

methods, these grades will be sustainable in the long term if matched with a proper commitment to funding.

INFRASTRUCTURE SERVICES GRADES

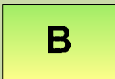
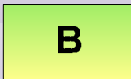
The following sections provide a more detailed overview of the State of Infrastructure for each service sector within the Environmental Services Department.

Water

York Region provides water services to the nine lower tier municipalities through wholesale supply from neighbouring municipalities of Peel and Toronto, from groundwater sources, and from Lake Simcoe. As a wholesale supplier, York Region is responsible for treatment & supply, transmission and storage whereas the nine area municipalities are responsible for handling retail supply and distribution to the consumer. York Region currently operates and maintains:

- 307 km of Transmission Mains
- 38 Production Wells
- 3 Water Treatment Plants
- 21 Pumping Stations
- 48 Storage Facilities

WATER Grades

1 Reliability 	2 Capacity 
3 Soundness 	Overall 

Key findings for the state of **Water** assets

1- Reliability: The Region's ability to maintain safe and secure operations, meeting both regulatory and internal standards and provision of uninterrupted service are the strengths in this dimension. Improvements can be made by improving the ability to provide service during power outages through the provision of standby power generators at pumping stations and well houses.

York Region has maintained this high level of infrastructure reliability by consistently adapting and adhering to new regulatory requirements in an efficient manner.



In 2007, the Ministry of the Environment released its Drinking Water Quality Management Standard (DWQMS). The DWQMS is a solution that harmonizes a number of elements from internationally recognized standards such as the ISO 9001:2000 quality

management standard and the HACCP food and pharmaceutical industry standard. York Region submitted Operational Plans for the ten drinking water systems in late 2008. Beginning in early 2009, drinking water systems in Ontario will be audited and accredited to the DWQMS by a third party. York Region drinking water systems have been accredited.

There are certain areas however where individual facilities or asset groups scored lower than the average, and these should be given further attention. For example, most stations do not have standby power and while service continuity is mitigated by storage capacity, supply is at risk during abnormal power conditions. This longstanding issue has been identified by staff and will be rectified over the coming years pending annual budget approvals.

Linear infrastructure also presents issues when it comes to measuring condition. It is very challenging to access infrastructure without interrupting service or risking contamination. The industry is adapting to these systems and technology is being introduced to support condition assessments. The Environmental Services Department is pursuing various condition assessment methods.

2 -Capacity: The ability to maintain service during average flow conditions and the planning and implementation process for expansion to meet future demand are the key strengths. Although the overall score was high, areas to focus on within this dimension include providing capacity at peak demand periods and improving the knowledge of system performance during these periods.

York Region has managed to strategically plan and forecast expansion needs and the projected response necessary, which has led to high marks in this dimension for Water.

A Water Efficiency Master Plan Update was completed in April 2007 which provided recommendations for a 10-year strategy for water efficiency and conservation programs in York Region. This included:

- A review of industry best practices
- Identification of potential water savings through various programs
- An international Water Association Water Audit and Balance to estimate water loss throughout York Region

The water efficiency master plan update will be updated every five years.

3- Soundness: The ability to maintain an effective maintenance program through internal maintenance and rehabilitation programs are the key strengths in this dimension. Opportunities for improvement within this dimension include improving the physical condition of the assets and improving the knowledge of the physical condition of the linear watermain assets.

With the exception of the gravity sewer system little data is available on the condition of linear assets. This uncertainty increases the risk of interrupted service due to unforeseen or unanticipated failures. Environmental Services identified actions such as the ductile iron watermain assessments to address this.



Assessing condition of buried infrastructure such as watermains is difficult because of the inability to take these assets out of service and gain access. Based on findings from unexpected watermain breaks, a project to assess all of York Region's ductile iron watermains will be conducted in 2010.

