KODIAK CITY COUNCIL

WORK SESSION AGENDA

Tuesday, June 7, 2016 Kodiak Public Library Multi-Purpose Room 7:30 p.m.

Work sessions are informal meetings of the City Council where Councilmembers review the upcoming regular meeting agenda packet and seek or receive information from staff. Although additional items not listed on the work session agenda are sometimes discussed when introduced by the Mayor, Council, or staff, no formal action is taken at work sessions and items that require formal Council action are placed on a regular Council meeting agenda. Public comments at work sessions are NOT considered part of the official record. Public comments intended for the "official record" should be made at a regular City Council meeting.

Discussion Items

- 1. Public Comments (limited to 3 minutes)
- 2. Presentation of FY2017 General Liability and Property Insurance Options
- 3. Presentation of Cash Flow Analysis and Rate Study for Kodiak Harbors1
- 4. Discussion About Removing Trees Near Baranof Park Office to Provide Additional Parking (Councilmembers Walker and Saravia)
- 5. Discussion About Elimination of Building Permits for Single Family Dwellings
- 6. Elected Officials Training/Travel Requests
- 7. June 9, 2016, Agenda Packet Review

To Be Scheduled

1. Tours of Compost Facility and Pumphouse

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Memorandum

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Date:	May 20, 2016				
To:	Lon White, Harbormaster, City of Kodiak				
	Kelly Mayes, Finance Director, City of Kodiak				
From:	Michelle Humphrey				
Re:	Kodiak Cash Flow Analysis				

This memo provides moorage rate recommendations for the Kodiak Harbor system based on a life cycle cost model that takes into account all of the costs associated with operating, maintaining, and replacing the three harbor facilities in Kodiak. This memo also provides a preliminary debt plan that is based on the external financing needs identified in a second model that looks at Boat Harbor Enterprise Fund's cash flows and working capital balance over the 50-year study period. The following sections discuss our findings and recommendations as well as the analytical process, data, and assumptions used in the analysis.

Findings and Recommendations

Based on the results of the life cycle cost analysis, our model recommends increasing the average moorage rates to cover the net present value of the projected cash flows from operations, maintenance, and capital replacement. We recommend implementing this moorage increase through a single year flat rate increase of 18.5 percent across all vessel sizes at the beginning of fiscal year 2017, bringing average moorage rates from \$51.52 per foot in 2016 to \$61.05 per foot in 2017. The recommended adjustment in fiscal year 2017 includes the flat percentage increase as well as an adjustment for inflation. While this is a large increase, it is equivalent to annual increases of only 2.8 percent since the last rate increase in 2011.

We also suggest implementing annual inflation-based moorage rate adjustments following the flat rate increase in fiscal year 2017. The cash flow model uses the four-year compounded annual growth rate of the Producer Price Index (PPI) for port and waterfront terminal operations of 2.8 percent as a proxy for this annual adjustment, but in practice that adjustment can be based on the change in the PPI from the previous year (BLS 2016). The Anchorage Consumer Price Index is another index that could be used as the basis for the annual inflation adjustments, and with a ten-year compounded annual growth rate of 2.3 percent, it is similar to the PPI index used in this model (BLS 2016). The study team recommends using the industry-specific PPI as the basis for annual inflation adjustments at this time.

Preliminary debt plans based on the results of the cash flow model suggest that the implementation of the two moorage rate changes described above has the potential to reduce the harbor system's debt requirement by over \$314 million (in 2016 dollars) over the 50-year study period.

Life Cycle Cost Model

Our model estimates the annualized life cycle cost of Kodiak's harbor facilities to be \$2.03 million. This annualized cost was calculated by projecting cash flows for operations, maintenance, and capital

replacement out 50 years to 2065, then discounting them to 2016 dollars to find the net present value. This model uses revenues and expenses from fiscal year 2015 as the basis for the projections since it was the latest available information when the study began. Cash flows were discounted using the 30-year real discount rate of 1.5 percent based on the 2015 discount rates published by the Office of Management and Budget (OMB 2015).

This study uses \$2.03 million as the annualized life cycle cost of Kodiak's harbor facilities, but it is important to note that the actual cash requirements vary from year to year due to harbor facility replacement and major maintenance schedules. In fiscal year 2015, the harbor facilities generated approximately \$2.371 million in revenue, resulting in a \$336,756 surplus when compared to the life cycle cost.

Using the annualized life cycle cost and the total linear footage available for moorage at Kodiak's harbor facilities (28,686 linear feet), and adjusting for the current mix of permanent and transient users, the model suggests an average moorage rate of \$59.39 (in 2016 dollars). The current average moorage rate is \$51.52, so the model suggests a \$7.87 per foot or roughly 15.3 percent increase to moorage rates.

