

Contracting for 7-Figure Residential Construction & Remodeling

Applying Professional Contracting Discipline to an Often Messy Business!



OFFICES

CALIFORNIA

949-240-9971

931 Calle Negocio, Ste J
San Clemente, CA 92673

CA License #713760

OREGON

503-660-8670

14255 SW Galbreath Dr, Ste B
Sherwood, OR 97140

OR License #173960

GENERAL INQUIRY

info@petefowler.com

www.petefowler.com



Pete Fowler
CONSTRUCTION
Services, Inc.

INTRODUCTION

Managing construction is hard. This is especially true for homeowners trying to manage their own remodel (which is usually a terrible idea). Contracting for 7-Figure Residential Construction and Remodeling will explain the fundamentals of project planning, contracting, and project controls, including the roles and responsibilities of each party. Since no two projects are exactly alike, the framework serves as a comparison to illustrate the differences in project delivery schemes.

Contracting for 7-Figure Residential Construction and Remodeling is designed to help you understand the big picture so you can understand and avoid the most common pitfalls that cause project shortcomings, defects, delays, cost over-runs, legal disputes and headaches in general. We will help you understand the tools needed to keep your project on schedule and on budget. This presentation is for homeowners, attorneys, adjusters, property managers, design and construction professionals, building officials, and anyone involved or interested in the construction business.

PROGRAM OUTLINE

1. Introduction
2. Case Study: Malibu Residence
3. Contracting Basics
4. Contracting Step-By-Step
5. **Case Study: Otto's Outhouse**
6. Risks & Insurance Considerations
7. Conclusion

LEARNING OBJECTIVES

1. Review simplified and real-life case studies
2. Review contracting basics, including our Contracting 101 framework, to explain the roles and responsibilities of the various parties in construction.
3. Dig into the details of what should be done in the planning of a significant work of construction or remodeling.
4. Offer a framework for crafting an agreement that includes incentives for cost savings and makes the Contractor and the Owners partner in the creation of a beautiful home.
5. Learn how to balance the various interests in managing projects; most importantly the (A.) scope, (B.) budget and (C.) schedule.

BACK-UP MATERIALS

1. DBSKCV Construction Management Method – A PFCS Whitepaper
2. Managing Property Maintenance & Improvement – A PFCS Whitepaper
3. Managing Construction Quality – A PFCS Whitepaper
4. Who Would You Prefer As Your Contractor? – PFCS Blog Post
5. Avoid Bad Contractors: Basic Due Diligence in Hiring – PFCS Blog Post
6. Sample PFCS Request for Proposal
7. Meeting Management by PFCS

PROGRAM CONTENTS

1. Introduction
 - A. Program Introduction
 - B. Program Outline
 - C. PFCS: Who We Are & Services
 - D. Presenter Information
 - E. Learning Objectives
2. Case Study: Malibu Residence
 - A. Background
 - B. Contracting Recommendations
 - C. Contracting Action Steps
 - D. Define
 - E. Budget & Schedule
 - F. Contract
 - G. PFCS BLM Process
3. Contracting Basics
 - A. The Golden Rule
 - B. Contracting 101
 - C. Professional Contracting Discipline
 - D. DBSKCV CM Method
 - E. A Sensible List
 - F. Who? The Most Important Q
 - G. Managing Construction Quality
 - H. Who Is In Charge of What?
4. Contracting Step-By-Step
 - A. Evaluate
 - B. Define & Specify
 - C. Budget
 - D. Tender & Contract
 - E. Schedule & Notice
 - F. Project Kickoff
 - G. Coordinate Work
 - H. Verify Quality
 - I. Change Management
 - J. Payment Processing
 - K. Project Close
 - L. Repeat Forever
5. **Case Study: Otto's Outhouse**
 - A. Define – Budget - Schedule
 - B. Contract – Coordinate - Verify
 - C. Scope of Work & Specifications
 - D. Schedule of Values (Budget)
 - E. Schedule
 - F. Payment Applications
6. Risk Management & Insurance
 - A. What is Risk Management?
 - B. **The ABC's of Risk Management**
 - C. Risk Identification
 - D. (Not So) Deep Thoughts
 - E. Fund Control
 - F. Insurance Requirements
 - G. Insurance Considerations
7. Conclusion
 - A. Learning Objectives
 - B. What to do Next
 - C. Program Outline
 - D. Back-Up Materials
 - E. Q & A



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 Pete Fowler
CONSTRUCTION
Services, Inc.

