How to Price Landscape, Irrigation & Tree Care Services

By

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Estimating Workshop

A price

A plan

&

A process

Brilliant observation (BO) # 1: Landscapers are so creative that they can figure out a way to go broke even in a great economy

I. Controlling your business and your destiny

1. There's no magic wand
2. Bidding is foundational
3. The scientific process (diagnostic tools)
4. The business process (historical vs. hysterical data)
5. Total quality management (TQM)

II. The Foundation (a thorough budget and bid)

1. Establishing annual budget targets
2. Establishing individual job bid targets
3. Your greatest risk is labor
4. Your greatest opportunity is labor

III. Budgets

1. Three types of budgets:

   A. The accounting or tax budget

   B. The cash flow budget

   C. The estimating (fair-market value) budget

2. Formatting the Profit & Loss (P&L) Statement

A. Divisions

B. Sales

C. Direct costs

2. Formatting the P&L (continued)

See ***How to Price Landscape & Irrigation Projects*** (HTPLIP) Company Budget Fig 3-1, p. 18

or

(See Exhibit # 1)

2. Formatting the P&L (continued)

D. Gross profit margin (GPM)

a. Commercial installation: 25% (+/-) 5%

b. Residential installation: 35% (+/-) 5%

c. All maintenance work: 35% (+/-) 5%

d. Tree service: 35% (+/-) 5%

e. Irrigation service: 50% (+/-) 5%

f. Specialty work: 40% (+/-) 5%

g. Chemical applications: 60% (+/-) 5%

2. Formatting the P&L (continued)

E. Indirect (G&A) costs:

a. Installation, maintenance and service divisions:

20% (+/-) 5%

b. Half of all G&A costs are for salaries for bureaucrats

2. Formatting the P&L (continued)

F. Net profit margin to target for a division:

a. Residential install: 20% (+/-) 5%
b. Commercial install: 15% (+/-) 5%
c. All maintenance work: 10 to 15%
d. Tree service: 10 to 15%
e. Irrigation service: 20% (+/-) 5%
f. Specialty work: 20% (+/-) 5%

F. Net profit margin (continued)

g. Negotiated work: add 5 to 10%

BO # 2: It's easier to negotiate down than it is to negotiate up

h. Commercial competitive bid work: 8 to 14%

i. Chemical applications: 25 to 35%

3. The Labor budget

A. Divisions

B. Billable field-labor hours

C. Average wage

The labor budget

(See Company MS Excel Budget Labor Tab # 2)

or

(See Exhibit # 2)

4. Ratios (measure everything in relation to your greatest risk)

A. Sales or revenue per (billable field-labor) hour (SPH or RPH)

B. G&A overhead per hour (OPH)

C. Net profit margin per hour (NPH)

4. Ratios (continued)

D. Material to labor ratio

E. Equipment to labor ratio

5. Labor burden

A. Field: 20 to 40%

B. Office: 12 to 15%

C. Canada: 18 to 22%

MSX Labor Burden

See ***HTPLIP*** Figure 7-1, p. 36

or

(See Exhibit # 3)

6. Key standards (or benchmarks)
taken from the estimating budget and used in estimating Jobs

A. Sales goals (per division)

B. Gross profit margins (per division)

C. G&A overhead as a percent of sales and as OPH dollar amounts (per division)

6. Key standards (continued)

D. Billable field-labor hours

E. Labor burden for field labor

IV. The Bidding process

1. Three phases of a bid:

A. Produce the product / provide the service

B. General conditions

C. Margins and markups

a. The break-even point (BEP)

b. Gross profit margin (GPM)

MS Excel Irrigation Service Tech

See ***HTPLIP*** Figure 24-1, p. 186

or

(See Exhibit # 4)

2. General and administrative (G&A) overhead recovery

A. The wrong question: What is the "right" method to recover G&A costs?

B. MARC G&A overhead

a. Measure

b. Allocate

c. Recover

d. Control

3. How high & how low (The bidding envelope)

A. How high you price your work is normally determined by the market

B. How low you price your work is normally determined by your BEP

V. Equipment costing

1. Equipment costs as a percent of sales on the P&L are normally:

8 to 12 %

2. Calculating equipment's cost per hour (CPH)

A. Useful life expectancy:

a. Field equipment (tractors, mowers, large trucks, etc.)

b. Automobiles and trucks 1 ton and smaller

2. Calculating equipment's CPH (continued)

B. 3 components of CPH

a. Acquisition CPH

b. Maintenance CPH

c. Fuel CPH

3. Bidding equipment into jobs

A. Based on use on jobs

B. Averaged into bids for some work

a. Maintenance packages
b. Skid steer or large truck use on some jobs

4. Bidding examples using MS Excel

See examples from ***How to Price Landscape & Irrigation Projects*** (HTPLIP)

or

(See Exhibits # 5 to 9)

Lawn Maintenance Package

See ***HTPLIP*** Figure 25-1, p. 192

or

(See Exhibit # 5)

Crew Time & Materials (T&M) Rate

See ***HTPLIP*** Figure 19-1, p. 155

or

(See Exhibit # 6)

