

NCICLB Irrigation Contractor License Exam

Exam Study Resource

Business and Finance

An excerpt from *Pathway to Profits* ©1995

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Pages 33 to 69 and 91 to 93

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V24.6.3

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The Language of Business

Accounting allows you to keep "tabs," so to speak, on all the financial aspects of your business. On the pathway to profits, accounting serves as a vital tool in reaching the destination.

Most irrigation contractors lack the size to justify a full-time bookkeeper. This being the case, your next choice is to engage a competent, qualified accountant on a specific fee or retainer basis. First, work with the accountant to set up your books or computer software. More computer software for the green industry is becoming available every day with specialized features like estimating capabilities. Helpful accounting software sells from under a hundred dollars to several thousand dollars depending on the features included. Most programs offer prepared balance sheets, income statements, projections, filing, and graphics capabilities.

Next, learn how to make daily entries and accumulate the debits and credits that are necessary from month to month. Develop, with your accountant, a solid accounting system and stick with it. Of course, the amount of involvement the accountant has will vary with every business.

Press your accountant to explain every financial record or statement of your company. Learn all you can! Then, apply your knowledge to financial management and profit making in the company. Think of accounting as the language of business; think of your accountant as a fluent translator.

The goal of this accounting section is to build the foundation of accounting knowledge necessary for you to use accounting as a management tool. In order to achieve this goal, you will learn more about the following topics:

- I. **Accounting Terms**
- II. **Accounting Records**
- III. **Financial Statements**
 - A. **The Balance Sheet**
 - B. **The Income Statement**
- IV. **Overhead**
- V. **Depreciation**
- VI. **Comparisons**
- VII. **Budgets and Projections**
 - A. **Income Projection Statement**
 - B. **Cash Flow Budget**

I. Accounting Terms

Whether you have a full-time bookkeeper or an outside accountant to consult with your business periodically, you must understand some basic accounting terms and concepts. While the accountant is the expert on accounting, you know your company better than anyone else. Only you can utilize accounting as a management tool in your organization.

Below are a few definitions you must understand. This may seem remedial to accounting experts, but a little review never hurt anyone.

Assets

Items of worth owned by the company. Examples: cash, accounts receivable, inventory, machinery, trucks, and equipment.

Break-even point

Sales level where all fixed expenses are covered and profit making can begin.

Cash Flow

A measure of the money taken in versus the money paid out on a periodic basis.

Cost of Sales (Also Cost of Goods Sold or Direct Job Costs)

The company's direct cost of providing a product or service to the customer. Materials, labor, equipment, and subcontracting are the major items that contribute to cost of sales.

Current Assets

Items of worth in the form of cash or items that can be quickly turned into cash. Examples: cash, petty cash, accounts receivable, inventory, and prepaid expenses.

Current Liabilities

Debts the business must repay within a one-year period.

Depreciation

Decrease in the value of assets over their expected life by an accepted accounting method.

Direct Cost

A type of cost that is easily identifiable with the item being sold. Examples: materials and labor.

Equity

Owners' claim to capital they have invested in the business plus earnings retained by the business.

Fixed Cost

A type of cost that does not vary with the amount of sales. Examples: rent, insurance, truck payments, and loan payments.

Fixed Assets

Items of worth used for conducting business rather than resale. Examples: land, buildings, improvements, equipment, furniture, and trucks.

Gross Profit

Total Sales - Cost of Sales (a.k.a. Direct Job Costs) = Gross Profit. Profit remaining after the direct costs are deducted, but before operating expenses (indirect costs and overhead) are deducted.

Indirect Cost

Costs that cannot be easily associated with a specific job. Examples: advertising expenses, legal and accounting service, and insurance.

Liabilities

Debts the business owes. Examples: accounts payable, taxes, and bank loans.

Mark-up

The difference between the cost of a product or service to a business and the cost for that product or service that is used for creating a bid. Example: Materials = \$1,000 and Mark-up to cover warranty and losses = 15% then, Material Cost = \$1,000 x 115% = \$1,000 x 1.15 = \$1,150. This is NOT how profit is calculated – See Selling Price.

Net Income (Net Profit)

Gross Profit – Operating Expenses = Net Income. The bottom-line profit after all the costs of doing business have been deducted.

Operating Expenses

Type of business expense that is commonly incurred while conducting business. Examples include depreciation, insurance, rent, salaries, and utilities.

Overhead

Collective term that includes indirect, general, and administrative expenses of a business but excluding direct costs like labor and materials.

