Yacht Club Cash Flow Forecasting Model and 10-Year Capital Investment Plan

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Project Sponsor: Client Yacht Club Long Range Planning Committee

Agenda

- **Background**
  - **Project Approach and Methodology**
- **Cash Flow Modeling**
  - **Approach**
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  - **Sensitivity Analysis**
- **Capital Investment Plan**
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- **Conclusion**

Background

Background

- The CYC is a small-to-medium sized yacht club in Anne Arundel County, MD
- The CYC consists of 4 business sections:
  - A marina
    - 4 docks, a total of roughly 142 slips in varying conditions
  - A fueling station located on West Dock
  - A private clubhouse with a restaurant, commercial kitchen, and bar
  - Supporting services
    - General maintenance and other overhead activities

Context Analysis

The client's yacht club (CYC) has seen declining revenues and increasing expenses for the past few years. The club has seen significant operating losses, and used limited capital reserves, and initiation fees which are meant for the capital fund, to cover these losses.

Furthermore, the club intends to undergo an extensive marina modernization to replace aging docks that have exceeded their lifespan.

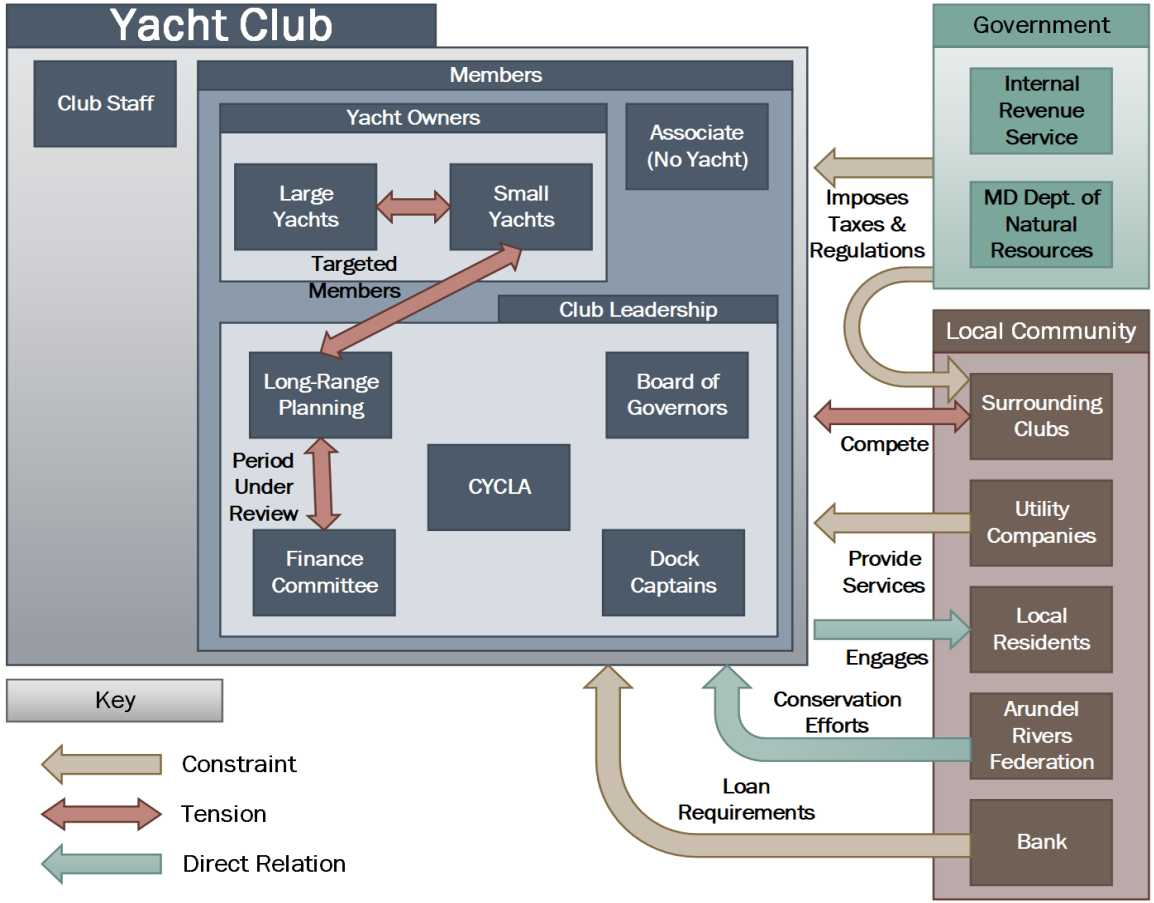
The first phase of this project is expected to cost $2,000,000, and the club has no significant capital reserves. Financing the first phase of this project requires a commercial loan, and subsequent phases likely will as well.

Club leadership did not have any tools to support budget projections and develop quantitative justifications for critical planning decisions.

Dock Master Plan

Stakeholder Analysis

- **Project sponsor: Long Range Planning Committee**



Problem Statement

The client's yacht club has aging infrastructure and a historical business model that makes financing needed capital investments challenging. Failing to carry out necessary updates can lead to a downward spiral where inadequate facilities lead to membership decline, increasing financial pressures, consequently making necessary capital investments unattainable.

Need Statement

The client's yacht club currently needs to develop an updated 10-year capital investment plan (CIP) to improve its aging infrastructure, and an improved business model to assure the club's long-term financial sustainability.

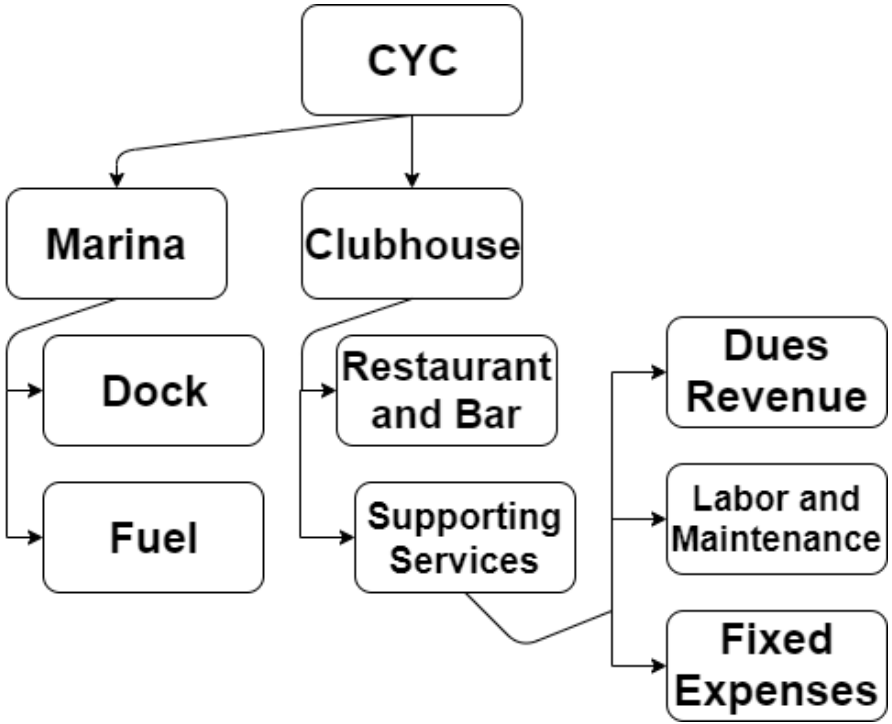
Project Approach and Methodology

- Decomposed CYC into multiple profit-loss centers
- Identified operating income and expense items for each profit-loss center
- Analyzed available data for each income and expense item
- Developed mathematical model for each income and expense item
  - Focused on operating expenses and incomes, does not cover capital and/or initiation fees which are meant for the capital fund, but have been used to cover operating expenses in the past
- Implemented these models into a python application that can be used to forecast the club's cash flow
  - Implemented graphical user interface so that club management can make projections without editing model code

Project Approach and Methodology

- Used cash flow forecasting model to produce projections for different possible scenarios
- Identified key capital items and assigned utility scores based on stakeholder approved utility function
- Identified costs associated with these capital items
- Built linear program to maximize utility gained from capital investments subject to cost constraints determined by cash flow projections
    - Used the results from this to produce capital investment plans for different outlined scenarios

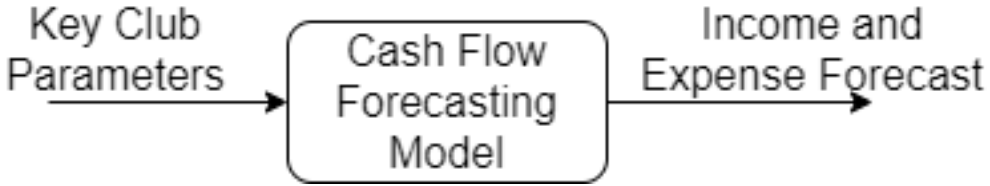
Decomposing the CYC



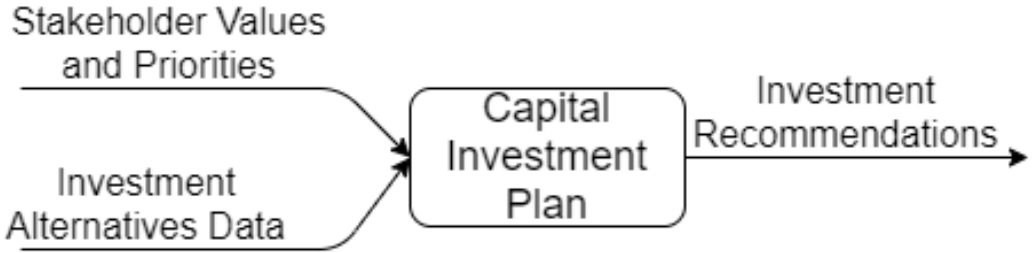
- 4 primary profit-loss centers
  - Docks, Fuel System, Restaurant and Bar, and Supporting Services
- Each profit-loss center model has its own income and expense items

Concept of Operations

- **Cash Flow Forecasting Model**
  - **User can enter club parameters and forecast income and expense items multiple years into the future**



- **Capital Investment Plan**
  - **Prioritize allocation of very limited financial resources to investment options that provide the most value**



Cash Flow Model Mission Requirements (CFMR)

CFMR1. The model shall use meaningful input parameters that reflect factors CYC leadership and management can influence.

