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NASHVILLE INTERNATIONAL AIRPORT EARNS AISC IDEAS² AWARD FOR EXCELLENCE IN ENGINEERING

SEATTLE, WA — Magnusson Klemencic Associates (MKA) is pleased to announce the American Institute of Steel Construction (AISC) [selected](#) MKA's design of the Nashville International Airport's (BNA's) Terminal Lobby and International Arrivals Facility (IAF) Addition to receive the national 2024 Innovative Design in Engineering and Architecture with Structural Steel (IDEAS²) Award for Excellence in Engineering.

MKA's structural design served three key purposes—to provide additional capacity, create a remarkable visitor experience, and deliver a beautiful and bold signature design unique to Nashville. With over 50,000 passengers traveling through the airport daily, MKA collaborated with the Hensel Phelps/Fentress team to design and build the \$436-million renovation and expansion of BNA's Terminal Lobby, catering to the increasing domestic and international passenger demands. The project features a new state-of-the-art IAF and a central food court featuring world-class retail, dining, and entertainment. The project team included Fentress Architects in addition to Nashville-based Hensel Phelps Construction, TMPartners (Associate Architect), Feltus Hawkins Design (Associate Architect), Logan Patri Engineering (Foundation Engineer), I. C. Thomasson Associates (Mechanical and Electrical Engineer), S&ME (Civil Engineer – Landside), and Barge Design Solutions (Civil Engineer – Airside).



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Achieving the architectural vision for grand spaces with natural light and limited columns, MKA's design strategy utilized a long-span, structural steel, curvilinear roof design to clear-span the active roadway and terminal below. The innovative design reduced the number of interior columns by 80 percent compared to a short-span roof design while also significantly reducing the construction cost and schedule, thanks in part to steel elements that facilitated pre-assembly.

The steel, long-span, structural roof "umbrella" wholly traversed the existing terminal to facilitate ongoing and uninterrupted operations throughout construction. Positioned six feet above the existing structure and supported by new columns outside its perimeter, this solution eliminated the need for temporary shoring during construction and allowed workers to erect the steel above active roadways and a passenger-occupied terminal. The existing terminal roof also offered a safe and temporary work platform during the construction of the structural umbrella above. Workers using the old roof as a platform installed the new roof's mechanical and electrical services six times faster than traditional means requiring scissor lifts. And, as the nickname suggested, when it came time to demolish the existing terminal roof, MKA's roof umbrella provided weather protection for the work below.

The signature roof design, which BNA affectionately describes as an "airwave," totals 151,285 square feet and weighs 1,750 tons. The twin, 685-foot-long contiguous "spine" trusses form a gentle wave symbolic of the Grand Ole Opry's radio waves, and the roof's taper to a finely pointed edge is reminiscent of an airplane wing. Further honoring the Nashville music scene theme, linear skylights throughout the roof evoke guitar frets, while an oculus skylight evokes the guitar's sound hole—elements that AISC judges appreciated, noting, "Designers drew inspiration from a guitar to create the sweeping canopy that anchors a new terminal lobby and expanded international arrivals facility."



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BNA's Terminal Lobby and IAF is one of only six projects to receive an AISC IDEAS² Award. The awards will be presented during [NASCC: The Steel Conference](#) March 20-22 in San Antonio, Texas. Winners will be featured in the May 2024 issue of *Modern Steel Construction* magazine.

More information about AISC's 2024 IDEAS² Awards is online [here](#).

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Magnusson Klemencic Associates (MKA) is an award-winning, 150-person structural and civil engineering firm founded in 1920 with offices in Seattle, Washington, and Chicago, Illinois. Serving clients worldwide, MKA has worked on projects in 48 states and 62 countries and individual projects in excess of \$2 billion. MKA's passion is creating structural systems for buildings of all shapes, sizes, and complexities, and civil site and infrastructure designs for architectural projects.

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