EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7. 2016

Item 10, Report No. 26, of the Committee of the Whole (Working Session), which was adopted without amendment by the Council of the City of Vaughan on June 7, 2016.

Regional Councillor Di Biase declared an interest with respect to this matter insofar as it relates to Block 27, as his children own land in Block 27 given to them by their maternal Grandfather and did not take part in the discussion or vote on the matter.

10 YORK REGION WATER AND WASTEWATER MASTER PLAN UPDATE CITY-WIDE

The Committee of the Whole (Working Session) recommends:

- 1) That the recommendation contained in the following report of the Deputy City Manager Planning & Growth Management and the Director of Development Engineering & Infrastructure Planning, dated June 1, 2016, be approved;
- 2) That the recommendation contained in the following resolution, be approved:

Whereas there is a desire to advance the servicing for Blocks 27 and 41 New Community Areas, the 400 North Employment Lands and the West Vaughan Enterprise Zone to address the needs of Vaughan residents for jobs, economic growth and housing options;

Whereas the timely provision of services for Blocks 27 and 41 New Community Areas, the 400 North Employment Lands and the West Vaughan Enterprise Zone supports the Provincial, Regional, and City objectives of providing for jobs and housing and builds upon recent investments by the Province to upgrade and extend Highway 400 and Highway 427;

Whereas the Region is nearing completion of environmental assessment studies to set the stage for design and construction of services for the New Community areas, the 400 North Employment Lands and the West Vaughan Enterprise Zone;

Whereas landowners have indicated an interest in advancing the proposed timing for delivery of this infrastructure through agreements with the Region but have raised concerns with the current Regional Development Charges pre-payment program versus earlier versions of the program;

There be it resolved:

That the Region be requested to establish a stakeholder committee to develop and explore new financing options and adjustments to the current Development Charge pre-payment policy as part of the effort to accelerate the delivery of services to the New Community Areas, the 400 North Employment Lands and an expanded West Vaughan Enterprise Zone in support of the shared objectives of jobs and housing; and

- 3) That the following deputations and Communication, be received:
 - 1. Mr. Stephen Fung, Director of Infrastructure Asset Management, Environmental Services, York Region, Yonge Street, Newmarket, and C15, presentation material titled "Water and Wastewater Master Plan Update", dated June 1, 2016;
 - 2. Mr. Don Given, Malone Given Parsons Ltd., Renfrew Drive, Markham; and
 - 3. Mr. Daniel Belli, Trinistar Corporation, Dufferin Street, Vaughan.

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7. 2016

Item 10, CW(WS) Report No. 26 - Page 2

Recommendation

The Deputy City Manager Planning & Growth Management and the Director of Development Engineering & Infrastructure Planning, in consultation with the Deputy City Manager Public Works and the Director of Environmental Services recommend:

- 1. That the presentation by York Region staff on the status of the Region's ongoing Water and Wastewater Master Plan Update be received;
- 2. That York Region program the delivery of the proposed water and wastewater trunk infrastructure projects in Vaughan to be in step with the development approvals and servicing needs of the residential and employment expansion areas in Vaughan, in particular Blocks 27, 34, 35, 41, 59 and 60; and
- That a copy of this report be forwarded to York Region.

Contribution to Sustainability

The objective of the York Region's Water and Wastewater Master Plan (WWMP) update is to develop and integrated, long-term strategy to provide sustainable and cost effective water and wastewater trunk services to accommodate the forecasted growth in York Region to 2041 and beyond.

Economic Impact

The proposed timing of the necessary Regional infrastructure may delay residential development within the City's New Community Areas and the creation of jobs within the 400 North Employment Lands and the West Vaughan Enterprise Zone, which may have an economic impact on the City.

Communications Plan

York Region has conducted a consultation and communication program as part of the Water and Wastewater Master Plan Update study process. In addition, City staff has participated on the Technical Agencies Committee related to the study.

Purpose

This report is intended to supplement a presentation from York Region staff on the findings and recommendations of the draft York Region Water and Wastewater Master Plan Update.

Background - Analysis and Options

York Region has updated its Water and Wastewater Master Plan to determine growthrelated infrastructure requirements for the next 25 years and beyond

In 2014, York Region initiated the process of updating its Water and Wastewater Master Plan (WWMP) to identify a growth-related infrastructure plan to accommodate forecasted growth to 2041 and beyond. The WWMP is York Region's blueprint to address planned growth throughout the Region over the next 25 years. York Region is forecasted to grow to a population of 1.79 million people and 900,000 jobs by 2041 in accordance with the Provincial Growth Plan for the Greater Golden Horseshoe.

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7. 2016

Item 10, CW(WS) Report No. 26 - Page 3

The WWMP will serve to support and guide existing servicing policies in the Regional Official Plan. It will enhance existing programs and policies, identify additional servicing opportunities, and prioritize on-going initiatives such as water conservation, inflow and infiltration reduction and asset management. In addition, the WWMP is expected to include a financial analysis to support implementation and the Region's upcoming Development Charges Bylaw update in 2017.

