Building 50
Town Hall Meeting

Seismic and Structural Safety
Upgrades of Buildings, Phase I

December 4, 2008

Jack Heffernan
Project Manager

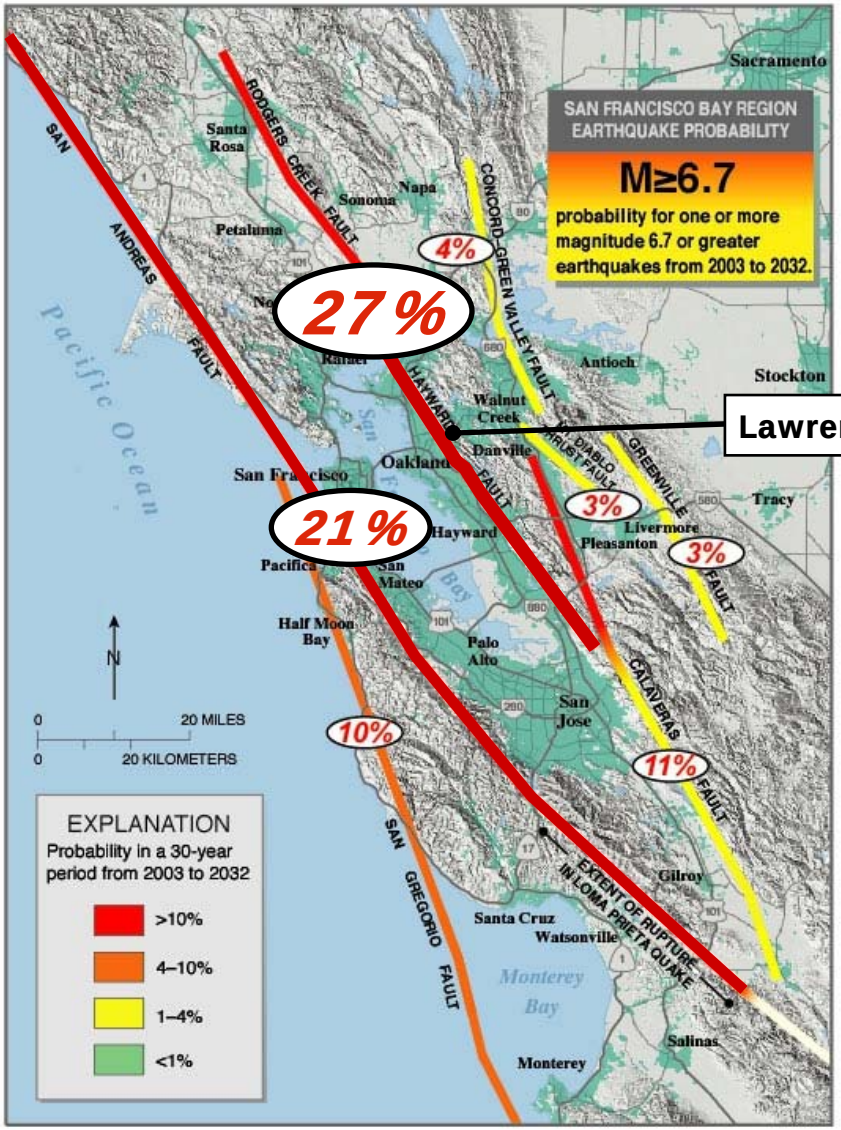
Topics

- Seismic Safety Program
- B50 Overview
- Phasing Plan
- Office Moves
- Contractor Laydown Plan
- Project Schedule
- Project Team
- Construction Safety

