Finance Discussion

LEHIGH COUNTY AUTHORITY

Revenue Requirements

- Concept of Revenue Requirements
- Two methods to determine overall revenue requirements
- Utility Basis
- Cash Basis
- Indenture Reserves
- Debt Service Coverage Reserves
- Other Reserves
- Should a Municipal Utility Use a Rate of Return
- Economic Value Added (EVA)

Revenue Requirements

- Concept of Revenue Requirements
  - Proper Operation and Maintenance
  - Development and perpetuation of the system and quality of service
  - Preservation of the utility's financial integrity

Methods to Determine Revenue Requirements

- Cash Basis – revenue requirements based upon a cash flow basis that considers the following as cash outflows:
  - Operating and Maintenance Expenses
  - Debt Service Payments – both interest and Principal
  - Normalized System Maintenance Capital
  - Normalized Capital Improvements

- Utility Basis – revenue requirements based upon components of the accounting profit and loss that considers the following:
  - Operating and Maintenance Expenses
  - Depreciation Expense
  - Interest Expense
  - Rate of Return

Cash Basis

- Advantages
  - Understood much better by customers and public
  - Attempts to match cash in with cash out
  - Considers all of the categories of cash outflows, particularly, debt service and capital projects
  - Allows for calculation of Debt Service Coverage Ratios that exclude no-cash expenses, e.g. Depreciation expense
  - Is more in line with the LCA long-term models
  - Is clearly early in the usable life cycle of a capital project as cash is billed up front for the purchase and installment of capital improvements that will provide useful benefits in future years

- Disadvantages
  - Ignores non-cash expenses which can lead to lower revenue coverage and ultimately a negative net income
  - Can result in significant fluctuations in revenues (and rates) caused by changes in:
    - Debt service payments, particularly when principal payments kick in
    - Capital expenditures that vary from year to year significantly

Utility Basis

- Advantages
  - Based upon accounting practices so there is easy relation to financial statements
  - All revenues and expenses are accounted for
  - Typically leads to profit stability as this is easily seen since all expenses are covered by revenue
  - Using this method tends to result in smoother rate fluctuations

- Disadvantages
  - Harder for the consuming public to relate to since it is not the same as cash in, cash out
  - Includes non-cash items (e.g. Depreciation) as expenses
  - Could lead to lack of coverage of indenture requirements unless special consideration is given to this
  - The profit and loss statement does not consider the impact of principal payments and capital projects as these are outside of profit statement. The depreciation comes on board in later periods.

Revenue Considerations

	Now	Year 1	Year 2	Year 3	Year 4	Year 5
Capex	10,000					
Deprec		2,000	2,000	2,000	2,000	2,000

	Now	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Debt	10,000	9,000	8,000	7,000	6,000	5,000	4,000	3,000	2,000	1,000	0
Interest		1,000	900	800	700	600	500	400	300	200	100
Prin		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

1. Charge for Interest when it is expensed
2. Charge for Capital when it is either:
   a. Purchased or Borrowed for
   b. Depreciated
   c. Paid back by Principal Repayment

2016 Budget – City Division

	Budget	Statement	Variance
PROFIT & LOSS			
Operating revenues	31,832	31,832	-
Operating expenses	(15,598)	(15,598)	-
Depreciation expenses	-	(5,400)	5,400
Annual payment	(500)	(500)	-
Interest income	430	430	-
Interest expense	(12,373)	(12,373)	-
Other income	-	277	(277)
Other expense	-	(317)	317
NET PROFIT	**3,791**	**(1,649)**	**5,440**
PRO-FORMA CASH FLOWS			
Net Profit	3,791	(1,649)	5,440
Depreciation expenses	-	5,400	(5,400)
Principal Payments	-	-	-
Capex	(16,697)	(16,697)	-
NET CASH FLOW	**(12,906)**	**(12,946)**	**40**

