

LEED®-NC Gold Certified

Owner:

Toronto District School Board

Architect:

Teeple Architects Inc.

**LEED Consultant,
Energy Engineer,
M/E Engineers:**

Enermodal Engineering Ltd.

Structural Engineer:

CPE Structural Consultants

Civil Engineer:

Masongsong Associates

Cost Consultant:

Hanscomb Ltd.

Commissioning Agent:

Crossey Engineering

Landscape Architect:

NAK Design Group

Contractor:

Aquicon Construction Company Ltd.

Brookside Public School

Toronto, Ontario



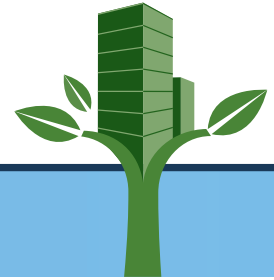
PHOTO CREDIT ENERMODAL ENGINEERING

Brookside Public School is the second green school for the Toronto District School Board (TDSB) and is built on the lessons learned from the Board's previous experience. Both owner and project team were committed to building a school that fully meets the need for a healthy, productive learning environment while achieving high performance in terms of energy, water, and raw materials conservation. Because Brookside is at the heart of the residential community it serves and will be well used during and outside of school hours. The school will be a high profile showpiece of practical, sustainable architecture. The achievement of LEED Gold certification will heighten public awareness of the school's green features and of the Board's commitment to the environment.

LEED Requirements + Green Education = Resource Conservation

The Toronto District School Board (TDSB) was instrumental in developing an innovative approach to student environmental education as part of its participation in the international EcoSchools program. Waste management, recycling, and composting are central components of the program, and thus an extensive construction waste management program was implemented at Brookside. Fully 79% of construction waste was diverted from landfill to recycling facilities. After building occupancy, a recycling area is located near the loading bays where waste can be collected, separated, and stored.

The conservation of raw materials was an important part of selecting the materials used to construct the school. For example, 19% of construction materials (by cost) have recycled content. The use of locally-sourced materials reduces transportation impacts and supports the regional economy. Thirty percent (33%) of construction materials are from within 800 km of the school. A remarkable 68% of the wood used in the school is Forest Stewardship Council (FSC) certified as being sustainably raised and harvested.



A Water Wise School

Brookside Public School was designed and built to a 59% reduction in indoor water use and an 51% reduction in the water used for sewage conveyance. Harvested rainwater is used for non-potable uses such as toilet flushing to conserve treated water. The cistern and water fixtures at Brookside save 4,283,35 litres of potable water each year—about enough to fill 143 backyard swimming pools. Water-conserving indoor plumbing fixtures include dual-flush toilets, waterless urinals, and low-flow faucets and showerheads.

Outdoors, water conservation measures, such as the use of drought-resistant plants, reduce the need for irrigation by 73%.

Healthier Schools from Good Indoor Air Quality

The health of the indoor environment was of paramount importance to the TDSB. Prior to building occupancy, an air system “flush out” ran the ventilation system to eliminate any construction-related pollutants.

Carpeting, paints, and sealants were selected to be “low off-gassing,” that is, they do not contribute VOCs (volatile organic compounds) to indoor air.

The building design team paid particular attention to ventilation systems. School ventilation air is 100% outdoor air for maximum quality. Space heating/cooling is provided by imbedded radiant tubing. Ventilation effectiveness is achieved through a displacement ventilation system implemented throughout the classrooms and via jet diffusers in gymnasium and office areas.

A Smaller Energy Footprint

Brookside Public School is designed to achieve a 51% reduction in energy cost compared with a similar building designed to conventional standards. Energy conservation measures include the following:

- a well-insulated building envelope
- high performance windows
- occupancy sensors that turn off lights when a space is not in use
- an energy recovery system that extracts heat from exhaust air
- condensing boilers for space heating and domestic hot water
- air handling units that cool the building using outdoor air

A building commissioning program was implemented to ensure that the school’s mechanical equipment is specified, installed, and operating as designed.

For more information, contact
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