

Appendix A

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Appendix B

List of GIS Data and Sources

Buildings: footprint coordinates; Attributes database fields (age (year built), area, elevations at foundation and rooftop, use/description)

Stormwater Management Infrastructure: geographic extent for drains, CSO and sewer lines, subwatersheds, watersheds

Land Use: geographic extent; attribute codes for:

- Commercial; Bigbox; Downtown; Strip Mall
- Educational/Institutional
- Golf Courses
- Government-Institutional
- Waterbodies
- Highway Corridors
- Industrial; Prestige Industrial
- Open Space/Park
- Residential
- Residential Low Density
- Residential Medium Density
- Residential High Density
- Resource-Industrial
- Roadways

Digital Orthophotographs

Sources:

City of Toronto Works and Emergency Services and Toronto Wet-Weather Master Plan Consultants: CH2M Hill (old City of Toronto), Totten Sims-Hubicki (Mimico and Etobicoke Creeks Watersheds), XCG (Humber River Watershed), Marshall Macklin Monaghan (Don River Watershed), and Aquifor-Beech (Rouge River Watershed).

Appendix C Data for Stormwater

Calculations Table C1
Unit response functions for runoff calculations

LANDUSE CODE	DESCRIPTION	RUNOFF-NO GREENROOF m³/ha	RUNOFF-WITH GREENROOF m³/ha
C	Commercial	6019	4913
CBB	Commercial Bigbox	6223	5067
CDT	Commercial Downtown	6019	4913
CI	Commercial-industrial	5742	4912
CR	Commercial-residential	4054	3480
CSM	Commercial Strip Mall	6210	5063
EIS	Educational/Institutional	2222	1827
GC	Golf Course	653	534
GS	Greenspace: parks	875	729
I	Industrial	5260	4757
IBB	Industrial Bigbox	5260	4757
IN	Resource-Industrial	4571	4070
IPR	Prestige Industrial	4571	4070
IR	Resource-Industrial	2723	2400
MIX		2222	1827
OGC	Open Space -golf	653	534
OHC	Open hydro corridor	875	729
OPL	Open Space/Park Land	875	729
OPL	Open TRCA land	430	339
OVL	Open Valley Lands	430	339
PK	Park	875	729
R	Residential	1897	1897
RES	Residential, open area	1254	1254
RHD	Residential High Density	2415	2415
RHR	Residential High Rise	3305	3060
RLD	Residential Low Density	1254	1254
RMD	Residential Medium Density	1897	1897
RS	Residential, open area	1254	1254
RT	Commercial	6019	4913
SC	Government-Institutional,	1254	1254
SPC	STP, Park, commercial-industrial	2501	2205
TA	Government-Institutional,	1254	1254
TAP	Downsview airport	1386	1313
THC	Highway Corridors	1078	1078
UNK	Roadways	1078	1078
W	Water	0	0

Table C2
Comparison of unit costs of best management practices and
estimation of cost saving of green roofs

