The right solutions for today’s operating environments

Operations and Maintenance Facility Services

Stantec
60
Years helping clients achieve their goals
We understand how the right operations facility supports economic activity and contributes to the overall success of our clients. That’s why we take every step together—from functional planning and program development, to facility design and project execution—we find the right solutions to help you achieve service, reliability, safety, and quality.
Focused on what matters

Health & Safety
OHSAS 18001 Compliant*
*(certification pending)

Quality Assurance & Control
ISO 9001:2008 Certified

Environmental Services
ISO 14001:2004 Certified
Delivering service, reliability, safety, and quality to our clients.

From municipal utilities and transit, to industrial maintenance and operations, to aircraft hangars and airside maintenance, every facility has unique operational, building, site, community, and environmental requirements. We understand how each of these requirements can contribute to the operational effectiveness of the industrial community and the health of your organization.

Our cohesive team speaks this language. We specialize in planning, design, safety, and work flow optimization and implementation to meet your needs from concept to completion.

Our Company Values

Focused on our clients
As a committed, total-solutions partner, our clients are at the core of what we do. Because your success is our success, we always do what is right for your projects and your company.

Depth, breadth, and geographic reach
Uniting more than 15,000 employees working in over 250 locations, Stantec has the unique ability to connect to resources on a local and national level to advance the quality and success of projects across the globe.

Focused on what matters
Our company’s reputation centers on quality, safety, and integrity. Our commitment to doing things right is evident in everything we do, from our health and safety culture to the professional excellence in our project work to taking responsibility for projects within our communities.

A history of performance
Achievement at every level begins and ends with a firm commitment to being the best in-class for our industry. For the past 60 years, we have been committed to this goal by creating strong and lasting client relationships and providing quality projects to our clients.
Our Expertise

Functional and Efficiency Planning

Stantec helps clients achieve high performance in safety, quality, and cost efficiency for operations and maintenance facilities. We work closely with clients to develop safe and productive processes, efficient space allocation and layouts, and appropriate equipment performance specifications. This optimizes work and material flow on the site and within the buildings while meeting the client’s business and operational needs.

Understanding and defining the operating concept for a new or expanded facility is a critical component of successful facility design. A well-defined functional program provides our clients with a clear definition of the goals and needs of a project and provides a framework for establishing priorities and making decisions.

Stantec employs a systematic process to gather and disseminate information from clients and develop a proposed path forward including facility layout options, estimated costs, and schedule implications.

We determine whether to reconfigure and expand the existing facility or if consolidation into a single new or renovated facility is the best response. Transition to a new or expanded facility is the ideal catalyst to review fundamental operating methods and increase efficiency, productivity, and profitability.

Key elements that drive our designs are rooted in value stream mapping, cycle time analysis, and LEAN design philosophies that include effective and efficient process flow, reduction of work in process (WIP) and raw material and finished product inventory, and providing a facility that promotes flexibility/adaptability.

Our teams offer services for new and existing industrial manufacturing requirements such as program management, feasibility studies, logistics planning, materials handling/storage systems, equipment pre-selection, process equipment/utility layouts, regulatory liaison/permitting, scheduling/capital planning, cost estimation, and risk management.
Do more with less using LEAN design and value stream mapping

1 million
under budget delivered for the TransLink, SkyTrain Operations Maintenance Center (OMC) project utilizing LEAN design.
Facility Design Solutions

At Stantec, we excel at integrated service delivery, and we're one of the only industry-leaders that offer professional services in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, and project management throughout the entire project life cycle. From planning, design, and building, to monitoring, assessment, restoration, and decommissioning – we've got you covered.

Our significant experience in the full life cycle of operations, maintenance, and storage facilities – as well as our unparalleled experience in alternative procurement project delivery (design-build, P3, DBFM/O) – offers a unique perspective: allowing us to balance facility, operations, and business initiatives to provide cost-effective solutions based on capital and operating costs.

