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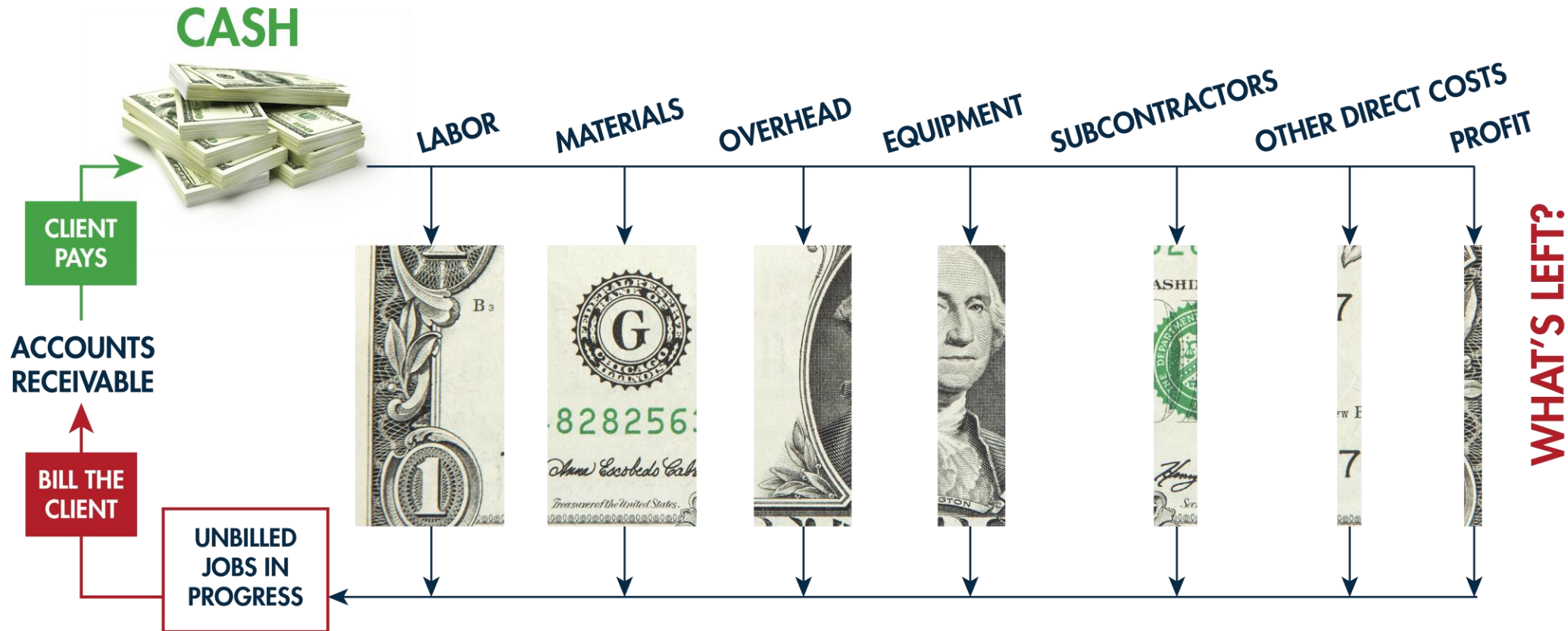
## Managing Cash Flow – Getting Paid

July 15, 2021



**DALLAS/FT. WORTH CHAPTER**

# The Cash Flow Cycle



## Another way to think about cash flow



# How much cash do I need in the business?

## Calculating Cash Demand from the Balance Sheet and Income Statement

Line		\$
1	<b>Assets</b>	
2	<b>Current Assets:</b>	
3	Cash	330,000
4	Accounts Receivable	1,450,000
5	Retainage Receivable	400,000
6	Notes Receivable	20,000
7	Prepaid Expenses	75,000
8	Costs and Estimated Earnings in Excess of Billings	75,000
9	Other Current Assets	<u>50,000</u>
10	<b>Total Current Assets</b>	2,400,000
11	<b>Fixed Assets</b>	
12	Trucks and Automobiles	65,000
13	Construction Equipment	125,000
14	Office Equipment	15,000
15	Leasehold Improvements	<u>30,000</u>
16	<b>Total Fixed Assets</b>	235,000
17	Less: Accumulated Depreciation	<u>95,000</u>
18	<b>Net Fixed Assets</b>	140,000
19	<b>Total Assets</b>	<u>2,540,000</u>
20	<b>Liabilities and Net Worth</b>	
21	<b>Current Liabilities</b>	
22	Accounts Payable	780,000
23	Retainage Payable	139,500
24	Payroll Taxes Payable	85,000
25	Notes Payable (Current Portion)	70,000
26	Expenses Payable*	200,500
27	Billings in Excess of Costs and Estimated Earnings	<u>65,000</u>
28	<b>Total Current Liabilities</b>	1,340,000
29	<b>Long-term Liabilities</b>	
30	Notes Payable	310,000
31	Less: Current Portion	<u>70,000</u>
32	<b>Net Long-term Liabilities</b>	<u>240,000</u>
33	<b>Total Liabilities</b>	1,580,000
34	<b>Net Worth</b>	
35	Capital Stock	85,000
36	Paid-in Capital	115,000
37	Retained Earnings	<u>760,000</u>
38	<b>Total Net Worth</b>	960,000
39	<b>Total Liabilities and Net Worth</b>	<u>2,540,000</u>

\* Includes accrual for profit sharing of \$85,500 payable in February and income taxes of \$86,900 payable in March.

