Special Board of Education Meeting Regarding the Condition at Lum Elementary School

April 28, 2017

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

Background

- The condition was discovered just recently, as the district was preparing to build a new classroom building on the Lum campus.
- Tests at the school indicate that the soils would be subject to liquefaction and loss of strength during a strong earthquake. This event could cause the school buildings to sink and/or become structurally unsafe.
- As a result, the engineers have recommended that the district develop a plan to provide alternate facilities for students and staff as soon as feasible.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

Overview of Presentation

- Timeline of how we got here and steps District has already taken in response.
- Details from the engineers regarding the hazard and their recommendation that the District “develop a plan to provide suitable alternative facilities as soon as feasible.”
- Update on status of District’s plan and timeline for decisions.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

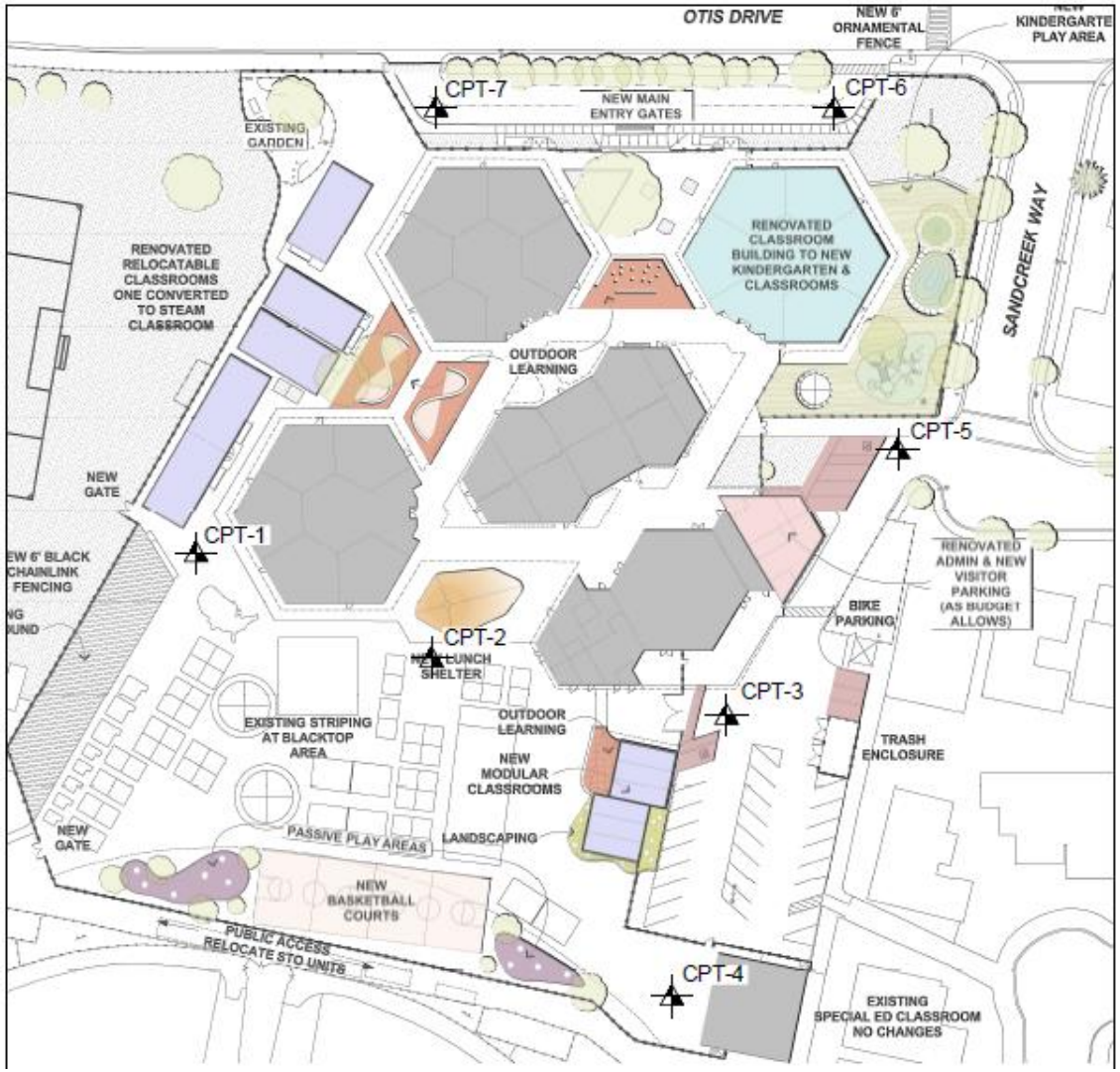
Initial Soil Testing

- District's Measure I Bond program called for construction of a new two-classroom building at Lum.
- Division of State Architecture (DSA) requires soil testing before construction of new school facilities. Initial testing was performed in February.
- Test bore was drilled near site of proposed new building.
- Result showed higher-than-anticipated liquefaction risk.
- In response, District commissioned additional test bores near existing buildings to determine extent of problem.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