Profit (Profit Margin \$)

Sales - Total Cost = Profit. The amount of money retained by the business after all fixed and variable costs have been deducted from total sales.

Salvage Value

The lowest dollar value an asset will reach at which point it is fully depreciated.

Selling Price

Sell Price = Total Costs ÷ (1 - desired profit percentage). The price of a job that includes total costs (materials, labor, equipment, subcontractors, direct & indirect overhead), and net profit margin. Example: Total Costs = \$2,000 and Desired Net Profit Margin = 25%, then Selling Price = \$2,000 ÷ (1 - 0.25) = \$2,000 ÷ 0.75 = \$2,666.67

Variable Cost

A type of cost that will fluctuate directly with the level of sales and production. Examples are materials and labor.

These definitions are just a few of many you need to understand. If you ever find yourself wondering about accounting terms or concepts, never feel afraid to ask your accountant or look up the word in an accounting textbook. When it comes to understanding financial matters, put your ego on the shelf; misunderstanding will cost you money.

II. Accounting Records

Knowledge of basic accounting terms will help you understand your accounting system. The accounting system comprises of the journals and ledgers you keep to a record of every financial transaction made by your company. Here's a checklist. Make sure you are preparing the following accounting records:

- | | |
|--------------------------------------|--------------------------------|
| 1. General Ledger | 5. Disbursement Journal |
| 2. Accounts Receivable Ledger | 6. Sales Journal |
| 3. Accounts Payable Ledger | 7. Purchase Journal |
| 4. Cash Journal | 8. General Journal |

The names of these journals and ledgers may be different in your business, but all are very important. Collectively, they lay the groundwork for the rest of your financial infrastructure. Ask your bookkeeper or accountant to explain how each is used in your company.

III. Financial Statements

Preparation of accounting books and records allows for the production of financial statements. Financial statements display the status of your business in a user-friendly format thus allowing for financial management. Statements are where the numbers of your business start to come alive.

Your company's financial statements are probably prepared by an accountant or in-house with computer software. Two key statements that must be prepared every month, quarter, and year are **the balance sheet** and **the income statement** (also known as the profit-and-loss statement or operating statement). Both statements are required when submitting for loan approval or filing taxes.

A. The Balance Sheet

The balance sheet paints a picture of your company's financial condition at a specific point in time. It is usually prepared at the end of a financial period and for special needs. The real value of the balance sheet is the way it presents how much and where your money is invested, how much you owe, and the value of your ownership. After preparing several balance sheets, you can compare them and track changes in the financial stability of your company. If the changes are not moving toward your objectives, corrective action must be taken.

Three major sections dominate the balance sheet: assets, liabilities, and net worth. Assets, as already defined, are what the company owns. The assets section is divided into current and fixed assets. Current assets are short term items like cash, accounts receivable, prepaid expenses, and inventory. Fixed assets are used for business operations, rather than resale. Examples are buildings, equipment, trucks, and land. These items are listed at their cost less any accumulated depreciation (except land which is usually not depreciated).

The assets must equal or "balance" the total of the liabilities and owner's equity. Liabilities can be classified as current or long-term. Current liabilities like accounts payable, interest payable, and taxes payable are due within a one-year period. Long-term liabilities are those due over a period of more than one year.

The owner's equity, or net worth, represents the owner's claim to assets in the business. If ownership divides into a partnership or corporation, the equity reflects the owner's original investment plus any profit or loss made by the company. Again, the total of the liabilities and owner's equity must match the total assets side of the balance sheet.

Sample Balance Sheet			
Assets		Liabilities	
Current Assets		Current Liabilities	
Cash	\$ _____	Accounts Payable	\$ _____
Petty Cash	\$ _____	Notes payable	\$ _____
Accounts receivable	\$ _____	Interest payable	\$ _____
Inventory	\$ _____	Taxes Payable	
Prepaid expenses	\$ _____	Federal income taxes	\$ _____
Other	\$ _____	State income taxes	\$ _____
		Self-employment tax	\$ _____
		Sales tax	\$ _____
Fixed assets		Property tax	\$ _____
Land	\$ _____	Payroll	\$ _____
Buildings	\$ _____	Other	\$ _____
Improvements	\$ _____	Long-term liabilities	
Equipment	\$ _____	Notes payable	\$ _____
Furniture	\$ _____	Other	\$ _____
Vehicles	\$ _____	Total Liabilities	\$ _____
		Net Worth	
Other assets	\$ _____	Owner's equity	\$ _____
		Partner's equity	\$ _____
		Other	\$ _____
		Total Net Worth	\$ _____
Total Assets	\$ _____	Total Liabilities and Total Net Worth	\$ _____

Total Assets must equal Total Liabilities + Total Net Worth

B. The Income Statement

Another essential statement that you must prepare every month is the income statement. While the balance sheet takes a snapshot of your business on a certain date, the income statement reports business progress over a period of time. A monthly statement allows you to check progress on sales, control expenses, and evaluate profits.