Our facilities design team can also provide comprehensive services through construction including:

- Capital Cost Estimates
- Permitting and Applications
- Public Consultation Support
- Construction and Procurement Documents
- Tendering Support
- Construction Contract Administration

Together, we foster an environment that encourages teamwork, creativity, and innovation, resulting in seamless, efficient, safe, and cost effective design solutions.
A Natural Advantage

Rooted in reality, educated in environmental sciences, and experts in the latest regulatory and permitting compliance, Stantec’s sustainability and environmental services team goes beyond the common approach to develop ideal results for our clients and their range of challenges. Our experience in environmental measurement and modeling allows us to provide services in the areas of permitting and environmental assessments, as well as technical needs such as air quality forecasting, unpleasant odors, and nuisance noise.

Stantec’s 2,500 environmental staff covering 20 technical specialties know what to look for. We’re here to help you with regulatory compliance, brownfield/development, site greenfield remediation, and water resource management, too. You could say our team’s got the environment down to a science.

As you develop your plans for growth and advancement, we’ll work with you to develop plans for environmental risk management, naturally.

Compressed Natural Gas (CNG) and Alternative Fuel Systems

Leadership, expertise, innovation: Stantec’s fuel systems engineering teams embody these traits. Working across North America we specialize in the design of traditional and alternative fueling facilities and infrastructure, and we are helping to guide the future of the industry.

Our engineers have comprehensive experience in the design of fleet, aviation, CNG, and other specialized fuel dispensing and storage facilities. We’ve designed over 150 car, truck, and aircraft fueling and vehicle maintenance facilities in the United States and Canada. We’ve also designed or consulted on numerous unique fueling applications, including: performance-based designs; multi-level fueling facilities; deployable fueling systems (for the United Nations); marine fueling depots; alternative fuel facilities; and lighthouse fuel systems.

Our passion for CNG and diesel system engineering is matched by our commitment to guiding the industries’ future steps. Our specialists sit on national fuel system code committees for traditional and CNG fuels, and members of our team currently serve on national committees for the Petroleum Equipment Institute. We have working partnerships and projects with several North American CNG leaders.

As national leaders in CNG and fueling engineering, and we’ll work with you to find the best solution for your project.
Municipal Utilities and Works Yards

Municipal utilities are committed to providing cost-effective, high-quality, professional services to their residents. And so are we.

Works yards and related municipal infrastructure play an important role in achieving this commitment to communities. At Stantec, we deliver designs and solutions that lay the foundation for clients to provide these practical and valuable services to residents that add economic strength to the communities we both serve.

From feasibility studies through detailed design and commissioning, our teams have the right experience and proven project management that you need – no matter what the challenge.

For over 25 years, we’ve provided multi-disciplinary services for works yard, maintenance, repair, and storage facilities in addition to associated infrastructure; and our services in functional planning, efficiency layouts, production engineering, asset management, facility design and engineering, industrial safety, material handling, and related utilities operations will help you achieve success, without compromising quality or safety.
When the Sacramento Municipal Utility District (SMUD) outgrew its 19-acre maintenance yard, the organization wanted a new facility that would not only accommodate future growth, but also set an example for energy efficient building design.

The District turned to Stantec, Turner Construction, and RNL to put together a design-build team and develop a new 361,700 square-foot east campus operations center on a 50-acre site. The campus includes offices, equipment repair shops, maintenance and warehouse buildings, storage space, and parking for fleet and employee vehicles.

As one of the largest NetZero energy projects in North America, producing as much energy as it consumes, our approach to meeting the District’s net zero energy goals included design techniques for low energy heating, cooling, and lighting that reduces energy consumption by 40%. Less energy use means a lower upfront cost for solar panels, since less were required. Alternative energy sources provide the remaining energy with grid back-up.

In total, the building has annual savings of over 3.7 million kilowatt hours in electricity—that’s enough electricity to power 413 homes. The SMUD East Campus also contributed to two 2013 Consulting Engineers of Alberta Showcase awards for Stantec, including one for sustainability... And, as the icing on the energy-efficient, growth-accommodating cake, the project received LEED Platinum Certification.
Bruce Power Centre of Site Building Solutions Program

Tiverton, Ontario

When Bruce Power LP refurbished its Bruce A nuclear power generating facility, extending the life requirements by 35 years, the company realized several supporting buildings were nearing the end of their own life cycle. In response, the energy producer developed a Centre of Site Building Solutions Program (CBSP) encompassing six projects: a steam plant replacement; the B31 Bruce Learning Centre; the B06, Bruce A technical building; a new warehouse for critical pares storage; a new health physics lab; and a new centre of site operations and maintenance centre. This new training facility includes operations training simulator rooms, several classroom and offices areas, and a large industrial shop space for technical training, mock-ups, repairs, and maintenance.