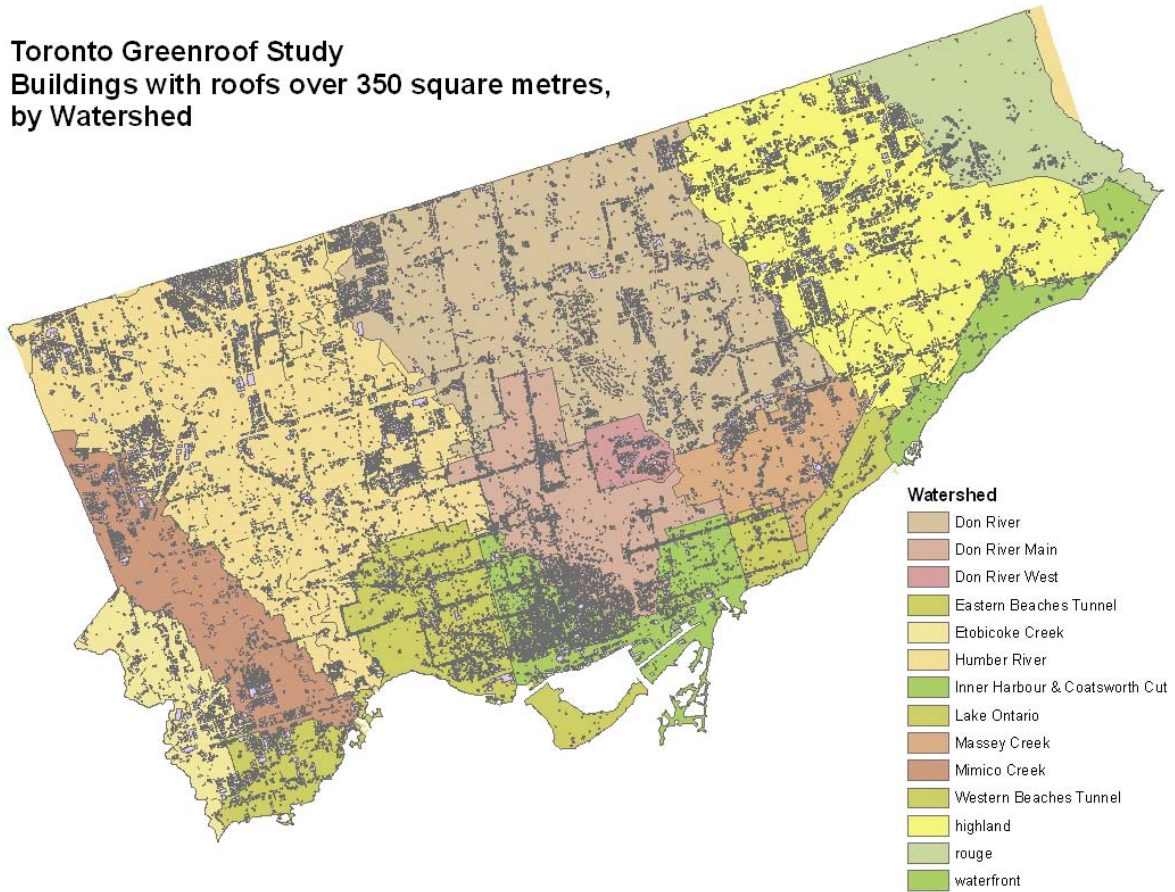
Type of BMPs	Total cost (\$/ha)*
Rooftop gardens for strip mall	65801
Rooftop gardens for big box	104801
Rooftop gardens for downtown	183782
Residential high density foundation drain disconnection	265005**
Residential highrise and institution pervious pavement/parking	398722**
Commerical underground storage	144041
Commercial pervious pavement in parking	151026**
Note: The above unit costs were used in the Toronto Wet Weather Study	
Note: *total cost includes capital and O&M over 50 years; **based on 80% imperviousness	
GRT for mall and big box	85301
GRT for downtown	183782
Average GRT	134542

BMP with higher costs than GRT	Unit cost
Residential highrise and institution pervious pavement/parking	398722
Commerical underground storage	144041
Commercial pervious pavement in parking	151026
Green roofs	134542
BMP substitution	Unit cost saving (\$/ total ha)
Low estimate of BMP saving (Commerical underground storage)	9500
High estimate of BMP saving (Residential highrise pervious pavement)	264181
BMP substitution	Unit cost saving (\$/ha of GRT)
Low estimate of BMP saving (Commerical underground storage)	570***
High estimate of BMP saving (Residential highrise pervious pavement)	15851***
Note: *Total cost includes capital and O&M over 50 years per ha of drainage area; **Based on 80% imperviousness ***Assuming 6% of the total area is green roof.	

