

Estimating and Purchasing: A Link to Profit

2005 International Builder's Show
Orlando, Florida
January 15, 2005

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I. GOOD ESTIMATING AND PURCHASING IS *CRITICAL* TO OBTAINING SUPERIOR PROFITABILITY

- A. Can Increase Profitability 2% to 5%
 - Some Builders say 8% Plus
- B. Most Builders *DON'T* have Adequate Systems
 - Root cause for Low Profitability
 - Excess Materials
 - Fill in Orders
 - Variances
 - Inaccurate Purchase Orders
 - Can't pay PO's
 - Need to be Invoiced
 - Delays in Construction
 - Waiting for Materials
 - Trades Not Available
- C. Cost Don't Create Value *BUT*:
 - Important in Pricing and Profit
 - Knowledge of Costs *KEY* to Improving Profits
 - Construction Cost is the *VARIABLE*

II. ESTIMATING AND PURCHASING DEPARTMENT

- A. Critical Service Department
 - Sales

- Design Center
- Construction
- Accounting
 - Cash Flow Forecasting
 - Accounts Payable

B. Two Distinct Functions

1. Estimating Function

- Detail and Accuracy Critical
- Determine Quantity of Material and Labor
- Produce Construction Cost Budgets
- Release Purchase Orders
- New Product Development
 - Take-offs
 - Costing
- Individual Home
 - Creating Purchase Orders
 - Job Costing
- Option and Upgrades
 - Costing
 - Pricing
- Customer Price Requests
 - Costing
 - Pricing
 - Tracking
- Creates Construction Cost Budget
 - Maintenance
 - Reporting
- Creates Bill of Materials
 - Parts Book
 - Basis for Purchasing
 - Detailed

2. Purchasing Function

- Outgoing and Negotiation Skills Critical
- Locate Vendors
 - Networking
- Qualify Vendors
 - Application
 - Checking References
- Bidding
 - Bid Package
 - Administering Process
 - Monitoring Progress
 - Comparing Bids
- Negotiating
 - Personal Contact with Vendors
 - Selling the Company
 - Questioning Bid
 - Working for Best Deal
- Contracting
 - Documenting the Agreement
- Monitoring Performance
 - Feedback from Construction
 - Correcting Problems
 - Quarterly Meeting with Vendors

C. Many Jobs for Estimating and Purchasing Department

- New Product Development
- Recruiting
- Bidding
 - Bid Packages
 - Trade Specification Sheets
 - Bid Analysis

- Negotiation
 - Bid Letting
 - Bid Release
- Contracting
 - Trade Contractor Agreement
 - Vendor Agreements
- Contract Administration
 - Vendor Insurance Administration
 - Vendor Review and Appraisal
- Scopes of Work
- Data Base Management
 - New Plans
 - New Options and Upgrades
 - New Products
 - New Vendors
 - New Pricing
- Design Center
 - Costing
 - Pricing
 - Pricing Sheet
- Standard Option Pricing
- Customer Price Requests
- Purchase Order Release
 - House Specific
 - Sales Contract
 - Selection Sheet
 - Staged Releases
- Start Package
 - Assemble
 - Release
 - Administer