Line		\$	% of Sales
1	<b>Contract Revenue</b>	9,120,000	100
2	<b>Contract Costs:</b>		
3	Material	3,401,000	37.29
4	Direct Labor	1,507,000	16.52
5	Subcontracts	3,208,000	35.18
6	Other Contract Costs	<u>271,000</u>	<u>2.97</u>
7	<b>Total Contract Costs</b>	<u>8,387,000</u>	<u>91.96</u>
8	<b>Gross Profit</b>	733,000	8.04
9	<b>Operating Expenses</b>		
10	<b>Variable Overhead:</b>		
11	Advertising	15,200	0.17
12	Bad Debts	10,900	0.12
13	Communications	6,400	0.07
14	Employee Benefits	9,600	0.1
15	Interest	5,500	0.06
16	Office Expenses	16,400	0.18
17	Taxes-Payroll	95,900	1.05
18	Taxes-Other	4,500	0.05
19	Sales Commissions	14,700	0.16
20	Travel and Entertainment	8,100	0.09
21	Truck Expenses	33,600	0.37
22	Unapplied Labor and Materials	<u>19,800</u>	<u>.22</u>
23	<b>Total Variable Overhead</b>	240,600	2.64
24	<b>Fixed Overhead:</b>		
25	Administrative Salaries	24,300	0.27
26	Depreciation	20,400	0.22
27	Dues and Subscriptions	3,400	0.04
28	Engineering and Sales Salaries	21,500	0.23
29	Insurance	29,800	0.33
30	Legal and Professional	9,300	0.1
31	Office Salaries	20,200	0.22
32	Rent	12,800	0.14
33	Repairs and Maintenance	25,500	0.28
34	Officers' Salaries	64,000	0.7
35	Utilities	<u>3,500</u>	<u>.04</u>
36	<b>Total Fixed Overhead</b>	234,700	2.57
37	<b>Total Operating Expenses</b>	<u>475,300</u>	<u>5.21</u>
38	<b>Net Operating Profit</b>	<u>257,700</u>	<u>2.83</u>

# Calculating Average Cash Demand

**Days Sales Outstanding**



**Days Retainage Outstanding**



**Days of Underbillings**



**Age of Conversion**

$\frac{\text{Average A/R} \times 365 \text{ Days}}{\text{Annual Revenue}}$

$\frac{(\$1,450,000) \times 365 \text{ Days}}{(\$9,120,000)}$

= 58.03 days

$\frac{\text{Average Retainage} \times 365 \text{ Days}}{\text{Annual Revenue}}$

$\frac{(\$400,000) \times 365 \text{ Days}}{(\$9,120,000)}$

= 16.01 days

$\frac{\text{Underbillings} \times 365 \text{ Days}}{\text{Annual Revenue}}$

$\frac{(\$75,000) \times 365 \text{ Days}}{(\$9,120,000)}$

= 3.00 days

58.03+16.01+3.00

= **77.04 days**

**Age of Conversion**



**Average Days Payable**



**Days of Overbillings**



**Average Cash Demand**

58.03+16.01+3.00

= **77.04 days**

$\frac{(\text{Average A/P} + \text{Retainage}) \times 365 \text{ Days}}{\text{Annual Material} + \text{Sub Cost}}$

$\frac{(\$780,000 + \$139,500) \times 365 \text{ Days}}{(\$3,401,000 + \$3,208,000)}$

