
**Alameda Unified School District
Historic Alameda High School
Community Engagement Project
Meeting Number 4**

**Presentation of Costs for
Various Rehabilitation Standards**

Agenda

- I Introductions
- II Agreements
- III Purpose of the Community Engagement Project
- IV Presumptions
- VI Excluded Costs
- VII Definitions of Structural Rehabilitation Levels
- VIII Infrastructure Costs (Non-Structural Upgrades)
- IX Unresolved Issues

I & II: Introductions & Agreements

Introduction of stakeholders and review of meeting agreements

- Alameda Citizens Taskforce
- Alameda Architectural Preservation Society
- At-Large Representative, Alice Lai-Bitker
- Legacy Committee
- Alameda High Teachers
- Alameda Education Association
- Alameda High School Alumni Association
- Alameda Association of Realtors

III: Purpose of the Community Engagement Project

- Identify and engage key stakeholder groups
- Collect community input
- Create a common pool of agreed to and disputed facts
- Define rehabilitation options for HAHS with the associated costs

IV: Identification of Affected Buildings



- East Building (Adult Education) – 35,000 sq. ft
- East Wing of Kofman (Administration) – 20,000 sq. ft.
- West Wing of Kofman (Library) – 20,000 sq. ft.
- Kofman Auditorium & West Building are not affected

V: Presumptions

- Pricing in Ranges. Why?
 - No structural testing
 - Cost to get detailed pricing
 - Different methods to achieve rehabilitation standards
 - Measurements were taken from an old modernization project
- Soil studies do not indicate any instability
- Infrastructure cost assumes gutting and rebuilt according to current code

VI: Excluded Costs

Tenant Improvements

- Cost estimates do not include specialized interior improvements that might be required for a particular use such as classrooms. However, tenant improvement costs are relatively small in relation to structural and infrastructure costs

VI: Excluded Costs (*cont'd*)

Soft Costs

- Soft costs are those expenses relating to obtaining permits, design work, testing, engineering, abatement costs, etc.
- These costs can range from 25% to 30% of the project cost. They are not included in the estimates.

VII: Definitions of Structural Rehabilitation Levels

ORDER OF MAGNITUDE COST ESTIMATE

Structural and Non-Structural Upgrades to "Non-Field Act" Facilities at
Historic Alameda High School

Thursday, May 09, 2013
Quattrocchi Kwok Architects

Below are "Order of Magnitude" estimates to provide structural and non-structural upgrades to the portions of the Historic Alameda High School that do not comply with "Field Act" Standards required for student use. These are the 3-story East Building (Adult Ed) as well as the East (Admin.) and West (Library) Wings of the Kofman Auditorium (exclusive of theater/ lobby section). Structural Upgrades are described in the 4/19/13 upgrade memo by ZFA Structural Engineers and are summarized below.

No Structural Upgrade: Not upgrading the structure has no costs and was not included below. Because of building collapse risk, this option is ill-advised.

Collapse Prevention: Provides added strengthening to mitigate building collapse during seismic events (currently at risk of collapse).

Historic Building Code: Structural upgrade allowing use of the building's existing structure - requires analysis and testing of existing structure. This methodology is designed to follow Chapter 8-7 of the 2010 California Historical Code.

Basic Life Safety: Structural upgrades to provide building performance to most closely match the current California Building Code. Requires analysis and testing of existing structure.

Field Act Standards: Meets Division of the State Architect (DSA) standards required to return all spaces to student use.

Non-Structural Upgrades provide complete renovation of the Non-Field Act facilities as follows:

- New or significantly upgraded mechanical, plumbing and electrical systems including lighting, data and fire alarm systems.
- Exterior envelop upgrades including plaster repair, painting, new windows and roof repairs.
- Accessibility upgrades to meet ADA requirements including, ramps, toilet rooms and site improvements adjoining the historic high school.
- All new interior finishes including flooring, walls, ceilings & interior doors/ windows. No change in room configuration included.

NOTE - Non-Structural Upgrades assume complete modernization and renovation, however the scope of upgrades can be reduced to control costs

Building or Wing	Collapse Prevention Minimal Upgrade (student use not allowed)		Historic Building Code - Current Building Code (student use not allowed)		Basic Life Safety - Current Building Code (student use not allowed)		Field Act Standards - DSA for Public Schools (student use is allowed)	
	Low	High	Low	High	Low	High	Low	High
STRUCTURAL UPGRADES								
East Building (Adult Ed)	\$2.11 million	\$2.81 million	\$1.53 million	\$2.03 million	\$2.81 million	\$3.75 million	\$3.09 million	\$4.12 million
East Wing of Kofman (Administration)	\$1.58	\$2.10	\$1.14	\$1.52	\$1.76	\$2.35	\$2.02	\$2.69
West Wing of Kofman (Library)	\$1.46	\$1.94	\$1.13	\$1.51	\$1.65	\$2.20	\$1.73	\$2.31
SUBTOTAL STRUCTURAL UPGRADE COSTS	\$5.14	\$6.86	\$3.80	\$5.07	\$6.23	\$8.30	\$6.84	\$9.12
NON-STRUCTURAL UPGRADES*								
East Building (Adult Ed)	\$7.34 million	\$8.81 million	\$7.34 million	\$8.81 million	\$7.34 million	\$8.81 million	\$7.34 million	\$8.81 million
East Wing of Kofman (Administration)	\$3.61	\$4.33	\$3.61	\$4.33	\$3.61	\$4.33	\$3.61	\$4.33
West Wing of Kofman (Library)	\$4.09	\$4.91	\$4.09	\$4.91	\$4.09	\$4.91	\$4.09	\$4.91
SUBTOTAL NON-STRUCTURAL UPGRADE COSTS	\$15.05	\$18.05	\$15.05	\$18.05	\$15.05	\$18.05	\$15.05	\$18.05
COMBINED TOTALS	\$20.2 million	\$24.9 million	\$18.8 million	\$23.1 million	\$21.3 million	\$26.4 million	\$21.9 million	\$27.2 million

Costs assume public bidding, normal contractor mark-ups and 10% change order contingency. They do not include additional "non-construction" soft costs in the range of 25 to 30%. For further information see 5/02/13 *Order of Magnitude Construction Cost Estimate* by Counterpoint Construction Services.