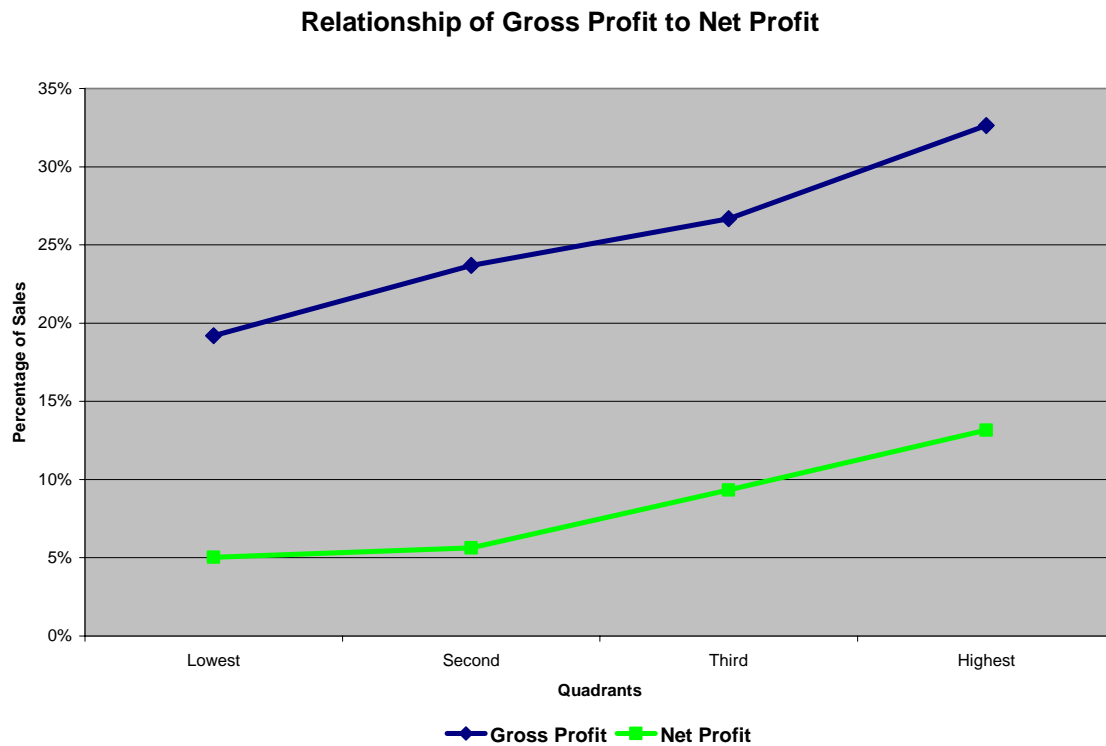
- Cost Reporting
 - Sales Pricing Report
 - Anticipated Gross Profit Report
 - Job Cost Reports
 - Variance Cost Reports
 - Variance Documentation and Reporting
 - Variance Purchase Order Release
 - Variance Review Meetings
 - Administer Actions Take
- D. New Product Development Process
- Controls the Process
 - Protector of Profits
 - Conscience for Team
 - Detail Process in Writing
 - Feasibility Estimate
 - Based on Market Research
 - Go - No Good Decision
 - Establish Preliminary Budget
 - Guide Product Design
 - Design Estimate
 - Assure No Cost Creep
 - Several During Process
 - Protect Target Profit
 - Control Budget
 - Basis for Building and Contracting
 - Plans, Model, Brochure ***DON'T*** match
 - Structural Options
 - Product Specifications
- E. Typically Becomes a ***BOTTLENECK***
- Too Much To Do
 - Under Staffed

- Not Well Organized
 - Everything is a **PRIORITY**
 - Semi-Custom Builders
 - Too Many Plans
 - Too Many Customer Price Requests
 - Too Many Changes During Construction
- E. Good Purchasing and Cost Control starts with Good Estimating
- Accurate Purchase Order
 - Variance Control
 - Accounts Payable
 - Automatic
 - Paperless
- F. **HELP** the Department
- Control the Number of Plans
 - Reduce Customer Price Request
 - Develop Standard Structural Options
 - Selections Complete **PRIOR** to Start of Construction
 - Eliminate Change Orders **DURING** Construction
 - Don't be Wed **TOO** Closely to Current Vendors
 - Maintain a Good Reputation
 - Pay Bills on Time
 - No Dry Runs
 - Job Ready
 - Reliable Construction Schedule
 - Few Fill-in Orders
 - Adequate Notifications
 - Generally Well Organized
 - Employer of Choice

III. ESTIMATING FUNCTION

A. Accurate Estimate is **FIRST STEP** in Controlling Construction Costs

- Accuracy to 1% Variance or Less
 - Add **OVER** Variances and **UNDER** Variances
- Continually Monitor
- Variance Analysis
 - Don't Just Document
 - Eradication
- Key to Acceptance of Purchase Orders
 - Eliminate Invoices
 - Automatic Accounts Payable
- Critical for Cash Flow Forecasting
 - Estimate – Cash Requirements
 - Construction Schedule – Timing
- Cost of Sales should be 70% of sales price
 - Land 20%
 - Direct costs 50%
 - Does not include;
 - Supervision
 - Financing
 - Sales Commissions
 - Don't Include Arbitrary Allocations
 - Indirect Construction Costs
- Direct Cost is the Variable
- Estimating Math
 - Vertical
 - Horizontal
 - Pitch
 - Count