Stantec was selected to work with Bruce Power on program development and schematic design. We held user group sessions to determine requirements for each project. In the schematic design phase, requirements were broken down into two key deliverables: a project definition report, which provided an overview of the Program and the program development and design activities, and a building standards report, which was developed to create a consistent approach to building and site development.

From conceptual drawings, to strategies for heating steam replacement, to costing estimates, our work helped Bruce Power make informed and appropriate decisions about the best way to move forward with the CBSP. Together, we set an ambitious but achievable energy use target, developed a preliminary program schedule, and provided an overview of proposed program element over a five-year period.
South Operations Centre
Fort Mckay, Alberta

The South Operations Centre combines a wealth of impressive sustainable features that you wouldn’t expect from a budget conscious project. The Regional Municipality of Wood Buffalo and Stantec are setting a new standard for municipal projects through open communication and creative design.

The Regional Municipality of Wood Buffalo (RMWB) needed a facility that would coordinate, support, and manage maintenance activities. The South Operations Centre will accommodate personnel and maintenance vehicles needed to effectively maintain municipal infrastructure in Fort McMurray and surrounding communities. RMWB also envisioned a facility that would set a standard for future municipal projects with an elegant façade combined with sustainable features and for that, they needed experts who would fulfill this vision without compromising their budget.

Stantec is providing architectural, mechanical, electrical, structural, civil, and specialized LEED services to meet LEED Gold certification requirements. The site will contain an administrative building, mechanic bays, fleet storage, vehicle wash stations, and trade shop areas. We designed the site to connect to a future district energy system that will reduce operating costs by lowering utility bills and minimizing the risk of fluctuating energy prices. Energy consumption will be reduced by up to 40%, and up to 7% of the energy requirements will be met with the onsite PV array. We are also utilizing a nearby retention pond to create an outdoor space where staff can unwind and enjoy a leisurely stroll without leaving the site.
Transit Facilities

You want a safe and efficient facility that meets regulations and works with your budget. We design solutions that keep our clients on track.

From greenfield design to facility upgrades, our unique team—consisting of architects, designers, engineers, environmental specialists, community planners, and more—will work with you to find the best solutions for your transit facility needs. We’ll uncover your project’s strengths, opportunities, and constraints, and chart a path to operational success.

Our experience with transit facilities includes the full range of asset management activities, from inventory collection, inspections, scheduling of repairs, and maintenance, through to replacement. In addition to bus, light rail, commuter and freight trains, Stantec’s services also consider assets such as tracks and signals, bridges and roadways, and related buildings.

Specific to transit facilities, our extensive work with North America’s leading transit authorities has readied our team to support clients looking to expand networks, increase support infrastructure, upgrade maintenance and storage capabilities, and upgrade lines via our ideal facility solutions.

With safety and community top of mind, our team uses our creativity and comprehensive expertise to lower operating costs, energy consumption, and emissions, while increasing facility efficiency, complying with regulatory requirements, and doing it all on-schedule and within budget.
St. John’s Metrobus Terminal Facility  
St. John’s, Newfoundland

As Newfoundland’s largest and fastest-growing urban center, the City of St. John’s had to find a way to keep up with an increasing number of commuting customers. As a result the St. John’s Transportation Commission decided it was time for a new home and updated facility for its Metrobus transit service. That’s where Stantec enters the picture, with our architectural group leading the interior design and mechanical and electrical engineering work through an integrated design process for the new terminal.

Involved with the project from the early stages, our design team worked closely with the Commission and Metrobus to create an energy-conscious space that embodies the client’s focus on green transit. The new building was designed to LEED Silver certification standards, and, among other green highlights, features rainwater harvesting technology for the bus wash systems, a geothermal heat pump that capitalizes on the earth’s natural energy, and high-recycled content building materials...

