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WATER AND WASTEWATER INFRASTRUCTURE STATUS REPORT

The Environmental Services Committee recommends the adoption of the recommendation contained in the following report dated February 24, 2010, from the Commissioner of Environmental Services.

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

3. BACKGROUND

Capacity assigned to local municipalities serviced by York Durham Sewage System totalling 1,078,328 people

Regional Council, at its meeting on June 23, 2005, granted release of additional servicing capacity to accommodate up to 970,000 people to local municipalities serviced by the York Durham Sewage System (YDSS) to meet Regional growth target to 2010. Subsequently, on November 15, 2007 and December 18, 2008, a combined additional capacity of 72,000 people was assigned to service growth target for 2011 and 2012.

On February 18, 2010, a new capacity assignment of an additional 36,328 people was made to local municipalities serviced by the YDSS. This allocation was intended to facilitate growth to the end of 2013.

This report is a regular update to Regional Council, with the last update on November 11, 2009. The next status report is scheduled for June 2010.

4. ANALYSIS AND OPTIONS

ALLOCATION TRIGGERS

Capacity triggers allow the Region to ensure occupancy of new homes timed to coincide with available water and wastewater services

Capacity assignments made to local municipalities were subject to completion of certain infrastructure projects referred to as triggers. Projects identified as triggers for the capacity assignment are summarized in *Attachments 1, 2 and 3*. These triggers assist the Region in better controlling two key steps in the planning approvals process:

- Pre-sales of homes
- Final plan approvals

Capacity trigger control is required to avoid premature occupancy of new dwellings in advance of availability of the required 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 if the required infrastructure is within eighteen months of completion. Planning and Development Services Department is currently reviewing the need to extend this duration for complex high-rise residential development.

KEY PROJECT STATUS HIGHLIGHTS

Highlights of key priority projects and implications to planning approvals are provided in this section. Status of these projects is summarized in *Attachments 1, 2, 3 and 4*. Project locations are illustrated in *Attachment 5*.

Projects required to service the 2005 allocation of 970,000 people are near completion

Projects required to service the 2005 allocation are complete with the exception of King City water supply and Queensville/Holland Landing/Sharon servicing as shown in *Attachment 1*.

King City Water Supply

The King City water supply project is comprised of a new elevated tank and a watermain connection to the York Water System. The elevated tank contract was awarded. The works for the watermain will be tendered in late March. The elevated tank is now

expected to be completed in the first quarter of 2011 (last update: fourth quarter of 2010), given the longer than expected time to install and commission the required mechanical works. The watermain connection is expected to be completed by end of year 2010 (last update: fourth quarter of 2010). With the project completion date revised to the first quarter of 2011, final plan approval for developments in King City is now projected to occur in the third quarter of 2010 (last update: second quarter of 2010).

Queensville/Holland Landing/Sharon Servicing

Since last update, the prepaid development charge credit agreement for Queensville/Holland Landing/Sharon YDSS connection has been executed. Completion of this project remains on track for December 2011 subject to issuance of regulatory permits by March 31, 2010 (last update: December 2011). The Queensville water storage tank is planned to be completed at the same time as the Queensville/Holland Landing/Sharon YDSS connection project (last update: December 2011).

Trigger conditions for final plan approval associated with the 2005 capacity assignment have been met

Allocation trigger conditions for final plan approval related to the assigned capacity of 970,000 people have been met for Vaughan, Markham, Richmond Hill, Aurora, Newmarket and Green Lane West area in East Gwillimbury. As discussed above, final plan approval for King City is projected to occur in the third quarter of 2010 and for Queensville/Holland Landing/Sharon in the second quarter of 2011.

Works to service additional allocation of 72,000 people expected to be completed by 2010

Projects required to service an additional 72,000 people beyond the June 2005 allocation of 970,000 people are summarized in *Attachment 2*. Additional details on the status of these projects are presented below.

