



 **LOCATION**
ST. LOUIS, MO

 **GENERAL CONTRACTOR**
PARIC & SYSTEM AIRE

 **ARCHITECT FIRM**
IMEG

 **REP FIRM**
THERMAL MECHANICS



Installation of the The BlueDuct preinsulated The Duct System at the Jefferson Memorial Gateway Arch.

In 1963, construction began on the Gateway Arch—an enduring symbol of Thomas Jefferson’s vision and St. Louis’ role in westward expansion. Weighing 43,226 tons of steel and concrete, the Arch remains the tallest man-made national monument in the United States.

Decades later, a major renovation project was launched to enhance the visitor experience and modernize the facility while preserving its architectural integrity.

~ The Challenge

The project posed a unique challenge: the architect placed strict limitations on where ductwork and air distribution systems could be installed. This required a highly creative approach from the project team, including System Aire and Thermal Mechanics.

Traditional overhead solutions were not viable, making underground air distribution the only practical path forward. The team needed a system that could navigate tight constraints while maintaining performance and accessibility.



Continuous curved radius grill plenum was custom built to fit around the 100ft curved concrete wall shown here.

~ The Solution

AQC provided a customized underground duct solution using **The BlueDuct®**. To meet the project's demands, a prototype underground vault system was developed and delivered to the site. The design featured a 30" x 30" floor access point to house VAV boxes, along with integrated connection points for power, communication, and hot water piping for reheat coils.

In addition, AQC engineered a continuous curved radius grille plenum to align with a 100-foot curved concrete wall in the new entrance area—demonstrating the system's adaptability to complex architectural elements.

~ The Result

The installation process proved efficient and predictable, with minimal issues and quick product availability helping keep the project on track. This project highlights the flexibility, reliability, and design versatility of **The BlueDuct®** system in meeting the demands of highly constrained and architecturally sensitive environments.