THE LEGACY ER AND URGENT CARE facility in Allen, Texas, resembles an inverted paper airplane.

The angular 7,600-sq.-ft steel-framed building’s exterior is highlighted by zinc panels that taper to zero edge thickness along their planar perimeter. Six skylights within the roof provide natural light into the building’s interior.

The design team of architect 5G Studio Collaborative and structural engineer Datum Engineers selected a structural steel framing system to properly address the building’s unique geometry. The structural form of the building defines its architecture and meets the owner’s desire to have a striking, memorable building.

The roof system consists of low roofs on the north and east sides and a high roof above the mezzanine in the southwest corner. The transitions between the low and high roofs are made with steeply sloped roof sections on both the north and east sides. The zero-edge zinc panels on the roof structure cantilever varying lengths beyond the perimeter walls. While most of these cantilevers are relatively short (3 ft, 6 in.) the cantilever above the main entry stretches to a point 14 ft, 6 in. beyond the perimeter while the one above the ambulance drop-off is a consistent 12 ft. These longer cantilever elements are framed with HSS12×6 sections, turned horizontally and layered over the perimeter steel beams, eliminating the need for more complex moment connections. The 6-in. structural depth minimizes the edge profiles to remain consistent with the architect’s concept and perimeter sections. At the ambulance drop-off, the HSS backup spans are supported by steel roof joists to minimize tonnage and maintain framing economy. The rest of the roof framing consists of typical elements including wide-flange beams, joists and galvanized roof deck. Ennis Steel Industries (AISC member and certified) served as the steel fabricator and erector for the project.

Like the roof perimeter conditions, the angular perimeter walls were framed with HSS and angles. Light-gauge framing serves as the back-up for the exposed zinc panels and is supported by structural steel. The result is a sharp-looking building that stands out aesthetically among urgent care centers, and appears as though a strong wind could encourage it to take flight.

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