

2

WATER AND WASTEWATER CAPITAL INFRASTRUCTURE STATUS UPDATE

The Environmental Services Committee recommends:

- 1. Receipt of the presentation by Daniel Kostopoulos, Director, Capital Planning and Delivery; and**
- 2. Adoption of the recommendation contained in the following report dated September 20, 2012, from the Commissioner of Environmental Services, as amended to read as follows:**
 - 1. The Regional Clerk circulate this report and the presentation to the Clerks of the local municipalities.**

1. RECOMMENDATION

It is recommended that:

1. The Regional Clerk circulate this report to the Clerks of the local municipalities.

2. PURPOSE

This report updates Council on the status of key water and wastewater infrastructure projects required to meet system demands identified as triggers for release of additional servicing capacity and approvals under the *Planning Act*.

3. BACKGROUND

Capacity assigned to local municipalities serviced by York Durham Sewage System totaling 1,098,984 people to facilitate growth to the beginning of 2016

In 2003, delays to key infrastructure projects impacted the Region's ability to allocate sewage capacity to local municipalities. Between 2003 and 2005, staff completed extensive investigations to determine the allowable increase in servicing capacity in the York Durham Sewage System. In June 2005, Regional Council assigned capacity up to 970,000 people to local municipalities serviced by the York Durham Sewage System and Peel Diversion System for growth up to 2010. Subsequently, between 2007 and 2010, additional capacity assignments were made to accommodate growth to 2013. With the

recent capacity assignment in April 2012, Council has cumulatively granted release of servicing capacities up to 1,098,984 people within the York Durham Sewage System and Peel Diversion service areas that enables each municipality to maintain a minimum 4-year supply. Past capacity assignments are summarized in Table 1.

Table 1
Capacity Assignment in York Durham Sewage System Service Area

Date	Capacity Assignment (People Equivalent)	Cumulative Assignment	Growth Up To Year
23-Jun-05	970,000	970,000	2010
15-Nov-07	35,737	1,005,737	2011
18-Dec-08	36,264	1,042,001	2012
18-Feb-10	36,328	1,078,329	2013
11-Apr-12	20,655	1,098,984	2016

In communities outside the York Durham Sewage System service area, the Region is either in the process of completing or has completed major water and wastewater system upgrades. Upon completion of works identified in Table 3 of this report, a total servicing capacity of over 75,000 people exists in Schomberg, Mount Albert, Nobleton, Kleinburg, Keswick, and Ballantrae.

The last update to Council on trigger projects was provided on April 20, 2012 in Clause 2 of Report No. 1 of Environmental Services Committee. The next update is scheduled for January 2013.

4. ANALYSIS AND OPTIONS

Capacity triggers ensure timing of new home occupancy coincides with available water and wastewater services

Monitoring the progress of trigger projects assists the Region in better managing two key steps in the planning approvals process:

- Pre-sales of homes
- Final plan approvals

A trigger project is defined as a project that is required to meet committed allocation to the local municipalities. Capacity triggers are required to avoid premature occupancy of new dwellings in advance of completion of municipal water and wastewater services.

In general, pre-sales of homes are only permitted if the required infrastructure is expected to be in place within one year and final plan approvals are granted if the required

infrastructure is expected to be in place within six months. At the discretion of the local municipality, high-density development may move to final approval within eighteen months of completion of required infrastructure and complex high-rise developments within thirty-six months of completion of required infrastructure.

Ground-related units pertaining to the 2013 capacity assignment moving forward to pre-sales stage

For all developments pertaining to pre-2013 capacity assignments, local municipalities have been advised that final plan approval can proceed for all service areas with the exception of Queensville/Holland Landing/Sharon which is contingent on completion of the Queensville/Holland Landing/Sharon servicing projects.

With construction of the new Southeast Collector Trunk Sewer progressing as scheduled, local municipalities can also proceed with the following:

- In addition to building permits for all high-rise units pertaining to the 2013 capacity assignment, the Region has confirmed the pre-sales stage of ground-related units except for developments contingent on the North Don Relief Sewer and Queensville/Holland Landing/Sharon servicing project.
- Issuance of building permits for complex high-rise units pertaining to the post-2013 capacity assignment except for units contingent on the North Don Relief Sewer and Queensville/Holland Landing/Sharon servicing project.

Key project status highlights for York Durham Sewage System service area

Status of key projects required to service growth beyond 2013 is summarized below and in *Attachment 1*. Project locations are illustrated in *Attachment 2*. The only remaining project required to service growth up to 2013 is the Queensville/Holland Landing/Sharon servicing project. Status of this project is summarized below and its location is illustrated in *Attachment 2*.

Amended agreement for Queensville/Holland Landing/Sharon servicing has been executed

The Amended Agreement for the York Durham Sewage System connection for the communities of Queensville, Holland Landing and Sharon was executed in March 2012, which allowed for the award of the Queensville Elevated Tank No. 1 tender in early April 2012. The overall sewage system is currently planned to be constructed under four separate tenders. The first of these tenders, for the Holland Landing Pumping Station, was awarded in August 2012 and is currently in construction. The second tender, for the 2nd Concession Pumping Station, was issued to prequalified contractors for tender in early September 2012 and is currently pending award. The York Durham Sewage System connection and Queensville Elevated Tank No. 1 projects are expected to be commissioned as early as 2015 and 2014 respectively.

Tunnel mining for Southeast Collector tunnel construction has commenced

The Southeast Collector Trunk Sewer Individual Environmental Assessment was approved by the Ministry of the Environment on March 31, 2010, subject to several conditions that must be met within stipulated timelines. As required by the approval conditions, the first report entitled “*Long Term Water Conservation Strategy and Inflow and Infiltration Reduction Strategy*” was submitted to the Ministry of the Environment in March 2012 along with the following annual reports:

- Southeast Collector Trunk Sewer Environmental Assessment 2011 Annual Compliance Report (Condition 5)
- 2011 Annual Complaint Quality Assurance Review (Condition 7)
- 2011 Performance Management Monitoring Report (Condition 10)
- Bob Hunter Memorial Park Enhancements 2010 Annual Compliance Report (Condition 13)

Construction of the Southeast Collector Trunk Sewer is now underway and the commissioning date is forecast to occur in late 2014 (last reported: late 2014). Work already underway or completed includes:

- Phase 1 and Phase 2 of Bob Hunter Memorial Park/Rouge Park enhancements are complete
- Phase 3 of Bob Hunter Memorial Park/Rouge Park enhancements undergoing implementation since January 2012
- Reconstruction and realignment of York Durham Line, including intersection upgrades are complete
- Construction has commenced at all construction compounds
- All four tunnel boring machines have been fully assembled and are actively tunneling
- Construction of the Odour Control Facility, two Air Handling Facilities, a Corrosion Control Facility and the Central Duffins Collector Chamber is underway

Construction of Duffin Creek Stages 1 and 2 upgrades underway in 2012

Duffin Creek Water Pollution Control Plant Stages 1 and 2 upgrades are required as a condition of the Ministry of the Environment Certificate of Approval (Air) for Duffin Creek Water Pollution Control Plant Stage 3 Expansion. The project is currently in detailed design. Since the last report, pre-purchase of Electrical Substation High Voltage Transformers and Switchgear and the Emergency Power Generators have been awarded. Construction for the New Stage 1 & 2 Electrical Substation was tendered and is scheduled to start in late 2012. It is anticipated that there will be another three construction contracts and equipment pre-purchase contracts over the next two years with final substantial performance expected in late 2016 (last reported: 2016).

To comply with the Certificate of Approval (Air) conditions, the interim report on ambient odour sampling and odour source testing conducted through the summer of 2011

was submitted to the Ministry of the Environment in the first quarter of 2012. The Best-in-Class Technology Review to guide odour mitigation measures for Stages 1 and 2 upgrades are now approved by the Ministry of the Environment. Emissions testing, ambient odour monitoring, odour dispersion modeling and updating the Odour Management Plan continue and are scheduled for completion in 2017.

Detailed design completed for Duffin Creek Stage 3 Influent Pumping Station

The new Duffin Creek Stage 3 Influent Pumping Station is required to facilitate connection of the new Southeast Collector Sewer to the existing York Durham Sewage System and to prevent surcharge conditions during construction and in the future. The new Stage 3 pumping station main contract was tendered and the excavation - foundations contract was awarded in February 2012 and is now complete. The project is anticipated to be commissioned in late 2013 (last reported: late 2013).

Environmental Assessment for Duffin Creek Plant Outfall is underway

York Region and Durham Region jointly initiated a Schedule C Class Environmental Assessment study in December 2010 to identify the preferred solution for addressing limitations of the existing outfall and diffuser system at the Duffin Creek Water Pollution Control Plant. The present flow capacity limit is 520 ML/day and the preferred solution will permit the Duffin Creek Water Pollution Control Plant to operate at a capacity of at least 630 ML/day.

Baseline studies have now been completed including geotechnical investigations, a water quality modeling report for near shore lake water, natural environment and fisheries report. Each of these reports have been peer reviewed by independent subject matter experts and found to be acceptable. A short-list of alternative solutions for providing additional outfall capacity for the Duffin Creek WPCP have been prepared and evaluation of the alternatives is underway with a preferred alternative to be presented to the public and agencies by year end. Two rounds of public meetings have been held in Ajax and Pickering to present information and request comments on the Environmental Assessment process. Input has also been obtained on each step of the Environmental Assessment from a Stakeholder Advisory Committee. The Environmental Assessment Study is expected to be completed in 2013 and construction is scheduled to be commissioned in 2016.

“Alternative Methods of Carrying Out the Undertaking” Stage of Upper York Sewage Solutions Environmental Assessment now underway

The Upper York Sewage Solutions project is required to accommodate provincially approved growth within the Towns of Aurora, Newmarket and East Gwillimbury by 2031. As part of the Environmental Assessment Study currently underway, a “Water Reclamation Centre” with associated collection and conveyance infrastructure systems to

be located in East Gwillimbury, in addition to modifications to the existing York Durham Sewage System in Newmarket and Aurora, has been identified as the preferred alternative for the Upper York Sewage Solutions project. An extensive public consultation program is being undertaken as part of the Environmental Assessment Study to allow timely input from the public and key stakeholders. Following selection of the preferred alternative, public workshops were held in December 2011 and April 2012 as part of the next stage of the environmental assessment; Alternative Methods of Carrying Out the Undertaking. At these meetings, potential sites to locate the water reclamation centre were presented to the public and key stakeholders and input was sought on site evaluation criteria.

The next round of public meetings is scheduled for October 2012, where the recommended methods of carrying out the preferred alternative will be presented to the public and key stakeholders for input. Feedback will be solicited on the recommended site for the proposed Water Reclamation Centre, location of the treated effluent outfall to the East Holland River and the recommended route for the York Durham Sewage System modifications.

Commissioning of the overall project is scheduled for late 2018 (last reported: late 2018). This date will be reviewed and updated following approval of the Individual Environmental Assessment by the Minister of the Environment, which is projected to occur in 2014.

Construction of tunnel contract for Kennedy Road Watermain is underway

The Toronto East Water Supply project involves construction of a 1500 mm diameter watermain along Kennedy Road from the Milliken Pumping Station on 14th Avenue to Major Mackenzie Drive. The project is required to provide additional water from Toronto to Markham Pressure District 6 to meet long-term growth demands. The work is being completed under two contracts, both of which are currently underway. Commissioning of the entire watermain from Milliken Pumping Station to Major Mackenzie Drive is expected to be completed by Q4 2013 (last reported: June 2013). The noted delay in the completion schedule is due to the need for extended negotiations with both Canadian National Railway and Metrolinx for the required rail line crossing agreements prior to awarding the second of the two contracts.

West Richmond Hill Pumping Station under detailed design

West Richmond Hill Pumping Station is a new pumping facility identified in the 2009 Water and Wastewater Master Plan Update to pump water from Pressure District 6 to Pressure Districts 7 and 8. The new pumping station will alleviate existing capacity constraint at the Pugsley Pumping Station. The Environmental Assessment was filed on October 13, 2011 and detailed design is underway. The project is expected to be commissioned in Q4 2014 (last reported: Q4 2014).

Second Public Consultation Centre for West Vaughan Sewage Servicing held in June 2012

The West Vaughan Sewage Servicing project was originally identified in the 2009 Water and Wastewater Master Plan Update to provide sanitary sewage capacity to service growth in the West Vaughan area (the area west of Highway 27 including Kleinburg-Nashville). Notice of Environmental Assessment Study commencement was issued in March 2011 and the first Public Consultation Centre meeting was held on April 27, 2011. A second Public Consultation Centre to present the recommended servicing solution was held in June 2012 (last reported: June 2012) following the completion of extensive field investigations to provide geotechnical data to assess various sewer routing alternatives. As presented at the public meeting in June 2012, the field investigations and evaluation of sewer routing alternatives completed at this stage of the Environmental Assessment Study have identified numerous surface and underground constraints. It is currently anticipated that these constraints will add to the complexities of the design and construction aspects of the project. As such, the schedule for completing the overall project is 2016 (last reported: 2016).