The WWMP focuses on six major action areas

The WWMP has been developed with a focus on sustainability and six major actions areas including:

- 1. Long term water conservation and water reuse
- 2. Inflow and infiltration reduction
- 3. Enhanced integration of asset renewal and growth projects
- 4. Climate change adaptation and mitigation strategies
- 5. Energy optimization and renewable energy initiatives
- 6. Financial sustainability

Many of the proposed initiatives and programs intended to support these action areas will require continued collaboration and participation from the local municipalities. In addition to the proposed infrastructure projects noted below, additional emphasis has been placed on increasing overall system efficiency through focused water conservation programs and inflow/infiltration reduction programs. City staff are working collaboratively with Region staff on a comprehensive inflow and infiltration reduction strategy and water conservation strategy to be implement in the City of Vaughan.

The WWMP identifies the need for a significant investment in new water and wastewater infrastructure to service the growth in Vaughan, valued at approximately \$500 million

The major water and wastewater Regional infrastructure planned for Vaughan and their respective timing are illustrated on Attachments 1 and 2 to this report. The proposed servicing strategy is generally consistent with the City's Water and Wastewater Master Plan that was approved in 2014; however, staff is concerned that the timing of the Regional infrastructure works may not align with the servicing needs of the planned growth in Vaughan. As detailed below, many of the major infrastructure projects are being planned for an in-service date of 2028.

| WATER INFRASTRUCTURE | ANTICIPATED DELIVERY DATE |
|--|----------------------------|
| Maple Pump Station – Pump Addition | (2018) |
| New Pressure District 8 Pump Station New Pressure District 8 Storage New Pressure District 8 Watermain | (2028) (2028) (2028) |
| New Pressure District 9 Pump Station | (2028) |
| Woodbridge Tank Replacement Kleinburg Tank Replacement | (2031-2035) (2031-2035) |

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7. 2016

Item 10, CW(WS) Report No. 26 - Page 4

WASTEWATER INFRASTRUCTURE ANTICIPATED DELIVERY DATE

Humber Pumping Station Expansion(2025)West Vaughan Sewer – Phase 1(2028)Northeast Vaughan Sewer(2028)

West Vaughan Sewer – Phase 2 (2036 to 2041)

The timing of delivery does not appear to align with the anticipated development in the areas planned to be serviced by this infrastructure. It is staff's understanding that the proposed Regional infrastructure timing considers opportunities for interim servicing utilizing the City's existing systems. Interim servicing is feasible for many of the development areas but capacity in the City's sewer and water systems is limited. This interim servicing constraint is more significant in the Northeast Vaughan service area than in the West Vaughan area. York Region has identified the availability of capacity for an additional 8,000 residents in the Regional Jane-Rutherford Trunk system, which could be used to provide interim servicing to Blocks 27, 34, 35 and 41. To access this capacity, the City's existing network of local sanitary sewers would need to be used. Based on a number of recent servicing studies, staff believes that the City's sewer system has residual capacity to accommodate some of this additional growth. However, there is a concern that the amount of available interim capacity is not sufficient to sustain the growth needs in this area until the Regional infrastructure is in-service in 2028.

Interim servicing options will not be sufficient to allow full build-out of Vaughan's New Community Areas in addition to continued job creation and intensification within the City's current urban boundary

Based on Vaughan's historical growth rates, it is estimated that interim servicing capacity could be depleted by 2022, which may have significant impacts on continued residential/employment development within Vaughan's New Community Areas (Blocks 27 and 41), the Highway 400 North Employment Lands and the West Vaughan Enterprise Zone.

Accordingly, staff are recommending that York Region program the delivery of the proposed water and wastewater trunk infrastructure projects in Vaughan to be in step with the development approvals and servicing needs of the residential employment expansion areas in Vaughan, in particular for Blocks 27, 34, 35, 41, 59 and 60.

New draft provincial regulations require intensified growth along transit corridors and within New Communities, placing additional demands on existing infrastructure and requiring that ultimate infrastructure be commissioned sooner

Also of concern is the additional development that Vaughan may be required to accommodate within the next 5 to 7 years as a result of recently released draft provincial regulations. On Tuesday May 10, 2016, the Government of Ontario released new draft regulations which propose among other policies intensified growth along transit corridors that may include growth along the Barrie Go Corridor in Block 27. The draft regulations call for greater coordination on the delivery of infrastructure to service new development. These amendments, if approved, will prompt the need for additional coordination between stakeholders to ensure the coordinated delivery of infrastructure to service more intensified growth throughout Vaughan's New Communities and planned employment areas. This will place additional demands on existing infrastructure / interim servicing measures and will require that ultimate infrastructure be commissioned sooner.

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7. 2016

Item 10, CW(WS) Report No. 26 - Page 5

The Water and Wastewater Master Plan update is progressing to the final stages of the study process. Infrastructure delivery timeframe concerns have been identified numerous times since 2012 by Vaughan Council and BILD. These concerns have not been specifically addressed by York Region in the Master Plan.