- Tests at the school site indicate that the soil would be subject to liquefaction during a strong earthquake

- Soils tests were taken at various points and showed the same condition across the site



Special Board of Education Meeting Regarding the Condition at Lum Elementary School

In response, the District:

- Halted all planning and work on proposed Measure I project at Lum.
- Commissioned a structural engineer and architect to determine whether the soil liquefaction findings posed a risk to the existing buildings at Lum.
- Began testing all other school sites to determine whether similar soil issue exists at those sites.
  - Subsequent evaluations have concluded that similar combinations of soil and structural elements do not exist at other District Elementary schools.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

School Site	Cleared	Pending
Bay Farm Elementary	✓	
Earhart Elementary	✓	
Otis Elementary	✓	
Edison Elementary	✓	
Haight Elementary	✓	
Franklin Elementary	✓	
Maya Lin Elementary	✓	
Ruby Bridges Elementary	✓	
Paden Elementary	✓	
Wood Middle - Classrooms	✓	
Wood Middle - Multipurpose Room		✓
Lincoln Middle		✓
Alameda High (Historic Wing)	✓	
Alameda High (Encinal Ave Wing)		✓
Encinal Junior & Senior High	✓	
WoodStock Edu. Center (NEA & ACLC)	✓	
Chipman Campus (AoA)		✓
Longfellow Campus (WCDC & Island High)		✓

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

Late Feb

Initial soil & ground water evaluation at Lum School.

March

Further soil testing and evaluation at Lum.

Preliminary analysis by structural engineer.

Soil testing at other sites.

April

Peer review and verification of Lum testing (4/24).

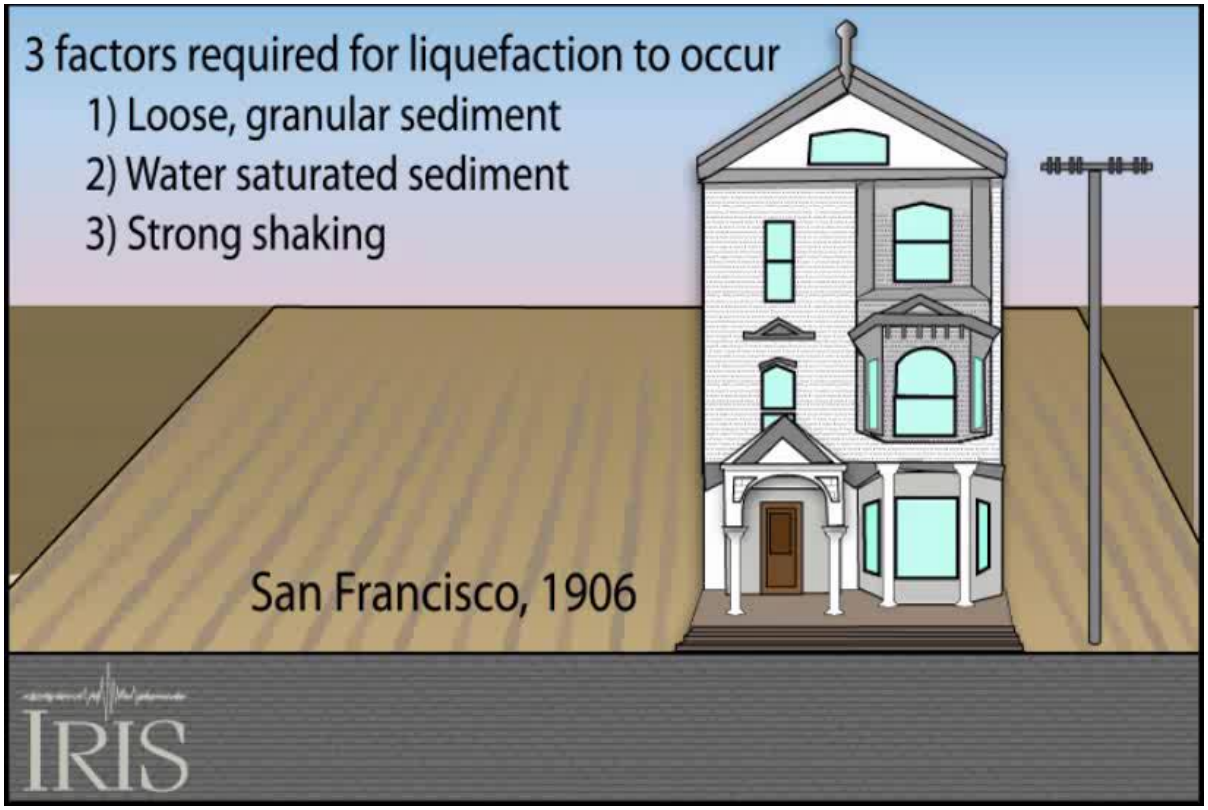
Soil analyses for other sites.

Development of options for student enrollment.

Creation of community engagement plan.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

What is Liquefaction?



