

STANFORD LINEAR ACCELERATOR CENTER
COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

Title: Research Support Building and Infrastructure Modernization Project

Proposed Action: Construct new research support building, demolish 33 office trailers and Renovate approximately 90,000 square feet within 3 existing buildings

Location: Sitewide (see attached maps)

Description of proposed action:

SLAC is moving from a single program laboratory to a multi-program laboratory. This transition, combined with the condition and age of SLAC facilities, drives the need to consolidate core research support functions and modernize key support buildings. The most pressing infrastructure needs are the lack of appropriate space to consolidate accelerator scientists and technical staff that are currently spread across the laboratory in outdated facilities, and the inadequacy of multiple facilities that house several of the Laboratory's key M&O functions.

It is proposed that a new energy efficient and environmentally sustainable research support building be constructed, existing space to be renovated and substandard buildings to be demolished at Stanford Linear Accelerator Center (SLAC) that will provide modern space for furthering the scientific programs at SLAC. The new Research Support Building will be constructed and existing building numbers 003, 024 and 041 will be renovated. The following are brief scope descriptions:

- Construct a two-story Research Support Building of 56,000 square feet, with a footprint of 26,000 square feet, to house accelerator scientists and technical staff that are currently dispersed throughout the site in aged trailers and other decentralized, inefficient locations. This new facility will be constructed in the campus area of the site (see attached maps), providing centralized access to office and conference space in support of all mission support functions.
- Demolish and dispose of 33 office trailers, totaling approximately 66,000 square feet. These trailers are approximately 40 years old.
- Renovate approximately 7,000 square feet of the third floor (at grade level) of Building 003 currently housing a training classroom and equipment racks. Finished project shall include a new training center with the rest of the floor space converted to offices with perhaps one small conference room. Renovation is expected to be a wall-to-wall and floor-to-ceiling demolition and reconstruction. The overall building electrical capacity appears to be adequate for the new occupancy, but due to their age consideration should be given to consider replacement of the feeders and conduit. The HVAC systems shall be evaluated and modified if necessary.
- Renovate the occupied areas of Building 024, with an open high bay and partial second floor. The total Building has approximately 32,000 square feet. An ADA-compliant elevator shall be added for second-floor access. The existing areas shall be rearranged as necessary for optimum space and energy utilization. The existing first floor shop and office areas have open ceilings to a common high bay area. For noise and energy consideration, a ceiling shall be included in the renovation of the first floor areas. The overall building electrical capacity appears to be adequate for the new occupancy, but due to their age consideration should be given to consider replacement of the feeders

and conduit. The existing HVAC systems were designed to support a high bay shop area with incidental offices and show poor control and performance for the present occupancy. The system will be evaluated and modified if necessary. The proportion of shop to office space will need to be evaluated and likely will result in increased office areas on the first floor.

- The first floor, approximately 22,000 square feet, of the two-story Building 041 shall be renovated. An ADA-compliant elevator shall be added for second floor access. The present usage is primarily office, but the arrangement and occupancy shall be evaluated to optimize the space and energy utilization. Revised occupancy requirements will likely change the configuration. The approximate square footage in additions and reductions offset each other as a result of this Renovation is expected to be a wall to wall and floor to ceiling demo and reconstruction of the first floor. The overall building electrical capacity appears to be adequate for the new occupancy, but due to their age consideration should be given to consider replacement of the feeders and conduit. The HVAC systems pose a challenge as the current systems are zoned into four building quadrants with a single multizone unit supplying both the first and second floors. The system will be evaluated and modified if necessary.

The approximate square footage in additions and reductions offset each other as a result of this action. No impact on parking and foot/vehicle traffic site-wide is expected.

This project will be under the oversight of the SLAC Architectural Committee and all applicable SLAC Safety Committees. All Seismic Design Criteria, applicable local, state and federal codes, ES&H requirements and safety guidelines will be adhered to both during the construction and operating phases. There are no known extraordinary circumstances associated with this proposal, or connection to another action with cumulatively significant impacts, that preclude it from categorical exclusion from further NEPA review.