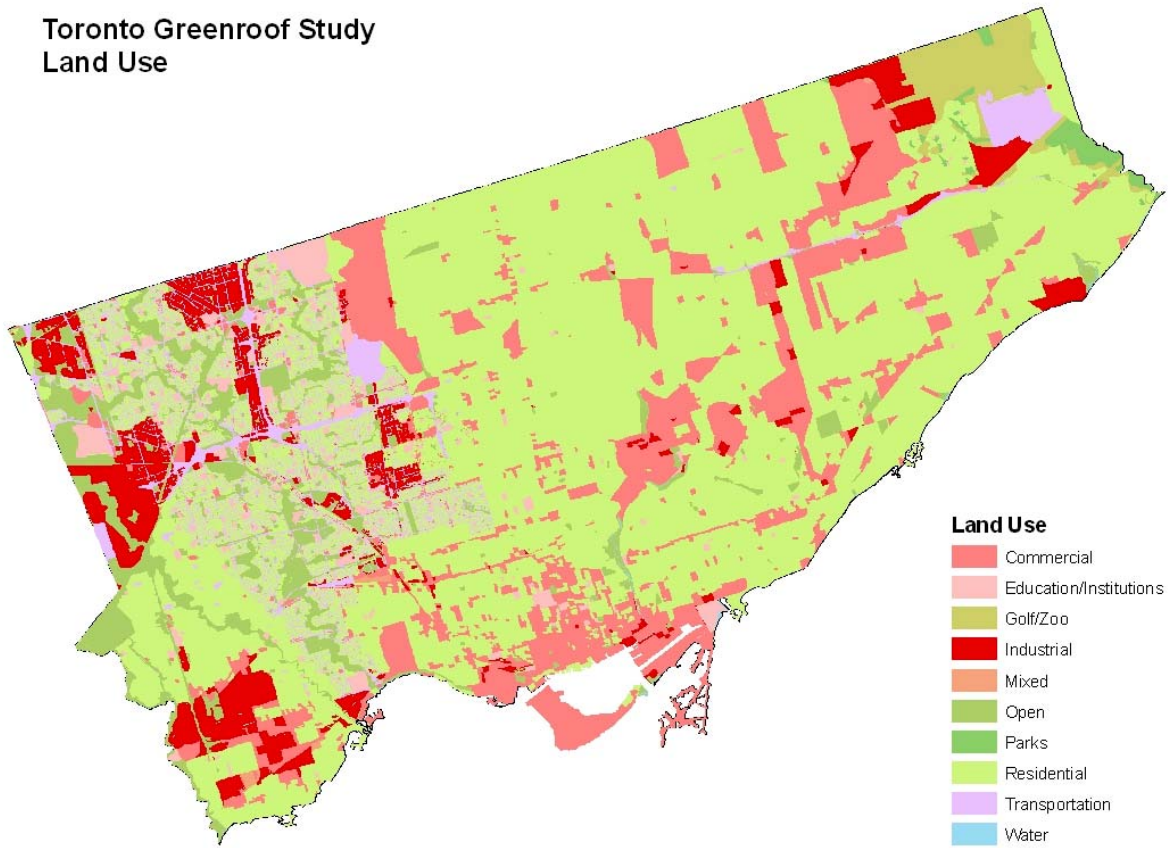
Appendix D

GIS Maps

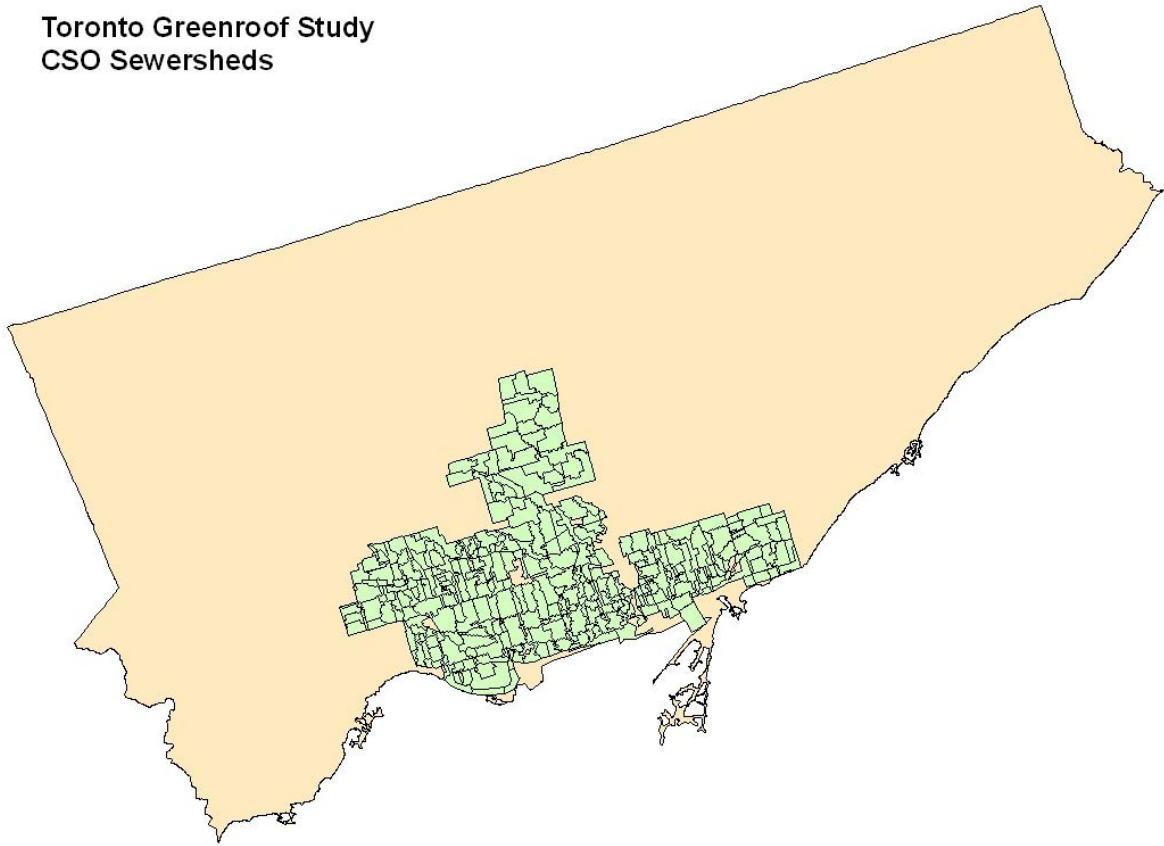
Toronto Greenroof Study
Buildings with roofs over 350 square metres,
by Watershed



Toronto Greenroof Study
Land Use



Toronto Greenroof Study
CSO Sewersheds



Toronto Greenroof Study
Runoff Reduction due to
Greenroof Implementation,
by Watershed