Bankruptcy always creeps up sooner than anyone would think. Many contractors who go out of business could have made corrective actions if they had only used an income statement to know their true status. Prepare your statement monthly. Use it to stay out of bankruptcy and achieve profit goals.

The income statement presents two main areas for management control: gross margin and overhead expenses. The gross margin is what money is left after all the direct costs are deducted from sales. If the gross margin is lower than your goal, then increase sales or cut the direct labor, materials, equipment, and subcontracting costs.

The second area of control, **overhead expense**, involves the direct overhead for the field labor as well as all the indirect, general, and administrative costs of doing business. Improper accounting for overhead expense is where many contractors kill any chance of reaching a successful level of net profit. Below is a partial list of overhead expenses you should list on your income statement.

Direct Labor Overhead

- Fed. Income Tax (FICA)
- Fed. Unemployment Tax (FUTA)
- State Unemployment Tax (SUTA)
- Health Insurance
- Liability Insurance
- Vacation Pay
- Workers' Compensation Insurance

Indirect Overhead

- Bad Debts Expense
- Downtime
- Equipment Parts and Repair Expense
- Equipment Rental/Lease
- Equipment/Vehicle Insurance
- Fuel & Oil
- Hard Hats
- Indirect Labor
- Mechanic Wages
- Replacement Expense
- Small Tools & Supplies
- Uniforms

General & Administrative Overhead

- Advertising
- Computer hardware
- Computer software
- Depreciation
- Donations
- Dues and Subscriptions
- Educational Expense (Training)
- Facsimile Machine
- Health Insurance (Office)
- Insurance (Liabilities)
- Insurance (Office equipment)
- Workers' Comp. Insurance (Office)
- Interest and Bank Charges
- Internet
- Licenses, Bonds

- Office supplies
- Professional Fees
- Profit Sharing/Pension
- Rent (Facilities)
- Salaries (Officer)
- Salaries (Office/Management)
- Salaries (Sales Commission)
- Taxes (Property)
- Taxes (Business)
- Telephone (Cellular)
- Telephone (Office)
- Travel & Entertainment Expense
- Utilities
- Vacation Pay (Office)

As you can see, overhead is alive and well in your business, slowly, but surely, eating away at your bottom line. The key is not only to avoid overhead, but to fully account for it.

Sample Profit & Loss Statement

for Month Ending - Month, Date, Year

	Budget \$	% of Sales	Actual \$	% of Sales	YTD \$	% of Sales
Sales						
<u>Direct Job Costs (Cost of Sales)</u>						
Direct Labor						
Direct Labor Payroll Taxes						
Job Material						
Subcontractors						
Fuel & Oil						
Other Direct Job Costs						
Total Direct Job Costs (Tot. Cost of Sales)						
Gross Profit						
<u>General & Administrative Overhead</u>						
Advertising						
Equipment Parts & Repair Expenses						
Equipment Rentals/Lease						
Equipment/Vehicle Insurance						
Insurance--Hospital & Life						
Insurance--Liability						
Insurance--Workers' Compensation						
Office Expenses						
Payroll Taxes						
Professional Fees						
Rent/Facilities						
Salaries--Officer						
Salaries--Office/Management						
Salaries--Sales & Commission						
Small Tools & Supplies						
Telephone, radio, fax, etc.						
Training						
Travel & Entertainment Expense						
Dues and Subscriptions						
Education						
Utilities						
Miscellaneous						
Total G & A Overhead						
Total Operating Expenses						
Operating Profit						
Depreciation						
Interest Expense						
Net Income (Profit Before Taxes)						

Depreciation is a prime example of an overhead item that must be factored. To figure depreciation, you can use any one of many acceptable accounting methods. The following list shows a step-by-step way to understand depreciation.