CFMR2. The model shall use meaningful input parameters that reflect the state of the CYC.

CFMR3. The model shall predict income and expense items based on model inputs.

CFMR4. The model shall decompose the CYC into profit-loss centers.

CFMR5. The model shall have a functional GUI that accepts user inputs.

Capital Investment Plan Mission Requirements (CIPMR)

CIPMR1. The CIP shall recommend capital improvements (CIs) that meet financial constraints determined by cash flow projections

CIPMR2. The CIP shall evaluate CIs with respect to CYC member preference

CIPMR3. The CIP shall evaluate CIs with respect to potential return on investment (ROI)

CIPMR4. The CIP shall evaluate CIs with respect to relevance to core business functionality

CIPMR5. The CIP shall evaluate CIs with respect to environmental impact

Cash Flow Forecasting Model Input-Output Requirements

CFSR1. The Cash Flow Forecasting Model shall accept the following general inputs:

- Initial number of active members
- Initial number of associate members
- Membership dues rate in dollars per member
- Expected inflation for the time frame projected

CFSR2. The Cash Flow Forecasting Model shall accept the following inputs for the marina, clubhouse building, and grounds:

- Slip capacity for South, Middle, New, and West Dock
- Initial occupancy for South, Middle, New, and West Dock
- Slip fee in dollars per foot of length overall for South, Middle, New, and West Dock

Cash Flow Forecasting Model Input-Output Requirements

CFSR3. The Cash Flow Forecasting Model shall produce the following outputs for the marina, clubhouse building, and grounds:

- Slip fee revenue for South, Middle, New and West Dock for the projected time frame
- Annual combined dock maintenance expense for the projected time frame
- Annual fuel sales revenue for the projected time frame

CFSR4. The Cash Flow Forecasting Model shall accept the following inputs for food and beverage service:

- Initial dining room wages as an annual dollar amount
- Initial bar wages as an annual dollar amount

Cash Flow Forecasting Model Input-Output Requirements

CFSR5. The Cash Flow Forecasting Model shall produce the following outputs for food and beverage service:

- Annual food sales for the projected time frame
- Annual beverage sales for the projected time frame
- Annual bar wages for the projected time frame
- Annual dining room wages for the projected time frame
- Annual cost of food sold for the projected time frame
- Annual cost of beverages sold for the projected time frame

CFSR6. The Cash Flow Forecasting Model shall use projected values to compute the following summary items:

- Net revenue from marina operations
- Net revenue from food sales
- Net revenue from beverage sales
- Total Revenue
- Total Expenses

Cash Flow Modeling

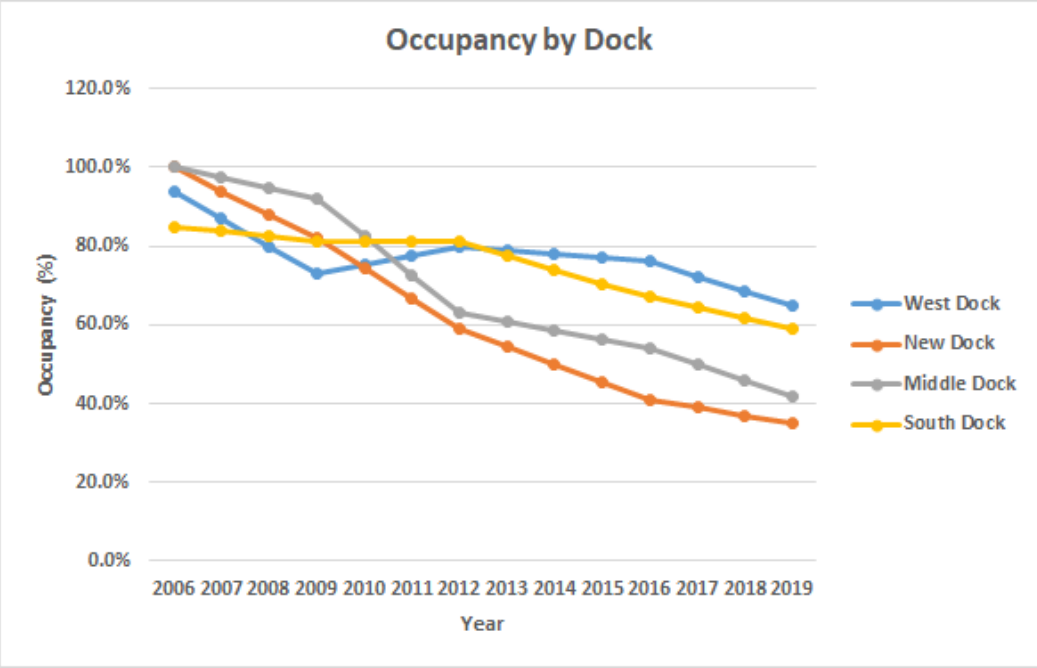
Cash Flow Forecasting Model (CFFM): Marina

Dock Revenue

- **Model Equation: For each dock,**
  - ***Slip Fee Revenue = Fee * (Occupancy) * (Capacity) * (Average LOA)***
- **Fees are charged per foot of length overall (LOA) which varies from slip to slip**
- **Each of the four docks has unique capacity and occupancy**
- **For each dock, occupancy changes at a different rate from year to year**

CFFM: Dock Occupancy

- The change in occupancy in projections of different scenarios is derived from historical data
- New Dock is being modernized which should improve its ability to attract occupants
  - Its occupancy change is modeled based on project sponsor's estimates
- Historical data shows consistent decline in occupancy



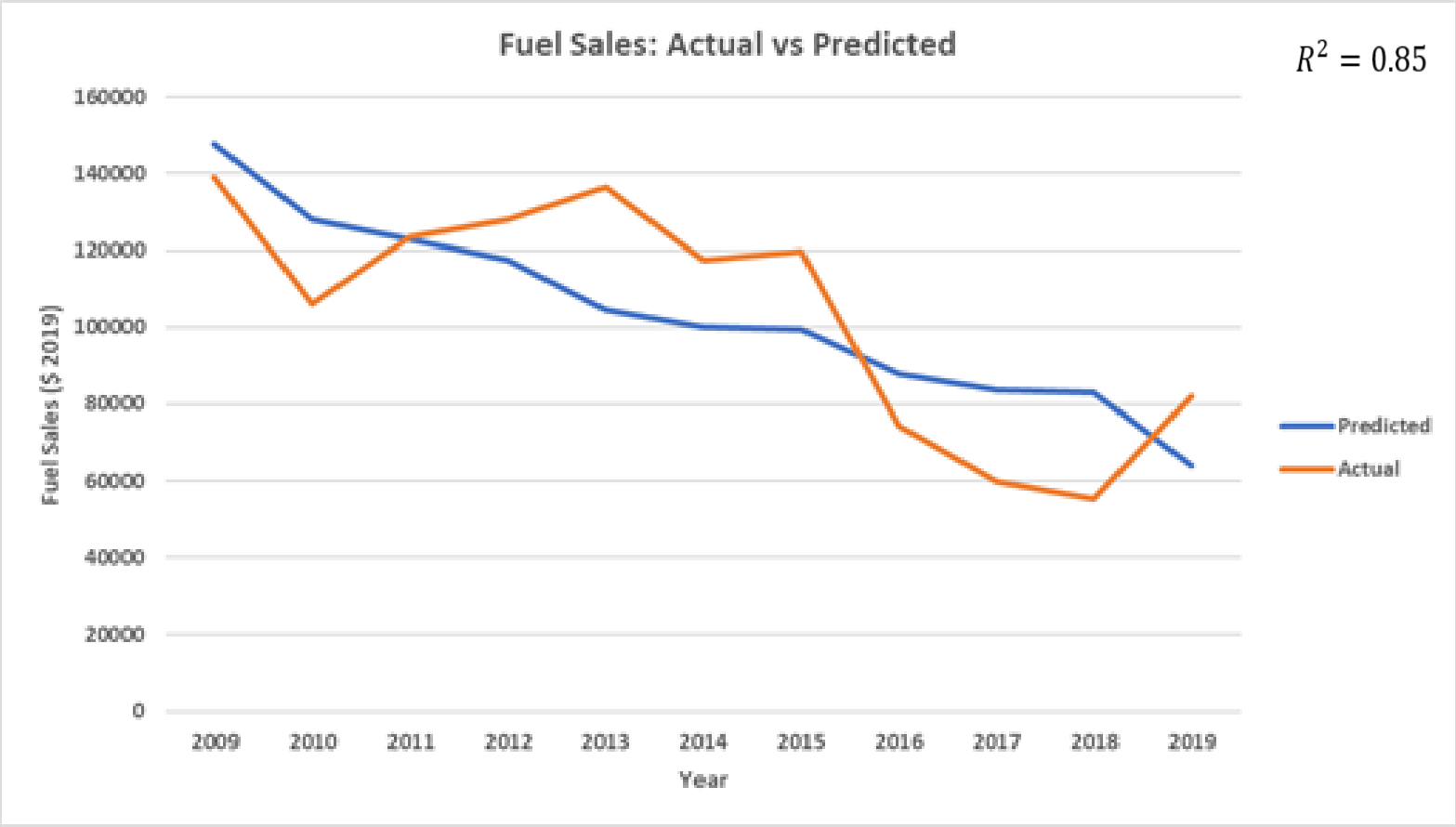
Dock Occupancy from 2006-2019

CFFM Fuel

Fuel Sales

- **Combination of Gasoline and Diesel sales**
- **Carried out multiple linear regression to model fuel sales revenue**
- **Model Equation:**
  - ***Fuel Sales = 168,000 * (Est. Occupancy) - 22,000 * (Sail to Total Ratio)***
- **Sail to Total Ratio refers to share of boats which are sailboats**
  - **These consume far less fuel than other boats in the marina**
- **The model produces an R^2 of 0.85 when compared to 2009-2019 historical data**