*Although the extent of non-structural improvements may vary depending on future use, at this time all estimates assume the same level of non-structural improvement for all levels of structural upgrade.

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

A. “Safe” and “failure”

B. Zero Intervention

- In their letter of April 24, 2013, Wiss, Janney, Elstner Associates – an architectural/ engineering firm working on behalf of the Alameda Architectural Preservation Society – indicated that: *“if the building is not being used for students during the day, there appears to be no legal requirement for the building to be seismically strengthened.”*

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

- Consequently, the school board has the option of doing nothing. In looking at past history, this has been the default action taken by past school boards.

C. Minimal Intervention

- Members of WJE and QKA have toured the buildings on several occasions. After their initial inspection in 2012, the WJE team found that: *“the structures in question were designed and built prior to the advent of modern building codes, and in general, do pose more of a threat to occupants and passerby than modern buildings.”*

VII: Definitions of Structural Rehabilitation Levels (cont'd)

- (Letter of June 25, 2012) The letter continues: *“The lack of positive connections between the roofs and floors of the structures and the exterior walls is a significant deficiency that can allow the walls to separate from the roofs and floors and fall outward.”*
- In its follow-up letter after touring the buildings on March 26, 2013, WJE stated, *“...roof to wall connections are some of the most vulnerable because of the amplification of seismic forces near the roof due to the effects of higher modes...”* and *“...we would recommend that if a minimal strengthening scheme is considered, one that ties the roof to the walls would be prudent and relatively low cost strengthening measure.”*

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

- At the present time, most of the second floor (first floor ceiling) perimeter has been secured to the exterior walls. However, the majority of the third floor and roof sections have not been secured to the exterior walls with one exception. The floor and roof sections that abut the exterior wall parallel to Oak Street have been secured. These areas were not secured as a cost savings measure while the District determined next steps. This is why the containment fence is further away on Central Avenue side of the structures. Consequently, there is currently a possibility that sections of the upper floors and roof could separate from the exterior wall during a major seismic event creating the opportunity for portions of the upper wall to fall outward.

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

- QKA recommends that a minimum rehabilitation level should be the Collapse Prevention standard discussed next.



VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

D. Collapse Prevention (Limited)

- Collapse Prevention shall be defined as the post earthquake damage state in which a structure has damaged components and continues to support gravity loads ***but retains no margin against collapse.*** Rehabilitation contains minimal framing and bracing components.

E. Historic Building Code Standard – (design to 75% of current code force) The intent of this chapter is to encourage the preservation of qualified historical buildings or structures while providing standards for a minimum level of building performance with the objective of preventing partial or total structural collapse such that the overall risk of life-threatening injury as a result of structural collapse is low.

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

- F. Life Safety (Basic Safety or California Building Code)
- Life Safety means the post-earthquake damage state in which significant damage to the structure has occurred ***but some margin against either partial or total structural collapse remains.*** Some structural elements and components are severely damaged but this has not resulted in large falling debris hazards either inside or outside the building. Injuries may occur during the earthquake. However, the overall risk of life-threatening injury as a result of structural damage is expected to be low. Rehabilitation contains additional framing and bracing components beyond Collapse Prevention Standard.

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

G. DSA/Field Act (Enhanced Basic Safety)

- This rehabilitation standard provides the highest level of seismic upgrade and “safety.” The Field Act mandates statewide seismic safety standards for schools. The standards are enforced by the Division of State Architects, or DSA. Rehabilitation contains significant framing, bracing, and shear components designed to resist forces approximately 15% more than under the California Building Code.

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

1. Evidence of superior performance in seismic events
 - a) 1940 Imperial Valley earthquake. This earthquake was of magnitude 7.1. According to reports, not one of the sixteen Field Act compliant buildings reported any significant damage which was limited to 1% of total value of the buildings. Pre-Field Act school sites sustained damage at 29% of building value.
 - b) 1952 Kern County earthquake. Damage to Field Act schools was under 1% of building value while pre-Field Act buildings were damaged to 50% of building value.

VII: Definitions of Structural Rehabilitation Levels (*cont'd*)

2. District Office Requirement

Non-school uses in a building located on an active campus that does not comply with the Field Act are possible so long as:

- a) Students and teachers are not permitted to enter the facility
- b) Students and teachers are protected from building collapse (fence or other barriers) and
- c) There is a Board of Trustees' resolution identifying this as a non-student or teacher building including building signs indicating this.
- d) District Office does not fall within non-school use when it is located on a school campus.

VIII: Infrastructure Costs (Non-Structural Upgrades)

These costs include new or significant upgraded mechanical, plumbing, and electrical systems including lighting, data, and fire alarm systems. Exterior improvements include plaster repair, painting, new windows and roof repairs.

IX: Unresolved Issues

To be determined at the May 9th meeting and additional efforts outside of the scheduled public meetings.