

Appendix A

Costing Summary

This appendix presents the annual investment required to properly account for capital replacement expenses for existing marina infrastructure over a 15-year forecast. The condition, life expectancy, etc. of marina elements have been evaluated and are summarized in the tables below. In determining the remaining life of the various elements, professional judgement, specific site conditions, product quality and local factors have been considered.

Table A1 provides a breakdown of yearly reserve fund budget and capital costs based on the results of the condition survey. Costs for replacement of dock series, as well as electrical and mechanical infrastructure was sourced from local vendors, including ones familiar with the site. Greer Galloway applied applicable HST and inflation rates to these estimates to forecast future costs. As per **Section 1** HST was taken as 13.0%, and an annual inflation rate of 2.0% was assumed. These prices do not account for economic, labour or material price fluctuations beyond the assumed inflation rate and as such should be considered budget-level cost estimates only.

The initial reserve fund budgets were determined based on information provided by Marina staff, including a reserve fund balance of \$ (199,039.00) at the beginning of 2019, an annual contribution of \$171,327.00 for 2019, an increased annual contribution of \$185,691.00 for 2020. Regular increases in the annual contribution based on inflation (2.0%) for each year in the 15-year forecast were included as well.

When determining the schedule of capital replacements priority was given to those elements found to be in worst condition, with economic considerations as a second priority. It is for this reason that the 200 series docks are scheduled for replacement in 2020, despite it leaving the fund with a negative balance. This is because the condition of the 200 series docks is the most critical of any series in the Marina. It is our understanding that repairs were undertaken at the beginning of the 2019 season to address a sinking finger dock, but comments made at that time by the contractor (Kehoe Marine Construction) make it clear that the repairs were only meant to last through one season. A temporary bladder was used to refloat the sinking dock, but the condition of the steel pontoon was found to be extremely poor, as described in **Section 5.2.7.2** and seen in **Figures 31 & 32**.

The possibility of scheduling the replacing the 200 series dock in 2021 and replacing the Custom's Dock in 2020 was considered during the development of this report. However, after reviewing a draft of this report with Town and Marina staff and reviewing the contractor's comments regarding the previous 200 series repairs, Greer Galloway felt it was prudent to address the most critically damaged series first. This is due in part to concerns that leaving the 200 series until 2021 will result in further failure similar to that experienced in 2019 and will necessitate further emergency repairs or replacement.

Year	Reserve Fund Values (\$)			Dock Replacement		Other Capital Purchases/Replacements		Year End Balance
	Reserve Fund Balance	Annual Contribution	Available Funds	Cost (\$) (HST Included)	Series to be Replaced	Cost	Item	
2019	\$ (199,039.00)	\$ 171,327.00	\$ (27,712.00)	\$ -	-	\$ -		\$ (27,712.00)
2020	\$ (27,712.00)	\$ 185,691.00	\$ 157,979.00	\$ (198,315.00)	200 Series	\$ (5,650.00)	Geotechnical Engineering Investigation & Retaining Wall Design	\$ (45,986.00)
2021	\$ (45,986.00)	\$ 189,404.82	\$ 143,418.82	\$ (109,727.52)	Customs Dock	\$ (11,300.00)	Transformer Replacment	\$ 22,391.30
2022	\$ 22,391.30	\$ 193,192.92	\$ 215,584.22	\$ (103,927.64)	100 Series	\$ (135,600.00)	Retaining Wall Installation	\$ (23,943.42)
2023	\$ (23,943.42)	\$ 197,056.77	\$ 173,113.35	\$ -	-	\$ -		\$ 173,113.35
2024	\$ 173,113.35	\$ 200,997.91	\$ 374,111.26	\$ (408,409.23)	300 Series	\$ -		\$ (34,297.97)
2025	\$ (34,297.97)	\$ 205,017.87	\$ 170,719.90	\$ -	-	\$ (28,320.78)	Pump-Out Replacement	\$ 134,913.46
2026	\$ 134,913.46	\$ 209,118.23	\$ 344,031.68	\$ (276,909.82)	400 Series	\$ (7,485.67)	Duplex Pump Replacement	\$ 67,121.86
2027	\$ 67,121.86	\$ 213,300.59	\$ 280,422.45	\$ (301,918.24)	800 Series	\$ -		\$ (21,495.79)
2028	\$ (21,495.79)	\$ 217,566.60	\$ 196,070.81	\$ -	-	\$ -		\$ 196,070.81
2029	\$ 196,070.81	\$ 221,917.93	\$ 417,988.74	\$ -	-	\$ -		\$ 417,988.74
2030	\$ 417,988.74	\$ 226,356.29	\$ 644,345.03	\$ -	-	\$ -		\$ 644,345.03
2031	\$ 644,345.03	\$ 230,883.42	\$ 875,228.45	\$ (817,015.04)	700 Series	\$ -		\$ 58,213.41
2032	\$ 58,213.41	\$ 235,501.09	\$ 293,714.50	\$ -	-	\$ -		\$ 293,714.50
2033	\$ 293,714.50	\$ 240,211.11	\$ 533,925.61	\$ -	-	\$ -		\$ 533,925.61
2034	\$ 533,925.61	\$ 245,015.33	\$ 778,940.94	\$ -	-	\$ -		\$ 778,940.94

Table A2 provides a summary of all the dock series in the Marina. It includes the age of each series, the number of slips, anticipated life span for each series, remaining lifespan, reasonable replacement cost in current dollars, the replacement priority, and suggested replacement year for each series. The ages of existing docks are based on information provided by Marina staff in a map provided to Greer Galloway via email. This document can be found in **Appendix D – Field Notes and Sketches**.

In an effort to be conservative, when a range of dates was provided for the installation of a set of docks, Greer Galloway always assumed the earliest year. When determining the anticipated lifespan of a series of docks, new docks were assumed to have a lifespan of 30 years based on information provided by Kehoe Marine Construction in their quote (**See Appendix C**). The lifespan of older dock series was based on the range provided in the “Dock Ages” document of 30-35 years, and the current condition of each specific series. This is why the 700 and 800 series docks are shown to have 35-year lifespans, while the customs and 100 series docks only have 32-year lifespans, and 200 series has a 30 year life span.

Dock Series	Year Built	# of Slips	Anticipated Lifespan	Age ca. 2020	Remaining Lifespan	Priority	Replacement Cost (In 2019, No HST)	Suggested Replacement Year	Additional Maintenance Required
Loading	2015	18	30	5	25				
Customs	1987	10	32	33	-1	2	\$ 95,200.00	2021	
A	2010	6	30	10	20				
B	2010	6	30	10	20				
100	1988	10	32	32	0	3	\$ 88,400.00	2022	
200	1988	22	30	32	-2	1	\$ 175,500.00	2020	
300	1988	38	32	32	0	4	\$ 333,900.00	2024	Replace broken and Worn Chains
400	1988	28	35	32	3	5	\$ 217,600.00	2025	Replace broken and Worn Chains
500	2016	42	30	4	26				
600	2018	28	30	2	28				
700	1995	62	35	25	10	7	\$ 581,500.00	2030	Replace rotten boards at pedestals
800	1988	28	35	32	3	6	\$ 232,600.00	2026	
900	2014	40	30	6	24				
RB	2010	21	30	10	20				
C	2014	6	30	6	24				
D	2014	6	30	6	24				