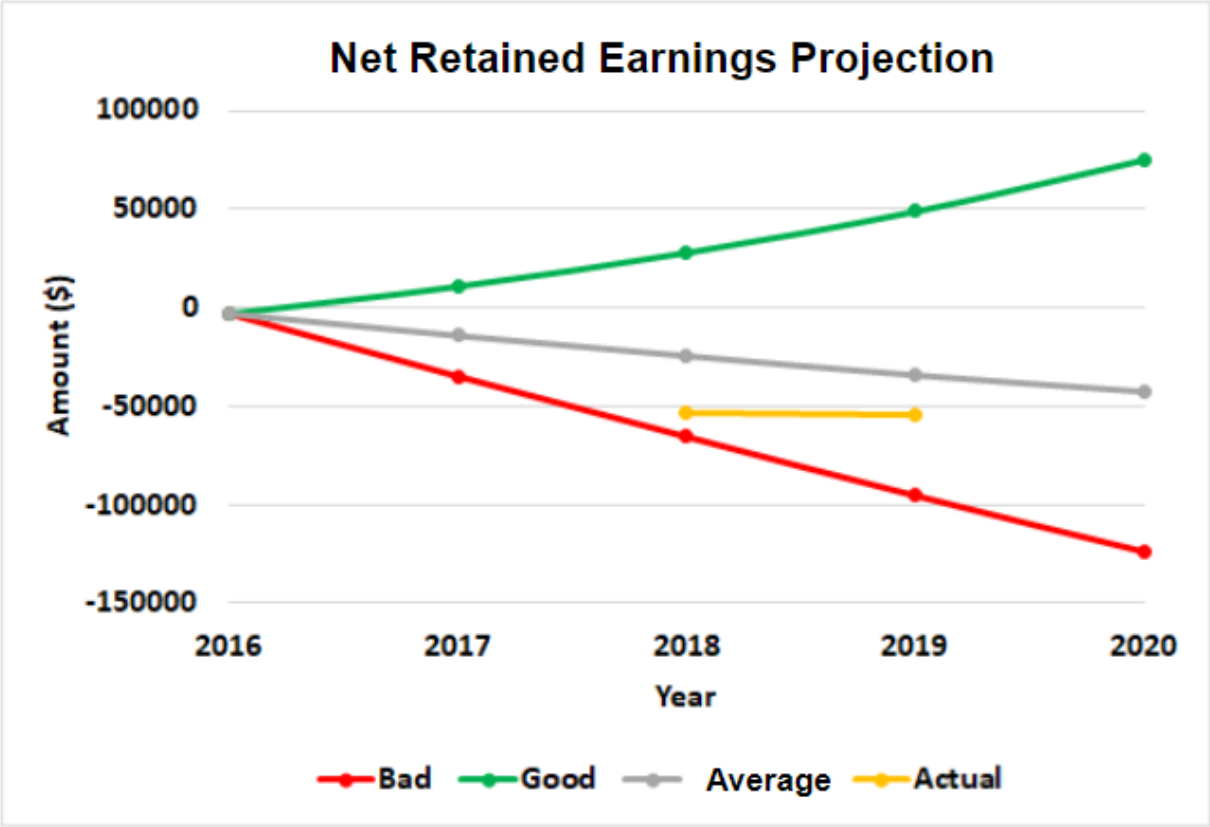
CFFM Fuel Sales Validation



CFFM Summary

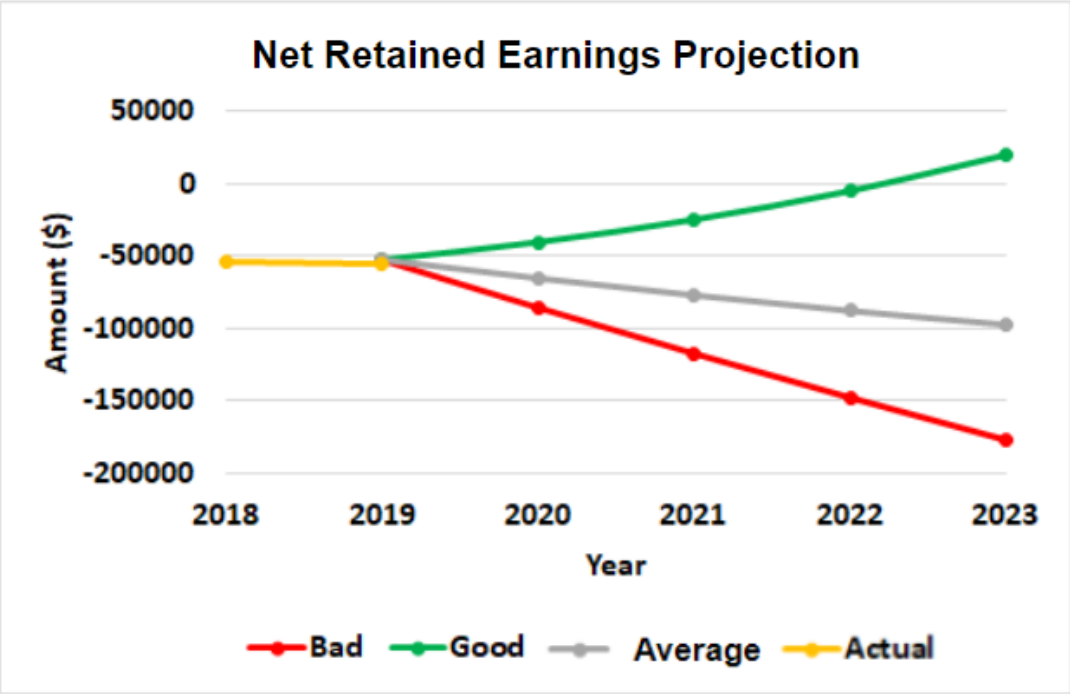
- In addition to income and expense items in previous slides, every major operating income and operating expense item was analyzed, modeled and validated
- Key findings:
  - Dining room wages have consistently grown by roughly 3.5 % by year, which is significantly above inflation (which averages 2% per year)
  - Administrative wages have also grown faster than inflation in previous years
  - Various types of sales revenue are highly sensitive to membership change

Cash Flow Forecasting Model Validation



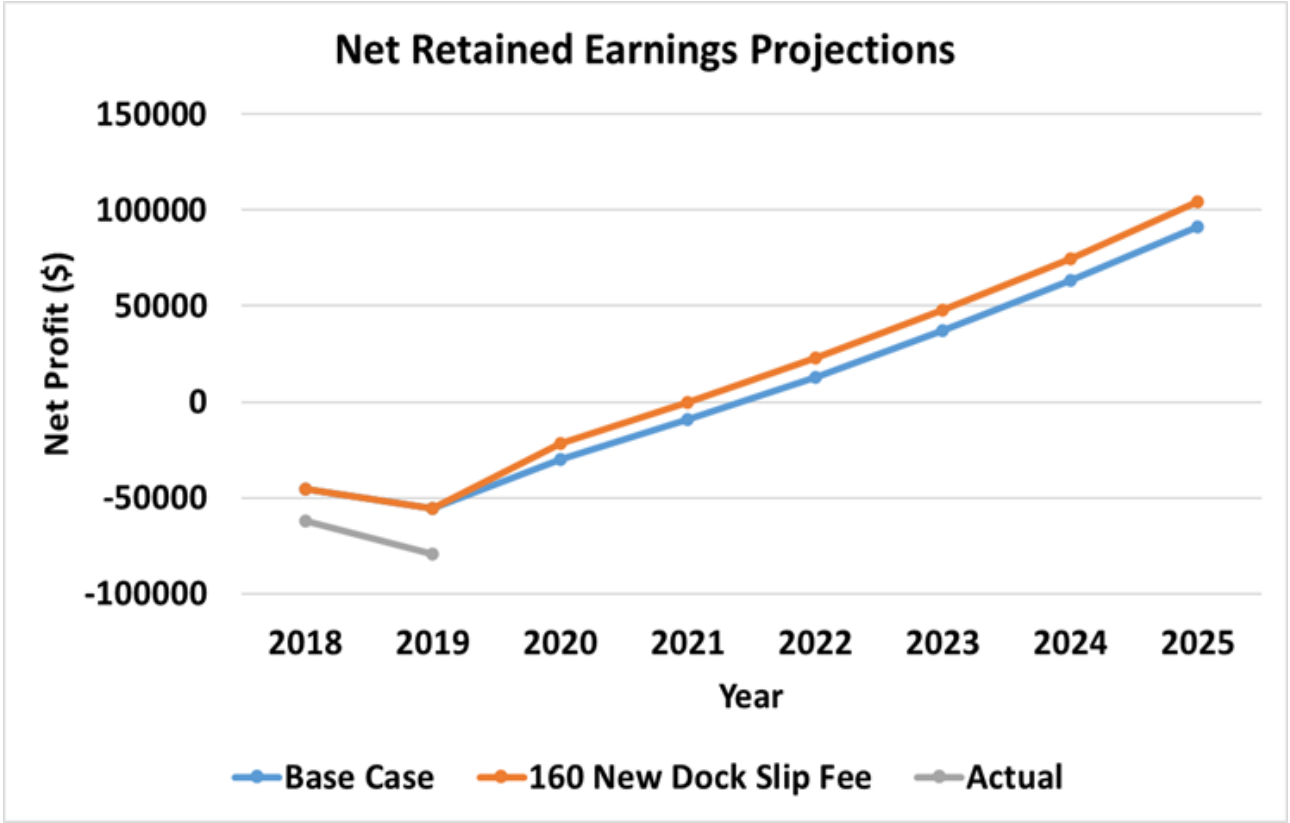
- 'Bad', 'Average', and 'Good' refer to different levels of expected membership growth
  - 1% decline, stagnant, 3% growth respectively
  - Values derived from historical membership data
- Final report includes more detailed low-level validation for each item
- Compares forecast to actual values for 2018 and 2019
- Starts projections with actuals from 2016
- Satisfactory results given that club has seen membership decline in recent years
- Capital fund and fees used to cover losses

