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WATER AND WASTEWATER INFRASTRUCTURE STATUS REPORT

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report dated February 18, 2009, from the Commissioner of Environmental Services.

1. RECOMMENDATIONS

It is recommended that:

1. Environmental Services staff continue to provide regular updates on the priority projects linked to the release of additional capacity, with the next report to be submitted in June, 2009.
2. Staff continue discussions with the local municipalities with respect to infrastructure completion dates and various planning approvals.
3. The Regional Clerk circulate this report to the Clerks of the municipalities of Vaughan, Markham, Richmond Hill, Aurora, Newmarket, East Gwillimbury, King and Whitchurch-Stouffville.

2. PURPOSE

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

This report is a regular update to Regional Council, with the last update on December 18, 2008.

3. BACKGROUND

In 2005, Regional Council approved an overall servicing capacity of 970,000 people in the York Durham Sewage System service area

Between 2003 and 2005, staff completed extensive investigations to determine the maximum allocation capacity available and the critical projects required to realize this capacity. Regional Council, at its meeting on June 23, 2005, granted the release of additional servicing capacity to accommodate up to 970,000 people within the York Durham Sewage System (YDSS) service area along with associated triggers based on the

status of critical infrastructure (*Water and Wastewater Capacity and Servicing Assignment Protocol Report*, Clause 1 of Report No. 1 of the Joint Transportation and Works and Planning and Economic Development Committees). This allocation was expected to meet Regional growth projections to 2010.

Implementation of York Durham Sewage System flow control measures made additional sewage capacity available for 72,000 people

In keeping with the Region's policy to provide a multi-year supply of servicing allocation, staff investigated alternatives to provide additional capacity prior to the completion of the Southeast Collector Sewer. An additional 72,000 person capacity was identified through the installation of flow control structures within sections of the YDSS which offsets the extended duration to complete the Southeast Collector Sewer.

Regional Council, at its meeting on November 15, 2007, adopted the recommendations of the *Servicing Allocation and Future Regional Conditions for Draft Plan of Subdivision Approval*, Clause 3 of Report No 9 of the Planning and Economic Development Committee. A total of 35,737 person capacity was assigned to local municipalities serviced by the YDSS subject to infrastructure triggers shown in *Attachment 2*. This allocation was intended to meet the Regional growth target to 2011.

At its meeting on December 18, 2008, Regional Council adopted the recommendations of the *Assignment of Servicing Allocation to Local Municipalities Serviced by the YDSS 2012*, Clause 2 of Report 11 of the Planning and Economic Development Committee. The remaining capacity of 36,264 people was assigned to local municipalities for growth to the end of 2012 including a regional reserve of 2,164 people. Release of this capacity is subject to infrastructure triggers set out in *Attachment 2* as well as commitment from local municipalities to support and enter into a partnership with the Region to implement the following key initiatives:

- Infiltration and Inflow Program
- Water Efficiency Master Plan
- Water System Leakage Reduction Program
- Local Water Use By-Laws

Status of key infrastructure projects triggering the release of available capacity is reported to Regional Council on a regular basis

This report summarizes the status of priority infrastructure projects identified as triggers for the release of capacity required to service the 970,000 people capacity assignment approved by council in June 23, 2005 and the additional 72,000 people approved by Council in November 15, 2007 and December 18, 2008.

This status summary was first reported to Regional Council on June 23, 2005 (*Water and Wastewater Infrastructure Status Report*, Clause 2 of Report No. 1 of the Joint Transportation and Works and Planning and Economic Development Committees). Eleven subsequent reports followed, with the last update to Regional Council on December 18, 2008. The next status report is scheduled for June 2009.

This status report includes an update of the Upper York Sewage Servicing project that recently started. Upon completion of the Water and Wastewater Master Plan Update in early 2009, additional priority projects identified in the Master Plan will be added to the list.

4. ANALYSIS AND OPTIONS

4.1 ALLOCATION TRIGGERS

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

Projects identified as triggers for servicing up to 970,000 people are summarized in *Attachment 1* and for servicing an additional 72,000 people are summarized in *Attachment 2*. These trigger tables are used to assist the Region in better controlling two key steps in the planning approvals process: 1) Pre-sales of homes and 2) Final plan approvals. Capacity trigger control is required to avoid premature occupancies 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. High-density development may move to final approval if the required infrastructure is within eighteen months at the discretion of the local municipality in accordance with the Regional policy adopted in September 2008.