Leslie Street Sewage Pumping Station Upgrades tendered

The Leslie Street Sewage Pumping Station collects wastewater flow from areas of Vaughan, Richmond Hill and Markham. The facility pumps wastewater to the Duffin Creek Water Pollution Control Plant. The upgrade project will increase station pumping capacity to meet growth requirements in the service area and also includes major electrical, SCADA, standby power and building envelope upgrades. The project was tendered in August 2012 and although the entire project is scheduled for completion by mid-2015, increased pumping capacity will be commissioned by Q4 2014 (last reported: Q4 2014).

A new Primary Trunk Sewer is required to service future growth

The Primary Trunk Sewer project involves constructing a new sewer along a yet to be determined route, from the terminus of the Southeast Collector Trunk Sewer to the Duffin Creek Water Pollution Plant, in the City of Pickering. The new primary trunk sewer will provide additional conveyance capacity to the existing primary trunk sewer, which is expected to be at capacity sometime between 2021 and 2026. The project is scheduled for completion in 2021 (last reported: 2021).

Constructing North Don Relief Sewer to support growth in North Don Sewer system service area

The North Don Relief Sewer will divert flows from the North Don Sewershed north of Carville Road to the Bathurst Collector Trunk Sewer to alleviate capacity constraints in the existing North Don Sewer system and support growth in Richmond Hill, Vaughan

and Markham. Detailed design is now underway and construction of the sewer is expected to commence in 2013 for commissioning in 2014. (last reported: new)

Staff continues to monitor status of Peel and Toronto cost-shared projects

Provision of water and wastewater services through partnerships with Toronto and Peel Region is a key component of the Region's long-term servicing strategy. A number of projects in the City of Toronto and Peel Region are currently underway to provide capacity to service growth in the Region including seven in construction. Regional staff conducts regular meetings with Toronto and Peel staff to discuss issues regarding supply commitments including cost-shared project delivery schedules. Based on progress of Peel and Toronto's projects, it is expected that both partners will meet their long-term water supply agreement commitments to the Region.

Construction method for Hanlan Feedermain under review

In 2009 the Region of Peel completed a Schedule 'C' Class Environmental Assessment study to identify the preferred route for the new 2400 diameter Hanlan Feedermain which will extend approximately 15 km north from Lakeview Water Treatment Plant to Hanlan Pumping Station. This project is required to meet future water supply needs to support growth. The total project cost is currently estimated at \$380M and will be revised based on the outcome of the tendering process. Construction of this project is scheduled to start in 2013 for completion in 2016.

A breakdown of the water supply sources servicing York Region for the years 2012 and 2031 is provided in Table 2.

Table 2
Water Supply Capacity to York Region

Water Supply Sources	2012		2031	
	Capacity (ML/D)	% of Supply	Capacity (ML/D)	% of Supply
York Water System				
City of Toronto	502	64	509	49
Peel Region	149	19	388	38
Yonge Street Aquifer Wells	62	8	62	6
Stouffville Wells	12	2	12	1
Georgina Water System	30	4	45	4
Stand-alone Groundwater Systems (e.g. Schomberg, Nobleton, Kleinburg, Ballantrae, Mount Albert, and Ansnorveldt)	23	3*	20	2*
Total	778	100	1,036	100

- * Lake-based water supply to Kleinburg to be completed in mid-2013 will reduce its reliance on the groundwater system

Major system upgrades completed in most communities outside the York Durham Sewage System

In addition to major works pertaining to the York Durham Sewage System service area, communities outside the York Durham Sewage System service area are either in the process of being completed or have completed major water and wastewater system upgrades. A summary of major capacity upgrades in these communities is presented in Table 3.

Table 3
Major Capacity Upgrades
Communities outside York Durham Sewage System Service Area

Community	Recent Water and Wastewater Upgrades (since 2005)	Total Capacity in Persons after Upgrades
Schomberg	- Completed new water pollution control plant in 2009 - Completed water supply system upgrade including a well, water treatment plant and reservoir in 2010	3,450 (plus 28 ha of industrial & commercial lands)
Mount Albert	- Completed water pollution control plant expansion in 2005 - Completed water supply system upgrade including watermain along Centre Street and one additional well in 2010 and 2011 respectively	6,000
Nobleton	- Completed new water pollution control plant in 2010 - Water supply system upgrade involving an elevated tank, and an additional well are scheduled for completion in 2012 and early 2014 respectively	6,500
Kleinburg	- Completed water pollution control plant expansion in 2012 - Water supply system upgrade involving extension of lake base supply via Huntington Road watermain, phase one of Nashville Road watermain, and two booster pumping stations are scheduled for completion by mid-2013	7,500
Keswick	- Water Pollution Control Plant Phase 2 Expansion scheduled for completion in early 2013, outfall Q2 2014 (last reported: late 2013) and Joe Dales Pumping Station upgrade in fall 2012 (last reported: summer 2012) - Georgina Water Treatment Plant Phase 2 Expansion completed in 2011. North Keswick Elevated Tank and associated watermain along Woodbine Avenue completed in summer 2012	49,000
Ballantrae	Water supply system upgrade involving an additional well is scheduled for completion in late 2012	5,600

Note: With completion of all the expansion works listed in Table 3, there will be available capacity in the stand-alone systems to service growth of an additional 30,000 people

Link to Key Council-approved Plans

Timely delivery of critical infrastructure projects identified in this report is essential to ensure that water and wastewater system capacity is available to service the targeted growth of the Regional Official Plan. By prioritizing and integrating critical infrastructure projects with timing of planning approvals to address growth needs in an efficient manner, community benefit is being optimized in accordance with the goals of the 2011-2015 Strategic Plan to continue to deliver and sustain critical infrastructure.

5. FINANCIAL IMPLICATIONS

A summary of the costs of infrastructure projects since 2005 in communities outside York Durham Sewage System service area is provided in Table 4. The total cost of these works amounts to \$287 million.

Table 4
Cost Estimates for Infrastructure Projects
Communities Outside York Durham Sewage System Service Area

Project	Project Cost Estimates (2012 \$)
Schomberg Water Supply System Upgrade and New Water Pollution Control Plant	\$31,000,000
Mount Albert Water Supply System Upgrade ¹ and Water Pollution Control Plant Expansion ¹	\$16,000,000
Nobleton Water Supply System Upgrade and New Water Pollution Control Plant ¹	\$35,000,000
Kleinburg Water Supply System Upgrade and Water Pollution Control Plant Expansion	\$61,000,000
Keswick Water Supply and Sewage Systems Upgrade including Expansion of Georgina Water Treatment Plant and Keswick Water Pollution Control Plant	\$148,000,000
Ballantrae Water Supply System Upgrade	\$4,800,000
Total	\$287,800,000

Note: Works were carried out under a Prepaid Development Charge Credit Agreement. Of the total \$3.5 billion of capital works included in this update, \$3.4 billion or 98 per cent is funded through development charges and the remaining 2 per cent is paid for by user rates.

A summary of priority infrastructure project costs in York Durham Sewage System service area is provided in Table 5. The total cost of projects included in this update is over \$3.2 billion including cost shared capital works with Toronto and Peel.

Table 5
Cost Estimates for Key Infrastructure Projects
York Durham Sewage System Service Area

Project	Project Cost Estimates (2012 \$)
Queensville Elevated Tank No. 1	\$9,800,000
Queensville/Holland Landing/Sharon York Durham Sewage System Connection	\$150,000,000
Southeast Collector Trunk Sewer	\$546,200,000
Duffin Creek Water Pollution Control Plant Stages 1 and 2 Upgrades ¹	\$214,000,000
Duffin Creek Stage 3 Pumping Station	\$55,000,000
Duffin Creek Water Pollution Control Plant Outfall ¹	\$132,000,000
Upper York Sewage Solutions	\$504,000,000
Kennedy Road Watermain	\$73,200,000
West Richmond Hill Pumping Station	\$34,000,000
West Vaughan Sewage Servicing	\$159,200,000
Leslie Street Pumping Station Upgrades	\$28,000,000
Primary Trunk Sewer ¹	\$183,200,000
North Don Relief Sewer	\$17,209,000
Subtotal	\$2,105,809,000
Toronto Cost Shared Projects ²	\$441,000,000
Peel Water Cost Shared Projects ²	\$634,000,000
Peel Wastewater Cost Shared Projects ²	\$74,000,000
Total	\$3,254,809,000

Notes:

1. Cost shown does not include Durham share budgeted at \$53M for Duffin Creek Stages 1 and 2 Upgrades, \$15M for Duffin Creek Outfall and \$20M for Primary Trunk Sewer. These amounts are subject to ongoing cost share negotiation with Durham Region.
2. Toronto and Peel project costs represent York's share expenditures for the last 5 years plus budgeted cost for the next 10 years. Peel and Toronto project costs are subject to an annual review with changes brought forward as part of the annual capital budget process.

Cost estimates shown in Tables 4 and 5 only include capital funding requirements. As part of the annual budget process, associated funding and resource requirements for operations and asset management of expanded infrastructure systems are assessed and included in the annual Environmental Services operating budget. Operations, Maintenance and Monitoring Branch resource plan includes the addition of 24 staff for outlook years covering 2013 to 2016 to support the growth related capital program and increased asset base.

6. LOCAL MUNICIPAL IMPACT

Staff continues to work closely with municipalities affected by the capital works program to minimize impacts on planned community growth

Priority projects detailed in this report are crucial to providing timely servicing capacity to municipalities serviced by the York Durham Sewage System and the York Water System. The capacity is necessary to meet growth expectations, while maintaining a high level of environmental and public health protection.

Additional servicing capacity for development is created through timely completion of key infrastructure projects

Release of additional capacity, as well as granting of approvals in each phase of the plan approval process, is contingent on all of these projects being completed as planned. Projects are continually monitored to ensure risk of delay is minimized and capacity will be available as planned. Staff continues to work closely with local municipalities affected by the capital works program to ensure impacts to planned community growth are minimized to the extent possible considering capacity constraints created by delay of these projects. It is essential that the local municipalities continue to report on capacity allocation. The next capacity assignment in 2013 will be informed by the data received by the local municipalities on an annual basis which is due to the Region in December 2012. Coordinated efforts with local municipalities continue during implementation of the inflow and infiltration reduction and water conservation and efficiency programs to reduce flows to the York Durham Sewage System and thereby increase system capacity.

7. CONCLUSION

Projects identified in this report are essential to provide capacity needed to service projected growth in the Region

This report provides Council with a status of priority projects and their relationship to the timing of plan approvals. Continuing to monitor these projects will ensure that both capacity allocation and granting of planning approvals are synchronized with project delivery schedules. The majority of these projects are required to be completed before end of 2016. Total cost of infrastructure projects included in this update is over \$3.5 billion, of which 22 per cent has been spent and 52 per cent will be spent in the next five years.

For more information on this report, please contact Daniel Kostopoulos, Director, Capital Planning and Delivery, Environmental Services at (905) 830-4444 Ext. 5070.

The Senior Management Group has reviewed this report.

(The two attachments referred to in this Clause are attached to this report.)

Capital Infrastructure Status Update

Environmental Services Committee

**Daniel Kostopoulos
October 10, 2012**

Overview

- ❑ What we've achieved in the last six months
- ❑ What will be achieved during the next six months
- ❑ Available servicing capacity maps
- ❑ Key projects

What we've achieved in the last six months...

Achieved key milestones on water projects:

- ✓ Completed Class Environmental Assessment for Aurora Elevated Tank
- ✓ Commenced Detailed Design of Bathurst Watermain
- ✓ Tendered Pugsly Pumping Station Upgrades
- ✓ Tendered Elgin Mills Watermain
- ✓ Awarded Orchard Heights Pumping Station Upgrades Contract
- ✓ Awarded Bloomington Road Watermain Contract
- ✓ Awarded Maple Pumping Station Upgrades Contract
- ✓ Awarded Nobleton Watermain
- ✓ Commenced construction on tunnel contract for Kennedy Road Watermain
- ✓ Commenced construction on Queensville Elevated Tank #1
- ✓ Commissioned Islington Avenue Watermain and completed Huntington Road Watermain
- ✓ Completed Markham PD6 Watermain

Achieved key milestones on waste management projects:

- ✓ Submitted application to P3 Canada for new York-Dufferin SSO Processing Facility
- ✓ Commenced construction on Durham-York Energy Centre

Delivered over \$85 million on water projects in last six months

What we've achieved in the last six months...