Duffin Creek Water Pollution Control Plant Liquid Process Expansion expected to be completed by 2010

The Duffin Creek Water Pollution Control Plant (WPCP) Stage 3 Liquid Process Expansion remains on schedule for substantial completion by December 2010. Two of the components, the liquids treatment facility contract is approximately 80% complete (last reported 65%) and the preliminary treatment facility contract is approximately 80% complete (last reported 60%). Following approval of Federal and Provincial funding, both in the amount of \$46.7 million for a total of \$93.4 million, the Enhanced Phosphorous Removal contract was awarded in January 2010 and the main construction contract for Stage 3 Solid Process Expansion was awarded in November 2009 with notice to commence issued in December 2009. The Solid Process Expansion is scheduled for completion in the second quarter of 2012. Committed allocations will not

be affected by completion of the Solid Process Expansion contract in 2012, as the Liquid Process Expansion contract that will provide additional capacity for growth is still on track for completion in December 2010.

YDSS Flow Control Structures expected to be in place in May 2010

Implementation of flow control structures on the YDSS will attenuate peak wastewater flows allowing additional capacity for growth prior to completion of the Southeast Collector Sewer. Construction, currently at 80% completion, remains on schedule for completion in May 2010 (last update: May 2010).

Leslie Street Watermain now expected to be completed in January 2011

Due to numerous water crossings required for construction of the proposed Leslie Street watermain from Aurora East pumping station to just south of Mulock Drive, additional time was spent to address environmental concerns and ensure a cost effective design that will minimize construction duration and impacts to road users during construction. The Leslie Street Watermain is now scheduled for tender in April 2010 and completion in January 2011 (last update: October 2010).

Leslie Street Watermain is required to service Aurora East pressure district which includes primarily lands east of Leslie Street in Aurora with a small portion in Newmarket immediately north of the Aurora and Newmarket municipal boundary. With the revised schedule, final plan registration for developments requiring the Leslie Street watermain will not occur until the third quarter of 2010 (last update: second quarter of 2010).

Richmond Hill Elevated Tank now scheduled for completion in May 2011

Completion of the new elevated tank has been revised to May 2011 (last update: December 2010) due to additional time required to attain a temporary working easement on adjacent park property owned by the Town of Richmond Hill. A formal request for this temporary working easement was made by the Region in June 2009. The five month period of time needed to negotiate, prepare and execute a formal temporary working easement agreement was not accounted for in the original project schedule. The resulting delay in the commencement of construction accounts for the revised date of May 2011 for completion of the elevated tank. Decommissioning of the existing water standpipe, included as part of the construction contract, will be completed by October 2011.

As a result of the revised completion date, final plan registration for developments in Richmond Hill PD9 service area is projected to occur in the fourth quarter of 2010 (last update: second quarter of 2010).

Trigger conditions for pre-sales associated with the 72,000 people capacity assignment have been met

With the Duffin Creek WPCP Liquid Process Expansion and other trigger projects on schedule for completion by December 2010, the Region advised local municipalities serviced by the YDSS that allocation trigger conditions for pre-sales of homes have been met with the exception of Queensville/Holland Landing/Sharon, King City and Richmond Hill PD9 service area. Pre-sales for Queensville/Holland Landing/Sharon are projected to occur in December 2010, King City in the first quarter of 2010 and Richmond Hill PD9 service area in the second quarter of 2010.

In February 2010 an additional capacity of 36,328 people was assigned to service growth in 2013

In February 2010, Regional Council assigned an additional capacity of 36,328 people to municipalities serviced by the YDSS. Release of this capacity is subject to completion of the Duffin Creek WPCP Stage 3 Liquid Process Expansion, YDSS flow control structures (see *Attachment 3*) and the following conditions:

- Servicing allocation to individual developments by local municipalities conditional upon the approval of the Southeast Collector Trunk Sewer Individual Environmental Assessment (IEA) by the Minister of the Environment.
- Council resolutions be passed by local municipalities confirming that they agree in partnership with the Region to determine what constitutes adequate funding and resources to support the infiltration and inflow reduction programs, support Regional water efficiency plans and endorse and promote participation in the Sustainable Development through LEED Program for high-rise residential development and Sustainable Homes Incentive Program for ground related residential development.

