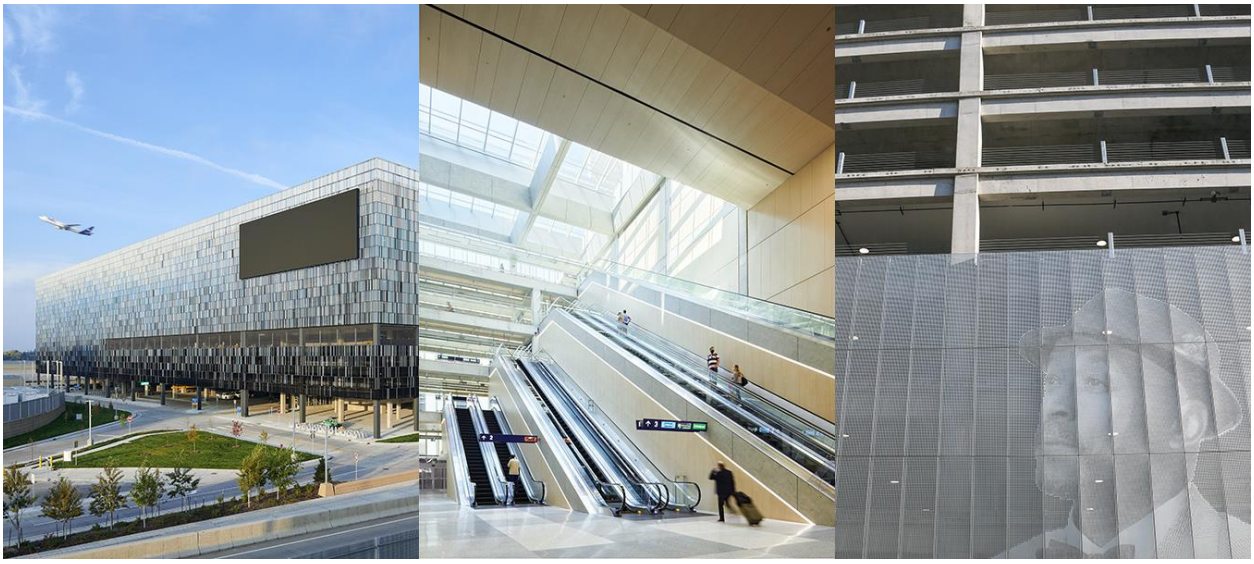
March 4, 2021

Contact: Jeff Lea
314-793-4240
jeff.lea@mspmac.org

MSP Silver Ramp Project Earns Grand Award for Engineering Excellence



MINNEAPOLIS-ST. PAUL – The newest, and one of the tallest, structures at Minneapolis-St. Paul International Airport (MSP), has gained recognition for engineering and design feats that have created a modern iconic structure for the airport while greatly improving parking capacity and ground transportation services.

The American Council of Engineering Companies (ACEC) of Minnesota honored MSP's Silver Ramp expansion project with a Grand Award in its annual Engineering Excellence Awards, which recognize an exceptional degree of innovation, complexity, achievement, and value. The project is now eligible for national honors.

Topping out at 11 stories, the Silver Ramp is the new shimmering transit facility catching the eyes of arriving MSP passengers from the view of their aircraft window seats as well as motorists on nearby highways. After opening in August 2020, the Silver Ramp added 5,000 additional public parking spaces to the airport campus. It also serves as the new Terminal 1 transit center, a more sustainable approach to bring together many modes of transportation, including auto rentals, buses, shuttles, the regional light rail system, and even bicycles. The ground floor lobby features the tallest escalator in Minnesota (56-feet), one of the several escalators connecting customers directly to one of four auto rental levels where customers pick up and return vehicles.

"Pre-pandemic we were extremely busy, and at times there was insufficient parking at Terminal 1 to meet demand. The Silver Ramp gives us additional capacity for years to come," said Brian Ryks, CEO of the Metropolitan Airports Commission, which operates MSP. "The facility also provides a vibrant and welcoming transit center lobby for travelers coming to and from the airport across several modes of transportation."

Designing and building the structure brought about tremendous challenges. Achieving the goal of maximizing the multi-modal connectivity and pedestrian access to existing Terminal 1 infrastructure required building in a space between existing facilities, bordered by the airfield and adjacent roadways, and over the existing Metro Transit light rail station, located underground.

"We had to develop some very innovative engineering solutions to tackle the challenges presented by this once in a lifetime project," said Ben Henderson, Vice President at Kimley-Horn, the program manager for the project. "One of the biggest challenges was designing and constructing a foundation solution that no one would ever see, which spans across the light rail station cavern to safely support the 11-story structure above."

The engineering solution included designing foundation load transfer beams as long as 90 feet long and 15 feet wide to preserve the structural integrity of the roof of the light rail station cavern below the Silver Ramp.

Engineering and design partners for the airport also worked to incorporate sustainability throughout the facility, such as the use of long-life construction materials that are recyclable, LED lighting, HVAC and lighting occupancy sensors, low flow plumbing fixtures, electric vehicle chargers, native landscaping, and a universal access design. The structure can also accommodate a future solar installation that would expand MSP's solar generation capacity beyond its current 4.3-megawatt capacity from existing rooftop solar panel systems.

The shimmering beauty of the parking structure was born out of another design and engineering challenge. To gain design acceptance from the Federal Aviation Administration (FAA), project engineers and architects had to design a façade that would not negatively impact airfield navigation communications. Traditional precast concrete or metal panel facades could not be used.

The solution was the creation of a facade system consisting of 2" square terra cotta baguettes (tubes) spaced five inches apart (on center). Designers enhanced the visual impact of the structure by creating a custom palette featuring darker colors toward the ground and lighter colors at higher levels. The building appears to fade into the sky on sunny days.

"The engineering solution steered us toward a new visual identity for the building that everyone loves," Henderson said.

A lower portion of the west-facing façade also includes a 15,000 square foot aluminum perforated art mural, "Interrupted landscapes of the Incomer," by Minneapolis-based photographer Steve Ozone. The 40-foot-high mural, which can be viewed from the ground and by passengers through the glass windows along the G-C Connector Bridge, features seven portraits that illustrate the stories of newcomers to Minnesota.

The Silver Ramp expansion broke ground in the fall of 2017 at MSP, in the midst of a 10-year passenger growth period that reached a record 39.5 million passengers in 2019. MSP is the 17th busiest airport in the United States.

Kimley-Horn and Associates, Inc., a national planning and design consulting firm, was the program manager for the project. Miller Dunwiddie Architecture of Minneapolis was the project architect. Michaud Cooley Erickson of Minneapolis was the mechanical, electrical, plumbing, HVAC, and security consultant. Minneapolis-based CNA was the geostructural consultant. Kraus Anderson, also based in Minneapolis, was the construction coordinator on the project. PCL Construction, with its U.S. operations based in Denver, CO, was the prime contractor on the project.