UMass Amherst
Adaptive Use Bridge Project
Southern Vermont (1906) Bridge Load Test 2 Methods

Displacement measurements for this load test were taken with electronic dial gages. The dial gages that were used during this load test were supported by seven foot angle members that were driven into the ground one month ago for the previous load test. The angle members were left in the ground, and were determined to still be stable in the ground. Figure 1 features a sketch of the dial gage installation.

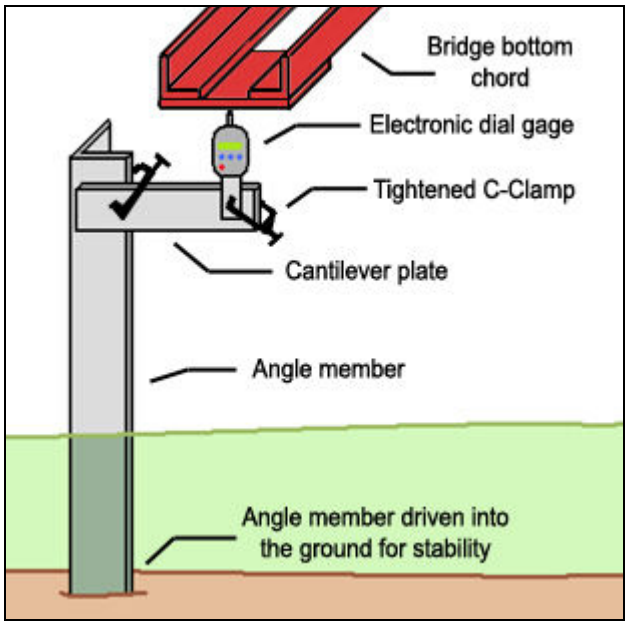

Figure 1. Electronic dial gages were attached to angle members driven into the soil.

The dial gages were installed at three different locations along the bottom chord. The locations of the gages can be seen in Figure 3. The gages were not moved during data collection.

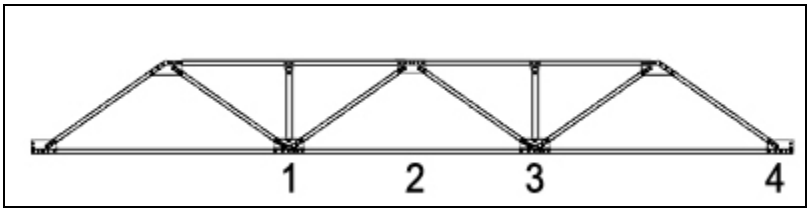

Figure 3. The dial gages were located at points 1, 2 and 3 along the bottom chord of the bridge.

After the three dial gages were properly installed all people and objects were removed from the bridge and the gages were set to zero. The bridge was then loaded with a John Deere bucket loader 410E. The bucket loader weighed 19340 pounds. The center of gravity of the truck was assumed to be at the front of the rear wheels. Displacement measurements were taken with the loader's center of gravity above locations 1, 2 and 3 in Figure 3. While the gages were being read the loader remained stationary on the deck of the bridge.
Figure 4 features a photograph of the bridge team performing the load test.

Figure 4. Adaptive use bridge team performing the load test.