In Brief: Glebe Harbor-Cabin Point POA Reserve Study

At the end of 2016, the board of directors decided to have an independent reserve study completed by Miller Dodson. A reserve study is an analysis by a specialized professional firm of all capital assets, assets with a useful life of more than 1 year and whose value exceeds a certain amount. This analysis does the following:

- identifies each capital asset,
- evaluates its current condition based on physical inspection,
- estimates its remaining useful life,
- estimates its approximate replacement cost at the end of its estimated useful life, and
- calculates by fiscal year the amount of monies that need to be set aside each year, the reserves, to fund these replacements when they are needed.

Reserve studies are required for condominium associations in Virginia. The POA is not required by law to conduct a reserve study, but the board felt that it was a reasonable best practice to adopt to support our long-range capital expenditure funding and expenditures. Reserve studies are not static and are generally updated by the specialized professional firm every 5 years or when significant changes either in the condition of the capital assets occur or when expenditures for capital assets are made.

Miller Dodson has produced a draft reserve study for the POA. We have begun discussions with the county administrator about the reserve study and expect that with his input and ours there will be a number of adjustments made to the numbers. At present, we don't expect these changes to be significant taken over the 40-year term of the reserve study. Some of these adjustments might include:

- changes in estimated cost of replacement resulting from favorable county procurement practices or use of conscripted labor

- raising the dollar threshold for capital expenditures

  (The reserve study currently includes items that are below the capital expenditure threshold for the county. We anticipate removing them from the reserve study and including them as part of the annual operating expenses of the SD.)

- changes in timing of planned replacements

  (For example, the reserve study contemplates doing 20% replacement of groins each year until all are replaced. We might decide for cost reasons to do them all at one time. This would impact the reserve study calculations)

- miscellaneous adjustments based on new activities since the reserve study was drafted

(For example, capital maintenance of the pump room for the pool may be changed to full replacement of the pool pumping system based on future cost-benefit analysis of our options.)

It should be noted that the largest capital expenditures, dredging and beach replenishment, are not part of this reserve study because their estimated useful lives cannot be reasonably estimated.

When we consider our long-term planning for major, capital expenditures, they will fall into three categories:

- **Reserve Study** -- for existing assets, capital maintenance or replacement
- **NonReserve Study --** for existing assets which are excluded from the reserve study: dredging and beach replenishment
- **New Capital Projects --** for the development of new recreational assets *(A listing of the ideas which have surfaced so far is provided separately.)*

Additionally, new capital projects will only become part of the reserve study when they are constructed in the future. For example, if a decision were taken to enclose the pool to make it an all-season facility, then the replacement cost of that enclosure would be a revision to a future reserve study.

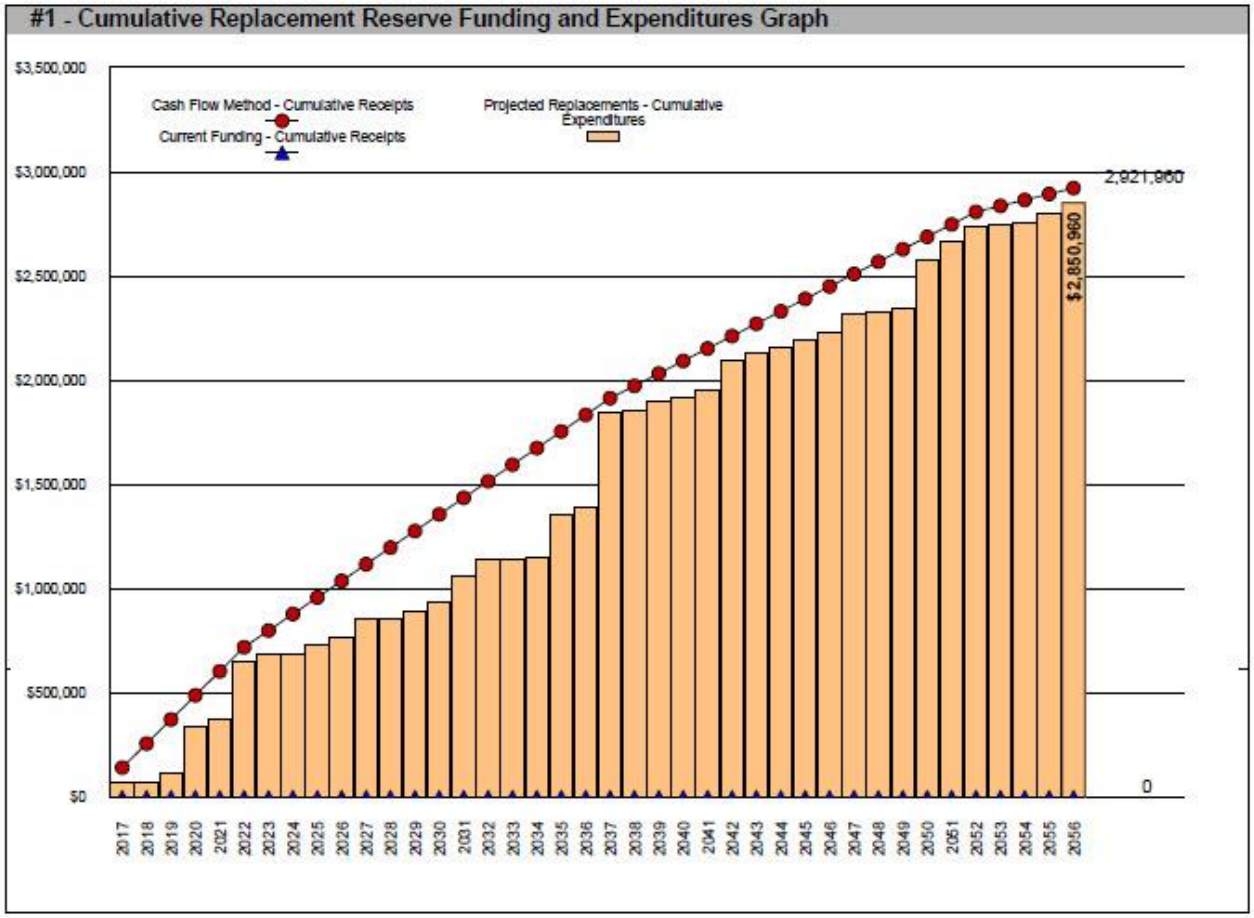
Current expenditures for dredging and beach replenishment are so significant that expenditures for items in the reserve study will likely be delayed. The POA has deferred maintenance for many years for some recreational assets because of the high costs of dredging and beach replacement to protect and maintain our status as a water access community. The formation and funding of the sanitary district has provided a structure for funding these major expenditures, but it will take several years to work through the capital expenditure backlog.

