Alternative Schedule are specifically noted as such.

4.1 Aesthetics

Potential impacts related to aesthetics for project activities in the sequence described in the DEIR were related to the changes in the visual quality of the site as well as the potential for an increase in light glare from nighttime activities. Both the revised sequence and the revised schedule would have no effect on the final visual quality of the site and would therefore remain a less than significant impact. The potential for nighttime work would also not change nor would the measures the Lab would take to minimize glare through the use of night shields on outdoor fixtures. Therefore, the potential impact would remain as less than significant.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Aesthetics	Equal impact.	Less than Significant.	None necessary.

4.2 Air Quality

One potential impact related to air quality was identified in the DEIR. The demolition activities were determined to have a potential to generate short-term emissions of criteria pollutants, including particulate matter (dust), tailpipe emissions, asbestos fibers, and odor.

The primary difference between the sequence for the Project as described in the DEIR and the revised sequence would be that the revised sequence could subject the shielding blocks to potential surface damage during the demolition of the building (as the building roof collapses) and the subsequent exposure to the weather of the shielding blocks and Bevatron during the dismantling of the Bevatron. However, the revised sequence alternative proposes to protect the shielding blocks from damage during demolition of the Building 51 structure, thereby preventing any such surface damage.

There would be no appreciable change in the emissions of particulate matter (dust), tailpipe emissions, asbestos fibers and odor due to the change in sequence. The hazardous surficial materials on-site (such as lead dust), would be abated prior to demolition of the building. Removing these hazardous materials would also clean most horizontal surfaces of accumulated non-hazardous particulates. The demolition activity would be the same under either scenario, as would the Asbestos abatement process needed to remove, transport and dispose of the asbestos-containing materials within the structure.

The collapse of the building roof and supporting beams could be expected to cause minor surface damage primarily to the cap shielding blocks and possibly to the exteriors of the supporting blocks as well. The extent of such damage is not known, but the cap blocks are expected to easily withstand the impacts of the falling roof. The impact of the structure on the concrete could be expected to result in some surface spalling only if the surface protection were to fail, but even if that were the case, the resulting concrete chips should be sufficiently large to not become airborne dust and thus could be cleaned up and disposed of properly. Other particulates produced by the demolition, including those produced from the structure itself, as it collapses, would be the same for the sequence described in the DEIR as for the revised sequence.

The subsequent exposure to the weather of the shielding blocks and Bevatron would raise the possibility that any fine dust particles remaining on the surfaces of the blocks and the Bevatron could become airborne. The potential for airborne particulates would be localized to the vicinity of the site, but would continue throughout the process of removing all of the shielding blocks and dismantling the Bevatron. However, this potential would be fully mitigated by the cleaning and/or sealing of the surfaces of the shielding blocks and Bevatron, a part of the hazardous materials abatement that would occur before these items are shipped for disposal. The revised schedule variant would result in the same impact to air quality as analyzed in the DEIR and would therefore remain a less than significant impact.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Air Quality	Equal impact.	Less than Significant.	None necessary.

4.3 Biological Resources

The DEIR identified four different potential impacts related to biological resources from the proposed project. The potential impacts were related to noise disturbances of nesting special-status birds, noise disturbances to special-status bats, harm or disturbances to common wildlife species, and the potential to disturb special-status plant species. The revised sequence would have no significant effect on the proposed timeline or the type and amount of noise generated from the site. Although mobile cranes would be brought in for the removal of the shielding blocks, the noise levels from the mobile cranes or haul trucks would be substantially less than from the hoer-ram, so this would not represent significantly more noise or disturbance than previously analyzed. For either variant, the potential to harm or disturb common wildlife or special-status species would remain equal to that of the project utilizing the sequence of activities analyzed in the DEIR. Therefore, the potential impact would remain less than significant with implementation of the mitigation measures identified in the DEIR.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Biological Resources	Equal impact.	Less than Significant.	None necessary.

4.4 Cultural Resources

Because the revised sequence would result in the demolition of Building 51 and the Bevatron, the potential cultural resource impacts identified in the DEIR would be the same. The changes to the sequence or schedule would not affect the significant and unavoidable impact of the loss of an identified historical resource. Therefore, the potential impact would remain as significant and unavoidable.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Cultural Resources	Equal impact.	Significant and Unavoidable	None necessary.