April 13th, 2017

www.petefowler.com

CA 949.240.9971 OR 503.660.8670

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7. Conclusion



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1. INTRODUCTION

PFCS: We Know Buildings



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1. INTRODUCTION

PFCS: Who We Are

SOLUTIONS

We specialize in creating **REAL PRACTICAL SOLUTIONS** that help our clients spend the right amount, on the right work, at the right time.


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1. INTRODUCTION

PFCS: Who We Are



CLIENTS

- Property Owners & Managers
- Builders & Developers
- Contractors
- Product Manufacturers
- Insurers
- Lawyers


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1. INTRODUCTION

PFCS Services

CLAIMS & LITIGATION

- Construction Defect Litigation (Also see BLM)
- General (Property) Liability Claims
- Construction Accidents
- Traditional Claims related to contracts, payments, performance, change orders and delays

BUILDING LIFECYCLE

- Building Inspection, Testing and Property Assessment
- Specifications for Building Maintenance and Repairs
- Construction Budgets and Cost Estimating
- Construction Management
- Quality Assurance Plans and Inspections



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Carolyn Des Jardin

CONNECT WITH CAROLYN

Call 949.240.9971

Email cd@petefowler.com

Find her on [LinkedIn!](#)



Read about industry impacts on our blog at www.petefowler.com



Pete Fowler

CONNECT WITH PETE

Call 949.240.9971


Email pf@petefowler.com

Find him on [LinkedIn!](#)

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1. INTRODUCTION


Webinar Materials


PROJECTS PUBLICATIONS **SEMINARS** USERS LOGOUT

SEMINARS

Title	Event date
Slip, Trip, Fall & Personal Injury Claims	12/12/2017
Construction Contracts, Risks & Insurance	11/09/2017
State of the Construction Defect Industry: What's the Same and What's New	10/18/2017
Investigating & Evaluating General Liability Claims from a Building Design, Construction & Maintenance Perspective	09/12/2017
Building Leakage Evaluation & Testing (ASTM E2128) Using the Highest Professional Standards	08/15/2017
Construction Management 101	07/13/2017
Expert Testimony: Preparing in Advance and Analyzing it Afterward	06/15/2017
Construction Document Literacy	05/11/2017
How to Contract for 7-Figure Residential Construction & Remodeling: Applying Professional Contracting Discipline to an Often Messy Business	04/13/2017
Project Planning & Management for Professional Services: Managing Expert Work and Costs	03/15/2017
Contracting 101	02/14/2017
Analyzing & Monetizing Construction Claims: Construction Claim Analysis 101	01/12/2017
Window & Door Installation	12/08/2016
Understanding & Evaluating Construction Estimates	11/02/2016

Click on the seminar you attended

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1. INTRODUCTION

CE CERTIFICATES WILL BE SENT OUT WITHIN 3 BUSINESS DAYS

(There is no need to contact us, Certificates of Attendance are sent to all who logged in for the seminar).



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1. INTRODUCTION

Your Feedback is Important

SURVEY SAYS!



You will receive a survey link immediately following the webinar. We put a lot of effort into providing these programs free of charge, we just ask that you take a few seconds to leave your feedback on today's presentation



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1. INTRODUCTION

Learning Objectives

1. Review simplified and real-life case studies
2. Review contracting basics, including our contracting 101 framework, to explain the roles and responsibilities of the various parties in construction.
3. Dig into the details of what should be done in the planning of a significant work of construction or remodeling.
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5. Learn how to balance the various interests in managing projects; most importantly the (a.) scope, (b.) budget and (c.) schedule.



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2. CASE STUDY: MALIBU RESIDENCE

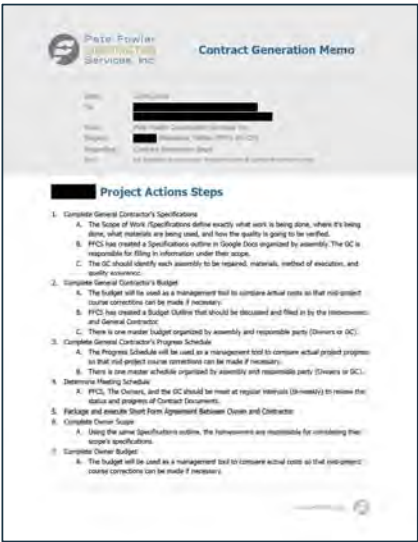
Contracting Recommendations



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2. CASE STUDY: MALIBU RESIDENCE