Achieved key milestones on wastewater projects:

- ✓ Held second Public Consultation Centre (PCC) for West Vaughan Sewage Servicing EA
- ✓ Commenced Detailed Design for North Don Sanitary Relief Sewer
- ✓ Tendered new 2nd Concession Sewage Pumping Station
- ✓ Tendered Leslie Sewage Pumping Station Upgrades
- ✓ Tendered new Keswick Water Pollution Control Plant Outfall
- ✓ Tendered Duffin Creek Stage 1 and 2 Electrical Sub-station
- ✓ Tendered Duffin Creek Stage 3 Influent Pump Station
- ✓ Awarded pre-purchase package for Odour Control Facility Biofilter at Duffin Creek Stage 3
- ✓ Commenced start-up of new Duffin Creek Stage 3 Incinerators
- ✓ Commenced construction of Duffin Creek Stage 3 Influent Pumping Station Foundations
- ✓ Two Tunnel Boring Machines launched and actively mining on Southeast Collector
- ✓ Commenced construction of new Southeast Collector Odour Control Facility
- ✓ Commenced construction of new Holland Landing Pumping Station
- ✓ Commenced construction of pedestrian bridges over Rouge River in Bob Hunter Memorial Park
- ✓ Commissioned first Inflow and Infiltration Reduction Contract (Aurora, Newmarket and Richmond Hill)
- ✓ Commissioned Kleinburg Water Pollution Control Plant

Delivered over \$113 million on wastewater projects in last six months

What we will achieve in the next six months...

Water

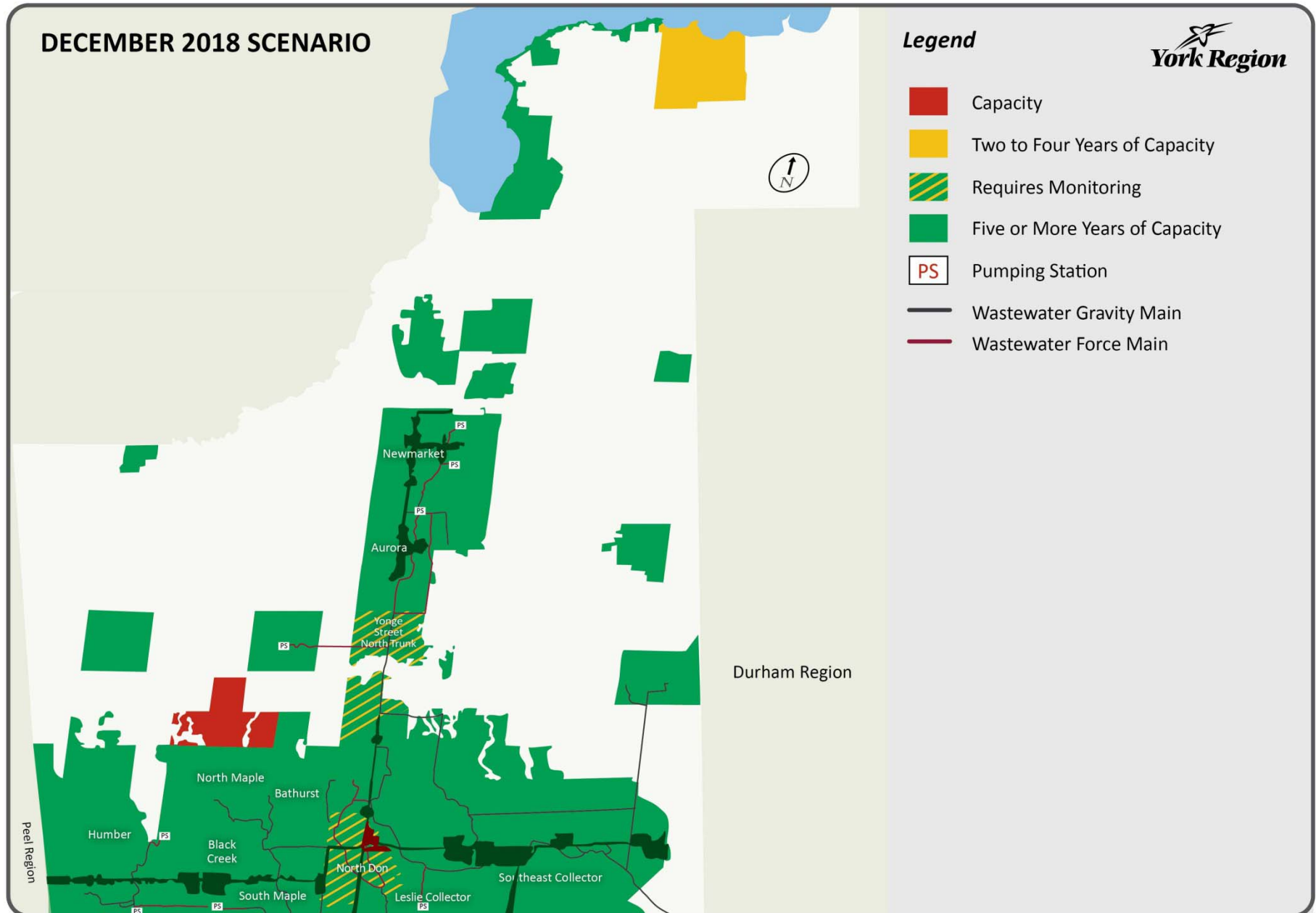
- ❑ Complete EA report for Sutton Water Servicing
- ❑ Tender Nobleton Pumphouse
- ❑ Tender Glenway Reservoir
- ❑ Tender Hanlan Feedermain (Peel)
- ❑ Commission Ballantrae Well 3
- ❑ Commission Nobleton and Keswick Elevated Tanks

Wastewater

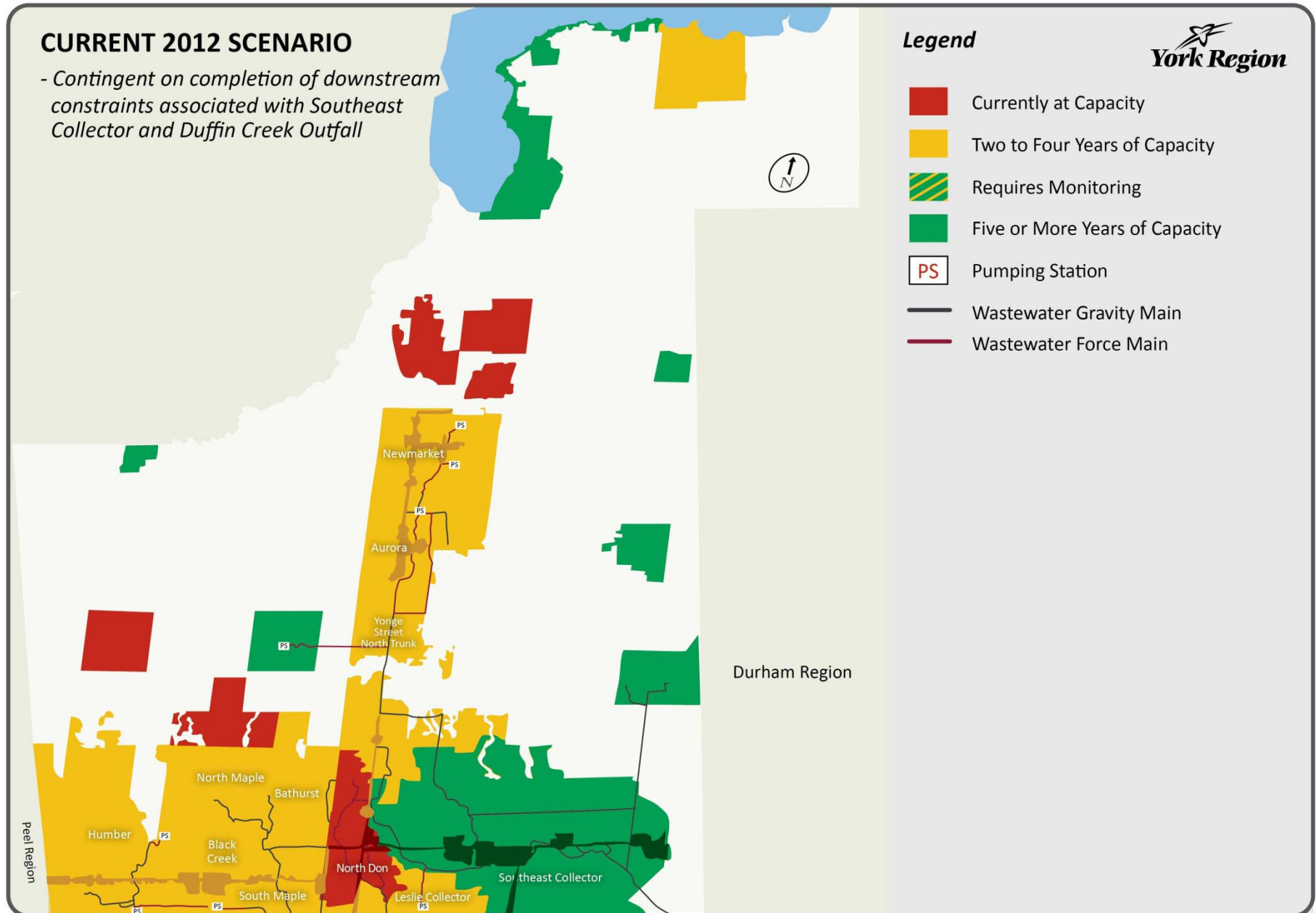
- ❑ Tender Queensville West Sewage Pumping Station
- ❑ Tender non 2nd Concession linear works for YDSS Connection project in East Gwillimbury
- ❑ Tender New Duffin Creek Stage 1 and 2 Disinfection Building
- ❑ Tender Aurora Sewage Pumping Station Upgrades
- ❑ Commission Keswick Water Pollution Control Plant new Generator and Headworks Buildings
- ❑ Commission second Inflow and Infiltration Reduction Contract (Whitchurch-Stouffville, Georgina and East Gwillimbury)
- ❑ Commission Joe Dales Pumping Station
- ❑ Commission Aurora-Newmarket YDSS Rehabilitation

Over 50 construction contracts underway in 2012 with over \$3.0 billion in capital in construction

Available Servicing Capacity in Region



Available Servicing Capacity in Region



Available Servicing Capacity in YDSS

Current 2012 SCENARIO

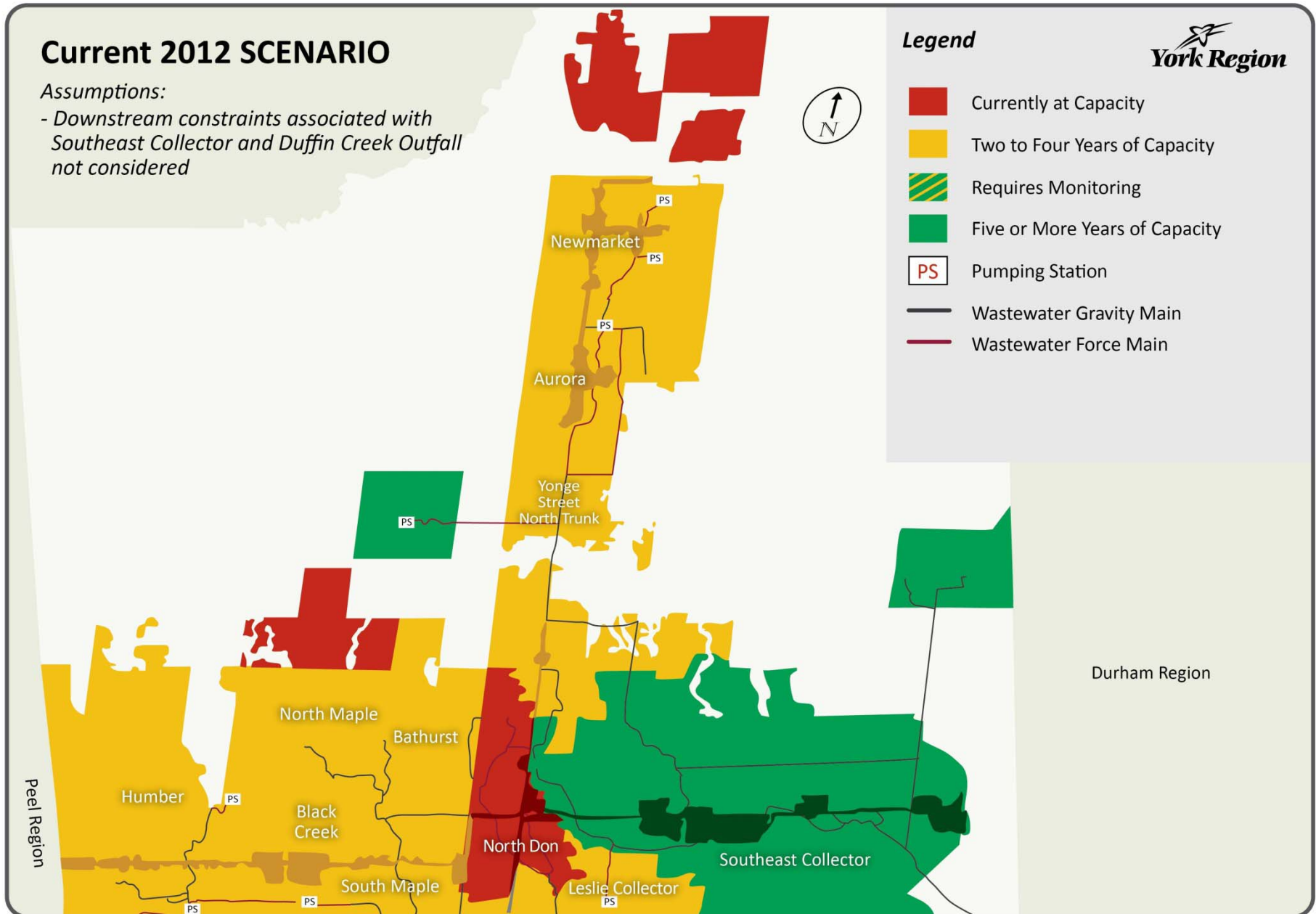
Assumptions:

- Downstream constraints associated with Southeast Collector and Duffin Creek Outfall not considered

Legend



- Currently at Capacity
- Two to Four Years of Capacity
- Requires Monitoring
- Five or More Years of Capacity
- PS Pumping Station
- Wastewater Gravity Main
- Wastewater Force Main



Available Servicing Capacity in YDSS

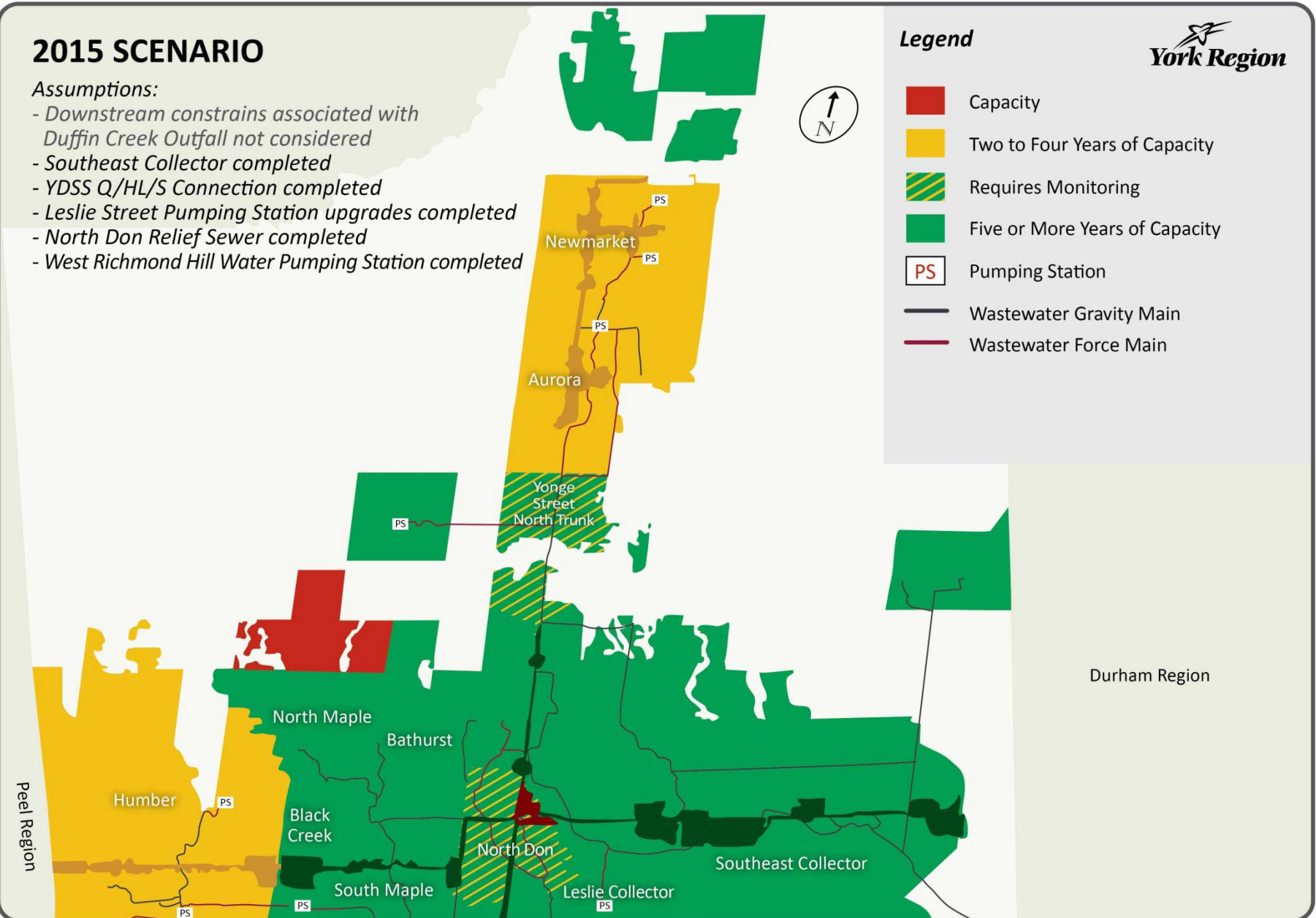
2015 SCENARIO

Assumptions:

- Downstream constraints associated with Duffin Creek Outfall not considered
- Southeast Collector completed
- YDSS Q/HL/S Connection completed
- Leslie Street Pumping Station upgrades completed
- North Don Relief Sewer completed
- West Richmond Hill Water Pumping Station completed

Legend

- Capacity
- Two to Four Years of Capacity
- Requires Monitoring
- Five or More Years of Capacity
- PS Pumping Station
- Wastewater Gravity Main
- Wastewater Force Main



Available Servicing Capacity in YDSS

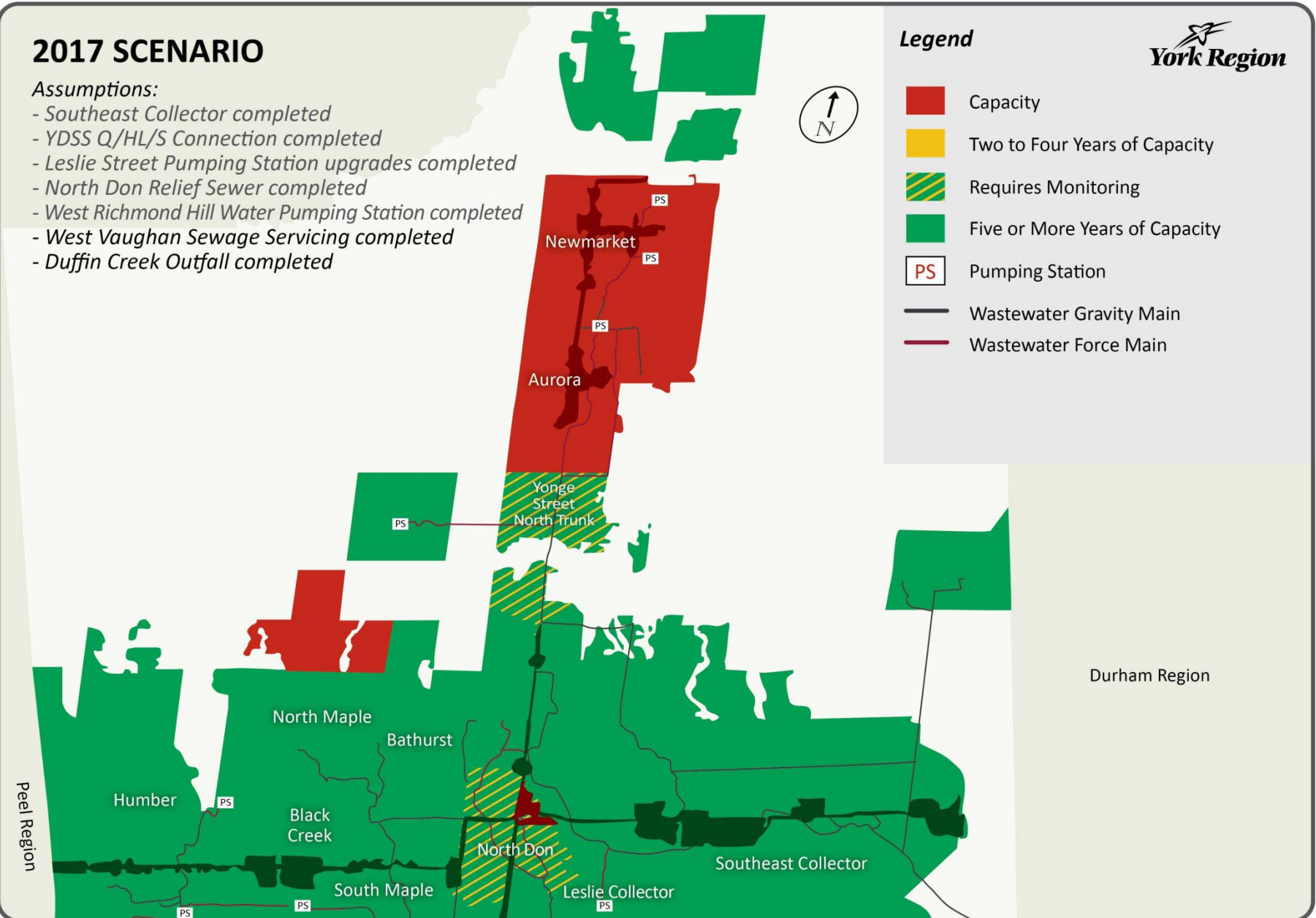
2017 SCENARIO

Assumptions:

- Southeast Collector completed
- YDSS Q/HL/S Connection completed
- Leslie Street Pumping Station upgrades completed
- North Don Relief Sewer completed
- West Richmond Hill Water Pumping Station completed
- West Vaughan Sewage Servicing completed
- Duffin Creek Outfall completed

Legend

- Capacity
- Two to Four Years of Capacity
- Requires Monitoring
- Five or More Years of Capacity
- PS Pumping Station
- Wastewater Gravity Main
- Wastewater Force Main



Available Servicing Capacity in YDSS

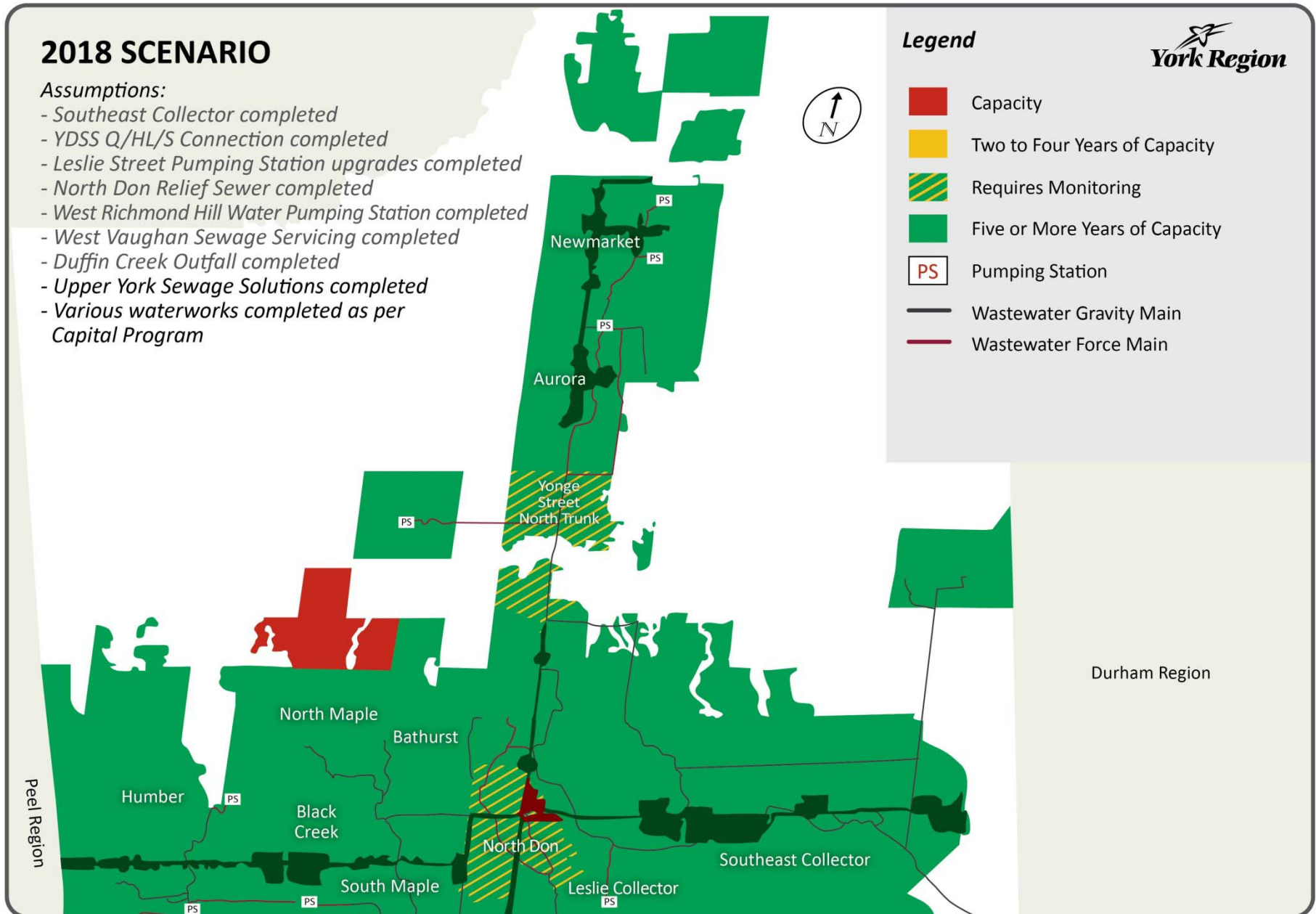
2018 SCENARIO

Assumptions:

- Southeast Collector completed
- YDSS Q/HL/S Connection completed
- Leslie Street Pumping Station upgrades completed
- North Don Relief Sewer completed
- West Richmond Hill Water Pumping Station completed
- West Vaughan Sewage Servicing completed
- Duffin Creek Outfall completed
- Upper York Sewage Solutions completed
- Various waterworks completed as per Capital Program

Legend

- Capacity
- Two to Four Years of Capacity
- Requires Monitoring
- Five or More Years of Capacity
- PS Pumping Station
- Wastewater Gravity Main
- Wastewater Force Main



Available Servicing Capacity in YDSS

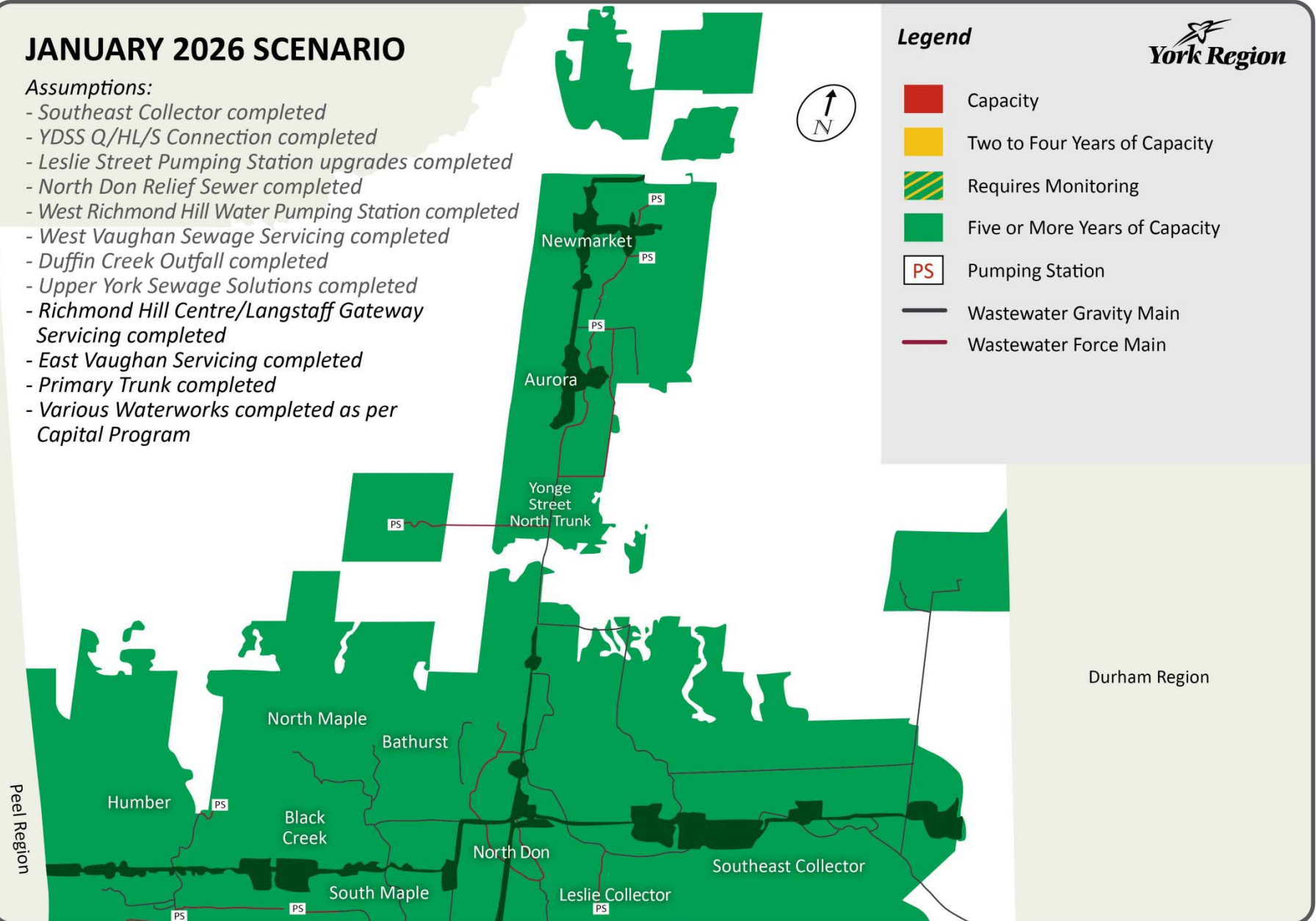
JANUARY 2026 SCENARIO

Assumptions:

- Southeast Collector completed
- YDSS Q/HL/S Connection completed
- Leslie Street Pumping Station upgrades completed
- North Don Relief Sewer completed
- West Richmond Hill Water Pumping Station completed
- West Vaughan Sewage Servicing completed
- Duffin Creek Outfall completed
- Upper York Sewage Solutions completed
- Richmond Hill Centre/Langstaff Gateway Servicing completed
- East Vaughan Servicing completed
- Primary Trunk completed
- Various Waterworks completed as per Capital Program

Legend

- Capacity
- Two to Four Years of Capacity
- Requires Monitoring
- Five or More Years of Capacity
- PS Pumping Station
- Wastewater Gravity Main
- Wastewater Force Main



Key Water and Wastewater Capital Projects

Duffin Creek Water Pollution Control Plant

STAGE 1 and 2 UPGRADES

Cost: \$267M

Completion: Late 2016

Status: Detailed design/Tender

OUTFALL

Cost: \$147M

Completion: 2016

Status: Class Environmental Assessment

STAGE 3 EXPANSION

Cost:

\$628.1M (\$93M in Stimulus Funding)

\$538.6M delivered to date

Completion:

Liquid Process Expansion completed

Solid Process Expansion in late 2012

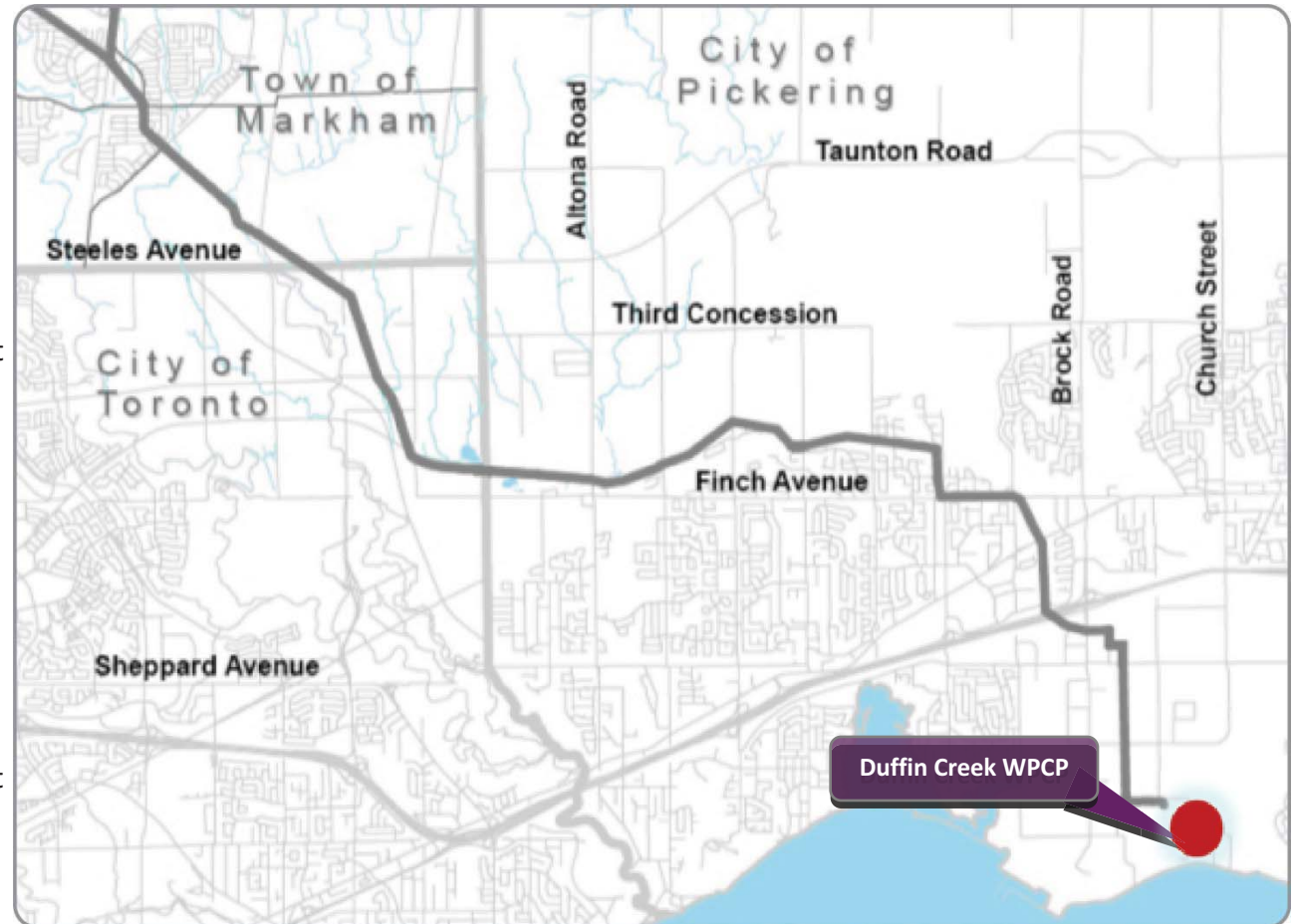
Status:

Solids Process Expansion 90% complete

Stage 3 Influent PS foundations contract

85% complete

Awarded equipment pre-purchase contract



**Commissioning of Stage 3 solid process expansion underway
Stages 1 and 2 pre-purchase contracts awarded and electrical sub-station tendered**

Southeast Collector Trunk Sewer

PROJECT DETAILS

Cost:

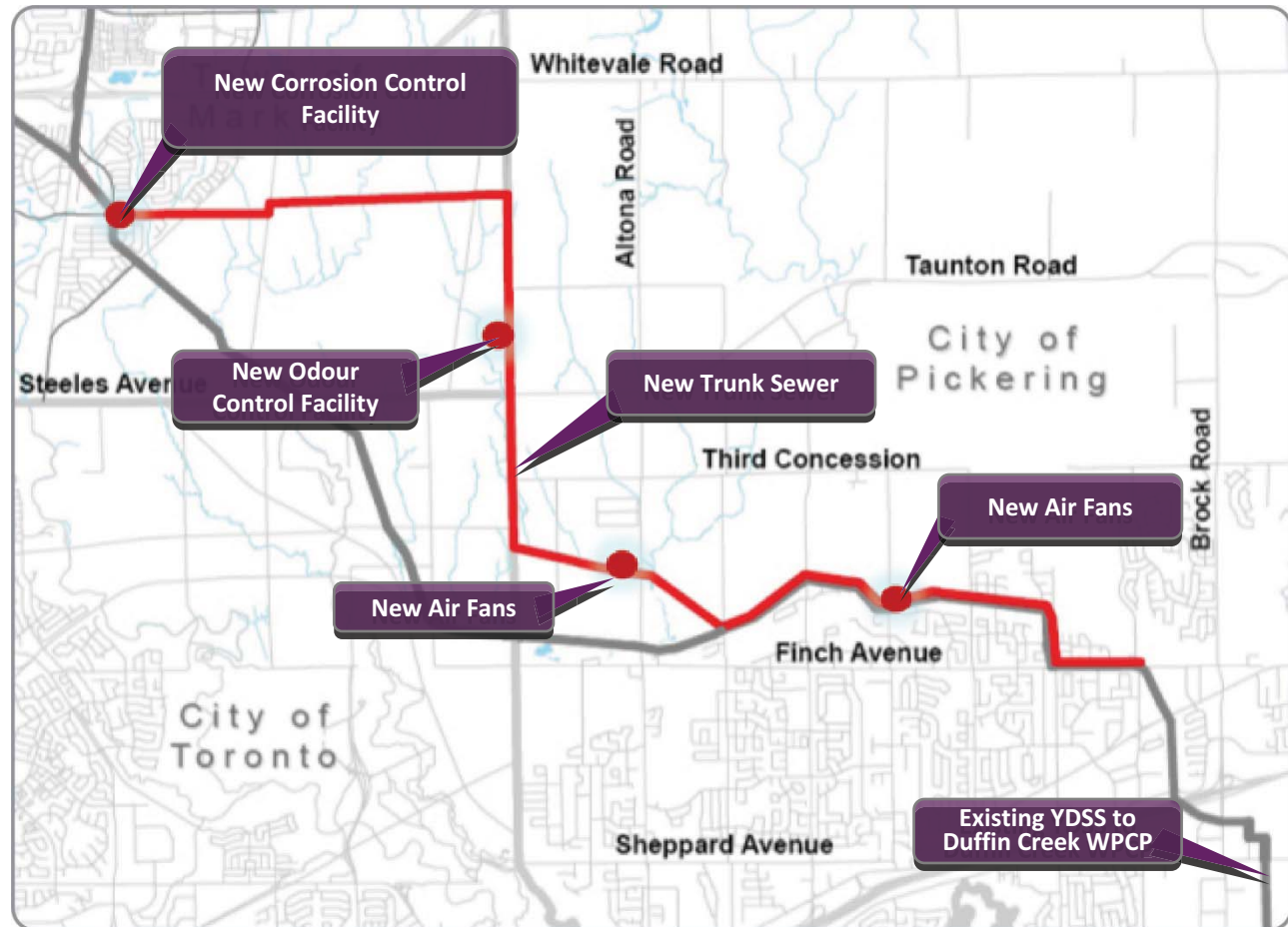
\$546.2M
\$239M Delivered to date

Commissioning:

Late 2014

Status:

Construction
- Two TBM's Mining
- All Shafts constructed



Full mining production of all four tunnel boring machines by the end of December >

Upper York Sewage Solutions

PROJECT DETAILS

Cost:

\$504M

\$15M Delivered to date

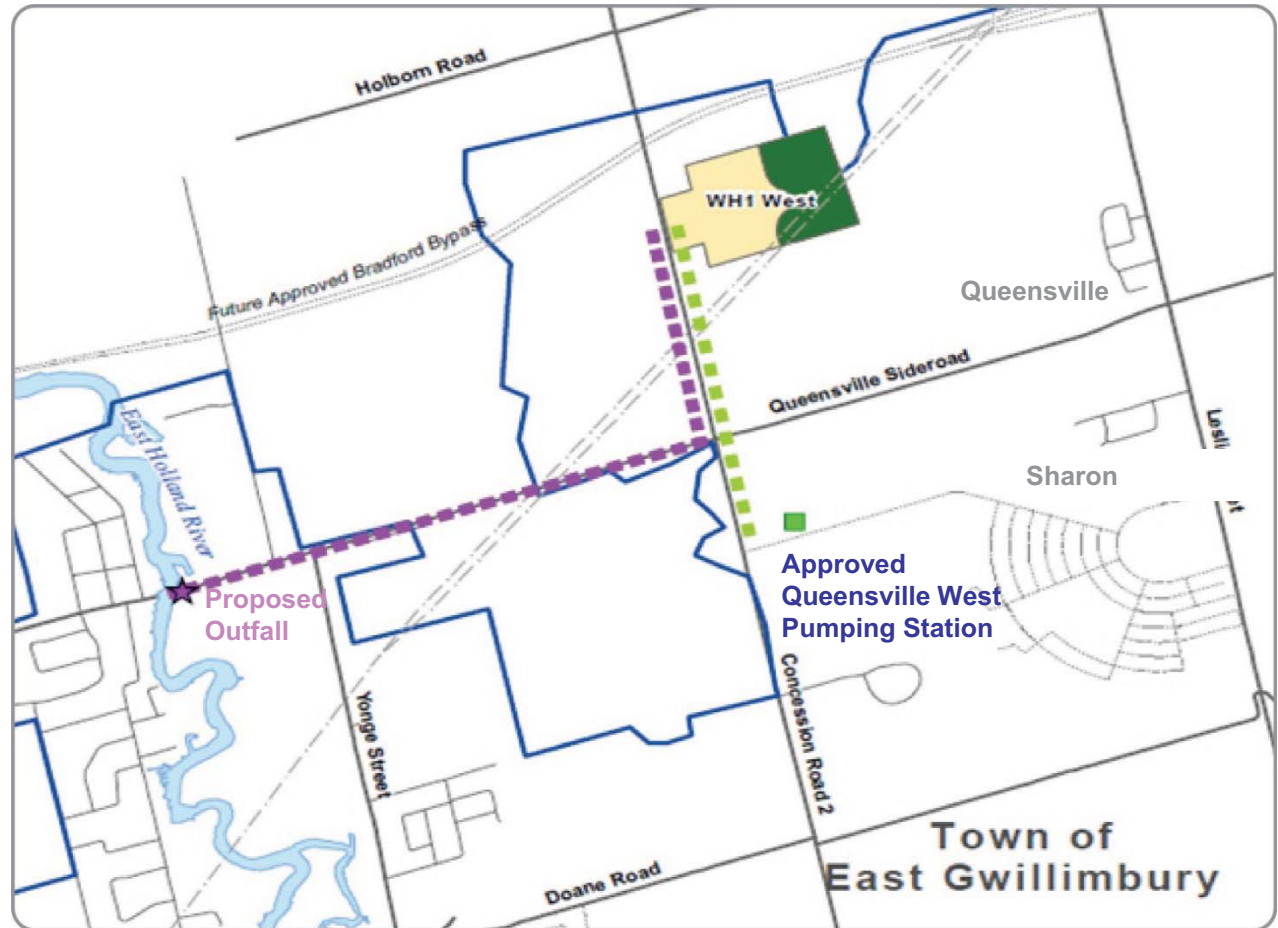
Commissioning:

Late 2018

Status:

Individual Environmental Assessment

Selected the recommend alternative
method of carrying out the undertaking



Recommended Water Reclamation Center location and linear routing
presented to public October 3rd and 4th

Toronto Cost Shared Works

PROJECT DETAILS

Cost:

\$459M

\$165M delivered to date

Status:

Three projects completed

Three projects in construction



Three projects under construction and delivery on track to meet required water servicing capacity

Peel Cost Shared Works

PROJECT DETAILS (WATER)

Cost:

\$718.4M

\$390.4M delivered to date

Status:

Fifteen projects completed
four projects in construction
one project in detailed design
one project not started

PROJECT DETAILS (WASTEWATER)

Cost:

\$106.1M

\$49.8M delivered to date

Status:

Eleven projects completed
one project in construction
three projects in detailed design



Nine active projects – delivery on track to meet required servicing capacity

Queensville, Holland Landing and Sharon Servicing

PROJECT DETAILS (WATER)

Queensville Elevated Tank #1

Cost: \$9.6M

Completion: Q4 2013

Status: Under Construction

PROJECT DETAILS

(WASTEWATER)

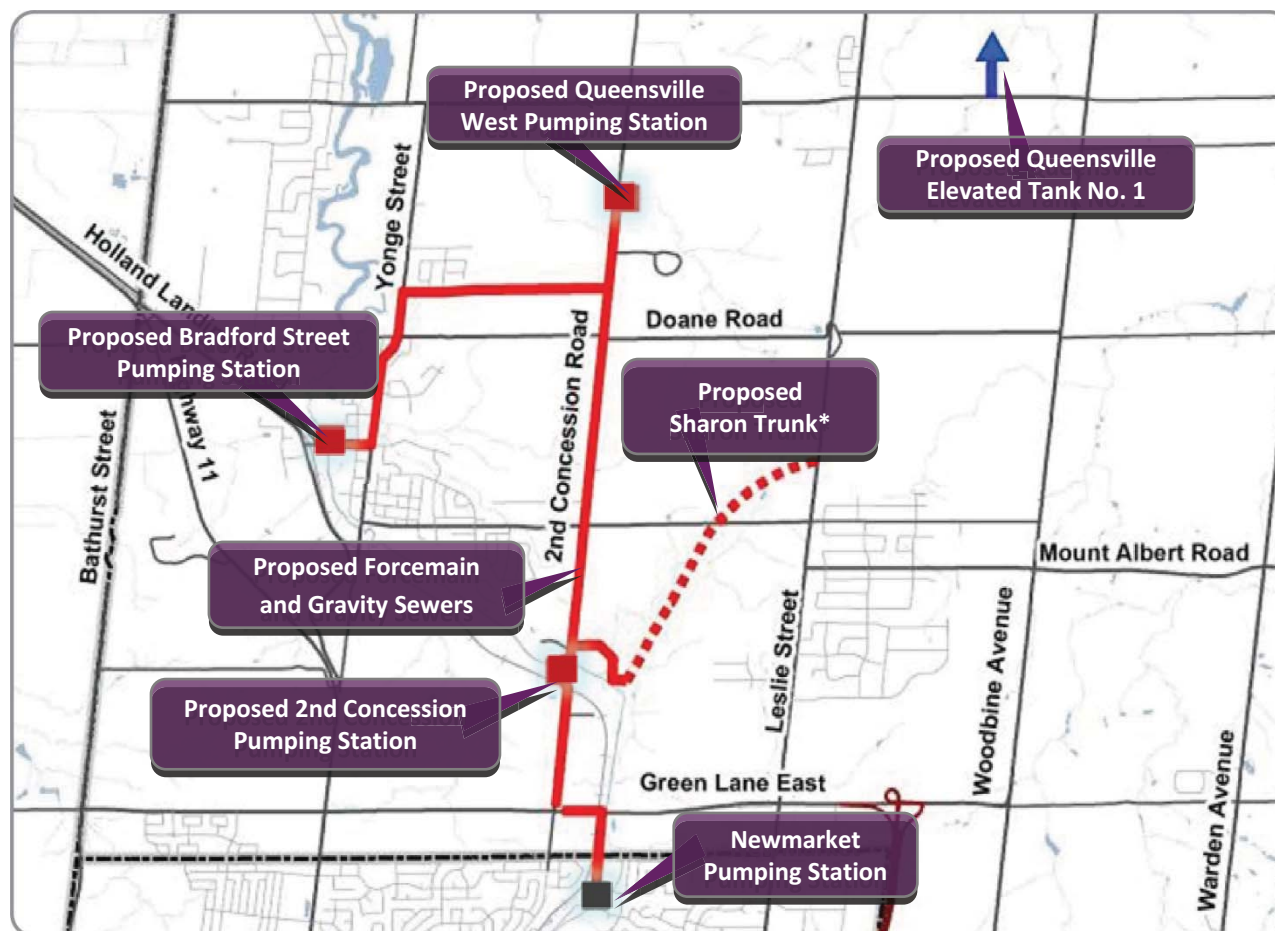
YDSS Extension to East Gwillimbury

Cost: \$150M

Completion: 2015

Status: Under Construction

*Sharon Trunk Sewer subject to Execution of prepaid DC Agreement



Two of three Sewage Pumping Stations tendered with construction underway at Holland Landing

Kennedy Road Watermain – Markham

PROJECT DETAILS (WATER)

Cost:

\$71.3M

Completion:

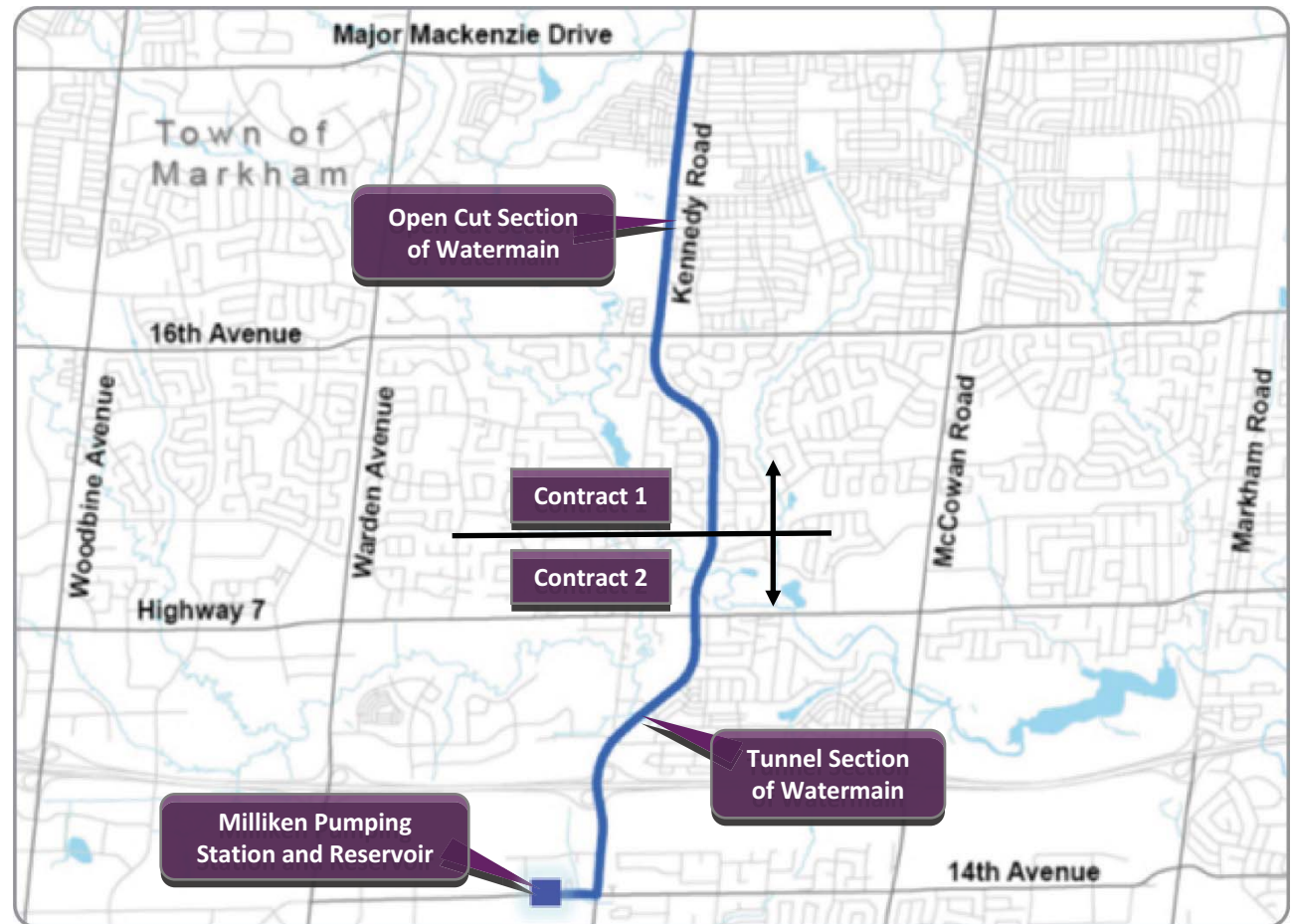
December 2012 (*Contract 1*)