Landscape Crew Day Rate

See ***HTPLIP*** Figure 19-1, p. 155

or

(See Exhibit # 7)

Irrigation Crew Day Rate

See ***HTPLIP*** Figure 19-1, p. 155

or

(See Exhibit # 8)

Tree Service Crew Day Rate

See ***HTPLIP*** Figure 33-1, p. 241

or

(See Exhibit # 9)

VI. The 6 methods of estimating

1. Factoring
2. Market-driven unit pricing
3. GPM/SORS
4. DORS
5. MORS
6. OPH

1. Factoring (materials times 2)

A. Materials x 2 (the factor) = Price

B. F1 x F2 = Price or 3 x 6 = 18

The 120” specimen tree story

C. Correct uses of factoring

a. Workers' compensation insurance rate as a factor

b. General liability insurance rate as a factor

c. Sales tax rate as a factor

D. Direct costs as a factor of sales

Normally 70% +/-5%

E. Indirect costs

a. Are indirect costs a factor of sales or direct costs?

Neither

b. Indirect costs in relation to sales or direct costs

c. The definition of indirect costs

F. What costs are inaccurately calculated using factoring?

All except materials

2. Market-driven unit pricing

A. The issue is not the format

B. What costs does this method accurately estimate?

None

C. How do you job cost this method?

You can't!

The 16 acre horse corral story

3. The gross profit margin (GPM) method

A. Also called the SORS method

B. (Total direct costs) x (1 + factor) = Price

C. What costs are inaccurately estimated?

G&A Overhead

The designer / estimator story

4. The DORS (dual overhead recovery system) method

(Material costs with tax) x (pre-determined multiplier)

+

(Labor costs with burden) x (pre-determined multiplier)

+

Net profit margin =

Price

5. The MORS (multiple overhead recovery system) method

Total direct costs + G&A overhead + net profit = Price

G&A Overhead equals sum of:

Material costs (including tax)	x	10%
Subcontractor costs	x	5%
Equipment costs	x	25%
Labor + labor burden (usually 25 to 85%)	x	variable %

Time & materials pricing

4 & 5. MORS and DORS (continued)

A. Aren't DORS & MORS just a more complicated form of factoring?

Yes

B. What costs are inaccurately calculated using DORS & MORS?

G&A Overhead

The NW commercial company story

6. The OPH (G&A overhead per hour) method

TDC + (hours in bid x OPH) + net profit margin = Price

Caveats:

A. Budgeted G&A overhead and billable hours should be within 15% of actual

B. G&A overhead should not contain direct costs (field equipment, field labor burden, etc.)

6. The OPPH method

TDC + (labor hours in bid) + net profit = Price

A. Is this a form of factoring?

No

B. What costs are inaccurately calculated?

None

Conclusion

A. Use all 6 methods to your advantage when you review bids

B. Calculate the GPM on your bid

C. Calculate unit prices if possible

D. If you are recovering G&A overhead by using percentages, you are automatically making a mathematical mistake which could cost you jobs and / or money

Conclusion (continued)

E. There is no correlation between the amount of GPM you see or desire on your P&L statement and the amount of GPM you put on a job / bid

BO # 3 The evolution of bad estimating:

SORS→DORS→MORS→SMORS

VII. Market predisposition

1. What is it?

2. Examples of market predisposition:

   a. Unit prices (LF, SF, each, head, zone, BTF…)

   b. Gross profit margins (best indicator of market conditions)

   c. Factors

VIII. Two job bidding examples

Costs:

Job A

Material with tax	$ 10,000
Labor with burden	100,000
Equipment	10,000
Total direct costs	$120,000

Job B

Material with tax	$100,000
Labor with burden	10,000
Equipment	10,000
Total direct costs	$120,000

Company information

- Annual construction sales of $600,000
- G&A overhead is $10,000 per month
- G&A OPH is $10 per labor hour
- Field labor payroll with 30% burden per month is $10,000
- Field crew is 5-6 people full time, year round
- Field labor hours are 1,000 per month, 12,000 per year
- Crew average wage (w/labor burden) $10.00
- MORS labor mark-up percent 50%

1. Factoring (Materials x 2)

Job A

$10,000 x 2 = $20,000

Job B

$100,000 x 2 = $200,000

2. Market-driven unit pricing

Not applicable

3. GPM / SORS (TDC x 1.3)

Job A

$120,000 x 1.3 = $156,000

Job B

$120,000 x 1.3 = $156,000

4. DORS

	Job A	
Materials	$10,000 x .332 =	$ 3,320
Labor & burden	$100,000 x .85 =	85,000
G&A on bid		88,320
Plus TDC		120,000
BEP		208,320
Plus 10% NPM		23,147
Price		$231,467

4. DORS

	Job B	
Materials	$100,000 x .332 =	$ 33,200
Labor & burden	$ 10,000 x .85 =	8,500
G&A on bid		41,700
Plus TDC		120,000
BEP		161,700
Plus 10% NPM		17,967
Price		$179,667

