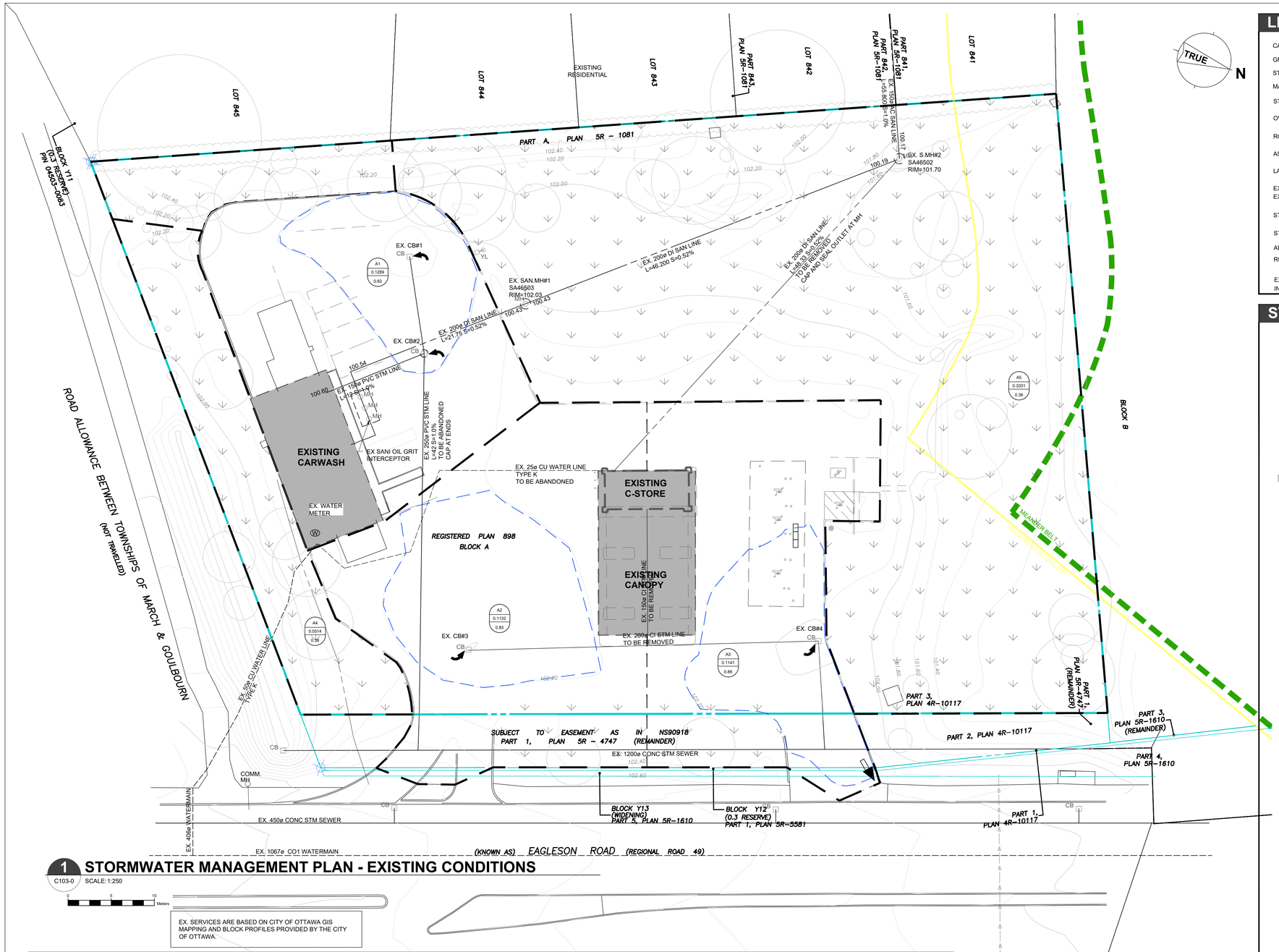

1 STORMWATER MANAGEMENT PLAN - EXISTING CONDITIONS

C103-0 / SCALE:1:250

0 5 10 Meters

EX. SERVICES ARE BASED ON CITY OF OTTAWA GIS MAPPING AND BLOCK PROFILES PROVIDED BY THE CITY OF OTTAWA.

STORM SEWER DESIGN - COMPUTATION FORM

Project Name: Eagleson, Shell, EX C-store, EX car wash, EX u/g petroleum tanks **1:5 year intensity (mm/hr)** **100.90** Revised: 6/17/2026

Job No: 2025071 **ST CI** **2018**

Catchment Area Design													Pipe Design									Capacity Check	
Drainage Area Label	Manhole U/S	Manhole D/S	Drainage Area (ha	Sum Area (ha)	Runoff Factor C	Equivalent Area (ha) AxC	Cumulative Area (ha) AxC	U/S Tc (min)	D/S Tc (min)	Intensity (mm/hr)	Incremental Design Flow, (L/s)	Design Flow (L/s)	Restricted Flow, (L/s)	Pipe Slope (%)	Nominal Pipe Diameter (mm)	Pipe Material	Friction Coeff. (n)	Pipe Length (m)	Pipe Capacity (L/s)	Velocity (m/s)	Time of Flow (min)	Design / Cap. Ratio	Pipe OK or SURCHARGED
A1	EX CB#1 & 2	EX 1200 CONC STM SEWER	0.1289	0.1289	0.82	0.106	0.106	10.00	10.69	100.90	29.8	29.8	29.8	1.000%	250	PVC	0.011	59.000	70.3	1.43	0.69	0.42	OK
A2	EX CB#3	EX CB#4	0.1132	0.1132	0.83	0.094	0.094	10.00	10.74	100.90	26.3	26.3	26.3	1.000%	200	CI	0.015	40.000	28.4	0.90	0.74	0.93	OK
A3	EX CB#4	EX 1200 CONC STM SEWER	0.1141	0.1141	0.86	0.098	0.192	10.74	10.90	97.31	26.5	51.9	51.9	1.000%	250	PVC	0.011	14.000	70.3	1.43	0.16	0.74	OK