LBNL Seismic Safety Program Goals & Criteria

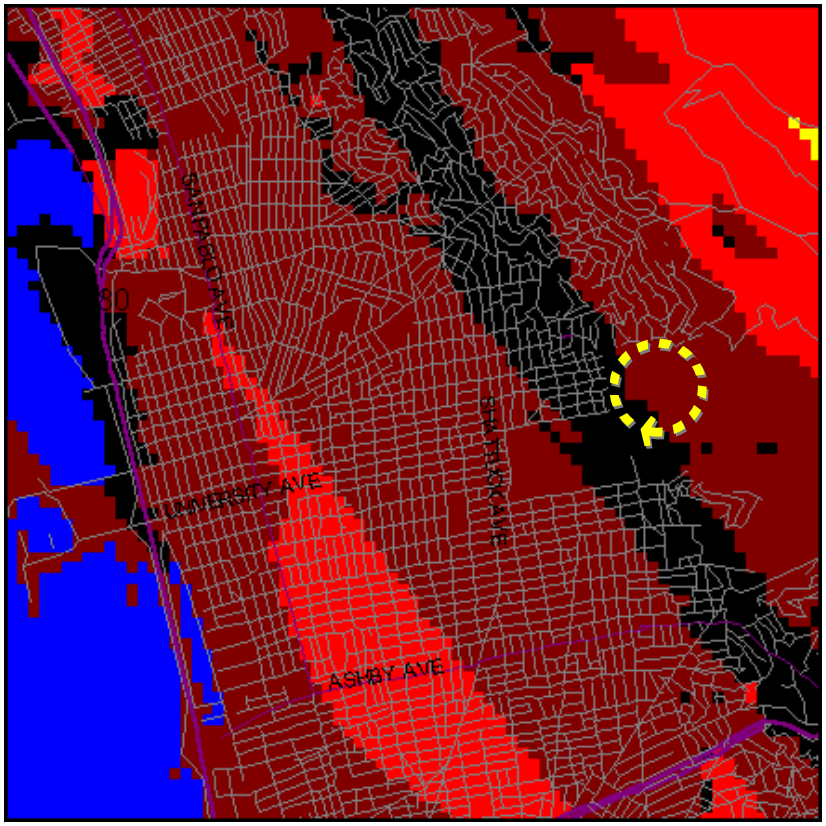
Goal of the Program	To achieve Life Safety for our building occupants in the event of the Maximum Credible Event.
Definition of Life Safety	No partial or total collapse of the building; structural & non-structural damage anticipated; exit paths permit safe egress.
Maximum Credible Event	7.0+ on the Hayward Fault. Accelerations at or above 0.7g for 20 seconds.

Earthquake Probability of Exceedance



Hayward Fault

Ground Acceleration at LBNL



Predicted level of ground acceleration:
7.0+ magnitude EQ on Northern Hayward Fault

UC Seismic Safety Ratings

GOOD	Some structural and non-structural damage, life safety not *significantly* jeopardized
FAIR	Structural and non-structural damage represent *low* life hazards
POOR	Significant structural and non-structural damage represent *significant* life hazards
VERY POOR	Extensive structural and non-structural damage represent *high* life hazards

Status of Building Evaluations

Evaluations & ratings of permanent, occupied, and owned buildings are 100% complete

- Building 74 was evaluated in 2002/2003
- Building 50 was evaluated in 2004
- Both buildings received a **Poor** rating

Mission Requirements

- Correction of structural deficiencies in LBNL Buildings 50 and 74
- Re-classification of buildings from a **Poor** to a **Good** seismic rating.

Building 50 – Overview

- Constructed 1948
- Comprised of administrative offices, dry labs, library and auditorium
- Reinforced concrete structure
- 3 stories, 48,500 square feet
- Building will be occupied during repairs