October 2013 (*Contract 2*)

Status:

Contract 1 substantially complete

Contract 2 under construction



Both contracts are now under construction

Keswick Servicing

PROJECT DETAILS (WATER)

Elevated Tank

Cost:

\$9M

Completion:

Q4 2012

Status:

Commissioning

Watermain

Cost:

\$25M

Status:

Completed Q4 2011

West Park Heights Res.

Cost:

\$1.4M

Completion:

Q1 2013

Status:

Work to start after
Commissioning of
Elevated Tank

PROJECT DETAILS (WASTEWATER)

WPCP Expansion/Outfall

Cost:

\$83.4M

\$56.4M delivered to date

Completion:

Q2 2013 WPCP

Q2 2014 Outfall

Status:

82% complete/Outfall tendered

Forcemain/Pump Station

Cost:

\$20.8M

\$19.7M delivered to date

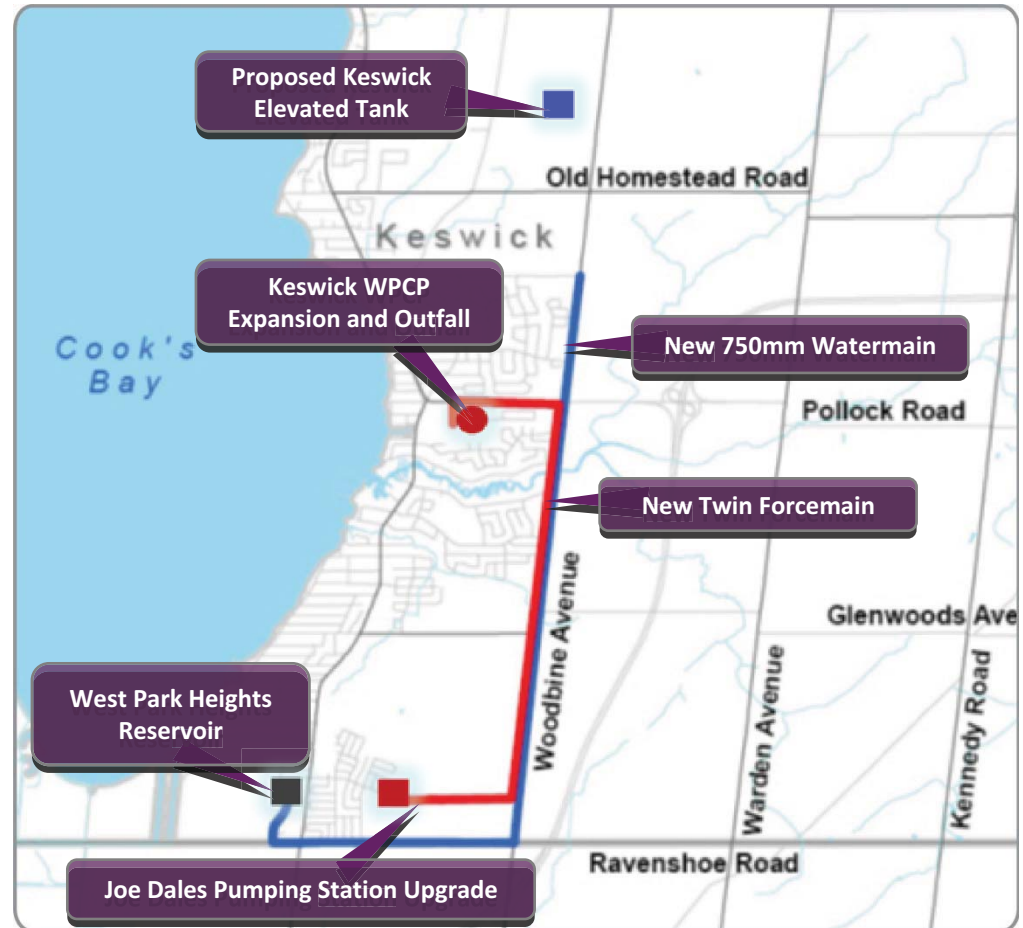
Completion:

Forcemain September 2011

Joe Dales PS Q4 2012

Status:

Joe Dales PS Commissioning



Investing over \$150M for Keswick Water and Wastewater

Kleinburg Servicing

PROJECT DETAILS (WATER)

Cost:

\$24M

\$20.3M delivered to date

Completion:

July 2012

Status:

Commissioning Islington Watermain
Constructing Huntington Road
Watermain

PROJECT DETAILS

(WASTEWATER)

WPCP Expansion

Cost:

\$22.8M

Status:

Complete



Commissioning Huntington Road/Islington Watermain

West Vaughan Sewage Servicing

PROJECT DETAILS (WASTEWATER)

Cost:

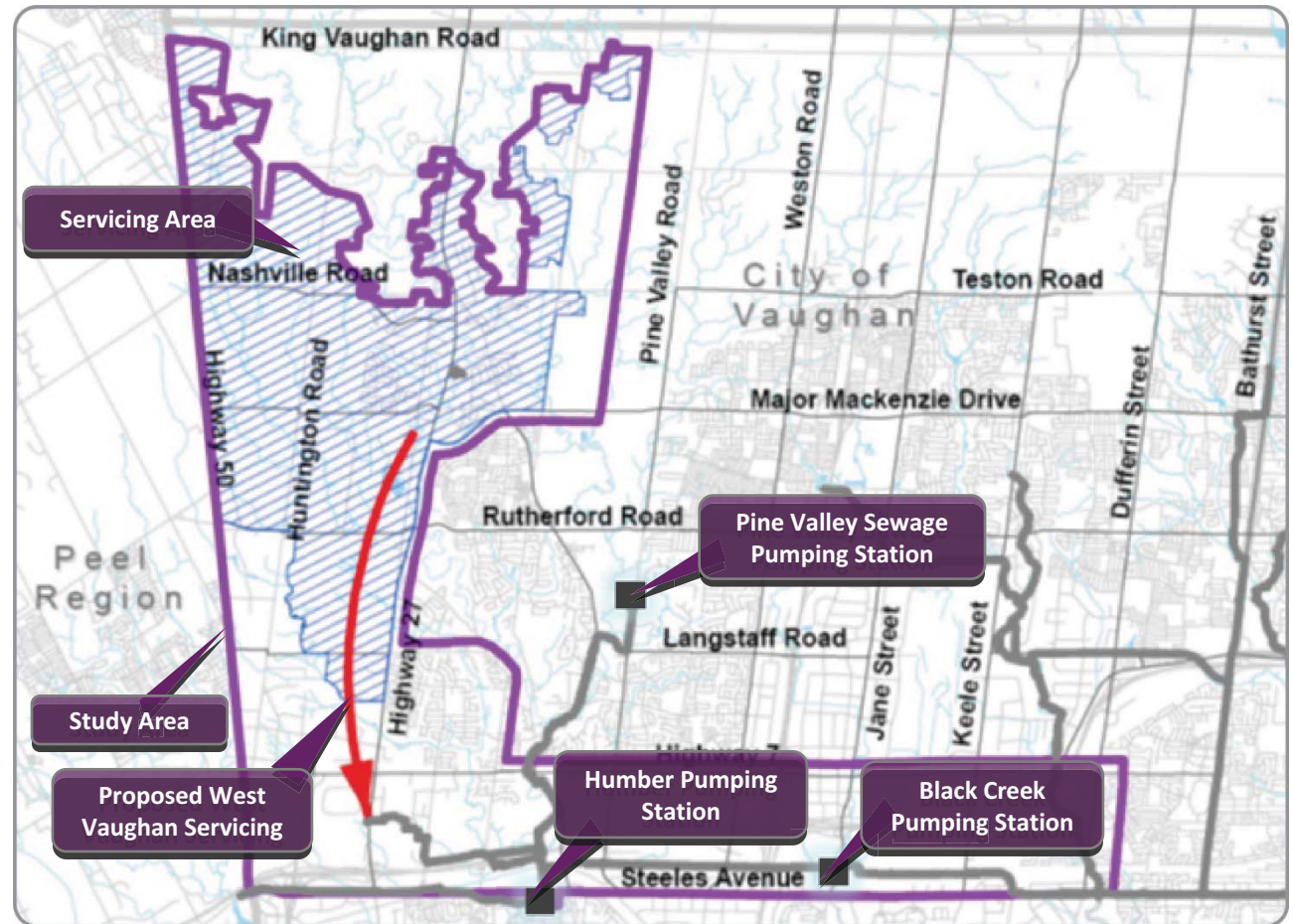
\$159M

Status:

Environmental Assessment
Evaluation of servicing/routing
Alternatives

Completion:

Late 2016



Final round of Public Consultation Centre scheduled for Q4 2012

Nobleton Water Servicing

PROJECT DETAILS (WATER)

Cost:

\$13.3M

Completion:

Watermain Q4 2012

Well Q1 2014

Status:

Elevated tank completed

Watermain under construction

Well tender Q4 2012



Watermain under construction, elevated tank completed and well to be tendered in Q4 2012

West Richmond Hill Pumping Station

PROJECT DETAILS (WATER)

Cost:

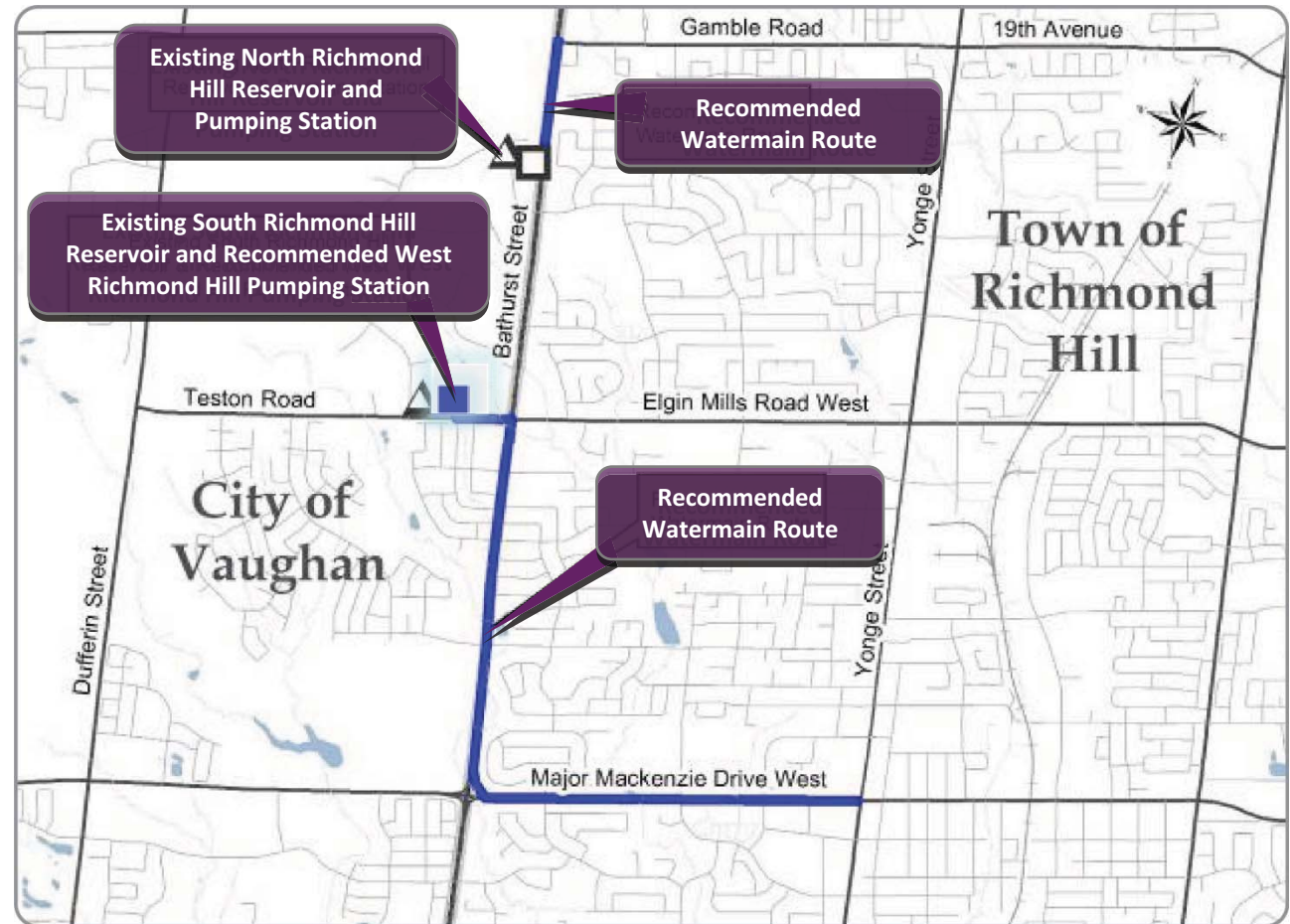
\$28M

Completion:

Commissioning late 2014

Status:

Detailed design



Class Environmental Assessment completed in October 2011 and detailed design underway

Leslie Sewage Pumping Station Upgrade

PROJECT DETAILS (WASTEWATER)

Cost:

\$28M

Completion:

Commissioning Late 2014

Status:

Tendered



Leslie Pumping Station upgrades tendered

Markham PD6 Watermain

PROJECT DETAILS (WATER)

Cost:

\$14.5M

Status:

Completed Q2 2012



Markham PD6 watermain completed

Ballantrae Well

PROJECT DETAILS (WATER)

Cost:

\$4.8 M

\$3.4 M delivered to date

Completion:

Q4 2012

Status:

Under construction



Commissioning in Q4 2012

Waste Management Projects

Durham-York Energy Centre

PROJECT DETAILS

Cost:

\$277.8M

Completion:

2014

Status:

Detailed design/Construction



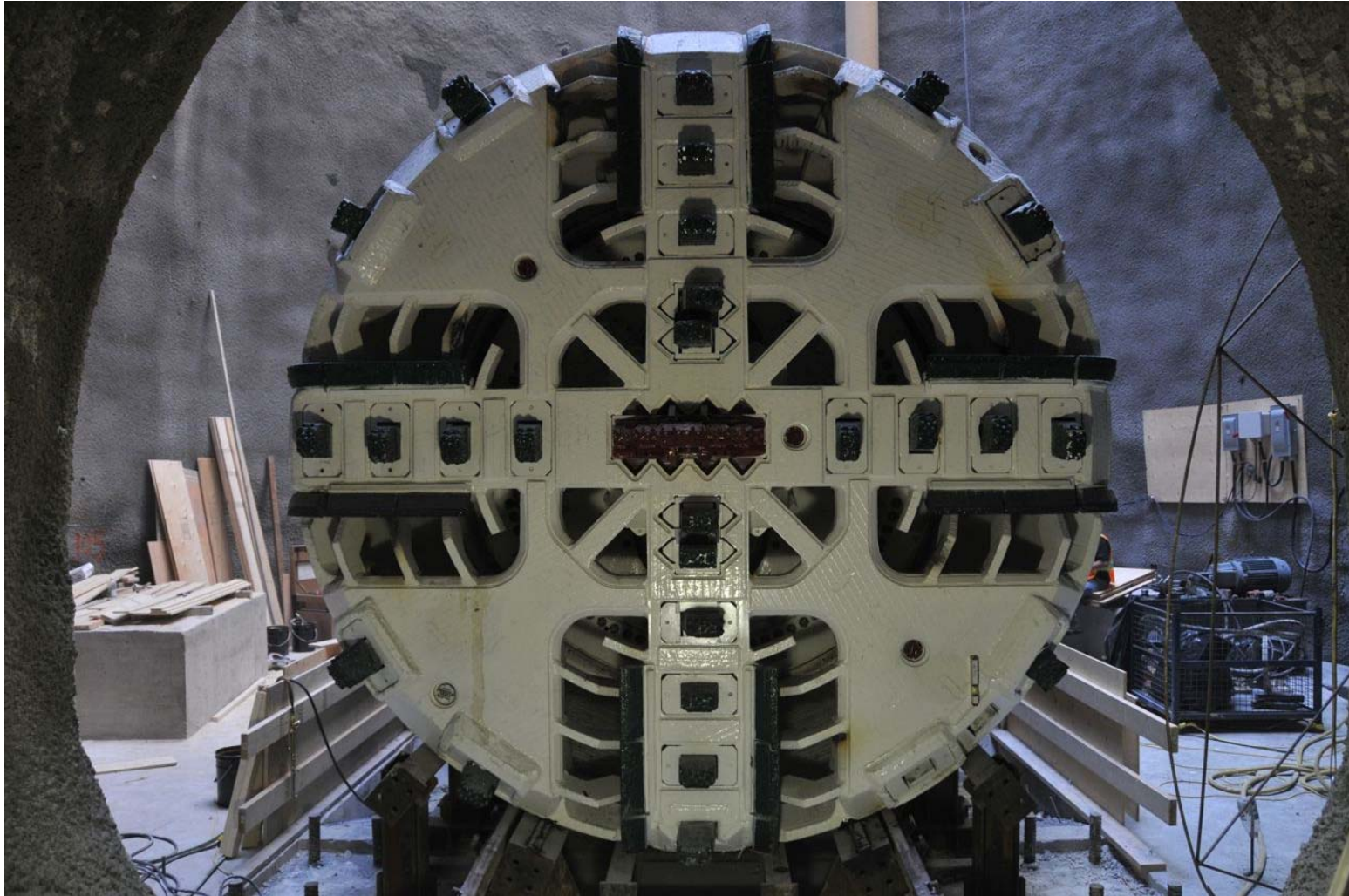
Construction of Energy From Waste Facility started in January 2012

Delivery of Infrastructure in a Sustainable Manner

- ❑ Deliver approximately \$0.5B in new Environmental Services Capital in 2012
- ❑ Prioritize capital projects to support growth and optimize benefit
- ❑ Leverage capacity available in existing infrastructure through investing in inflow and infrastructure reduction works
- ❑ Continue to partner with Peel, Toronto, Durham and Dufferin on Cost Shared Works
- ❑ Move forward with Duffin Creek WPCP projects, construction of Southeast Collector and Upper York Sewage Solutions Individual Environmental Assessment

Delivering infrastructure in an efficient and sustainable manner

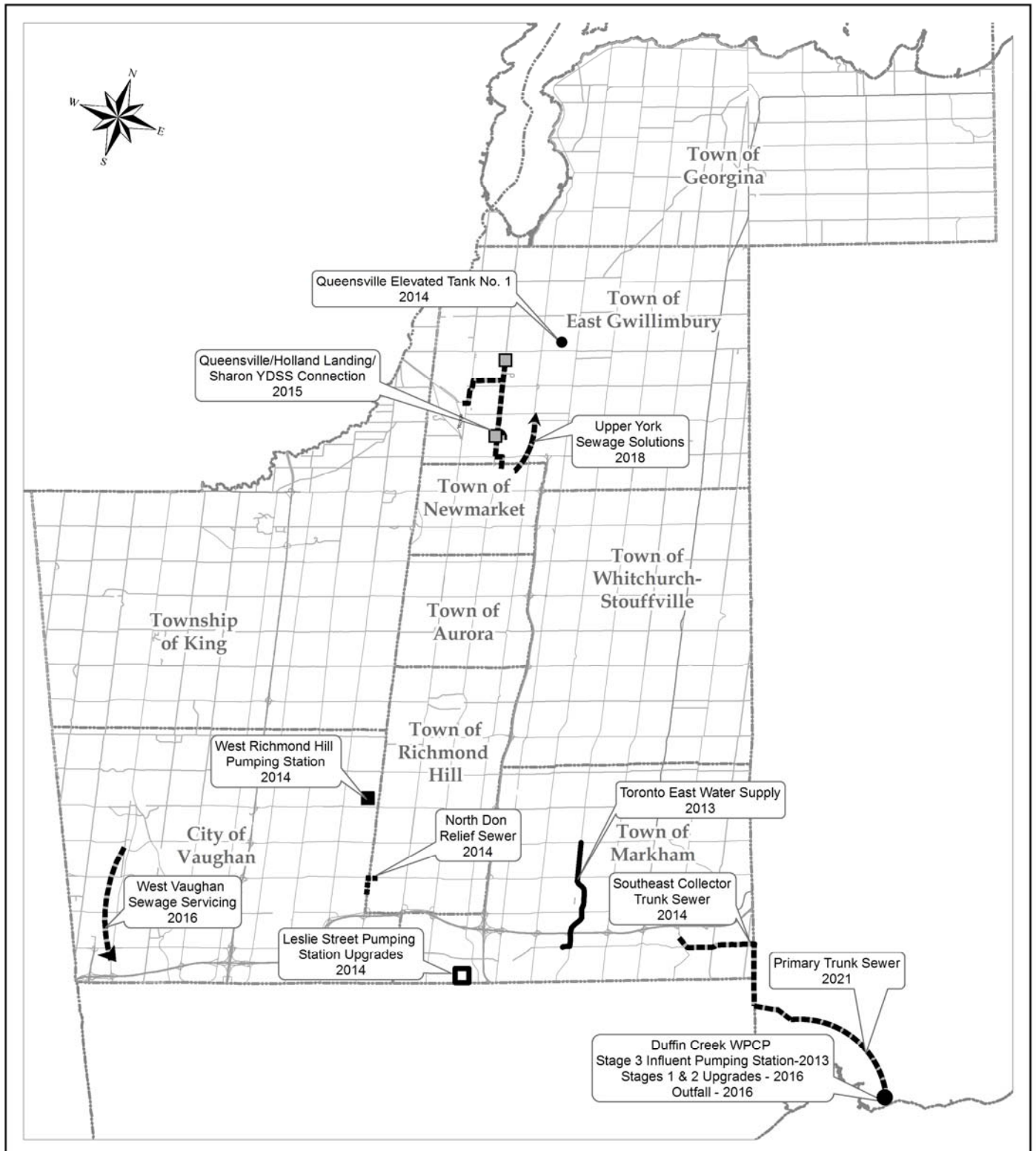
Thank You



Status of Key Infrastructure Projects

**Required within the next 10 years to service beyond 1,078,329 people
as of April 2012**

Project Name	Description	Current Status	Expected Project Commissioning Date
Southeast Collector Sewer	Twinning of existing trunk sewer to provide additional conveyance capacity	Construction	Late 2014 (last reported: Late 2014)
Duffin Creek Stages 1 and 2 Upgrades	Upgrade and refurbish existing Stages 1 and 2	Detailed Design	2016 (last reported: 2016)
Duffin Creek Stage 3 Influent Pumping Station	New pumping station to convey sewage to Stage 3 Liquid Process Expansion	Construction	Late 2013 (last reported: Late 2013)
Duffin Creek Outfall	New outfall to address diffusion requirements and increase plant capacity to 630MLD	Class Environmental Assessment	2016 (last reported: 2016)
Upper York Sewage Solutions	Sanitary servicing solution to accommodate growth in Holland Landing, Queensville, Sharon and parts of Aurora and Newmarket	Individual Environmental Assessment	2018 (last reported: 2018)
Toronto East Water Supply	Watermain along Kennedy Road from Milliken Pumping Station to Major Mackenzie Drive	Open cut section - Construction Tunnel section – Tender	Q4 2013 (last reported: Q4 2013)
West Richmond Hill Pumping Station	New pumping station near Bathurst Street and Elgin Mills Road to pump water from Pressure District (PD) 6 to PD7 and PD8	Detailed Design	Q4 2014 (last reported: Q4 2014)
West Vaughan Sewage Servicing	Sanitary servicing solution to accommodate growth in West Vaughan area	Class Environmental Assessment	2016 (last reported: 2016)
Leslie Pumping Station Upgrades	Upgrades include pump replacement, electrical & standby power improvements	Tender	Late 2014 (last reported: Late 2013)
Primary Trunk Sewer	New sewer to provide additional conveyance capacity	Project Initiation	2021
North Don Relief Sewer	New sewer to provide relief for existing YDSS conveyance capacity	Project Initiation	Late 2014



LOCATION PLAN **Key Infrastructure Projects**



ENVIRONMENTAL SERVICES

- Priority Water Projects & Expected Commissioning Date
- - - -** Priority Wastewater Projects & Expected Commissioning Date