Release of capacity for servicing up to 970,000 people

Trigger conditions to permit final registration of the draft plans for approved developments up to the apportioned share of the 970,000 in the Towns of Aurora, Newmarket, Richmond Hill and the Green Lane West Area of East Gwillimbury have been met. Therefore, the Region has advised the four local municipalities that they could proceed to final plan registration subject to meeting other draft plan conditions and localized servicing requirements.

For Vaughan, final plan registration for the Bathurst Collector Sewer service area was permitted in August 2008 and the sewer is now in service. In September 2008, final

registration of draft plans was also permitted for the Langstaff Sewer service area with interim capacity to be provided through installation of a flow control gate in the Jane-Rutherford sewer (until the Langstaff Sewer is completed in the fall of 2009).

In September 2008, the Region granted permission for final registration of draft plans dependent on the Stage 3 water supply project in Stouffville provided that all other draft plan conditions and the Town of Whitchurch-Stouffville infrastructure requirements are satisfied. The Stage 3 water project is expected to be completed by June 2009.

Release of capacity for servicing an additional 72,000 people

Projects required to service an additional 72,000 people beyond the June 2005 allocation of 970,000 people include:

- Duffin Creek Water Pollution Control Plant expansion.
- YDSS Flow Control Structures (interim alternative to Southeast Collector Sewer).
- Leslie Street watermain (applicable to Aurora East service area only).
- Richmond Hill second water storage facility (applicable to PD9 service area only).

The trigger condition to permit pre-sales is expected to be met by the end of 2009, one year prior to the scheduled completion date of the Duffin Creek plant expansion. Installation of YDSS Flow Control Structures is expected to be completed before the Duffin Creek plant expansion and, therefore, Duffin Creek plant expansion is the governing trigger.

For the Richmond Hill Pressure District 9 (PD9) service area, the required second water storage facility is expected to be in service by December 2010, the same time as the Duffin Creek plant expansion. As a result, both the water storage facility and the Duffin Creek plant expansion are the governing trigger conditions for the Richmond Hill Pressure District 9 (PD9) service area.

For the Aurora East Service Area, the Leslie Street watermain will be constructed in stages, with the first section from Aurora Pumping Station to just north of Mulock Drive to be completed in early 2010 to accommodate proposed developments in Newmarket and the remaining section north to Davis Drive to be completed before the end of 2011. Since the Duffin Creek plant expansion is expected to be completed later than the first section of Leslie Street watermain, the governing trigger condition for developments in Aurora East Service Area is the Duffin Creek plant expansion.

4.2 STATUS OF WASTEWATER PROJECTS

This section provides a brief description of priority wastewater projects, their current status, issues affecting project progress and future activities. Listed projects are required within the five-year horizon to meet future demands. Projects that are identified as

“critical” are those for which any further delays will result in unacceptable risks of overflow.

The projects listed below are also presented in *Attachment 3 – Priority Wastewater Projects Map*.

Aurora Equalization Tank commissioned in February 2009

The Aurora equalization tank allows detention of wet weather flows at the existing Aurora Sewage Pumping Station site. The provision of flow equalization at this location expands the service capacity of the pumping station by buffering wet weather peak flows to the pumping station. This tank will also provide additional capacity to Aurora and aid in minimizing downstream capacity risks. The tank has a storage volume of 10,000 m³ and is expected to prolong the service capacity of the pumping station, which will influence the timing for downstream works that are the subject of additional Environmental Assessment (EA) processes.

The construction contract for the Aurora equalization tank was awarded in October 2006. The tank was commissioned in February 2009 (last reported: December 2008).

Commissioning of the Duffin Creek Water Pollution Control Plant Expansion *CRITICAL PROJECT* is expected to occur in December 2010

Expansion of the Duffin Creek plant is required to provide additional capacity to serve growth in all municipalities serviced by the YDSS. This phase of the expansion will increase the plant capacity to 630 ML/day subject to completion of future works to address limitations of the existing outfall and will also include two new incineration units. The expansion will also provide upgrades required to meet evolving environmental standards.

Following the denial of Class Environmental Assessment (EA) Part II Order requests by the Minister of the Environment on March 21, 2007, York and Durham Regions have progressed into the construction phase of the project. The site preparation contract has been totally performed and contracts for construction of the:

- liquid treatment facility is approximately 30% complete (last reported: 20%).
- preliminary treatment facility is approximately 15% complete (last reported: 10%).
- temporary biosolids dewatering is 90 % complete (last reported: 75%).
- subgrade work for the new incineration and dewatering buildings is 95% complete (last reported: 50%).
- new electrical substation is approximately 15% complete (last reported: 10%)
- digester modifications and new boiler building has been awarded, the contractor is mobilized on site.

