



Project Profile: California Memorial Stadium – Berkley, CA
Product: Custom Stair Risers and Treads

Design Architect: HNTB & STUDIOS Architecture
Structural Engineer: Forell/Elsesser Engineers
General Contractor: Webcor Builders

Opening in 1923, California Memorial Stadium at the University of California Berkeley was funded by public donations and built as a memorial to California's fallen heroes of World War I. Its neoclassical shape awards spectators with panoramic views of the San Francisco Bay, the Berkley Hills or Strawberry Canyon depending on their seat selection.

When slated for redesign and reconstruction, the owners wanted to preserve the beautiful façade of the building. The key concern was that the stadium was built over the Hayward Fault so accommodations had to be made for potential seismic movement.

The designers faced numerous challenges on this project. Due to the location of the Hayward Fault, the project required a series of angled joint covers that could accommodate 12" of expansion, compression and lateral movement; all while maintaining the safety of the stadium's occupants. Also needing to be considered was the complexity caused by the horizontal treads and vertical risers of the stadium bowl seating, and that each individual cover needed to adapt to field variations due to the tolerance of the pre-cast seating sections. This meant that every cover had to be uniquely designed to fit its individual tread and riser. The project was also under a very strict schedule to ensure that the stadium would be ready for the start of the 2012 football season.

The primary goals were to reduce seismic risk and ensure life safety in the event of a major seismic event, so C/S not only had to design an exclusive system but also prove that these covers could handle the required movement. The Expansion Joint Cover team began working with HNTB's design team to propose preliminary custom joint system concepts as none of the standard products (even with modifications) would meet the project requirements. Throughout the design process, the team continued to participate in meetings and eventually provided a full-scale mock-up to illustrate the functionality of the new design. Prior to supplying any material for the project, the performance capabilities of this new design were put to the test on C/S rigorous full-cycle testing machine. The team also worked closely with the Webcor, the general contractor to incorporate design features that permitted field adjustment of this highly complex system.

In less than 21 months, C/S Expansion Joint Cover team was able to design, test and fabricate a custom joint cover assembly for the stadium bowl, as well as the other joint cover systems used throughout the stadium.

At a Glance

- Project located on the Hayward Fault
- 1st product of its kind
- Allows for 12" expansion, compression, and lateral movement
- Specifically designed to allow for minor field adjustments
- Designed to prevent holes or gaps during movement



Expansion Joint Covers

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