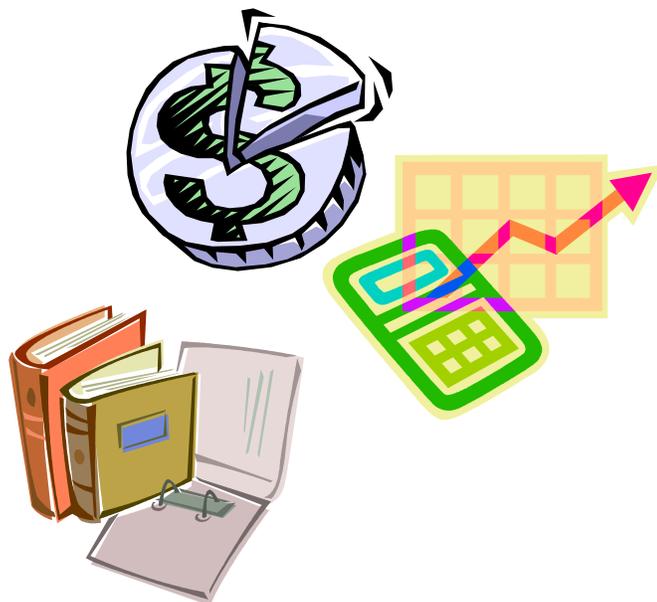


Module 6

Business Planning for Small Water Systems

Workbook



Financial/Managerial Series

This course includes content developed by the Pennsylvania Department of Environmental Protection in cooperation with the following grantees:

RCAP Solutions, Inc.
Penn State Harrisburg Environmental Training Center

Training Module 6

Business Planning for Small Water Systems



Objectives:

By the end of the course, the learner should be able to:

- Explain why a business plan is needed
- Identify the necessary elements of a business plan
- Describe the contents and function of each element of a business plan
- Determine their role in implementing the different segments of a business plan and what is needed to carry out that role
- Review essential financial components of the business plan
- Explain how the rate relates to cash flow

Table of Contents

- | | |
|----------------------------|-------|
| • Introduction | p. 2 |
| • Business Planning | p. 3 |
| • Preparing a Plan | p. 4 |
| • Financial Plan Example | p. 12 |
| • Summary | p. 23 |
| • Resources and References | p. 24 |

Introduction



This course is based on the Department of Environmental Protection's (DEP) Public Drinking Water Supply System Business Plan Manual (June 1996).



Can anyone explain, *in your own words*, what a Business Plan is intended to show?

A Business Plan is a long range plan that demonstrates how a water system will function from a financial, managerial, and technical standpoint.



You may be thinking to yourself, "But we're not a business."

Why should a public water system develop a business plan?

- Any new community water system applying for a construction permit under the Safe Drinking Water Act (SDWA) must prepare a Business Plan and submit it to DEP as part of the permit application.
- In addition, the purpose of submitting a business plan is to demonstrate to the DEP that if they issue your system a permit, you will still be in business in the future (i.e., you are not caught

up in a lot of customer complaints or in revenues that don't cover expenses).

- It is recommended that all systems prepare a business plan to use as a financial management planning tool, whether or not required by state regulations.

For existing systems, the time when a Business Plan is needed is when a major change or capital improvement is going to occur, although a system can benefit from a Business Plan at any time.

Business Planning



A Business Plan is intended to show that a water system can achieve financial, managerial and technical capability. It will show that the system:

- Is self-sustaining
- Has the financial and institutional commitment of the system owner and operators, customers, and local officials
- Has the financial, managerial, and technical capability to reliably meet performance requirements over time

A key point is the commitment of all stakeholders to making the process work. The development of a successful business plan will be a joint effort of all parties.



The drinking water Business Plan will demonstrate:

- That the system is strong enough to achieve capability even under the influence of adverse changes in the operating environment
- That the proposed plan is, within practical limits, the best plan for providing water service to the community

Adverse changes in the operating environment may require funding and construction of projects, increased payments for services, equipment and salaries, etc. The true cost of these adverse changes, and their impact on user fees, is revealed in the Business Plan.

Preparing a Plan



The Business Plan can be prepared by any individual familiar with the system and its finances (e.g., owner, operator, engineer, financial consultant).

Additional assistance may be provided by county or regional planning agencies, DEP, and non-profit organizations such as the Rural Community Assistance Program (RCAP), known as RCAP Solutions, Inc. in Pennsylvania.

RCAP is a nonprofit dedicated to providing technical assistance to small communities and small water systems. RCAP provides assistance free of charge.



Business Planning Resources:

- DEP Capability Enhancement Facilitators under the direction of Dennis Lee at (717) 772-4058.
- RCAP Staff under the direction of Donald Schwartz at (814) 861-6093.



Regardless of who prepares the plan, the responsibility for its validity and ultimate implementation remains with the system owners.



The first step is to obtain and review the Business Plan manual. We'll help you through this today.

The second step is to discuss the proposed business plan scope with a DEP regional water supply engineer during a Planning Consultation meeting. You must request this meeting by completing and submitting a Planning Consultation Request Form to your regional DEP office.

The Planning Consultation meeting should occur before you authorize an engineer to begin a feasibility study or perform any design work. Information from this meeting will be used in the development of the draft Business Plan.

At the same time, don't forget to prepare for the Planning Consultation by using the topics checklist on p. 32 of the Business Planning Manual.