DEPRECIATION

1. Subtract the salvage value of the item from the current value to give the total depreciation over the life of the item. (Example: A truck valued currently at \$20,000 may have a salvage value of \$5,000. Then $\$20,000 - \$5,000 = \$15,000$. \$15,000 is the total depreciation over the life of the vehicle.)
2. Determine how many years the IRS code will allow you to depreciate the item. (Example: 5 years)
3. Divide the total depreciation amount by the number of years in step two to arrive at the annual depreciation amount. (Example: $\$15,000 \div 5 \text{ years} = \$3,000$. \$3,000 is the annual depreciation.)
4. Divide the annual depreciation by twelve to find the depreciation expense per month. (Example: $\$3,000 \div 12 = \250.00 . This is the amount of depreciation expense each month.)

Depreciation is just one of the many costs you must include in your accounting records and financial statements. If you do not list absolutely every cost associated with doing business, you're playing a deadly game with your livelihood. The costs will occur; the only question is, will you recover them? Learn how to recover these overhead costs in the "Bidding" section of this book. In your accounting, simply make sure overhead is recognized in full. Don't fool yourself by pretending overhead doesn't exist.

IV. Comparisons

A key benefit of the balance sheet and income statement is their use for comparisons. Prepare statements using percentages, called common-size statements. While a comparison of a variety of dollar amounts can be confusing and misleading, percentages bring everything down to a level playing field. In effect, with percentages, you compare apples with apples. Each month, use percentages to compare the following with the statement you just completed:

- results of the month in the previous year
- year-to-date results
- goals you budgeted for the month at the beginning of the year
- results of other landscape irrigation contractors

All of this comparing gives you the ability to benchmark your financial position and make sure you are on the right track. Sadly enough, the marketplace of the year 2000 moves so fast; many contractors find out the facts too late.

V. Budgeting and Projections

Thus far, the balance sheet and income statement have been described with emphasis on their value in comparing with the past and present. Now, you will want to go one step further - the future. Budgeting and projections allow you to forecast the financial status of your business based on past experiences and market research.

The two projections and budgets you will want to make are **the income projection statement** and **the cash flow budget**. Prepare these forecasts for each month of the next two to five years of your business. Projections work hand-in-hand with the extremely critical goal setting steps described in the business plan.

A. The Income Projection Statement

The income projection statement is an awesome tool for profit planning. With this statement, you can get a good idea of your future income based on future sales and expenses. The key is to accurately forecast the sales and expenses, so you will reach the profit goal. The basics of the income projection statement are explained quite simply in a step-by-step process. The following are the suggested steps to create the income projection statement:

1. Write the dollar amount of sales you can expect to achieve in the upcoming period. (Example: \$500,000)
2. Decide what profit level you desire for the estimated sales level. For this example, a net profit percentage of 10 percent is used since this is the minimum most contractors require. (Example: \$50,000)
3. Figure the direct cost of sales associated with this level of profit {direct labor, materials, subcontracting, etc.}. For this example, direct costs are assumed to be 70 percent of sales. (Example: \$350,000)
4. Determine the level of overhead that the company will pay out at the level of sales in step 1. For this example, overhead will be 20 percent of sales. (Example: \$100,000)
5. Evaluate the different figures you estimated to see if they work together realistically. In the example, the figures work out perfectly (\$50,000 profit+ \$350,000 direct costs + \$100,000 overhead expenses = \$500,000 in sales).

In many cases, you will find the sales level is too low to provide you with an acceptable profit and cover direct costs and overhead expenses. If that is the case, you have several options. First, lower your direct costs and overhead expenses through culling the fat out of the business and strict management control. Second, you could increase your sales volume by doing more jobs. Keep in mind, however, the more jobs you do, the more your direct costs and overhead expenses will grow. The best option is to simply increase your prices. By selling quality and value-added services, this option will send additional dollars straight to your bottom line and allow you to achieve profit level goals.

This income projection statement is a very simple and easy example; however, it should prove how a detailed income projection statement can work effectively for profit planning and goal setting.