- pre-qualification for contractors for the incinerator/dewatering superstructure project has been completed with tender award anticipated for spring 2009.

The two most critical contracts to provide additional liquid treatment capacity are the liquid module contract and the preliminary treatment contract. The liquid module contract comprises construction of primary clarifiers, secondary clarifiers, aeration tanks and disinfection facilities.

The preliminary treatment contract comprises construction of distribution channels, screening facilities and grit removal tanks. Both contracts are expected to be completed in December 2010 (last reported: December 2010).

Bathurst Collector Sewer is in service and Langstaff Trunk Sewer is scheduled for completion by fall of 2009

The Bathurst Collector and the Langstaff sewers are required to provide additional capacity to Vaughan. These sewers are proceeding under a pre-payment of development charges credit agreement, and release of additional capacity is contingent upon completion of these sewers and other required infrastructure.

The project contract was awarded in March 2006. Construction of the Bathurst Collector was completed in December 2008 and the sewer is now in service. Due to problems encountered during construction on Langstaff Road, the completion date of the Langstaff sewer has been revised to the fall of 2009.

In July 2008, an interim sanitary servicing solution was identified to permit developments pertaining to the Regional June 2005 capacity assignment to proceed prior to completion of the Langstaff sewer. The project consists of installing a flow control gate in the Jane-Rutherford sewer to attenuate peak wastewater flows. Construction of this interim servicing solution is expected to be completed by February 2009.

Queensville/Holland Landing/Sharon servicing project is expected to be complete by December 2010

The Queensville/Holland Landing/Sharon project will provide sewage servicing to the communities of Queensville, Holland Landing and Sharon. It will also allow decommissioning of existing Holland Landing Sewage Lagoons and directing flow to the YDSS. This servicing is being considered through a pre-payment of development charges credit agreement with a developer group.

Review of the Class EA was completed in August 2007. The Class EA document was filed on the public record for a 30-day period with three requests for a Part II Order submitted to the Ministry of the Environment (MOE). On June 6, 2008, the MOE advised the Region that the Part II Order Requests were denied with conditions. The Region is now in the process of finalizing the prepaid development charge credit agreement. A summary of key milestones is as follows:

- Completion of Class EA August 2007
 - EA approval June 2008
 - Completion of detailed design June 2009
 - Construction completion December 2010
- (last reported: December 2010)*

The milestones noted above are subject to the execution of the pre-paid development charges agreement and the securing of the necessary funding.

Southeast Collector Trunk Sewer *CRITICAL PROJECT* is scheduled for completion by December 2012

The Southeast Collector Trunk Sewer, through parts of Markham and Pickering, is required to provide additional capacity to the existing YDSS trunk sewer. The critical need for this sewer is driven by growth in all municipalities serviced by the YDSS in York Region. The twinning of the trunk sewer also provides redundancy for system security and operational flexibility.

The final IEA package was submitted to MOE and key stakeholders in November 2008. The IEA report was made available to the public to view and make comments on or before January 23, 2009. York and Durham Regions have submitted responses to MOE to address comments received by MOE from the public, agencies and stakeholders on the IEA submission documents.

The Ministry will prepare a “Blue Book” document which summarizes the results of the Government review, agency and public’s comments. This document is made available for a further public review period after which the MOE staff will make a recommendation to the Minister of the Environment on the approval of the IEA process. Every effort is being made by the project team to ensure a final recommendation is provided to the Minister in a timely manner.

To date, the most significant issue regarding the IEA submission relates to the Odour Control Facility (OCF) located approximately 300 meters south of the nearest Cherrywood homes. The project team has met with the Cherrywood residents to address their concerns. Notwithstanding the consultation efforts to date, this community has submitted a 90-name petition to the City of Pickering and to the MOE expressing their opposition to having the OCF sited in this location. This location is being selected as the preferred site over other sites in Markham and Pickering, given that it has the least impact on the surrounding natural environment and is also ideally suited for odour control as it is adjacent to two drop structures and a meter facility, which generate and force air out of the piped system. Further meetings are now being planned to review the technical and comparative assessments undertaken to select the preferred site for this facility.