Projections based on 2019 Conditions



- If trends leading up to 2019 were to continue
  - Club will continue to see significant operating expenses
- Partially as a result of the preliminary findings of this project, club leadership made a few significant changes that increased revenue and reduced costs

Projections with Updated Conditions



- The chart shows a modified projection accounting for some of the changes that have been implemented and will be implemented in the near future
- These include:
  - New management
  - Increased annual dues
  - Expected impact of New Dock Modernization
    - 4 % overall membership growth
    - 10 % New Dock Occupancy growth annually
  - Possibly raising slip fees

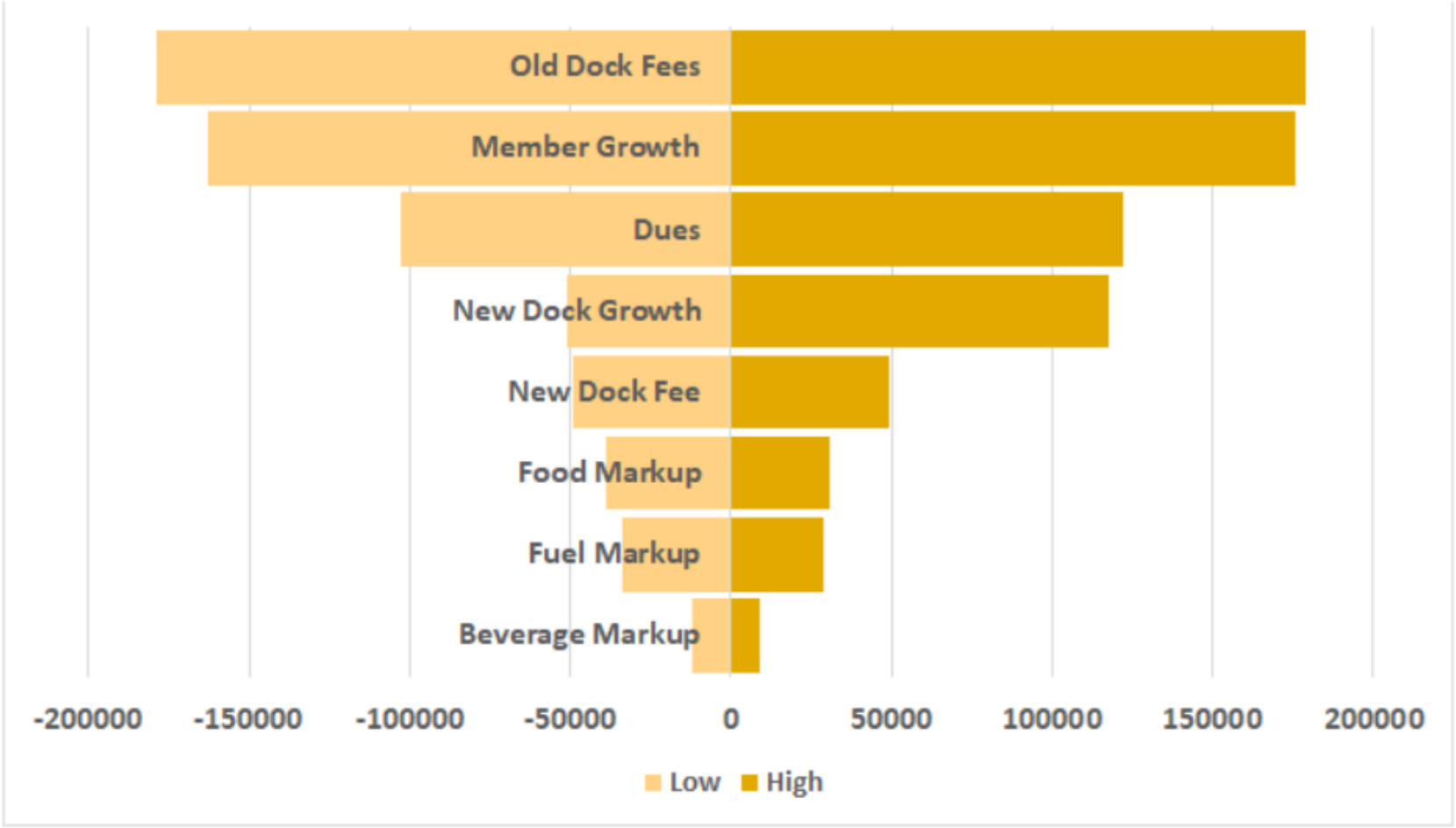
Analysis of Projections

- Projections show that if trends leading up to 2019 were to continue, the club could expect to see operating losses of growing magnitudes in coming years
  - This has been averted for now thanks to changes made in club operations
- Based on new conditions, it is possible to expect to see a return to profitability in the next year or two
- However, some of the assumptions made in this projection were somewhat optimistic
  - Expecting consistent overall membership growth of 4%
  - Expecting New Dock occupancy to consistently increase by 10% annually after modernization
- The capital investment plan tries to address this by including different scenarios for varying overall growth rates

Sensitivity Analysis

- Using the forecasting tool it is possible to see how much of an impact different parameters have on the club's retained earnings
- In order to see the impact of different input parameters
  - Each parameter was adjusted to roughly 10% more and then 10% less than its baseline value
- Parameters varied include: Dues, Slip Fees, Markup rates for fuel, food and beverages, dock occupancy growth and overall membership growth

Effect of 10% Change in Parameters on 5 Year Net Retained Earnings



Findings: Slip Fees and Growth are Critical to Profitability

- Slip Fees, Overall Membership Growth, and Dues have the most significant impact on the club's retained earnings over a 5 year period
- Markup rates for food, beverage and fuel sales have a less significant impact
  - While sales of food, beverages and fuel are a valuable source of revenue, and a service club members value, the revenue from sales cannot compensate for inadequate income from dues and slip fees

Capital Investment Plan

Capital Investment Plan

- Goal is to find optimal allocation of club's limited financial resources to address major capital improvements that will become necessary in the coming ten years
- Approach
  - Quantify utility for each potential investment
  - Determine estimates for costs for these investments
  - Use cash flow projections to suggest optimal capital investment plan given financial constraints
- Dock Modernization is separated from the evaluation of other capital items
  - Dock modernization options are accounted for in different scenario specific capital investment plans
  - Dock modernization is separated from other capital items because it is exceedingly critical, and disproportionately expensive

Utility Function

The weights and scoring rubrics for capital items have been determined by our team and approved by the project sponsor and the club's general manager.

$$\text{Total Utility} = 0.2*\text{Appearance Score} + 0.3*\text{Return on Investment Score} + 0.4*\text{Criticality Score} + 0.1*\text{Environmental Impact Score}$$

Weights

- Appearance (20%)
  - Attractiveness and appeal
  - Based on previous surveys this seems to be the most important
- Return On Investment (ROI) (30%)
  - Significant importance due to club's poor financial position
- Importance to club operations (40%)
  - Some items are necessary in order for the club to function
- Environmental Impact (10%)
  - Being a 'Maryland Clean Marina' was somewhat important
- General Manager and Long Range Planning Committee both approved these weights

Utility Score Approach

- Appearance, Importance and Environmental Impact are all hard to quantify in a way that allows comparison between very different alternatives
- In order to come up with justifiable scores, our team put together rubrics to fairly assign scores to very different options
    - Initial draft of these rubrics were reviewed by project sponsor and General Manager
- Finally, we normalized scores to give value between 0 and 1 for each attribute

Attribute Rubric - Appearance

Attributes	Measures	Scoring
A1. Appearance (10 points possible)	1.1 Project is visible to CYC members, staff, and/or visitors	• 0-5 points: Varies based on visibility of project to members, staff, and/or visitors
	1.2 Project improves the appearance of an existing asset	• 0-3 points: Varies based on whether project will improve the appearance of an existing asset (and by how much)
	1.3 Project is physically appealing	• 0-2 points: Is physically appealing

Attribute Rubric - Return on Investment

Attributes	Measures	Scoring
A2. Return on Investment (4 points possible)	2.1 Project reduces operating costs	• 1 point: Expected decrease in costs • -1 point: Increase in costs
	2.2 Project improves operational efficiency	• 1 point: Expected increase in efficiency • -1 point: Decrease in efficiency
	2.3 Project contributes to increasing CYC revenue	• 1-2 points: Varies based on expected contribution to increasing revenue • -1 point: Contributes to expected long-term loss in revenue

Attribute Rubric - Criticality

Attributes	Measures	Scoring
A3. Criticality (10 points possible)	3.1 Project addresses safety, security, or other risk	• 3 points: Reduces risk of loss of life or serious injury on CYC property • 2 points: Addresses security or safety risk to CYC customers and employees • 1 point: Addresses any other security/safety impacts
	3.2 Project replaces or rehabilitates an existing asset	• 2 points: Replaces or rehabilitates a capital asset AND ensures continuation of CYC operations • 1 point: Replaces or rehabilitates a capital asset OR ensures continuation of CYC operations
	3.3 Project prolongs the life of an existing asset	• 1 point: Prolongs the life of another asset
	3.4 Project completes or enhances an on-going capital investment project	• 2 points: Completes an on-going capital investment project • 1 point: Enhances an on-going capital investment project
	3.5 Project protects against service disruption	• 0-2 points: Varies based on frequency and severity of failure

Attribute Rubric - Environmental Impact

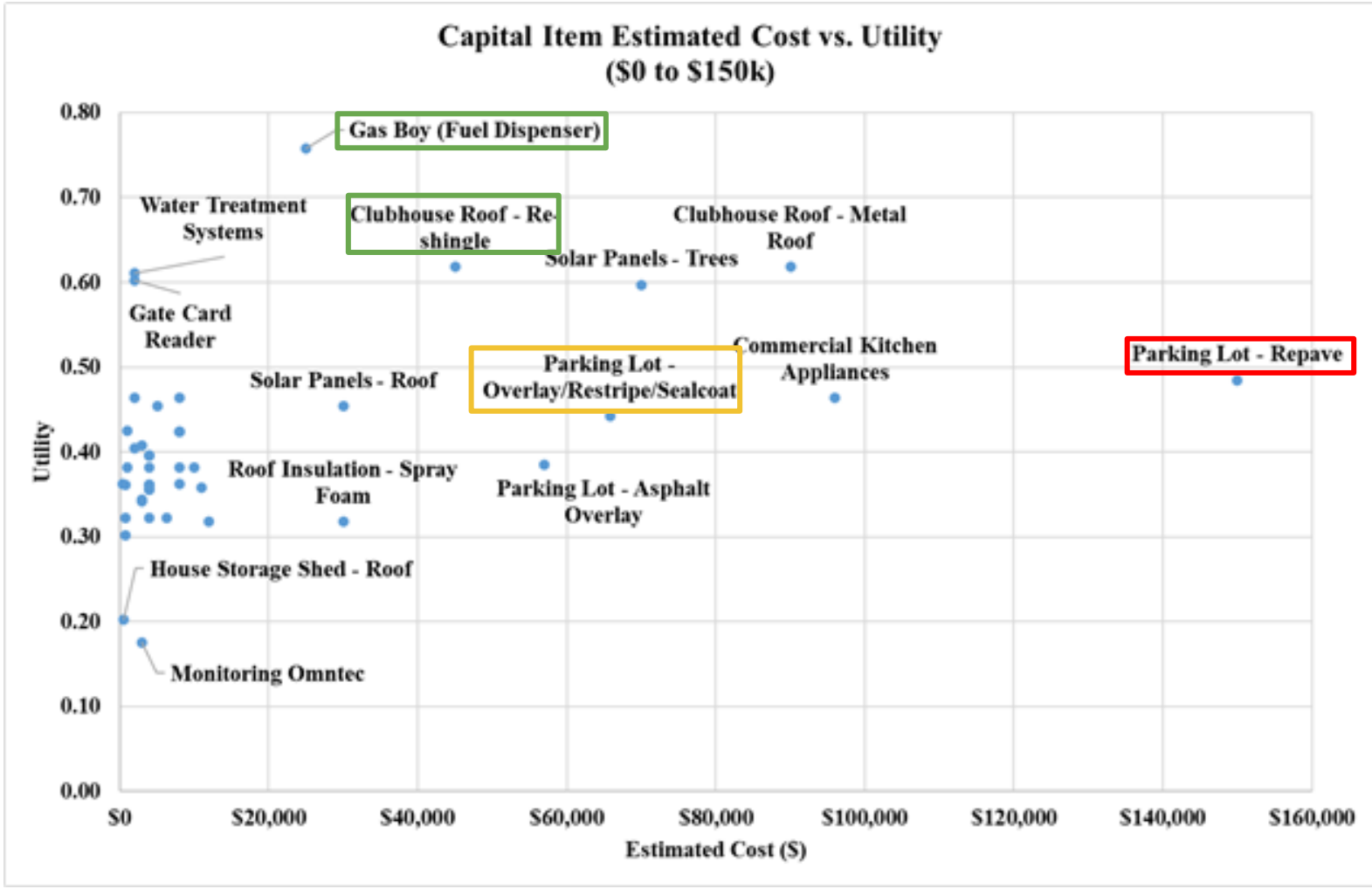
Attributes	Measures	Scoring
A4. Environmental Impact (4 points possible)	4.1 Project enhances operational sustainability	• 1 point: Expected decrease in resource/energy consumption • -1 point: Increase in resource/energy consumption
	4.2 Project improves or sustains impact thresholds	• 1 point: Reduces CYC risk of disrupting ecological, resource, social, or economic systems • -1 point: Increase in CYC risk
	4.3 Project will contribute to an environmental mandate, requirement, or goal	• 2 points: Contributes to meeting Maryland state environmental mandates, regulations, requirements, or goals • 1 point: Contributes to meeting CYC environmental mandates, regulations, requirements, or goals

Capital Item Utility Scores

Item	Yr Installed	Est Life (yrs)	Replacement Yr	Appeal Points 1	ROI Points 1	Criticality Points 1	Environ. Points 1	Total point	Average Cost
Gas Boy (Fuel Dispenser)	1998			9	2	7	3	0.758	$25,000.00
Clubhouse Roof - Metal Roof				9	1	5	2	0.618	$90,000.00
Clubhouse Roof - Re-shingle	2001	25	2026	9	1	5	2	0.618	$45,000.00
Water Treatment Systems	2003	20	2023	0	2	7	5	0.611	$2,000.00
Gate Card Reader				8	0	7	0	0.602	$2,000.00
Solar Panels - Trees				10	3	1	4	0.597	$70,000.00
Parking Lot - Repave				10	1	2	0	0.485	$150,000.00
Commercial Kitchen Appliances				2	2	4	1	0.464	$96,000.00
A/C #4 (Office)	2000	15	2024	0	2	5	1	0.464	$2,000.00
A/C #5 (Kitchen)	2007	15	2023	0	2	5	1	0.464	$8,000.00
Solar Panels - Roof				7	2	0	4	0.454	$30,000.00
Solar Panels - Roof Financed				7	2	0	4	0.454	$5,000.00
Parking Lot - Package				10	0	2	0	0.442	$71,300.00
Office Computer				3	1	4	0	0.425	$1,000.00
A/C #1	1999	15	2024	0	2	4	1	0.424	$8,000.00
A/C #2	1999	15	2024	0	2	4	1	0.424	$8,000.00
A/C #3	1999	15	2024	0	2	4	1	0.424	$8,000.00
Swimming Pool Pump				0	2	4	0	0.408	$3,000.00
POS System				4	1	3	0	0.405	$2,000.00
Water Heater #1 (Bathroom)	2003	15	2018	0	0	5	2	0.395	$4,000.00
Water Heater #2 (Bathroom)	2003	15	2018	0	0	5	2	0.395	$4,000.00
Water Heater #3 (Laundry room)	2003	15	2018	0	0	5	2	0.395	$4,000.00
Parking Lot - Asphalt Overlay				5	1	2	0	0.385	$57,000.00
Backup Generator				1	0	5	0	0.382	$10,000.00

Capital Item Utility Scores cont.

Parking Lot - Seal Coat	2009	5	2014	7	0	2	0	0.382	$8,000.00
Windows (Hallway)	2011	25	2036	6	1	1	1	0.381	$1,000.00
Exterior Chimney (Sheathing/Flashing)				4	0	3	0	0.362	$400.00
Exterior Painting	2019	5	2024	10	0	0	0	0.362	$8,000.00
Windows (Office/Laundry Room)	1981	25	2006	5	1	1	1	0.361	$800.00
Furnace #1	2003	20	2023	0	2	2	2	0.361	$4,000.00
Furnace #2	2003	20	2023	0	2	2	2	0.361	$4,000.00
Furnace #3	2003	20	2023	0	2	2	2	0.361	$4,000.00
House Furnace	2003	20	2023	0	2	2	2	0.361	$4,000.00
Insulation - Walls				0	1	3	2	0.358	$11,000.00
House Water Heater	2007	15	2023	0	0	4	2	0.355	$4,000.00
Water Heater Kitchen #1	2003	15	2018	0	0	4	2	0.355	$4,000.00
Water Heater Kitchen #2	2003	15	2018	0	0	4	2	0.355	$4,000.00
House A/C Unit	2005	15	2020	0	2	2	1	0.344	$3,000.00
Lightning Protection				1	0	4	0	0.342	$3,000.00
House Roof	2019	20	2049	4	0	2	0	0.322	$6,300.00
Parking Lot - Restripe	2009	5	2014	6	0	1	0	0.322	$800.00
Water Heater #4 (Dishroom)	2003	25	2028	0	0	4	0	0.322	$4,000.00
Insulation (Blown)				0	1	2	2	0.318	$12,000.00
Insulation (Spray Foam)				0	1	2	2	0.318	$30,000.00
Parking Lot Storage Sheds - Roof	1999			5	0	1	0	0.302	$700.00
House Storage Shed - Roof	1999			2	0	0	0	0.202	$500.00
Monitoring Omntec	1998			0	-1	1	1	0.176	$3,000.00
Fuel System Tanks	1998	30	2028	0	-1	0	-1	0.102	


Capital Item Estimated Cost vs. Utility
($0 to $150k)
Utility
Estimated Cost ($)
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
$0
$20,000
$40,000
$60,000
$80,000
$100,000
$120,000
$140,000
$160,000
Gas Boy (Fuel Dispenser)
Water Treatment Systems
Clubhouse Roof - Re-shingle
Clubhouse Roof - Metal Roof
Solar Panels - Trees
Gate Card Reader
Commercial Kitchen Appliances
Parking Lot - Repave
Parking Lot - Overlay/Restripe/Sealcoat
Solar Panels - Roof
Roof Insulation - Spray Foam
Parking Lot - Asphalt Overlay
House Storage Shed - Roof
Monitoring Omntec

Cost-Utility Plot Findings

- Repaving the parking lot and buying solar panels outright have the worst cost-utility ratios
- Replacing the current gate system with a modern card reader and replacing the pump on the fuel dock both have very attractive cost-utility ratios
- Acquiring solar panels through a lease or financing agreement is also a very attractive option
- Purchasing a new AC unit for the office and a new office computer also jump out as attractive investment options