CX(s) to be applied: SS-SC-06-08

Action Number(s): 09002

Concurrence:



Dave Osugi
NEPA Coordinator
Stanford Site Office



Date

ENVIRONMENTAL COMPLIANCE CHECKLIST

1. ADMINISTRATIVE INFORMATION

Project Title: Research Support Building and Infrastructure Modernization (RSB) Project		Date: 10/8/08
Lead Department: LCLS	Estimated Start Work Date: 10-08-08	Individual Submitting Checklist: Karen Chan-Hui
Project Engineer/Manager: Jess Albino (Project Manager)/Karen Chan-Hui (Deputy Project Manager)		Bldg/MS/Phone No/Fax No.: B280B /MS 102/926-8514
Project Location (Bldg No. /Area.): Site wide		Environmental Compliance Rep: Safety Advocate: Mike Hug

2. LOCATION OF PROPOSED ACTION: Describe the location at which the action would take place. Attach maps where appropriate. If applicable, provide the square footage of the areas that are to be disturbed during construction activities (construction activities include any clearing, grading, excavating, grubbing, and/or filling).

This is a site wide activity. The project locations are indicated on the attached maps.

3. WORK SCOPE DESCRIPTION: Describe your proposed action's work scope in detail providing as much specific information as possible. Also, include all support facilities/activities that would be involved. Include attachments where appropriate.

It is proposed that a new energy efficient and environmentally sustainable research support building be constructed, existing space to be renovated and substandard buildings to be demolished at SLAC National Accelerator Laboratory (SLAC) that will provide modern space for furthering the scientific programs at SLAC. The scope of the project is:

1. Demolition of office trailers

Demolish and dispose of 33 office trailers, totaling approximately 66,000 square feet. These trailers are approximately 40 years old.

2. Building 003 renovation

Renovate approximately 7000 square feet of the third floor (at grade level) of an existing building currently housing a training classroom and equipment racks. Finished project shall include a new training center with the rest of the floor space converted to offices with perhaps one small conference room. Renovation is expected to be a wall-to-wall and floor-to-ceiling demolition and reconstruction. The overall building electrical capacity appears to be adequate for the new occupancy, but due to their age consideration should be given to consider replacement of the feeders and conduit. The HVAC systems shall be evaluated and modified if necessary.

3. Building 024 renovation

Renovate the occupied areas of an existing building with an open high bay and partial second floor totaling approximately 32,000 square feet. An ADA-compliant elevator shall be added for second-floor access. The existing areas shall be rearranged as necessary for optimum space and energy utilization. The existing first floor shop and office areas have open ceilings to a common high bay area. For noise and energy consideration, a ceiling shall be included in the renovation of the first floor areas. The overall building electrical capacity appears to be adequate for the new occupancy, but due to their age consideration should be given to consider replacement of the feeders and conduit. The existing HVAC systems were designed to support a high bay shop area with incidental offices and show poor control and performance for the present occupancy. The system will be evaluated and modified if necessary. The proportion of shop to office space will need to be evaluated and likely will result in increased office areas on the first floor.

4. Building 041 renovation

The approximately 22,000 square feet first floor of the existing two-story building shall be renovated. An ADA-compliant elevator shall be added for second floor access. The present usage is primarily office, but the arrangement and occupancy shall be evaluated to optimize the space and energy utilization. Revised occupancy requirements will likely change the configuration. Renovation is expected to be a wall to wall and floor to ceiling demo and reconstruction of the first floor. The overall building electrical capacity appears to be adequate for the new occupancy, but due to their age consideration should be given to consider replacement of the feeders and conduit. The HVAC systems pose a challenge as the current systems are zoned into four building quadrants with a single multizone unit supplying both the first and second floors. The system will be evaluated and modified if necessary.

5. Construct a two-story building of 56,000 square foot, with a footprint of 26,000 square feet. See Figure 2 for location.

Note: The building assessment report is attached.

4. ENVIRONMENTAL ASPECTS/POTENTIAL SOURCES OF IMPACT: Check the appropriate box for any environmental hazard or impact associated with the project.