B. Requires Accurate and Detailed Working Drawings and Specifications

- Working Drawings
 - Complete
 - Appropriate Details
 - Accurate
 - Can be Built
 - Scope of Work for Architects
- Specification
 - Complete
 - Accurate
 - Selections Prior to Start of Construction
 - Staged Purchase Order Releases
 - More Errors and Variances

- C. Methods of Estimating
 - Detailed Quantity Survey Estimating
 - Takeoff Each Item Needed
 - Units of Material and Labor
 - Square Foot Estimating
 - Differential Comparative Estimating
 - Bidding
- D. Estimate Needs to be Coordinated with:
 - Construction Sequence
 - Construction Schedule
 - Vendor Pay Points
 - Job Cost Accounting
 - Estimating Creates Budget
 - Accounting Records Actual Cost
 - Easy Comparison
 - One to One Relationship
 - Job Cost Analysis and Control
 - Accounts Payable Process
- E. Estimator Needs
 - Up to Date Files and Prices
 - Material and Labor Checklist
 - Systematic Consistent Approach
 - Follow the Construction Sequence
 - Easier of find Problems during Estimate
 - Maintain Good Records of Estimate Workup
 - Calculations
 - Detailed Notes and Assumptions
 - Telephone Log
 - Bidder Tracking
 - Quotes
 - Bid Analysis

- Dates for Anticipated Price Increases
 - Required Lead Times and Durations
 - Knowledge of Building Code and Fees
 - All Jurisdictions
- F. Good Procedures, Forms and Spreadsheets
 - Integrate Material Checklists
 - Integrate Appropriate Formulas
 - Integrate Appropriate Waste Factors
 - Follow the Construction Sequence
 - Create Requests for Quote
 - Create Purchase Orders
 - Takeoff Sheet
 - 30 to 50 key measurement
 - Tie to Appropriate Estimating Sheets
- G. Control Job Cost Estimate
 - Exactly What is Intended to be Purchased
 - Detailed Quantity Take-off Best Method
 - Most Builders ***DON'T*** have Talent
 - Delegated to Vendors and Trades
 - Bid Management
 - Get the Fudge ***OUT***
 - Keep Vendors and Trades ***HONEST***
- H. Estimating Data Base Management
 - Easily Contaminated
 - Too Many Plans
 - Unit Pricing vs. Job Bidding
 - Customer Price Requests
 - Maintaining Standard Estimates
 - Base Estimate
 - Options and Upgrades

- Structural Options
- Custom Price Requests
- Community Specific costs

I. Computerized Estimating

- Spreadsheet or Data Base
- Standard Plan Estimate
- Blue Print Take-off Estimating
- Digitizers
- CAD
 - New Method
 - Intelligent Drawings
 - Effective Communication Tool
 - Great for Take-offs *NOT* Pricing
 - Need to Draw in Three Dimension
 - Designers *NOT* Adopting
 - New Technology for Estimating Staff
 - Development of Working Drawings

JOB COST ESTIMATE

REVISED: _____

PLAN _____ ELEVATION _____
 BASEMENT/CRAWL SPACE AND FIRST FLOOR DECK COST CODE: _____

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL COST
BASEMENT/CRAWL SPACE WALLS			
2 X 4 LINEAL REDWOOD PLATE _____			
2 X 4 LINEAL TOP PLATE _____			
2 X 6 LINEAL REDWOOD PLATE _____			
2 X 6 LINEAL TOP PLATE _____			
2 X 6 X 8" STUDS _____			
2 X 12 X _____ BEARING WALL HEADERS _____			
2 X 12 X _____ NON-BEARING WALL HEADERS _____			
2 X 4 X 92 5/8" STUDS FOR BLOCKING _____			
RIN JOIST AND BOX SILL			
2 X 4 LINEAL REDWOOD SILL PLATE _____			
100' ROLLS SILL SEALER _____			
2 X _____ LINEAL FEET HEM DIR BOX SILL _____			
FLOOR AREA _____ (See Framing Plan)			
2X _____ X _____ STD. HEM FIR FLOOR JOISTS _____			
2X _____ X _____ STD. HEM FIR HEADERS _____			
FLOOR AREA _____ (See Framing Plan)			
2X _____ X _____ STD. HEM FIR FLOOR JOISTS _____			
2X _____ X _____ STD. HEM FIR HEADERS _____			
FLOOR AREA _____ (See Framing Plan)			
2X _____ X _____ STD. HEM FIR FLOOR JOISTS _____			
2X _____ X _____ STD. HEM FIR HEADERS _____			
FLOOR AREA _____ (See Framing Plan)			
2X _____ X _____ STD. HEM FIR FLOOR JOISTS _____			
2X _____ X _____ STD. HEM FIR HEADERS _____			
STAIRS			
2X 12 X _____ DOUG FIR STRINGERS _____			
2X 12 X HEM FIR TREADS _____			
GENERAL ITEMS			
4 X 8 X 3/4 T&G DECKING _____			
BRIDGING SIZE _____ / _____			
BRIDGING SIZE _____ / _____			
QUART TUBES P.L. 400 _____			