LEGEND

- CATCH BASIN ..... CB
- GRATED TOP MANHOLE ..... GTMH
- STORM MANHOLE ..... STMH
- MANHOLE ..... MH
- STORM CATCHMENT INLET
- OVERLAND ESCAPE ROUTE
- ROOF LAND USE
- ASPHALT OR CONCRETE PAVEMENT
- LANDSCAPED LAND USE
- EXTENT OF PONDING / EXTENT OF FULL SUPPLY LEVEL
- STORM CATCHMENT BOUNDARY
- STORM CATCHMENT LABEL A2
- AREA (ha) 0.500
- RUNOFF COEFFICIENT 0.65
- EXISTING CONTOUR LINE INTERVAL 0.200 ..... 102.20

STORMWATER CALCULATIONS

STORMWATER MANAGEMENT CALCULATIONS

Rainfall Intensity = 100.9 mm/hr (1:5 Year)
161.9 mm/hr (1:100 Year)

PRE-DEVELOPMENT SITE CONDITIONS
CATCHMENT A

SURFACE	AREA (m^2)	C FACTOR
BUILDING		1.00
PAVEMENT		0.90
LANDSCAPE	7407	0.50
TOTAL	7407	0.50

$Q_{ALLOWABLE}$ = 2.78 C i A
$Q_{ALLOWABLE}$ = 1:5 Year 1:100 Year
$Q_{ALLOWABLE}$ = 103.9 166.7 L/s

EXISTING DEVELOPMENT SITE CONDITIONS

CATCHMENT A4 - UNCONTROLLED TO LEFT SIDE TO DITCH (EXISTING)

SURFACE	AREA (m^2)	C FACTOR
BUILDING	0	1.00
PAVEMENT	0	0.90
LANDSCAPE	514	0.30 add 25% to c value for 100 year
TOTAL	514	0.30

Q_{A4} = 2.78 C i A
1:5 Year 1:100 Year
Q_{A4} = 4.3 8.7

CATCHMENT A5 - UNCONTROLLED TO RIGHT SIDE TO MEANDER BELT (EXISTING)

SURFACE	AREA (m^2)	C FACTOR
BUILDING	0	1.00
PAVEMENT	0	0.90
LANDSCAPE	3336	0.30 add 25% to c value for 100 year
TOTAL	3336	0.30

Q_{A5} = 2.78 C i A
1:5 Year 1:100 Year
Q_{A5} = 28.1 56.3

CATCHMENTS A1 - PIPE CONTROLLED

SURFACE	AREA (m^2)	C FACTOR
BUILDING/ROOF	177	1.00
PAVEMENT	889	0.90
LANDSCAPE	223	0.38 add 25% to c value for 100 year
TOTAL	1289	0.82

Q_{A1} = 2.78 C i A
1:5 Year 1:100 Year
Q_{A1} = 30 47.8

STORAGE VOLUME REQUIRED (RATIONAL METHOD MODEL)
1:5 Year 1:100 Year
VOLUME $_{REQ}$ = 3.0 11.5
ELEVATION REACHED = 102.00 102.20

STORAGE VOLUME PROVIDED
Surface Storage Volume at Max Full Supply Level (Elevation 102.20) = 19 m^3

CATCHMENTS A2&A3 - PIPE CONTROLLED

SURFACE	AREA (m^2)	C FACTOR
BUILDING/ROOF	215	1.00
PAVEMENT	1771	0.90
LANDSCAPE	287	0.38 add 25% to c value for 100 year
TOTAL	2273	0.84

Q_{A23} = 2.78 C i A
1:5 Year 1:100 Year
Q_{A23} = 54 86.3

STORAGE VOLUME REQUIRED (RATIONAL METHOD MODEL)
1:5 Year 1:100 Year
VOLUME $_{REQ}$ = 5.4 22.0
ELEVATION REACHED = 102.00 102.20

STORAGE VOLUME PROVIDED
Surface Storage Volume at Max Full Supply Level (Elevation 102.20) = 51 m^3

TOTAL FREE FLOW + CONTROLLED FLOW =
1:5 Year 1:100 Year
$Q_{A1} + Q_{A23} + Q_{A4} + Q_{A5}$ = 115.9 199.0

$Q_{PR} > Q_{ALL}$
$VOL_{REQ} < VOL_{AVL}$

AECOM

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Jun. 29 2026
PROVINCE OF ONTARIO

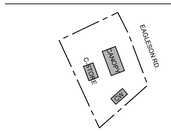
ISSUE/REVISION

I/R	DATE	DESCRIPTION
A	2026-06-26	ISSUED FOR SPCA

DRAWN BY

ED

KEY PLAN



GLOBAL PROJECT ID NUMBER

CAN00---

SHEET TITLE

SITE
STORMWATER MANAGEMENT PLAN
EXISTING CONDITIONS

CTM DESIGN FILE NAME

2025071_C103-0

SHEET NUMBER

C103-0

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ANSI D 864mm x 559mm
Approved:
Checked: YF
Designer: ED/YF
Project Management Initials:
Last Plotted: 2026-06-25
Last Plotted: YFAAS(2026-06-25)
Filename: 2025071_C103-0.DWG