4.5 Geology and Soils

The potential impact of the DEIR project related to geology and soils would result from the potential for soil erosion and loss of topsoil. The earthwork activities that could expose soils to erosion and loss of topsoil would remain as part of the project utilizing the revised sequence or schedule. The proposed excavation of the shallow foundations and any potentially contaminated soils also would remain. Therefore, the impact would be the same and would be less than significant.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Geology and Soils	Equal impact.	Less than Significant.	None necessary.

4.6 Hazards and Hazardous Materials

The DEIR project would have three potential impacts related to hazards and hazardous materials. The first would be the potential for the workers, the public or environment to be exposed to hazardous substances as a result of the demolition. Of particular concern would be the potential exposure to lead dust, asbestos, hazardous materials within the equipment, and hazardous materials within the shielding blocks or concrete slabs. Revising the sequence of activities or schedule would have no effect on the abatement of these hazardous materials because, under either sequence, the work would still be carried out according to the appropriate regulations and using approved protocols. Abatement of surficial hazardous materials, such as lead dust and beryllium, would occur prior to the demolition of the building and therefore the result would be the same under either sequence. Asbestos abatement would be conducted under the LBNL Asbestos Management Program and handled by a licensed and certified asbestos abatement contractor. For the off-site disposal of materials containing low levels of radioactivity, the procedures set in LBNL PUB-3000 would assure that potential exposure to radioactivity would be far below applicable regulatory limits set by the U.S. Department of Energy and the U.S. Department of Transportation.

The second potential impact would be the potential for encountering contaminated soils during demolition of the subgrade foundations, tunnels, and slabs. This potential impact would also be unchanged by the revised sequence or schedule. These activities of the project would inevitably occur after the building and Bevatron were demolished and so the revised sequence would not affect it.

The final impact would be risk from wildland fires, which would be unchanged by the revised sequence or schedule. Therefore, there would be no change to the significance of the impact in the DEIR.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Hazards and Hazardous Materials	Equal impact.	Less than Significant.	None necessary.

4.7 Hydrology and Water Quality

The removal of the building before the Bevatron could potentially expose the Bevatron, the shielding blocks, the concrete slab and the tunnels to rain and to stormwater runoff during a rainfall event. This revised sequence would require certain measures to ensure that water quality in the stormwater runoff from the site would not be affected. Without protection, the tunnels could be exposed to runoff, which might subsequently leach into the subsurface and affect groundwater quality. A drainage control plan with a collection system for retaining runoff during the remaining demolition activities would be required. The Stormwater Pollution Prevention Plan (SWPPP) would have to incorporate measures to control runoff and prevent all construction pollutants from the site from entering receiving waters. The DEIR discussed the LBNL requirement for a SWPPP and BMPs to control runoff that would be associated with demolition contact water, which includes stormwater, water generated from dust suppression activities, and

potential basement dewatering. This requirement would be the same as for the DEIR project after demolition of the building structure but during the demolition of the foundations and slabs; however, with the change in sequence, the control measures would have to be more extensive without the shelter of Building 51 for the duration of demolition of the shielding blocks and Bevatron. The water collection system would have to collect, store, and treat, if necessary, all water that falls or runs onto the demolition zone. However, as already discussed in the DEIR, discharge of collected water would still be accomplished in compliance with state and federal regulations. Clean wastewater could be discharged into the storm drain but contaminated wastewater would be treated to an acceptable level under a permit, and discharged into the sanitary system. Therefore, with implementation of site drainage control measures compliant with state and federal regulations and mitigation measures from the 1987 LRDP EIR, as amended, there would be no change to the significance of the impacts to hydrology and water quality. The revised schedule variant would result in the same impact to hydrology and water quality as analyzed in the DEIR and would therefore remain a less than significant impact.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Hydrology and Water Quality	Equal impact.	Less than Significant.	None necessary.