This 115,884 square-foot building has been designed to grow with Metrobus. The operational facility houses up to 60 buses, hosts a high-bay repair garage, provides a heated indoor storage garage with dedicated exhaust, offers maintenance and repair space with skylights to maximize natural daylight, and includes office and training areas for the local public transportation commission.
Regional Municipality of Wood Buffalo Landfill Administration Services and Fleet Building
Fort McMurray, Alberta

How can a landfill site go green? By implementing sustainable design in new buildings.

We provided design services for the Regional Municipality of Wood Buffalo’s landfill services expansion in Fort McMurray, Alberta—a project that consisted of a new, nine-bay storage facility and a new administration/service building. We worked closely with the client to ensure its vision grew to life, and considered out-of-the-box solutions to achieve energy efficiency and durability.

In the storage facility, a three-position wash bay features a water recovery system. Elsewhere in the building, sunshine overhead doors promote natural light, daylight sensors on light fixtures reduce energy use, heated apron slabs provide additional warmth, and upstand concrete curbs make snow removal easier. Energy efficient lighting, thermal performance of walls and the roof, healthy interior materials, durable finishes, and the use of natural light all contribute to the administration/service building’s green design.

This step toward sustainability embodies our promise to design with community in mind.
Oliver Bowen Maintenance Facility
Calgary, Alberta

Built to provide extra capacity for light rail vehicle (LRV) maintenance and operations in Calgary, Alberta, the Oliver Bowen Maintenance Facility (OBMF) project was executed using fast-track construction management delivery methods. After all, getting from Point A to Point B quickly is what transit is all about.

With Stantec providing project management, design, and engineering services for all phases of this project—including architecture, site planning and landscaping, geomatic surveying, civil, industrial, structural, mechanical, and electrical engineering and transportation planning—our team worked closely with the client to deliver future-forward solutions.

Stantec designed the site and buildings to provide capacity for 60 cars today, with flexibility to expand to 108 cars in the future. And, we took into account the large amount of specialized equipment required at this new facility, such as wheel truing machines, an LRV washing facility, a distribution and vacuum system, overhead cranes, and hydraulic LRV lifts, during the design process. This led to the building being organized as a vehicle maintenance drive-through shop and set up as a three-floor system, allowing for activity on multiple levels.

A sustainable design approach was also incorporated into elements of the building systems design. Our functional study phase evaluated and incorporated the short- and long-term needs of several operations including: inspection; servicing; washing; light and heavy maintenance; and material shipping, receiving, and storage. We also identified short- and long-term staffing requirements for both existing and new facilities.

As the second facility to provide additional capacity for LRV maintenance and operations in Calgary, the OBMF marks a significant step toward keeping transit passengers happy in Alberta’s largest city.
East Rail Maintenance Facility
Whitby, Ontario

Serving the Greater Toronto Area (GTA), a region of more than six million people, GO Transit requires efficient, organized facility solutions to keep its service on-track. That’s why the design of its new, 70-acre, East Rail Maintenance Facility (ERMF) in Whitby, Ontario, is so important to so many people.

Targeting LEED Gold certification, the ERMF will consist of about 500,000 square-feet of building space equipped to provide complete maintenance services to GO Transit’s existing rolling stock as well as future electric multiple unit (EMU) trains. As lead design consultant and engineer of record for the project, Stantec is working closely with the client as well as Metrolinx (formerly the Greater Toronto Transportation Authority), Infrastructure Ontario, Bird-Kiewit (the builder), and Honeywell (the facility manager), to develop a cost-effective design for the life of the facility that meets myriad functional and operational requirements.

Our role will see us provide architectural, building engineering, landscape, civil, site, track, transportation, signal and yard control design services. We’ll consider the current and future needs of the client; sufficient yard tracks will be included for the daily storage and maintenance of up to 13, 12-car consists, and expandable to 22, 12-car consists in the future. Staff parking for up to 300 employees will also be incorporated onto the site.

With several permitting agencies and approval authorities invested in the ERMF project, our team will rely on our extensive experience, deep knowledge, strong relationships, and creative thinking to bring this facility to commission.
Industrial Maintenance and Operations

Maintenance and operations facilities are critical to the success of transportation providers, public works units, and organizations with large fleets, including mining, aerospace, and military. Each client has unique operational, building, site, community, and environmental requirements, but share the same goal: safe M&O facilities that create efficient work spaces and reduce energy and cost.