Relationship to Term of Council Service Excellence Strategy Map (2014-2018)

In consideration of Council's Service Excellence Strategy Map the recommendations of this report will contribute to the advancement of the following priorities:

- Invest, renew and manage infrastructure and assets
- Update the Official Plan and supporting studies
- Continue to cultivate an environmentally sustainable City
- Attract investment and create jobs
- Continue to advance a culture of excellence in governance

Regional Implications

York Region is responsible for bulk water supply and wastewater collection/treatment throughout all nine local area municipalities including Vaughan. The conclusions of the WWMP update will directly impact the Region's water/wastewater capital and operating budgets. In addition, the upgrading or construction of new sewers and water infrastructure may impact the timing for arterial road improvements for Regional roads such as Jane Street in Vaughan.

Upcoming milestones for the WWMP include a presentation to Regional Committee and Council in June 2016 followed by a 30-day technical report review period commencing in July 2016. City staff will review the final document and provide detailed comments as necessary.

Conclusion

York Region's Water and Wastewater Master Plan update is progressing to the final stage of the study process with completion scheduled for Q3 2016. The Master Plan identifies the need for a significant investment in new water and wastewater infrastructure to service the growth in Vaughan, valued at approximately \$500 million. The proposed servicing strategy is generally consistent with the City's Water and Wastewater Master Plan; however staff are concerned that the infrastructure delivery timeframe is not aligned with the anticipated development in the areas planned to be serviced by this infrastructure. The need for the timely delivery of Regional infrastructure improvements has been identified numerous times since 2012 by Vaughan Council and BILD. Staff are recommending that York Region program the delivery of the proposed water and wastewater trunk infrastructure projects in Vaughan to be in step with the development approvals and servicing needs of the residential and employment expansion areas in Vaughan, in particular for Blocks 27, 34, 35, 41, 59 and 60.

Attachments

- 1. Major Water Infrastructure in Vaughan
- 2. Major Wastewater Infrastructure in Vaughan

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

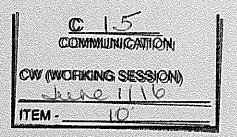
Item 10, CW(WS) Report No. 26 - Page 6

Report prepared by:

Tony Artuso, Senior Engineering Assistant, ext. 8396 Michael Frieri, Manager, Engineering Planning and Studies, ext. 8729

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

Regional Councillor Di Biase declared an interest with respect to this matter insofar as it relates to Block 27, as his children own land in Block 27 given to them by their maternal Grandfather and did not take part in the discussion or vote on the matter.



Water and Wastewater Master Plan Update

Presentation to
City of Vaughan
Committee of the Whole

Stephen Fung
Director Infrastructure Asset

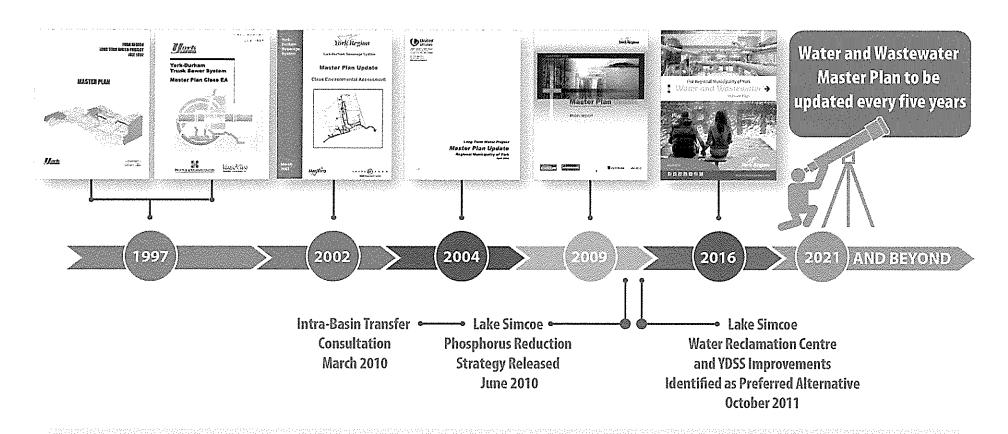
Director, Infrastructure Asset Management

June 1st, 2016



6701576

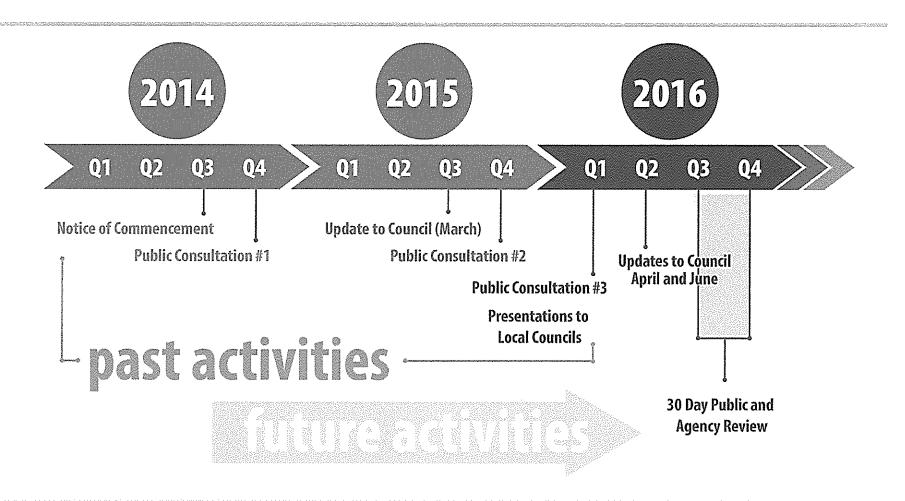
Water and Wastewater Master Plan: Living Process