= 50.78 days

$\frac{\text{Overbillings} \times 365 \text{ Days}}{\text{Annual Revenue}}$

$\frac{(\$65,000) \times 365 \text{ Days}}{(\$9,120,000)}$

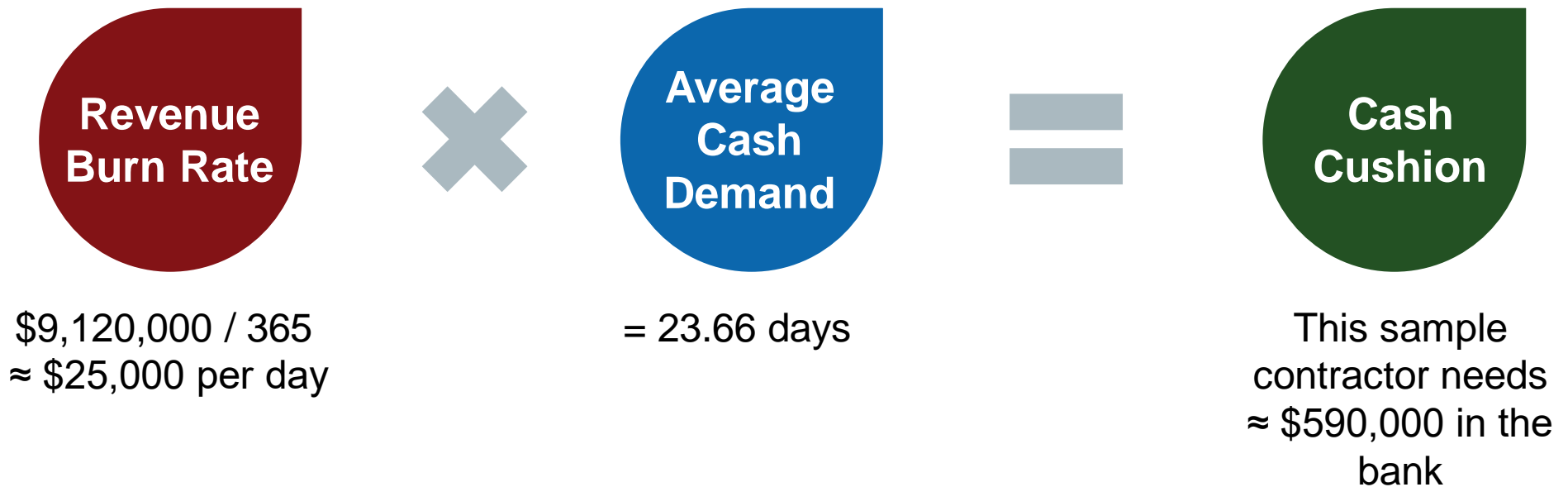
= 2.60 days

• 77.04 days – 50.78 – 2.60

• = **23.66 days**

## What good is Average Cash Demand?

- If you know your revenue burn rate and your average cash demand, you can figure out how large a cash cushion you need



Has only \$330,000 in the bank!

# Building a Project Cash Demand Estimate

## Direct cost

Material		98,100
Subcontracts		290,029
Labor		102,085
Equipment		73,600
Other direct costs		<u>37,210</u>
<b>Total direct costs</b>		<b>601,024</b>

## Overhead

On material and subs	6.38%	24,763
On labor	25.32%	<u>25,848</u>
Unadjusted overhead		50,611
"M" factor	0.9087	
<b>Total overhead</b>		<b><u>45,990</u></b>

Break even 647,014

Operating profit at 2.50% 16,590

**Total price** **663,604**

Retainage 10.00%

Opportunity Cost 12.00%

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
% Complete	3%	15%	25%	30%	15%	12%
Cumulative %	3%	18%	43%	73%	88%	100%
% Remaining	97%	82%	57%	27%	12%	0%

# Budget and Cash Flow Alternatives (30-Day Terms)

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Gross Billing	19,908	99,541	165,901	199,081	99,541	79,632			
Retainage Held	1,991	9,954	16,590	19,908	9,954	7,963			
Retainage Billed						<u>66,360</u>			
Net Billing	<u>17,917</u>	<u>89,587</u>	<u>149,311</u>	<u>179,173</u>	<u>89,587</u>	<u>138,030</u>			
<b>Receipts</b>									
30-Day Terms		17,917	89,587	149,311	179,173	89,587	138,030		
<b>Disbursements</b>									
Material (30)		2,943	14,715	24,525	29,430	14,715	11,772		
Subcontracts (30)		8,701	43,504	72,507	87,009	43,504	34,803		
Labor (0)	3,063	15,313	25,521	30,626	15,313	12,250			
Equipment (30)		2,208	11,040	18,400	22,080	11,040	8,832		
Other (30)		1,116	5,582	9,303	11,163	5,582	4,465		
Overhead (0)	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>			
Total	<u>10,728</u>	<u>37,946</u>	<u>108,027</u>	<u>163,025</u>	<u>172,659</u>	<u>94,756</u>	<u>59,873</u>		
<b>30-Day Terms Cash Flow</b>									
Net	(10,728)	(20,029)	(18,441)	(13,714)	6,541	(5,169)	78,157		
Cumulative	(10,728)	(30,756)	(49,197)	(62,911)	(56,397)	(61,567)	16,590		

