



GREEN DESIGN

- Fact Sheet -

Evergreen Brick Works will demonstrate leadership in innovative green design practices – energy, materials, waste, water and transportation – particularly in the challenging context of a public heritage site. New construction will be LEED Platinum certified.

Energy

The reduction of fossil fuel related carbon emissions through energy conservation and on-site generation is a primary goal. This will be attained through aggressive energy conservation measures and on-site renewable energy generation.

These measures include:

- high-efficiency building envelopes
- operable windows and solar chimneys that minimize mechanical ventilation and air conditioning
- energy harvesting of waste heat
- night cooling of building environments
- a Canadian solar cogeneration system for power, heating and cooling
- a biomass heating system using sustainably harvested waste wood from local industry
- intelligent building automation and lighting control systems
- ongoing measurement and verification of energy performance.

In combination, these actions will create a “net carbon neutral system” for heating and cooling.

Water

Water conservation is central to the project, which is situated in the floodplain of the Don Watershed. Primary objectives include collecting enough water to meet annual water needs of the site, reducing stormwater runoff and improving the quality of stormwater effluent.

These goals will be met through:

- fifteen 20,000-litre above-ground rainwater cisterns collecting water from the vast roofs, capturing more than 4 million litres of water annually
- low-water and no-water lavatory fixtures
- irrigating gardens, servicing washrooms and providing water for the cooling tower on the roof of the Centre for Urban Sustainability using collected rainwater
- wildlife-friendly stormwater management channels, swales and ponds.

As a result of the above little to no municipal potable water will be used for toilets or irrigation between April and October (due to freezing temperatures, cisterns will be dormant in winter months). These measures and others will reduce overall municipal water consumption by at least 60% relative to conventional facilities.

Materials

Materials have been carefully selected to create a healthy environment for work and play and to limit the negative ecological impacts associated with the manufacturing and transportation of construction materials.

We will achieve these goals by:

- the adaptive reuse of more than 95% of existing buildings
- constructing a durable long-life building with adaptive interior spaces that will respond to changing uses over time
- using modular lightweight pre-assembled structural systems that reduce waste and embodied energy in construction
- using a minimum of 20% locally extracted and manufactured materials
- using 100% sustainably harvested wood based materials or wood from salvage sources
- using recycled and salvaged materials
- limiting the use of all known bio-accumulative toxins, carcinogens and reproductive toxicants.

These measures will substantially reduce material waste and resource extraction in construction and maintenance operations over the lifetime of the building.

Waste

Evergreen Brick Works will be a model facility targeting zero-waste to landfill for construction and operations. Materials will be recycled back into nature or the marketplace in a manner that protects human health and the environment.

This will be achieved through:

- 95% of construction, demolition and land-clearing debris will be diverted from landfill for recycling or reuse
- only compostable and reusable food service items will be used at Evergreen Brick Works
- on-site composting and reuse of 100% of non-animal and oil-based organic waste
- 100% diversion of paper, plastic, glass, metal and other recyclable materials
- closed loop supply chains in which suppliers take back waste created by the use of their product
- regular waste audits measuring the effectiveness of the waste-minimization strategy.

These measures will result in optimal waste diversion and form the basis for ongoing programming for public education.

Transportation

In order to reduce the carbon and pollution associated with automobile use, infrastructure improvements will offer convenient and safe opportunities for tenants and the public to take transit, walk and cycle to the site.

This infrastructure will include:

- A dedicated shuttle from Broadview subway station [scheduled bus service is under review by the Toronto Transit Commission]
- improved trail connections and signage for pedestrians and cyclists [in concert with the City of Toronto and Toronto Region Conservation]
- on-site car sharing and carpooling
- plug-in stations for electric vehicles
- ample bicycle parking [with shower facilities for tenants]
- on-site bicycle repairs and clinics.

It is expected that these measures will significantly shift the emphasis from low-occupancy car use to more collective and environmentally sustainable alternatives.

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