Master Plan is a Living Document That Builds Upon Earlier Work



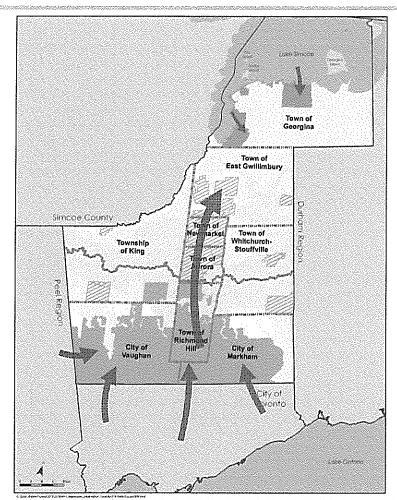
Master Plan Schedule

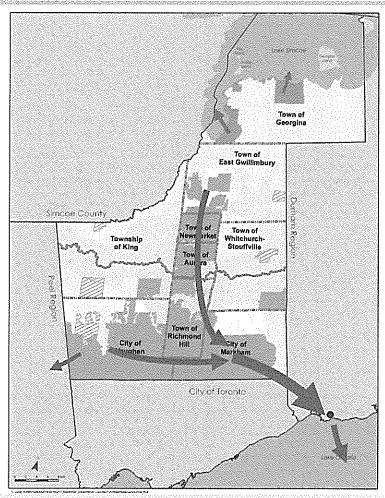


Regional Council Endorsement Planned for June 2016



2009 Master Plan Water & Wastewater Servicing Strategy

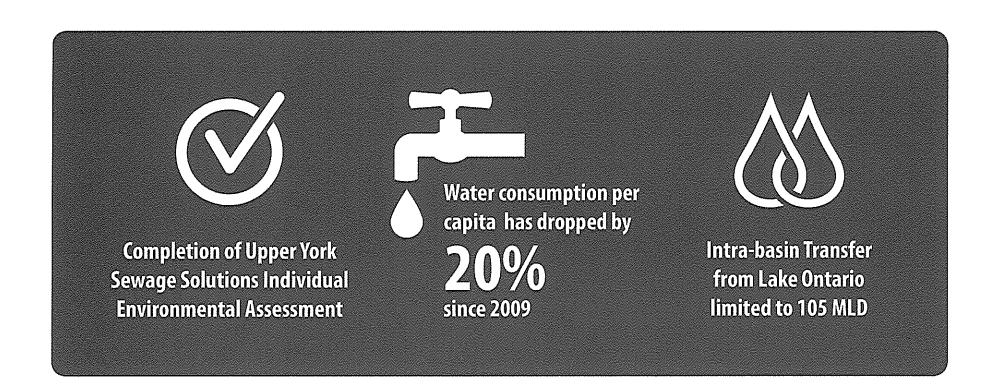




2009 Master Plan Recommended Servicing East Gwillimbury From Lake Ontario and Through Expansion of YDSS



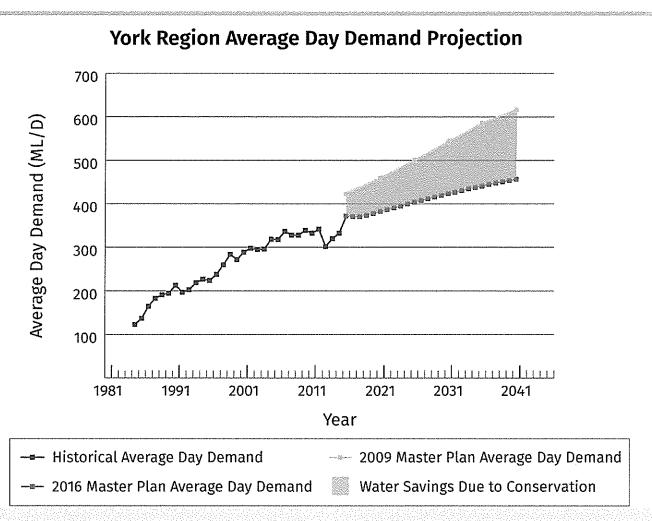
What Has Changed Since 2009 Master Plan?



Upper York Environmental Assessment Changed 2009 Master Plan Servicing Strategy



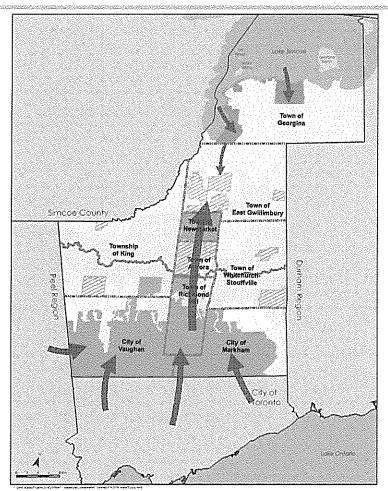
What Has Changed Since 2009 Master Plan?