Building 50

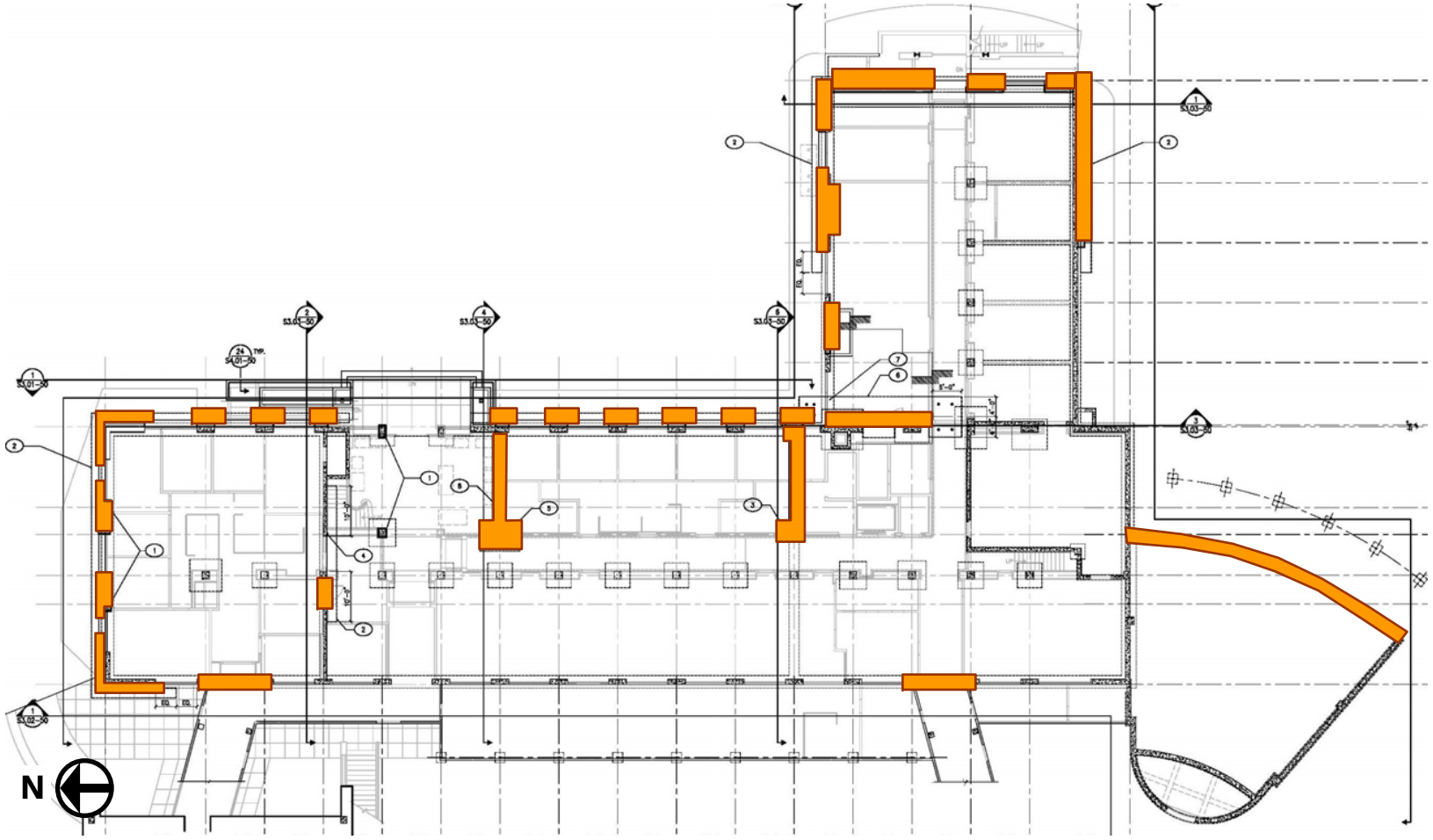
- Seismic evaluation identified:
  - Insufficient strength spandrel beams
  - Discontinuous columns and shear walls
  - Inadequately anchored components
  - Inadequate seismic separation
- Failures would occur in shear walls, spandrel beams, lobby columns.
- Falling hazards from corridor and auditorium walls & ceilings and lobby marble
- Study by Forell Elsesser Engineers in 2004 identified needed upgrades

Building 50 – Summary of Seismic Work

- Augmented foundations
- New exterior and interior concrete shear walls
- Central corridors wall reinforcement
- New auditorium columns