5. MORS

	Job A	
Materials	$10,000 x .10 =	$ 1,000
Labor & burden	$100,000 x .50 =	50,000
Equipment	$10,000 x .25 =	2,500
G&A on bid		53,500
Plus TDC		120,000
BEP		173,500
Plus 10% NPM		19,278
Price		$192,778

5. MORS (cont'd.)

	Job B	
Materials	$100,000 x .10	= $ 10,000
Labor & burden	$10,000 x .50	= 5,000
Equipment	$10,000 x .25	= 2,500
G&A on bid		17,500
Plus TDC		120,000
BEP		137,500
Plus 10% NPM		15,278
Price		$152,778

6. OPH

Job A

G&A on bid (10,000 hrs x $10)	$100,000
Plus TDC	120,000
BEP	220,000
Plus 10% NPM	24,444
Price	$244,444

6. OPH (cont'd.)

	Job B
G&A on bid (1,000 hrs x $10)	$10,000
Plus TDC	120,000
BEP	130,000
Plus 10% NPM	14,444
Price	$144,444

IX. Bid recap

	Job A	Job B
Factoring	$20,000	$200,000
MDUP	NA	NA
GPM/SORS	$156,000	$156,000
DORS	$231,467	$179,667
MORS	$192,778	$152,778
OPH	$244,444	$144,444
BEP	$130,000	$220,000

IX. Bid recap

Which job do I get using the OPPH method?

Which job do you get using the other methods?

X. Analysis: Which method is accurate?

Job A (a 10 month job)

10 months X $10,000 per month G&A overhead = $100,000

Job B (a 1 month job)

1 month X $10,000 per month G&A overhead = $10,000

X. Analysis (continued)

3. Question: What's the problem?

4. Answer: G&A overhead on bids and duration of job do not correlate.

XI. The missing link (establishing a reality check)

1. Your most important tool

Job costing on each job

2. Your second most important tool

The P&L statement

XII. Ratios & per hour analysis

1. The paralysis of analysis

2. What to look for (vital signs)

   A. Gross profit margin (GPM)
   B. Gross profit margin per hour (GPMPH)
   C. Net profit (as a percent)

2. Vital signs (continued)

D. Net profit per hour (PPH)

E. Material to labor ratio

F. Equipment to labor ratio

G. General conditions as a percent of bid

H. General condition hours as a percent of total hours in bid

I. Material factor

J. Unit prices (if applicable)

K. Break-even point

XIII. Concluding remarks

1. Don’t panic!
2. Study the sample bid overviews
3. Study your business and its “vital signs”
4. Beware of the “paralysis of analysis”

XIV. Definition of Terms

1. Sales per hour (SPH): the price for a bid divided by the total field-labor hours included in the bid.

2. Direct costs per hour (DCPH): total direct costs in a bid (including sales tax and labor burden) divided by the total field-labor hours in the bid.

3. Overhead per hour (OPH): a company/division's total budgeted general & administrative overhead costs for the year divided by the projected billable field-labor hours for the year.

4. Profit per hour (PPH): a. a company/division's projected net profit for the year divided by the projected billable field-labor hours. OR b. the net profit margin on a specific bid divided by the total field-labor hours in the bid.

5. Break-even point (BEP): the sales dollar amount at which all costs (both G&A overhead and direct costs) are covered in either a specific bid or a company/division.

6. Overhead (G&A) costs: indirect costs (rent, advertising, office staff salaries, etc.) which cannot be directly tied to a specific job.

7. Gross profit margin (GPM): G&A overhead costs plus net profit, formatted either as a percent or in whole dollars.

8. Gross profit margin per hour (GPMPH): gross profit margin dollars divided by the total billable field-labor hours in either a specific bid or an entire company/division.

Definition of Terms

9. Material to labor (M/L) ratio: direct material costs divided by direct labor costs in either a bid or a company/division.

10. Material per hour (MPH): direct material costs divided by the billable field-labor hours in either a bid or a company/ division.

11. Equipment to labor (EQ/LAB) ratio: direct equipment costs divided by direct labor costs in either a bid or a company/ division.

12. Equipment per hour (EQPH): direct equipment costs divided by the billable field-labor hours in either a bid or a company/ division.

13. General conditions per hour (GCPH): the general conditions in a bid divided by the field-labor hours in the bid.

14. General condition hours to total hours: the general condition hours in a bid divided by the total hours in the bid (usually 20-30%).

15. Factor: the price for a bid divided by the wholesale cost of the materials in a bid. Or one component in a mathematical multiplication formula when multiplied by another produces the product (e.g., 2 x 3 = 6, 2 and 3 are factors of 6).

16. Unit price: the total price of a bid (or section thereof) divided by the respective unit quantity (i.e., square feet, square yards, cubic yards, man-hours, per plant, linear feet, heads, zones, etc.).

XV. Exhibits

1. Company Budget
2. Labor Table
3. Labor Burden
4. Irrigation Service Rates
5. Maintenance Crew Rates
6. Install Crew T&M Rates
7. Install Crew Day Rate
8. Irrigation Crew Day Rate
9. Tree Crew Day Rate