



# **DYNAMIC STRUCTURES**

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November 28, 2018

Wes Christensen  
KMA Architects

Re: Timpview High School  
Structural Evaluation Update

The following key points provide an update on the structural conditions of Timpview High School between now and when we last made an assessment at the end of 2012.

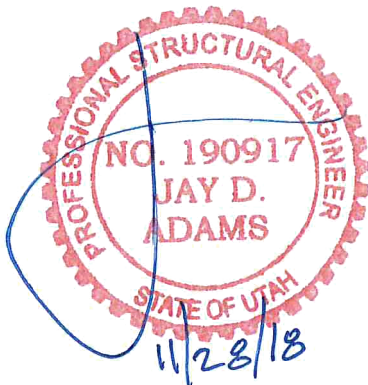
1. One of the key areas of concern noted in the 2012 assessment is the existence of concrete double tees framing the roof over the south gym and framing the floors in some of the classroom wings. The double tees are not adequately connected to the bearing walls. During a seismic event, the probability is high that the heavy double tees will shift off the walls. This type of collapse would likely cause fatalities if the building were occupied during the seismic event.
2. The other major structural item is building settlement. We have visited the school a number of times over the last six years to observe and comment on damage caused by settlement. The settlement appears to accelerate during the spring when a significant amount of water is coming off the mountain and percolating through the soils.
  - a. It is our opinion that the continuing problem of concrete spalling from the bottom of the double tees framing the south gym roof is a result of settlement causing a twisting action in the gym.
  - b. In April of 2017, a significant piece of masonry was pushed off the top of a column in the media center which broke through the ceiling. It was apparent that this was caused by settlement observed in the adjacent courtyard.
  - c. We have observed accelerated settlement in the concrete mechanical tunnels as a result of flooding.
  - d. In April of 2017, we observed loose masonry pieces in the upper corner of the gym. The loose pieces were removed before they could fall to the floor. The loose masonry is a result of settlement.

- e. During our visits, we have noted significant settling in and around the interior courtyard which is causing damage to concrete stairs and walks.
  - f. In April of 2017 we observed that the west classroom wing had moved west away from the south gym by a couple of inches due to settlement.
  - g. During a visit we noted settlement cracks in the masonry walls and headers near the newly remodeled staff room that are a result of settlement.
3. One of the primary concerns with the amount of settlement that is occurring is having portions of concrete and masonry break loose from the structure as has occurred. So far, no one has been injured but until the causes for settlement are remediated or the building is replaced, the likelihood of falling hazards happening in the future is high. It is a game of roulette as to whether or not a student or faculty member is eventually injured.

We hope this summary will provide helpful information that may be used in planning for the future life and eventual replacement of the building.

Respectfully,

**Jay D. Adams, SE**



**Dynamic Structures, Inc.**