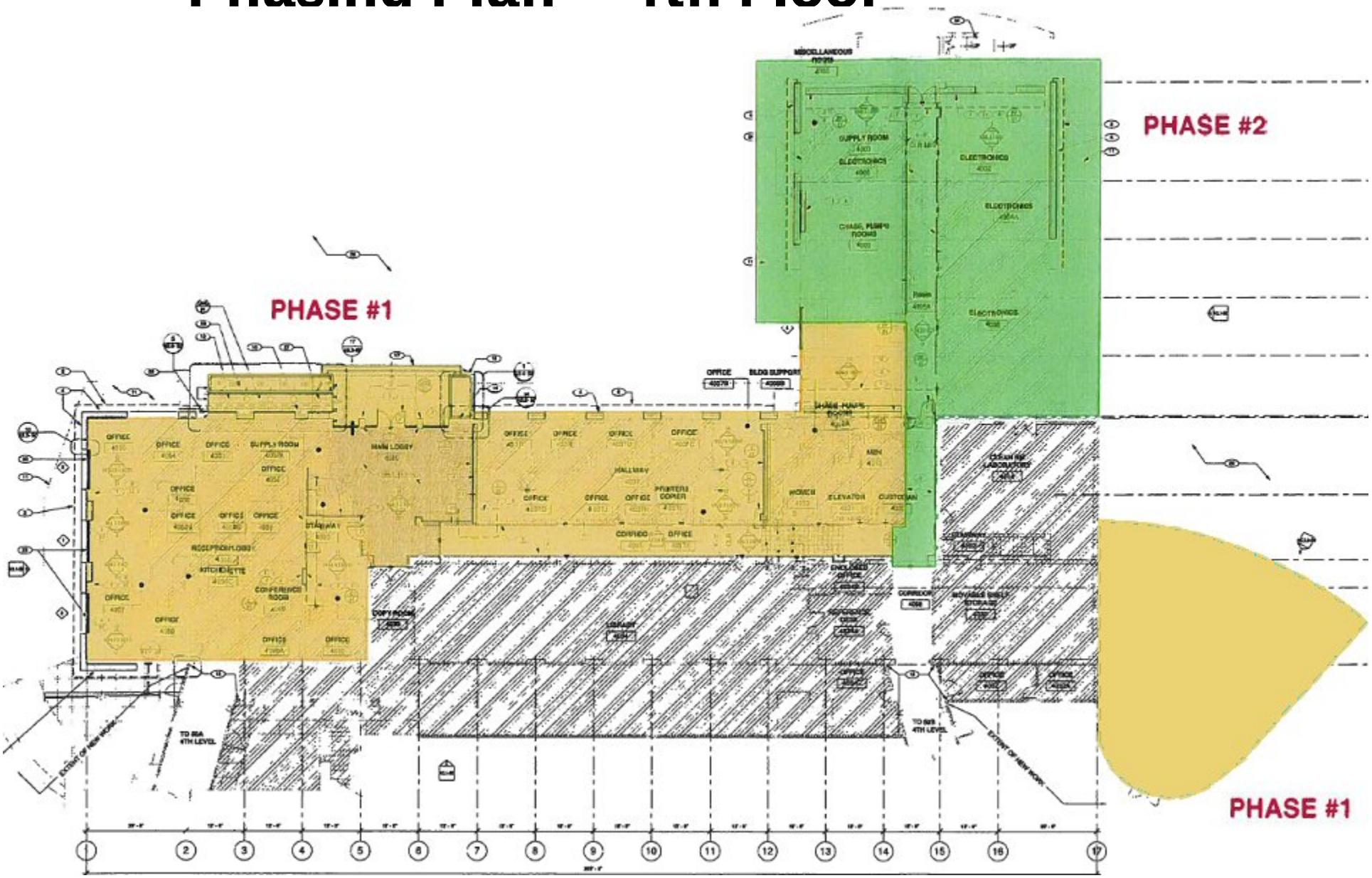
- New seismic joints at bridge structures
- Replacement of lobby suspended ceiling and unsecured marble veneer
- Replacement of auditorium walls and ceiling