# Budget and Cash Flow Alternatives (60-Day Terms)

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Gross Billing	19,908	99,541	165,901	199,081	99,541	79,632			
Retainage Held	1,991	9,954	16,590	19,908	9,954	7,963			
Retainage Billed						<u>66,360</u>			
Net Billing	<u>17,917</u>	<u>89,587</u>	<u>149,311</u>	<u>179,173</u>	<u>89,587</u>	<u>138,030</u>			
<b>Receipts</b>									
60-Day Terms			17,917	89,587	149,311	179,173	89,578	138,030	
<b>Disbursements</b>									
Material (30)		2,943	14,715	24,525	29,430	14,715	11,772		
Subcontracts (30)		8,701	43,504	72,507	87,009	43,504	34,803		
Labor (0)	3,063	15,313	25,521	30,626	15,313	12,250			
Equipment (30)		2,208	11,040	18,400	22,080	11,040	8,832		
Other (30)		1,116	5,582	9,303	11,163	5,582	4,465		
Overhead (0)	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>			
Total	<u>10,728</u>	<u>37,946</u>	<u>108,027</u>	<u>163,025</u>	<u>172,659</u>	<u>94,756</u>	<u>59,873</u>		
<b>60-Day Terms Cash Flow</b>									
Net	(10,728)	(37,946)	(90,110)	(73,439)	(23,349)	84,417	29,714	138,030	
Cumulative	(10,728)	(48,673)	(138,783)	(212,222)	(235,570)	(151,153)	(121,440)	16,590	

# Budget and Cash Flow Alternatives (90-Day Terms)

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Gross Billing	19,908	99,541	165,901	199,081	99,541	79,632			
Retainage Held	1,991	9,954	16,590	19,908	9,954	7,963			
Retainage Billed						<u>66,360</u>			
Net Billing	<u>17,917</u>	<u>89,587</u>	<u>149,311</u>	<u>179,173</u>	<u>89,587</u>	<u>138,030</u>			
<b>Receipts</b>									
90-Day Terms				17,917	89,587	149,311	179,173	89,578	138,030
<b>Disbursements</b>									
Material (30)		2,943	14,715	24,525	29,430	14,715	11,772		
Subcontracts (30)		8,701	43,504	72,507	87,009	43,504	34,803		
Labor (0)	3,063	15,313	25,521	30,626	15,313	12,250			
Equipment (30)		2,208	11,040	18,400	22,080	11,040	8,832		
Other (30)		1,116	5,582	9,303	11,163	5,582	4,465		
Overhead (0)	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>	<u>7,665</u>			
Total	<u>10,728</u>	<u>37,946</u>	<u>108,027</u>	<u>163,025</u>	<u>172,659</u>	<u>94,756</u>	<u>59,873</u>		
<b>30-Day Terms Cash Flow</b>									
Net	(10,728)	(37,946)	(108,027)	(145,108)	(83,073)	54,555	119,300	89,587	138,030
Cumulative	(10,728)	(48,673)	(156,700)	(301,808)	(384,881)	(330,326)	(211,026)	(121,440)	16,590



# Pricing and Payment Terms Alternative Summary

	<b><u>30-Day Terms</u></b>	<b><u>60-Day Terms</u></b>	<b><u>90-Day Terms</u></b>
Desired operating profit	16,590	16,590	16,590
Total cost of money	(2,716)	(9,186)	(15,656)
Effective operating profit	13,875	7,404	934
Needed operating profit	19,306	25,776	32,246
Needed operating profit margin	2.90%	3.83%	4.75%
Needed sale price	666,319	672,790	679,260
Needed gross profit margin	9.80%	10.67%	11.52%
Needed direct cost markup	10.86%	11.94%	13.02%



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## Credit & Collections

“I Financed That!”



DALLAS/FT. WORTH CHAPTER



## Accounts Receivable — an Asset that is a Liability

- The establishment of an accounts receivable account is completed when goods and/or services are transferred to another person with the understanding that the person will pay for them within prescribed terms of your agreement of sale or transfer.
- This method of selling has become so acceptable that an average of **30% to 50%** of a contractor's total assets takes the form of accounts receivable.
- Therefore, management of your receivables in this era of competition and high capital costs is exceedingly important.

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# First National Bank of...You!





## What a good credit and collections function looks like

- A well-documented credit and collection policy that is understood by all employees and customers
- An established procedure to determine a customer's credit limit
- **An individual that regularly reviews the credit status of existing customers**
- **A system for immediate identification of non-payment**
- Monthly or weekly aged accounts receivable reports
- Weekly status report and follow-up action list on all overdue accounts
- **An individual assigned to collect each account**
- Specific plans for legal action where required to collect accounts
- **Former customers for whom you refuse to work because of poor payment experience**

# Do Your Homework

- ✓ **Know the buyer and the players**
- ✓ Investigate credit history
- ✓ **Understand contract terms and conditions**
- ✓ **Develop job cash flow**
- ✓ Establish ground rules
- ✓ Educate the buyer if necessary or possible
- ✓ Know the available remedies and safeguards
- ✓ **Have a proactive billing and collection policy**
- ✓ Know the source of funds
- ✓ Determine existence and applicability of existing laws



