

Parker Stormwater Management Facility

EEPAC's comments are based on the following documents:

- Parker Stormwater Management Facility and Trunk Storm Sewer Outlet Environmental Impact Study dated July 2017 and received at EEPAC on September 28, 2017.
- Memorandum to the MOECC London from the City of London with the Subject: Summerside District Stormwater Master Drainage Plan (2004) – 2016/2017 Revised Strategy Update. Dated June 15, 2017 and received by EEPAC on October 26, 2017. This Memorandum included three appendices: NRSI Interim Summary Report dated May 18, 2017; Relevant Figures for the revised stormwater management plan; and, a technical memorandum outlining the revised stormwater management plan including excerpts from the original 2004 stormwater management plan.

EEPAC originally provided comments on October 19, 2017 EEPAC meeting. These additional comments are based on a review of the MOECC/City of London memorandum received subsequent to that meeting.

Reviewers: Berta Krichker and Ian Whiteside

Date: November 8, 2017

Theme 1 – System wide approach to Summerside District Master Stormwater Drainage Plan ("Summerside MDR")

The original 2004 Summerside MDR envisioned three SWMFs covering a total drainage area of +/- 532ha: the Summerside SWMF (230 ha, completed in 2005); the Parker SWMF (originally 115ha, reduced to 78 ha and the subject of these comments); and, the Jackson SWMF (186 ha). This +/- 532ha is part of the larger 891ha that encompasses the entirety of Tributary "J" of the Dingman Creek Subwatershed, of which Hampton Scott Drain is the principal watercourse draining to Dingman Creek.

The original Summerside MDR plan included, *inter alia*, the following design elements:

- Maximum peak flow to the Hampton Scott Drain not to exceed a cumulative 1.85 cubic meters per second ("cms") from the entirety of the Summerside MDR; and,
- An additional flow to the Hampton Scott Drain of 10 l/s for a minimum of 10 days after each appropriate storm event.

Subsequent to the original 2004 Summerside MDP plan, the City modified the overall strategy by eliminating the Jackson SWMF, reducing the size of the Parker SWMF drainage area to 78ha, and preserving a 32.3ha Significant Woodland (including a 14.8ha buffer) within the Parker SWMF drainage area. While EEPAC does not specifically have a problem with the overall strategy change – indeed, we are supportive of the preservation of the Significant Woodland – we are concerned that the revised approach is viewing each design element change in isolation rather than looking at the Summerside MDR as a whole, and its cumulative impact on Tributary J. To wit, the report notes that the catchment area for the Jackson SWMF is located outside of the Urban Growth Boundary, and recommends deferring a SWM plan until such time as "the lands are brought into the (Urban Growth Boundary)".

EEPAC is concerned that the redesign is inconsistent with the Best Management Practices "BMP" identified in 2005 Dingman Creek Subwatershed Study Update ("DCSSU"). That study recommends a holistic approach to manage subwatershed elements, with the overall goal improving restoring deficient systems. By considering the Parker SWMF in isolation to its impact on the Summerside MDR drainage area, and indeed Tributary "J" to Dingman Creek as a whole, the revised SWM plan for the area may prove

deleterious to the overall ecological and environmental health of Dingman Creek. Overall, EEPAC views that the proposed Parker SWM Facility design, including minor/major storm flows discharges (based on the limited information provided by the City staff) incorporates the recommendations that result in substantial deviations from the previously approved 2004 Summerside MDR.

Recommendation 1:

- A. Review the design changes to the Summerside MDR and its impact on Tributary J as a whole, and ensure that the modifications conform to the BMPs listed in Section 10 of the DCSSU.
- B. Update the Environmental Management Strategy ("EMS") as part of the Area Plan for Tributary J as a whole to reflect the design changes to the Summerside MDR. Please provide EEPAC with the updated EMS when it is completed – if an EMS has not been completed, EEPAC recommends completing one consistent with Recommendation 10.3 of the DCSSU.

