500 and 508 Edgeworth Avenue (121109)
Pre-Development Peak Flow Calculations

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EXISTING CONDITIONS - FLOWS DIRECTED TO EDGEWORTH AVENUE

Time-of-Concentration (Uplands Method)

Flow Classification (Land Use)	Length (m)	Elevation U/S (m)	Elevation D/S (m)	Slope (%)	Velocity[1] (m/s)	Time-of-Concentration (min)
Overland Flow (Sheet Flow to Edgeworth)	15	67.5	67.2	2.0%	0.90	0.3
TOTAL	**15**	**67.5**	**67.2**	**2.0%**	**0.90**	**10.0**

[1] *Refer to Uplands Velocity Chart.* **Min 10-minutes.*

Existing Catchment Parameters

Catchment ID	Areas (ha)			Runoff Coefficient		%Imperv.
	Total	Hard Surfaces (C=0.90)	Soft Surfaces (C=0.20)	C_{avg}	C_{100yr}[1]	
TOTAL	**0.077**	**0.024**	**0.053**	**0.42**	**0.48**	**31.2%**

[1] *Runoff coefficient increases by 25%, up to a maximum value of 1.00, for the 100-year event.*

Pre-Development Peak Flows

Catchment ID	Rainfall Intensity (mm/hr)[1]			Peak Flows (L/s)		
	2-year	5-year	100-year	2-year	5-year	100-year
Site Boundary (existing conditions)	76.81	104.19	178.56	6.9	9.3	18.5

[1] *Tc is based on Uplands Method.*

Notes:

Rainfall Intensity from City of Ottawa Sewer Design Guidelines (Oct. 2012)
- 100 year Intensity = $1735.688 / (Tc + 6.014)^{0.820}$
- 5 year Intensity = $998.071 / (Tc + 6.053)^{0.814}$
- 2 year Intensity = $732.951 / (Tc + 6.199)^{0.810}$

Q(peak flow) = 2.78 x C x I x A
- C is the runoff coefficient
- I is the rainfall intensity
- A is the total drainage area

500 and 508 Edgeworth Avenue (121109)
Uplands Velocity Chart

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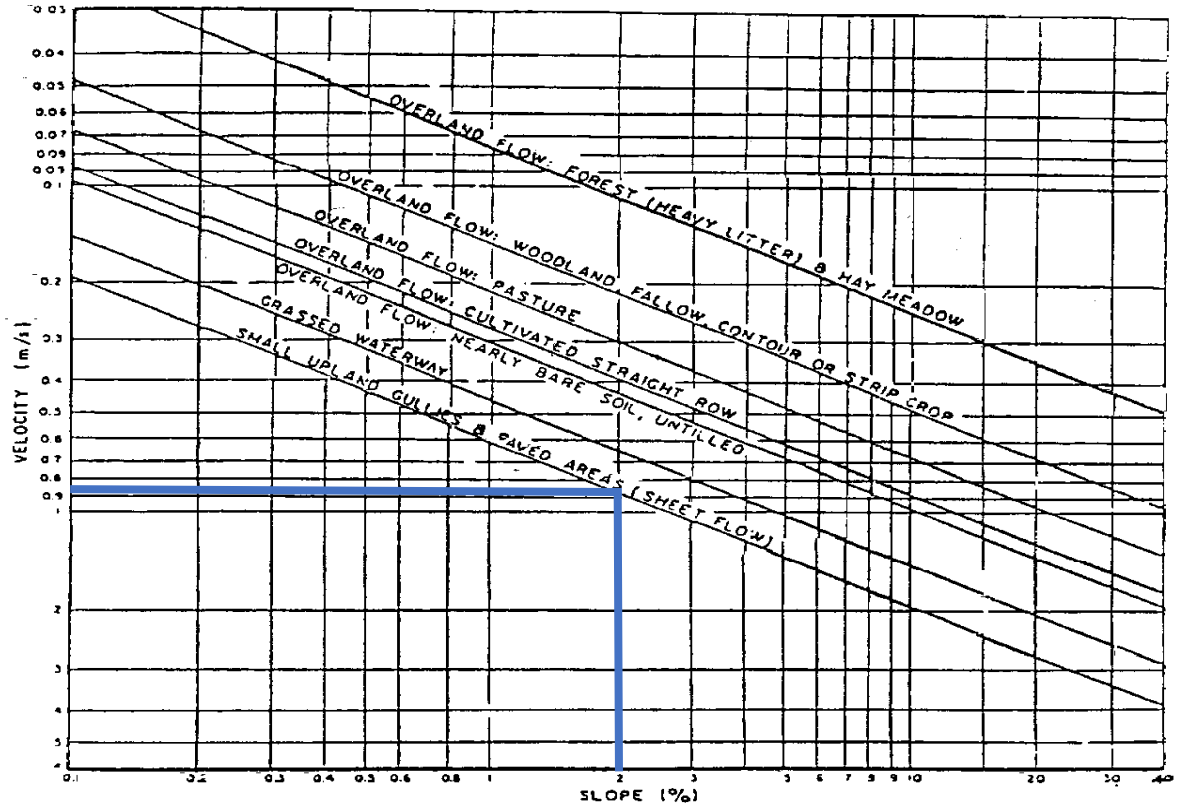

Figure A.5.2: Upland Method for Estimating Time of Concentration
(SCS National Engineering Handbook, 1971)