Wastewater

In York Region, collection of wastewater from homes and businesses is the responsibility of the nine local municipalities with transmission and treatment provided by York Region. As with the water system, York Region relies on neighbouring Lake Ontario based municipalities for provision of service; York co-owns the Duffin Creek WPCP with Durham to serve the majority of York's population and has service agreements with Peel Region to service the south west segment of York Region. Treatment is also provided by York to northern municipalities through discharge to local watercourses and to Lake Simcoe. The York-Durham Sanitary System (YDSS) conveys wastewater in a series of large trunk sewer systems for treatment at the Duffin Creek Water Pollution Control Plant in Pickering within Durham Region before it is discharged into Lake Ontario. This system serves the majority of York's population. Currently York is responsible for the following wastewater assets:

- 182 km of Linear Assets
- 88 km of Forcemains
- 2 Wastewater Storage (Equalization) Tanks
- 18 Pumping Stations
- 6 Wastewater Treatment Plants
- 1 co-owned Wastewater treatment Plant (Duffin Creek WPCP)

WASTEWATER Grades

1 Reliability B	2 Capacity B
3 Soundness B	Overall B

Many condition assessments have been performed on our wastewater facilities to verify performance. An example of this occurred in 2009 when a comprehensive condition assessment of major station components at the Aurora Sewage Pumping Station was undertaken and will lead to capital improvements projects. Components of the condition assessment work program include the system, compliance and safety, and the standby power facility.

Key findings for the state of *Wastewater* assets

1- Reliability: The ability to maintain safe and secure operations and to provide service during power outages through the provision of standby power are the key strengths. Two areas within this dimension provide an opportunity for improvement; meeting both regulatory and internal standards and the provision of uninterrupted service.

In 2009 a comprehensive condition assessment of major station components at the Aurora Sewage Pumping Station was undertaken and will lead to capital improvements projects. Components of the condition assessment work program include the system, compliance and safety, and the standby power facility.



2- Capacity: The ability to maintain service during both average and peak flow conditions and the planning and implementation process for expansion to meet future demand are the key strengths. To achieve a higher grade in this dimension, efforts should be focused on specific facilities and on providing capacity at peak demand periods for linear systems and major pumping stations.

The Southeast Collector Sewer expansion project is an example of York Region proactively addressing capacity issues that could arise according to projected population growth studies. York Region's population, which is currently estimated to be 1,030,000, is expected to grow to more than 1.5 million by 2031. Twinning (or expanding) the YDSS is critical to ensuring adequate wastewater treatment for current and future York Region residents and businesses.



An expansion project commenced in 2009 at the Keswick WPCP to accommodate Georgina's projected population growth and improve the technology of the filtration system. The plant currently services 24,000 people and has an average day rated capacity 12,070 m³/day. Under the project the capacity will increase to 18,000 m³/day which is equivalent to a service population of approximately 49,300.

The membrane filtration provides robust tertiary treatment of the secondary effluent water to meet the stringent regulatory requirements of

the Lake Simcoe Protection Act before being discharged to Cook's Bay on Lake Simcoe.

However, there are examples where the state of specific individual facilities falls below the average grade and attention is needed to ensure continued reliable service at each and every facility. The Leslie St Sewage Pump Station, for example, runs with all pumps in service during extreme wet weather events and is at risk when the one spare pump is down for maintenance. A project to address this issue by upgrading the station to include new pumps is currently in the planning stage.

3- Soundness: The ability to maintain an effective maintenance program through internal maintenance and rehabilitation programs and the condition of the assets are the key strengths. An opportunity for improvement within this dimension lies in improving the knowledge of the physical condition of the linear forcemain assets.



York Region has embarked on an infrastructure management program to monitor the

performance of wastewater infrastructure through comprehensive inventory, inspection, condition assessment, and maintenance initiatives to identify deficiencies of the facilities so as to determine timely, optimized and cost-effective inspection, maintenance, renewal, rehabilitation, and replacement measures.

The intent of the CCTV inspection program, which is a component of the infrastructure management program, is to monitor the performance and condition of York Region's sewers through closed-circuited television technology (CCTV). As the deterioration of the sewers is an ongoing process, a screening methodology is necessary so that the sewers can be prioritized and scheduled for timely CCTV inspection in a cost-effective manner, while the deterioration of the sewers is under close monitor and control.

