## Photos: What it takes to clean and repair Christ Cathedral's 10,000 glass panes

By **CHRIS HAIRE** | chaire@scng.com | Long Beach Press-Telegram March 17, 2016 at 10:06 am

GARDEN GROVE – A \$4.5 million project to repair Christ Cathedral's 10,000 glass window panes started Wednesday, a year-long effort that must happen before construction on the interior – to make the church more traditionally Catholic – can begin.

The project is part of the Roman Catholic Diocese of Orange's renovation of the 78,000-square-foot, all-glass structure previously known as the Crystal Cathedral and made famous by the late Rev. Robert Schuller, who died last year.

"It's the first major visible step," said Ryan Lilyengren, spokesman for the diocese, which is now headquartered at the 35-acre campus. "People will be excited about it."

A 15-story, 300-ton crane was brought in to do the work. On Tuesday, a three-man crew rode the crane's bucket to the northeast slope of the cathedral to plan how they should approach the repairs. "We're excited to finally get this thing started," Mike Prestridge, vice president of contractor Century Building Solutions, said about working on the iconic building. "This is a thrill for us."

The workers will replace broken panes. But for most, they will clean the glass and use silicone caulking on the seals and metal frames, called mullion, to bolster "the structural integrity," Prestridge said.

The initial estimate, he said, calls for six panes to be repaired per person, per day. Within three to four weeks, additional lifts will arrive to repair the frames on the sides of the building.

"Once it's ramped up, up to 12 people will be working, not counting the crane operators," Prestridge said.

After the frames are reinforced, the windows will get a special coating to make them shine brighter.

"It still shines, but it's more than 30 years old," Lilyengren said of the former Crystal Cathedral, completed in 1981. "This will make it even brighter."

Since buying the campus for \$57.5 million in 2012, the diocese has invested heavily in upgrades, spending \$6.1 million to renovate the 13-story Tower of Hope and \$2 million to repair the 16,000-pipe Hazel Wright Organ, which is about 90 percent complete.

The diocese could end up spending \$113 million total to renovate the entire campus.

Included in that is a \$29 million allocation for renovating the main cathedral building, though it will likely cost more than that, Lilyengren said.

Many of the cathedral renovations center on transforming the inside into a more traditionally Catholic place of worship. Also, the interior of the 10,000 window panes will be accentuated with white panels, called petals, that will open at varying degrees and create shade; the petals will help keep the cathedral cool, as well as reduce the lighting – giving it a more somber feel.

The petals will also have lights facing outward, creating an effect the design committee calls the Box of Stars, and making the cathedral more visible at night.

Lilyengren said the interior construction, which will take about 20 months, should be done by late 2018. But starting the work will wait until the panes that make up the cathedral's large arched roof are repaired.

"There was a lot of deferred maintenance," Lilyengren said. "The building is not sealed, so the roof does leak."

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