

**University of California, Berkeley  
Health & Construction Workgroup  
Spring 2002**

***The campus priorities include “creating a safe, humane, caring place.”  
- Chancellor Robert M. Berdahl***

*What makes a good campus great? Inspiring architecture, certainly, and stretches of green grass and sheltering trees. State-of-the-art technology is important, as is comfortable housing. But what really elevates a campus beyond a collection of buildings and sidewalks is a sense that the built environment embodies the spirit of the people who live and work there. A great campus nourishes grand ideas and supports innovation. It fully integrates humanity and intellectual vigor, and it promotes community.*

- "The Evolving MIT Campus," 2002 (<http://web.mit.edu/evolving/index.html>)

## **BACKGROUND**

The campus has embarked on a 20-year billion-dollar Seismic Action Plan for Facilities Enhancement and Renewal (SAFER) program to improve the seismic safety of its buildings. Planning for a number of significant new buildings is also underway. The campus has never before faced such extensive and intensive construction efforts and, as work has proceeded on initial SAFER projects, expected and unexpected health issues have arisen among the members of the campus community. Previously, such problems have been addressed unit-by-unit or project-by-project, but the scope of the current construction program requires coordination among many departments for successful resolution and future prevention.

In Spring 2000, Vice Chancellors Mitchell and Denton with Assistant Vice Chancellor Lustig convened a workgroup and appointed its initial members (*see Appendix II*).

## **WORKGROUP MISSION**

The mission of the Health & Construction Workgroup is to foster and advocate for the health of the campus community in the planning, design, and construction of buildings. The multi-departmental workgroup meets monthly to discuss related problems and possible resolutions, and to engage representatives of other relevant units and departments.

## **GOAL**

To assess and influence the impact of UC Berkeley facilities construction on the physical and emotional health of faculty, staff and students in or near such facilities; and to incorporate health-protective measures into the design, planning, and building or renovation of facilities.

## **OBJECTIVES**

The Health and Construction Workgroup has identified the following as its major objectives:

1. Identify health-related concerns that arise during the planning, design, and construction of campus facilities.
2. Create a multi-departmental response team and a coordinated protocol to address specific concerns related to individual construction projects.
3. Develop guidelines and recommendations for the campus administration that will prevent and/or minimize the negative health impacts of construction.

4. Provide input into the planning phases of capital projects so that managers and program committees address individual and community health issues in building and program plans (See Appendix III).

## **ACTIONS TO DATE**

- Established a protocol for Workgroup members and their departments to follow in response to campus construction concerns received by individual members of the workgroup.
- Improved the service to campus through coordination of multi-departmental communications and planning.
- Initiated the development of a campus personnel policy that allows supervisors the flexibility to grant administrative leave due to construction impacts.
- Started data collection for an effort to quantify the costs of construction-related health concerns.

## **ANALYSIS OF CURRENT SITUATION**

In the two years that the Health & Construction Workgroup has been serving the campus, it has identified four major problem areas related to health in the campus community:

- *Communication about construction/health issues*
- *Identifying responsible leadership for building occupants in buildings undergoing construction*
- *Equity across campus departments*
- *Construction in occupied buildings*

### ***Communication about Construction/Health Issues***

Insufficient communication at project inception and throughout construction can create additional costs and time, and ill will for affected departments and service units. Capital project planners and managers must inform building occupants of construction impacts, frankly and clearly; similarly, building occupants must inform project planners of their needs. In the absence of such interactive communication, schedules may be set that are incompatible with the academic calendar, occupants may be uninformed about actual environmental hazards and the steps being taken to minimize them, and project managers may be unable to keep to deadlines.

### ***Identifying Responsible Leadership During Construction for Building Occupants***

Leadership and encouragement contribute to the coping capacity of building occupants during construction. Construction and surging require everyone to deal with conditions that fall along the discomfort continuum from inconvenient to deeply unsettling; leadership can be a life raft in heavy seas. Leadership and listening on the part of Deans, Directors, and Department Chairs go a long way toward effective communication to faculty and staff. In the absence of strong leadership, complaints--about real or imagined health effects--will grow into larger problems which the central administration will be expected to solve.