Our cohesive team specializes in planning, design, workflow optimization, and implementation. We consider a number of factors when designing tailored M&O facilities for our clients, including: expanding fleets, new technology, storage optimization, material movement, functionality, sustainability, and health, safety, and environment.

Stantec looks beyond what is possible today to see what will drive success in the future. We support clients to project completion, including procurement, installation, and commissioning, and are proud of the long-term relationships we’ve built on our value-driven approach. The best complement we can receive is repeat business.
Finning Canada
New Maintenance Facility
Fort McKay, Alberta

Finning (Canada) identified a need to expand their support infrastructure across the Alberta Oil Sands region. The new 16-bay maintenance/repair facility is located in the Caribou Energy Park approximately 500 kilometers north of Edmonton. The maintenance bays are sized for massive 793 and 797 mining trucks and can accommodate D11 (and smaller) dozers, 24M (and smaller) graders and 988 (and smaller) loaders. The 18,600 m² service facility houses the following general spaces: maintenance bays, warehouse, wash bays, power systems building, as well as office and employee support spaces.

Additional support service spaces include tool crib, and component storage; a fuel island; and an outdoor loading dock. The bays include 10 truck (four dedicated to tire maintenance/removal) and 6 support service bays. Staging and rental stalls are located around the property. Fenced staff parking was designed for 168 staff and visitor vehicles, with two entrances and exits with automatic sliding gates. 12 parking stalls for service vehicles are along the main service building.

Admin and staffing features include locker rooms, lunch rooms, office, workstation cubicles, conference room, file storage, photocopy area, coffee room, and washrooms. The Training Centre houses its own reception and waiting area, digital information kiosks, a training room for 40 people (divisible into two smaller rooms), a PC lab, a lunchroom, office space (some private, some cubicles), a print room, and washrooms. The administrative space also includes room for growth. Interior sidelight and transom glazing in offices allows increased natural light to penetrate the interior work spaces, with the offices arranged to maximize day lighting.

Suncor Firebag 3
Fort McMurray, Alberta

When Stantec sets to work on a project, we make sure we understand exactly what the client wants. That holds true from the smallest of contracts, to the largest of undertakings—including Firebag 3, a $200 Million portion of Suncor’s $7.6 billion Firebag Phase 3 upgrade and expansion.

As the design and build engineers for the project (continuing on from our role in Firebag 2), our multidisciplinary team ensured client specifications were embodied in the design solution and met targets based on budget and function. In addition to delivering buildable solutions, our design approach acknowledged labor and materials availability by maximizing off-site construction techniques, adopting standardized components, and drawing on economies of scale.

Featuring an administration complex split into two parts and delivered concurrently, Firebag 3’s buildings total roughly 16,250-square-metres of space and include: an administration building, a control building, a maintenance warehouse, a heavy fabrication workshop, a light vehicle maintenance workshop, chemical storage, a chemical laboratory, and a vehicle wash bay.

We credit our ability to truly listen to our client and draw on our integrated design resources across our many offices and disciplines as a key factor to our success in delivering the LEED registered project on the fast track program.
Aircraft Hangar and Airside Maintenance

Aircraft hangar and airside maintenance facilities are all about safety and efficiency. We begin each design with functional layout and find creative solutions to meet your objectives in a reliable and cost-effective way. As one of Canada’s largest providers of military and civilian aviation infrastructure design services, our extensive experience with aerospace related projects throughout North America range from small-scale improvements to new, state-of-the-art facilities.

Stantec’s specialized aviation team includes facility planners, architects, engineers, and project managers with the comprehensive knowledge needed to craft solutions for every aviation infrastructure need. From fueling depots (including compressed natural gas) to hangar storage, Stantec can call upon this team and our pool of thousands of professionals to perfect the safety and efficiency your project requires.

We have a deeply-rooted interest in the aviation industry, and our passion for the sector extends into our clients’ projects. Our specialists have designed, or consulted on, numerous unique fueling applications, including performance-based designs, deployable fueling systems, and alternative fuel facilities. Stantec also has award-winning in-house environmental services capabilities to conduct environmental assessments, vegetation and wildlife hazard management plans, wetland delineations and mitigation, and natural resource inventories for airports big and small.