DISCOUNT _____ TAX _____ SUB TOTAL _____

JOB COST ESTIMATE

PLAN _____ REVISED: _____ ELEVATION _____

FIRST FLOOR WALLS AND SECOND FLOOR DECK COST CODE: _____

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL COST
FIRST FLOOR EXTERIOR WALLS			
SECTION _____: STANDARD 8' WALLS (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2 X 4 X 92 5/8" PRE-CUT STUDS _____			
2 X 4 X _____ CRIPPLES _____			
2 X 4 X _____ WINDOW BOTTOM PLATE AND BLOCKING _____			
SECTION _____: STANDARD 9' WALLS (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2X4X18'CUTFOR9'STUDS _____			
2 X 4 X - CRIPPLES _____			
2 X 4 X _____ WINDOW BOTTOM PLATE AND BLOCKING _____			
SECTION _____: RAKE WALL (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2X4X8'STUDS _____			
2X4X10'STUDS _____			
2X4X12 STUDS _____			
2X4X18STUDS _____			
2X4X16STUDS _____			
2X4X18'STUDS _____			
2 X 4 X _____ CRIPPLES _____			
2 X 4 X _____ WINDOW BOTTOM PLATE AND BLOCKING _____			
SECTION _____: RAKE WALL (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2X4X8'STUDS _____			
2X4X10'STUDS _____			
2X4X12'STUDS _____			
2X4X14'STUDS _____			
2X4X16'STUDS _____			
2X4X18'STUDS _____			
2 X 4 X _____ CRIPPLES _____			
2 X 4 X _____ WINDOW BOTTOM PLATE AND BLOCKING _____			
HEADERS: (See Floor Plan) # 1,2,5,8,14			
2X12X12'HEM FIR _____			
HEADERS: (See Floor Plan)			
2 X 12X _____ HEM FIR _____			

JOB COST ESTIMATE

REVISED: _____

PLAN _____ ELEVATION _____
 FIRST FLOOR WALLS AND SECOND FLOOR DECK COST CODE: _____

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL COST
INTERIOR WALLS			
SECTION _____ : STANDARD 8' WALLS (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2 X 4 X 92 5/8" PRE-CUT STUDS _____			
2 X 4 X _____ CRIPPLES FOR KNEE WALLS AND NON-BEARING HDRS. _____			
2 X 4 X _____ BLOCKING _____			
SECTION _____ : STANDARD 9' WALLS (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2X4X18'CUTFOR9'STUDS _____			
2 X 4 X _____ CRIPPLES FOR KNEE WALLS AND NON-BEARING HDRS. _____			
2 X 4 X _____ BLOCKING _____			
SECTION _____ : RAKE WALL (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2X4X8'STUDS _____			
2X4X10'STUDS _____			
2X4X12'STUDS _____			
2X4X14'STUDS _____			
2X4X16'STUDS _____			
2X4X18'STUDS _____			
2 X 4 X _____ CRIPPLES FOR KNEE WALLS AND NON-BEARING HDRS. _____			
2 X 4 X _____ BLOCKING _____			
SECTION _____ : RAKE WALL (See Floor Plan)			
2 X 4 LINEAL PLATE _____			
2X4X8'STUDS _____			
2X4X10'STUDS _____			
2X4X12'STUDS _____			
2X4X14'STUDS _____			
2X4X16'STUDS _____			
2X4X18'STUDS _____			
2 X 4 X _____ CRIPPLES FOR KNEE WALLS AND NON-BEARING HDRS. _____			
2 X 4 X _____ BLOCKING _____			
HEADERS:			
BEARING (See Floor Plan)			
2X12X _____			
2X12X _____			
NON-BEARING (See Floor Plan)			
2X4X _____			
2X4X _____			
FLOOR AREA _____ : (See Framing Plan)			
2X _____ X _____ STD. HEM FIR FLOOR JOISTS _____			
2X _____ X _____ STD. HEM FIR HEADERS _____			
2X _____ X _____ LINEAL RIM JOIST _____			
FLOOR AREA _____ (See Framing Plan)			
2X _____ X _____ STD. HEM FIR FLOOR JOISTS _____			
2X _____ X _____ STD. HEM FIR HEADERS _____			
2X _____ X _____ LINEAL RIM JOIST _____			

