

Suspended for the Season

Delivering access at the U.S. Air Force Sports Complex

› How do you support scaffolding on a sheet of ice? You don't — instead, you hang it from structural steel beams.

The Cadet Field House at the U.S. Air Force Academy in Colorado Springs, Colorado, is an indoor athletic complex housing a multi-purpose room, the Cadet Ice Arena, used for hockey, and the Clune Arena, which includes a basketball court. Built in 1968, the Cadet Field House was due for an update and needed safety, energy efficiency, functional and aesthetic improvements.

To complete the project, multiple trades needed access to the ceiling and upper reaches of the complex. However, there were complications. During the school year, athletic programs keep the hockey rink and basketball court busy, leaving a window from March to September to complete work. However, various summer programs use these facilities as well. As a result, even if the ice and wood floors could support traditional scaffold, removing the arenas from use was not an option. To solve the challenge, prime contractor Perini Management Services, Inc. (PMSI) turned to BrandSafway and a combination of its QuikDeck® Suspended Access System, Systems™ Scaffold and rolling scaffold towers.

“During the planning phase, when we were assessing the Cadet Field House project, it became evident that the QuikDeck hanging scaffold product was the best way to proceed,” explained Mark Montgomery, PMSI quality control system manager for the project. “It allowed us the most options for work while the building was occupied.” ›

“QuikDeck  allowed us to work while the building was occupied.”

BRAND SAFWAY®

At Work For You®

> Scope of Work

The Cadet Field House is owned by the U.S. Army Corps of Engineers. In September 2018, the federal government awarded a \$28.7 million firm-fixed-price contract to PMSI for the first phase of the project, which was completed in October 2020. The overall scope of work included insulation, applying a fire-resistant coating, fireproofing the roof deck with a rigid fireboard, installing all new mechanical systems for the building, new sports lighting for both arenas, constructing a new press box in the hockey arena, a new hockey locker room and office area, and aesthetic upgrades to the facilities.

A wholly owned subsidiary of Tutor Perini Corporation, PMSI primarily executes work for the federal government, Army Corps of Engineers, U.S. Air Force, National Park Service, Department of State, U.S. Coast Guard and Department of Defense. PMSI has successfully constructed many logistically challenging projects in more



Once pinned, the trusses pivot outward and connect to the next node. ^

than 70 countries. These include large scale civil projects, such as air bases, power plants, fuel storage and distribution facilities, and specialized building projects, such as embassies and military operations facilities.

“The U.S. government selection process for these projects is based on several items, including our approach, proposed team and relevant experience,” said Montgomery. “Fortunately, Perini has a history of exemplary performance on these government projects, which weighs heavily in our selection.”

The Cadet Field House is a large rectangular building with two distinct wings for each arena and a central section for concessions and facilities. The Cadet Ice Rink has about 2,500 seats, and the Clune Arena holds about 6,000 fans.

“Arenas present a unique access challenge compared to an infrastructure or industrial site,” said Doug Knapp, regional product manager, BrandSafway Infrastructure Services Group. “Where structures such as bridges have high live load ratings, arenas do not. Further, their airy, open nature results in fewer suspension points. At the Cadet Field House, the Army Corps of Engineers directed us to suspend QuikDeck from large H-beams that were spaced about 40 feet apart, and we had never spanned a gap that wide before.”

Spanning the Gap

A standard QuikDeck section uses 8-foot-long trusses that connect to central nodes via a pin-and-retainer-clip system. Once pinned, the trusses pivot outward and connect to the next node. Workers then secure sections of structural-grade plywood to provide a stable work surface. When using standard 8-foot square sections, QuikDeck can be cantilevered for a maximum of



QuikDeck delivered a safe, smooth work surface. ^

16 feet beyond the last suspension point.

To achieve a 40-foot span, BrandSafway used truss configurations measuring 4 feet by 4 feet and 4 feet by 8 feet to increase rigidity and the number of suspension points. Instead of suspending the platform along the underside of the H-beams, the QuikDeck sections were hung beneath them perpendicularly so that they extended outward on either side of the beam. With that configuration, 32 feet of QuikDeck (four 8-foot sections) could be cantilevered between the sections suspended from the H-beams and still meet the minimum load rating requirement of 25 pounds per square foot.

Hung by grade 100 chain looped over the building’s H-beams, QuikDeck provided a flat, stable work surface. Placing rolling scaffold

towers and ladders on the Systems Scaffold and QuikDeck platform allowed the trades to easily access the roof and all mechanical components.

“Once we installed QuikDeck, tradespeople were free to work at their own pace, and the facility could be used as needed,” said Knapp. “Coupled with a smooth work surface that makes cleanup easy and functions as a debris shield, QuikDeck delivers a productivity advantage for contractors working on ceiling applications.”

“QuikDeck was instrumental in helping us stay on schedule,” confirmed Montgomery.

BrandSafway also erected five levels (about 30 feet) of Systems Scaffold over the entrance, concession and other pedestrian areas. Standard scaffold stairs made moving equipment and materials to height easy.

