

**Sure-Weld® Extra TPO**  
Roofing Systems

CASE STUDY

**Historic Skating Rink Gets Facelift and New Roof**



**JOB PROFILE**

**PROJECT LOCATION:**  
Greeley, Colorado

**CARLISLE APPLICATOR:**  
Front Range Roofing Systems, LLC

**BUILDING OWNERS:**  
Boys & Girls Club of Weld County, CO

**ROOFING SYSTEM:**  
Carlisle Sure-Weld Extra TPO

It's known as 'flat' or 'low-slope' roofing, but sometimes, there's nothing flat or low-slope about it! That was certainly the case when the new Greeley, Colorado, Teen Center was renovated by the local Boys & Girls Club.

The former Warnoco Roller Rink has been a staple in the Greeley community for decades. The Quonset hut-style facility has brick end walls and a barrel vault roof from side to side and was built in 1921 as part of a complex that housed a roller-skating rink, swimming pool, and carousel. It was the site of the Rocky Mountain States Roller-Skating Championships for over 50 years. Roller-skating was discontinued in 1996 and the venue operated as an indoor sports center offering soccer, hockey, in-line roller-skating, boxing, and volleyball.

The Boys & Girls Club of Weld County purchased the property in 2022 and is renovating it as a Teen Center that will open in 2024. The renovated facility will eventually house an indoor basketball court, classroom space (the organization works with the local school district to provide programming that counts toward high school graduation), and a large common gathering area. In addition, the facility will have an outdoor patio and soccer field.



“The facility is being built to provide local teens aged 13 to 18 from across Weld County with a safe place to go to hang out, to feel connected, and grow beyond the classroom,” said Ryan Lauer, Project Manager and Estimator for Front Range Roofing Systems LLC of Greeley, the roofing contractor for the Teen Center project.

Front Range Roofing Systems is a commercial roofing contractor serving Colorado and Wyoming who specializes in new construction, re-roofing, roof repairs, maintenance, and sheet metal fabrication and installation. The company has been a Carlisle Authorized Applicator since 1987 and has installed over 18 million square feet of Carlisle roofs, earning many achievement awards along the way including being named a Centurion Contractor, earning the ESP (Excellence in Single-Ply) designation for over 20 years, and being inducted into the Carlisle Hall of Fame 1,000.

For the new Teen Center, the roof area was only about 20,000 square feet, but it was highly challenging, as the entire roof was a barrel vault from ground-based eave to eave, with only two small areas of low-slope work on a dormer and a portico over the front door.

For the project, the eight-man crew from Front Range Roofing Systems (FRRS) first had to strip the old asphalt shingles from the roof, down to the wood-plank deck.

“From the start, the project was challenging from a safety perspective,” said Lauer. “Our workers had to be tied off and wearing harnesses for the entire project, and, given the age of the building and the existing wood plank deck, everyone had to be very safety conscious at all





“**Front Range Roofing Systems is a true success story of the Carlisle Experience.** Together, we deliver a world-class experience by fostering personal connections with customers, and by leveraging operational excellence and innovation during the moments that matter.”

times. There were several layers of shingles, tons of nails, and we didn't know the condition of the wood plank deck until it was uncovered.”

Once the old roof was removed, new half-inch plywood was installed over the entire roof deck by Elder Construction Company, a local general contractor.

“We had to coordinate closely with Elder Construction to get the new decking installed, as we had a tight window for that portion of the project, but it was completed without a hitch,” said Lauer.

The new roofing assembly included two layers of 4-foot x 8-foot (1220 mm x 2440 mm) loose-laid 1.75-inch Carlisle InsulBase® Polyiso Insulation, covered by Georgia Pacific ¼-inch (6 mm) DensDeck® Prime Roof Board that was mechanically fastened through the ISO to the deck. Next, special five-foot-wide, 80-mil (2.03 mm) gray Carlisle Sure-Weld Extra TPO membrane was mechanically fastened over the barrel of the roof.

“We really like the Sure-Weld TPO,” said Lauer. “We've used it on hundreds of projects and like it for installation ease, as well as its great performance characteristics. The 80-mil membrane also hides seam plates well, which was a big benefit for this project. Most important, the architects for the project really like how the five-foot-wide membrane gives the roof a ribbed look over the barrel.”

### Teaming Up to Support the Community

“Front Range Roofing Systems has been an active member of the Greeley community for over 30 years,” said Lauer. “One of our core values is to partner with our community, so when we found out about this work, we promptly embraced the initiative and sought assistance from Carlisle, and they readily stepped up without any hesitation. This turned out to be a mutually beneficial situation for all parties involved.”

### From the Top Down

The slope on the barrel roof was 12:12 in some areas, and nearly vertical at the eaves, which are just a few feet above ground level. The crew from FRRS worked from the highest point at the center of the roof, installing the new roof down the sides of the barrel to the eaves.

“The workers were tied off at the ridge and had to rappel down the roof to install the insulation, cover board, and membrane,” said Lauer.

Keeping the membrane straight and perpendicular to the peak of the structure as it was rolled down to the eave was critical, since the roof is highly visible at ground level. To make sure it was straight, the FRRS crew tacked the membrane in place with fasteners and spot welded the seams every 10 feet or so down the side. After double-checking to be sure the tacked membrane was straight and in the correct position, the crew would go back



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and mechanically fasten the membrane 12 inches on center using Carlisle HP-X Fasteners and PIRANHA™ Plates. Then they hand-welded the entire 120-foot seam up and over the structure.

“Our team got a great workout rappelling down the roof all day,” said Lauer. “To hand-weld seams properly takes a bit more time and craftsmanship than welding on a flat surface, but hand-welding 120 feet of seams at five-foot intervals across the roof really takes some time and talent. Our employees did a superb job on that project.”

The end walls of the facility have a brick façade and form relatively low parapet walls. The FRRS crew installed the DensDeck and membrane up the parapet wall about 12 inches and terminated it with Term Bar and counter flashing. At the eave, FRRS installed a shop-fabricated drip edge.

The only two ‘flat’ portions of the roof include a dormer that extends about two-thirds of the way across the roof, and a small portico over the front door, which gave the FRRS crew a bit of break from the difficult work of rappelling. In addition, the crew had to field wrap and flash about six vent stacks on the roof.

Renovation of the new Teen Center will continue for the remainder of the year. Besides the beautiful new interior space, the Center will have updated and repainted façades, new windows, a newly designed entryway welcoming all the teens of Weld County, and a beautiful new roof.