The third step is to prepare your draft Business Plan. This can be in conjunction with the preparation of a feasibility study.

After you have prepared draft Business Plan, the fourth step is to schedule a Preliminary Engineering Conference with your DEP regional water supply engineer.

The purpose of the Preliminary Engineering Conference is to see that the proposed solution is reasonable and addresses the area's water supply problems over time before significant funds are expended.

Bring two copies of the draft Business Plan with you to the Preliminary Engineering Conference. Refer to page 2 of the DEP Business Plan Manual for specifics and page 31 for topics to be addressed.

After this meeting, complete the engineering and/or planning, update the cost estimates in the Business Plan, and note any other changes to the Business Plan and finalize it. Two copies of the final plan should be submitted with your permit application.

Note that any advice given by DEP in either meeting is not to be construed as official DEP approval.



The Business Plan must:

- Identify the water supply needs of the area
- Identify alternatives to address those needs
- Evaluate the alternatives

- Recommend a specific alternative
- Identify how the organization which will implement that alternative will be structured and operate
- Demonstrate that the operation of the proposed alternative will be financially viable for a period of at least five years



The Business Plan format must contain the following three components:

- Facilities Plan - an assessment of the current and future water supply needs, and a description of alternatives with both construction and operating costs and a rationale for the approach.
- Management Plan – must include documentation that the applicant has the legal right and authority to construct, operate, and maintain the system, a management and administrative plan, and an operation and maintenance plan.
- Financial Plan - projections and assurances that the system's revenues and cash flow will be sufficient for meeting the costs of construction, operation, and maintenance for at least five full years from initiation of operations.

Each of the above components of the Business Plan has sub-parts. These subparts are described in more detail in the Business Plan Manual.

A Business Plan Checklist of the information that must be included in each component is included on the beginning of page 18 of the Manual. Descriptions of the items to be addressed in each type of plan along with reviews of what the checklist items mean are included in the Manual, beginning on page 5.



The Facilities Plan (Pages 5 – 11 in the Manual) should consist of two subsections:

- Potential System Requirements - covers all facilities that will be constructed as part of the proposed system. The Facilities Plan Checklist identifies information not normally covered in the Engineer's Report - make sure the checklist items are addressed.
- Alternatives Identification and Evaluation - review these with the DEP regional water project engineer, and Public Utility Commission (PUC) staff if appropriate. The Facility Plan Checklist leads you through a series of questions which provide a financial rationale.



Additional Items in the Facilities Plan:

- Cost estimates of the various alternatives including both operational and administrative facilities. See Facilities Plan Form 2 in Appendix D.

The evaluation of alternatives also may include technical, managerial, operational, and local decision making rationale in evaluation of alternatives. If you do not select the alternative that would appear appropriate on the basis of financial rationale alone, you should describe in detail your rationale used to select the appropriate alternative.

Also, if you do not select a regional solution, such as consolidating with an existing system, becoming a consecutive water system, etc., you should explain in detail the rationale for

creating a separate system. If you are selecting a regional approach that is the most cost effective alternative, you may provide much less detail on the other rationale(s) used. It should be clear why an alternative has been abandoned.

Throughout the rest of the Business Plan, you only provide information on those alternatives that you and the DEP regional water project engineer agree are worth pursuing. In most cases no more than 2 or 3 alternatives need to be evaluated in detail.

- A summary of expected engineering costs. See Facilities Plan Form 3 in Appendix D.
- Total construction cost estimates for each alternative. See Facilities Plan Form 4 in Appendix D.
- Operating Cost estimates for each alternative. See Facilities Plan Form 5 in Appendix D.
- Identification of the alternative to be pursued and rationale for this decision. This alternative is then addressed in the Management and Financial Plan component of the Business Plan.



The Management Plan (Pages 11-13 in the Manual) should:

- Identify ownership and system responsibility
- Provide assurances from the prospective system ownership that the Management Plan will be implemented by capable individuals and organizations
- Include an operating plan which consists of management and administration plans, as well as an operation and maintenance

plan. You may be able to utilize the Operation and Maintenance Plan prepared under Part V of the Public Water Supply Manual.

To address these items, provide copies of any documentation that clearly sets forth the applicant's control and ownership of the system and disclose any and all outstanding debts. Also disclose if the ownership of the system is expected to change once the system is completed.

Refer to the checklist of items to go through in preparation of this section on page 20 and the Manual and Sample Management Plan Forms on page 39 of Appendix E.



PUC Tip

- Consider the effect of PUC regulations when selecting the form of ownership. If documentation has been prepared for the PUC, a copy should be included in the Business Plan.



The Financial Plan (Pages 14-17 in the Manual) should include the following:

- Demonstration of revenue sufficiency (such that the system will bring in enough money each year to continue to operate)
- Demonstration of adequate capitalization (such that there will be funding in place to build the system)
- Assurances that the Financial Plan will provide sufficient resources to ensure ongoing financial capability

- A summary of intended system rate revenue and pro forma financial statements for a period of at least five years
- Refer to the brief checklist provided on page 26 of the Manual and the Financial Plan Forms in Appendix F beginning on page 41.

The Financial Plan is the last component of a comprehensive Business Plan. Since the Facilities Plan provides a preliminary estimate of capital and operating expenses, the Financial Plan should be built from this base.



Let's review what we just went over. You'll find a short exercise in your workbooks. Take a few minutes to answer the questions. You can look back through your workbooks if you need to.