The project team continues to work closely with the Ministry staff to facilitate final IEA approval by May 2009.

Key milestones for this project are as follows:

- Submission of the IEA to MOE November 2008
- Expected MOE approval of the IEA May 2009
- Detailed design and tender December 2009
- Obtain regulatory approvals December 2009
- Construction completion December 2012
(last reported: December 2012)

Installation of York Durham Sewage System Flow Control Structures
***CRITICAL PROJECT* is scheduled for completion by December 2009**

As a result of the revised completion date of 2012 for the Southeast Collector Sewer, Environmental Services staff is now undertaking a project to implement flow control on the YDSS. Flow control structures, to be installed in selected locations in the YDSS, will attenuate peak wastewater flows, allowing additional capacity for growth prior to completion of the Southeast Collector Sewer. These flow control structures will also provide operational flexibility after the Southeast Collector Sewer is constructed.

Completion of detailed design and tendering has changed since last report, but these changes are not expected to affect the final project completion date. A summary of key milestones is as follows:

- Completion of detailed design December 2008
(last reported: November 2008)
- Tendering February 2009
(last reported: December 2008)
- Construction completion December 2009
(last reported: December 2009)

IEA for Upper York Sewage Servicing (UYSS) has commenced

The Region has initiated the UYSS IEA to determine a preferred sewage servicing alternative to accommodate expected growth in Holland Landing, Queensville, Sharon and parts of the Towns of Aurora and Newmarket. For each feasible sewage alternative, a corresponding water resource and supply strategy will be developed.

The consultant consortium led by Conestoga-Rovers & Associates was awarded the IEA phase of the UYSS project and work began in September 2008. Submission of the Terms of Reference is expected by November 2009 and the IEA documents by December 2012.

Subject to the IEA outcome and approval, the project is anticipated to be completed in 2016.

While the IEA study is primarily for servicing East Gwillimbury, Aurora and Newmarket, the means of servicing the West Gormley Secondary Plan lands along Leslie Street are intended to be determined by the UYSS IEA, if timing of the IEA permitted. The West Gormley Secondary Plan (OPA 237) approved by the OMB states that if UYSS IEA document is not submitted for approval by December 31, 2011, or if Terms of Reference not submitted by December 31, 2009, then the means of servicing the West Gormley lands could be determined by a separate environmental assessment specific to West Gormley. With the current projection of UYSS IEA submission in 2012, it is projected that a specific environmental assessment for the West Gormley lands could be conducted.

4.3 STATUS OF WATER PROJECTS

Priority water projects are those required within the five-year horizon to meet imminent demands. Projects listed below are also presented in *Attachment 4 - Priority Water Projects Map*.

Completion of Queensville Elevated Tank is expected for July 2010

This project involves construction of a 7.5 ML elevated tank in Queensville. The tank will provide equalization, emergency and fire storage to the community.

The target completion date for this project is July 2010 (last reported: July 2010).

King City Water Supply project is expected to be completed in 2010

The King City Water Supply Project will provide water supply and storage capacity to service new development in King City. The project consists of a 2.74 ML elevated tank and connection to the York Water System as recommended by the approved EA.

The Environmental Study Report was completed in September 2007 with three Part II Order (bump up) requests received during the 30-day review period. In June 2008, the Minister denied the bump up requests. The expected project completion date has not changed since the last report. A summary of key milestones is as follows:

- Completion of Class EA September 2007
 - EA approval June 2008
 - Completion of detailed design Winter 2009
 - Tender and contract award Spring 2009
 - Completion of construction Summer 2010
- (last reported: Summer 2010)*

Commissioning of Stouffville Water Supply project planned for March 2009

Additional water supply is required for the community of Stouffville to service new development areas. The approved Class EA identified connection to the York Water System as the preferred solution.

Design of the proposed water supply works was completed in January 2008. This project is being delivered in two contracts: 1) The Stouffville Pumping Station contract which was tendered in January 2008 and 2) The Stouffville Watermain combined with road widening which was tendered in July 2008. Commissioning of water supply works in March 2009 will provide additional capacity (last reported: March 2009).

Toronto East Water Supply project is expected to be completed by December 2010

The Toronto East Water Supply project is required to bring additional water to the Markham Pressure District 6 area from Toronto to meet long-term growth demands in areas serviced by the York Water System.