Capital Investment Plan Formulation

- The cash flow forecasting tool was used to estimate cost constraints for a handful of different scenarios
- For each scenario
  - Ran initial optimization to identify which capital items are included in the scenario-specific capital investment plan
    - This was found by maximizing utility with a cost constraint set to the total retained earnings over the ten-year period
  - For each year, the linear program was run again to select which items to purchase from the list defined for the entire ten-year period to maximize utility
    - This list was updated after each year to reflect which items have been purchased
    - The cost constraint for each year was the projected retained earnings for the year

General Optimization Approach

- **Equation:**

$$\max \sum_{i=1}^{n} v_i x_i$$

$$x_i = \begin{cases} 1, & if\ option\ i\ is\ chosen \\ 0, & otherwise \end{cases}$$

$$v_i = value\ of\ option\ i$$

- **Subject to:**

$$\sum_{i=1}^{n} c_i x_i \leq Budget\ of\ Capital\ Investment$$

$$c_i = cost\ of\ option\ i$$

Capital Investment Plan Scenarios

- Base Case
  - Optimistic, expects the club to consistently see moderate growth
- High Overall Membership Growth: Club membership grows by 6% per year
  - Base case: 4% membership growth
- Lower Overall Growth
  - 2% increase in membership annually, as opposed to 4% in the base case
- For each scenario, yearly retained earnings over 10 years are modeled and used to constrain the capital investment plan
- For each scenario there is a parallel scenario where Middle and South Docks are modernized a few years into the 10-year period
  - Once projected retained earnings makes further debt financing feasible

Dock Modernization Cost Estimate

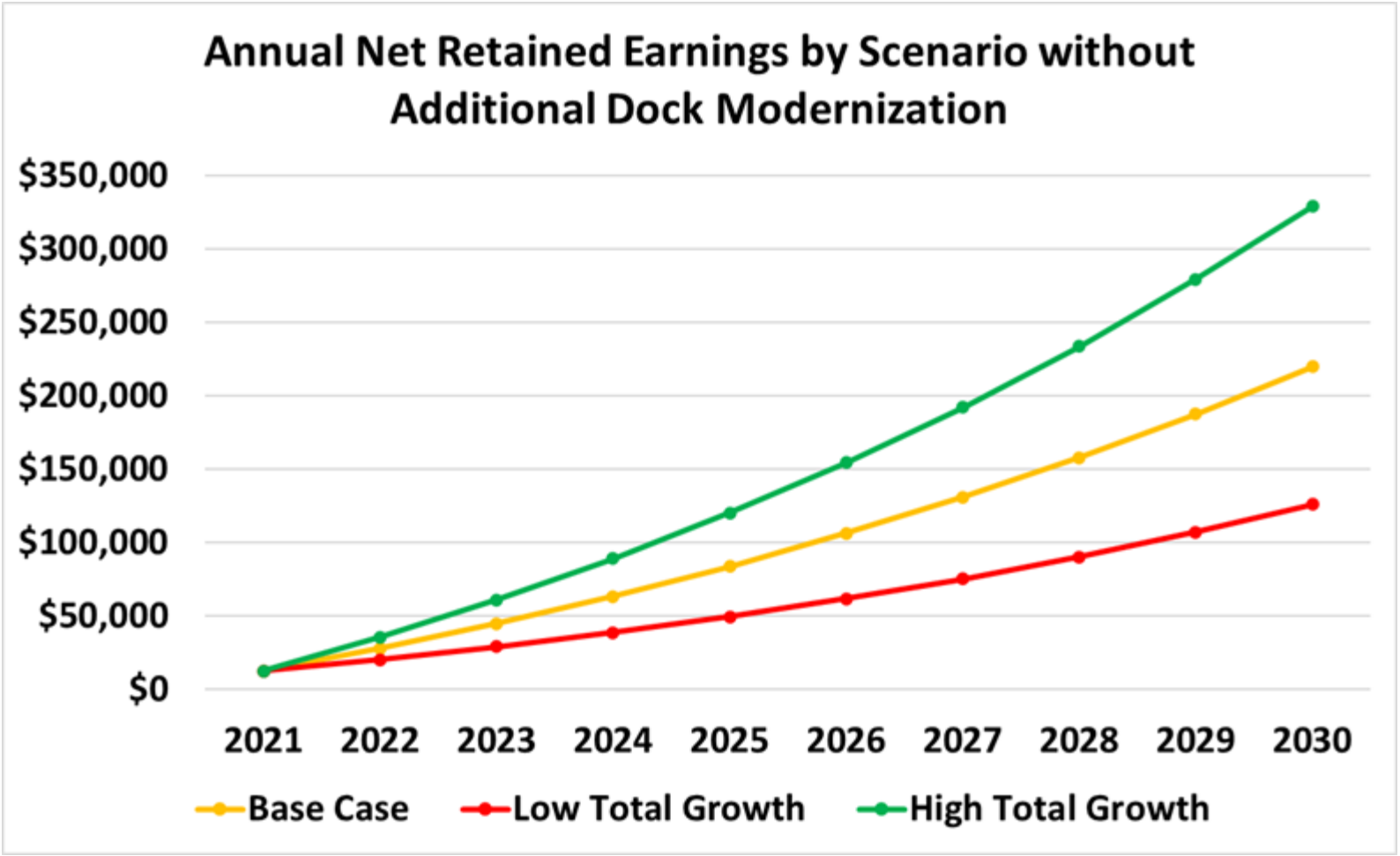
- Cost of modernizing Middle and South Docks was estimated from cost of modernizing New Dock
  - The project to modernize New Dock is underway, financing has been received and a contractor has been selected
- Based on the data from anonymized bids and a synthesis of the bid data provided by the project sponsor, two estimates for the cost of modernizing South and Middle Docks were derived
  - Approximately $ 3.1 M and $ 2.7 M
- The more conservative estimate of $ 3.1 M was used to estimate the additional cost of servicing the debt of a commercial loan at 5.5% interest
  - Estimated as approximately $ 170,000 annually

Cost Estimate - Modernizing Middle & South Dock

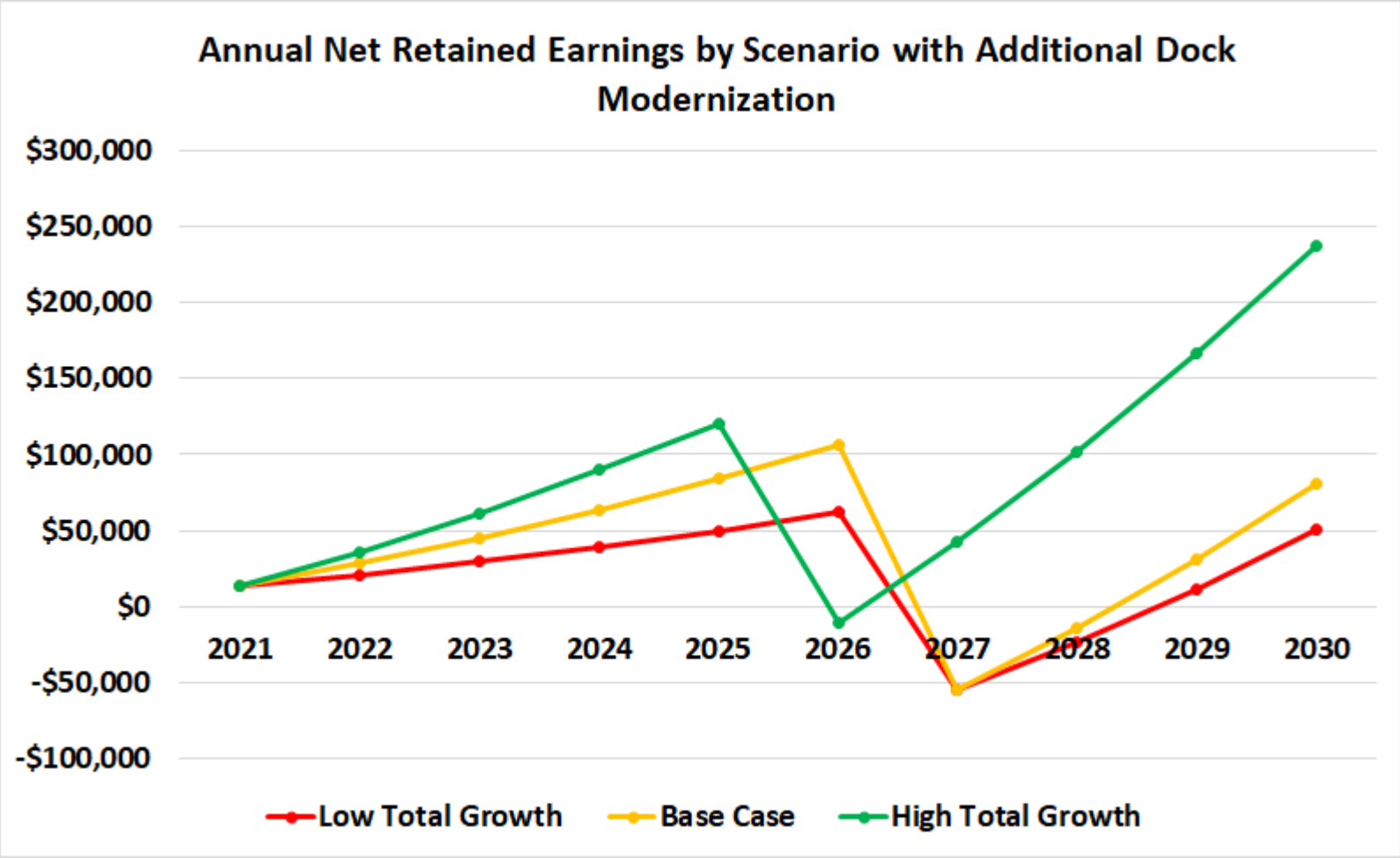
Middle & South Dock							
Item	Unit	QTY	Mean Unit Price	Given CER	Cost (Mean)	Cost (Given CER)	STDev (Unit Price)
Mob & Demob	LS	1	$ 46,900	$ 23,000	$ 46,900	$ 23,000	$ 32,573
Demolition	SF	6,000	$ 30	$ 23	$ 180,000	$ 138,000	$ 19
Pier Pilings (12" Steel)	EA	56	$ 7,200	$ 5,700	$ 403,200	$ 319,200	$ 2,474
Pier Installation	LS	1					
Timber Floating Dock	SF	14,500	$ 70	$ 55	$ 1,015,000	$ 797,500	$ 12
Mooring Piles	EA	62	$ 740	$ 690	$ 45,880	$ 42,780	$ 80
Utilities (water & Electric)	EA	56	$ 12,800	$ 13,000	$ 716,800	$ 728,000	$ 3,400
Dredging	CY	5,000	$ 100	$ 82	$ 500,000	$ 410,000	$ 35
SUB-TOTAL					$ 2,907,780	$ 2,458,480	
5% CONTINGENCY					$ 145,389	$ 122,924	
TOTAL EST. CONST. COST					$ 3,053,169	$ 2,581,404	
ENGINEERING (3%)					$ 91,595	$ 77,442	
TOTAL COST					$ 3,144,800	$ 2,658,800	
				$ / SLIP	$ 56,200	$ 47,500	