Rate Recommendations

Based on the results of the life cycle cost model, we recommend implementing an 18.5 percent flat increase to moorage rates at the start fiscal year 2017. Based on the model results, this increase in rates will allow the harbor to bring in adequate annual revenues to cover its average annual expenses. In addition to the flat percentage increase, we also recommend annual inflation-based rate adjustments, so that moorage rate revenue will mirror the anticipated changes in the harbor expenses and the harbor will continue to be able to cover its expenses with its revenues.

Table 1 shows the rates published for fiscal year 2016 and recommended moorage rates for fiscal year 2017 for each of the slip sizes offered at Kodiak's harbor facilities. The recommended moorage rates per foot for fiscal year 2017 combine the flat percentage increase to bring rates in line with the life cycle costs of the harbor facilities as well as a 2.8 percent increase to account for inflation. The annual inflation adjustment used in the model is based on the four-year compounded annual growth rate of the PPI for port and waterfront terminal operations (BLS 2016).

An 18.5 percent flat percentage increase in fiscal year 2017 would reconcile the difference between the moorage rates currently being charged and suggested moorage rates derived from the life cycle cost model and adjust rates for a year of inflation, since the life cycle cost results are presented in 2016 dollars.

		Current 2016	2017 Flat Percentage Increase
Slip Size (Linear Feet)	Number of Slips	Rate per Foot (\$/ft)	
17	18	30.00	35.55
23	12	30.00	35.55
24	92	30.00	35.55
30	57	30.00	35.55
35	31	30.00	35.55
40	105	30.00	35.55
46	46	41.00	48.58
48	35	41.00	48.58
55	21	41.00	48.58
60	38	41.00	48.58
62	40	61.00	72.28
85	15	71.50	84.73
90	15	71.50	84.73
100	14	71.50	84.73
110	14	82.00	97.17
125	17	89.00	105.46
150	10	89.00	105.46
151	0	100.00	118.50

Table 1. Comparison of Current and Recommended Moorage Rates per Foot

Source: City of Kodiak (2015), Northern Economics, Inc. analysis

The 18.5 percent increase in the moorage rate per foot is applied equally across all slip sizes, which results in varying increases in terms of the dollar amount per square foot. For example, the tenants using slips that are 40 linear feet or less would see a \$5.55 per foot increase and the tenants using slips that are 125 linear feet would see a \$16.46 per foot increase in moorage rates.

Market Comparison

Compared to other harbors in the region, the current annual moorage rates at Kodiak fall right in the middle of the spectrum. This suggests that the market could bear higher rates than what is currently being charged at Kodiak, and could absorb a reasonable rate increase. Dutch Harbor, Homer, and Seward have been identified at Kodiak's main competitors and appropriate regional comparisons. Table 2 shows the annual moorage rate per foot currently charged at comparable facilities in the region as well and the current and recommended rates at Kodiak.

	Kodiak							
Slip Size	2016 Rates	2017 Flat % Increase	2017 Alternative Rates	Dutch Harbor/ CEM	Homer	Seward		
(Linear Feet)			Rate per	Foot (\$/ft)	: (\$/ft)			
17	30.00	35.55	40.94	40.25	49.91	54.32		
23	30.00	35.55	40.94	40.25	49.09	56.01		
24	30.00	35.55	40.94	40.25	48.99	55.79		
30	30.00	35.55	40.94	40.25	48.54	54.79		
35	30.00	35.55	40.94	40.25	48.29	54.22		
40	30.00	35.55	40.94	40.25	48.10	53.79		
46	41.00	48.58	50.19	40.25	47.92	54.71		
48	41.00	48.58	50.19	40.25	47.87	54.54		
55	41.00	48.58	50.19	46.00	47.73	54.07		
60	41.00	48.58	56.29	51.75	47.65	53.79		
62	61.00	72.28	56.78	51.75	46.11	53.70		
85	71.50	84.73	62.27	74.75	47.38	53.62		
90	71.50	84.73	75.95	80.50	47.35	53.46		
100	71.50	84.73	84.73	86.25	47.29	53.19		
110	82.00	97.17	91.40	92.00	47.24	52.97		
125	89.00	105.46	103.73	103.50	47.18	52.71		
150	89.00	105.46	114.29	149.50	47.11	52.39		
151	100.00	118.50	114.29	149.50	47.11	52.38		

Table 2. Regional Comparison of Annual Moorage Rates: Kodiak, Dutch Harbor, Homer, and Seward

Source: City of Kodiak (2015), City of Unalaska (2016), City of Homer (2016), City of Seward (2016), Northern Economics, Inc. analysis

Note: Homer has slips that can accommodate vessels up to 86 feet in length; vessels larger than 86 feet in length must side-tie at the transient raft rather than a stall. Larger vessels must likewise side-tie in Seward.

The Carl E. Moses Harbor in Dutch Harbor charges the highest annual moorage rates, peaking at \$149.50 per foot, and is also the newest facility in the region. With the recommended annual moorage rate increases in 2017, Kodiak's average annual moorage rate would still be 28 percent or \$23.85 per foot less than the average annual moorage rate charges at Carl E. Moses Harbor. Homer and Seward each charge a flat fee per foot (\$43.49 and \$47.47 respectively) plus and sales tax and administrative fees.¹ The moorage rates displayed for Homer and Seward in Table 2 are the fully loaded rates that include sales tax and administrative charges associated with each slip size.²

Even though Kodiak's average annual moorage rate is lower than other harbor facilities in the region, moorage rates for slips that are 62–90 linear feet and 110–125 linear feet would be the highest in the region with a flat increase of 18.5 percent applied to all slip sizes. Kodiak currently charges lower rates than its competitors for slips that are 40 linear feet or less. Redistributing the moorage rate structure, similar to the "2017 Alternative Rates" column in Table 2, so that smaller slip sizes carry more of the life cycle costs could be one option to bring moorage rates for all slip sizes closer in line with the rates

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¹ The Homer Port and Harbor Commission has recently approved a plan to move to a graduated moorage structure with rates increasing with vessel size.

² The administrative charge results in the effective price per foot decreasing with larger vessel sizes.

charged by other facilities in the region. The moorage rates shown under the 2017 alternative rate example would produce the same potential revenue as the flat percentage increase, but with a different distribution of rate increases.

Cash Flow Model

Northern Economics developed a model of the Boat Harbor Enterprise Fund's cash flows and working capital balance over the 50-year study period that incorporates the results of the life cycle cost analysis. This model considers both annual operating revenues, which are contingent upon the rate scenario selected, and non-operating revenues that were estimated using financial records from fiscal year 2015. The model also takes into account operating and maintenance costs based on fiscal year 2015 financials. Capital costs are based on a five-year rotating major maintenance schedule and a facility replacement schedule that was provided by the city.

The cash flow model considers three different rate scenarios. The first scenario is the no-change option that holds constant the rates charged in 2016, and does not factor in any rate increases over the 50-year study period. The second scenario starts with the current moorage rates and factors in annual inflation-based rate increases starting in fiscal year 2017. The third scenario incorporates a flat percentage increase in fiscal year 2017 that would bring moorage rates in line with the results of the life cycle cost analysis as well as annual inflation-based rate increases. Rates developed using a life cycle cost approach have a long-term focus and aim to sufficiently cover operations, maintenance, and facility replacement over the 50-year study period.

Figure 1 shows the projected working capital balance for the Harbor Enterprise Fund under the three moorage rate scenarios described above. The starting working capital balance of \$4.6 million comes from the total current assets recorded in fiscal year 2015 financial documents and is used as the starting point for all three scenarios. It should also be noted that grant funding and debt proceeds are not included in values shown in Figure 1.



Figure 1. Projected Working Fund Balance without Debt, Nominal Dollars, 2016–2065

All three of the rate scenarios considered in this study require the issuance of debt on several occasions to maintain the targeted minimum working capital balance of \$4 million, but the amount of debt required varies drastically. The targeted minimum balance is based on the average annual expenses associated with the harbor and is used to signal the need for debt or external financing in the upcoming year. Under all three scenarios, the Harbor Fund would drop to a negative balance in 2020 and under the status quo and inflation adjustment only scenarios (Scenario I and Scenario II) it would remain negative through the end of the study period. Under Scenarios III, the working fund balance would rebound to a positive balance in 2050 before dropping back down to a negative balance in 2060. The drops in the year-end working fund balances are tied closely to the capital replacement schedules of the three facilities in Kodiak's harbor system.

Preliminary Debt Plan

Using the working capital model, Northern Economics developed a preliminary debt issuance plan that would address the working capital requirements of the harbor. Each of the moorage rate scenarios produces unique debt requirements so separate debt plans were developed for each of the scenarios. The preliminary debt plans for each scenario also assume grant funding through the Municipal Harbor Facility Grant Program for each of the scheduled capital replacement projects within the study period. Figure 2 shows the projected year-end working fund balance under each rate scenario with the preliminary debt plans in place.