Theme 2 – Water Balance Assessment

In order to meet both the specific recommendations of the DCSSU as well as its overall intent of preserving existing conditions at minimum, and, to the extent practicable, improve the environmental and ecological capacity of Dingman Creek, EEPAC recommends that a water balance assessment be undertaken by the City. The purpose of the water balance assessment will be to establish base water conditions in the tributary on a pre-and post-construction basis to demonstrate no adverse impacts on environment/ecological health of this system as a whole. EEPAC considers a water balance assessment to be necessary as the Hampton Scott Drain (Tributary J) is presently partly impaired. The water balance assessment should demonstrate:

- no further adverse impacts on environmental/ecological functions and conditions of this portion of the Dingman Creek system will occur as a result of the proposed development and its infrastructure such as the proposed Parker Drain SWM facility and minor/ major storm flows discharges; and,
- Compliance with the environmental targets and requirements identified in the Council approved DCSSU.

Recommendation 2:

Conduct a water balance assessment to establish baseline water conditions and to demonstrate no adverse impacts pre and post construction of the Parker SWMF.

Theme 3 - Base flow into the Hampton Scott Drain

EEPAC has concerns that the base flow to the Hampton Scott Drain (target: average of 0.01 cms or 10L/s over a period of not less than 10 days after each storm event) will not be provided from the adjacent Significant Woodlands, noting the document projects a peak flow of 0.01 cms from the Significant Woodlands based on a 25mm rain event. The duration of the flow from the Woodland was not provided, specific LID measures required to achieve the base flow were not provided, nor were any supporting calculations provided that provides the basis for the assertion that the Significant Woodlands can provide the base flow to the Hampton Scott drain. We note that the 2005 Dingman Creek Subwatershed Study recommends the 10 L/s base flow from each of the tributaries as important to the overall ecological health of Dingman Creek.

Recommendation 3:

Please include specific LID recommendations on how to achieve base flow to Hampton Scott drain. Please provide backup calculations that demonstrate the Significant Woodland can provide the recommended base flow to the Hampton Scott drain.

Theme 4- Peak flow into the Hampton Scott Drain

With the redesign of the Summerside MDR, the technical memorandum notes that peak flow to the Hampton Scott drain will exceed 1.85 cms, a level above which can prove deleterious to the ecological health of the Drain and downstream to Dingman Creek via bank erosion and increased sedimentation resulting in turbid waters. Specifically, the memo states that Future Ponds (Jackson East/ Bradley South – which replaces the Jackson SWMF) would drain into the Hampton Scott Drain and that the cumulative peak flows would from the Summerside, Parker Significant Woodland, and the Future Ponds would exceed the established 1.85 cms maximum. Furthermore, the peak flow calculation from the Significant Woodland does not appear to incorporate the LID measures being proposed for the Woodland, which could, in-turn, result in even higher peak flow to Hampton Scott Drain.

EEPAC is concerned that the redesign of the Summerside MDR will result in peak flow into Hampton Scott Drain in excess of 1.85 cms. We note that the original 2004 MDR referenced 1.85 cms as the peak discharge from the entire area, and that this figure had been accepted by "all involved parties".

Recommendation 4:

EEPAC continues to support 1.85 cms as the maximum peak discharge to Hampton Scott Drain from the Summerside area. Modifications to the Summerside MDR should consider its impact to the Hampton Scott Drain in its entirety; any such modifications should limit discharge to the agreed upon 1.85 cms.

Theme 5 – Water Quality Testing

Section 11.2.2.1 of the DCSSU recommends that Certificates of Approval for new regional SWMFs should incorporate water chemistry data collection including temperature, total suspended solids, total phosphorous, copper, zinc, lead, and chloride. Furthermore, the DCSSU recommends regular monitoring of downstream receiving water including water chemistry and benthos.

Recommendation 5:

EEPAC recommends implementing water quality testing consistent with the recommendations of the DCSSU.

Theme 6 – Buffers and Setbacks

EEPAC is supportive of the 15 meter buffer and finds the justification provided by RAH & NRSI/ Oct 18, 2017 sufficient. That said, we would like to confirm that this buffer will be measured from the 100 year (at minimum) or 250 flood line elevation for the Hampton Scott Drain, and not just from the highest water mark on the stream bank. Based on the previous requirements, any watercourse (waterway) that service the sub catchment areas of 125 ha or more, in accordance with the Conservation Act, is required to have the Flood plain lines delineation, specifically for the 100 years and the Regional storms and for London specifically, it is the 250 storm.

Recommendation 6:

Incorporate 15m buffers based on the 250 year flood line.