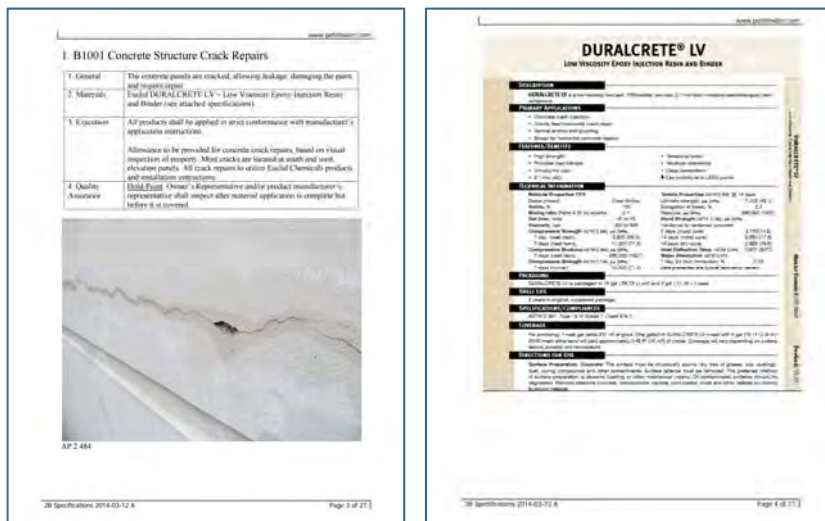
Contracting Action Steps



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2. CASE STUDY: MALIBU RESIDENCE

Define

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2. CASE STUDY: MALIBU RESIDENCE

Budget & Schedule

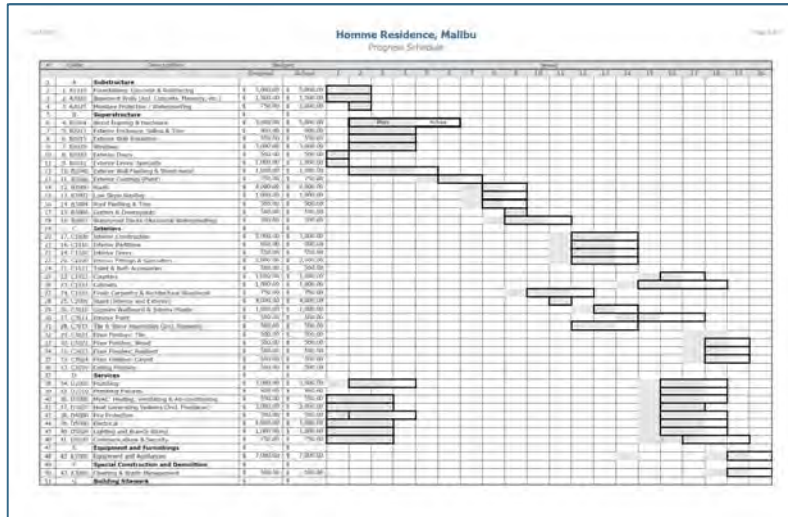
Sample Residence, Malibu
Schedule of Values - Master

Item #	Description of Work	Original Budget	Current Budget	Previous Applications	Time Period	Total Completed & Started To Date	% Complete	Subtotal to Date	Workings
A	Substructure								
1	Foundation: Concrete & Reinforcing	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00		\$ 3,000.00	100%	\$ 3,000.00	
2	Basement Walls (incl. Concrete, Masonry, etc.)	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00		\$ 1,500.00	100%	\$ 1,500.00	
3	Basement Floor: Concrete, Masonry, etc.	\$ 700.00	\$ 700.00	\$ 700.00		\$ 700.00	100%	\$ 700.00	
B	Superstructure								
4	First Floor: Framing & Reinforcing	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00		\$ 3,000.00	100%	\$ 3,000.00	
5	Second Floor: Framing & Reinforcing	\$ 900.00	\$ 900.00	\$ 900.00		\$ 900.00	100%	\$ 900.00	
6	Roof: Framing & Reinforcing	\$ 550.00	\$ 550.00	\$ 550.00		\$ 550.00	100%	\$ 550.00	
7	Exterior: Siding & Insulation	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00		\$ 3,000.00	100%	\$ 3,000.00	
8	Interior: Drywall	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	
9	Exterior: Siding & Insulation	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00	100%	\$ 1,000.00	
10	Exterior: Siding & Insulation	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00	100%	\$ 1,000.00	
11	Exterior: Siding & