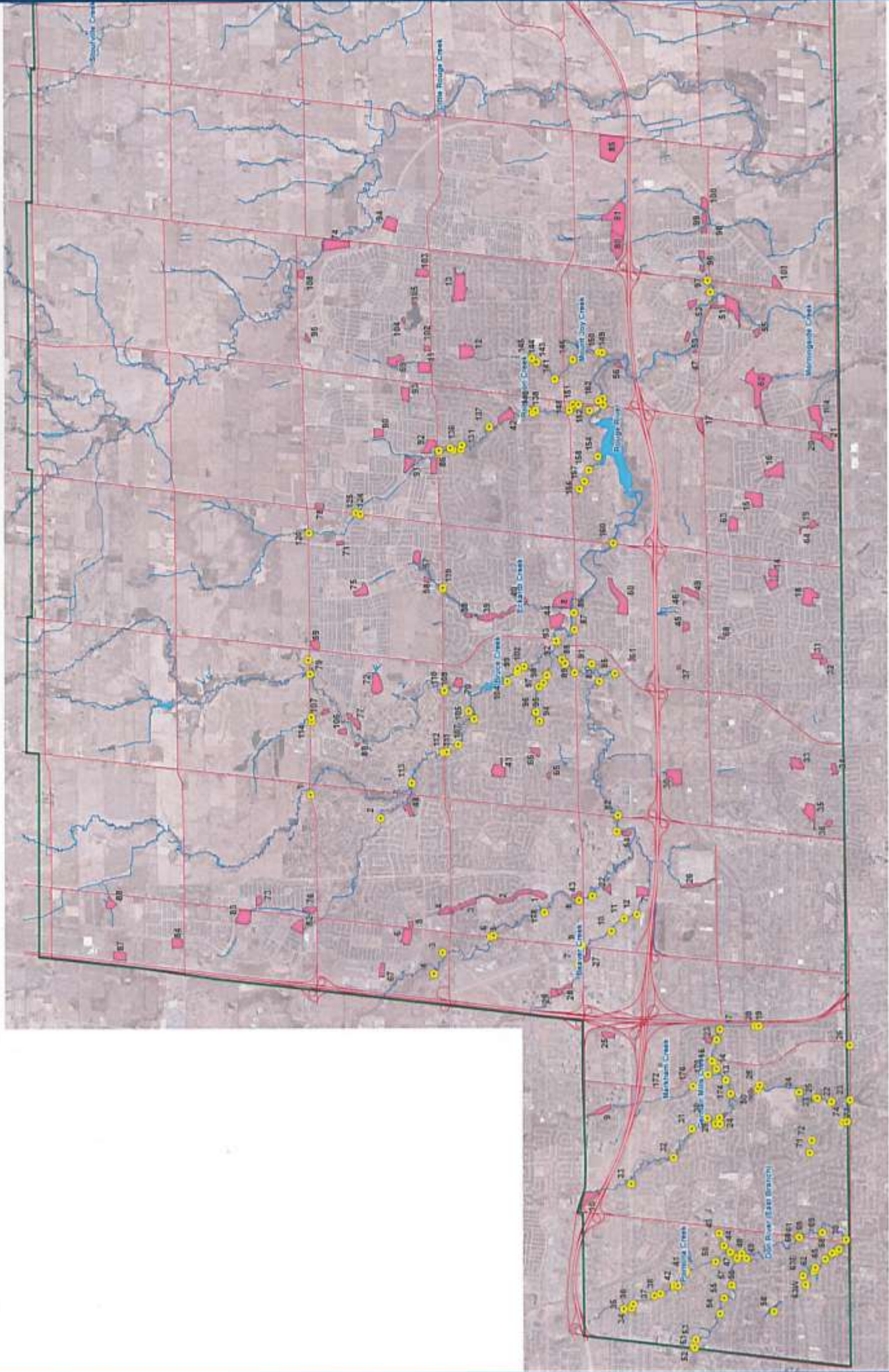


Evaluated Sites



- Legend**
- Uncontrolled Outlets
 - Stormwater Management Facilities
 - River
 - Creek
 - Major Road
 - City Boundary