Special Board of Education Meeting Regarding the Condition at Lum Elementary School

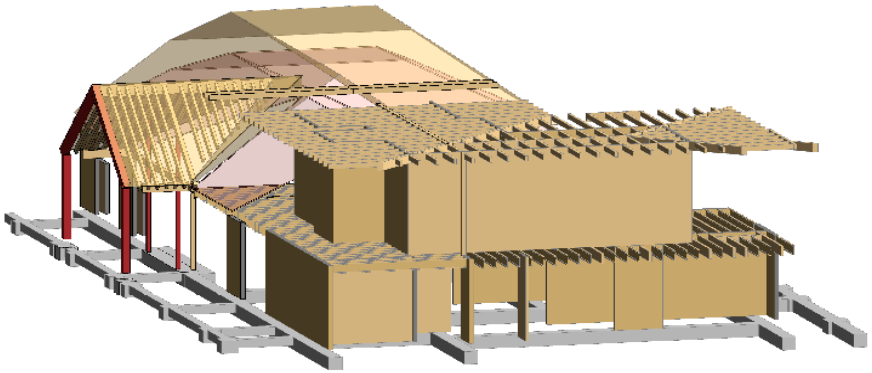
This building is experiencing differential settlement. This type of settlement increases the likelihood of partial collapse.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

This building is experiencing uniform settlement but the use of the doors has been inhibited.

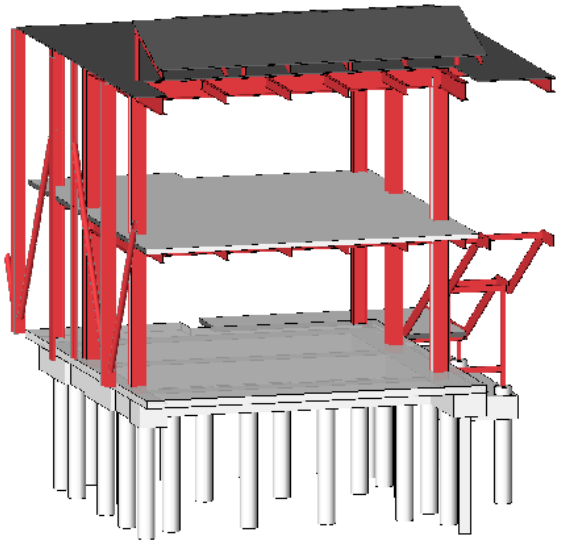
Special Board of Education Meeting Regarding the Condition at Lum Elementary School

This building has a conventional footing system similar to Lum Elementary which is not designed to accommodate the expected settlement.



Special Board of Education Meeting Regarding the Condition at Lum Elementary School

This building has a pier foundation which would extend through the soil which could liquefy.



Special Board of Education Meeting Regarding the Condition at Lum Elementary School

Why is it a problem at Lum Elementary School?

During the maximum probable earthquake, the settlement could be as much as 10 inches. The top 50 feet of the soil could potentially liquefy. The foundation type at this campus was not designed for nor can it resist settlements of this size. Liquefaction was not well known when these buildings were designed and built and therefore not accounted for.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

What does this mean?

- ZFA is recommending that the district develop a plan to find alternate arrangements for the students and staff. The Geotechnical Engineer believes that, given the extensive nature of the potentially liquefiable soil, there is not a viable solution to reduce the risk to the existing building.
- It would be possible to design new buildings at the site that could mitigate the liquefaction concerns.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

What does this mean (continued)?

- The California Building Code and the Division of State Architects (DSA) would allow continued use of the buildings indefinitely. There would be restrictions on what the district could do however. The district could only do non-structural related projects such as: re-roofing, new windows, new mechanical units, new paint, new cabinets. It could not modify structural walls or other lateral resisting elements.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

District's Response to Structural Engineering Report

- Commissioned a peer review of the soil's report, which confirmed the original analysis.
- Determined that site cannot be retrofitted by the start of 2017-18 school year.
- Determined that existing building capacity at other elementary sites is sufficient to accommodate all Lum students and teachers next year.
- Began constructing plan to accommodate Lum students and teachers at other sites beginning in the 2017-18 school year if Board so directs.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

Values Underlying Plan

- Existing Lum students (including K enrollees for next year) and teachers would be reassigned to other sites.
- District would try to minimize disruption to families by:
  - Sending students to nearby sites with capacity to accommodate them without need to transfer again during elementary school.
  - Keeping siblings together.
- District would adopt temporary new school boundaries which would determine neighborhood school assignments for future students.
- District would need to review new boundaries next year.
- District would publicly present plan to comment before adoption.

Special Board of Education Meeting Regarding the Condition at Lum Elementary School

Suggested Schedule

April 28

Special Board meeting to share and discuss information on facility issue and possible next steps

May 9

Board votes on whether Lum will house students next year

Detailed enrollment plan provided for Board and public comment

May 23

Board votes on enrollment plan*

*If needed based on 5/9 vote

June - Sep

Implementation of the Board decision

Discussion regarding long-term future of Lum site