

Aviation



Our Corporate Numbers

Founded In

1955

100%

Employee Owned

Projects Completed in Over

75

Countries

80%

Business from Repeat Clients

100%

Canadian



As a Platinum Club member of Canada's Best Managed Companies, J.L. Richards provides high-quality, fully integrated engineering, architecture, and planning services to clients in the private and public sectors throughout Canada and internationally.

Proudly 100% employee owned and completely Canadian, J.L. Richards has six offices across Ontario supporting a wide variety of projects across eight key markets.



J.L. Richards has extensive experience in all aspects of building sciences and civil/transportation engineering, both in the general commercial/industrial/development markets and specifically related to airports.

We have an impressive history at the Ottawa International Airport since its establishment and have had an open agreement for engineering and architectural services with the Ottawa International Airport Authority (OMCIAA) since 1998. J.L. Richards has worked on joint venture program management, design, and technical services for the recent OMCIAA Airport Expansion Program, Phases 1 and 2. We have worked on hundreds of assignments at the OMCIAA since 1998.

Who We Are

J.L. Richards is a truly integrated engineering, architecture, and planning practice with a focus on quality and commitment to service delivery. We have been delivering facility-related project solutions to our clients for nearly 70 years, with over 85% of our annual workload undertaken through existing client relationships.

We deliver services to our clients across North America and around the world with projects completed in over 75 countries. National and international project delivery is supported by a network of professional partnerships established with like-minded firms, providing capable local resources to address site issues during design and construction.

Our employee-ownership structure ensures that staff have a vested interest in the outcome of every project, bringing an enhanced level of personal service to our client relationships.

We are known for delivering projects on time and on budget, achieved through attention to detail in every aspect of project development. Our experienced team has a proven track record of success.

The J.L. Richards team is comprised of project managers, engineers, architects, and planners that are supported by staff, Associates, and the Board of Directors. Board members fulfill a key oversight role, with direct responsibility for technical excellence within each of the disciplines, ensuring deliverables meet project objectives.

J.L. Richards offers the unique advantage of in-house planning services to assist clients in site selection, municipal approvals, rezoning applications, public consultations, and environmental approvals. We have well established relationships with governing municipal, provincial and federal agencies, providing the insight required to navigate the myriad of regulatory processes and expedite approvals.

What can J.L. Richards do for your airport?

- Provide local presence.
- Proven track record in multidisciplinary project management.
- Depth of expertise in design of terminal buildings and aviation service buildings.
- Integrated multidisciplinary team from in-house resources.
- Established partnerships supporting project delivery.
- Design solutions that meet operational and functional objectives and balance of capital vs operations and maintenance costs.
- Alternative project delivery method options tailored to your needs.
- Longevity and corporate commitment to long-term sustained client relationship.

Cover: Ottawa International Airport - Ottawa, ON

1. CFB Trenton Air Mobility Training Centre - Trenton, ON

2. Ottawa International Airport Concessions Program – Departures and Centre Court - Ottawa, ON

3. Ottawa International Airport - Ottawa, ON



Ottawa International Airport

Ottawa International Airport Authority
Ottawa, Ontario

The Ottawa International Airport expansion comprised of a two-phase, \$360M expansion of a fully operational international airport. Included in the work were:

- New 70,000 m² Passenger Terminal Building with 27 new gates.
- New 2,400 vehicle parking structure.
- New airport access road with two level arrivals and departures.
- U.S. Customs preclearance.
- Tenant fit ups for airlines and other service providers.
- Apron and taxiway expansions and new deicing facility.
- New BIDS, FIDS, and communication systems.
- New site-wide 28 kV power supply from three independent sources for maximum redundancy.
- 100% emergency back-up power to Passenger Terminal Building and airport operations systems.
- Service relocations and expansions including water, sanitary sewer, stormwater, power, natural gas, and communications.
- Site and building security systems.
- Landside road and parking reconfigurations and temporary road/service relocations for construction phasing.