Southeast Collector Trunk Sewer is to be completed by late 2013

In mid-October, 2009, staff received the Ministry of Environment's (MOE) Government Review Report where MOE staff acknowledged that the submitted IEA Report and the Environmental Assessment (EA) consultation process:

- meets requirements of the approved Terms of Reference and the *Environmental Assessment Act*
- satisfies requirements of the Minister's October 1, 2004 letter

In addition, the review confirmed that MOE staff is satisfied that:

- potential impacts to the environment can be managed
- responses provided by York Region address concerns raised by stakeholders
- First Nations consultation requirements have been met

- issues related to the proposed odour control facility have been addressed

The MOE's thirteen week review period ended in February 2010. This review included feedback and comments from Stakeholders during the public review period. The Minister's decision on the IEA is expected in February/March 2010.

Design work is approaching the 100% review stage on all components of the sewer. Tenders for the tunnel contract will be issued upon design approval. The activities summarized below have been advanced to commence after receipt of all necessary approvals:

- Contract awarded for procurement of four tunnel boring machines.
- Contract awarded for supply of segmental liner materials for the tunnel construction.
- Contract awarded for rehabilitation, improvement and resurfacing of haul roads to move materials from the tunneling operation to a suitable disposal site. Road works will be completed in spring 2010 after approval of the IEA.
- Pre-qualification process completed to identify general contractors for works related to the tunnel and shaft construction using the machines and liner segments procured through the early procurement tenders discussed above.

With the approval of IEA by MOE in spring 2010, combined with the early procurement of materials and equipment, it is expected that the new Southeast Collector sewer will be commissioned by late 2013 (last update: late 2013).

Key infrastructure projects have been identified for servicing beyond current capacity assignment

The status of major projects required to service growth beyond 2013 is presented below and summarized in *Attachment 4*.

Upper York Sewage Solutions project at Terms of Reference stage

Proposed Terms of Reference for the Upper York Sewage Solutions (UYSS) project were submitted to the MOE for approval on November 20, 2009. Upon approval, the Alternatives to the Undertaking phase will begin which involves identification, development, and documentation of alternatives for the project. Subject to approval of the Terms of Reference by the end of Q1-2010, a preferred alternative is anticipated to be identified by late 2010 and the EA Report is scheduled for completion in December 2012. Subject to EA outcome and approval, the UYSS is expected to be completed in late 2016.

West Richmond Hill Pumping Station project initiated

West Richmond Hill Pumping Station is a new pumping facility identified by the 2009 Water and Wastewater Master Plan Update to service Pressure District 8 (PD8).

Currently, the PD8 area in Richmond Hill is serviced by the North Richmond Hill pumping station which pumps water from PD7 system which in turn is serviced by the existing Pugsley pumping station. The new pumping station will pump water directly from the PD6 system and alleviate existing capacity constraints in Pugsley pumping station. The project commenced in 2010 with completion in 2014.

Duffin Creek Water Pollution Control Plant Outfall – EA work initiated

The Regions of York and Durham have initiated a joint Schedule C Class EA study to identify a preferred method of addressing the limitations of existing outfall and diffuser system at the Duffin Creek WPCP, which is sufficient for flows up to 520 ML/day. The preferred solution will permit the Duffin Creek WPCP to operate at a capacity of 630 ML/day. The EA will be undertaken to satisfy requirements of the Municipal Class Environmental Assessment and the Canadian Environmental Assessment process as one harmonized study. The EA study is expected to be completed in 2012 and construction of the outfall is expected to be completed in 2016.

Duffin Creek Stage 1 and 2 Rehabilitation will be required as condition of CofA (air)

Recently, the MOE confirmed that rehabilitation of the existing plant (Stage 1 and 2) is required as a condition of approving the Certificate of Approval (Air) for the ongoing Stage 3 expansion works. The rehabilitation works will require partial shutdown of the existing Stage 1 and 2 operations, resulting in temporarily reduced treatment capacity as low as 470 ML/day, which is only sufficient to meet the projected flow for 2013. Staff is negotiating the implementation requirements for these works with the Ministry to minimize impacts to servicing beyond 2013, and also is looking to secure approval of a work plan that accommodates adequate interim treatment capacity and achievable implementation timeframes.

Staff continue 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 Toronto and Peel Region are currently underway to provide capacity to service growth in the Region. While these projects are essential to provide additional supply, delay in implementation of these works does not necessarily compromise our partners' abilities to meet their supply commitments under the Agreements with the Region, as their systems are robust enough to compensate for reasonable delays. Regional staff has regular meetings with Toronto and Peel staff to discuss issues regarding supply commitments.