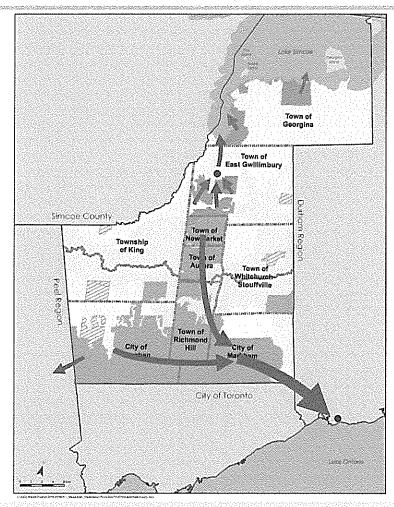


Water Conservation Has Successfully Reduced Demand



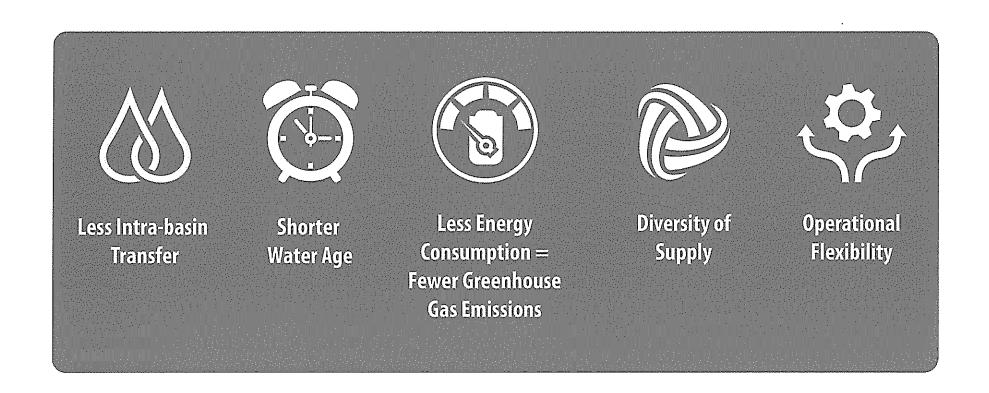
2016 Master Plan Water & Wastewater Servicing Strategy





2016 Master Plan Recommendation in Alignment with Upper York Sewage Solutions Environmental Assessment

Benefits of Supplementing with Lake Simcoe Water



Lake Simcoe Strategy Better Aligns with Provincial Legislation and Provides Technical and Environmental Benefits



Non Infrastructure Solutions to meet Growth Demand

- Long-Term Water Conservation Strategy updated in March 2016
- Increase focus in water reuse
- No additional water supply capacity is required from Toronto and Peel beyond the existing servicing agreements

Water Conservation is integral part of Master Plan Servicing Strategy



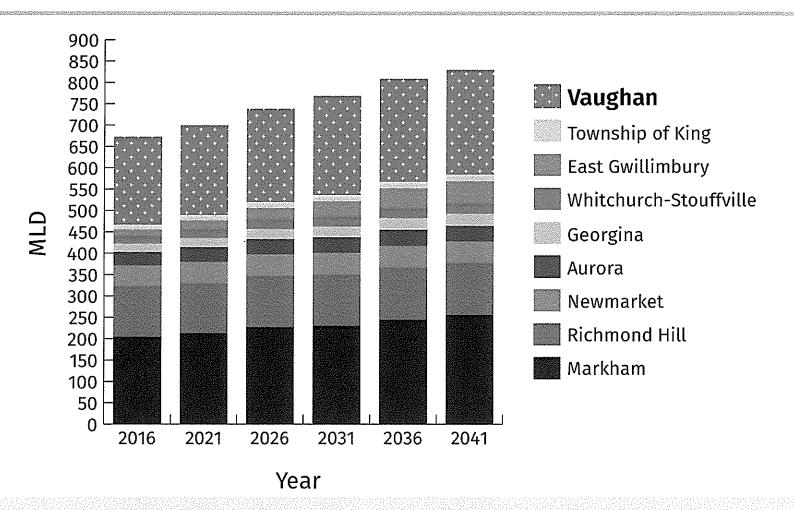
Non Infrastructure Solutions to meet Growth Demand

- Inflow and Infiltration Reduction Strategy updated in March 2016
- Increase focus in reducing inflow and infiltration from new developments and private properties
- Wastewater treatment capacity under existing agreement with Peel is sufficient to service west Vaughan to 2041 and beyond
- Duffin Creek Outfall and Primary Trunk are major downstream system improvement projects required before 2041