For purposes of our first discussions of long-range planning of capital maintenance and improvements, we will be using the draft reserve study without changes. We believe that these estimates are "close enough" for our initial planning purposes. In parallel, we will be working with the county administrator to review/revise the reserve study over the next 3-6 months. We will roll revised numbers into the plan when they are finalized by Miller Dodson.

The reserve study draft provided by Miller Dodson in late 2016 is a lengthy document. The following discussion summarizes the results of that study.

The graphic below summarizes the current status of capital reserve funding for the POA/SD. The yellow bars represent the annual expenditures estimated in the reserve study to maintain the existing capital assets. The blue triangle at the bottom represents the current level of reserve funding, which is $0. The

red dotted line represents the cumulative receipts needed to fund existing capital asset maintenance.



The reserve study indicates that the POA/SD will need to fund $141,937 for the first year and then an average of $71,274 thereafter per year to provide for sufficient funding of all capital repairs and replacements over the next 40 years. The recommended amounts vary per year and are higher in the first 8 years as shown in the following table.

#5 - Cash Flow Method - Table of Receipts & Expenditures - Years 1 through 40

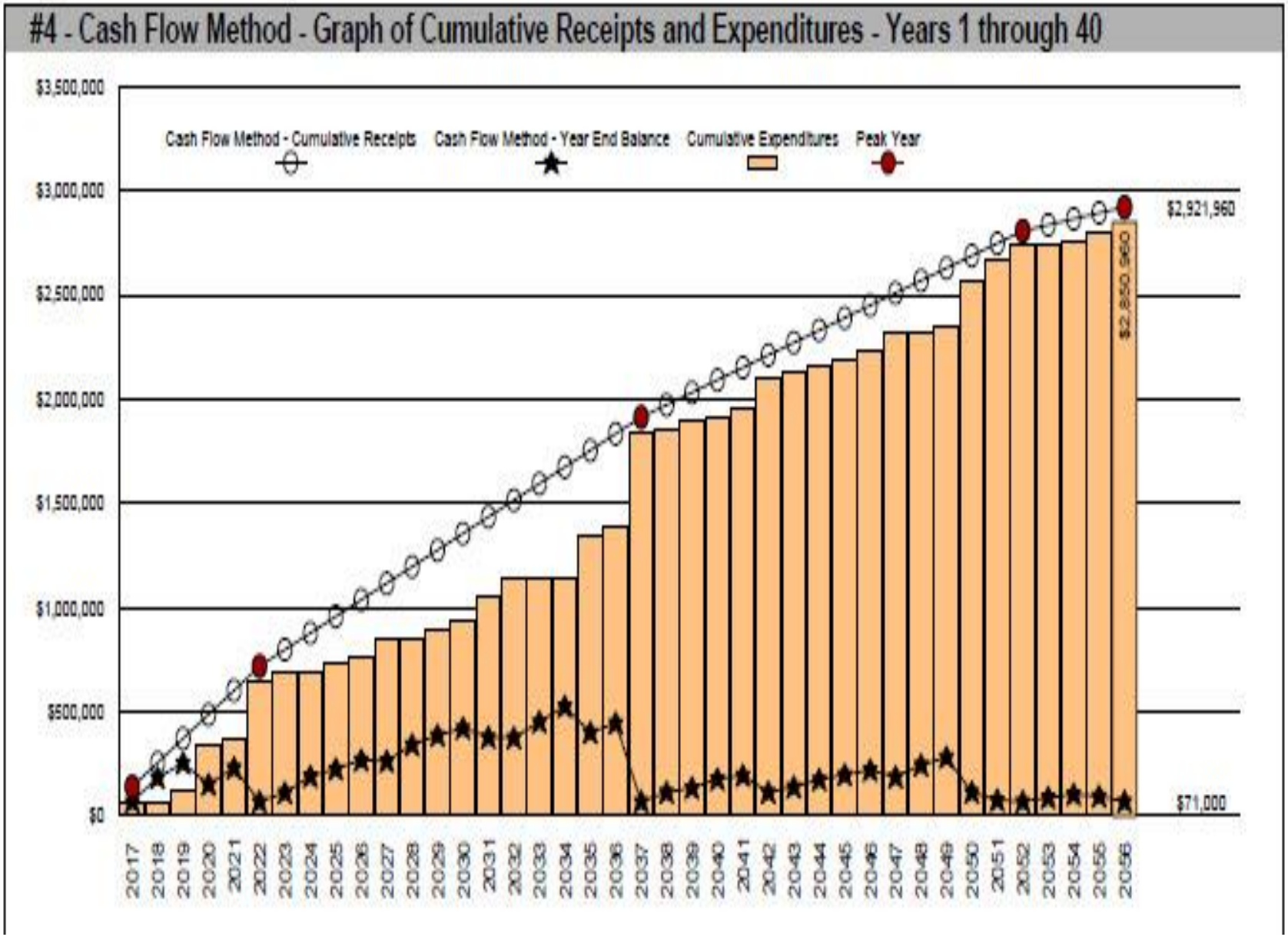
Year	1st Peak - 2017	2018	2019	2020	2021	2nd Peak - 2022	2023	2024	2025	2026
Starting Balance	$0									
Projected Replacements	($70,937)	($800)	($45,629)	($217,966)	($36,888)	($276,931)	($36,774)	($1,000)	($44,804)	($35,868)
