



NICHIHA CASE STUDY

Bold Firehouse Looks with an Emphasis on First Responder Health

A New Model for Fire Departments

In the field, firefighters face some of the toughest working conditions of any profession along with an increased risk of certain types of cancers. Improper cleaning measures for gear, field equipment, and protective clothing can contribute to this. To lower or even mitigate these risks, new fire stations are being built to specifically address shortcomings in hazard prevention.

One such facility is the Burnsville Fire Department in Burnsville, MN.

When it came to the building envelope for this new fire house, planners relied on Nichiha to upend the traditional firehouse look. Two years of planning led to a truly special design, the construction of a model fire station for others nationwide.

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PROJECT DETAILS

LOCATION

Burnsville, Minnesota

PRODUCTS

[Illumination](#) - Custom Color

TIMELINE

September 2020–May 2022

TYPE

Government, Public Safety

CHALLENGE

Design and build a contemporary fire station that caters to the whole health of first responders. Deliver a modern design to support these aims that's high in ROI and resilient enough for Minnesota's volatile climate.

SOLUTION

Custom-colored cladding affords an inspiring aesthetic for Burnsville Fire Station No. 1. Cladding with an engineered rainscreen will provide ample protection from the elements for the long term.

RESULTS

Burnsville Fire Station No. 1 has become a model for other cities and towns who seek to emphasize the long-term health and wellness of their first responders. Its modern design is an inspiring, custom coordinated look that will provide stellar ROI.

A High Bar for Design Needs

The City of Burnsville turned to Minnesota-based [CNH Architects](#) to design the project. The firm has experience in designing government projects, vehicle service facilities, and public safety buildings. Even still, Burnsville Fire Station No. 1 was the firm's largest public safety project at the time, clocking in at over 44,000 sq. ft. It includes 10 apparatus bays, multiple contamination zones, and a litany of other modern amenities.

From the outset, the City of Burnsville sought a facility that would address the unique health and wellness needs of firefighters and one that would be aesthetically pleasing. After initially considering an exterior that utilized aluminum composite material (ACM) panels, cost quickly became an issue.

"[Another architect] had used Nichiha on one other project prior to that or had started looking into it," said Brooke Jacobson, principal at CNH Architects. "That's when we fully looked into it for this project and thought it was a really good alternative. It still had good durability and was a much less expensive material to use than the ACM."

Architects landed on Nichiha's [Illumination](#) cladding for the project. Not only is the product engineered with a built-in rainscreen, but it is also one of the most versatile from a design perspective. Illumination is one of several architectural wall panel (AWP) products that also offers custom colors that are available at no additional cost or minimum quantity. And at 5/8" thick, Illumination panels are resilient enough to face Minnesota's notoriously harsh climate.

"We have the extremes," said Jacobson. "It can get up to 100 degrees and really humid in the summer. And in the winter, it can be 50 below with wind chills."

With Nichiha on the building's exterior, firefighters are able to enjoy peace of mind with products that are not only [fire resistant](#), but are also resilient enough against wind to achieve the [HVHZ code requirements](#), a nationwide standard for storm resiliency.

Designs that Support Wellness Aims

Part of what makes Burnsville Fire Station No. 1 such a unique case is a deliberate effort to have the building support the health and wellness of first responders.

Specific details throughout the facility also make mental health a priority. Alert tones and building lighting, for example, slowly increase in intensity so as not to awake firefighters in a startling, abrupt manner. A yoga studio and meditation garden were built to help promote mental wellbeing. Specific areas for relaxation are designed with lighting that supports natural sleep rhythms. All of this is in addition to the physical fitness amenities and training offerings that one would expect from a firehouse.

Nichiha's contributions to this effort set the stage for what is offered inside for returning firefighters. The look uses a custom shade of red and is a nod to tradition, but it also ushers the trade into the modern era. The result is a more modern look than the classic brick-heavy facades of other fire stations. Nichiha's clean lines take a more minimalist approach, serving as a visual turning point in how the profession is viewed.



“That was the other great thing with Nichiha. We could choose any red that matched and worked great for the department.”

BROOKE JACOBSON, PRINCIPAL, CNH ARCHITECTS

”

Specific Looks; Easy Installation

Because Burnsville Fire Station No. 1 is a modern firehouse, CNH Architects felt it should come with a modern look. Though some traditional elements like brick and masonry can be found on the building, Nichiha cladding is the bold element that supports the attention-demanding aesthetic. The custom shade of red for the exterior is a key to this modern visage.

“ACM is very limited in the color choices,” said Jacobson. “One thing we’ve learned about fire departments is they are particular about their red. That was the other great thing with Nichiha. We could choose any red that matched and worked great for the department. And we could run with it because of the Illumination series.”

The Burnsville fire station opened in May 2022.



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Nichiha USA, Inc., a subsidiary of Nichiha Corporation, was established 1998 and is headquartered in Johns Creek, GA. Nichiha Corporation, an international leader in fiber cement technology for more than 35 years, has 13 plants worldwide and markets distinct patterns of fiber cement siding products in the U.S. In 2007, Nichiha opened its first U.S. manufacturing plant in Macon, GA, responding to an increase in demand for fiber cement products in the Southeast market. For more information, call 1.86.NICHIBA1 or visit www.nichiha.com.

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