4.8 Land Use and Planning

The revised sequence of demolition activities or schedule variant would have no effect on the significance of Land Use and Planning impacts identified in the DEIR. The project would still create temporary and intermittent impacts during the course of the demolition activities as identified in other sections of the DEIR. The project would also still result in a change of use for the site once the demolition is complete. Therefore, the significance would not change with the revised sequence or schedule.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Land Use and Planning	Equal impact.	Less than Significant.	None necessary.

4.9 Noise

The DEIR identified the potential for demolition activities to generate intermittent and temporary noise levels above ambient levels. The analysis of noise generated during demolition combined the dismantling of the shielding blocks and Bevatron along with the demolition of the building as the first basic stage of demolition activity. This stage was determined to produce a noise level of 83 dBA at 50 feet. The loudest source of noise is estimated to be from the use of a hoe-ram impact hammer during demolition of the foundation and substructure, which would generate approximately 96 dBA at 50 feet. The revised sequence would still require the use of the hoe-ram to complete the demolition of the foundation. As stated in the DEIR, all demolition work would be required to meet the maximum noise levels set by the Berkeley Noise Ordinance and the

requirements of the 1987 LRDP EIR, as amended, mitigation measures. Therefore, the potential noise impacts would not change and would remain less than significant. The revised schedule variant would result in the same impact to noise as analyzed in the DEIR and would therefore remain a less than significant impact.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Noise	Equal impact.	Less than Significant.	None necessary.

4.10 Public Services

The revised sequence or schedule would not change the basic demolition activities that would be required, and thus would have no effect on fire and police response times. As to the potential for truck trips to cause wear and tear on public roads, the revised sequence would neither increase nor decrease the number of truck trips or the amounts of materials transported. The same amount of material would be removed from the project site and would require the same type and number of truck trips analyzed in the DEIR. Therefore the potential impact would remain less than significant.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Public Services	Equal impact.	Less than Significant.	None necessary.

4.11 Transportation/Traffic

The DEIR identified four impacts related to Transportation/Traffic, as follows:

- Impact IV.K-1: The proposed project, including demolition and earthmoving activities such as excavation, backfill, and grading, would temporarily and intermittently increase traffic volumes on roadways used by demolition-related vehicles. (Less than Significant with Mitigation)
- Impact IV.K-2: Demolition workers would use the Building 51 staging area for parking. (Less than Significant)
- Impact IV.K-3: The project could potentially affect transit service in the project area. (Less than Significant)
- Impact IV.K-4: The project would generate truck trips carrying hazardous materials, potentially affecting safety. (Less than Significant)

Of these, impacts IV.K-2 through IV.K-4 are less than significant without mitigation; only impact IV.K-1 would require the application of the following mitigation measure to be less than significant.

Mitigation Measure IV.K-1: The frequency of truck trips (loaded or empty) shall be no greater than (a) one every 10 minutes (six truck trips per hour) during the a.m. and p.m. peak commute hours, and (b) one every five minutes (12 truck trips per hour) during periods other than the a.m. and p.m. peak commute hours.

Under this limitation, the projected level of truck traffic would have minimal and less-than-significant effects on traffic flow, even if those trucks were to travel through the congested intersections on University Avenue at San Pablo Avenue and Sixth Street during the peak commute hours. Project-generated hourly truck trips would represent an increase of no more than about 0.9 percent above the a.m. and p.m. peak-hour traffic volumes, respectively, at the above-cited congested intersections.¹²

Significance after Mitigation: Less than Significant

Discussion

The DEIR provides the following information about traffic, especially the truck trips generated by the project:

- An estimated maximum of about 4,700 one-way truck trips would be required over the term of the project. Most would be one of two types: 1) inbound trips with empty trucks and outbound trips with trucks hauling away material for appropriate disposal, or 2) inbound trips delivering clean backfill and outbound empty trucks. Other trips would be for the delivery of project-related demolition equipment and miscellaneous supplies.
- Demolition work would be performed approximately 40 hours per week, Monday through Friday, with normal work hours between 7:00 a.m. and 3:30 p.m.
- The highest number of daily truck trips would occur when backfilling is underway. It is estimated that the number of daily truck trips at that time would be about 18 to 34 one-way trips (i.e., up to 17 loaded trucks and 17 empty trucks); during other periods of demolition, the number of truck trips per day would be no more than about 10 one-way trips.¹³ Because truck trips would be spread over the course of a workday, the up to 34 daily one-way trips would generate an average of about four one-way trips per hour (i.e., one truck every 15 minutes). However, the actual number of shipments could be greater at particular times.
- The workforce for the project would generate auto commute trips. The number of workers and associated trips would vary over the multi-year demolition period, but is estimated to be about 20 to 25 workers on average per day, with a maximum of up to about 50 workers.