Identify which plan (Management, Facilities or Financial) contains each of the following components:

1. Identification of system ownership and responsibility _____
2. Operations and Maintenance Plan _____
3. Summary of Intended System Rate Revenue and Pro Forma
Financial Statements _____
4. Alternatives Identification and Evaluation _____
5. Demonstration of Adequate Capitalization _____
6. Summary of Expected Engineering Costs _____
7. Demonstration of Revenue Sufficiency _____
8. Potential System Requirements _____

Financial Plan Example



Welcome to Smallville! Its water system includes 200 customers served by two wells and an aging distribution system. In the following exercise, we will develop a business plan on their behalf.



We will look at:

- An example of Financial Plan Form 2: Income, Expense, and Cash Flow Statement
- An example of Form 3: Balance Sheet

The Assumptions and Criteria for this example include:

- 200 customers (20 delinquencies)
 - Annual Income = (180 customers x \$20/month x 12 months) = \$43,200
- \$20/month current average bill
- Bulk water sold to Bigville
- Late fees = \$1200/year in current year
- System
 - Ground water, 2 wells, 1 needs rehab
 - Tank needs to be cleaned, painted
 - Problems with leakage and low pressure

- Proposed project
 - Total cost - \$600,000 (\$200,000 grant, \$400,000 loan)
 - Construction year 2, payments start in year 3
 - Loan terms, 20 yrs at 3%/yr
- Inflation at 3%/yr
- Cash Account of \$20,000, Annual Interest Income of \$550 in current year
- Depreciation
 - Existing system cost \$1M
 - 40 yr straight line depreciation, \$25,000/yr
 - 30 yr depreciated
- Pays \$2500 into a reserve account every year, interest goes into general account

This example will familiarize you with some of the complex components of the Financial Plan.



Take 5-10 minutes to review the spreadsheets in the appendices on the last two pages of the workbook. You can separate these pages from the manual if it's more convenient for you. Try to find where the financial information regarding Smallville fits into the spreadsheets.

The purpose of this example is to highlight:

- How to identify when rate increases are required in order to produce a net positive cash
- The impact of a construction project on rates

- How the Income, Expense, and Cash Flow statement can be used as a planning tool
- The importance of annual contributions to an emergency fund
- The importance of reevaluating the amount contributed to the capital replacement fund annually



Look at the Income, Expense, and Cash Flow Statement in Appendix A in the workbook. Note the major components listed:

- Operating Revenues
- Operating Expenses
- Non-operating Revenues
- Non-operating Expenses
- Taxes
- Extraordinary Revenues
- Extraordinary Expenses



Look at the Balance Sheet in Appendix B in the workbook. Note the major components listed:

- Assets
- Liabilities
- Fluid Equity



The Income, Expense and Cash Flow Statement is an important tool to be used for short-term and long-term financial planning. It allows a current “snapshot” of the projected income and expenses of the system for the next five years. Perhaps most importantly, it provides a baseline for the planning of future rates and/or rate increases. Although you may want to start your business planning with the projected expenses, the following reviews the sections of the spreadsheet in the order they appear.



Operating Revenues:

Line 2: The water rates assume no increase in the customer base over the five-year planning period. In order to pay for the proposed project and have a capital reserve account, average rates will have to increase from \$20 per month to \$35.11 per month (increase of 76%).

The system will need to increase rates each year to produce a net positive cash flow (Line 76). This is critical to ensure the financial capability of the system.

Line 3: Bulk water rates charged to Bigville will also increase by over 75% to produce a net positive cash flow (Line 76).

Line 5: Fees and services are for late fees.

INCOME, EXPENSE AND CASH FLOW STATEMENT	Last Year 20__	Year 1 20__	Year 2	Year 3	Year 4	Year 5
1 OPERATING REVENUES						
2 <i>Water Rates</i>	\$ 43,200.00	\$ 48,800.00	\$ 49,825.00	\$ 73,632.00	\$ 75,277.00	\$ 75,837.00
3 <i>Bulk Water Sales</i>	\$ 6,800.00	\$ 7,700.00	\$ 7,850.00	\$ 11,601.00	\$ 11,860.00	\$ 12,106.00
4 <i>Fire Protection</i>	\$ -	\$ -				
5 <i>Fees and Services</i>	\$ 1,000.00	\$ 1,200.00	\$ 1,150.00	\$ 1,200.00	\$ 700.00	\$ 1,150.00
6 <i>Other</i>	\$ -	\$ -				
7 TOTAL (lines 2 through 6)	\$ 51,000.00	\$ 57,700.00	\$ 58,825.00	\$ 86,433.00	\$ 87,837.00	\$ 89,093.00
8						



Operating Expenses:

(General note: An inflation factor of 3% per year is built into the Operating Expenses. Each Line under Operating Expenses should be examined closely to determine if this is an appropriate assumption. Adjustments should be made accordingly.)

Line 28: Customer billing and collection costs are accounted for under other administrative categories, including salaries, supplies, etc.

Lines 30 and 31: In this example, the legal and engineering fees associated with the construction project are accounted for under Line 73, “Extraordinary Expenses – Capital Improvements” (Year 2).

Line 34: Depreciation assumes a straight line of \$25,000 per year for the current system, plus \$15,000 per year beginning in Year 2 for the construction project.

