

# FUTURE REPLACEMENT COST CALCULATOR: DOCK SYSTEM

developed for marina owners and operators by Bellingham Marine ©2018

## EXAMPLE SCENARIO

A yacht club has just replaced its marina at a cost of 8.5 million. The marina is expected to have a useful life of "y" years and no salvage value. The yacht club is establishing a "sinking fund" for the purchase of a new marina in "y" years. Research indicates that on average the cost of construction increases "z"% each year. The club can earn about "x"% in a conservative investment account on its monthly deposits. How much must the club deposit into the sinking fund at the end of each month to meet its marina replacement cost?

### **Assumptions:**

	<b>Variables</b>
Cost of new yacht club today	8,500,000.00
30% down (for a 20 yr. commercial loan)	2,550,000.00
Annual increase in cost of construction	z%
Interest Rate	x%
Useful Life	y
Salvage Value	0

Price of a new Marina in 20 years will be:  $PV * (1+i)^n = FV$

### **Assumptions:**

	<b>Variables</b>
payment made at end of month with interest compounding monthly	
AV	FV
n	y*12
i	x/12

Sum of all future payments must equal **FV**

$$PMT = (i*FV)/(((1+i)^n)-1)$$

**Monthly Payment Amt.**