



Historic Ogden High School Renovation & Addition Ogden, Utah

Active Beams Bring Modern Comfort to Historic “Hollywood” High School

Project Summary

Project Type: New Construction, Commercial

Project Cost (construction cost): \$ 48,823,000

Year Completed: 2009

Building Square Footage: Dining Area - 2,900 ft²;

Commons Area - 5,100 ft²

Price Products Used: Active Chilled Beams

Mechanical Engineer: Colvin Engineering Associates, Inc.

Architect: EDA Architects Inc.

Price Representative: Midgley-Huber, Inc.

Ogden High School is a four-story, art deco high school first built in 1936. Listed on the National Historic Registry, character permeates the facility, which has been featured in several Hollywood films, such as *Three O-Clock High* (1987) and *Drive Me Crazy* (1999).

In 2006, the school initiated plans to renovate the existing cafeteria and build a new commons area while maintaining the historic façade of the building. Active beams were installed in these spaces as they allowed the design team to work around significant mechanical constraints and deliver comfort levels that far surpassed expectations.

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Historic Ogden High School Renovation & Addition

Ogden, Utah

The Challenge: Balance Comfort and Aesthetics in an Historic Landmark

Built in 1936, Ogden High School relied on noisy unit ventilators for cooling. With no central air distribution system in the building, there was little or no ceiling space in which ductwork could be incorporated.

The Historic Landmark Committee overseeing the project mandated that the famed art deco façade of the building be maintained. This meant that the extensive renovations required to lower ceilings and allow ductwork for an all-air system in the existing cafeteria would not be possible.

For the new Commons Area, which was an addition to the existing building, the architect opted for a two- to three-storey glass curtain wall through which the original façade of the building could still be appreciated. The temperature extremes in Salt Lake City meant that

comfort would be a significant concern. With these areas accommodating 600-800 people at one time, the design team wanted to ensure that the students were not left with a hot, uncomfortable space.

Design Team Profile

Colvin Engineering Associates, Inc. **(www.colvinengineering.com)**

A mechanical engineering firm in Salt Lake City, Utah, Colvin Engineering Associates, Inc., is known for energy efficient designs. A number of their projects have received several regional and national awards for energy conservation and innovative systems. They have completed hundreds of commercial, institutional and manufacturing projects across the United States, utilizing a wide array of design elements such as indirect/direct evaporative cooling, under floor air distribution systems, displacement ventilation, radiant panel systems, and chilled beams to achieve conservation goals.

EDA Architects, Inc. **(www.edaarch.com)**

EDA Architects, Inc. (EDA) has over 50 years of experience in planning and design work for clients throughout the Intermountain West. EDA provides a broad range of architectural services, including master planning, programming, architecture, and interior design. The firm is committed to a highly interactive and integrated design process through which they and their clients are challenged to create places that enhance lives and make a lasting contribution



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Price Solution: Chilled Beams Bring Modern Comfort to Historic High School

Active chilled beams from Price were utilized for the project because they were able to meet the comfort requirements of the space without disrupting the aesthetic of the building. Due to the temperature extremes and the expansive glass curtain wall in the Commons Area, the design team had approached the project with limited options and significant concerns about comfort in the space.

The engineer's recommendation to employ active beams, however, addressed the design team's concerns and they opted to move forward with the selection. This would vastly reduce the ducting requirements while also saving energy and ensuring occupant comfort.

The renovations were completed in early 2009, with occupants reporting that they love how quiet the system is and are impressed with the high levels of thermal comfort and the virtual elimination of cold drafts. Greg Brooks of EDA Architects described the impact of chilled beams on the space as "...incredible – you can walk down the corridors of the high school and feel cool air 100 feet before you get to [the] Commons. It is a very comfortable cool – you forget about [the] mechanical system."

The piping requirements for active beams were easily incorporated into the existing structure of the cafeteria and the need for extensive renovation related to ductwork was eliminated. In the Commons Area, the beams were attractively integrated into the 16-foot high cloud ceiling. The system has proven to be extremely low maintenance, which was an important consideration for the school custodians.



The renovation and addition were designed to embody LEED principals and the beams were part of a hybrid approach that also incorporated a radiant floor system. The architect, engineer and contractor worked collaboratively to create a space that far exceeded the expectations of all involved.

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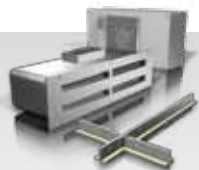
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