Inflow and Infiltration is integral part of Master Plan Servicing Strategy



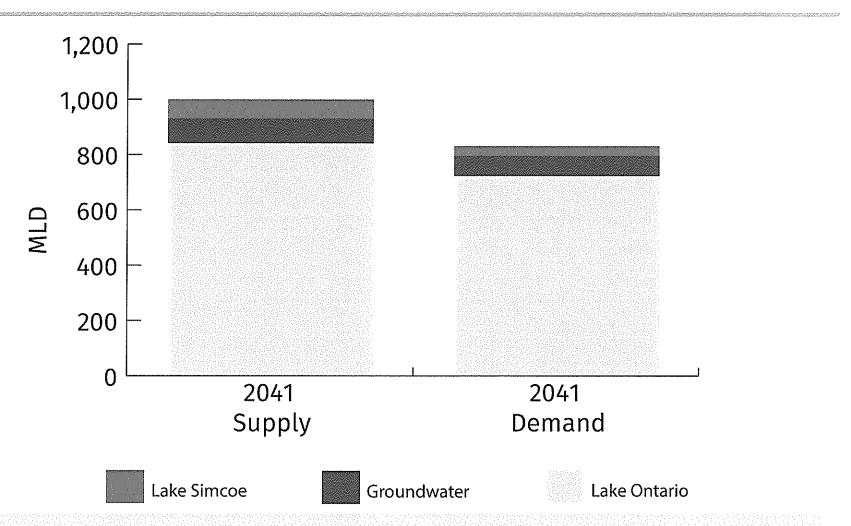
Regional Water Demand



Vaughan Drinking Water Demand is 30% of Region's Total



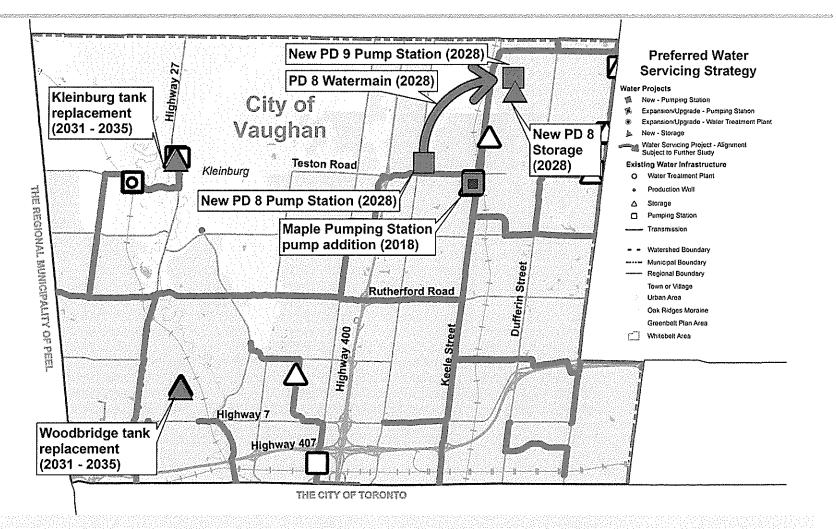
York Region Water Supply Sources



Supply Greater Than 2041 Demand



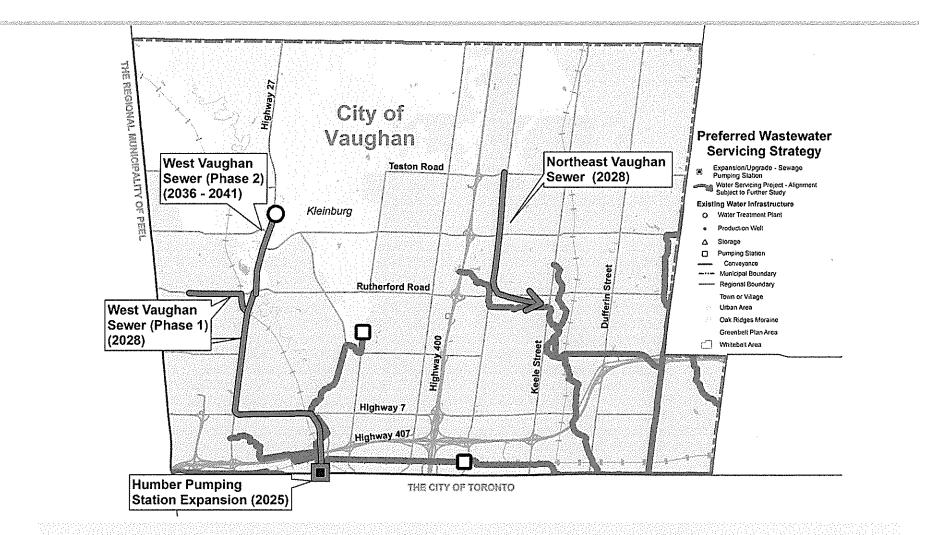
Major Water Infrastructure in Vaughan







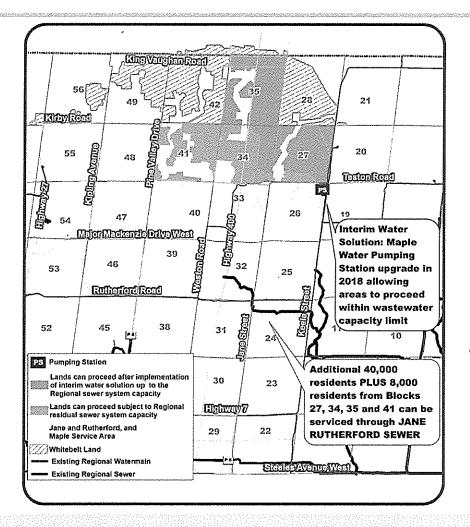
Major Wastewater Infrastructure in Vaughan



