

Project Brief

Navy Hospital Building 26

Sub-title



San Diego, CA, USA
August 2002



Building 26 is part of the Balboa Naval Medical Center complex in San Diego, CA. It is 180,000 square feet and consists of 6 stories above ground with 3 basements. Formerly one of the hospital buildings, this project included the conversion of the building to a Bachelor Enlisted Quarters (BEQ), similar to dorm-like apartments for sailors. In addition to the change of use, the building was also being upgraded for seismic reasons.

After a full analysis of the structure with seismic loads, it was determined that some walls did not have enough shear strength or overturning capacity. A few columns throughout the building were also found to be deficient in shear strength. In addition, the building had to remain 70% occupied at all times, so work had to be done quickly and phased along with the renovation portions of the project.

The seismic strengthening solution for this building included a combination of Fibrwrap® and earth tie-backs into the soil. The wall strengthening incorporated the design of the Tyfo® Fibrwrap® System to take the additional shear load and vertical steel plates and anchors to account for the overturning forces at the ends of the walls. Multiple layers of the Tyfo® SEH Glass Composite system were applied, depending on the shear load requirement of each wall. Tyfo® Anchors were installed at the ends of the walls for bond enhancement and long-term durability. To transfer the increased load capacity into the diaphragm, steel angles were attached on top of the composite into the wall and the slab. The Tyfo® SEH System was also used on the columns to enhance shear strength capacity.

The Tyfo® System used resulted in a cost-effective strengthening solution. The ease of installation made it possible to work in occupied areas with minimal disruption. The low profile of the composite material allowed for no loss of square footage space throughout the building, which was important to the new BEQ layout. Exterior walls were coated with the same color paint as the existing building, resulting in a perfect finish that matched the rest of the structure. The composite system solution was installed quickly and the installation met the stringent quality control standards of the Navy.

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