### ***Equity Across Campus Departments for Mitigations During Construction***

Departments with access to outside funds can use them to reduce the negative impacts of construction and surging, or to increase the ultimate rewards of construction outcomes for all members. For example, they can rent surge space, improve upon substandard surge space, or enhance program space concurrent to the process of retrofitting the building. Departments that lack outside fund sources cannot readily do so, and the members typically feel stuck and short-changed. In the latter case, unrest prevails and complaints are more frequent.

## **Construction in Occupied Buildings**

When buildings remain occupied during construction, faculty, staff and students typically describe environmental conditions within the building as unsatisfactory. For some people this leads to reduced productivity, missed and/or extended deadlines, and increased use of leave time. Reduced availability of classroom, meeting room, office and lab space adds to the stress of the building occupants and their ability to meet academic commitments. Noise and dust make conversation and interaction difficult and contribute to health-related complaints. Managers spend significant time responding to construction-related complaints and, in some cases, to worker's compensation claims.

## **RECOMMENDATIONS**

### **Ongoing information about health/construction issues is necessary.**

- Provide clear and consistent information about the conditions and the impacts of construction to building occupants throughout the process.
- Address construction impacts on neighbors and incorporate communication with them into the planning process.
- Ensure that representatives of departments responsible for construction and for communication are trained in the principles of risk communication.
- Communicate to the campus community the tie between the capital program and the campus' mission, academic plans and mission of excellence.
- Plan in advance as much as possible and communicate all changes in disabled access, parking, walkways, and building access.
- Communication means and methods should vary to ensure maximum exposure, e.g. meetings, signage, email, web sites, newsletters, etc.
- Develop a plan to address the health needs of individuals with respect to campus construction including guidelines to address construction-related noise, as well as on-going mechanical and delivery noise, smoking and machine operation in building circulation intake areas, safety of machine operators and flaggers, pedestrians, and other vehicles that takes into consideration the character of campus life.

### **Leadership for building occupants during construction is crucial.**

- Assign leadership to Deans, Vice-Chancellors and Department Chairs in affected departments to rally personnel and support them during the difficult construction period.
- Appoint one or two leaders in multi-department buildings.
- Appoint a full-time communications liaison person within each affected building, such as a building manager or specially appointed person for this position.

### **The campus should aim for equity across departments in mitigating construction related impacts.**

- Clarify at the start of each project which costs are borne by the department vs. the campus vs. the project budget as managed by Capital Projects.
- Develop a mechanism that assures funding that will provide some equity with respect to impacts of construction and similar support.
- Establish a fund for poorer departments that are adversely affected by surge or construction in order to reduce the negative impact on their ability to function.

**Provide alternative space for occupants of buildings affected by construction.**

- Buildings under construction should not be occupied, if possible. Imperfect surge space is better than space that is extremely disruptive to productive work and study due to extreme noise, dust, odors and chaos associated with construction.

## APPENDIX I: Related Campus Efforts

Strategic Academic Plan  
New Century Plan  
Long Range Development Plan Update  
Chancellor's Community Initiatives  
Chancellor's Advisory Committee on Dependent Care  
Early Childhood Education Program Committee (new child care facility)  
Ergonomics Task Force  
Coordinating Committee for the Removal of Architectural Barriers (CCRAB)  
Bicycle Subcommittee (of the Transportation Advisory Committee).

## APPENDIX II: Workgroup Membership

<b>Academic Senate, Welfare Cmte</b> (advisory only)	Bob Anderson	anderson@econ.berkeley.edu
<b>Capital Projects</b>		
Communications:	Christine Shaff	cshaff@cp.berkeley.edu
PEP: NCP/LRDP:	Janet Brewster	jbrewster @cp.berkeley.edu
PEP: Surge Planning:	Emily Marthinsen	emarthinsen@cp.berkeley.edu
<b>Environment, Health &amp; Safety</b>	Greg Haet	gjhaet@uclink4.berkeley.edu
<b>Human Resources</b>	Beth Luke	bluke@uclink4.berkeley.edu
<b>Physical Plant-Campus Services</b>	Eric Haemer	<a href="mailto:haemer@uclink.berkeley.edu">haemer@uclink.berkeley.edu</a>
<b>Staff Ombuds</b> (advisory only)	Margo Wesley	mwesley@uclink4.berkeley.edu
<b>University Health Services:</b>		
Occ. Health Clinic:	Diane Liu	dliu@uhs.berkeley.edu
Work/Life Prog. Dev:	Carol Hoffman	choffman@uhs.berkeley.edu
Asst. VC, Exec. Dir:	Steve Lustig	slustig@uhs.berkeley.edu
<b>UC Police Department</b>	Tom Klatt	tklatt@uclink4.berkeley.edu
<b>Office of Vice Provost, Academic Planning &amp; Facilities</b>	Sarah Nathe	sknathe@uclink4.berkeley.edu