Total Cost of Water Infrastructure: \$402M



Northeast Vaughan Interim Servicing

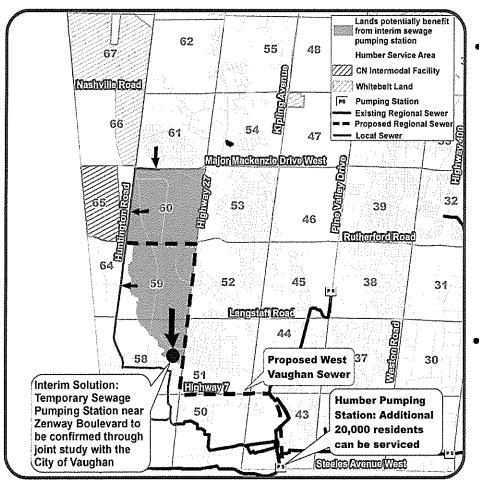


- Northeast Vaughan water and wastewater servicing project scheduled for completion in 2028
- Prior to completion of Northeast Vaughan project, Regional Jane Rutherford Sewer can accommodate an additional 48,000 residents
- Upgrade to Maple Water Pumping Station in 2018 will provide interim water capacity

Continue to monitor wastewater flows and work with development industry



West Vaughan Interim Servicing

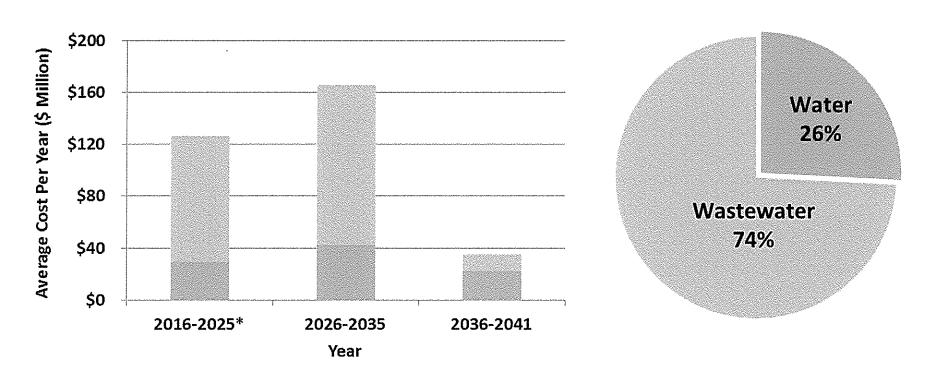


- West Vaughan Servicing to be completed in 3 stages:
 - Humber Pumping Station Expansion (2025)
 - West Vaughan Sewer Phase 1 from Humber Pumping Station to Rutherford Rd. (2028)
 - 3. West Vaughan Sewer Phase 2 extension from Rutherford Rd. to Kleinburg WRRF (between 2036 and 2041)
- Prior to completion of above works, Regional system can support an additional 20,000 people, with electrical upgrades to Humber Pumping Station recently completed

Continue to explore interim solutions through joint study



Master Plan Project Costs



^{*} First ten year cost is in line with 2016 10-year capital plan

Cost of Master Plan Projects is Approximately \$3.1B; \$1.3B is Included in 2016 Ten Year Capital Plan



COMMITTEE OF THE WHOLE (WORKING SESSION) JUNE 1, 2016

YORK REGION WATER AND WASTEWATER MASTER PLAN UPDATE CITY-WIDE

Recommendation

The Deputy City Manager Planning & Growth Management and the Director of Development Engineering & Infrastructure Planning, in consultation with the Deputy City Manager Public Works and the Director of Environmental Services recommend:

- 1. That the presentation by York Region staff on the status of the Region's ongoing Water and Wastewater Master Plan Update be received;
- 2. That York Region program the delivery of the proposed water and wastewater trunk infrastructure projects in Vaughan to be in step with the development approvals and servicing needs of the residential and employment expansion areas in Vaughan, in particular Blocks 27, 34, 35, 41, 59 and 60; and
- 3. That a copy of this report be forwarded to York Region.

Contribution to Sustainability

The objective of the York Region's Water and Wastewater Master Plan (WWMP) update is to develop and integrated, long-term strategy to provide sustainable and cost effective water and wastewater trunk services to accommodate the forecasted growth in York Region to 2041 and beyond.

Economic Impact

The proposed timing of the necessary Regional infrastructure may delay residential development within the City's New Community Areas and the creation of jobs within the 400 North Employment Lands and the West Vaughan Enterprise Zone, which may have an economic inpact on the City.

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This report is intended to supplement a presentation from York Region staff on the findings and recommendations of the draft York Region Water and Wastewater Master Plan Update.

Background - Analysis and Options

York Region has updated its Water and Wastewater Master Plan to determine growth-related infrastructure requirements for the next 25 years and beyond

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initiatives such as water conservation, inflow and infiltration reduction and asset management. In addition, the WWMP is expected to include a financial analysis to support implementation and the Region's upcoming Development Charges Bylaw update in 2017.