Waste Management

Waste Management in York Region is comprised of blue box and green bin processing of municipally-collected material, management of public drop-offs for hazardous material, and transportation and disposal of municipally-collected residential waste. The nine area municipalities are responsible for curbside collection of blue box, green bin and residential waste.

Operation and maintenance of the majority of the waste management facilities are contracted to private service contractors with ownership by York Region. Similarly transportation and disposal facilities are provided by private service companies or facilities owned by other government organizations.



York Region Waste Management infrastructure consists of:

- One Material Recovery facility
- Four Household Hazardous Waste facilities
- One Solid Waste & Recycling Material Transfer facility
- One Community Environmental Centre (two more are approved for development)

Waste Management Grades

1 Reliability 	2 Capacity 
3 Soundness 	Overall 

Key findings for the state of **Waste Management** assets

1- Reliability: To maintain safe and secure operations – all sites are securely fenced and controlled; and providing service during power outages through standby power equipment are the key strengths. Improvement can be achieved within this dimension by increasing controls on the disposal of materials and achieving internal targets and standards.

The York Region Waste Management Centre is a material recovery facility (MRF) located in East Gwillimbury. The MRF is anticipated to process a minimum of 125,000 tonnes of blue box material by 2015, which is an annual increase of approximately 35,000 tonnes of blue box material over its current capacity. This project is intended to improve the recovery rate of the plastic containers at the facility by installing a second container process line and optical sorting equipment, and maximize the efficiency of the newspaper line by installing a bypass to the newspaper baling system.

York Region successfully achieved LEED certification at the McCleary Court Community Environmental Centre. A number of sustainable measures were incorporated at the facility, including the use of energy efficient heating and lighting. By undertaking these measures York Region constructed a facility that contributes to higher waste diversion rates while also operating in a sustainable manner achieving higher standards.

2 -Capacity: The ability to provide service capacity for current and future demand is the key strength. Areas in need of improvement within this dimension fall outside the scope of the current assessment and are related to securing long term disposal solutions for solid waste material.

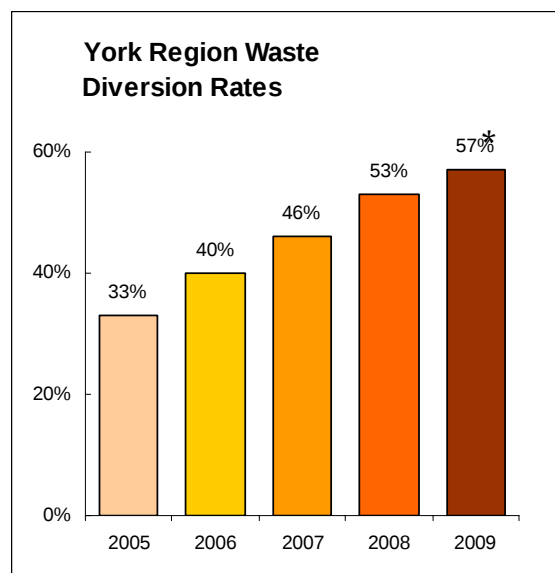
Did you know that Community Environmental Centres in York Region can potentially divert 3,000 tonnes of waste from landfill annually?



York Region has increased its waste diversion from 24% in 2004 to 53% in 2008.

York Region is developing a long-term Waste Management Strategy Plan to effectively address managing solid waste in the future. Limited landfill capacity in Ontario – combined with the general public's growing opposition to landfill – has increased the desire to develop innovative alternatives to current waste disposal methods in an expedited manner.

All York Region households receiving curbside collection are able to place their organic waste into the Green Bin. The Green Bin program can divert approximately 30% of waste from landfill. The material collected is composted and used for agricultural and horticultural use, as well as land reclamation projects and erosion control.



* Unconfirmed by WDO