Markham SWM Facility Retrofit Study
Municipal Class EA
November 2013

Evaluated Sites

SCALE

0 450 900 1,800 Meters

MAP

4-1

Attachment B: Top 21 SWM Retrofit Priority Sites

Prioritization Scoring and Ranking of the Order to Implement Retrofit and New Stormwater Management Facility Projects														
Prioritization Criteria	Site ID	Capital Cost	Capital Cost Score	Size of Drainage Area Treated / Controlled (ha)	Treated Drainage Area Score	Number of Stormwater Management Objectives Achieved	Number of Stormwater Management Objectives Achieved Score	Unique Benefits Description	Unique Benefit Score	Ease of Implementation and Description of Challenges	Ease of Implementation Score	Ranking		
Scoring Rationale Criteria Weighting			Less than \$100,000 = 1, \$100,000 to \$499,999 = 0.75, \$500,000 to \$999,999 = 0.5, \$1 Million or more = 0.25		DA ≥ 50 ha = 1, 50 ha > DA > 20 ha = 0.75, 20 ha ≥ DA > 10 ha = 0.5, DA < 10 ha = 0.25		4 objectives achieved = 1, 1 objective achieved = 0.25		Meets a unique need = 1, Potentially meets a unique need = 0.5, Does not provide any unique benefit = 0	Level 1 = easiest, Level 4 = most challenging / involved	Easiest Implementation = 1, Most challenging / involved Implementation = 0.25			
			40		15				10	Level 4 - design and construction to be coordinated with external project (expansion of Denison St.)	20			
	P-62	\$52,500.00		23.76	0.75	2	0.5	Benefits Redside Dace habitat, Possibly benefits Redside Dace habitat.			0.25	2015 Extension of Denison St.	1	
	P-47	\$729,000.00		23.01	0.75	3	0.75		0.5	Level 1 - all works within City park land, Level 4 - all works within City ROW however, design and construction to be coordinated with external project (West Thornhill Storm Water Flood Remediation Study).	1	2016 Sediment removal from the pond.	2	
	UCO-66	\$227,500.00	0.75	13.30	0.5	1	0.25				0.25	2015	3	
	UCO-63w	\$2,679,700.00	0.25	48.10	0.75	2	0.5			Level 4 - design and construction to be coordinated with external project (West Thornhill Storm Water Flood Remediation Study).	0.25	2015	4	
	P-5	\$685,200.00	0.5	9.82	0.25	2	0.5	Benefits Redside Dace habitat.		Level 2 - site under soccer field. Will create disturbance to residents and need 1 to be coordinated with soccer clubs.	0.75	2024 Sediment removal from the pond.	5	
	P-77	\$40,000.00	1	43.65	0.75	1	0.25	Benefits Redside Dace habitat, Possibly benefits Redside Dace		Level 1 - all works within City land.	1	2039 Sediment removal from the pond.	6	
	P-73	\$28,000.00	1	25.70	0.75	1	0.25		0.5	Level 1 - all works within City land.	1	2039 Sediment removal from the pond.	7	
	UCO-106	\$262,500.00	0.75	23.76	0.75	2	0.5	Benefits Redside Dace habitat, Possibly benefits Redside Dace		Level 1 - all works within City park land.	1	N/A	8	
	P-55	\$31,250.00	1	6.47	0.25	1	0.25		0.5	Level 1 - all works within City park land.	1	2023 Sediment removal from the pond.	9	
	UCO-8	\$466,960.00	0.75	10.00	0.25	2	0.5	Benefits Redside Dace habitat.		Level 1 - all works within City ROW.	1	N/A	10	
									Provides full erosion control and area was identified as needing erosion control in the "Burnside Creek Erosion Control Optimization Study, Phase 1 Final Report", dated January 2012 by Aquator Beech Limited.		Level 3 - access through City land with minimal tree removal. However, in floodplain so may need more studies 1 done to get a permit.	0.5	2030 Sediment removal from the pond.	11
	P-38	\$277,000.00	0.75	18.16	0.5	2	0.5		0.5	Level 1 - all works within City ROW.	1	2030 Sediment removal from the pond.	12	
	P-34	\$246,250.00	0.75	20.94	0.75	1	0.25	Possibly benefits Redside Dace		Level 1 - all works within City ROW.	1	N/A	13	
	UCO-103	\$533,750.00	0.5	46.64	0.75	2	0.5		0.5	Level 1 - all works within City ROW	1	N/A		
									Benefits Redside Dace habitat		Level 3 - all works within Regional Road ROW so coordination with York Region is required.	0.5	N/A	14
	UCO-112	\$120,700.00	0.75	1.69	0.25	2				Level 1 - all works within City ROW	1	N/A	15	
	UCO-176	\$227,500.00	0.75	15.94	0.5	1	0.25	Possibly benefits Redside Dace		Level 3 - access through City land with some tree removal however, in floodplain. Multiple additional studies may be needed (w/intercourse erosion limit, tree removal, etc.).				
	P-51	\$507,900.00	0.5	60.63	1	3	0.75	Possibly benefits Redside Dace	0.5	Level 1 - all works within City park land.	0.5	2039 Sediment removal from the pond.	16	
	UCO-64	\$2,098,800.00	0.25	100.32	1	3	0.75	Possibly benefits Redside Dace	0.5	Level 1 - all works within City park land, TRCA owned land. Easement and land use agreement with TRCA will be required.	1	N/A	17	
									Benefits Redside Dace habitat.		Level 4 - works within City ROW and TRCA owned land. Easement and land use agreement with TRCA will be required.	0.25	N/A	18
	UCO-65	\$147,200.00	0.75	4.77	0.25	1	0.25		0.5	Level 1 - all works within City ROW.	1	N/A	19	
	P-45	\$2,159,100.00	0.25	20.76	0.75	3	0.75	Possibly benefits Redside Dace	0.5	Level 2 - requires construction within sewer easement between / within private lots.		2039 Sediment removal from the pond.	20	
P-39	\$427,300 (est. 1) OR \$1,409,200 (est. 2)	0.25	14.35	0.5	2	0.5	Provides full erosion control and area was identified as needing erosion control in the "Burnside Creek Erosion Control Optimization Study, Phase 1 Final Report", dated January 2012 by Aquator Beech Limited.		Level 4 - construction access is dependent on School Board. Agreement must be reached with the School Board. For alternative 1 (pond expansion) the TRCA will require additional studies to justify tree loss. For alternative 2 the construction site is within School lands and is dependent on an agreement with the School Board.	0.25	2030 Sediment removal from the pond.	21		

Attachment C: Top 21 SWM Retrofit Priority Site Locations

21 of the highest priority sites were evaluated to determine the preferred retrofit or new stormwater management facility construction alternatives.

