

## KHS&S CASE STUDY

# VALUE ENGINEERING LEADS TO \$1 MILLION IN SAVINGS FOR MIXED-USE PROJECT

### OVERVIEW

Nestled on a prime 2-acre parcel in a thriving area of San Francisco, 1629 Market Street is a mixed-use development. Under contract for four structures, KHS&S has completed three including two 10-story residential towers and the 32,090 square foot, 3-story Union Hall for the UA Local 38 Plumbers & Pipefitters. During the planning stage, the owner requested options to reduce cost without compromising the exterior quality and look. KHS&S delivered by substituting the planned Hardie board and batten with a pre-coated EIFS and batten system resulting in a staggering \$1M savings. A high level of difficulty, change orders, supply change delays and extensive scaffolding and swing stage work presented unique obstacles requiring collaboration, innovation and forward-thinking from KHS&S. The project was delivered on schedule with zero lost time incidents during the more than 38,000 work hours to complete.

### A FUNCTIONAL FINISH

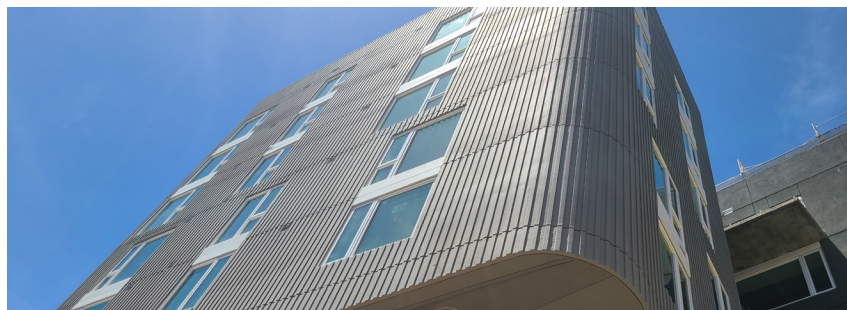
Early in the project, the owner turned to KHS&S for value engineering services to help reduce costs for the exterior finish. Utilizing KHS&S experience with EIFS systems, faux rock and plaster finishes, it was recommended to substitute the Hardie board batten with a pre-coated EIFS and batten system featuring a smooth finish to resemble wood. The faux EIFS panels mirrored the desired look of Hardie batten reveals but at a reduced cost. This change resulted in a \$1M savings providing a more attractive and functional finish and included a 20-year manufacturer's warranty on waterproofing. When the faux panels were placed side by side to the costlier Hardie wood panels, the smooth finish of the stucco emulated the beauty of the wood.

### EXTERIOR PROJECT SCOPE

- Water barrier
- EIFS
- Faux Hardie board and batten
- Exterior girts and trims
- Metal panels
- Louver flashing

### MAKING UP FOR SUPPLY CHAIN DELAYS

Due to various supply chain issues, the metal panels arrived behind schedule. Because of this, scaffolding had to be dismantled to allow for other critical work activity in the area to continue. Scaffolding was then rebuilt when the panels arrived so KHS&S could complete work. Adding to the challenge, the uniquely patterned corrugated panels had to be installed in a very tight progressive sequence. This forced the installers to work from one side to the other with no interruptions. To make up for lost time, crews were staggered so no work was being completed above or below. By leap frogging crews, the team was able to maintain the installation schedule and adhere to safety practices, installing panels to meet a very difficult three-week installation timeframe. This was just one of the many steps KHS&S took to set the schedule up for a win.





## RESOLVING AN UNEXPECTED CHANGE ORDER

The architect originally designed a two-piece system for the flashing around the AC air intake and dryer exhaust for each unit. Once installation began, inconsistencies due to stacking tolerances rendered the previous design unusable. KHS&S was asked to take on the scope and to help design a new system. The team engineered a one-piece flashing system that alleviated the construction inconsistencies and provided a proper watertight seal. KHS&S collaborated with the vendor to build 1,200 units by welding preformed pieces together off site and shipping them to the job for a quick and easy install.

## BY THE NUMBERS

133,000 square feet exterior EIFS  
5,800 square feet metal panel  
38,067 work hours

## MATERIAL STAGING FOR INCREASED PRODUCTIVITY

Located in a congested part of the city, there was no room for a laydown area to store materials. Project Supervisors used color coded Stand-Up Boards as a visual aid of what materials were needed for each construction zone and how to place within the area based on the work schedule. Materials were delivered following the “Just-In-Time” delivery practice. A portion of the site backed up to the BART subway system and was considered a “no work zone.” KHS&S interacted closely with the scaffolding subcontractors as there were several teardowns, rebuilds, modifications, and in some cases, swing stages utilized to allow work over excavated or difficult to access areas.



## QUALITY CONTROL IMPORTANT IN MAINTAINING SCHEDULE

In addition to the general contractor’s QC initiatives, KHS&S adhered to its internal protocol and project-specific plan. At the completion of each scope layer, KHS&S conducted QC checks to guarantee material, client and KHS&S standards were met. This extra layer of review ensured work was in compliance so inspectors could sign off as scheduled to keep the project on track. The rigor of the KHS&S QC management program was once again proven to reduce rework – saving time and money while providing a superior work product.

## HIRING FROM THE LOCAL COMMUNITY

KHS&S partnered with CityBuild, a program with the San Francisco Office of Economic & Workforce Development, dedicated to training residents to generate opportunities and careers through local construction projects. As additional crews were required, KHS&S interviewed and hired a local workforce, becoming a valued CityBuild partner. With a portion of 1629 Market Street apartments designed as lower income housing and the success of the CityBuild relationship, the San Francisco Mayor had high interest in the project, visiting and walking the job site.