The initial 2.5-year Phase 1 contract saw the larger portion of the expansion work, including the site master plan development, site servicing, airside improvements, parking structure, and new passenger terminal building.

By far, the defining project challenge was the exhaustive coordination and management of the various individual contracts that together constituted the overall expansion.

Added to this complexity was the inviolable requirement that the airport remain fully operational without service interruption at all times over the roughly 3.5-year construction program. J.L. Richards and its joint venture partner worked diligently with the owner, the Ottawa International Airport Authority, to constantly review and update the Master Plan, package and tender individual design and construction contracts, implement preparatory work and design tie ins, and constantly monitor and act on cost and schedule issues.



DND 8 Wing Trenton Air Mobility Training Centre

Canadian Department of National Defence
Trenton, Ontario

In June of 2006, the Canadian Department of National Defence (DND) announced the purchase of a fleet of new CC-130J Hercules aircraft as part of a wider program to enhance the Canadian Military's tactical and strategic air lift capability. DND operated a fleet of 32 older CC-130 E and H model aircraft that provide tactical airlift on a daily basis to operations in Afghanistan, transporting equipment, troops, and supplies without which the mission could not be sustained. The 17 new "J" model aircraft incorporate a complete refit and upgrade of the avionics and flight systems, bringing the airframe into the 21st century.

In December of 2008, J.L. Richards was retained by Defence Construction Canada (DCC) to undertake the design of a new 193,750 ft² Air Mobility Training Centre (AMTC) at 8 Wing Trenton to support the long-term training needs for flight, loadmaster, and maintenance crews for the new CC-130J Hercules aircraft. The AMTC is a world-leading training centre housing state-of-the-art automated training systems within a completely paperless environment.

Combining the three major training functions within one facility allows for the effective sharing of common resources between the three training disciplines, greatly reducing overall costs to the Canadian Military.

The building is configured with three high bay hangar areas that house large-scale training devices, including two full motion flight simulators, a full scale fuselage for loadmaster training, and two full size partial airframes for use in maintenance training. Training and administrative staff are located in a shared workspace positioned to function as a hub between the high bay areas. This hub also houses all common spaces, including lounges, an auditorium and shared training spaces, as well as dedicated classrooms equipped with networked training workstations.

The AMTC met LEED Silver certification requirements and incorporates an array of sustainable features including:

- Rainwater harvesting and ultra low water consuming plumbing fixtures resulting in a 48% reduction in water consumption.
- Efficient energy systems reducing energy consumption by 45% below the Model National Energy Code for Buildings.
- Daylighting, perimeter light shelf, and automated lighting controls throughout.
- Extensive use of local and recycled materials and sustainably harvested wood products.

The complete facility design, including site selection, site preparation design, building concept development, and tender document preparation was delivered in just nine months using a novel fast-track delivery methodology developed jointly for this project by JLR, 1 Canadian Air Division, and DCC staff at CFB Trenton. Working closely with DND technical authorities and DCC staff, JLR provided a fully integrated multidiscipline design service including architectural and structural, mechanical, electrical, and civil engineering.

Site preparation work, valued at \$2.1M, was undertaken over the summer of 2009 and completed in time for the award of the AMTC building construction contract, valued at \$40.5M, in October 2009.

The entire project was tendered under budget and was on track for operation in February 2012.



Greater Sudbury Airport Hangar

Greater Sudbury Airport
Sudbury, Ontario

J.L. Richards was retained by the Greater Sudbury Airport Authority to design a 35,000 ft² hangar facility and office area. This multidisciplinary (architectural and civil, structural, mechanical, and electrical engineering) project included the design of the facility, a site plan control agreement, and a stormwater management plan.

Large, clear storey windows were installed on two of the hangar walls to allow for natural daylight to illuminate the interior of the hangar. The hangar is also equipped with ceramic heaters to eliminate the potential damage to the finish on airplanes that is often caused by traditional radiant tube heaters. Insulated metal wall panels were used to decrease the building envelope construction time.