The WWMP focuses on six major action areas

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| ANTICIPATED DELIVERY DATE |
|--|
| (2018) |
| (2028) (2028) (2028) |
| (2028) |
| (2031-2035) (2031-2035) |
| ANTICIPATED DELIVERY DATE |
| (2025) (2028) (2028) (2036 to 2041) |
| |

The timing of delivery does not appear to align with the anticipated development in the areas planned to be serviced by this infrastructure. It is staff's understanding that the proposed Regional infrastructure timing considers opportunities for interim servicing utilizing the City's existing systems. Interim servicing is feasible for many of the development areas but capacity in the City's sewer and water systems is limited. This interim servicing constraint is more significant in the Norteast Vaughan service area than in the West Vaughan area. York Region has identified the availability of capacity for an additional 8,000 residents in the Regional Jane-Rutherford Trunk system, which could be used to provide interim servicing to Blocks 27, 34, 35 and 41. To access this capacity, the City's existing network of local sanitary sewers would need to be used. Based on a number of recent servicing studies, staff believes that the City's sewer system has residual capacity to accomodate some of this additional growth. However, there is a concern that the amount of available interim capacity is not sufficient to sustain the growth needs in this area until the Regional infrastructure is in-serivce in 2028.

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Attachments

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- 2. Major Wastewater Infrastructure in Vaughan

Report prepared by:

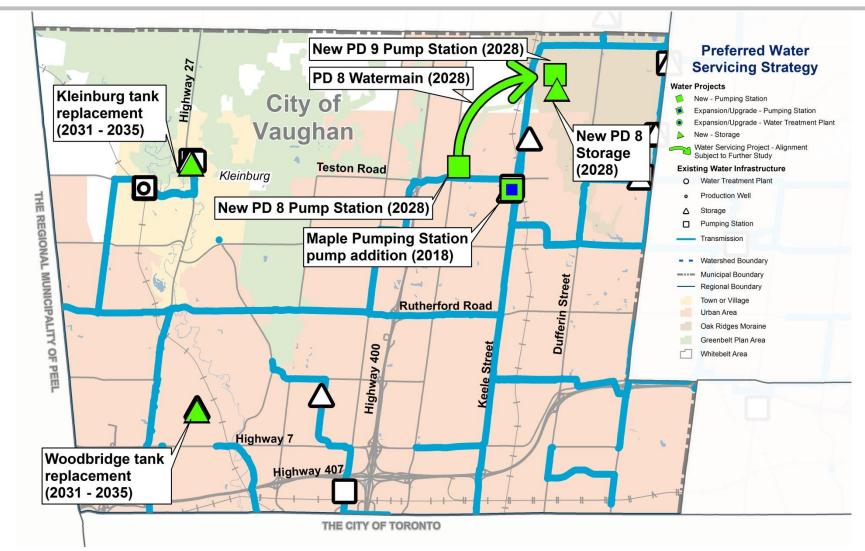
Tony Artuso, Senior Engineering Assistant, ext. 8396 Michael Frieri, Manager, Engineering Planning and Studies, ext. 8729

Respectfully submitted,

JOHN MACKENZIE
Deputy City Manager,
Planning and Growth Management

ANDREW PEARCE
Director of Development Engineering
And Infrastructure Planning

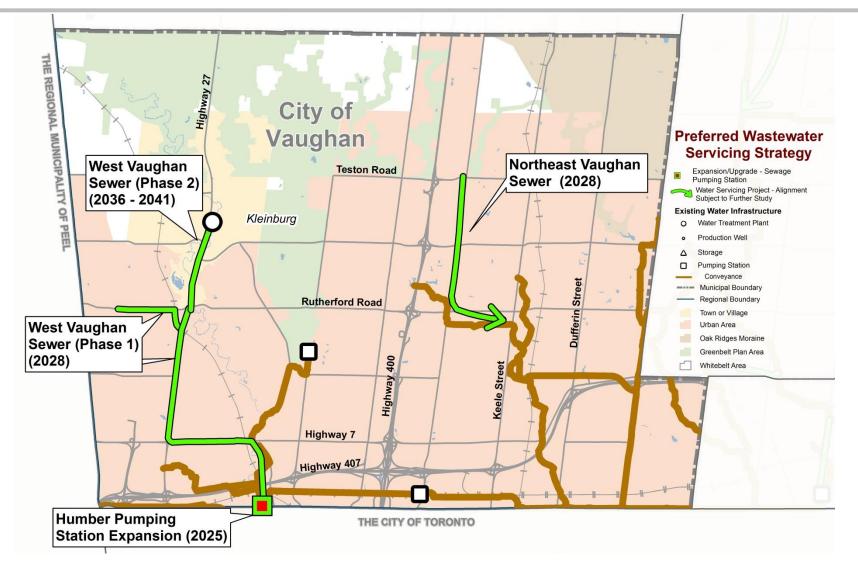
Major Water Infrastructure in Vaughan



TOTAL COST: \$96M



Major Wastewater Infrastructure in Vaughan



TOTAL COST: \$402M