ENVIRONMENTAL ASPECT/IMPACT	Yes	ENVIRONMENTAL ASPECT/IMPACT	Yes
1. Air emissions (e.g., combustion, dust, greenhouse gases, ozone depleting substances, chemical gases)	X	10. Environmental Radiation and Radioactivity (e.g., activities that have the potential to generate and/or release radioactivity)	
2. Chemical Use, Storage, and Inventory (e.g., lab chemicals, fuel, oils, coolants, cleaners, solvents)	X	11. Biohazards (e.g., activities using or generating biological materials such as microorganisms)	
3. Soil and Groundwater Contamination (e.g., activities that have the potential to impact soil and groundwater)		12. Interaction with Wildlife/Habitat (e.g., soil disturbance in habitat areas, construction in bird nesting areas)	
4. Discharge to Wastewater Systems (e.g., discharge to sanitary sewer)		13. Cultural/Historical Resource Disturbance	
5. Industrial and Hazardous Waste Generation, Management, Storage, Transportation and Disposal (e.g., chemicals, fuel, oils, solvents, PCBs, Asbestos)	X	14. Noise	
6. Radioactive Materials Reduction and Ractioactive Mixed Waste Generation, Management, Storage, Transportation and Disposal		15. Nanotechnology (e.g., activities using or generating nanosubstances)	
7. Surface and Stormwater Contamination (e.g., activities that have the potential to impact		16. Other (e.g., drinking water systems)	

surface or stormwater, including potential discharge to storm drain system)			
8a. Use, Reuse, Recycling (e.g., activities that have potential to minimize waste through reuse, recycling, and environmentally preferable purchasing such as purchasing recycled content materials)	X		
8b. Conservation of Resources (e.g., activities that use natural resources such as water, energy, fuel)			
9. Construction, Renovation, and Demolition By-Products (e.g., activities generating construction debris, clearing or excavation, disturbance of lead or asbestos-containing materials)	X		

5. EXPLAIN THOSE AREAS IDENTIFIED IN ITEM 4 THAT WERE CHECKED AND THE CORRESPONDING CONTROLS TO BE EXECUTED TO REDUCE POTENTIAL ENVIRONMENTAL IMPACTS (e.g., spill prevention, erosion controls, air emission controls including dust suppression, selection of materials etc.). Provide details of the activities/impact of each box and the proposed mitigations. Include attachments where appropriate.

1. Measures will be taken to control the dust to be generated during demolition/renovation.
2. The use of chemicals such as cleaners, solvents will be minimized. Secondary containment will be used to store fuel or oil chemicals. MSDS of all chemicals being used on this project will be provided.
- 5, 9. Some materials in existing buildings on-site are known to contain asbestos and the potential exists for lead in paint. Also, PCBs exist in the lighting ballasts and asbestos containing material may be present in the roofing and/or floor tiles. All such material will be removed by a licensed subcontractor experienced in abatement of these materials.
- 8a. Construction debris will be diverted from landfills and reused or recycled with a minimum performance level of 50% and an optimum performance goal of 75% by weight or volume.

6. DESCRIBE SUSTAINABLE PRACTICES BEING IMPLEMENTED INCLUDING ENVIRONMENTALLY PREFERABLE PURCHASING (e.g, sustainable building, energy, water, and fuel conservation and/or efficiency measures, purchasing of non or less toxic materials, purchasing of recycled content and biobased products, energy and water efficient products, electronics stewardship, etc.)

Consistent with Executive Order 13423 and 13101, and aligned with subsequent DOE Orders 430.2B and 450.1A, USGBC LEED Certifications will be pursued on the new building and major renovation elements that exceed \$5M and the Guiding Principles “High Performance Sustainable Building Standards” will be integrated into project elements that fall below the \$5M threshold. The new science research building will target LEED NC V2.2 Gold Level Certification and the other major interior project renovations, in excess of \$5M, will target LEED CI or EB Certification as determined by the final design configuration. The minor project interior improvements will be in full compliance with the Guiding Principles, as outlined in the executive order and detailed within the High Performance Sustainable Building Assessment Tool. USGBC LEED Certification will provide a framework and third party verification in guiding the design and construction processes toward maximizing the construction process efficiencies and the building’s environmental performance. Furthermore, it will evaluate the overall environmental performance from a whole building perspective over the buildings complete life cycle thus defining what constitutes a “green building”. The LEED rating system includes performance measures within the areas of Sustainable Sites, Water Efficiency, Energy and Atmosphere, Material Resources, Indoor Environmental Air Quality and Innovation in Design. These areas all contribute toward capturing the performance goals of environmentally preferable purchasing methods thus establishing target requirements for regional material use, material reuse, recycled material content, waste stream management, rapidly renewable material use, alternative material use and the use of materials that are purchased through natural resource management certification processes. They also contribute toward the efficiencies in energy and water use providing target goals for system design and innovation in design related to alternative energy, renewable energy and water reuse. Each of these LEED rating system elements will be integrated into the RSB project and will provide a significant improvement toward achieving the site’s overall target goals established within the DOE TEAM Initiative”.