B. The Cash Flow Budget

A cash flow budget is an excellent means of determining your short-term need for cash. Cash flow is a measurement of the amount of money "flowing" into a business versus the amount of money "flowing" out of the business. As many business experts will attest, cash flow problems are the primary reason for business failure today. A cash flow budget will allow you to project future cash outflows and inflows, so you can immediately begin making preparations for cash flow strains with your banker and/or suppliers. Follow these ten steps as you develop a monthly cash flow budget:

1. Record the cash balance at the beginning of the month. (Example: \$10,000)
2. Add the amount of cash collections expected from completed jobs. In order to arrive at this figure, list the names of all the jobs that the business will receive payments on and the amount from each job. (Example: Job #1 - \$5,000; Job #2 - \$10,000; Job #3 - \$5,000)
3. Add the amount of cash that the business will receive from bank loans or any other source during the month. (Example: Guaranty Bank - \$5,000)
4. Sum all these sources of cash to arrive at the cash inflow for the month. (Example: $\$10,000 + \$5,000 + \$10,000 + \$5,000 + \$5,000 = \$35,000$)
5. Record the expected cash requirements for the jobs that will be completed during the month. (Example: Job #12 - \$1,000; Job 3@ - \$3,000; Job #3 - \$2,000)
6. Add the amount of cash that will be paid out for equipment payments. (Example: Trencher - \$250; Laptop computer - \$250)
7. Add the expenses of taxes, insurance, and loans that will be paid during the month. (Example: Taxes - \$2,000; Insurance - \$3,000; Truck loan - \$500; Building loan - \$3,000)
8. Add the overhead expenses for the month. (Example: Salaries - \$15,000; Advertising - \$3,000; Utilities - \$2,000; Other - \$5,000)
9. Sum all these payments of cash to arrive at the cash outflow for the month. (Example: $\$1,000 + \$3,000 + \$2,000 + \$250 + \$250 + \$2,000 + \$3,000 + \$500 + \$3,000 + \$15,000 + \$3,000 + \$2,000 + \$5,000 = \$40,000$)
10. Measure the cash inflow in step five against the cash outflow in step nine (Example: $\$35,000 - \$40,000 = -\$5,000$). When the cash outflow is greater than the cash inflow, action must be taken immediately to make up for the difference. Increase your cash flow by completing more jobs, increasing the price of each job, taking out a loan, or collecting on more receivables. The most intelligent and impacting option is to sell each job you complete for a higher profit margin. This option does not require additional equipment or employees and every penny goes straight to your bottom line.

Work with your accountant to set up projections and budgets for your business. Another option is to choose from the multitude of planning and accounting computer software currently available with prepared projection statements.

Hopefully, the accounting section has given you some new insight, refreshed your skills, and impressed the importance accounting will have on the pathway to profits.

If you plan to stay in business, you might as well learn the language. Accounting is something you must master. Don't delay!

For More Information ...

Helpful information on business planning, accounting, finance, estimating, bidding, and selling can be found abundantly if you only know where to look. Below are some excellent references for the landscape irrigation contractor.

The best source for practical business information is the Small Business Administration (SBA). The SBA offers free business counseling throughout the United States and publishes literature written especially for the small business. A branch of the SBA called the Small Business Development Center (SBDC) works with local businesses to sponsor workshops, classes, and business consulting. Use the SBA website link: <https://www.sba.gov/> to find the number of your local SBA office or call the Small Business Answer Desk at 1-800-827-5722.

The local chamber of commerce, junior college, university, library, and your bank will also be possible sources to answer business questions, along with your state Landscape or irrigation association. Don't forget the national associations such as the Irrigation Association (IA) at <https://www.irrigation.org> or 703-573-3551 and the National Association of Landscape Professionals (NALP) at <https://www.landscapeprofessionals.org> or 800-395-2522 as valuable resources within the irrigation and landscape industries. If you have questions related directly to this book, feel free to call the Weathermatic offices at (214) 278-6131 Ext. 264.

Business plans can be found in business textbooks in most any library. The SBA prints numerous pamphlets on business planning and even offers a video. Additionally, business planning software can be purchased at any local computer software shop.

Accounting information comes best from an accountant. If you do not have an accountant, ask around to find one locally or simply look on the web. Accounting terms and sample financial statements are plentiful in the business section of most libraries. Accounting software, which sells for as low as fifty dollars, is very useful for organizing your finances. Look for green industry accounting software in advertisements in the back of irrigation industry publications.

Financial ratio studies specific to the irrigation industry are hard to find. However, publications like Dun & Bradstreet's Key Business Ratios offer studies of over 800 different lines of business that could be very useful for comparison purposes. In addition, many accounting and business planning software packages have ratio analysis capabilities. Check for this feature when buying software. The next section will cover 10 key financial ratios every contracting business should review monthly, how to use them, and what they mean.

Estimating, bidding, and selling questions are best answered by industry professionals. Bidding and business consultants, seminars, and webinars can be found throughout the world. Ask your local distributor about these learning opportunities in your area.