As part of the project, a new watermain along Kennedy Road from the Kennedy Pumping Station to Major Mackenzie Drive is required. The Class EA was completed by the City of Toronto in accordance with the York-Toronto Water Supply Agreement. Construction of the works within York Region will be carried out by the Region. A summary of key milestones is as follows:

- Completion of Class EA October 2007
 - Completion of detailed design June 2009
 - Tender and contract award September 2009
 - Construction completion December 2010
- (last reported: December 2010)*

Richmond Hill Pressure District 9 (PD9) Elevated Tank No. 2 Class EA is expected to be complete in February 2009

The project will augment storage capacity for the PD9 water system required to service additional growth in the Richmond Hill PD9 service area.

While completion of the Class EA has been delayed since the last report, it is not currently anticipated that this change will affect the date of tender and contract award. Evaluation of the alternatives studied in the Class EA resulted in identification of the existing standpipe property on Bloomington Road as the preferred site. As a result, the anticipated construction completion date considers restrictions on construction due to the

close proximity of the new elevated tank to the existing standpipe. Key milestones for the project are as follows:

- Completion of Class EA Process February 2009
(last reported: November 2008)
- Detailed design completed March 2009
- Property Acquisition June 2009
- Tender and contract award June 2009
- Construction completion December 2010
(last reported: December 2010)

Leslie Street watermain (Wellington St. to Davis Drive) is expected to be completed by 2011

The Leslie Street watermain connects to the existing Aurora East pumping station on Wellington Street, and runs easterly along Wellington Street then northerly along Leslie Street to Davis Drive.

In support of proposed developments in Newmarket, the work will be carried out in stages, with an anticipated completion of the section from the Aurora East pumping station to just north of Mulock Drive by early 2010. The remaining section north to Davis Drive is scheduled for completion by the end of 2011. Key milestones for the project are as follows:

- Notification of Class EA Schedule A+ decision July 2008
- Detailed Design May 2009
- Tender and Contract Award August 2009
(last reported: June 2009)
- Construction Completion (Contract 1) March 2010
(last reported: March 2010)
- Construction Completion (Contract 2) November 2011
(last reported: November 2011)

5. FINANCIAL IMPLICATIONS

Total cost of priority infrastructure projects is approximately \$1.70 billion

A summary of the costs of the priority infrastructure projects is provided in Table 1 (wastewater projects) and Table 2 (water projects). The total cost of infrastructure projects included in this update is equal to \$1.70 billion. Estimated expenditures for these projects, between 2008 and 2012, total \$1 billion, representing 53% of the total water and wastewater capital expenditures for the same period.

Table 1
Cost Estimates and Anticipated Completion Dates for Wastewater Projects

Project	Current Project Cost Estimates (\$)	Anticipated Completion Dates
Aurora Equalization Tank	\$16,300,000	February 2009
Bathurst Collector Sewer	47,159,000	December 2008***
Langstaff Trunk Sewer	44,832,000	Fall 2009
YDSS Flow Control*	4,000,000	December 2009
Queensville/Holland Landing/Sharon Servicing	69,000,000	December 2010
Duffin Creek Water Pollution Control Plant*	**519,000,000	December 2010
Southeast Collector *	529,000,000	December 2012
Upper York Sewage Servicing	390,000,000	2016
Total Wastewater Projects	\$1,620,000,000	-

*Critical projects

**Includes Durham share

***Complete

Table 2
Cost Estimates and Anticipated Completion Dates for Water Projects

Project	Current Project Cost Estimates (\$)	Anticipated Completion Dates
Stouffville Water Supply	\$7,700,000	June 2009
Queensville Elevated Tank	8,600,000	July 2010
Richmond Hill 2 nd PD9 Elevated Tank	10,500,000	December 2010
King City Water Supply	15,600,000	Summer 2010
Toronto East Water Supply	24,000,000	December 2010
Leslie Street Watermain (Wellington St. to Davis Drive)	13,500,000	November 2011
Total Water Projects	\$80,000,000	-

6. LOCAL MUNICIPAL IMPACT

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

The “priority” and “critical” projects reviewed in this report are crucial to providing timely servicing capacity to the municipalities serviced by the York Durham Sewage System 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.

7. CONCLUSION

This report provides Regional Council with a status of “priority” and “critical” 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 the project schedules.

For more information on this report, please contact Stephen Fung, Program Manager, Capital Planning and Delivery, Environmental Services at Ext. 3025.

The Senior Management Group has reviewed this report.

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