Through it all, we’ll work beside you to find appropriate solutions and create an ideal facility for your operational needs.
Boeing Canada
Murray Park Expansion
Winnipeg, Manitoba

The goal: creating an environment that encourages collaboration, increases employee satisfaction, improves the production system, and supports cost reduction per unit.

The plan: consider the end at the beginning.

When Boeing Canada’s Murray Park fabrication plant needed to be expanded to include new processing types, equipment, and space, we kept the manufacturer’s objectives in mind from the very start. From the design and construction of a new additional building at the western end of the current manufacturing plant, as well as renovations to the existing plant and administrative areas, Stantec’s team worked closely with the client to bring the vision to life.

The company and its employees are set to benefit from 500-square-meters of new office space on the mezzanine, a 1,400-square-metre wash bay, modifications to the height of various workshops, and a new 700-stall parking lot, access road, and security station.

When we think of the future, it’s one where our client’s goals are always met.
Scottsdale Hangar One
Scottsdale, Arizona

Designing a hangar with equal parts form and function was the objective for this Scottsdale, Arizona project. And winning Southwest Contractor’s award for best private project over $5 million tells us we met the mark.

More importantly, the client met its project objectives. We worked closely with the company and the architect (Swaback Partners) to develop the most useful yet aesthetically pleasing facility possible. Finding a way to retain storm water was a standout challenge, resolved by using 720 feet of 120-inch pipe positioned in the main entry between two underground parking garages.

We also used various types of pavements—including color concrete, Portland cement, and asphalt—for the aircraft parking apron. When finished, the site exemplified style and substance and featured two, 40,000-square-foot parking hangars and 60,000-square-feet of office space.

From pre-design paperwork to handing over the keys, our comprehensive expertise and commitment to the client made this project a success.
Department of National Defence
443 Squadron Hangar Facility
Patricia Bay, British Columbia

As technology evolves, newer solutions arrive and older ones are retired. Such is the case at the Canadian Department of National Defence’s 443 Maritime Helicopter Squadron in Patricia Bay, B.C.

The six Sea King maritime helicopters that 443 Squadron currently supports are set to be replaced with nine new CH-148 Cyclones. During the transition to its new fleet, the base may be required to operate and provide maintenance support to both the Cyclone and the Sea King.

Working closely with the Department of National Defence, and with greater efficiency, effectiveness, and security in mind, our design consolidates all 443 Squadron operations into one facility. In keeping with the operational mandate, the facility is fully compliant with all building codes and airfield zoning regulations, and is designed to post-disaster standards.

The new 443 Squadron operations and maintenance hangar provides storage for five aircraft, two maintenance bays, an interior wash and maintenance bay, and maintenance shops. And, in addition to administrative and personnel support facilities, the hangar provides warehousing, shop, and work space for the in-service support contractor/aircraft supplier (Sikorsky). Exterior provisions include ramp areas, taxiway, rinse bay, and a refueling area, plus access to roadways, parking lots, and service.

A privilege to be named the prime consultant for this project, preparing Patricia Bay for the future called upon our team to serve with their experience, knowledge, and creativity.
We are where you are

250+ offices, globally
Global expertise. Local delivery. Strong relationships are critical to the achievement of optimal results. We focus on effective, valuable working relationships with our clients to provide them with innovative, professional solutions and unparalleled service delivery. Using technology, proven in-house systems, and effective communication, our teams collaborate to provide seamless services to any geographic location, coordinated through a local project office.
We’re active members of the communities we serve. That’s why at Stantec, we always design with community in mind.

We collaborate across disciplines and industries to bring buildings, energy and resource, and infrastructure projects to life. Our work—professional consulting in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics—begins at the intersection of community, creativity, and client relationships.

Since 1954, our local strength, knowledge, and relationships, coupled with our world-class expertise, have allowed us to go anywhere to meet our clients’ needs in more creative and personalized ways. With a long-term commitment to the people and places we serve, Stantec has the unique ability to connect to projects on a personal level and advance the quality of life in communities across the globe. Stantec trades on the TSX and the NYSE under the symbol STN.