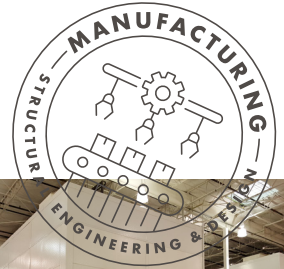


COSTCO WAREHOUSES

KPSG/CCIG, FORT WORTH, TX/SAN DIMAS, CA
TEMPERATURE CONTROL

NATIONWIDE • WWW.COSTCO.COM

Structural design of new warehouses and remodels for walk-in cooler/freezer systems located across the world.



CHALLENGE

In the retail grocery store business, time is money. Grand Opening dates are usually set well in advance and existing warehouses can only be shut down for a very limited time during a remodel and there is no flexibility. The previous turnaround time for a full Costco Warehouse walk-in engineering review and sign off was well over 2-3 weeks. This caused huge issues with meeting the timelines. Tamarack Grove was tasked by our client KPSG/CCIG to significantly reduce this timeline so that the manufacturing and install could happen at a quicker pace. KPSG/CCIG produces most of the walk-in cooler/freezers for Costco locations located across the world.

SOLUTION

Effective and efficient collaboration and coordination between Costco, their Architect of Record and the walk-in manufacturer became the critical component to achieving this goal. We started the process by meeting with the client face to face to walk through their existing processes. Next, we took on the process of becoming licensed to do work throughout North America. When we were first given the information for a typical new ground up Costco Warehouse, we studied the 10-12 different walk-in cooler and freezer boxes that are part of the fixture floor plan. We streamlined the necessary structural engineering calculations that were produced within our office and then worked with both KPSG and CCIG's internal design departments to come to a fast-paced coordination. This resulted in a turnaround time of 3-5 business days for a new Costco Warehouse and 1-2 days for a remodel Costco Warehouse situation allowing permits to be pulled faster, manufacturing to begin sooner and final installation to be completed so that all crucial owner dates are met. As we continue to grow together, working on over 700 Costco's, we collaborate continuously to ensure we have the resources to maintain quick turnaround times.

TEAM MEMBERS

BRIAN SIELAFF, M.S.C.E., S.E., P.E., P. ENG.
CEO

DOUG HARDIN, P.E.
Director of Engineering,
Principal

PRATIK POKHAREL, E.I.
Project Engineer

GARRETT DAVIS, E.I.
Project Engineer

BIKASH SIGDEL, P.E.
Engineering Manager

SERVICES

STRUCTURAL SYSTEM EVALUATION

STRUCTURAL DESIGN & ANALYSIS

VALUE ENGINEERING

CONSTRUCTION ADMINISTRATION

Over 700 Costco's worked on by Tamarack Grove

Costco sells 1B rolls of toilet paper each year

Opened in 1983 in Seattle, WA

The smallest Costco is 73,000 SF in Juneau, Alaska

The largest Costco is 235,000 SF in Salt Lake City, UT

The average Costco warehouse is one city block

There are 106M worldwide Costco members

Membership retention is 90%

There are 243,000 Costco Employees worldwide

There are over 800 Costco locations

Costco is in 7 countries, including Iceland

1 in 8 Icelanders signed up before it even opened

TAMARACK GROVE

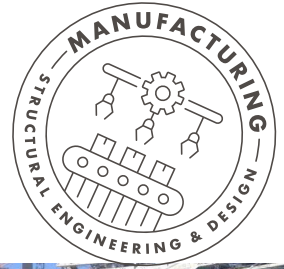
812 S. La Cassia Drive
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TAMARACKGROVE.COM

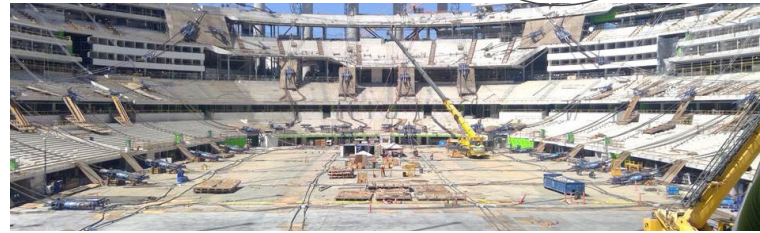
LOS ANGELES RAMS SOFI STADIUM

IMPERIAL BROWN CORPORATION, GRESHAM, OR
TEMPERATURE CONTROL



INGELWOOD, CA • WWW.THERAMS.COM/STADIUM/SOFI-STADIUM

Structural design of the entire LA Rams stadium walk-in cooler/freezer systems for all kitchens and food service providers.



CHALLENGE

The stadium was already pushed for opening on time before the 2019 season, however, late in game, after most of the walk-in coolers/freezers were already installed, the AHJ required that all boxes be provided with a structural engineering review and sign off. With a deadline of 2-3 weeks and close to 100 different box layouts over four floors, they needed a Hail Mary.

SOLUTION

Given the task at hand compelled with the intense timeline to work with, Tamarack Grove put a team together of over 15 people working over-time for two straight weeks to review the project. In order to pass inspection, our team performed a site visit to review the boxes one by one with most of the walk-ins already installed. We collaborated with our client to review one floor at a time paying special attention to each already installed box and coming up with an analysis that fit each situation. Using our in-depth experience, we were able to think outside of box to show on paper that a variety of different solutions could be used instead of a one type of fix solution. In most conditions, we get the opportunity to review things before they are installed, providing an engineered solution ahead of time. Since the walk-ins were already installed and had numerous mechanical and plumbing lines already set-in place along with some finishes, effective communication and collaboration was critical so that what was engineered on paper could be carried out in the field by the contractor and satisfy the AHJ in their final signoff. In the end, all walk-in coolers and freezers got signed off the first time by the AHJ and we helped our client meet their timelines with opening the stadium on time.

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SERVICES

STRUCTURAL SYSTEM
EVALUATION

STRUCTURAL DESIGN
& ANALYSIS

VALUE ENGINEERING
STRUCTURAL SITE VISIT
CONSTRUCTION
ADMINISTRATION

site visit

analysis

constructability

review

specific solution

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