IV. PURCHASING FUNCTION

- A. Locating Sources of Supply
 - Vendor Application
 - Evaluation
 - Selecting Qualified Vendors
- B. Bidding
 - Bid Packages
 - Duplication of Plans
 - Vendor Bid Sheets
- C. Negotiating
 - Move **UP** the Food Chain
 - Things to Negotiate
 - Price
 - Terms and Conditions
 - Model Home Program
 - Design Center Displays
 - Quantity Discounts
 - Annual Meeting
 - Payment Discounts
 - Cooperative Advertising
 - Manufacture Rebates
 - Training
 - Sales
 - Superintendent
 - Trades
 - Warranty
- D. Contracting
 - Vendor Agreement
 - Terms and Conditions
 - General Conditions
 - Scope of Work

- Pricing Addendum
- Quality Standard
- Certification of Completion Checklist
- E. Monitoring Performance
 - Evaluating Performance
 - Quarter Review Meeting
- F. Purchase Orders Implement the Estimate
 - Release is Clerical in Nature
 - Routine
 - Highly Repetitive
 - Open for Standardization
 - Delegation
 - Create PO's & Job Budget from Sales Contract:
 - Base Plan
 - Structural Options
 - Selections
 - Community Specific
 - Approved Customer Price Requests
 - Release Purchase Orders
 - Creates Job Cost Budget
 - Formalized, Standardized
 - Written Procedures
 - One to One Relationship
 - Purchase Order Directly from the Estimate
 - Written Purchase Orders
 - Place on "Will Call" basis
 - Released **PRIOR** to Start of Construction
 - Stages Releases
 - Variance Purchase Orders
 - Written
 - Reason

- Action to be Taken
 - Processed **PRIOR** to Service
 - Payment from Purchase Order
 - Eliminate Invoices
- G. Purchasing Flow
 - Estimating Produce Quantities
 - Purchasing Negotiates Prices
 - Purchasing Contracts Vendors
 - Estimating Applies Pricing To Quantities
 - Purchasing Releases PO's
 - Production Orders Deliveries
 - Production Checks and Approves Deliveries
 - Accounting Pays Approved Vendor Payments
- H. Change Orders
 - Special Customer Changes
 - During Construction
- I. Variance Purchase Order
 - Construction Cost Variances
 - Unanticipated Costs
- V. **SUPERINTENDENTS ROLE IS CRITICAL**
 - A. Super **OWNS** Estimate Once PO's are Released
 - Understand Estimate
 - Anticipated Use of Materials
 - B. Working Knowledge of:
 - Vendor Agreements
 - Trade Contracts
 - Scopes of Work
 - Quality Standard
 - C. Enforce **ALL** Terms and Conditions

- D. Train Trades Crews on:
 - Scopes of Work and Enforce
 - Company Policies
 - Construction Procedures
 - Proper Use of Material
- E. Seek out material savings
- F. Maintain accurate plans
 - Communicate with Estimating and Purchasing
- G. Document *ALL* Variances
 - Determine Root Cause
- H. Supervise Placement of Material
- I. Protect Material
 - Upon Delivery
 - After Installation
- J. Check for Excess Material on Job Site
 - Promptly Return *ALL* Unused Material
 - Notify Accounting
 - Notify Estimating
- K. Check in Deliveries
 - Organization of Load
 - Placement of Delivery
 - Complete
 - No Back Order
 - No Damage
- L. Notify Accounting when Complete
 - Invoice Approval
 - Purchase Order Approval
 - Line Pay
 - Handheld
 - Construction Schedule