Computer Aided Design (CAD) software with estimating capabilities is being used to help many companies become more productive and accurate. This technology also aids in producing selling documents and record drawing that can separate your business from the competition.

Tricks of the Trade

Recently an inquisitive businessman walked into the office of a local irrigation contractor and posed the question, "What size of staff do you need to run this kind of operation?" The contractor responded, "Well, we're a small business. But, in the office we have a receptionist, someone to take service calls, a tidy janitor, a solid bookkeeper, an experienced accountant, an excellent estimator, a topnotch designer, a phenomenal salesperson, a hardnosed job-site foreman, and, of course, the executive positions, Chief Executive Officer, Chief Operating Officer, and Chief Financial Officer."

The businessman stood amazed. "Wow! I had no idea you ran this type of organization and in this small portable building. I'm impressed! But tell me, where are all those office workers? You seem to be the only one here."

The contractor replied humbly, "I guess I am usually the only one here unless a customer stops by. And, all those office jobs, well, I handle them myself. Janitor to CEO, you're looking at him."

Irrigation contractors today truly do wear a variety of hats in the course of running their businesses. With all these responsibilities, management tools to take out some of the guessing game should definitely be used to the fullest. As Chief Financial Officer of your company, you must use one of the best tricks of the trade, the financial ratio.

A ratio is simply a fraction or percentage that represents a comparison between two items. For example, how many days can your crews work out of the year? If you're in a mild climate, maybe your crews work 220 days out of the 365 days in a year. By dividing 220 by 365 we find the ratio for the number of days worked. The ratio is expressed as approximately 6 days out of 10, 60%, or just 60.

A simple ratio like this does not say much to the average person, but an experienced irrigation contractor could put this ratio to work. After keeping this ratio for several years, a contractor could begin to get an idea of how many days out of the year crews should expect to work on average. Besides helping a company determine staff requirements, this ratio says loud and clear, "You must recover 100% of your annual cost in only 60% of the year."

As shown in the example above, a ratio turns mere numbers and figures into living, breathing, business consultants. Used correctly, ratios will be your best friend and business partner. Think of them as a device to take an X-RAY of your business so you can see what is really going on inside. Once you find a ratio for your company, you can:

- Compare it with past results to see trends in your business.
- Track it and make improvements in the future.
- Measure it against goals you set for specific ratios.
- Judge it against other landscape irrigation contractors to see how your company compares.
- Present it to your banker to support a loan application.
- Show it to a potential buyer of your business as proof of your company's real value.

The most profitable irrigation contractors in the world use hundreds of specialized ratios developed specifically for their companies' needs. However, a common set of ratios is used in irrigation contracting and in every other business for that matter. Each of these ten ratios is described below in detail. Learn how to figure them so you can use ratio analysis to make your company an extremely profitable operation.

Note: Your accountant can prepare these ratios and any others you need by using figures from your balance sheet and income statement. Work with your accountant to learn which ratios will help you be the best financial manager. Once you get started, teach an employee to perform all of the calculations so you can focus on the analysis and practical application of the ratios.

10 Financial Ratios

I. Ratios of Liquidity

- 1. Current Ratio**
- 2. Quick Ratio**
- 3. Current Liabilities to Net Worth**
- 4. Total Liabilities to Net Worth (Debt to Equity)**
- 5. Total Assets to Net Worth**

II. Ratios of Efficiency

- 1. Collection Period**
- 2. Asset Turnover (Net Sales to Total Assets)**

III. Ratios of Profitability

- 1. Return on Assets**
- 2. Return on Sales (Profit Margin)**
- 3. Return on Net Worth (Return on Equity)**

Ratios of Liquidity

Ratios of liquidity simply measure the ability of a company to pay its short and long-term debts. When applying for a loan, these ratios will be of particular interest to your banker. Measures of liquidity answer questions like: "Do we have enough cash, or assets that we can turn into cash, to pay the bills due in this financial period?"

1. Current Ratio

Formula: **Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$**

The current ratio is figured by dividing current assets by current liabilities (both found on your balance sheet). As explained in the accounting section of this book, current assets are short term items like cash, accounts receivable, prepaid expenses, and inventory. Current liabilities like accounts payable, interest payable, and taxes payable are due within a one-year period. This ratio measures the degree to which your current assets

cover your current liabilities.

A high current ratio says your company is more able to pay its short-term debt than a low ratio that might be of concern. A ratio of 2 to 1 (2.0) (current assets to current liabilities) or better is a number to shoot for.

EXAMPLE: Current Ratio = $\frac{\$50,000}{\$20,000} = 2.5$

Figure your current Ratio:

2. Quick Ratio

Formula: Quick Ratio = $\frac{\text{Cash} + \text{Accounts Receivable}}{\text{Current Liabilities}}$

The quick ratio is calculated by taking cash plus accounts receivable and dividing that figure by current liabilities. Ideally, quick assets like cash and accounts receivable (which should turn into cash soon) will cover all of your current liabilities. This coverage protects short-term creditors from the debts owed to them. A quick ratio of 1 to 1 (1.0) or larger is a good guideline for this measure of liquidity. The higher the quick ratio, the more the liquidity.

EXAMPLE: Quick Ratio (July) = $\frac{\$20,550 + \$1,580}{\$14,530} = 1.52$

Figure your Quick Ratio:

3. Current Liabilities to Net Worth

Formula: Current Liabilities to Net Worth = $\frac{\text{Current Liabilities}}{\text{Net Worth}}$

Current liabilities to net worth is found by dividing current liabilities by net worth. This is a measure of what is owed (current liabilities), to what is owned (net worth). In other words, this is a comparison between the money creditors have at stake in a business, and the money the owners have invested. As a percentage, any situation where current liabilities are over 60% of net worth deserves some attention and 80% or higher is definitely a warning sign of excessive current liabilities. For security's sake, try to keep this ratio around 35 to 40 percent.

EXAMPLE: Current Liabilities to Net Worth Ratio (July) = $\frac{\$23,040}{\$62,180} = 0.365 = 36.5\%$

Figure your Current Liabilities to Net Worth ratio:

4. Total Liabilities to Net Worth

Formula: $\text{Total Liabilities to Net Worth} = \frac{\text{Total Liabilities}}{\text{Net Worth}}$

Total liabilities to net worth is calculated by dividing total liabilities by net worth. This percentage will be higher than the current liabilities to net worth ratio since it includes long-term liabilities. After finding this ratio, compare it to the current liabilities to net worth ratio to see the impact long-term debt has on the business. As a rule, total liabilities should not exceed net worth. Therefore, a percentage over 100% would indicate creditors have more at stake in the business than the owners. This balance between debt and equity will vary with every business, but successful contractors try to maintain a ratio between 30 and 50 percent.:

EXAMPLE: Total Liabilities to Net Worth Ratio (July) = $\frac{\$28,800}{\$62,180} = 0.463 = 46.3\%$

Figure your Total Liabilities to Net Worth ratio:

5. Total Assets to Net Worth (Financial Leverage)

Formula: $\text{Total Assets to Net Worth} = \frac{\text{Total Assets}}{\text{Net Worth}}$

The total assets to net worth ratio is found by dividing total assets by net worth. This ratio measures the financial leverage, which is the total dollar amount of assets compared to the total dollar amount of net worth. After finding the ratio, you can tell the extent to which the company uses outside sources of financing (banks, investors, credit lines from distributors, etc.).

An extremely high ratio of 2.5 or better, says for every \$2.50 in total assets, the company has only \$1.00 of net worth. The difference, in this example, of \$1.50 is financed from outside sources like banks or other non-owners. Take caution when allowing this ratio to become too high. The non-owners will inevitably control your business if they invest more than you. In addition, interest charges for outside financing can create an overwhelming burden. This being the case, many contractors try to keep the financial leverage ratio around 1.5 or lower.

EXAMPLE: Total Assets to Net Worth Ratio (July) = $\frac{\$82,080}{\$62,180} = 1.32$

Figure your Total Assets to Net Worth ratio (Financial Leverage):

Ratios of Efficiency

Ratios of efficiency measure how effectively and productively a company is managing its assets. A banker or investor will take special interest in these ratios as a report card of how well you control assets.

1. Collection Period

Formula: **Collection Period** = $\frac{\text{Accounts Receivable}}{\text{Total Sales}} \times 365 \text{ days}$

To find the average collection period ratio, divide your accounts receivable by total sales, and then multiply that number by 365 days. This ratio will reflect the type of credit policy and terms in your company. If your average collection period is one-third higher than the regular payment period, you should reevaluate your credit policy.

Most contractors' credit policies call for 30-day terms; therefore, they should not have a collection period ratio of over 40 days (which is one-third higher than 30 days). When this ratio is too high, you end up playing the role of a banker for your clients. As a banker who charges no interest for late payments, your loose credit policy ultimately costs you money.