Annual Deposit	$141,937	$115,603	$115,603	$115,603	$115,603	$115,603	$79,601	$79,601	$79,601	$79,601
End of Year Balance	$71,000	$185,803	$255,776	$153,413	$232,328	$71,000	$113,827	$192,428	$227,225	$270,959
Cumulative Expenditures	$70,937	$71,737	$117,366	$335,332	$372,019	$648,950	$685,724	$686,724	$731,528	$767,395
Cumulative Receipts	$141,937	$257,540	$373,142	$488,745	$604,347	$719,950	$799,551	$879,152	$958,753	$1,038,354

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Projected Replacements	($85,019)	($1,000)	($34,982)	($44,516)	($123,892)	($82,277)	($2,800)	($5,600)	($204,654)	($34,868)
Annual Deposit	$79,602	$79,602	$79,602	$79,603	$79,603	$79,603	$79,603	$79,603	$79,604	$79,604
End of Year Balance	$265,542	$344,144	$388,764	$423,851	$379,561	$376,888	$453,691	$527,694	$402,644	$447,380
Cumulative Expenditures	($852,414)	($853,414)	($888,396)	($932,912)	($1,056,805)	($1,139,081)	($1,141,881)	($1,147,481)	($1,352,135)	($1,387,003)
Cumulative Receipts	$1,117,956	$1,197,558	$1,277,160	$1,356,763	$1,436,366	$1,515,969	$1,595,572	$1,675,176	$1,754,779	$1,834,383

Year	3rd Peak - 2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Projected Replacements	($455,983)	($14,680)	($38,340)	($17,656)	($41,856)	($140,223)	($34,854)	($24,207)	($36,134)	($37,542)
Annual Deposit	$79,604	$59,592	$59,592	$59,592	$59,592	$59,592	$59,592	$59,592	$59,592	$59,592
End of Year Balance	$71,000	$115,912	$137,164	$179,099	$196,836	$116,205	$140,943	$176,328	$199,786	$221,836
Cumulative Expenditures	($1,842,986)	($1,857,666)	($1,896,006)	($1,913,662)	($1,955,518)	($2,095,741)	($2,130,595)	($2,154,802)	($2,190,936)	($2,228,478)
Cumulative Receipts	$1,913,986	$1,973,578	$2,033,170	$2,092,762	$2,152,354	$2,211,946	$2,271,538	$2,331,130	$2,390,722	$2,450,314