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Source: Northern Economics, Inc. analysis





The model assumes that the city will receive the maximum Municipal Harbor Facility Grant amount for each of the scheduled facility replacements that occur during the 50-year study period, with the exception of the Channel Transient replacement that is scheduled to occur in 2017. The city has applied for a \$1.5 million, Tier 1 Municipal Harbor Facility Grant for the Channel Transient Float and is currently the top ranked applicant, subject to appropriation by the Alaska Legislature. The maximum grant amount of \$5 million has not been adjusted for inflation in previous years and the analysis assumes that this will not change moving forward. It should be noted that this is not a guaranteed source of funding and the grants available through this program are dependent upon approval by the Alaska Legislature.

Harbor Facility	Replacement Year	Eligible Tier Level	Grant Funding (Nominal \$)
Channel Transient Float	2017	Tier I	1,500,000
St. Herman Harbor	2020	Tier II	5,000,000
St. Paul Harbor	2035	Tier I	5,000,000
Channel Transient Float	2057	Tier II	5,000,000
St. Herman Harbor	2060	Tier II	5,000,000

Source: Northern Economics, Inc. analysis

Table 4 shows the year of issuance and the amount of debt issued for each of the preliminary debt plans developed in this analysis. By increasing moorage revenues through annual inflation-based adjustments and implementing a flat percentage rate adjustment based on the findings of the life cycle cost analysis, the harbor can significantly reduce the amount and frequency of debt issuances needed to maintain the targeted minimum working fund balance of \$4 million.

Status Quo—No Change to Rates		Annual Infl Ad	lation Based Rate justments	Flat Rate Increase & Annual Adjustments		
Year	Debt Issued (\$)	Year	Debt Issued (\$)	Year	Debt Issued (\$)	
2020	27,000,000	2020	31,000,000	2020	26,000,000	
2025	11,500,000	2030	7,500,000	2035	34,000,000	
2030	18,500,000	2035	29,000,000	2045	24,500,000	
2035	48,000,000	2040	19,250,000	2055	14,000,000	
2040	49,000,000	2045	25,500,000	2060	120,000,000	
2045	71,500,000	2050	26,000,000			
2050	96,000,000	2055	37,500,000			
2055	136,000,000	2060	152,500,000			
2060	288,500,000					

Table 4. Preliminary Debt Issuance Plans, Nominal Dollar, 2016–2065

Notes: The timing and amounts of debt issuance are based on a preliminary plan and should be evaluated prior to issuance.

The preliminary debt plan would have a different impact on the harbor's working capital fund depending on the rate structure scenario that is in place (see Table 5). If there are no changes in the harbor moorage rates (Scenario I), the preliminary debt plan calls for nine debt issuances over the 50-year study period and the net present value of the total debt issued is just over \$450 million. There is also more variation in the working fund balance under this scenario as the gap between the harbor's revenues, and the harbor's costs continues to expand, and larger and more frequent debt issues are required to maintain the targeted working fund balance (Figure 2).

If annual inflation-based rate adjustments are implemented starting in fiscal year 2017 (Scenario II), the preliminary debt plan consists of eight debt issuances with a net present value just over \$202 million. If a flat percentage rate increase based on the life cycle cost model is implemented in 2017 in addition to annual inflation based rate adjustments (Scenario III), the preliminary debt plan calls for only five debt issuances at a net present value of just under \$136 million. The net present value of the debt in the preliminary debt plan for Scenario I is almost three times the net present value for the preliminary debt plan under Scenario III.

Rate D Scenarios Iss	Debt	Minimum Excess Fund Balance	Maximum Excess Fund Balance	Average Excess Fund Balance	Total Debt Issued, Nominal Dollars	Net Present Value of Debt
	Issues			Millions \$		
Scenario I	9	-0.79	174.37	26.43	746.00	450.21
Scenario II	8	-0.50	60.19	9.11	328.25	202.59
Scenario III	3	-0.69	32.96	6.43	218.50	135.89

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Source: Northern Economics, Inc. analysis

The working capital model also takes into account the expense associated with repaying the debts, both principal amounts and interest. The debt parameters in the cash flow model are based on typical debt issues by the Alaska Municipal Bond Bank Authority (AMBBA) for port and harbor projects around the state. The model assumes a 30-year term for each debt issuance with a 4 percent interest rate and a debt issuance cost of 0.22 percent of the total bond amount. While other funding sources are available to the harbor, including direct loans and grants through USDA Rural Development programs, AMBBA offers lower interest rates than most alternatives and has experience doing businesses with Alaskan port and harbor facilities, including those in Kodiak.

