

# McINTOSH PERRY

CO-22-0160 - 2920 Sheffield- SWM Calculations

1 of 1

Storage Requirements for Area B2

2-Year Storm Event

Tc (min)	I (mm/hr)	Runoff (L/s) B2	Allowable Outflow* (L/s)	Runoff to be Stored (L/s)	Storage Required (m <sup>3</sup> )
10	76.8	35.74	10.23	25.51	15.31
20	52.0	24.21	10.23	13.98	16.78
30	40.0	18.64	10.23	8.41	15.13
40	32.9	15.29	10.23	5.06	12.15
50	28.0	13.05	10.23	2.82	8.46
Maximum Storage Required 2-year =				16.78	m <sup>3</sup>

\*Outflow based on flow curve of proposed Tempest LMF85 ICD at lowest T/G Elevation (66.40)

Storage within Structures:

Structure:	Invert Out	Bottom of Sump	Inner Diameter (m)	Inner Area (m <sup>2</sup> )	Height (Sump to Lowest T/G)	Volume
CBMH1	64.50	64.20	1.20	1.13	2.20	2.49
CBMH2	64.25	63.95	1.20	1.13	2.45	2.77
CBMH3	64.04	63.74	1.20	1.13	2.66	3.01
CBMH4	63.86	63.26	1.20	1.13	3.14	3.55
CB1	65.25	64.65	-	0.36	1.75	0.63
Total	-	-	-	-	-	12.45

Storage within Pipes:

Pipe (Start - End)	Inner Diameter	Cross-Sectional Area (m <sup>2</sup> )	Pipe Length (m)	Volume
CB1-CBMH1	0.25	0.05	16.20	0.80
CBMH1-CBMH2	0.25	0.05	10.56	0.52
CBMH2-CBMH3	0.25	0.05	37.35	1.83
CBMH3-CBMH4	0.30	0.07	22.91	1.62
Total	-	-	-	4.77

Storage Required within Storm System (m <sup>3</sup> ):	16.78
Storage Available within Storm System (m <sup>3</sup> ):	17.22

Based on the above, the proposed storm system has sufficient capacity to contain excess flow during the 2-year event.