

The Electra High Rise Showcases RJA's Collaboration Skills, Technical Expertise

Challenge. Reaching for the sky, The Electra high rise condominium building became the tallest residential structure in San Diego when construction was completed in January 2008. With 43 stories and 248 condominiums, The Electra was built in the center of a historic building, the San Diego Gas and Electric's Station B, which was constructed in the early 1900s. By constructing The Electra in the center of the building and leaving Station B's classic façade intact, the property was destined to become a landmark and a popular residence for those wishing to live in downtown San Diego.

The blending of the old building with the new produced unique challenges. Designs called for the five floors of Station B to be an open, common space. However, the developers did not want the open area to be classified as an atrium because it would require a special exhaust system to meet code requirements.

The proposed structure called for Rolf Jensen & Associates' (RJA) expertise in working on high rise buildings. RJA was responsible for fire/life safety construction management, third-party inspection, smoke control system testing and code consulting.

One particular critical matter regarding Station B was the division of smoke zoning. RJA needed to ensure that certain doors came down properly to serve various areas of the structure. RJA also had to ensure the zoning for the common area in Station B and the residential tower, and that the garage was appropriate and functional.

Yet another challenge arose because of the building's stack effect, which is common in high rise structures. The structure's stack effect – when warm air rising creates a positive pressure area at the top of a building and a negative pressure area at the bottom of a building – made smoke control modeling difficult. It also was difficult to get the smoke control system to work properly because the stack effect can overpower the mechanical system and disrupt ventilation and circulation in the building.

Solution. RJA found a workable answer to the open space dilemma. Though the design called for an atrium, RJA convinced city officials to approve its classification as a high bay space – which enabled code requirements to be met through more traditional means.

To promote collaboration on the construction management portion of the project, RJA utilized one of its major strengths – finding proactive ways to get the contractors to work together through constant communication. All the work has to produce one functioning system, so RJA has perfected its method of collaboration with all of those involved. A site manager was at the worksite for the last month and a half of construction, acting as a project manager to make sure all fire/life safety plans came together properly. All major projects require several contractors, including an electrician, a mechanical engineer and a fire alarm contractor, among others. But it was up to RJA to make sure they worked cohesively to get the job done right and on time. This enabled the challenges regarding the smoke zoning and the stack effect to be solved appropriately and promptly.

Result. Through RJA's promotion of constant communication between the various contractors working on The Electra, the smoke control system worked properly and the building opened on time.

The developer, Bosa Development California, was pleased with RJA's abilities, which reinforced RJA's already stellar reputation and further enhanced its excellent relationship with Bosa.



- Construction Management
- Code Consulting
- Sustainable Design



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