Line 37: The operating income is shown to be negative in each year. However, this is an artifact of the accounting procedure. The cash flow (Line 76) is positive in every year except “Last Year.”

INCOME, EXPENSE AND CASH FLOW		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
STATEMENT		20__	20__				
9	OPERATING EXPENSES						
10	<i>Operation and Maintenance</i>						
11	Salaries (operators)	\$ 15,000.00	\$ 15,450.00	\$ 15,913.50	\$ 16,390.91	\$ 16,882.63	\$ 17,389.11
12	Benefits	\$ 3,000.00	\$ 3,090.00	\$ 3,182.70	\$ 3,278.18	\$ 3,376.53	\$ 3,477.82
13	Utilities	\$ 8,000.00	\$ 8,240.00	\$ 8,487.20	\$ 8,741.82	\$ 9,004.07	\$ 9,274.19
14	Chemicals & Treatment	\$ 5,000.00	\$ 5,150.00	\$ 5,304.50	\$ 5,463.64	\$ 5,627.54	\$ 5,796.37
15	Monitoring	\$ 2,500.00	\$ 2,575.00	\$ 2,652.25	\$ 2,731.82	\$ 2,813.77	\$ 2,898.19
16	Materials, Supplies, Parts	\$ 3,000.00	\$ 3,090.00	\$ 3,182.70	\$ 3,278.18	\$ 3,376.53	\$ 3,477.82
17	Transportation	\$ 1,500.00	\$ 1,545.00	\$ 1,591.35	\$ 1,639.09	\$ 1,688.26	\$ 1,738.91
18	Purchased Water Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Outside Services	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
20	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	TOTAL (lines 11 through 20)	\$ 39,000.00	\$ 40,170.00	\$ 41,375.10	\$ 42,616.35	\$ 43,894.84	\$ 45,211.69
22	<i>Administrative</i>						
23	Salaries	\$ 6,000.00	\$ 6,180.00	\$ 6,365.40	\$ 6,556.36	\$ 6,753.05	\$ 6,955.64
24	Benefits	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
25	Building Overhead	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
26	Office Supplies & Postage	\$ 500.00	\$ 515.00	\$ 530.45	\$ 546.36	\$ 562.75	\$ 579.64
27	Insurance	\$ 2,000.00	\$ 2,060.00	\$ 2,121.80	\$ 2,185.45	\$ 2,251.02	\$ 2,318.55
28	Customer Billing & Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
29	Accounting	\$ 1,500.00	\$ 1,545.00	\$ 1,591.35	\$ 1,639.09	\$ 1,688.26	\$ 1,738.91
30	Legal	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
31	A/E & Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
32	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
33	TOTAL (lines 23 through 32)	\$ 13,000.00	\$ 13,390.00	\$ 13,791.70	\$ 14,205.45	\$ 14,631.61	\$ 15,070.56
34	<i>Depreciation Expense</i>	\$ 25,000.00	\$ 25,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00
35	<i>Other</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36	TOTAL (line 21 plus 33 plus 34 plus 35)	\$ 77,000.00	\$ 78,560.00	\$ 95,166.80	\$ 96,821.80	\$ 98,526.46	\$ 100,282.25



Non-Operating Revenues:

Line 39: Interest income assumes an initial cash account of \$20,000, with a slightly varying interest rate each year.

INCOME, EXPENSE AND CASH FLOW		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
STATEMENT		20__	20__				
38	NON-OPERATING REVENUES						
39	<i>Interest Income</i>	\$ 600.00	\$ 550.00	\$ 700.00	\$ 1,000.00	\$ 800.00	\$ 750.00



Non-Operating Expenses:

Line 47: The total annual loan repayment of approximately \$26,900 is divided into interest expense on Line 47, and principal repayment on the debt on Line 72.

Lines 48 - 52: This example assumes an annual contribution of \$2500 into a capital replacement fund (Line 50). **It is strongly recommended that an annual contribution to an emergency fund (Line 51) be considered, and that the amount contributed to the capital replacement fund be evaluated annually, and increased as necessary.**

INCOME, EXPENSE AND CASH FLOW		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
STATEMENT		20__	20__				
46	NON-OPERATING EXPENSES						
47	<i>Interest Expense</i>	\$ -			\$ 25,900.00	\$ 24,800.00	\$ 23,600.00
48	<i>Interfund Transfers</i>						
49	To General Fund	\$ -					
50	To Replacement Fund	\$ -	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
51	To Emergency Fund	\$ -					
52	To Other	\$ -					
53	TOTAL (lines 49 through 52)	\$ -	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
54	<i>Other</i>	\$ -					
55	TOTAL (line 47 plus 53 plus 54)	\$ -	\$ 2,500.00	\$ 2,500.00	\$ 28,400.00	\$ 27,300.00	\$ 26,100.00
56	NET INCOME BEFORE TAXES (line 37 plus 44 less 55)	\$ (25,400.00)	\$ (22,810.00)	\$ (38,141.80)	\$ (37,788.80)	\$ (37,189.46)	\$ (36,539.25)
57							



Taxes:

Lines 59 – 61: Taxes should be included as necessary (for profit systems, etc.).

INCOME, EXPENSE AND CASH FLOW		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
STATEMENT		20__	20__				
58	TAXES						
59	<i>Income Taxes</i>	\$ -					
60	<i>Other than Income Taxes</i>	\$ -					
61	TOTAL (line 59 plus 60)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



Extraordinary Revenues:

Lines 65 – 66: The \$200,000 grant and \$400,000 loan for the construction project are reflected on these Lines in Year 2.