Primary Structural Work

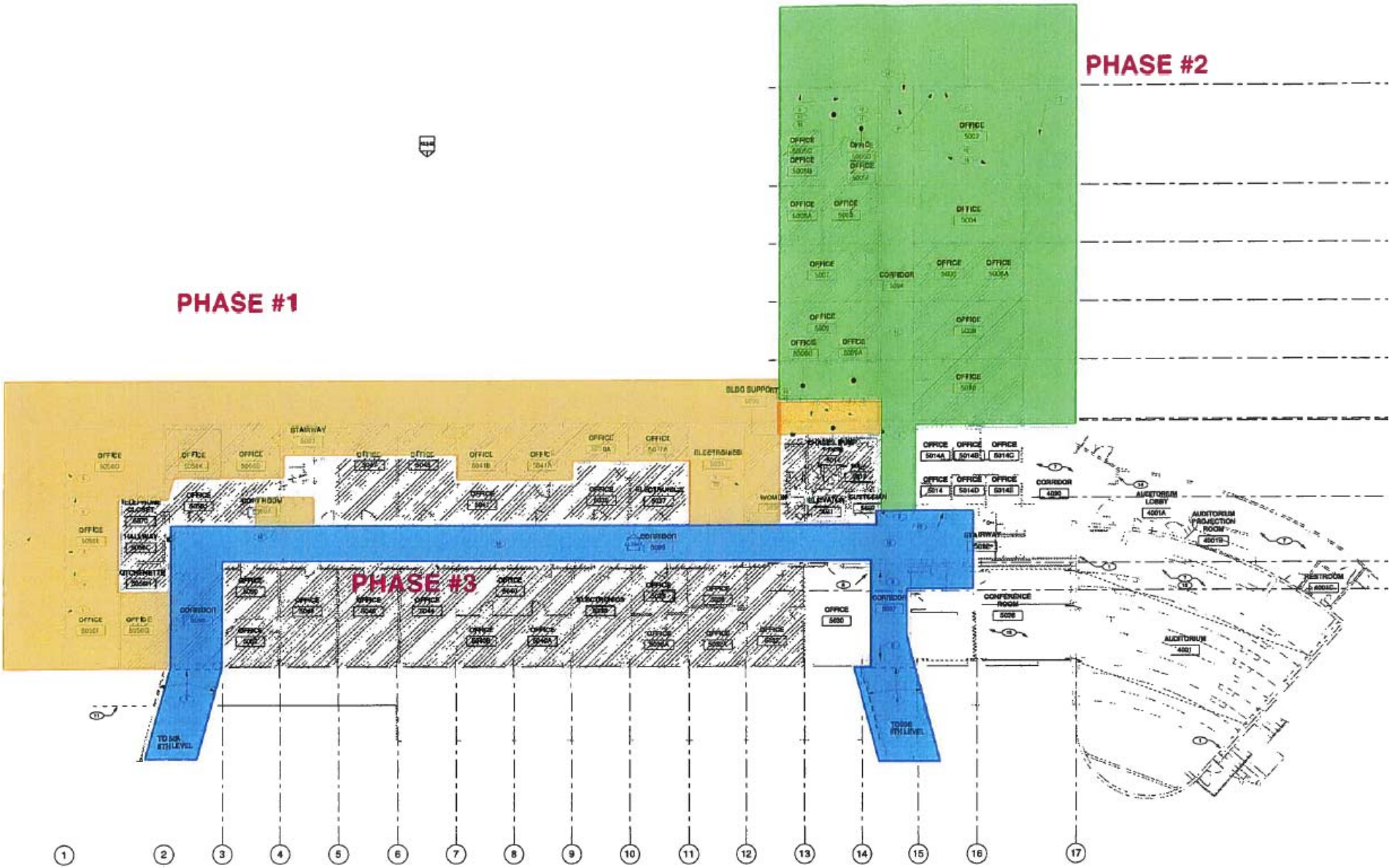


Building 50 – 4th Floor Plan

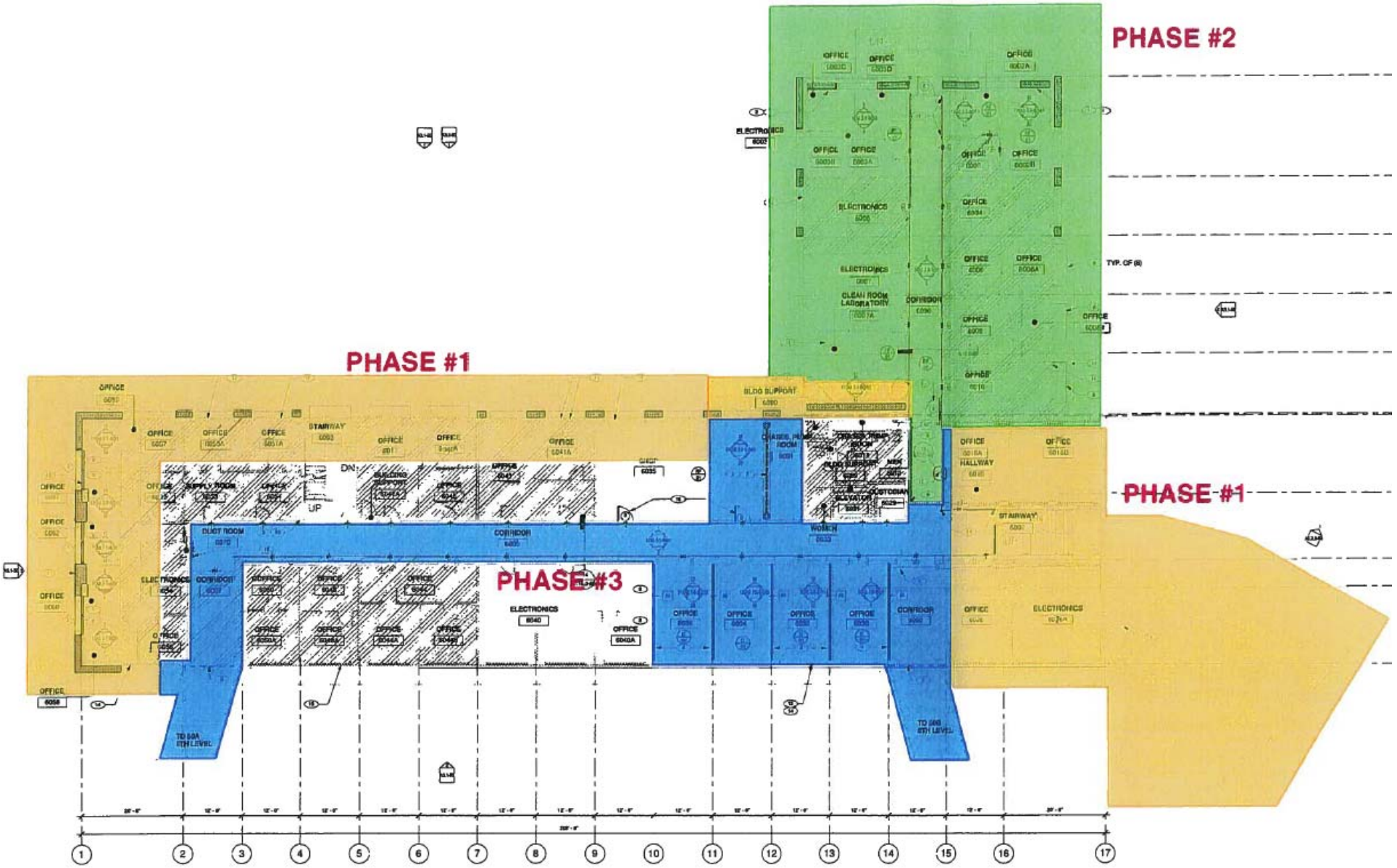
Phasing Plan – 4th Floor



Phasing Plan – 5th Floor



Phasing Plan – 6th Floor



Auditorium

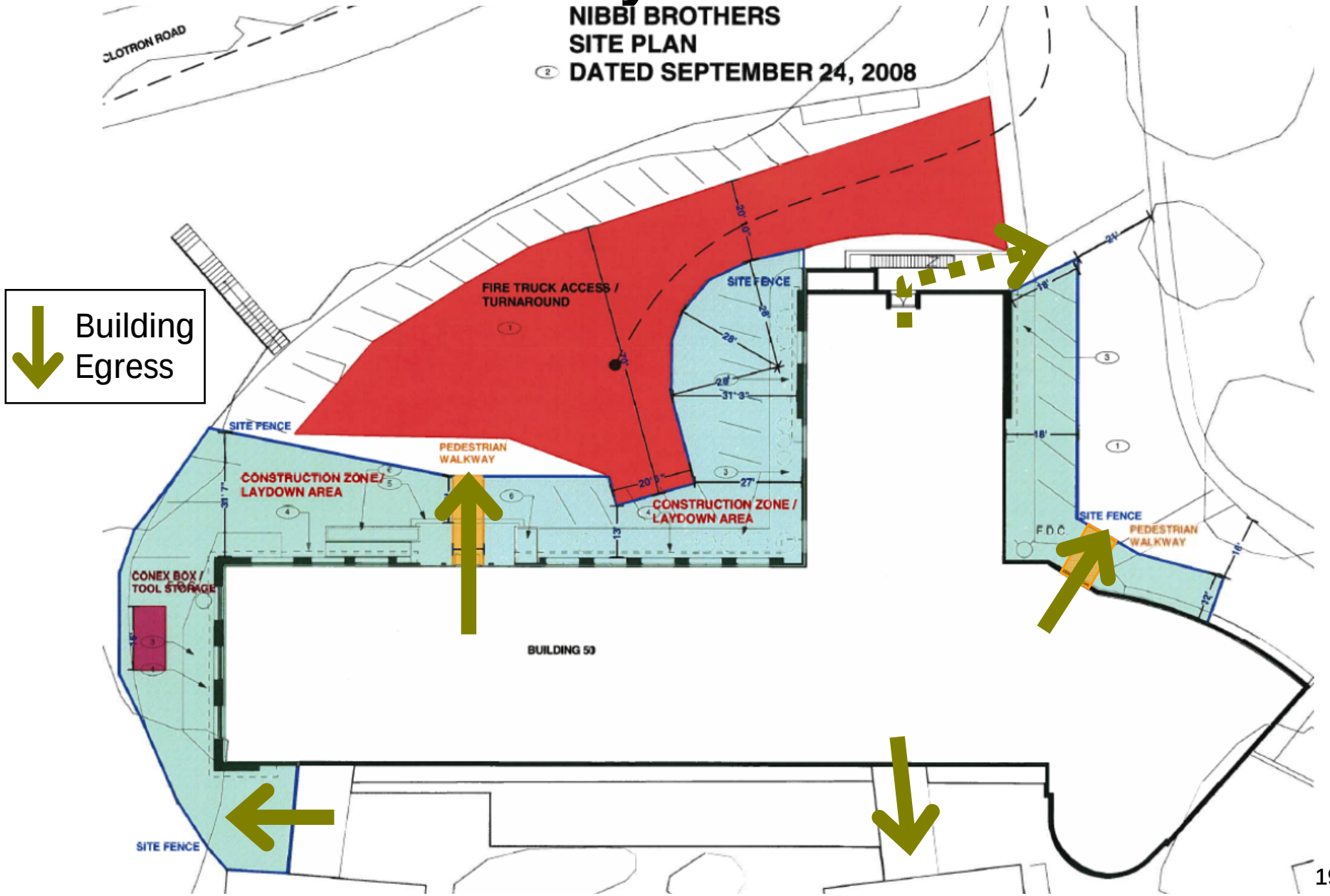
50 Auditorium closed Jan to Jul 2009 for structural upgrades

Office Moves

	# People	(E) Space Identified	New Space*
Phase 1 (01/09-07/09)	40	31	9
Ph 1 Adds (noise/vibration)	28	9	19
Phase 2 (07/09-11/09)	19	3	16
Phase 3 (10/09-02/10)	16	2	14

* 50F Trailer, B50 Library, other Buildings

Construction Laydown Plan



Key Project Team Members

- Richard Stanton, Project Director
- Jack Heffernan, Project Manager
- Rick Visoria, Assistant Project Manager
- Doug Brunkow, Construction Manager
- Marissa Smithwick, Project Assistant
- Rick Larson, Project Controls
- Mike Wisherop, EH&S Team Lead