Conclusion

There is no indication that the alternative-sequence project variant could materially change any of these traffic characteristics of the worker or truck traffic or their impacts. The alternative-sequence variant would not increase the total number or frequency of truck trips, would not

¹² The maximum 0.9-percent increase was calculated using six one-way truck trips (one every 10 minutes), a passenger-car-equivalence of three cars per one truck, and existing a.m. peak-hour traffic volumes on University Avenue. The percent increase with any other combination of values (e.g., four one-way truck trips, or existing p.m. peak-hour volumes, or total intersection volumes, or cumulative volumes) would be less than 0.9 percent.

¹³ For comparison, existing daily traffic entering and exiting LBNL is approximately 5,700 vehicles per weekday.

increase the workforce and would not increase the amounts of hazardous materials to be removed from the site or the way in which they would be transported. Thus, there would be no material changes in the characteristics related to this traffic. The difference would only be the order in which these phases would occur. Since the demolition phase and the shielding block removal have similar traffic characteristics, switching their order would have no material traffic effect, either directly or as a cumulative traffic effect.¹⁴ Because the actual peak in the truck traffic related to the project would only occur at the end of the project (during the backfilling phase), this peak effect would not be altered in any way under the alternative sequence for the project.

The alternative-schedule project variant, applied to either the project or to the alternative-sequence project variant, would reduce the minimum duration of the project from four years to three and a half years, indicates that there might be a roughly 13 percent reduction in the duration of the overall time to complete the project (or the alternative-sequence project variant). This could result in similar percentage reductions in the durations of any or all of the individual project phases, with accompanying increases in the rates of truck traffic, but without increases in the total number of trips. However, only in the final site-backfill phase could increases in haul truck traffic have any adverse effect, since that is the only phase where the maximum haul truck traffic, 18 to 34 one-way trips per day, would occur. Even during that backfilling phase, increases in haul truck traffic at the lower end of that range would not make a measurable difference, while any increases that would otherwise exceed the maximum rate would trigger the operative mitigation, Mitigation Measure IV.K-1, which would limit the frequency of truck trips (loaded or empty) to no greater than (a) one every 10 minutes (six truck trips per hour) during the a.m. and p.m. peak commute hours, and (b) one every five minutes (12 truck trips per hour) during periods other than the a.m. and p.m. peak commute hours.

Thus, Mitigation Measure IV.K-1 would limit truck traffic under the alternative schedule variant to the same maximum truck traffic rates as truck traffic under the proposed project. For these reasons, reducing the minimum duration of the project from four years to three and a half years would not increase the maximum haul truck traffic generation rates and therefore would not change those resulting impacts and mitigation measures.

Similarly, traffic-related impacts such as exposure to DPM from trucks and to radioactive materials hauled on roadways would be the same under the alternative schedule variant, the alternative-sequence variant and the project, since all such effects would be due only to the total exposures to DPM and radioactive materials, which would be the same under all three cases.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Transportation/Traffic	Equal impact.	Less than Significant.	None necessary.

¹⁴ Public concern has been expressed regarding the cumulative effects of this project coupled with the larger construction activities involved with the building program being carried out under the UC Berkeley 2020 LRDP.

