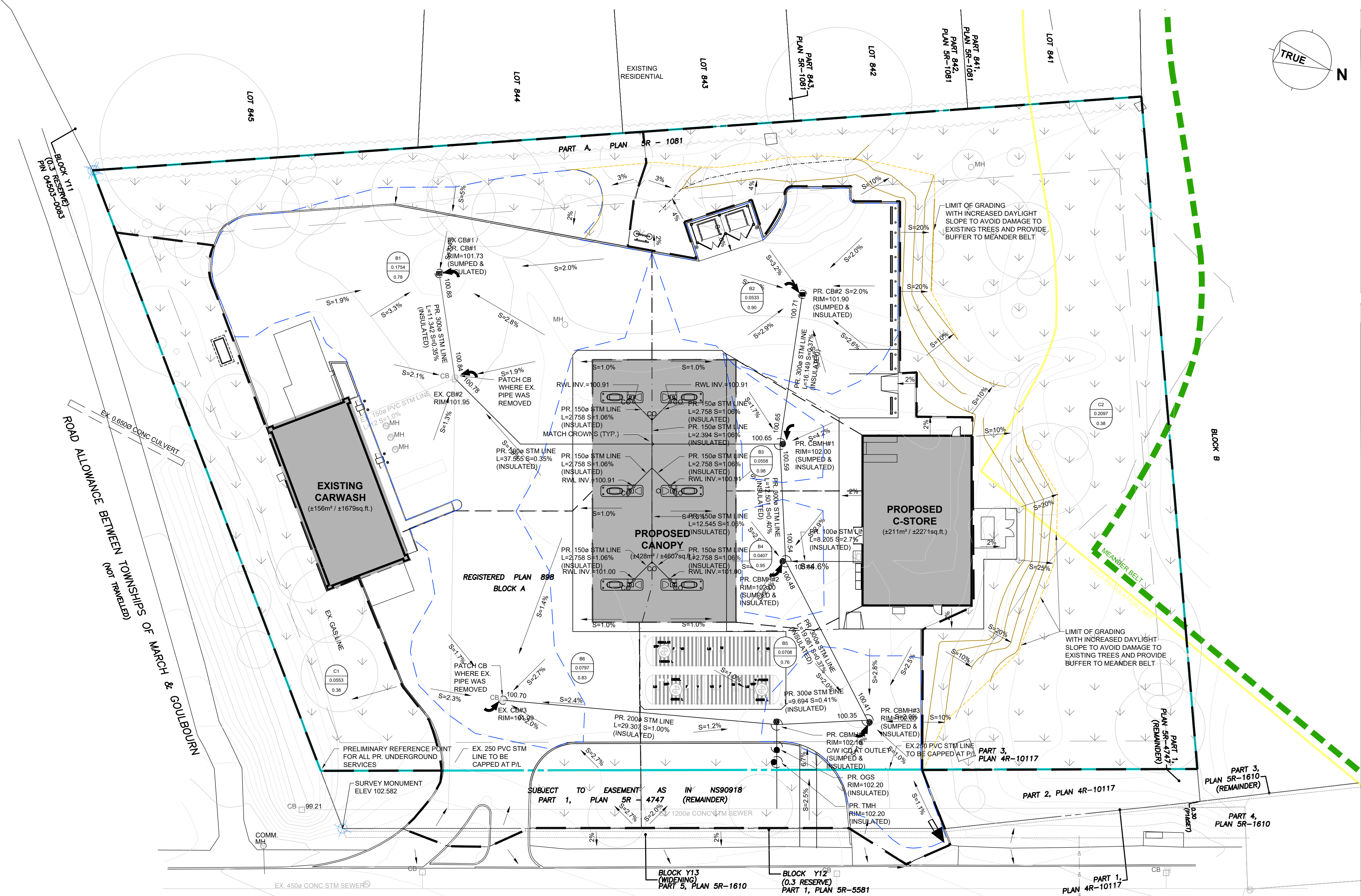




LEGEND	
CATCH BASIN	CB
GRATED TOP MANHOLE	GTMH
STORM MANHOLE	STMH
MANHOLE	MH
STORM CATCHMENT INLET	CMI
OVERLAND ESCAPE ROUTE	OR
ROOF LAND USE	RL
ASPHALT OR CONCRETE PAVEMENT	AP
LANDSCAPED LAND USE	LD
EXTENT OF PONDING	EP
EXTENT OF FULL SUPPLY LEVEL	ESL
STORM CATCHMENT BOUNDARY	SCB
STORM CATCHMENT LABEL	SL
AREA (ha)	A2
RUNOFF COEFFICIENT	0.500
	0.65

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 (m²) C FACTOR
BUILDING	0 1.00
PAVEMENT	0 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

POST-DEVELOPMENT SITE CONDITIONS	
CATCHMENT C1 - UNCONTROLLED TO LEFT SIDE TO DITCH (EXISTING)	
SURFACE	AREA (m²) C FACTOR
BUILDING	0 1.00
PAVEMENT	0 0.90
LANDSCAPE	553 0.30
TOTAL	553 0.30
Q _{C1} =	2.78 C i A
Q _{C1} =	1.5 Year 1:100 Year
Q _{C1} =	4.7 9.3
CATCHMENT C2 - UNCONTROLLED TO RIGHT SIDE TO MEANDER BELT (EXISTING)	
SURFACE	AREA (m²) C FACTOR
BUILDING	0 1.00
PAVEMENT	0 0.90
LANDSCAPE	2097 0.30
TOTAL	2097 0.30
Q _{C2} =	2.78 C i A
Q _{C2} =	1.5 Year 1:100 Year
Q _{C2} =	17.6 35.4