CERs obtained from New Dock bid estimates

Mean Unit price obtained from Bids A, B, & C for New Dock



No Additional Dock Modernization


Annual Net Retained Earnings by Scenario with Additional Dock Modernization
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
-$50,000
-$100,000
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
Low Total Growth
Base Case
High Total Growth

- **Starting with relatively inexpensive items, especially those that help productivity, brings utility early on**
- **More expensive capital improvements become available later on**

Original Base Case

Year	Net Ret. Earn.	Current Year CIP Contribution	Total Available Capital	Items Purchased	Money Spent this Year	Utility gained this Year
2021	13000	13000	13000	Water Treatment Systems Gate Card Reader ← A/C #4 (Office) ← Office Computer ← POS System ← Parking Lot Storage Sheds - Roof Exterior Chimney (Sheathing/Flashing) House Storage Shed - Roof Windows (Hallway) Windows (Office/Laundry Room)	12400	3.29
2022	28300	28300	28900	A/C #5 (Kitchen) Swimming Pool Pump House Water Heater House A/C Unit Lightning Protection Water Heater #4 (Dishroom) Monitoring Omntec	28000	1.83
2023	45200	45200	46100	Gas Boy (Fuel Dispenser) Water Heater (Bathroom & Laundry Package) Water Heater Kitchen Package	45000	1.52
2024	63700	63700	64800	A/C Package Backup Generator Insulation - Walls Exterior Painting House Roof	59300	1.48
2025	84100	84100	89600	Solar Panels - Roof Insulation Roof (Spray Foam) House Furnace and 4 Furnace Package	76000	0.93
2026	106600	106600	120200	Clubhouse Roof - Metal Roof	90000	0.62
2027	131200	131200	161400	Parking Lot - Repave ←	150000	0.48
2028	158100	158100	169500	Commercial Kitchen Appliances	96000	0.16
2029	187700	187700	261200			
2030	220000	220000	481200			
TOTAL	1037900	1037900			556700	10.31

- **Again, starting with relatively inexpensive items, especially those that help productivity, brings utility early on**
- **More expensive capital improvements become available later on**
- **Less capital is available if additional dock modernization is pursued**

Base Case + Dock Modernization

Year	Net Ret. Earn.	Current Year CIP Contribution	Total Available Capital	Items Purchased	Money Spent this Year	Utility gained this Year
2021	13000	13000	13000	Water Treatment Systems Gate Card Reader A/C #4 (Office) Office Computer POS System Parking Lot Storage Sheds - Roof Exterior Chimney (Sheathing/Flashing) House Storage Shed - Roof Windows (Hallway) Windows (Office/Laundry Room)	12400	3.29
2022	28300	28300	28900	A/C #5 (Kitchen) Solar Panels - Roof Financed Swimming Pool Pump House Water Heater Water Heater Kitchen Package	28000	2.04
2023	45200	27850	28750	Water Heater (Bathroom & Laundry Package) Backup Generator House A/C Unit Lightning Protection	28000	1.1
2024	63700	46350	47100	Gas Boy (Fuel Dispenser) Insulation - Walls House Roof Water Heater #4 (Dishroom)	46300	1.44
2025	84100	66750	67550	Clubhouse Roof - Re-shingle Insulation Roof (Blown) Exterior Painting	65000	1.1
2026	106600	89250	91800	Parking Lot - Asphalt Overlay, Restripe, Seal Coat A/C Package	89800	0.86
2027	-55300	0	2000			
2028	-14100	0	2000			
2029	31200	31200	33200	House Furnace and 4 Furnace Package	16000	0.16
2030	80900	80900	98100	Commercial Kitchen Appliances	96000	0.16
TOTAL	**383600**	**383600**			**381500**	**10.15**

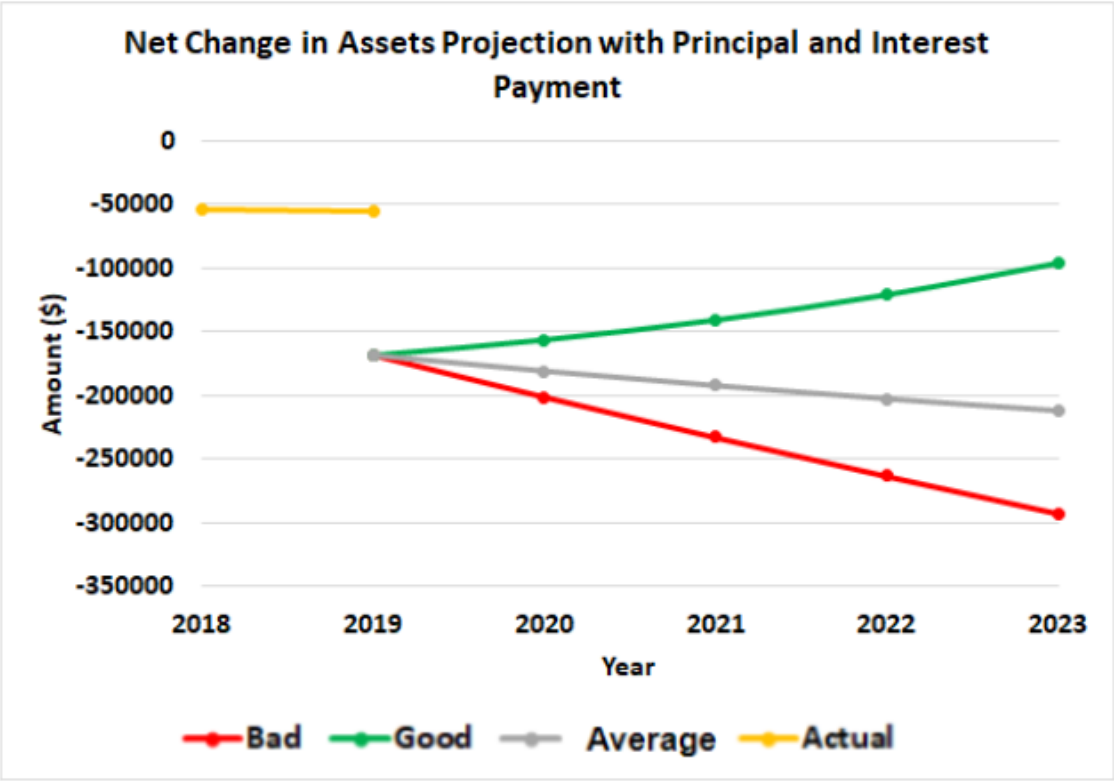
Observations

- The club has successfully made changes that make future capital improvements possible based on current projections
- However, many of the projections made in this project used underlying assumptions that were reasonably optimistic
    - If the club sees stagnation or even slower than expected growth, the club will have significantly fewer funds for capital investments
- The team recommends that Club Management and Leadership continue to carefully monitor revenue and expenses and change course accordingly
    - If the club sees signs of a decline in growth on the horizon, it would be reasonable to act cautiously and try to reduce expenses if possible

Thank you

Back Up

Projections - Profit After New Debt Service



- Club leadership sees marina modernization as critical to the club's future
- The first phase of marina modernization is expected to cost $ 2,000,000, the entirety of which would need to be financed
- Annual principal and interest payments will likely be close to $115,000
- Projections show that without major changes to club operations the club can not afford principal and interest payments on a large loan

Cost Findings

Item	Year Installed	Stats (ex: tonnage, sq ft)	Average Cost
A/C #1	1999	5 tons	$8,000.00
A/C #2	1999		$8,000.00
A/C #3	1999		$8,000.00
A/C #4 (Office)	2000		$2,000.00
A/C Kitchen	2007		$8,000.00
Card Reader (Gate)		DOORKING 1520-084 PROXIMITY CARD READER	$2,000.00
Dock Modernization (Mid & South)			$3,145,000.00
Dock Modernization (New)			$2,006,000.00
Dock Modernization (West)			$1,964,000.00
Insulation (Walls)		R-value b/t 13-23 cellulose	$11,000.00
Insulation (Spray Foam)		R-value b/t 38-49	$30,000.00
Insulation (Blown)		R-value b/t 38-49	$12,000.00
Roof (Clean)	2001		$4,000.00
Roof (Re-shingle)	2001		$45,000.00
Solar Panels (Roof Financed)			$5,000.00
Solar Panels (Roof)		for potential output of 6 - 8.5 kW	$30,000.00
Solar Panels (Trees)		for potential output of 10 - 50 kW	$70,000.00
Water Heater #1 (Bathroom)	2003		$4,000.00
Water Heater #2 (Bathroom)	2003		$4,000.00
Water Heater #3 (Laundry room)	2003		$4,000.00
Water Heater (House)	2007		$4,000.00
Water heater Kitchen #1	2003		$4,000.00
Water heater Kitchen #2	2003		$4,000.00
Water Treatment Systems	2003		$2,000.00