4.12 Utilities, Service Systems, and Energy

Many of the potential impacts identified in the DEIR would be unchanged with the revised sequence of activity. Utility systems would be rerouted to maintain service to other areas of LBNL prior to disconnection at Building 51. No new utilities would be required. The project would generate the same amount of demolition waste and debris and would still require limited quantities of water for dust suppression. With the revised sequence there could be an increase in the amount of water used for dust suppression during the demolition activities; the amount of water that would have to be collected and processed to prevent release of contaminants to storm drains or sewers is expected to be negligible. As discussed in Hydrology above, the removal of the building would require a drainage collection system for collection of stormwater runoff during the remaining demolition activities. The exposure of the Bevatron and shielding blocks would require collection of stormwater prior to discharge to ensure that contaminants are not contained in the water. However, this would be similar to the situation that would exist with the DEIR project after demolition of the building structure but during the demolition of the foundations and slabs. Implementation of additional site drainage control measures and mitigation measures from the 1987 LRDP EIR, as amended, could control the runoff and there would be no change to the significance of the water quality impact or the effect on the sewers or storm drains. With the revised sequence, the project would no longer require the use of the cranes onsite for the removal of the shielding blocks. In their place, mobile diesel-powered cranes would be brought onsite to perform the block removal.

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Utilities, Service Systems, and Energy	Equal impact.	Less than Significant.	None necessary.

5. Summary

The proposed revised sequence of demolition activities would introduce no new impacts that are not already identified in the original DEIR. In most cases, the revised sequence would have no effect on the impacts originally discussed in the DEIR. With the exception of Cultural Resources, all impacts would remain less than significant, while the Cultural Resources impact would remain significant and unavoidable.

The environmental topic for which the revised sequence would have the most effect is Hydrology and Water Quality. As noted above, site drainage controls are already in the project; however, with the revised sequence, these controls would require increased capacity to manage demolition-contact stormwater. While the total amount of stormwater runoff would not change with the revised sequence, there would be an increase in the amount of stormwater runoff that would be in contact with materials housed within the facility (e.g., dust, equipment, demolition debris, etc.). This demolition-contact stormwater would therefore need to be controlled and managed so that water quality is verified prior to its release into the stormwater collection system. Demolition-contact stormwater not meeting water quality standards would be treated and/or, if appropriate and permitted, diverted to the sanitary sewer system. Increased volumes of handling of the

demolition-contact stormwater would not alter the significance of the impact because the regulatory controls would be consistent in protecting water quality to receiving waters. Therefore, the impacts to Hydrology and Water Quality would remain less than significant and no additional mitigation measures would be necessary.

The following summary table presents the results of the alternative sequence analysis, showing that the environmental impacts of the revised sequence for the project should be no different than the project impacts as presented and analyzed in the October 21, 2005 DEIR.

**TABLE 1
COMPARISON OF IMPACTS FOR DEMOLITION OF BUILDING 51 AND BEVATRON,
REVISED SEQUENCE VS. DEIR SEQUENCE**

Topic	Impact RE: DEIR project.	CEQA Significance	Added mitigations?
Aesthetics	Equal impact.	Less than Significant.	None necessary.
Air Quality	Equal impact.	Less than Significant.	None necessary.
Biological Resources	Equal impact.	Less than Significant.	None necessary.
Cultural Resources	Equal impact.	Significant and Unavoidable	None available.
Geology and Soils	Equal impact.	Less than Significant.	None necessary.
Hazards and Hazardous Materials	Equal impact.	Less than Significant.	None necessary.
Hydrology and Water Quality	Equal impact.	Less than Significant.	None necessary.
Land Use and Planning	Equal impact.	Less than Significant.	None necessary.
Noise	Equal impact.	Less than Significant.	None necessary.
Public Services	Equal impact.	Less than Significant.	None necessary.
Transportation/Traffic	Equal impact.	Less than Significant.	None necessary.
Utilities, Service Systems, and Energy	Equal impact.	Less than Significant.	None necessary.