2016 Budget – Suburban Water

	Budget	Statement	Variance
PROFIT & LOSS			
Operating revenues	8,787	8,787	-
Operating expenses	(5,141)	(5,141)	-
Depreciation expenses	-	(2,950)	2,950
Annual payment	-	-	-
Interest income	239	239	-
Interest expense	(1,490)	(1,490)	-
Other income	-	466	(466)
Other expense	-	(7)	7
NET PROFIT	**2,395**	**(96)**	**2,491**
PRO-FORMA CASH FLOWS			
Net Profit	2,395	(96)	2,491
Depreciation expenses	-	2,950	(2,950)
Principal Payments	(1,000)	(1,000)	-
Capex	(5,862)	(5,862)	-
NET CASH FLOW	**(4,467)**	**(4,008)**	**(459)**

2016 Budget – Suburban Wastewater

	Budget	Statement	Variance
PROFIT & LOSS			
Operating revenues	16,045	16,045	-
Operating expenses	(13,257)	(13,257)	-
Depreciation expenses	-	(4,010)	4,010
Annual payment	-	-	-
Interest income	9	9	-
Interest expense	(273)	(273)	-
Other income	-	1,159	(1,159)
Other expense	-	-	-
NET PROFIT	**2,524**	**(327)**	**2,851**
PRO-FORMA CASH FLOWS			
Net Profit	2,524	(327)	2,851
Depreciation expenses	-	4,010	(4,010)
Principal Payments	(971)	(971)	-
Capex	(5,926)	(5,926)	-
NET CASH FLOW	**(4,373)**	**(3,214)**	**(1,159)**

Cash or Utility
Which One

- A Cash based approach with Reserves to cover:
  - Debt Service Coverage Requirements
  - Principal Payment Normalization
  - Capital Spending Normalization
- What does that provide:
  - Ensures the profit and loss statement will not be negative
  - Ensures the revenue base covers the minimum indenture requirements
  - Normalizes principal payments over time period
  - Capex spending on a cash basis is covered as the difference between capex and depreciation
  - Capex is normalized over a period of time for fluctuations
- Payoff
  - Financial integrity
  - Lowering the costs of debt
  - Becoming self-sustaining

Being Self-Sustaining

- What is self-sustaining?

  Funds generated by Operations fund all of the Debt Service in existence and all capital spending requirement without incurring any additional significant debt!

- Why should we?

  We are already high on the leverage side and financing a significant portion of Debt would be difficult to meet without a BIG Surplus from Operations

Being in Debt

- Advantages
  - Can capitalize on an opportunity at the moment that opportunity appears
  - Cuts down on the time frame to accumulate necessary capital
  - Can be cheaper than other types of financing
  - Equity financing not available in municipal realm
  - Tax advantages (not pertinent to LCA)

- Disadvantages
  - Creates ongoing committed liabilities
  - Can create risk of inability to meet debt service requirements
  - Creates risk of bankruptcy over long-term
  - It is still an additional expense to the business

Being in Debt

LEHIGH COUNTY AUTHORITY								
2016 BUDGET								
LEVERAGE EVALUATION								
COMBINED								
	Suburban Water		Suburban WW		City Division		LCA TOTAL	
Key Figures								
Total Long-term debt	32,119		7,000		338,925		378,044	
Total Cash & Short-term investments (unrestricted)	2,860		8,908		10,877		22,645	
Book Equity (Net Position)	84,787		102,449		(19,672)		167,564	
EBITDA	4,105		3,947		15,694		23,746	
Cash Flow from operations	3,684		2,635		15,718		22,037	
EBIT	1,155		(63)		10,294		11,386	
Interest Expense	1,490		273		12,373		14,136	
Ratios								
Debt to book capitalization %								
(Total debt - Cash) / (Net debt + Book equity)								
Total Debt	32,119	32,119	7,000	7,000	338,925	338,925	378,044	378,044
Cash	(2,860)	-	(8,908)	-	(10,877)	-	(22,645)	-
Net Debt	29,259	32,119	(1,908)	7,000	328,048	338,925	355,399	378,044
Book Equity	84,787	84,787	102,449	102,449	(19,672)	(19,672)	167,564	167,564
Book Capitalization	114,046	116,906	100,541	109,449	308,376	319,253	522,963	545,608
Pct	**25.66%**	**27.47%**	**-1.90%**	**6.40%**	**106.38%**	**106.16%**	**67.96%**	**69.29%**
Debt to EBITDA %								
Total debt / EBITDA								
Total debt	32,119		7,000		338,925		378,044	
EBITDA	4,105		3,947		15,694		23,746	
Pct	**782.44%**		**177.35%**		**2159.58%**		**1592.03%**	
Debt to Cash Flow %								
Total debt / Operating Cash Flow								
Total debt	32,119		7,000		338,925		378,044	
Operating cash flow	3,684		2,635		15,718		22,037	
Pct	**871.85%**		**265.65%**		**2156.29%**		**1715.50%**	
Interest coverage %								
EBIT / Interest expense								
EBIT	1,155		(63)		10,294		11,386	
Interest expense	1,490		273		12,373		14,136	
Pct	**77.52%**		**-23.08%**		**83.20%**		**80.55%**	
Debt to Equity Ratio								
Total debt	32,119		7,000		338,925		378,044	
Total equity	84,787		102,449		(19,672)		167,564	
Ratio	**0.38**		**0.07**		**(17.23)**		**2.26**	