EXAMPLE: Collection Period (July) = $\frac{\$1,580}{\$68,590} \times 365 = 8.408 = 9 \text{ days}$

Figure your Collection Period:

2. Asset Turnover

Formula: **Asset Turnover** = $\frac{\text{Total Sales}}{\text{Total Assets}}$

Asset turnover is calculated by dividing total sales by total assets. This ratio tells how well your company is managing its assets. A ratio like 2.0 would mean that for every \$1.00 of total assets, the company created \$2.00 in net sales. The higher the figure the better the asset turnover. When your company's assets, like cash, accounts receivable, and equipment work efficiently the maximum net sales will occur. Shoot for a ratio of 3.0 or higher depending on the type of assets in your company.

EXAMPLE: Asset Turnover (Year) = $\frac{\$392,000}{\$82,080} = 4.76$

Figure your Asset Turnover:

Ratios of Profitability

Ratios of profitability allow you to gauge the kind of profits your company is providing. The net profit figure compared to net sales, total assets, and net worth will give a good indication of whether your company is reaching its potential.

1. Return on Sales

Formula: **Return on Sales = $\frac{\text{Net Profit}}{\text{Total Sales}}$**

Return on sales is found by dividing net profit by the annual net sales. When calculating this ratio consider whether the net profit figure is before or after taxes. Expect the results to vary depending on your decision. Most important, be consistent. This ratio tells the level of profit your company is achieving through the sales it creates. A percentage like 4.5 percent would show that for every dollar of sales, the company retains 4.5 cents of profit. If this return seems low, a company can either do more jobs at lower costs or do fewer jobs for a higher price. The natural choice is to work less and make more profit. Profitable contractors try to keep this ratio above 10 percent.

EXAMPLE: Return on Sales (Year) = $\frac{\$56,900}{\$392,000} = 0.138 = 13.8\%$

Figure your Return on Sales:

2. Return on Assets

Formula: **Return on Assets = $\frac{\text{Net Profit}}{\text{Total Assets}}$**

Return on assets is found by dividing net profit by total assets. This ratio is a good indicator of the level of return realized on the investment in company assets. Compare this percentage to the local cost of loans (the prime rate) and alternate investment opportunities. If the return on assets percentage is low, you should consider investing your money where it can work more profitably. However, if the return on assets is high, you may want to put more of your money into the business. A respectable goal for return on assets is around 25 percent.

EXAMPLE: Return on Assets (Year) = $\frac{\$76,900}{\$82,080} = 0.656 = 65.6\%$

Figure your Return on Assets:

3. Return on Net Worth (Return on Equity)

Formula: **Return on Net Worth = $\frac{\text{Net Profit}}{\text{Net Worth}}$**

Return on net worth is calculated by dividing net profit by net worth. This ratio is the critical bottom line for many business owners. A percentage like 25 percent for return on net worth says that for every dollar of net worth, the company makes 25 cents profit. Like the return on assets, this percentage should be weighed against other investment opportunities. To decide if this percentage is adequate, figure out the level of return necessary for you to stay in business. Most companies require at least 10 percent return on net worth to feel satisfied. However, higher returns of 25 to 50 percent are necessary to allow room for growth, inflation, or unexpected downturns.

EXAMPLE: Return on Net Worth (Year) = $\frac{\$76,900}{\$169,750} = 0.453 = 45.3\%$

Figure your Return on Net Worth:

Conclusion

Now you are equipped with a few examples to get you started on using ratios as a powerful management tool. When you figure these ratios for your company, track the results so you can correct any unwanted changes within your company. Keep several thoughts in mind when comparing and analyzing ratios:

- Ratios are not absolute. There are no hard and fast numbers for any ratio you figure. Every company and every industry is different, so do not hold yourself to any exact standards.
- Ratios are not cure-alls; they are tools.
- Ratios are calculated for exact dates. Keep in mind the date of the figures you are using when comparing and analyzing. In irrigation, seasonal changes can affect some ratios.
- Ratios show events in the past. The numbers used for ratios are from past statements and will only be indicators of the future. You must use your best judgment and experience to make final decisions about your company's future.

Remembering the precautions, set some definite goals for every ratio you prepare.

GOALS GET RESULTS. Beyond the ten ratios explained here, decide what other ratio comparisons would make your financial management more effective. (Examples: sales dollars per employee and inventory turnover rate.) In any market conditions, a tool like ratio analysis is a key to achieving your profit objectives.