INCOME, EXPENSE AND CASH FLOW		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
STATEMENT		20__	20__				
64 EXTRAORDINARY REVENUES							
65	<i>Construction Grants</i>	\$ -		\$ 200,000.00			
66	<i>Proceeds from Borrowing</i>	\$ -		\$ 400,000.00			
67	<i>Equity Contribution</i>	\$ -					
68	<i>Other</i>	\$ -					
69	TOTAL (line 65 through 68)	\$ -	\$ -	\$ 600,000.00	\$ -	\$ -	\$ -



Extraordinary Expenses:

Line 72: As noted earlier, the annual loan repayment is divided into interest on Line 47, and principal on Line 72.

Line 76: The Smallville water system requires a projected rate increase of about 75 percent to produce a positive cash flow in Year 5. It is important that the Income, Expense and Cash Flow statement be used as a planning tool to ensure the long-term financial capacity of the system. If a rate increase is necessary, it must be enacted.

INCOME, EXPENSE AND CASH FLOW		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
STATEMENT		20__	20__				
71 EXTRAORDINARY EXPENSES							
72	Debt Repayment - Principal	\$ -			\$ 1,000.00	\$ 2,100.00	\$ 3,300.00
73	Capital Improvements, Acquisition of Plant & Equipment	\$ -		\$ 600,000.00			
74	Other	\$ -					
75	TOTAL (line 72 through 74)	\$ -	\$ -	\$ 600,000.00	\$ 1,000.00	\$ 2,100.00	\$ 3,300.00
76	CASH FLOW (line 62 plus 34 plus 69 less 75)	\$ (400.00)	\$ 2,190.00	\$ 1,858.20	\$ 1,211.20	\$ 710.54	\$ 160.75



Balance Sheet:

The Balance Sheet is an important tool to be used for short-term and long-term financial planning. It shows a “snapshot” of the assets and liabilities of the system at the end of the year for the next five years.



Assets:

Line 2: Current Assets – This section includes all of the system’s current assets. For water systems, the accounts receivables (line 5) can be considered to be the system delinquencies.

Line 9: Fixed Assets - This section includes all of the system’s fixed assets, such as plant, lines, buildings, and work in progress, less the accumulated depreciation. Accumulated depreciation (line 14) increases every year on a pre-set schedule, in this example a straight line 40 year schedule, although it may increase or decrease greatly in one year if assets are bought or sold.

Line 16: Other Long Term Assets – This section includes other long term assets. In this example, it includes a replacement fund reserve account.

BALANCE SHEET		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
		20__	20__				
1	ASSETS						
2	<i>Current Assets</i>						
3	Cash	\$ 20,000.00	\$ 22,190.00	\$ 24,048.20	\$ 25,259.40	\$ 25,969.94	\$ 26,130.69
4	Investments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Accounts Receivable	\$ 2,300.00	\$ 1,579.00	\$ 1,150.00	\$ 1,200.00	\$ 700.00	\$ 1,150.00
6	Inventories	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	TOTAL (lines 3 through 7)	\$ 22,300.00	\$ 23,769.00	\$ 25,198.20	\$ 26,459.40	\$ 26,669.94	\$ 27,280.69
9	<i>Fixed Assets</i>						
10	Property, Plant & Equip at Cost	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,600,000.00	\$ 1,600,000.00	\$ 1,600,000.00	\$ 1,600,000.00
11	Contributions in Aid of Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Construction Work in Progress	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Less Accumulated Depreciation	\$ 750,000.00	\$ 775,000.00	\$ 800,000.00	\$ 840,000.00	\$ 880,000.00	\$ 920,000.00
15	TOTAL (lines 10 through 13 less 14)	\$ 250,000.00	\$ 225,000.00	\$ 800,000.00	\$ 760,000.00	\$ 720,000.00	\$ 680,000.00
16	<i>Other Long Term Assets</i>						
17	Restricted Assets/Trust Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	Unrestricted Replacement Funds	\$ -	\$ 2,500.00	\$ 5,000.00	\$ 7,500.00	\$ 10,000.00	\$ 12,500.00
19	Unrestricted Emergency Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	TOTAL (lines 17 through 20)	\$ -	\$ 2,500.00	\$ 5,000.00	\$ 7,500.00	\$ 10,000.00	\$ 12,500.00
22	TOTAL ASSETS (line 8 plus 15 plus 21)	\$ 272,300.00	\$ 251,269.00	\$ 830,198.20	\$ 793,959.40	\$ 756,669.94	\$ 719,780.69



Liabilities:

Line 24: Current Liabilities – This includes any of the system’s current liabilities such as unpaid bills and the current portion of long term debt, which is the principal portion of debt paid to a bank or funding agency. Additionally, the accrued payroll (line 27) and withholdings includes the system’s unpaid payroll expenses at the end of the year. This occurs if the end of the fiscal year falls before the end of a pay period. It is assumed to be \$500 for this example. The long-term debt (line 32) is the remaining principal less the current portion of debt.