Simpler Way !

- Suburban Water
  - Capital Investment - $107,392k
  - Debt - $22,605k
  - 21.0%
- Suburban Wastewater
  - Capital Investment - $109,700k
  - Debt - $7,251k
  - 6.6%
- City Division
  - Capital Investment - $256,493
  - Debt - $211,493k
  - 82.4%
- LCA Total
  - Capital Investment - $473,585k
  - Debt - $241,215k
  - 50.9%

Being Self-Sustaining

- How do we become self-sufficient?
  - Adopting revenue models that consider the entire realm of economic activities
  - Cost reduction through process changes

Revenue Calculation

Total Expenses (excluding Interest Expenses)

+ Debt Service Coverage Reserve

    Interest Expense

    Principal Payments

    Coverage Reserve

+ Capital to cash basis (= Capex spending – Depreciation)

+ Principal Payments Normalization Reserve

+ Capital Projects Normalization Reserve

+ Rate Stabilization Reserve

= TOTAL REVENUES

Revenue Calculation

	Suburban Water	Suburban Wastewater	City Division	LCA TOTAL
DATA INPUT				
Total Operating Expenses	8,091	17,267	20,998	46,356
Non-Operating expenses	(792)	895	(12,483)	(12,380)
Depreciation Expense	2,950	4,010	5,400	12,360
Interest Expense	(1,490)	(273)	(12,373)	(14,136)
Principal Payments	(993)	(971)	-	(1,964)
Capex	(7,000)	(5,348)	(16,078)	(28,426)
	Suburban Water	Suburban Wastewater	City Division	TOTAL
REVENUE BUILDUP				
Operating expenses excluding Depreciation & Interest	4,443	12,089	15,708	32,240
Depreciation Expense	2,950	4,010	5,400	12,360
Interest Expense	1,490	273	12,373	14,136
Total Expenses	8,883	16,372	33,481	58,736
Debt Service Coverage				
Interest Payments	1,490	273	12,373	14,136
Principal Repayment	993	971	-	1,964
Total Debt Service	2,483	1,244	12,373	16,100
Debt service Coverage %	20.01%	20.01%	20.01%	20.0%
Debt Service Coverage	497	249	2,476	3,222
Debt Repayment Reserve				
Principal Payment	993	971	-	1,964
Reserve %	20.85%	20.00%	20.00%	122.25%
Debt Repayment Stabilization Reserve	207	194	2,000	2,401
Capex Normalization Reserve				
Reserve %	20%	20%	20%	27%
Capital Replacement Reserve Amount	1,400	802	1,080	3,282
Capex spending to cash	4,050	1,338	10,678	16,066
Total revenue to cover Capex	5,450	2,140	11,758	19,348
TOTAL REVENUES	16,030	19,926	49,715	85,671
	8,787	16,045	31,832	56,664
	82.4%	24.2%	56.2%	51.2%
PROFIT & LOSS STATEMENT				