7. WASTE MINIMIZATION: Describe waste management plans including (1) recycling of non-hazardous construction and demolition debris and (2) the plans for minimizing the generation of hazardous waste (Class I), designated waste (Class II) or radiological or mixed wastes, both during the project construction period and the project lifecycle.

All project elements will comply with USGBC LEED Materials and Resources Prerequisites as defined within the New Construction V2.2 and Existing Building V2.1 Reference guides, i.e.; storage and collection of recyclables, waste stream audits, and toxic material source reduction. Additionally, LEED target credits within that Materials and Resources rating category will be as follows: Building Reuse – 75% of existing structural walls floors and roof, Construction Waste Management – divert 75% from disposal stream to recycling, Materials Reuse – 10%, Recycled Content – 10% (post consumer plus ½ preconsumer), Rapidly Renewable Materials content and Certified Wood use.

All construction debris will be diverted from landfills with recycled content directed back to compatible source manufacturing. All reusable materials will be directed to appropriate sites for reuse or donated for future reuse. All documentation verifying quantities will be consistent with LEED Template requirements and registered in either tons or cubic yards but consistent across all the project elements. Each construction area will have a centralized recycling area sized appropriate to the specific operation.

8. DESCRIPTION OF WASTES AND DISPOSAL METHODS: Describe the type of waste (Radioactive, RCRA, Mixed, etc.); the waste form (solid, liquid, gas, etc.); approximate amount of waste expected to be generated; waste disposal method (landfill, storm sewer, other); and, if known, the disposal container (boxes, drums, etc.).

Waste Type	Waste Form (Solid, Liquid, Gas, Sludge) (list all that apply)	Amount Expected to be Generated (specify units of measure)	¹ Waste Disposal Method (landfills [specify], sanitary sewer, etc.) and Disposal or Recycling Container (boxes, drums, etc.)
Radioactive			
Mixed Waste-having hazardous and radioactive components			
Hazardous- Class I including chemically impacted soil, concrete, asphalt			
Designated-Class II including chemically impacted soil, concrete, asphalt			
Soil, non-hazardous			
PCB	Solid	400 ballasts (est.)	Drums, Class I waste disposal facility
Asbestos	Solid	330 cubic yards (est.)	Bins, landfill
Mercury			
Treated Wood			
Oils, solvents, etc.			
Biohazard			
Nanosubstances			
Non-hazardous Construction Debris -untreated wood -concrete -wall board -cardboard -metals -green waste -others	Solid	300 cubic yards (est.)	Bulk, landfill
Other			

¹ Completion of this column may require input from Waste Management Group.
Revision 1 January 12, 2009

9. PROJECT SIGNATURE: This section is to be completed by the Project Evaluator (individual completing—this checklist).

I have reviewed this action and to the best of my knowledge have answered all questions completely to describe the proposed action.

Project Signature: 

Date: 01-13-2009

Please note: Any changes or unanticipated events to the project must be documented by updating this form.

*This section to be completed by the Environmental Compliance Representative***9. ENVIRONMENTAL COMPLIANCE (EC) REPRESENTATIVE:**

I have reviewed the proposed project and based on the actions described in this checklist, the following hazard controls should be implemented.

Check	Environmental Compliance Hazard Control Issue	Hazard Control Measure(s) to be Implemented
X	Air Permit -New source -Mobile source -Special conditions	Dust Control
X	Demolition or Asbestos Removal -BAAQMD Notification -Other	Demolition/Asbestos notification to the BAAQMD
X	Excavation/Penetration Permit	Submit excavation permit
	Floodplain/Wetland/Outfall Controls	
X	Hazardous Materials -Purchase -Use -Other alternatives/substitutes	Submit MSDS, Secondary Containment for collecting fuel, minimize usage of cleaner or solvent
	NESHAPs (RAD) Controls	
	Spill Prevention	
	Stormwater Controls	
X	Waste Management	Coordinate the disposal of hazardous waste through WM group.
	Wetland Permits -JARPA Permit -Corps of Engineer Permit -Other	
X	Other-construction debris	Recycle construction debris

EC Rep Signature: _____

Michael Hug

Date: _____

1/13/09