BALANCE SHEET		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
		20__	20__				
24	LIABILITIES						
25	<i>Current Liabilities</i>						
26	Accounts Payable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Accrued Payroll and Withholdings	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00
28	Current Portion of Long Term Debt	\$ -	\$ -	\$ -	\$ 1,000.00	\$ 2,100.00	\$ 3,300.00
29	Short Term Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	TOTAL (lines 26 through 30)	\$ 500.00	\$ 500.00	\$ 500.00	\$ 1,500.00	\$ 2,600.00	\$ 3,800.00
32	<i>Long Term Debt (less current portion)</i>	\$ -	\$ -	\$ 400,000.00	\$ 399,000.00	\$ 396,900.00	\$ 393,600.00
33	TOTAL LIABILITIES (line 31 plus 32)	\$ 500.00	\$ 500.00	\$ 400,500.00	\$ 400,500.00	\$ 399,500.00	\$ 397,400.00



Fluid Equity:

Line 36: Retained Earnings – This is the value of this system retained by the owners of the system after Liabilities and Contributed Capital are subtracted from the Assets. This serves to “balance” the statement and gives us the name, “Balance Sheet.”

Line 40: Capital Stock – This should be ignored unless the water system is a corporation.

Line 41: Contributed Capital – This section includes government grants (line 42), such as the \$200,000 grant in year 2, and other

contributions. Other Contributions (line 43) can include tap fees for a new system.

BALANCE SHEET		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
		20__	20__				
35	FLUID EQUITY						
36	Retained Earnings						
37	Reserved	\$ 271,800.00	\$ 250,769.00	\$ 429,698.20	\$ 393,459.40	\$ 357,169.94	\$ 322,380.69
38	Unreserved	\$ -	\$ -				
39	TOTAL (lines 37 plus line 38)	\$ 271,800.00	\$ 250,769.00	\$ 429,698.20	\$ 393,459.40	\$ 357,169.94	\$ 322,380.69
40	Capital Stock (corporations only)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41	Contributed Capital						
42	Government Grants	\$ -	\$ -	\$ 200,000.00		\$ -	\$ -
43	Other Contributions	\$ -	\$ -				
44	TOTAL (lines 42 plus 43)	\$ -	\$ -	\$ 200,000.00	\$ -	\$ -	\$ -
45	TOTAL FUND EQUITY (line 39 plus 40 plus 44)	\$ 271,800.00	\$ 250,769.00	\$ 629,698.20	\$ 393,459.40	\$ 357,169.94	\$ 322,380.69



Before we summarize what has been covered, you will find one last very short exercise in your workbooks. There is only one question. Take a few minutes to answer the questions.

The very short Business Planning Exercise

What are the steps you would go through in developing a Business Plan for a new system in accordance with the DEP requirements? The first and last steps are filled in for you. Can you remember what falls in between?

1. Obtain the DEP Business Plan Manual and review it.
2. _____
3. _____
4. _____
5. After the Preliminary Engineering Conference, finalize the Business Plan and submit two copies with the permit application.

Summary



The key points of this module are:

- Any new community water system applying for a construction permit under the Safe Drinking Water Act (SDWA) must prepare a Business Plan and submit it to DEP as part of the permit application.
- It is recommended that all systems prepare a business plan to use as a financial management planning tool, whether or not required by state regulations because it is a sound long-range planning tool.
- A Business Plan is intended to show that a water system can achieve financial, managerial and technical capability.
- There is a defined procedure and format for the Business Plan as identified in the Public Drinking Water Supply System Business Plan Manual.
- The Business Plan format contains three components: a Facilities Plan, a Management Plan and a Financial Plan.
- Each component of the Business Plan has specific items that must be addressed.

Resources and References



The following are references and resources you can use when you have business planning questions, or are ready to study it in more detail:

DEP's Public Drinking Water Supply System Business Plan Manual

DEP regional office and regional water supply engineer as listed on page 28 of the manual

PA Department of Environmental Protection, Technical Assistance and Outreach, Dennis Lee, (717) 772-4058

RCAP Solutions, Don Schwartz, PA/NJ Program Manager, (814) 861-6093

The complete list of training modules includes:

- Module 1, Water Supply System Basics Operations
- Module 2, Responsibilities of Governing Boards
- Module 3, The Safe Drinking Water Act
- Module 4, Dealing with Consultants, Technical Assistance Providers, Regulators, and Funding Agencies
- Module 5, The Basics of Accounting and Finance for Small Water Systems
- Module 6, Business Planning for Small Water Systems
- Module 7, Budgeting and Capital Improvements Planning Overview for Small Water Systems
- Module 8, Rate Design Overview for Small Water Systems
- Module 9, Bidding, Purchasing, and Leasing
- Module 10, Project Management Overview for Small Water Systems

Appendix A: Smallville Financial Plan Form 2 -Income, Expense, and Cash Flow Statement

