



capabilities

At R.V. Anderson Associates Limited, we recognize that environmental, social and economic prosperity are inextricably linked. We strive to incorporate the principles of sustainable development into our projects, such as energy, water and resource conservation; pollution prevention; and responsible stormwater management. Using this holistic approach, we provide innovative solutions to our clients, with the achievement of sustainability as the ultimate goal.

marquee projects

brownfield remediation and redevelopment

Maple Clair Subdivision: 352-lot redevelopment of approximately 13 hectares of the former Canada Packers West Toronto meat processing facility property in the historic Stock Yards District of Toronto. Included Phase I and Phase II environmental site assessments, development of site remediation plan, supervision of site remediation program, functional servicing studies, and engineering. Calculations performed proved that existing boundary road sewer, road and water infrastructure was adequate for new residential development.

green roofs

York University: Design of green roof for the award-winning Computer Science Building, covering 66% of total roof area with alpine grasses and wild flowers, and reducing peak stormwater flow by 32% as compared to a standard flat roof without roof drain controls. Design of green roof for the Pond Rd. Residence, covering approximately 46% of total roof area with alpine grasses, and reducing peak stormwater flow by approximately 22%.

specialized services

- Brownfield remediation & redevelopment
- Green roofs
- Energy efficiency
- Energy load management
- District energy systems
- Habitat preservation
- Pollution prevention
- Stormwater infiltration
- Water efficiency
- Thermal upgrades to building envelopes
- Public transportation facilities
- Material reuse and waste diversion
- Pedestrian trails and bridges
- Rehabilitation of existing infrastructure
- Habitat compensation
- Infill development
- Stormwater treatment trains
- Water audits
- Reuse of existing structures
- Stormwater management ponds
- Innovative design solutions

SUSTAINABILITY

capabilities of R.V. Anderson Associates Limited



energy efficiency

Sudbury Sewage Treatment Plant: Energy efficiency upgrades, including the installation of a solar wall to pre-heat ventilation air; building envelope improvements through installation of pre-painted metal cladding with back-up insulation on three walls of the Control Building, together with new low-'E' glazed windows and access door upgrades; mechanical upgrades including the replacement of an existing heating/ventilation air handling unit with a high efficiency water source heat pump supplied by effluent water; and lighting upgrades. Modifications resulted in an estimated operational cost savings of \$300,000 per year.

energy load management

Audit of the existing electrical loads for 2 wastewater treatment plants, 2 water treatment plants, and 8 water reservoirs and pumping stations in the south Peel Region. The study identified annual energy cost saving measures of approximately 15%. Energy Load Management Feasibility Studies for the Oakville and Brantford Water Treatment Plants identified potential annual electricity cost savings of 15.5% and 5% respectively by shifting loads to off-peak hours.

district energy systems

Deep Lake Water Cooling: Schedule B Class EA and Pre-Engineering Study; design and construction services for a 15 m deep shaft in shale; and design and construction services for 260 m long, 2.5 m wide, horseshoe-shaped tunnel for chilled water distribution system.

habitat preservation

St. John's Sideroad Reconstruction and Widening: Included installation of sheet-pile retaining walls to prevent contamination of the environmentally sensitive McKenzie Marsh area, and installation of wet culverts in the marsh area and dry culverts beyond the marsh to facilitate animal crossing of this busy road.

rehabilitation of existing infrastructure

St. Joseph Boulevard Storm Sewer: Rehabilitation of 73 m of sewer using shotcrete lining system. In addition to saving energy and materials required to replace the sewer, this resulted in an estimated capital cost savings of \$100,000, reduced the construction period considerably as compared to other alternatives considered, and eliminated many risks associated with open-cut trench construction at this location.

public transportation facilities

Greater Toronto Transit Authority (GO Transit): Design and construction services for new full-service rail transit stations and platforms at Mount Joy, Malton and Etobicoke North GO stations. Architectural design features used by CN Rail in the early 1900s were incorporated at all 3 stations.

thermal upgrades to building envelopes

Toronto Island Filtration Plant Winterization and Summerization: Upgrade of the plant to prevent undue water temperature fluctuation within the entire operating envelope, in order to meet the year-round water temperature requirements of the Deep Lake Water Cooling project. Thermal upgrades included replacement of single glazed, non-thermal break windows with solar reflective, sealed, double-glazed glass with integral top hung ventilator window units; insulation of walls; and incorporation of natural ventilators to take advantage of local lake effect wind.

habitat compensation

Cataraqui River Utility Crossing: Implementation of fish habitat compensation measures to offset the impacts of a new water main and sewage force main crossing, including installation of riprap on the riverbank to prevent erosion and provide fish habitat, and creation of a fish channel in the adjacent marsh area, approximately 400 m long and between 10-15 m wide.

stormwater treatment trains and infiltration

Canadian Tire, Sheppard Avenue: Design of enhanced stormwater management treatment train, incorporating oil/grit separators, grass swales, and the largest installation in southern Ontario of this kind of permeable paving stone for the parking lot.

reuse of existing structures

U.S.E. Hickson Products Ltd.: Design of a new construction material manufacturing plant and administrative offices reusing the existing strip footings and floor slab from the previous structure. In addition to the energy and materials conserved, this resulted in capital cost savings of approximately \$1,000,000.

innovative design solutions

Greater Moncton Main Sewage Pumping Station: Bi-level pumping station essentially combines two pumping stations in one, resulting in significant energy cost savings and winning it a Canadian National Award for its innovative, energy saving concepts and "excellence in environmental engineering".

Toronto Island Filtration Plant: An irrigation system was devised to spray raw lake/lagoon water over the grassed reservoir to provide evaporative cooling of the surface and prevent the water temperature required for the Deep Lake Water Cooling project from increasing. The irrigation water also facilitates ground cover growth.