Revenues	16,030	19,926	49,715	85,671
Operating Expenses	(7,393)	(16,099)	(21,108)	(44,600)
EBIT (Operating Profit Before Taxes)	8,637	3,827	28,607	41,071
Interest Expense	(1,490)	(273)	(12,373)	(14,136)
Net Profit	7,147	3,554	16,234	26,935
PRO FORMA CASH FLOWS				
Net Profit	7,147	3,554	16,234	26,935
Add: Depreciation Expense	2,950	4,010	5,400	12,360
Principal Payments	(993)	(971)	-	(1,964)
Capex	(7,000)	(5,348)	(16,078)	(3,282)
Net Cash	2,104	1,245	5,556	34,049
DEBT SERVICE COVERAGE RATIO				
Without Depreciation Expense				
Revenues	16,030	19,926	49,715	85,671
Total Expenses	(8,883)	(16,372)	(33,481)	(58,736)
Add: Depreciation Expense	2,950	4,010	5,400	12,360
Add: Interest Expense	1,490	273	12,373	14,136
Net Operating Profit	11,587	7,837	34,007	53,431
Debt Service	2,483	1,244	12,373	16,100
DSCR	4.67	6.30	2.75	3.32
With Depreciation Expense				
Revenues	16,030	19,926	49,715	85,671
Total Expenses	(8,883)	(16,372)	(33,481)	(58,736)
Add: Interest Expense	1,490	273	12,373	14,136
Net Operating Profit	8,637	3,827	28,607	41,071
Debt Service	2,483	1,244	12,373	16,100
DSCR	3.48	3.08	2.31	2.55
Is Net Profit >=0	YES	YES	YES	YES
Is Pro Forma Cash Flow >=0	YES	YES	YES	YES
Is DSCR With Depreciation Expense Included >1.20	YES	YES	YES	YES
Is FCF/Depreciation Expense >=1	YES	YES	YES	YES

Issues

- Can be useful model for Suburban Water and Wastewater
- City is locked into concession agreement with rate increases of 2.5% and an additional adjustment based upon CPI
- Annual Payment of Lease not accounted for in the model for the City – it is a cash outflow
- City Concession agreement provides for Capital Cost Recovery on projects >$1m for 30 year period

What is EVA

- Economic Value added (EVA)
- An all-inclusive approach to capital that assigns a cost of capital to the Invested Capital of the business that is deducted from the accounting profit to arrive at EVA or as is sometimes called Economic Profit
- Capital cost assigned
  - Costs of Debt
  - Cost of Equity (Net Position)
- The Complete basis for establishing the value of the business and for evaluating the TRUE economic performance level of the business given the amount of invested capital
- Captures true return on assets employed
- Goal is be at =0 or >0

Economic Value Added (EVA)