INCOME, EXPENSE AND CASH FLOW STATEMENT		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
		20__	20__				
1	OPERATING REVENUES						
2	Water Rates	\$ 43,200.00	\$ 48,800.00	\$ 49,825.00	\$ 73,632.00	\$ 75,277.00	\$ 75,837.00
3	Bulk Water Sales	\$ 6,800.00	\$ 7,700.00	\$ 7,850.00	\$ 11,601.00	\$ 11,860.00	\$ 12,106.00
4	Fire Protection	\$ -	\$ -				
5	Fees and Services	\$ 1,000.00	\$ 1,200.00	\$ 1,150.00	\$ 1,200.00	\$ 700.00	\$ 1,150.00
6	Other	\$ -	\$ -				
7	TOTAL (lines 2 through 6)	\$ 51,000.00	\$ 57,700.00	\$ 58,825.00	\$ 86,433.00	\$ 87,837.00	\$ 89,093.00
8							
9	OPERATING EXPENSES						
10	Operation and Maintenance						
11	Salaries (operators)	\$ 15,000.00	\$ 15,450.00	\$ 15,913.50	\$ 16,390.91	\$ 16,882.63	\$ 17,389.11
12	Benefits	\$ 3,000.00	\$ 3,090.00	\$ 3,182.70	\$ 3,278.18	\$ 3,376.53	\$ 3,477.82
13	Utilities	\$ 8,000.00	\$ 8,240.00	\$ 8,487.20	\$ 8,741.82	\$ 9,004.07	\$ 9,274.19
14	Chemicals & Treatment	\$ 5,000.00	\$ 5,150.00	\$ 5,304.50	\$ 5,463.64	\$ 5,627.54	\$ 5,796.37
15	Monitoring	\$ 2,500.00	\$ 2,575.00	\$ 2,652.25	\$ 2,731.82	\$ 2,813.77	\$ 2,898.19
16	Materials, Supplies, Parts	\$ 3,000.00	\$ 3,090.00	\$ 3,182.70	\$ 3,278.18	\$ 3,376.53	\$ 3,477.82
17	Transportation	\$ 1,500.00	\$ 1,545.00	\$ 1,591.35	\$ 1,639.09	\$ 1,688.26	\$ 1,738.91
18	Purchased Water Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Outside Services	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
20	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	TOTAL (lines 11 through 20)	\$ 39,000.00	\$ 40,170.00	\$ 41,375.10	\$ 42,616.35	\$ 43,894.84	\$ 45,211.69
22	Administrative						
23	Salaries	\$ 6,000.00	\$ 6,180.00	\$ 6,365.40	\$ 6,556.36	\$ 6,753.05	\$ 6,955.64
24	Benefits	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
25	Building Overhead	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
26	Office Supplies & Postage	\$ 500.00	\$ 515.00	\$ 530.45	\$ 546.36	\$ 562.75	\$ 579.64
27	Insurance	\$ 2,000.00	\$ 2,060.00	\$ 2,121.80	\$ 2,185.45	\$ 2,251.02	\$ 2,318.55
28	Customer Billing & Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
29	Accounting	\$ 1,500.00	\$ 1,545.00	\$ 1,591.35	\$ 1,639.09	\$ 1,688.26	\$ 1,738.91
30	Legal	\$ 1,000.00	\$ 1,030.00	\$ 1,060.90	\$ 1,092.73	\$ 1,125.51	\$ 1,159.27
31	A/E & Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
32	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
33	TOTAL (lines 23 through 32)	\$ 13,000.00	\$ 13,390.00	\$ 13,791.70	\$ 14,205.45	\$ 14,631.61	\$ 15,070.56
34	Depreciation Expense	\$ 25,000.00	\$ 25,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00
35	Other	\$ -	\$ -				
36	TOTAL (line 21 plus 33 plus 34 plus 35)	\$ 77,000.00	\$ 78,560.00	\$ 95,166.80	\$ 96,821.80	\$ 98,526.46	\$ 100,282.25
37	OPERATING INCOME (line 7 less line 36)	\$ (26,000.00)	\$ (20,860.00)	\$ (36,341.80)	\$ (10,388.80)	\$ (10,689.46)	\$ (11,189.25)
INCOME, EXPENSE AND CASH FLOW STATEMENT		Last Year	Year 1	Year 2	Year 3	Year 4	Year 5
		20__	20__				
38	NON-OPERATING REVENUES						
39	Interest Income	\$ 600.00	\$ 550.00	\$ 700.00	\$ 1,000.00	\$ 800.00	\$ 750.00
40	Interfund Transfer	\$ -					
41	Proceeds From the Sales of Assets	\$ -					
42	Lease and Extraction Fees	\$ -					
43	Other	\$ -					
44	TOTAL (lines 39 through 43)	\$ 600.00	\$ 550.00	\$ 700.00	\$ 1,000.00	\$ 800.00	\$ 750.00
45							
46	NON-OPERATING EXPENSES						
47	Interest Expense	\$ -			\$ 25,900.00	\$ 24,800.00	\$ 23,600.00
48	Interfund Transfers						
49	To General Fund	\$ -					
50	To Replacement Fund	\$ -	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
51	To Emergency Fund	\$ -					
52	To Other	\$ -					
53	TOTAL (lines 49 through 52)	\$ -	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
54	Other	\$ -					
55	TOTAL (line 47 plus 53 plus 54)	\$ -	\$ 2,500.00	\$ 2,500.00	\$ 28,400.00	\$ 27,300.00	\$ 26,100.00
56	NET INCOME BEFORE TAXES (line 37 plus 44 less 55)	\$ (25,400.00)	\$ (22,810.00)	\$ (38,141.80)	\$ (37,788.80)	\$ (37,189.46)	\$ (36,539.25)
57							
58	TAXES						
59	Income Taxes	\$ -					
60	Other than Income Taxes	\$ -					
61	TOTAL (line 59 plus 60)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62	NET INCOME AFTER TAXES (line 56 less 61)	\$ (25,400.00)	\$ (22,810.00)	\$ (38,141.80)	\$ (37,788.80)	\$ (37,189.46)	\$ (36,539.25)
63							
64	EXTRAORDINARY REVENUES						
65	Construction Grants	\$ -		\$ 200,000.00			
66	Proceeds from Borrowing	\$ -		\$ 400,000.00			
67	Equity Contribution	\$ -					
68	Other	\$ -					
69	TOTAL (line 65 through 68)	\$ -	\$ -	\$ 600,000.00	\$ -	\$ -	\$ -
70							
71	EXTRAORDINARY EXPENSES						
72	Debt Repayment - Principal	\$ -			\$ 1,000.00	\$ 2,100.00	\$ 3,300.00
73	Capital Improvements, Acquisition of Plant & Equipment	\$ -		\$ 600,000.00			
74	Other	\$ -					
75	TOTAL (line 72 through 74)	\$ -	\$ -	\$ 600,000.00	\$ 1,000.00	\$ 2,100.00	\$ 3,300.00
76	CASH FLOW (line 62 plus 34 plus 69 less 75)	\$ (400.00)	\$ 2,190.00	\$ 1,858.20	\$ 1,211.20	\$ 710.54	\$ 160.75