# Sources of Credit Information

- ✓ Dun & Bradstreet
- ✓ Credit Bureau
- ✓ Banks
- ✓ National Association of Credit Managers
- ✓ **Other Contractors**
- ✓ **Other Customers**
- ✓ **Suppliers**
- ✓ Financial Statements
- ✓ Company Brochures
- ✓ Project Funding Agreement
- ✓ Clerk of the Court



# Credit Risk Evaluation

- ✓ Define the risk groups
- ✓ Use credit applications when appropriate
- ✓ **Investigate credit history**
- ✓ Appraise your risk
- ✓ Establish a limit
- ✓ Monitor performance
- ✓ Revise ratings and limits regularly
- ✓ Re-evaluate all creditors annually





## Preconstruction Payment Requirements

- Reconfirm financial arrangements and source of funds
- Plan ahead with the operations manager and the controller
- **Chart the owner's receipt and approval process**
- **Meet the players**
- Determine the type of requisition required
- Review schedule of values form, if appropriate
- Be familiar with documentation and substantiation required
- Identify authority and timing for approval and certification
- Ensure agreement on dates submission and time of payment



## Prompt Payment Considerations

- Bill all work on time!
- Ensure accuracy
- **Train your subs and suppliers**
- **Obtain authorized approval prior to billing**
- Deliver the invoice expeditiously
- Follow the invoice
- Establish most expeditious method for receiving check
- Receive payment and respond
- Consider sending statements in addition to invoices
- **Get the first check on time!!!**

# Collecting Receivables

- Create and communicate formal collection system
- **Assign individual responsibility – likely project management**
- Match receipts to accounts receivable daily
- Review aged accounts receivable weekly
- Develop collection priorities
- **Obtain a commitment to pay**
- Develop a follow-up system for past-due accounts
- Develop effective communication
- **Communicate non-payment within your organization**
- Write off bad debts
- Know your legal remedies and recourse

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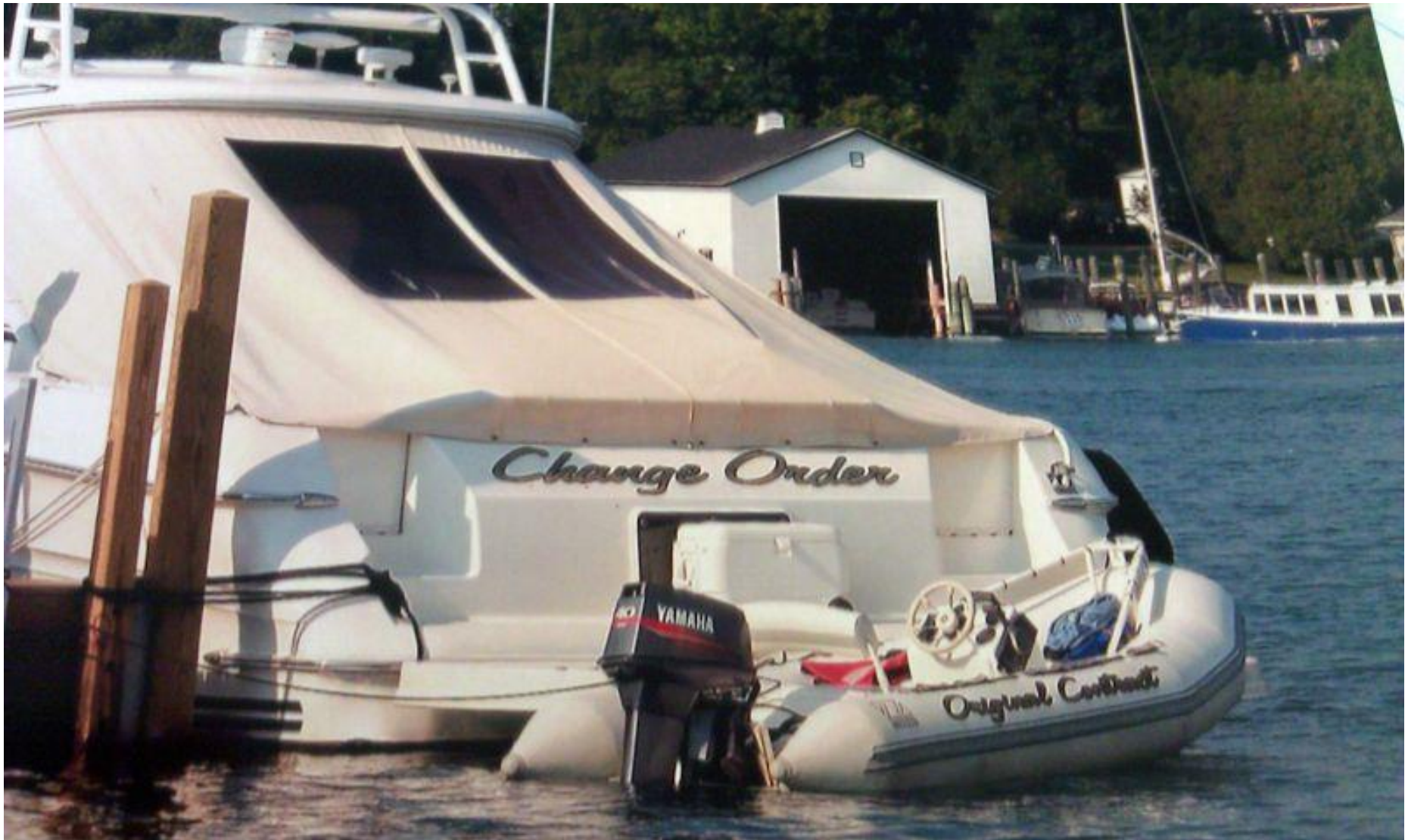
# The Impact of Change Orders

