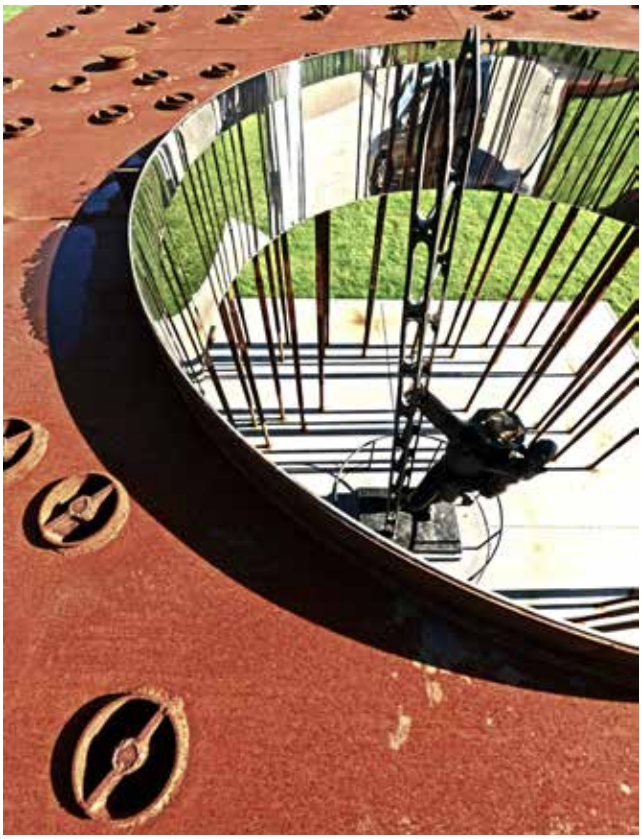
structurally sound

IN THE LINE OF DUTY



A STUNNING MEMORIAL on the State Capitol grounds in Saint Paul honors the sacrifice of Minnesota firefighters killed in the line of duty. Designed by Leo A Daly, the memorial houses the Minnesota Firefighter Memorial Statue, previously on display at Minneapolis-Saint Paul International Airport.

A large steel monolith hovers above the statue, forming a pavilion, and a field of light steel columns supports its weight. The weathering steel of the monolith presents a rich patina, evolving in a slow process analogous to the rapid oxidation of fire. The organizing grid of 100 potential columns represents a century—10 decades by 10 years per decade. There are currently 86 columns, recording the years in which Minnesota firefighters have died in the line of duty, and names of the fallen are inscribed on the columns. Over time, the assemblage will accumulate additional inscriptions, and new columns will appear as future firefighter deaths occur in years not yet plotted.

The column-to-monolith connections contain a pipe-sleeve that joins the upper and lower faces of the monolith; this sleeve allows the column to support both surfaces and also joins the two surfaces. The slender columns were made stable by designing the base and the top connection to be fixed, and the foundation was designed as a mat slab to accommodate the nontraditional column layout; this further accommodated a fixed base plate connection with pretensioned bolts. The sleeved connection at the top of the column allows fixity in that it accommodates a spanning knife-plate. The plate's short span, in conjunction with the sleeve's engagement of both planes, was stiff in both bending and torsion. ■