Cost Findings

Roof replacement for 3 Storage Sheds in Parking Lot	1999	price for one shed of 220 sq ft	$700.00
Swimming Pool Pump			$3,000.00
A/C Unit (House)	2005	2 ton for 1200 sq ft	$3,000.00
Asphalt Overlay			$57,000.00
Commercial Kitchen Appliances			$96,000.00
Exterior Chimney (Sheathing/Flashing)			$400.00
Exterior Painting	2019	0.6$ to 1.6$ per sq ft of interior	$8,000.00
Furnace	2003	Gas - BTU avg. 40,000 - 130,000 not including installation	$4,000.00
Furnace #1	2003		$4,000.00
Furnace #2	2003		$4,000.00
Furnace #3	2003		$4,000.00
Fuel Dispenser (Gasboy)	1998		$25,000.00
Lightning Protection (complex w/rods)			$3,000.00
Monitoring Omntec	1998	OEL8000IIIK4P Omntec	$3,000.00
Office Computer		New Inspiron 24 5000 Series Touch	$1,000.00
POS System			$2,000.00
Repave			$150,000.00
Restripe	2009		$800.00
Roof (House)	2019	per square foot	$6,300.00
Seal Coat	2009		$8,000.00
Roof of Storage Shed at House	1999		$500.00
Tanks	1998		
Water heater Dishroom	2003		$4,000.00
Windows (Hallway)	2011	Fiberglass window 60" by 48"	$1,000.00
Windows (Office/Laundry Room)	1981	Standard fiberglass window	$800.00

Marina Cost Estimating Relationships

- Capital items that will be updated in the marina modernization
- Estimated prices come from project sponsor

Item	CER Unit Price	Unit
Mob & Demob	$23,000	LS
Demolition	$23	SF
Pier Pilings	$5,700	EA
Pier Installation		LS
Floating Deck	$55	SF
Mooring Piles	$690	EA
Utilities	$13,000	EA
Dredging	$82	CY

CYC New Dock Bids - Unit Prices

New Dock (Unit Prices)									
Item	Unit	CYC Estimate	Bid A	Bid B	Bid C	Mean	Given CER	VAR	STDev
Mob & Demob	LS	$ 40,000	$ 83,783.00	$ 35,000.00	$ 22,000.00	$ 46,900	$ 23,000	$ 1,060,986,696	$ 32,573
Demolition	SF	$ 15	$ 28.00	$ 53.60	$ 17.47	$ 30	$ 23	$ 345	$ 19
Pier Pilings (12" Steel)	EA	$ 4,000	$ 6,075.00	$ 9,989.12	$ 5,411.80	$ 7,200	$ 5,700	$ 6,118,665	$ 2,474
Pier Installation	LS	$ 15,000							
Aluminum / Timber Floating Dock	SF	$ 71	$ 54.42	$ 69.46	$ 78.67	$ 70	$ 55	$ 150	$ 12
Mooring Piles	EA	$ 1,000	$ 691.00	$ 829.09	$ 691.00	$ 740	$ 690	$ 6,356	$ 80
Utilities (water & Electric)	EA	$ 10,000	$ 13,958.00	$ 15,434.21	$ 8,947.37	$ 12,800	$ 13,000	$ 11,560,785	$ 3,400
Dredging	CY	$ 110	$ 79.94	$ 143.05	$ 83.82	$ 100	$ 82	$ 1,251	$ 35

Mean includes Bids A, B, and C

Bid information comes from the "Cost Est Historical Comps Jan 10 2020" spreadsheet provided by the sponsor

Feedback required on the type of dock (timber or aluminum) quoted in each bid

Mean value for Floating Dock item subject to change based on the type of dock in each bid

Low Growth						
Year	Net Ret. Earn.	rent Year CIP Contribution	Total Available Capital	Items Purchased	Money Spent this y	Utility gained this year
2021	13000	13000	13000	Water Treatment Systems Gate Card Reader A/C #4 (Office) Office Computer POS System Parking Lot Storage Sheds - Roof Exterior Chimney (Sheathing/Flashing) House Storage Shed - Roof Windows (Hallway) Windows (Office/Laundry Room)	12400	3.29
2022	20600	20600	21200	A/C #5 (Kitchen) Swimming Pool Pump House Water Heater House A/C Unit Lightning Protection	21000	1.55
2023	29200	29200	29400	Backup Generator Insulation - Walls Water Heater Kitchen Package	29000	1.1
2024	38900	38900	39300	Gas Boy (Fuel Dispenser) House Roof Water Heater #4 (Dishroom) Monitoring Omntec	38300	1.2
2025	49700	49700	50700	Solar Panels - Roof Water Heater (Bathroom & Laundry Package) Exterior Painting	50000	1.01
2026	61900	61900	62600	Clubhouse Roof - Re-shingle House Furnace and 4 Furnace Package	61000	0.78
2027	75500	75500	77100	A/C Package Insulation Roof (Spray Foam)	54000	0.74
2028	90600	90600	113700	Commercial Kitchen Appliances	96000	0.16
2029	107500	107500	125200			
2030	126200	126200	251400	Parking Lot - Repave	150000	0.48
TOTAL	613100	613100			511700	10.31

Low + Dock Modernization						
Year	Net Ret. Earn.	Current Year CIP Contribution	Total Available Capital	Items Purchased	Money Spent this Year	Utility gained this Year
2021	13000	13000	13000	Water Treatment Systems Gate Card Reader A/C #4 (Office) Office Computer POS System Parking Lot Storage Sheds - Roof Exterior Chimney (Sheathing/Flashing) House Storage Shed - Roof Windows (Hallway) Windows (Office/Laundry Room)	12400	3.29
2022	20600	20600	21200	A/C #5 (Kitchen) Solar Panels - Roof Financed Swimming Pool Pump House Water Heater	20000	1.68
2023	29200	9500	10700	House A/C Unit Lightning Protection Water Heater #4 (Dishroom)	10000	0.48
2024	38900	19200	19900	Backup Generator Water Heater Kitchen Package	18000	0.74
2025	49700	30000	31900	Gas Boy (Fuel Dispenser) House Roof	31300	0.92
2026	61900	42200	42800	Water Heater (Bathroom & Laundry Package) Insulation - Walls Insulation Roof (Blown)	35000	1.08
2027	-55300	0	7800			
2028	-23500	0	7800			
2029	11700	11700	19500			
2030	50600	50600	70100	Clubhouse Roof - Re-shingle A/C Package	69000	1.04
TOTAL	196800	196800			195700	9.23

High Growth						
Year	Net Ret. Earn.	Current Year CIP Contribution	Total Available Capital	Items Purchased	Money Spent this year	Utility gained this year
2021	13000	13000	13000	Water Treatment Systems Gate Card Reader A/C #4 (Office) Office Computer POS System Parking Lot Storage Sheds - Roof Exterior Chimney (Sheathing/Flashing) House Storage Shed - Roof Windows (Hallway) Windows (Office/Laundry Room)	12400	3.29
2022	36000	36000	36600	A/C #5 (Kitchen) Swimming Pool Pump House Water Heater Water Heater Kitchen Package House A/C Unit Lightning Protection Water Heater #4 (Dishroom) Monitoring Omntec	36000	2.19
2023	61400	61400	62000	Gas Boy (Fuel Dispenser) Water Heater (Bathroom & Laundry Package) Backup Generator Insulation - Walls	58000	1.9
2024	89500	89500	93500	Solar Panels - Roof A/C Package Insulation Roof (Spray Foam) Exterior Painting	92000	1.35
2025	120600	120600	122100	Clubhouse Roof - Metal Roof House Furnace and 4 Furnace Package House Roof	112300	0.94
2026	154800	154800	164600	Parking Lot - Repave	150000	0.48
2027	192500	192500	207100	Commercial Kitchen Appliances	96000	0.16
2028	233900	233900	345000			
2029	279400	279400	624400			
2030	329300	329300	953700			
TOTAL	1510400	1510400		0	556700	10.31

High + Dock Modernization						
Year	Net Ret. Earn.	Current Year CIP Contribution	Total Available Capital	Items Purchased	Money Spent this Year	Utility gained this Year
2021	13000	13000	13000	Water Treatment Systems Gate Card Reader A/C #4 (Office) Office Computer POS System Parking Lot Storage Sheds - Roof Exterior Chimney (Sheathing/Flashing) House Storage Shed - Roof Windows (Hallway) Windows (Office/Laundry Room)	12400	3.29
2022	36000	33175	33775	A/C #5 (Kitchen)Swimming Pool PumpHouse Water HeaterWater Heater Kitchen PackageHouse A/C UnitLightning ProtectionWater Heater #4 (Dishroom)	33000	2.07
2023	61400	58575	59350	Gas Boy (Fuel Dispenser)Water Heater (Bathroom & Laundry Package)Backup GeneratorInsulation - Walls	58000	1.9
2024	89500	86675	88025	Solar Panels - RoofA/C PackageExterior PaintingHouse Furnace and 4 Furnace PackageHouse RoofMonitoring Omntec	87300	1.47
2025	120600	117775	118500	Clubhouse Roof - Metal Roof	90000	0.62
2026	-11300	0	28500			
2027	42300	42300	70800	Insulation Roof (Spray Foam)	30000	0.32
2028	101300	101300	142100	Commercial Kitchen Appliances	96000	0.16
2029	166100	166100	212200	Parking Lot - Repave	150000	0.48
2030	237300	237300	299500			
TOTAL	856200	856200		0	556700	10.31