Winning More of the Battles



DALLAS/FT. WORTH CHAPTER

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A picture that says 1,000 words...





## Change Orders – Are They Bad for Our Business?

- Change Orders are inevitable, but not necessarily bad
- Strategies to maximize the benefit of changes and minimize the number of claims or their effects on a project:
  - Build credibility: critical to maintain a good working relationship with all parties
  - Get ahead by getting ahead: the sooner the work is done, the better, usually
  - Document, document, document!
  - Work to mitigate the problem
  - A claim is always a last resort



## Contract Scope

- Includes what is explicitly stated in the contract and supporting documents
- Also includes work not mentioned but obviously indispensable to the completion of the job
- Does not include work that cannot be regarded as fair and reasonable within the contemplation of the parties when the contract was entered into
- May specify work sequence, method of construction or material to be used



# The Change Clause

- Gives the owners the right to alter the work within the scope of the contract in order to:
  - Incorporate new technology
  - Incorporate suggestions from the contractor
  - React to changing markets
  - React to changing financial conditions
  - React to changing site conditions
  - React to changing governmental requirements
- Gives the general contractor or subcontractor the right to claim that a change has been ordered, and seek compensation if applicable



## Two Main Types of Change Orders

- **Constructive Change Order –**  
Contractor is caused to perform work beyond that required by the contract
  - Caused by:
    - Acts or omissions of the owners
    - Acts or omissions of third parties
    - Forces beyond the contractor's control
  - No written notice need be issued
  - Change occurs informally; no conscious attempt to change the contractor's work is made
- **Formal Change Order –**  
Written order between the parties
  - Initiated by owner or contractor
  - Easy to identify
  - Intended to improve the design or decrease cost
  - Changes contract price, time, or scope
  - A conscious decision to change the contractor's work



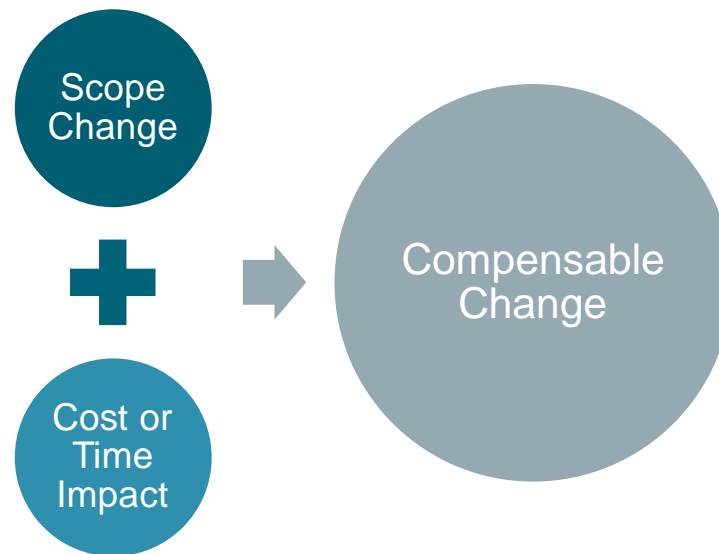
## AIA A201 Allows for the Directed Change – Where the System Often Breaks Down

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order

- The owner (and/or GC) have the right to unilaterally force changes to the scope of work
- Used when a change order cannot be achieved due to limited time or disagreement in terms
- MUST PROVIDE a written change directive, usually the AIA G714
- Has specific payment considerations attached

## Why Bother With a CCD?

- In order for a contractor to be eligible for compensation due to a change in scope, two legal conditions must be met



- With a contract change directive, the owner or GC is conceding the first condition (that it is a scope change for which compensation is due) and a good documentation method will win you the second!

