AMERICAS

SELECTED AWARDS

Pearl Harbor Memorial Bridge, New Haven, CT, US
Grand Prize, America’s Transportation Awards, American Association of State Highway and Transportation Officials, AAA and the U.S. Chamber of Commerce

Marblehead Pipeline Replacement Project, MA, US
Environmental Public Works Project of the Year, American Public Works Association

O’Hare Runway 10-28L (O’Hare Modernization Program), Chicago, IL, US
2016 Project of the Year, Construction Management Association of America

NET REVENUES BY MARKET SEGMENT (%)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation &amp; Infrastructure</td>
<td>72</td>
</tr>
<tr>
<td>Property &amp; Buildings</td>
<td>17</td>
</tr>
<tr>
<td>Industry &amp; Energy*</td>
<td>6</td>
</tr>
<tr>
<td>Environment</td>
<td>5</td>
</tr>
</tbody>
</table>

* Includes Industry, Resources and Power & Energy

NUMBER OF EMPLOYEES

7,800

NET REVENUES (CAD)

1,478.3M
Mcity

ANN ARBOR, MI, US

Mcity is an urban-suburban environment that simulates real-world road conditions for testing connected and automated vehicle technologies. The site includes about six hectares of roads and infrastructure, enabling testing of technology that allows vehicles to communicate with each other and with the surrounding infrastructure. We are responsible for developing and deploying the roadside infrastructure being tested at Mcity, including identification of site locations and radio coverage evaluation, as well as support for backhaul communications connections, and vehicle-to-infrastructure messages.

CLIENT
Mobility Transformation Center, University of Michigan

EXPERTISE
Telecommunications Engineering
“The Second Avenue Subway is serving more riders every week and its benefits are already evident on the Upper East Side and throughout Manhattan.”

— GREGORY A. KELLY, PRESIDENT AND CEO, US AND LATIN AMERICA, WSP

Second Avenue Subway
NEW YORK, NY, US

The Second Avenue Subway, from 63rd to 96th streets on Manhattan’s East Side, opened on New Year’s Day 2017. We served as consultant construction manager, overseeing construction that involved a tunnel boring machine as well as cut-and-cover and drill-and-blast excavation. “Soil freezing” was used to stabilize poor ground conditions along the alignment of the tunnel, and extensive efforts were made to lessen the impact of construction on the surrounding neighbourhood.

CLIENT
Metropolitan Transportation Authority

EXPERTISE
Construction Management
01
Sogamoso-Norte-Tequendama 500 kV Transmission Line

We performed the environmental assessment and design of 386 kilometres of a 500 kV transmission line from Sogamoso to Bogotá to Soacha, over terrain that ranges from sea level to 3,200 metres above sea level. The project, considered one of the most important energy infrastructure projects in Colombia, will improve connections to the national grid and reduce the risk of power shortages in the region.

CLIENT
Grupo Energía de Bogotá

EXPERTISE
Environmental Assessment and Design

02
Panama Canal Expansion

The opening of a third set of locks at the Panama Canal on June 26, 2016, allowed the canal to accommodate the huge post-Panamax vessels that now dominate maritime trade. From 2002 to 2007, in association with Montgomery Watson, we served as program advisory consultant to the Panama Canal Authority in developing a framework for a master plan that would guide the project through design and construction.

CLIENT
Panama Canal Authority

EXPERTISE
Strategic Advisory and Planning
01

Arthur Ashe Stadium
QUEENS, NY, US

Arthur Ashe Stadium, originally engineered by our buildings group, is the world’s largest tennis stadium. Our structures team designed an independent retractable “umbrella” above it which aesthetically blends with the original structure. The 22,000-square-metre roof is supported by 5,000 tons of structural steel, resting on 1,700 beams independent of the stadium. The new roof opens and closes in just seven minutes – making rain delays a thing of the past at the US Open.

CLIENT
United States Tennis Association

ARCHITECT
ROSETTI

EXPERTISE
Structural Engineering

02

National Museum of African American History and Culture
WASHINGTON, DC, US

The new museum, which traces the African-American experience, is also a showcase of sustainable design. We contributed design services for the building services and sustainable features including a rooftop photovoltaic array; occupancy sensors and daylight harvesting; LED and fluorescent lighting; chilled beams; demand-controlled ventilation; and a rainwater and groundwater reuse system. The building was designed to perform more than 30 percent better than the ASHRAE standard, and is on track to achieve LEED Gold certification.

CLIENT
Smithsonian Institution

ARCHITECT
Freelon Adjaye Bond/SmithGroupJJR

EXPERTISE
Mechanical, Electrical, Plumbing and Fire Protection Engineering, Building Commissioning, Built Ecology, Enclosure Consulting
Cincinnati Bell Connector Streetcar

CINCINNATI, OH, US

The Cincinnati Bell Connector, which opened on September 9, 2016, provides convenient, affordable public transit between the city’s central riverfront and historic Findlay Market. The 5.8-kilometre loop connects to the Government Square transit hub and serves the city’s downtown and Over-the-Rhine neighbourhoods. We played key roles in planning and design, responding to significant changes in the scope and funding of the project, which restored streetcar service to downtown Cincinnati for the first time since 1951.

CLIENT
City of Cincinnati

EXPERTISE
Planning, Design, Construction Support

AWARDS
National Honor Award, 2017 Engineering Excellence Awards, American Council of Engineering Companies
This 1.4-million-barrel storage cavern, which is being constructed in shale at a depth of 213 metres, demonstrates our expertise in underground energy storage. On several occasions it was necessary to adapt our designs to geological conditions that we actually encountered. Three shafts were drilled for construction access and ventilation, establishing a new record for simultaneous drilling of multiple shafts at a single location. The project is within budget and several months ahead of schedule.

CLIENT
MPLX LP

EXPERTISE
Engineering, Procurement and Construction Management (EPCM)
Westbound Midtown Tunnel
NORFOLK AND PORTSMOUTH, VA, US

The Westbound Midtown Tunnel opened a second lane to traffic on August 26, 2016, following the opening of one lane in June. The new tunnel has doubled capacity across the Elizabeth River and alleviated severe congestion in the existing Midtown Tunnel. We served as lead designer of a design-build joint venture for the tunnel, which was opened several months early and is the first deep-water concrete immersed tunnel in the US.

CLIENT
SKW Constructors

EXPERTISE
Design

AWARDS
2016 Grand Award, American Council of Engineering Companies of Virginia

Bedrock Groundwater in situ Remediation
YORK, PA, US

We successfully treated dissolved chlorinated solvents in fractured bedrock groundwater at the site of a former electronics manufacturing facility using an in situ combined remedy of engineered biogeochemical reduction and bioremediation. This first-of-its-kind technology replaces traditional groundwater cleanup technologies, such as pump and treat, at sites where historic mitigation alternatives were limited to plume management. We have promising initial results at two additional sites in Missouri and Arkansas.

CLIENT
Emerson

EXPERTISE
Environmental Management, Ground Risk and Remediation, Land and Site Remediation

AWARDS
2016 Technology Merit Award, Environmental Business Journal
Core sample