5. FINANCIAL IMPLICATIONS

A summary of the costs of priority infrastructure projects is provided in Table 1. The total cost of infrastructure projects included in this update is \$1.72 billion.

Table 1
Cost Estimates For Key Infrastructure Projects

Project	Project Cost Estimates (\$)
Queensville Elevated Tank	\$ 7,800,000
Queensville/Holland Landing/Sharon YDSS Connection	70,100,000
King City Water Supply	24,600,000
Duffin Creek WPCP*	** 390,000,000
YDSS Flow Control*	4,000,000
Leslie St. Watermain (Wellington St. to Davis Dr.)	15,000,000
Richmond Hill 2 nd PD9 Elevated Tank	10,500,000
Toronto East Water Supply	36,700,000
Southeast Collector*	546,000,000
Upper York Sewage Solutions	397,000,000
West Richmond Hill Pumping Station	33,800,000
Duffin Creek WPCP Outfall	86,000,000
Duffin Creek WPCP Stage 1 and 2 Rehabilitation	***100,000,000
Total	\$1,721,500,000

* Critical project: Delay on these projects will need to be monitored to ensure acceptable level of service and environmental protection

** Durham share of \$91M and Federal/Provincial funding of \$93.4M not included

*** Scope of work and cost estimate under review

6. LOCAL MUNICIPAL IMPACT

Staff continue to work closely with municipalities affected by the infrastructure program to minimize impacts on planned community growth

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

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 will be continually monitored to ensure that the risk of delay is minimized and capacity will be available as planned. Staff will continue to work closely with the local municipalities affected by this infrastructure program to ensure that impacts to planned community growth are minimized to the extent possible considering constraints created by these projects. Coordinated efforts with local municipalities continue on implementation of the infiltration and inflow reduction program to reduce extraneous flows to the YDSS and thereby increase system capacity.

7. CONCLUSION

This report provides Regional Council with a status of priority projects and their relationship to the timing of plan approvals. Projects identified in this report are essential to provide the additional capacity needed to service projected growth in the Region. Continuing to monitor these projects will ensure that capacity allocation and granting of planning approvals are synchronized with project schedules.

For more information on this report, please contact Daniel Kostopoulos, Director, Capital Planning and Delivery, Environmental Services at extension 5070.

The Senior Management Group has reviewed this report.

(The five attachments referred to in this clause are attached to this report.)

Servicing Requirements by Municipality / Status of Infrastructure Trigger Projects

To Service up to 970,000 People in the YDSS System

As of February 2010

Municipality	Project Name	Description	Current Status	Expected Completion Date	Anticipated Presales Timing	Anticipated Registration Timing
East Gwillimbury (for areas requiring YDSS connection)	• Queensville/Holland Landing/Sharon YDSS Connection	Provision of sanitary servicing through extension of the YDSS	Tender	Q4 – 2011 (last reported: end of 2011)	Q4 - 2010	Q2 - 2011
	• Queensville Elevated Tank	Construction of a 7.5 ML elevated tank	Detailed Design	Q4 - 2011 (last reported: end of 2011)		
Township of King	• King City Water Supply	King City connection to York Water System	Tender	Q4 – 2010 (last reported: Q4 - 2010)	Q1-2010 (last reported: Q4-2009)	Q3-2010 (last reported: Q2 – 2010)
	• King City Elevated Tank	Construction of a 2.74 ML elevated tank	Tender	Q1 - 2011 (last reported: Q4 - 2010)		

1) This data will be updated and submitted to Regional Council quarterly

2) Projects completed and removed from the table since last report: Langstaff Trunk Sewer

Servicing Requirements by Municipality / Status of Infrastructure Trigger Projects

To Service Additional Population of 72,000 beyond the June 2005 Allocation served by the YDSS
(in addition to all existing servicing requirements as outlined in the June 23, 2005
Council Report for servicing 970,000 persons)