## Getting Paid on a CCD

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

**Note that using one of these methods is MANDATORY for CCDs; no other method is allowed.**



## Section 7.3.7 – the Importance of Evidence

- The cost to be paid is calculated based on:
  - Labor cost, including burden (Social Security, insurance, fringes and Workman's Compensation only)
  - Material cost, including transportation cost
  - Equipment rental cost, whether external or internally rented (excluding small tools)
  - Bond, insurance, permit costs and sales and use taxes
  - Supervisory and field office personnel costs attributable to the change
- Plus a “reasonable” markup for OH&P from the contract or “customary”



## Essential Documents

- Photographs or videotapes
- Payment requests
- Payroll records
- Change order control log
- Inspection and test reports
- Shop drawing log
- As-built drawings
- Bid Report
- Bid file
- Contract documents
- Meeting minutes
- Schedule
- Correspondence
- Daily job log



## Change Order Process – Summary

- If the field manager does not know the scope, they will not recognize a change
- Documentation and notification is critical
- Time is not on your side!
- People tend to delay the things they like to do least and avoid conflict
- Remember ... update “budgeted costs” and “budgeted hours” as changes occur
- Know your style of negotiating and your opponents’ style as well. Use that information to your advantage

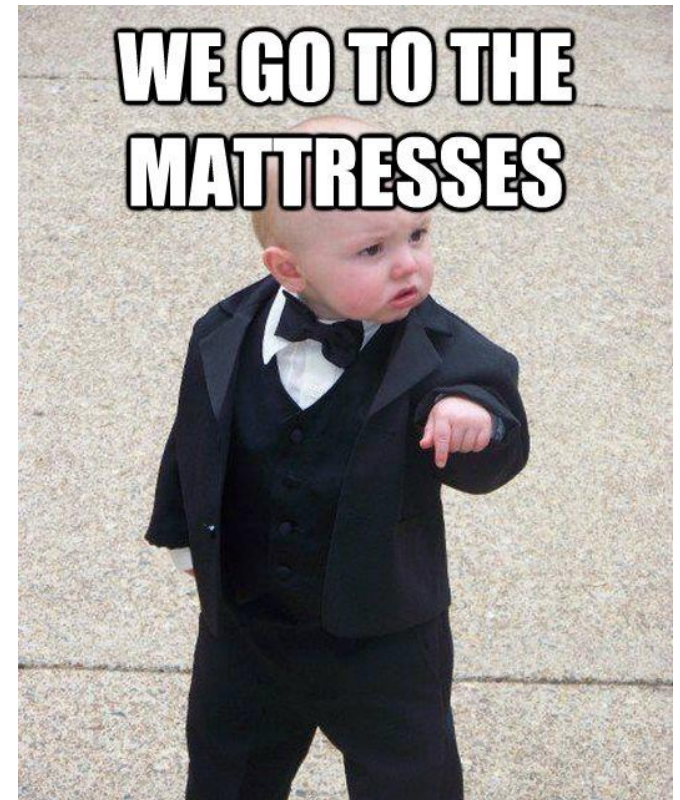


## Change Order Pricing Strategy

- Establish a precedent on the first change order
- Try to make the first change order a small one
- Develop a standard change order pricing list
- Preprint it on your change order request forms
- Set up a computerized system
- If the change order adds work or slows production, insist on additional time

## When all else fails...

- Know your rights
- Know how far you're willing to push for your rights
- Strategy – collaborative versus tough
- “I just need the information on your bond”
- Use of liens
- Know when to “go to the mattresses”