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who have not seen or used QuikDeck before, because they don’t understand how it works,” said Montgomery. “Getting the first platforms set up demonstrated that QuikDeck could be installed and work could proceed safely. I think everybody had a great level of confidence after that.”

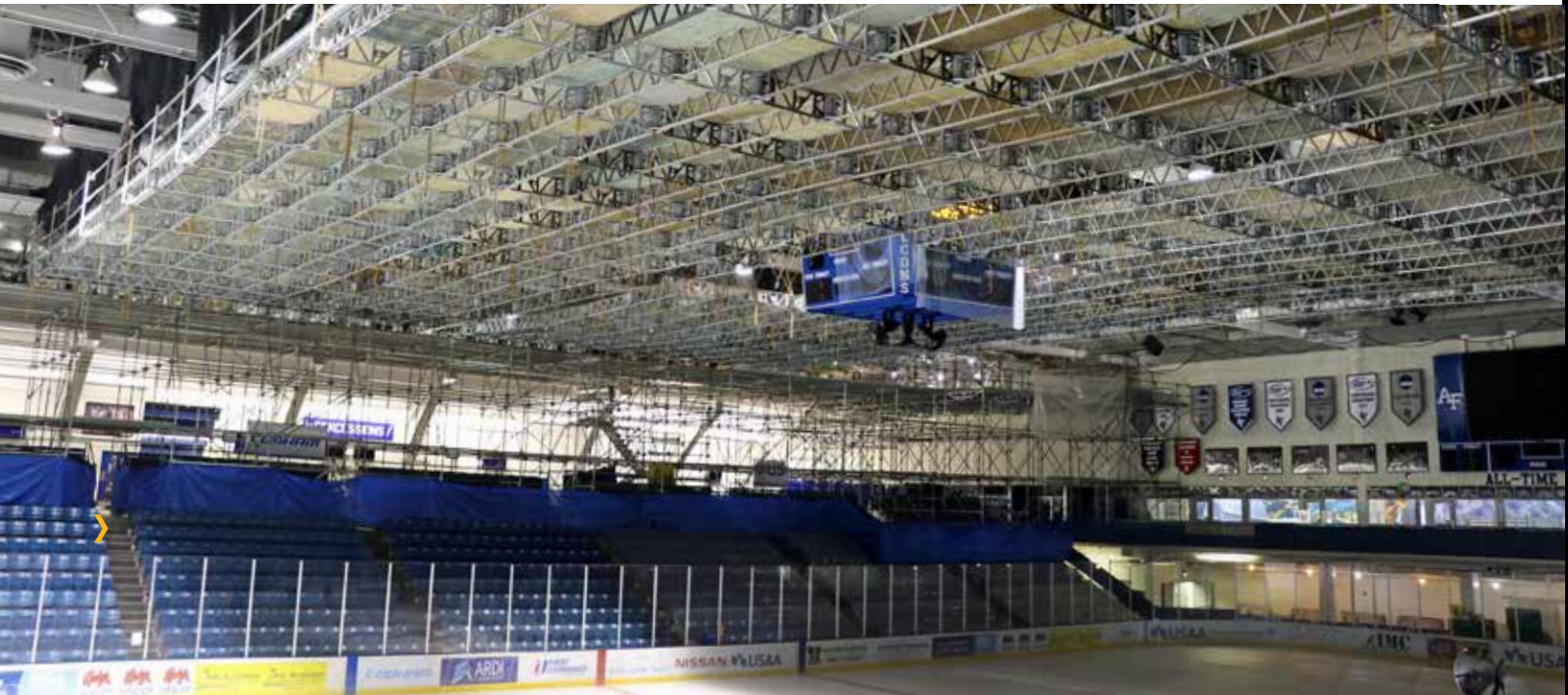
To meet the compressed schedule between sports seasons, BrandSafway erected two QuikDeck platforms to span the width of the ice rink, with each platform measuring 120 feet wide and 40 feet long. Once contractors completed work in one area, one platform was dismantled and leapfrogged ahead of the other. The basketball side of the arena was finished using the same strategy.

Work on the Cadet Ice Rink started and ended in 2019, and work on the Clune Arena was completed in 2020. >



Project Summary

Project Title	Cadet Field House
Location	U.S. Air Force Academy, Colorado Springs, Colorado
Start Date	March 2019
Completion Date	October 2020
Scope of Work	Ceiling access for insulation, fireproofing and mechanical work
Total Cost/Value	\$28.7 million
Products	QuikDeck® Suspended Access System, Systems™ Scaffold, Tube and Clamp Scaffold
Services	Engineering, access erection, on-site technical support
Customer	U.S. Army Corps of Engineers
Contractor	Perini Management Services, Inc.



“When it came time for the tipoff for the 2020 basketball season, our work was done,” said Knapp. “Most importantly, it was done safely and without incidents.”

“Safety and quality are tantamount to the Perini team,” concluded Montgomery. “None of these projects mean anything if we don’t do them safely. Our experience with BrandSafway on the Cadet Field House project has been excellent in that regard. The first line supervisors that come to the field understand the safety aspect. They bring that culture to the project with them.”

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