- Contractor – Nibbi Brothers Construction
- A/E – RMW Architects

Project Team – User Representatives

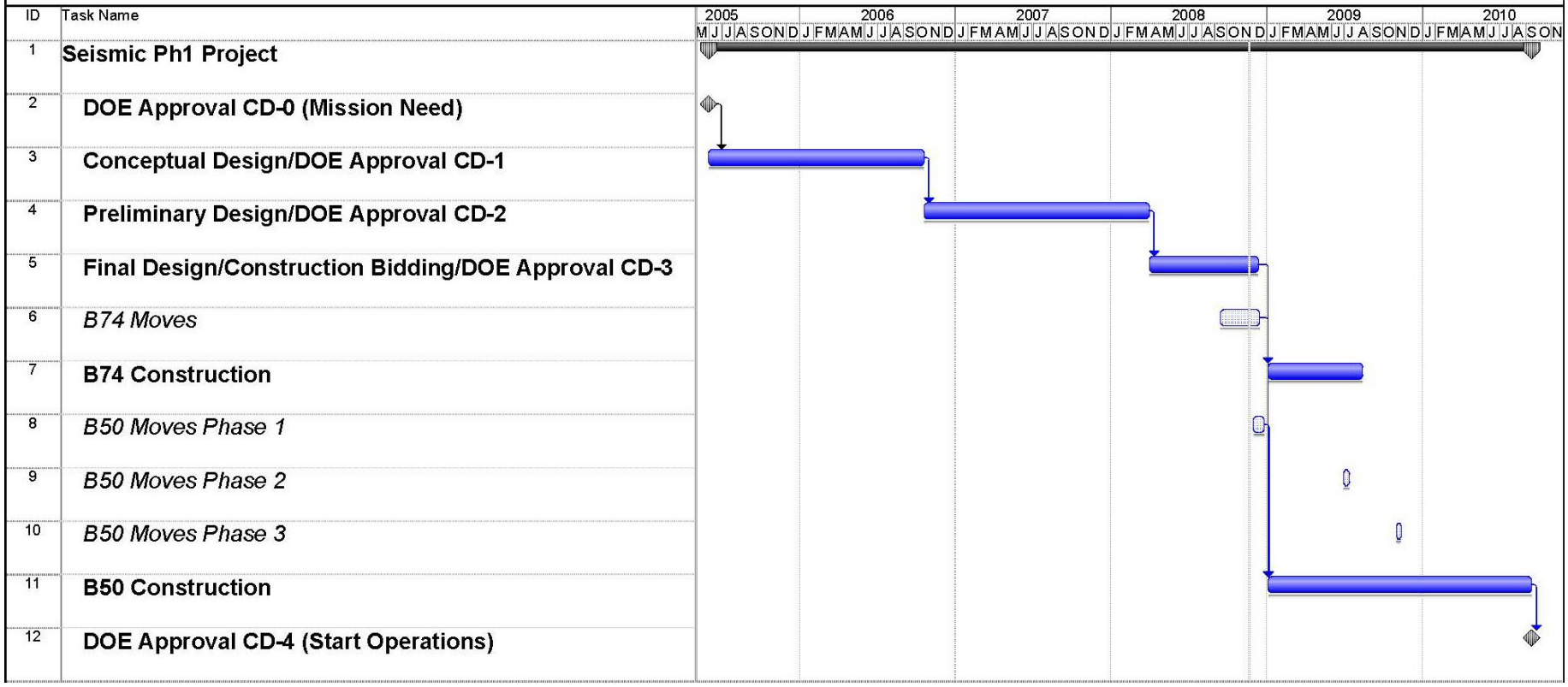
User representatives:

- Building 50 - Diana Attia, Physics
- Building 50 - Cathy Thompson, Physics
- Building 50 - Steve Dardin, Physics
- Building 74 - Jack Bartley, Life Sciences

The user representatives were involved in the development of the Design and are active team participants.

Project Milestones

Seismic and Structural Safety Upgrades of Buildings, Phase 1
Summary Schedule
(Town Hall Meeting 11/21/08)



Construction Safety Program

- 'Best Value' contractor selection based in part on:
  - Workers Comp rates
  - OSHA incidence rates
  - Safety program quality
- GC required to provide safety personnel
  - Full-time site safety representative
- LBNL construction safety oversight
  - Inspection oversight by LBNL construction safety engineer, Rad Technician

Construction Safety and You

- Construction safety protocols
  - Observe signs and barricades
  - Follow flagger directions
  - Patience will be an appreciated virtue
  - Report unsafe conditions to PM/CM
- Stay out of the project site
  - Many hazards that are not obvious
  - Schedule site visits through PM/CM
  - Personal Protective equipment (PPE) required
- Project status provided on the web site
  - http://www.lbl.gov/Workplace/siteconstruction/
  - A-Z Index: “Construction Website”
- For any project issues contact Jack Heffernan x5993 or Doug Brunkow x6252

Questions?