Figure 3 shows the annual debt expense under the preliminary debt plan for each of the moorage rate scenarios considered. The annual debt expense under all three scenarios is relatively similar for the first ten years of the model, but starting in 2026, the annual debt expense under the status quo moorage rate scenario increases significantly. The difference between the annual debt expenses for the three rate scenarios only becomes more pronounced in the later years of the model, and by 2065 the annual debt expense under the status quo rate (Scenario I) is over three times more than the annual debt expense with the recommended rate increases (Scenario III).



Figure 3. Annual Debt Expense in Nominal Dollars (2016–2065)

Source: Northern Economics, Inc. analysis

The results of the cash flow model show that bringing moorage rates in line with the average moorage rate derived from the life cycle cost and implementing annual inflation-based rate adjustments can significantly reduce the amount of debt and debt expense needed to maintain the targeted minimum working fund balance of \$4 million.

Analytical Approach, Data, and Assumptions

We have used a life cycle cost approach to evaluate the complete cost of operating, maintaining, and replacing the Port of Kodiak's harbor facilities. The life cycle cost model takes the total cost of the three harbor facilities, expressed in today's dollars, and then develops an annualized cost that must be covered by moorage revenues and other revenue sources in order for the facilities to be financially sustainable.³

The model uses the average moorage rate per foot, which is calculated by dividing the annualized life cycle cost by the total linear feet available for moorage. The average moorage rate per foot is then distributed to the different vessel size ranges based on "rate ratios." These ratios represent the proportion of the average rate that would be paid by vessels in each size range.

The average moorage rate then feeds into a second model that analyzes the cash flow and ending working fund balance for Kodiak's harbor system on an annual basis. This model takes into consideration operating and non-operating revenues, operating expenses, debt issuance, and grant funding to calculate the year end working fun balance.

We used the following data sources and assumptions in our analysis:

- We considered St. Herman Harbor, St. Paul Harbor, and the Channel Transient Float in the analysis.
- Capital cost estimates and replacement years were provided via email for the facilities being considered (White 2016). We assumed a 40-year useful life for each facility for the purpose of determining replacement schedules.
- Annual estimated operating costs of \$1.9 million were calculated by subtracting the depreciation from the total operating expenses listed in the City's Fiscal Year 2015 Comprehensive Annual Financial Reports (City of Kodiak 2016), and adjusting that number based on the estimated impact of inflation.
- We assumed annual offsetting revenues of \$1.1 million based on the non-moorage revenues and "transfers in" listed in the City's Fiscal Year 2015 Comprehensive Annual Financial Reports (City of Kodiak 2016), and adjusting that number based on the estimated impact of inflation. Transfers in to the harbor enterprise fund are capped as \$500,000 and are not adjusted for inflation. Based on the historic trends, the model assumes that the enterprise fund will receive the maximum allowable amount of transfers each year. These are non-moorage revenues and do not change from one scenario to the next.
- We assumed that rates for other services (i.e. grid use, used oil disposal, launch ramp fees...etc.) would also be adjusted annually based on the same PPI index used to adjust moorage rates under Scenarios II and III. Under the status quo scenario (Scenario I) these non-moorage revenues are held constant throughout the 50-year study period.
- We have assumed that all harbor facilities will be fully occupied. On average, 83.9 percent of the total linear moorage space will be used by exclusive users, with the rest used by transients. Due to the difference in rates, permanent users only account for two-thirds of moorage revenues.

³ For more information about life cycle cost analysis and setting sustainable rates, see Fisher (2011) and Fisher (2009).

- The life cycle cost model assumes a real discount rate of 1.5 percent based on U.S. Office of Management and Budget guidance (OMB 2015). All values in the life cycle cost model are expressed in real terms, in 2016 dollars.
- The cash flow model uses an annual inflation rate of 2.8 percent that is based on the five year compounded annual growth rate of the Producer Price Index for Port and Waterfront Terminal Operations (BLS 2016).
- The cash flow model assumes grant funding through the Municipal Harbor Facility Grant Program for each of the facility replacements scheduled to take place during the 50-year study period.
- The targeted minimum working fund balance is specified to be \$4 million (in 2016 dollars). This targeted balance is based on fiscal year 2015 financial data and aims to cover the annual operating expenses, minus depreciation, for two fiscal years.
- Bonds through AMBBA are assumed to be the primary financing source in the cash flow model. Bonds are assumed to have a term of 30 years at a 4 percent interest rate. The cost of capital is assumed to be 0.22 percent of the total bonded amount (Mitchell 2016).
- Depreciation expense is not included in the life cycle cost model or cash flow models because it is a non-cash expense.

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