Appendix B: Smallville Financial Plan Form 3 – Balance Sheet

		20__	20__				
1	ASSETS						
2	<i>Current Assets</i>						
3	Cash	\$ 20,000.00	\$ 22,190.00	\$ 24,048.20	\$ 25,259.40	\$ 25,969.94	\$ 26,130.69
4	Investments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Accounts Receivable	\$ 2,300.00	\$ 1,579.00	\$ 1,150.00	\$ 1,200.00	\$ 700.00	\$ 1,150.00
6	Inventories	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	TOTAL (lines 3 through 7)	\$ 22,300.00	\$ 23,769.00	\$ 25,198.20	\$ 26,459.40	\$ 26,669.94	\$ 27,280.69
9	<i>Fixed Assets</i>						
10	Property, Plant & Equip at Cost	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,600,000.00	\$ 1,600,000.00	\$ 1,600,000.00	\$ 1,600,000.00
11	Contributions in Aid of Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Construction Work in Progress	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Less Accumulated Depreciation	\$ 750,000.00	\$ 775,000.00	\$ 800,000.00	\$ 840,000.00	\$ 880,000.00	\$ 920,000.00
15	TOTAL (lines 10 through 13 less 14)	\$ 250,000.00	\$ 225,000.00	\$ 800,000.00	\$ 760,000.00	\$ 720,000.00	\$ 680,000.00
16	<i>Other Long Term Assets</i>						
17	Restricted Assets/Trust Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	Unrestricted Replacement Funds	\$ -	\$ 2,500.00	\$ 5,000.00	\$ 7,500.00	\$ 10,000.00	\$ 12,500.00
19	Unrestricted Emergency Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	TOTAL (lines 17 through 20)	\$ -	\$ 2,500.00	\$ 5,000.00	\$ 7,500.00	\$ 10,000.00	\$ 12,500.00
22	TOTAL ASSETS (line 8 plus 15 plus 21)	\$ 272,300.00	\$ 251,269.00	\$ 830,198.20	\$ 793,959.40	\$ 756,669.94	\$ 719,780.69
23							
24	LIABILITIES						
25	<i>Current Liabilities</i>						
26	Accounts Payable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Accrued Payroll and Withholdings	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00
28	Current Portion of Long Term Debt	\$ -	\$ -	\$ -	\$ 1,000.00	\$ 2,100.00	\$ 3,300.00
29	Short Term Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	TOTAL (lines 26 through 30)	\$ 500.00	\$ 500.00	\$ 500.00	\$ 1,500.00	\$ 2,600.00	\$ 3,800.00
32	<i>Long Term Debt (less current portion)</i>	\$ -	\$ -	\$ 400,000.00	\$ 399,000.00	\$ 396,900.00	\$ 393,600.00
33	TOTAL LIABILITIES (line 31 plus 32)	\$ 500.00	\$ 500.00	\$ 400,500.00	\$ 400,500.00	\$ 399,500.00	\$ 397,400.00
34							
35	FLUID EQUITY						
36	<i>Retained Earnings</i>						
37	Reserved	\$ 271,800.00	\$ 250,769.00	\$ 429,698.20	\$ 393,459.40	\$ 357,169.94	\$ 322,380.69
38	Unreserved	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
39	TOTAL (lines 37 plus line 38)	\$ 271,800.00	\$ 250,769.00	\$ 429,698.20	\$ 393,459.40	\$ 357,169.94	\$ 322,380.69
40	<i>Capital Stock (corporations only)</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41	<i>Contributed Capital</i>						
42	Government Grants	\$ -	\$ -	\$ 200,000.00	\$ -	\$ -	\$ -
43	Other Contributions	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
44	TOTAL (lines 42 plus 43)	\$ -	\$ -	\$ 200,000.00	\$ -	\$ -	\$ -
45	TOTAL FUND EQUITY (line 39 plus 40 plus 44)	\$ 271,800.00	\$ 250,769.00	\$ 629,698.20	\$ 393,459.40	\$ 357,169.94	\$ 322,380.69
46	TOTAL LIABILITIES AND FUND EQUITY (line 33 plus 45)	\$ 272,300.00	\$ 251,269.00	\$ 1,030,198.20	\$ 793,959.40	\$ 756,669.94	\$ 719,780.69