As of February 2010

Municipality	Project Name	Description	Current Status	Expected Completion Date	Anticipated Presales Timing	Anticipated Registration Timing
Aurora, East Gwillimbury, Markham, Newmarket, Richmond Hill, King Vaughan, Stouffville	• Duffin Creek WPCP	Expansion to increase plant capacity to 630 ML/day subject to completion of future outfall works	Construction underway	December 2010 (Liquid Process Expansion) (last reported: December 2010)	Permission for presales granted in December 2009 (Except EG and King City where other infrastructure triggers are required, see Attachment 1)	Q2 – 2010
	• YDSS Flow Control Structures	Attenuation of peak wastewater flows to allow additional capacity prior to completion of Southeast Collector Sewer	Construction	May 2010 (last reported: May 2010)		
Aurora (Aurora East. only)	• Leslie/Wellington Street Watermain	Watermain from Aurora East pumping station on Wellington St. to Leslie St., just south of Mulock Drive	Detailed design	January 2011 (last reported: October 2010)	Permission for presales granted in December 2009	Q3 – 2010 (last reported Q2 – 2010)
Richmond Hill (PD9 only)	• PD9 Elevated Tank No. 2	Elevated Tank in the Richmond Hill Pressure District 9 service area	Construction	May 2011 (last reported: December 2010)	Q2 – 2010 (last reported: Q4 – 2009)	Q4 – 2010 (last reported: Q2 – 2010)
East Gwillimbury	• Queensville/Holland Landing/Sharon YDSS connection	Provision of sanitary servicing through extension of the YDSS	Tender	Q4 - 2011 (last reported: End of 2011)	Q4 - 2010	Q2 - 2011
	• Queensville Elevated Tank	Construction of a 7.5 ML elevated tank	Detailed Design	Q4 - 2011 (last reported: End of 2011)		

1) This data will be updated and submitted to Regional Council quarterly

2) Projects completed and removed from the table since last report: none

Servicing Requirements by Municipality / Status of Infrastructure Trigger Projects

To Service Additional Population of 36,328 beyond the December 2008

Allocation served by the YDSS

(in addition to all existing servicing requirements as outlined in the June 23, 2005, October 31, 2007 and
December 18, 2008 Council Reports for servicing 1,042,000 persons)

As of February 2010

Municipality	Project Name	Description	Current Status	Expected Completion Date	Anticipated Presales Timing	Anticipated Registration Timing
Aurora East Gwillimbury Markham Newmarket Richmond Hill King Vaughan Whitchurch-Stouffville	• Southeast Collector Sewer	Twinning of existing trunk sewer to provide additional conveyance capacity	Awaiting IEA approval	Late 2013 (last reported: late 2013)	December 2011* (2 years prior to in service date of SEC)	June 2012
	• Duffin Creek WPCP (Liquid Process Expansion)	Expansion to increase plant capacity to 630 ML/day subject to completion of future outfall works	Construction	December 2010 (last reported December 2010)		
	• YDSS Flow Control Structures	Attenuation of peak wastewater flows to allow additional capacity prior to completion of Southeast Collector Sewer	Construction	May 2010 (last reported May 2010)		
Vaughan (Woodbridge Service Area served by Humber P.S) (up to 3,500 persons)	• Duffin Creek WPCP (Liquid Process Expansion)	see above	Construction	December 2010 (last reported December 2010)	Q4 – 2009	Q2 – 2010
	• YDSS Flow Control Structures	see above	Construction	May 2010 (last reported May 2010)		

*2013 capacity assignment also subject to: local municipalities' allocations to individual developments conditional upon approval of Southeast Collector Sewer IEA and local municipalities implement Inflow and Infiltration Reduction Program

Status of Other Key Infrastructure Projects

As of February 2010

Project Name	Description	Current Status	Expected Completion Date
Upper York Sewage Solutions	Sanitary servicing solution to accommodate growth in Holland Landing, Queensville, Sharon and parts of Aurora and Newmarket	Individual Environmental Assessment. Proposed Terms of Reference (TOR) submitted to MOE in November 2009.	Q4 - 2016
Toronto East Water Supply	Watermain along Kennedy Road from Milliken Pumping Station to Major Mackenzie Drive	Tender	Q2 2011 (last reported: December 2010)
West Richmond Hill Pumping Station	New pumping station near Bathurst Street and Elgin Mills Road to service Pressure District 8.	Request For Proposal	2014