## **APPENDIX III:**

### **Guidelines for the Design of Grounds and Facilities to Foster Human Interaction, Create a Sense of Place, and Support Health and Well-being**

Although many of the guidelines listed below already exist in other documents governing the design of indoor and outdoor space, they are often items not required by law and thus are not included in the final building plans due to budgetary constraints. Often well-intentioned building programs include many of these features, but when fundraising goals are unable to be met, the compromise solution involves letting go of these features because they are considered non-essential. We suggest that the long-term costs of not following these guidelines, such as injuries, renovation, low morale and absenteeism be factored in to the construction budgeting process.

#### **Indoor space**

- Promote ease of access to program spaces, particularly prime destinations such as classrooms, libraries, and lounges
- Design to foster social interaction among building occupants and encourage spontaneous discourse and collaboration, e.g. formal and informal gathering places such as lounges, break rooms/kitchens, exercise areas, and reception areas
  - Gathering places should support multi-media, i.e. network wiring and television
- Design buildings with windows that open and use natural light and air efficiently
- Design fixed spaces to include ergonomically-designed workstations and reception counters
- Design buildings with easily accessible shower facilities and lockers or closets to support bicycle commuting, exercising, etc
- Designate spaces for breast-feeding/lactation rooms, per AB 1025
- Provide comfortable and supportive surfaces for lying down (for injuries and illnesses)
- Allow building users to review program concepts and designs
- Provide sufficient, quality, and affordable child care facilities for the children of faculty, staff, and students

#### **Outdoor space and between buildings**

- Develop a variety of useable and inviting open spaces that provide opportunities for solitude as well as informal gathering spots
- Maintain attractive, well-tended grounds that improve the experience of walking on campus
- Provide a variety of proximate transportation options including, but not limited to:
  - Vehicle parking, especially for persons with disabilities,
  - Safe and secure bicycle parking and access, and
  - Shuttle or other vehicle service that efficiently connects parking and service venues to interior work spaces
- Provide lighting supportive of the 24-hour campus:
  - Safe, convenient, and comfortable transit stops,
  - Safe parking structures, and
  - Clear way-finding throughout campus with adequate signage
- Consider proximity of classrooms to study space and to open space
- Cluster facilities to maintain a 10-minute walking distance between classes
- Cluster student services to minimize multiple trips

## **APPENDIX IV: Health and Construction Workgroup Departments**

### **Environment, Health & Safety (EH&S)**

Fire Prevention

Air, Dust, Noise

Hazardous and Toxic Materials (chemicals, radioactive and medical waste, asbestos, lead)

Water (surface water, waste water discharge)

Sanitation (food, drinking water, pools)

Mitigation Monitoring

### **Capital Projects (CP)**

Project Management

Inspection Services

Surge Planning

Long Range and Environmental Planning

### **University Health Services (UHS)**

Worker's Compensation

Urgent Care, Physical Therapy

CARE Services, Counseling & Psychological Services

Occupational Health Services

Ergonomics

Work/Life Program

### **Human Resources (HR)**

Compensation

Employee Benefits

Employee Relations

Labor Relations

### **Vice Provost's Office for Academic Planning and Facilities**

Disaster Resistant University Project (DRU)

### **UC Police Department (UCPD)**

Emergencies

Campus Safety

Alarms and Access Control

Crime Prevention

Night Escort Service

Emergency Preparedness

### **Physical Plant – Campus Services (PP-CS)**

Grounds, Pest Management

Utilities

Building Maintenance

Recycling, Refuse

Custodial Services

### **Advisors to the Workgroup**

University Welfare Committee (UWEL) of the Academic Senate

Staff Ombuds Office