CATCHMENTS B1-B6 - CONTROLLED	
SURFACE	AREA (m²) C FACTOR
BUILDING/ROOF	822 1.00
PAVEMENT	3207 0.90
GRAVEL	0 0.65
LANDSCAPE	728 0.38
TOTAL	4757 0.84
Q _B =	2.78 C i A
Q _B =	1.5 Year 1:100 Year
Q _B =	112 179.2 215.1 L/s

ORIFICE CONTROL IN PR. CBM#4	
R =	1.5 Year 1:100 Year Stress Test (20%)
R =	55.0 55.0 55.0 mm
A ₀ =	0.01040 0.01040 0.01040 m²
Head Calculation	
Top of Pond =	102.070 102.130 102.150 m
Pipe Invert =	100.250 100.250 100.250 m
Water depth in outgoing pipe (if orifice submerged) =	0.110 0.145 0.155 m
H ₀ =	1.710 1.735 1.745 m/m
Q _{B2} =	36.2 36.4 36.5 L/s

STORAGE VOLUME REQUIRED (RATIONAL METHOD MODEL)	
	1.5 Year 1:100 Year Stress Test (20%)
VOLUME _{REQ} =	48.6 100.6 133.7 m³
ELEVATION REACHED =	102.07 102.13 102.15 m
STORAGE VOLUME PROVIDED	
Surface Storage Volume at Max Full Supply Level (Elevation 102.20) =	252.7 m³
Underground Pipe & Barrel Storage	Excluded
Total Storage	252.7 m³

TOTAL FREE FLOW + CONTROLLED FLOW =	
Q _{C1} + Q _{C2} + Q _{B2} =	1.5 Year 1:100 Year Stress Test (20%)
Q _{C1} + Q _{C2} + Q _{B2} =	56.5 81.2 81.3 L/s
Q _{PR} < Q _{ALL}	
VOL _{REQ} < VOL _{AVL}	

1 STORMWATER MANAGEMENT PLAN - PROPOSED REDEVELOPMENT

C104-0

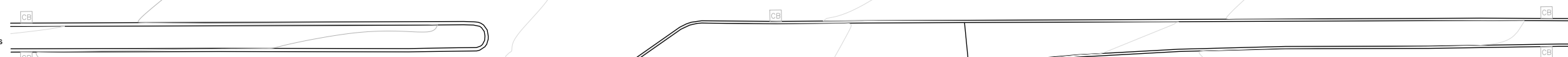
SCALE: 1:250

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5

10

Meters



STORM SEWER DESIGN - COMPUTATION FORM

Project Name: Eagleson, Shell, New C-store, Ex car wash, New u/g petroleum tanks

Job No: 2025071

1:5 year intensity (mm/hr) 100.90

ST CI 2018

Revised: 6/17/2026

Catchment Area Design														Pipe Design								Capacity Check	
Drainage Area Label	Manhole		Drainage Area (ha)	Sum Area (ha)	Runoff Factor C	Equivalent Area (ha) AxC	Cumulative Area (ha) AxC	US 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
B1	EX CB#1 & 2 XR	PR CBM#1	0.1754	0.1754	0.78	0.136	0.136	10.00	10.85	100.90	38.3	38.3	38.3	0.350%	300	PVC	0.011	48.897	67.6	0.96	0.85	0.57	OK
B6	EX CB#3	PR CBM#4	0.0797	0.0797	0.83	0.066	0.066	10.00	10.40	100.90	18.6	18.6	18.6	1.000%	200	PVC	0.011	29.307	38.8	1.23	0.40	0.48	OK
B2	PR CB#2	PR CBM#1	0.0533	0.0533	0.90	0.048	0.048	10.00	10.27	100.90	13.5	13.5	13.5	0.370%	300	PVC	0.011	16.149	69.5	0.98	0.27	0.19	OK
B3	PR CBM#1	PR CBM#2	0.0558	0.2845	0.98	0.055	0.239	10.27	10.48	99.54	15.1	66.1	66.1	0.400%	300	PVC	0.011	12.501	72.3	1.02	0.20	0.91	OK
B4	PR CBM#2	PR CBM#3	0.0407	0.3252	0.95	0.039	0.278	10.48	10.80	98.55	10.6	76.1	76.1	0.370%	300	PVC	0.011	19.081	69.5	0.98	0.32	1.09	SURCHARGED
B5	PR CBM#3	PR CBM#4	0.0708	0.3960	0.76	0.054	0.332	10.80	10.96	97.02	14.5	89.4	89.4	0.410%	300	PVC	0.011	9.694	73.2	1.04	0.16	1.22	SURCHARGED
	PR CBM#4	PR OGS	0.0000	0.4757	0.84	0.000	0.398	10.96	10.99	96.29	0.0	106.6	36.2	1.250%	200	PVC	0.011	2.400	43.3	1.38	0.03	0.83	OK
	PR OGS	PR TMH	0.0000	0.4757	0.84	0.000	0.398	10.99	11.01	96.16	0.0	106.4	36.2	1.250%	200	PVC	0.011	1.600	43.3	1.38	0.02	0.83	OK
	PR TMH	T-MAIN	0.0000	0.4757	0.84	0.000	0.398	11.01	11.07	96.07	0.0	106.3	36.2	1.200%	200	PVC	0.011	4.977	42.5	1.35	0.06	0.85	OK

C	DATE	DESCRIPTION
C	2026-06-22	ISSUED FOR SPCA
B	2026-06-09	ISSUED FOR SPCA
A	2025-10-21	ISSUED FOR CLIENT REVIEW
I/R	DATE	DESCRIPTION

