

Safe and Secure: New City Hall Built With Earthquakes and Accessibility in Mind

When City leaders first considered building a new City Hall, earthquake safety was their foremost concern. Milpitas is located near the Calaveras and Hayward fault lines, so it was important that City Hall withstand the stress of a major earthquake. The old City Hall – built in 1969 before advances in seismic safety were developed – fell short of today’s current standards.

Demolition day for the old City Hall only validated City leaders concerns.

“The original City Hall was a dangerous building,” says City Hall Architect Charles Dillworth of Studios Architecture in San Francisco. “When it was torn down, people were amazed how easily the building fell, because all it took was one nudge. The City Council did the right thing – that was an absolute tear down.”

Today’s new City Hall was designed to meet the most current earthquake safety standards, developed out of lessons learned in the Loma Prieta and Northridge earthquakes. As a result, it exceeds state requirements.

Solid as a Rock

The new City Hall is built on reinforced concrete with a 4-foot slab at the base of the underground garage, which sits nearly 12-feet below the surface. It took 4,000-cubic-yards of concrete to establish a strong foundation to support the building during an earthquake as well as to reinforce it from the water table located 6-feet below the building’s surface.

In addition, the building is built around nearly 3,000 structural steel members, assembled using a diagonal framing method known as Steel Eccentric Braced Framing, considered the strongest seismic standard in construction.

“The structural portion of this building was unique,” says Edgar Rodriguez, Chief Building Official for the City of Milpitas, who had an advisory role in the early days for the concept of the new City Hall. He also inspected the new building as part of his job. “My training is structural engineering, so I took a special interest in the construction of the foundation and framing and did a lot of close inspections. This is a very well-built building.”

The building’s glass walls were installed as curtain walls – suspended from the upper part of the structure down, like a curtain. This system is designed to support the glass even during large earthquakes. But should there be any kind of movement beyond what the system can handle, the glass will shatter into pieces, like a car windshield.

“The glass would break in a way where you could pick it up like sand and rub it between your hands,” Dillworth says. “There are no sharp edges.”

Finally, the building also features seismic joints which allow separate building elements, like the skywalk around the rotunda, to move independently during an earthquake and snap back into place at the end. The method takes additional pressure off the building’s structure to better withstand shaking.

More Accessible for All

Another concern of the old City Hall, addressed in the new building, was that for years the old building didn’t have elevators and was awkward to navigate for both City staff and the public. It was also built before the American with Disabilities Act (ADA) and, as a result, the old building was out of compliance with new accessibility codes.

“We considered much more than just meeting ADA requirements when developing the new City Hall,” says Councilmember Patricia Dixon. “That’s why we built underground parking to get our city vehicles off the street and add more surface parking. We want residents just to drive up, walk in and have access to nearly everything they needed right there, without having to go from floor to floor, department to department.”

As a result, the parking area asphalt is level with the sidewalks and plazas, so there are no ramps or stairs to navigate to the front door. The City Hall entrance facing the library also features a drive-up, drop off plaza.

Taking the City Hall's accessibility features a step further, Dillworth and City leaders developed the idea of a one-stop public counter. The counter, located in the first floor lobby, features the City's most often used services, including Finance and the Building departments. In addition, there is a self-service computer station, copier and courtesy phone.

"If a person needs to copy a document, call to verify a fact for an application or to find information on the City web site while doing business with the City, they can do it all right there at the public service counter," Councilmember Dixon says.

Safe in an Emergency

The true test of a building, however, is its ability to keep its occupants safe. Besides the earthquake retrofitting, the building is equipped with the latest life-safety systems including fireproof doors, which automatically close in the event of a fire to prevent it from spreading.

The building also has a terraced design, which provides each floor with an outside balcony. In addition to sweeping views of the foothills, the balconies provide a safe place to wait for rescue crews during an emergency when other exits aren't available.

"I think true appreciation of the details behind the accessibility and safety features of this building will come in time," Councilmember Dixon says. "Our City staff have engineered this building so well, I feel confident it will stand the test of time."

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