Year	2047	2048	2049	2050	2051	4th Peak - 2052	2053	2054	2055	5th Peak - 2056
Projected Replacements	($92,594)	($1,800)	($22,629)	($227,116)	($97,748)	($66,505)	($8,808)	($13,680)	($37,351)	($54,252)
Annual Deposit	$59,592	$59,592	$59,592	$59,592	$59,592	$59,592	$28,523	$28,523	$28,523	$28,523
End of Year Balance	$188,835	$246,627	$283,591	$116,067	$77,912	$71,000	$90,715	$105,558	$96,729	$71,000
Cumulative Expenditures	($2,321,072)	($2,322,872)	($2,345,501)	($2,572,617)	($2,670,364)	($2,736,869)	($2,745,677)	($2,759,357)	($2,796,708)	($2,850,960)
Cumulative Receipts	$2,509,907	$2,569,499	$2,629,092	$2,688,684	$2,748,277	$2,807,869	$2,836,392	$2,864,914	$2,893,437	$2,921,960

The graph below shows the capital expenditures as a gold bar, cumulative funding as the open circle line, year-end reserve fund balance as the blue triangle and the red circle as peak year expenditures. It is assumed in these reserve study calculations that all capital expenditures are self-funded through savings and not through debt financing. The impact of the use of debt financing will have to be taken into account separately in our long-term planning process.


#4 - Cash Flow Method - Graph of Cumulative Receipts and Expenditures - Years 1 through 40
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$0
Cash Flow Method - Cumulative Receipts
Cash Flow Method - Year End Balance
Cumulative Expenditures
Peak Year
$2,921,960
$2,850,960
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Methodology Examples

Miller Dodson physically inventoried and inspected the capital assets of the POA. See excerpts from their report below. The first screen shot immediately below shows the site component detail – item description, # of units, unit replacement cost, normal economic life and remaining economic life and replacement cost. This detail is provided for 138 items covered in this report.

Miller + Dodson Associates, Inc. **Replacement Reserve Inventory - Page B4**
Glebe Harbor Cabin Point December 21, 2016
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SITE COMPONENTS (cont.)
PROJECTED REPLACEMENTS

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST ($)
18	Landscaping (allowance)	ls	1	$5,000.00	100	5	$5,000
19	Landscaping (allowance)	ls	1	$1,000.00	2	7	$1,000
20	Road drainage ditch, cut/grade/reseed (2%)	ft	3,400	$4.00	5	4	$13,600
21	Well pump, submersible pump & motor	ea	1	$4,600.00	12	5	$4,600
22	Clubhouse bldg. water piping (10%)	ft	45	$85.00	10	5	$3,825
23	Clubhouse bldg. sewer piping (10%)	ft	25	$75.00	10	20	$1,875

SITE COMPONENTS (cont.) - Replacement Costs - Subtotal $29,900

SITE COMPONENTS (cont.)
COMMENTS

- Comprehensive drawings detailing the components of the systems listed above were not available for our review. We have included the estimated cost of the systems based upon our experience with other similar communities. We have assumed that 10 percent of the system(s) will require replacement. In the future, this assumption and the estimated costs should be adjusted based upon actual experience at the community.

- "Landscaping (allowance)" normal economic life set to 100 years so it is only calculated once in the study period. At the next update (5 years), this line item will be removed and then the landscaping allowance will be $1,000 every 2 years. Landscaping allowance includes replacement of specimen trees and shrubs. The Association should seek advice from their tax attorney or accountant on how to treat landscaping as a reserve component for tax purposes.

The table above is developed based on physical inspection which is documented within the report itself. See a sample below relative to the clubhouse exterior.

CLUBHOUSE BUILDING EXTERIOR

Building Roofing. The clubhouse building is roofed with a flat membrane system and asphalt shingles. The flat roof areas have an EPDM fully adhered membrane that is approximately 15 years old. The roof remains in overall good condition with only minor seam adhesive failure observed. The roofing and all the seams should be inspected annually and repaired as-needed. Flat roofing systems typically have a useful life of 15 to 25 years.

The asphalt shingle roofing is in overall good condition with the exception of a section of shingle that has come loose above the entry portico and a damaged shingle on the right front corner of the building. Asphalt shingle roofs can have a useful life of 20 to 50 years depending on the weight and quality of the shingle. Weathered, curled, and missing shingles are all indications that the shingles may be nearing the end of their useful life.