	Suburban Water Fund			Suburban Wastewater Fund			City Division Fund			TOTAL		
$000	**2014**	**2015**	**2016**	**2014**	**2015**	**2016**	**2014**	**2015**	**2016**	**2014**	**2015**	**2016**
NET OPERATING PROFIT												
Operating income (loss)	1,915	2,502	696	920	(1,146)	(1,222)	8,700	8,646	10,834	11,535	10,002	10,308
Adjustments:												
Tapping & Recovery Fees	352	261	194	254	254	509	58	254	204	664	769	907
Meter Sales	82	92	92	-	-	-	11	17	17	93	109	109
Inspection & Plan Reviews	102	180	75	502	520	650	794	22	22	1,398	722	747
Interest Income	47	339	239	87	-	9	113	463	430	247	802	678
Other expense	(108)	(9)	(7)	(466)	-	-	(1,544)	(317)	(817)	(2,118)	(326)	(824)
Other income	134	104	105	-	-	-	822	34	34	956	138	139
Net Operating Profit	2,524	3,469	1,394	1,297	(372)	(54)	8,954	9,119	10,724	12,775	12,216	12,064
INVESTED CAPITAL												
Interest-Bearing Debt												
Restricted Balances related to debt	(7,726)	(8,000)	(8,000)	(336)	(400)	(400)	(71,513)	(65,966)	(62,760)	(79,575)	(74,366)	(71,160)
Revenue Bonds Payable	28,900	27,768	26,775	2,185	1,267	467	240,619	237,619	234,619	271,704	266,654	261,861
Notes Payable	3,671	3,830	3,830	7,098	7,184	7,184	39,386	39,500	39,500	50,155	50,514	50,514
Total interest-bearing debt	24,845	23,598	22,605	8,947	8,051	7,251	208,492	211,153	211,359	242,284	242,802	241,215
Equity (Net Position)												
Net position from Balance Sheet	82,684	84,883	84,787	103,234	102,701	102,449	(15,444)	(18,023)	(19,672)	170,474	169,561	167,564
City Adjustement							60,156	62,481	64,806	60,156	62,481	64,806
Adjusted Capital	82,684	84,883	84,787	103,234	102,701	102,449	44,712	44,458	45,134	230,630	232,042	232,370
Total Invested Capital	107,529	108,481	107,392	112,181	110,752	109,700	253,204	255,611	256,493	472,914	474,844	473,585
WEIGHTED COST OF CAPITAL %												
Total Weighted Cost of Capital %	7.69%	7.75%	7.78%	7.94%	7.99%	8.02%	6.63%	6.50%	6.44%	7.19%	7.13%	7.11%
CAPITAL COST	8,269	8,407	8,355	8,907	8,849	8,798	16,787	16,615	16,518	34,003	33,856	33,672
ECONOMIC VALUE ADDED (EVA)	**(5,745)**	**(4,938)**	**(6,961)**	**(7,610)**	**(9,221)**	**(8,852)**	**(7,833)**	**(7,496)**	**(5,794)**	**(21,228)**	**(21,640)**	**(21,608)**
NOP/CAPITAL COST %	2.35%	3.20%	1.30%	1.16%	-0.34%	-0.05%	3.54%	3.57%	4.18%	2.70%	2.57%	2.55%
WEIGHTED COC %	7.69%	7.75%	7.78%	7.94%	7.99%	8.02%	6.63%	6.50%	6.44%	7.19%	7.13%	7.11%
SURLUS (SHORTFALL)	-5.34%	-4.55%	-6.48%	-6.78%	-8.33%	-8.07%	-3.09%	-2.93%	-2.26%	-4.49%	-4.56%	-4.56%

Revenue Comparisons

- Suburban Water
  - Budget - $8,787k
  - Model - $16,030k
  - EVA - $15,748k
- Suburban Wastewater
  - Budget - $16,045k
  - Model - $19,926k
  - EVA - $24,897k
- City Division
  - Budget - $31,832k
  - Model - $49,715k
  - EVA - $38,165k
- LCA Total
  - Budget - $56,664k
  - Model - $85,671k
  - EVA - $78,793k

Where do we go?

- Different than what we have been doing
- The cash approach is more an up front approach and when you add reserves, ultimately higher than history
- With revenues being higher, how do we get to that level without financial shock. On the suburban side, the increase from Budget to Model is:
  - Suburban Water – 82% increase
  - Suburban Wastewater – 24% increase
- City would be 56.2% higher if we were able to use model
- See table on next slide to see variables over a number of duration times to for current to catch up to model

Where do we go?

SUBURBAN WATER				SUBURBAN WASTEWATER				CITY DIVISION	
Budget	8,787			Budget	16,045			Budget	31,832
Model	16,030			Model	19,926			Model	49,715
Periods	Rate			Periods	Rate			Periods	Rate
1	82.4%			1	24.2%			1	56.2%
2	35.1%			2	11.4%			2	11.4%
3	22.2%			3	7.5%			3	7.5%
4	16.2%			4	5.6%			4	5.6%
5	12.8%			5	4.4%			5	4.4%
6	10.5%			6	3.7%			6	3.7%
7	9.0%			7	3.1%			7	3.1%
8	7.8%			8	2.7%			8	2.7%
9	6.9%			9	2.4%			9	2.4%
10	6.2%			10	2.2%			10	2.2%

Finance Discussion

Questions?