APPENDIX F

Memorandum of Agreement among the Department of Energy (DOE) and the California State Historic Preservation Officer (SHPO), 1997

**MEMORANDUM OF AGREEMENT
AMONG THE DEPARTMENT OF ENERGY
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
AND THE
ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE DEMOLITION OF THE BEVATRON BUILDING,
LAWRENCE BERKELEY NATIONAL LABORATORY, BERKELEY, ALAMEDA
COUNTY CALIFORNIA**

WHEREAS, the Department of Energy, Oakland Operations Office (DOE-OAK) has determined that the demolition of the Bevatron Building/Building 51 and 51A Complex, Lawrence Berkeley National Laboratory (Undertaking), will affect the Bevatron Building, a property eligible for inclusion on the National Register of Historic Places, and consulted with California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) in accordance with 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act, (16 U.S.C. 470f) and Section 110 of the same Act, (16 U.S.C. 470h-2(f));

NOW, THEREFORE, DOE-OAK, the SHPO, and the Council agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

Stipulations

The DOE-OAK shall ensure that the following stipulations are carried out:

I. Recordation

A. DOE-OAK shall use, to the extent feasible, office and laboratory space in Building 51 to meet facility needs to achieve Lawrence Berkeley Laboratory's science and technology mission. This includes examining the use of Building 51 for accelerators and other large experimental apparatus, such as the equipment for the heavy-ion fusion program.

1. If the DOE determines that the re-use of Building 51 shall require the removal of the Bevatron apparatus from the building, the DOE-OAK shall contact the Historic American Engineering Record (HAER), National Park Service, 600 Harrison Street, Suite 600, San Francisco, 94107, to determine what level and kind of recordation is required for the apparatus. Unless otherwise agreed to by HAER, DOE-OAK shall ensure that all documentation is completed and accepted by HAER prior to the undertaking, and that copies of this documentation are made available to the SHPO and appropriate local archives designated by the SHPO.

2. If the DOE-OAK determines that the re-use of Building 51 is not feasible, or that the building can no longer contribute to the program goals of the facility, the DOE may demolish Building 51 provided that the measures included in Stipulation I.A.1 of this MOA have been completed and that the DOE-OAK contact the Historic American Building Survey (HABS), National Park Service, 600 Harrison Street, Suite 600, San Francisco, 94107, to determine what level and kind of recordation is required for the building. Unless otherwise agreed to by HABS, the DOE-OAK shall ensure that all documentation is completed and accepted by HABS prior to the undertaking, and that copies of this documentation are made available to the SHPO and an appropriate local archives designated by the SHPO.

II. Dispute Resolution Among Consulting Parties

Should the DOE-OAK or the SHPO object within 30 days to any action pursuant to this Agreement, the parties to the agreement shall consult to resolve the objections to the Agreement. If DOE-OAK determines that the objection cannot be resolved, DOE-OAK shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of all pertinent documentation, the Council will either:

1. provide the DOE-OAK with recommendations, which the DOE-OAK will take into account in reaching a final decision regarding the dispute; or
2. notify DOE-OAK that it will comment pursuant to 36 CFR 800.6(b), and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the DOE-OAK in accordance with 36 CFR 800.6(c) (2) with reference only to the subject of the dispute; the DOE-OAK's responsibility to carry out all actions under this Agreement that are not subjects of the dispute will remain unchanged.

III. Amendments

If any of the signatories determines that the terms of this Agreement cannot be carried out as written and that the Agreement should be amended, that signatory shall immediately consult the other signatories concerning such amendment. Amendments shall be considered and executed in accordance with 36 CFR 800.5(e)(5).

IV. Failure to Carry Out the Terms of This Agreement

Failure to carry out the terms of the Agreement require that DOE-OAK again request the Council's comments in accordance with 36 CFR 800. If DOE-OAK cannot carry out the terms of the Agreement, it will not take or sanction any action or make any irreversible commitment that would result in an adverse effect to a historic property or that could foreclose the Council's consideration of modifications or alternatives to the undertaking.

Execution of this Memorandum of Agreement and implementation of its terms evidence that the DOE-OAK has afforded the Council an opportunity to comment on the undertaking and its effects on historic properties, and that the DOE-OAK has taken into account the effects of the undertaking on historic properties.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: *John M. Fowler* DATE: 4/13/97
John M. Fowler, Executive Director

DOE OAKLAND OPERATIONS OFFICE

BY: *for James M. Turner* DATE: 10/7/97
James M. Turner, Ph.D., Manager

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY: *Chesilyn Widell* DATE: 10/22/97
Chesilyn Widell