



Adult & Children's Education Buildings Santa Cruz Bible Church Santa Cruz, California

Civil and Structural Engineering



Client Reference:

William Mayfield, Architect
NAI Architecture Planning
2A Summit Avenue
Mount Hermon, CA 95041
(831) 335-0211

Budget: \$4.1 million

We provided the structural design of two buildings totaling 29,000 square feet. Both two-story buildings provide classrooms, meeting rooms, office, library, and café space. Working closely with the Architect and General Contractor, several different structural systems were value engineered before a combination of red iron and cold formed steel was selected as the most cost effective.

These steel-framed buildings include custom roof trusses, architectural façade, composite floor systems, and post Northridge Earthquake steel moment frames designed to FEMA 267 criteria. The Special Moment Resisting Frames (SMRF) incorporated the latest connection detailing with tapered cover plates to increase the joint ductility in addition to rigorous inspection and quality control requirements.

The Adult Education Building was particularly challenging because the floor plan is partially skewed to add geometric interest. Custom designed steel roof trusses, partially clad with wood, provide a sense of elegant mystery to the second floor auditorium. The Children's Education Building provides 17 classrooms, offices, and large open auditorium spaces on both floors. A two-story climbing wall was added to the exterior with auto-belay devices.