Restoring the Cathedral

Slideshow by Denise Fracchia,
Cathedral Docent
The Cathedral opened on June 30, 1889.

The total bill for the Cathedral was $250,000 by contrast to today’s $34 million restoration.

Bishop Patrick Manogue
It began with a leak...
Bishop William Weigand commissioned an inventory of the building by Harry Hallenbeck with Vanir Construction.
But it soon evolved into a much larger project, a plan to restore the building’s past. Preservationists were the driving force behind the project in an effort to restore the original design and style.
Beyer Blinder Belle were the Architects. This is the same company that restored both Ellis Island and Grand Central Station in New York.

They started the restoration with a meticulous study of old photographs and archives to learn as much as possible about the original design of the building interior.
For example, core samples were taken to test the quality of the brick.
EverGreene Studios Of New York then did a paint analysis of the walls to better understand the different colors and decorations of the first fifty years.

From these studies the restoration team created a restoration scheme to restore the church to its Victorian past.
Harbison, Mahony, & Higgins Construction of Sacramento together with Vanir Construction Management, Inc. (both local Sacramento companies) worked as part of the team to restore the Cathedral.
Flooding has always been a problem.

Raising the level of the streets was part of the flood management in downtown Sacramento.
This 1862 photo shows K Street, looking east from Fourth Street.
A 10 foot high underground waterproof membrane was built around the foundation of the building to protect the basement.
A flood wall was constructed on the north side.
These stairs are part of the flood wall on the north side.
There are seven crosses on the roof.
The crosses range from six to eight feet tall.
The side towers are 121 feet.

The central tower is 217 feet.
Steeplejacks from New York did the gilding of the crosses.
They hung from ropes some 216 feet above K Street.

Gold leaf was applied piece by piece.
Making the Cathedral earthquake safe was a major challenge for engineers.

- New steel columns for additional support at main pillars
- New concrete beams at low roof-to-wall connections
- New horizontal shear frame and concrete beam
- New concrete frames to resist earthquake forces
- New concrete beams at roof-to-wall connections
- New concrete walls at side towers with concrete tie-beams between

Isometric of Computer Model In Transparent image of new structural elements

Restoration of the Cathedral of the Blessed Sacrament
Engineers built a temporary structure inside the Cathedral that held up the dome while the pillars were being hollowed out and retrofitted.

The scaffolding in the Cathedral weighed 260 tons. Supports were put in the basement to prevent the floor from collapsing.
Each pillar was hollowed out and a pillar of steel was built inside.
320 tons of steel were used to retrofit the building.
Inside there was no stylistic unity.
In 1932 a false dome was constructed.
The good news was that the skeletal remains of the dome were still there and in excellent shape.
No photos of the original dome were found.

It was rebuilt using written descriptions and the scant records available.
The oculus at the top of the dome is 24 feet in diameter.
The image in the oculus, a digital photograph of a painting done by EverGreen Studios, gives the appearance of traditional stained glass.
The wingspan of the dove is 7 feet.
It is a dome inside a dome.
The oculus does not get direct sunlight.

The light touching the glass is reflected from the lantern at the top.
Light comes in here and is reflected down to the oculus.
The roundels are scenes from the New and Old Testament. The Scripture verse is below.
Each of the roundels are 5 feet in diameter.
Restoring the interior of the dome was one of the biggest changes in this project.
The crucifix over the altar is 13 feet high and the crown overhead is 14 feet in diameter.
Together the cross and the crown weigh almost 2,000 pounds, the weight of an elephant or a small car!

They are held in place with aircraft cables that could carry double that weight.
250 original works of art were painted by EverGreene Studios on canvas in New York and sent to Sacramento.

Then the artists came to the Cathedral to complete the artwork and do the finishing touches.
Some of the painting was done by hand for example the gold “tipping”.

Some of the painting was done by hand to restore the original trompe d’oeil art work.
And some of the painting was done by hand with stencils.
The north altar is a western interpretation of Byzantine art inspired by 13th century artist Giotto.
Giotto was famous for being the bridge between the Byzantine period and the more realistic Renaissance period of art.

The icons of the saints are very real in comparison to Byzantine icons.
The wood altars in both of the side chapels are from 1889.

EverGreen Studios painted them to look like marble.
The inspiration for the mural on the south side is from a painting in the Vatican by Renaissance artist Pietro Perugino.
Each of the murals are about 20 feet high.
A non-traditional presentation of each evangelist, their names displayed by angels, are on each of the four pendentives above the altar. Matthew, Mark, Luke and John are referred to as the pillars of the church.
Pendentives
The baptismal font, altar and tabernacle are marble.
The dark marble was mined in Spain and sent to China.
The white marble was mined in China. All three pieces were fabricated in China.
The mosaic at the bottom of the baptismal font was done in New York. The tiles are marble with the exception of the dark blue tiles which are granite.

“Like a deer that yearns for flowing water, so my soul is yearning for you, my God”  Psalm 42
The tabernacle tower is 20 feet high and weighs 6 tons. A special platform had to be built to hold it up!

The tabernacle, which dates from 1937, was cleaned along with the sanctuary lamp.
The 100 year old sanctuary lamp hung before the high altar in the east end of the Cathedral in the early part of the 20th century.

During the restoration Monsignor Murphy received a call from a woman in El Dorado Hills who had the sanctuary lamp hanging in her house!

Nobody seems to know how it left the Cathedral, but we were happy to buy it back for $5,000.
The relic of St. Toribio Romo was placed in the altar during the rededication of the building on November 20, 2005. It was surprising that there was no relic in the previous altar.
The Cathedral always had the Apostles on side walls. The roundels are new paintings of the Apostles.
With the exception of the modern windows in the nave, all the windows were cleaned and re-leaded.
Burnett and Sons of Sacramento made these confessionals, the same company that did the original work a century ago.

Each Confessional was carved by computer to match the older hand carved wood.
The Cathedral was closed over 2 ½ years.

During that time:
The United States was at war;

A Californian governor was recalled and a new one elected;

A pope died and a new one was elected;

US dioceses faced the biggest crisis in the history of American Catholicism;

The building boom in China caused a world shortage of steel and other building products.

The US Gulf Coast experienced the worse natural disaster in 100 years.