Water efficiency measures in commercial buildings can easily reduce water usage by 30% or more. In a typical 10,000 m² office building, for example, low-flow fixtures coupled with sensors and automatic controls can save a minimum of approximately 4 million litres of water per year, based on 650 building occupants each using an average of 75 litres per day. Non-drinkable water can be used for landscape irrigation, toilet and urinal flushing, custodial purposes and building systems. Utility savings, though dependent on the local water costs, can save thousands of dollars per year, resulting in rapid payback on water conservation infrastructure.

CONSIDERATIONS

Twenty-five percent of the earth's freshwater is in Canada. Approximately 122 billion litres of this fresh water are withdrawn per day from rivers, streams, underground aquifers and reservoirs to support residential, commercial, industrial, agricultural and recreational activities. Between 1972 and 1996, the rate of water withdrawals in Canada increased by almost 90% at an annual average rate of 64.4 billion litres. Canadians currently use approximately 340 litres of water per person per day - twice the amount of Europeans.





An underground water cistern stores rainwater for use in toilet flushing and other greywater applications.

Roof water is filtered prior to being sent to the facility's toilets for flushing.

Plant species have been selected which are generally hardy, with minimal requirements for pruning or watering. This native and adaptive vegetation is also drought resistant.

SITE PLAN

Under normal operating conditions, the Country Squire building's 46,550 litre stormwater cistern and high-efficiency plumbing fixtures eliminate the need to use municipally provided potable water for building sewage conveyance altogether. After its first year of operation, the greywater system can provide all 288,860 litres required annually to operate the toilets and urinals. This total annual volume has been reduced from 451,880 litres through the use of dual-flush toilets and low-flow urinals.



GREEN MEASURES

- Water efficient measures have been implemented to reduce the amount of water consumption within the building: including low-flow faucets, 4.8 LPF toilets, high efficiency urinals, and rainwater collection.
- High-efficiency lavatories and sinks have been installed to further reduce the Waterloo North Hydro building's potable water consumption.



species of grasses, wildflowers, shrubs, and trees to avoid the need

for any permanent irrigation system.

• By combining these water conservation measures, the facility

achieves a water use reduction of over 75% (651,000 L).