Furthermore, an integrated compressed air foam fire suppression system was installed in the hangar area. This type of system reduces the amount of water and foam required for fire suppression compared to foam water systems, therefore, reducing the required size for water supply tanks, fire pumps, drainage, and containment systems, as well as reducing the costs associated to clean-up after testing or a fire.

This system also decreases the steam production during fire suppression and therefore leads to improved visibility in the event of a fire compared to water-based systems.





Fixed Wing Search and Rescue Training Centre

Airbus and CAE
Comox, British Columbia

Working collaboratively with both Airbus and CAE beginning in the predesign phase, Figurr and JLR partnered to provide integrated design and construction administration services for this new fixed wing search and rescue training centre. The state-of-the-art light simulation training centre provides light and maintenance training for the Royal Canadian Air Force's new fleet of C295W search and rescue aircraft.

The design strategy for this project was based on the diverse requirements of several key user groups, and included accommodations for strategic redundancies, emergency standby power, and potential future growth. The training center contains a large full-sized maintenance training hangar, cockpit systems part task trainer, full light simulator, cockpit procedural trainer, sensor station for rear crew training, and mission planning, brief, and debrief rooms. Training conducted at the facility is supplemented by virtual maintenance trainer stations. The building is also home to 19 Wing's officers, instructors, and an administration department.

The project targeted LEED Silver design standards and was successfully completed in December 2019.





Allegiant Air Training Centre

CAE
Las Vegas, Nevada

Working collaboratively with CAE and Figurr, JLR provided mechanical engineering and project management services for a state-of-the-art business aviation training centre in Las Vegas, Nevada. In response to increased demand for business aviation training, the facility will train over 2,500 pilots annually to help grow the US pilot pipeline and keep customers flying.

The new 50,000 ft² facility is home to eight full flight simulators, representing some of the premier aircraft manufactured by Bombardier, Embraer, and Gulfstream. Each simulator can digitally replicate runways and various conditions at airports across the world. The FAA approves simulator training for pilots and also requires regular training.

CAE's investment has established a modern facility with the latest simulator technology. Business aviation customers at the new training centre have complete access to CAE's industry-leading technology and training expertise to elevate their safety, efficiency, and readiness. Training programs at the centre combine innovative methodologies, knowledgeable instructors, and advanced simulation technology.





Projects also completed by JLR in partnership with Figurr Architects Collective:

- CAE Air Canada Pilot Training Facility Expansion - Toronto, Ontario
- CAE Savannah Business Aviation Training Centre - Savannah, Georgia
- CAE Training Centre - Dothan, Alabama
- Qantas Air Training Centre - Sydney, Australia
- Atlas Air Training Centre - Miami, Florida
- UAE Training Centre - United Arab Emirates
- Doha Training Centre - Qatar

Additional Complimentary Services

- | | |
|---|--|
| Architecture | Industrial and resource development |
| Civil site servicing | LEED and energy consulting |
| Commissioning services | Mechanical engineering |
| Controls and process automation | Municipal infrastructure |
| Cost consulting, including cost advice and monitoring | Planning and GIS |
| Electrical distribution and illumination | Process infrastructure and containment |
| Electrical engineering and lighting design | Project management |
| Environmental assessment | Structural engineering |
| HVAC, plumbing, and fire protection | Transportation and roadways |
| | Water resource management |

If you have any questions about any of our services, please contact one of the members of our Buildings group.

Talk To Us Today



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1. Air Canada Flight Training Centre - Toronto, ON in partnership with Figurr Architects Collective
2. Atlas Air Training Centre - Miami, Florida (photo from Atlas Air Training website) in partnership with Figurr Architects Collective
3. CAE Savannah Business Aviation Training Centre - Savannah, Georgia (photo from Google) in partnership with Figurr Architects Collective



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