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## Closing Out the Project

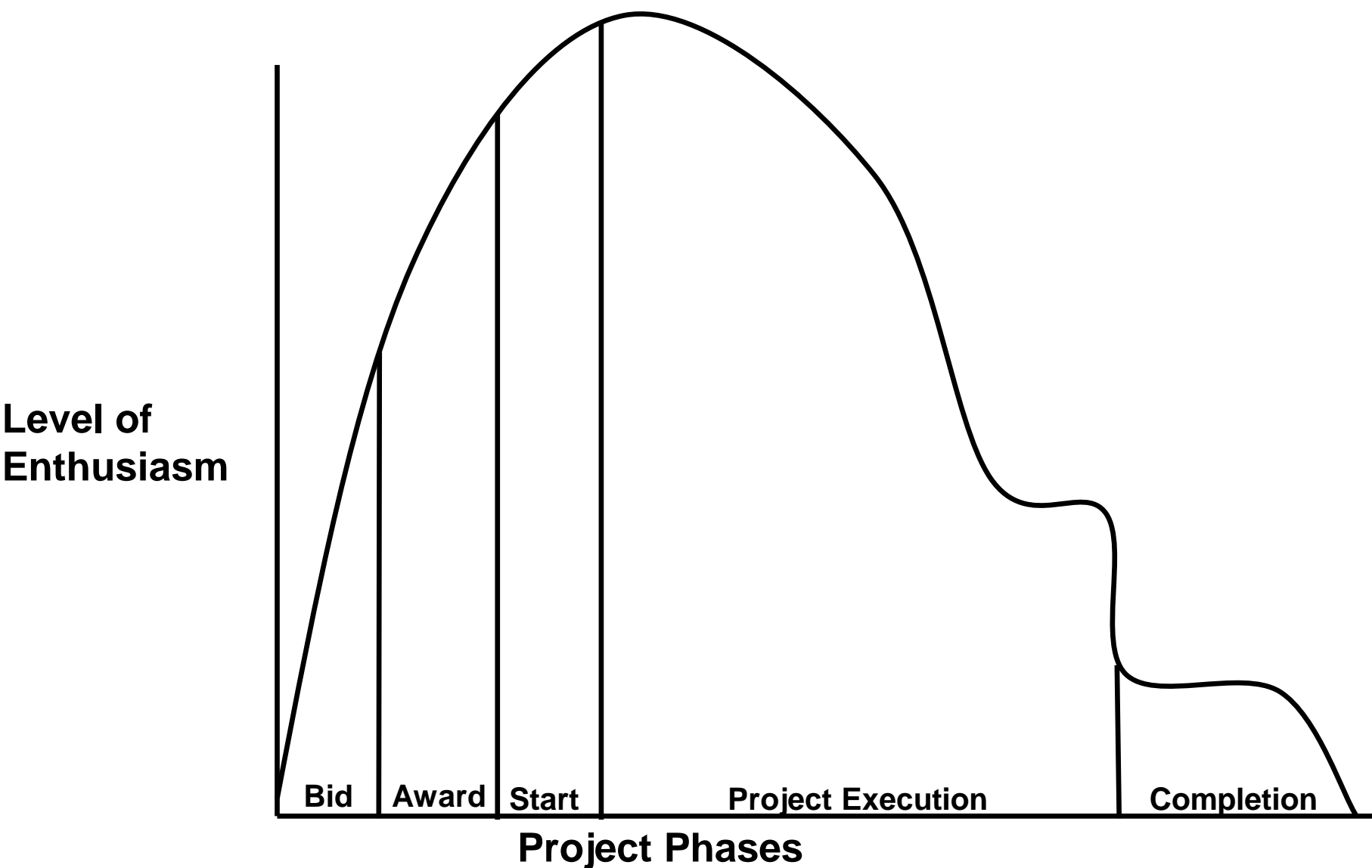
Getting Away Clean



DALLAS/FT. WORTH CHAPTER



# Stages of Enthusiasm for a Construction Project



# A dollar waiting on a dime

Closed Job -	Type	PM	Jobs in Progress - January 2008		Original Gross Profit	CONTRACT TOTALS				Percent Comp
			Job#	Project		Contract Price	Projected Total Cost	Estimated Gross Profit	GP%	
AP 1	LS	WA	1-04-156	Lorem Ipsum	7,000	496,600	470,500	26,100	5.3%	99.9%
	GMP	MS	1-04-194	Ipsum Digits	4,950,000	201,441,809	196,206,810	5,235,000	2.6%	91.7%
	LS	JF	1-05-215	Lorem Lorem	12,920	139,450	125,450	14,000	10.0%	85.4%
	GMP	MD	1-05-262	Ipsem	725,000	28,832,704	27,942,704	890,000	3.1%	86.9%
	GMP	BC	1-06-296	Upsem	37,205	10,831,043.40	10,592,500	238,543	2.2%	99.5%
AR F	GMP	JP	1-06-308	ASNDBDB	65,664	3,619,138	3,446,000	173,138	4.8%	98.2%
AP 1	LS	WA	1-06-309	dk4ndsxm	11,592	189,000	164,000	25,000	13.2%	94.4%
	GMP	RD	1-06-313	A4djdnkk	400,000	17,671,677	17,195,113	476,564	2.7%	85.5%
	GMP	PH	1-06-322	J\$Odn	-	113,000	113,000	-	0.0%	98.5%

## Closeout Checklist (1 of 2)

- Conduct close-out strategy meeting
- Complete internal punch list prior to walk-through
- Accompany owner on inspection
- Assist in setting up punch list
- Establish value of punch list
- Lay out an action plan for punch list items and copy owner
- Request final submittals
- Provide operating manuals and vendor drawings
- Schedule orientation and training sessions



## Closeout Checklist (2 of 2)

- Request final inspections
- Deliver guarantees and warranties
- Obtain certificate of occupancy
- Request transfer of insurance
- Submit as-built drawings
- Issue lien waiver requests
- Obtain final acceptance
- Collect final payment and retention
- Insist on client evaluation of your performance
- Conduct job post-mortem meeting





## “Final” Billing Strategy

- Put the money in the last regular progress billing
- Keep the final billing amount small
- Delay “final” billing if substantial progress is made and collection may be difficult
- Make it a progress billing
- Ask for approval of the final billing in advance
- Use waiver of lien rights as leverage



**Mike Clancy**  
**Partner and Strategy Practice Leader**

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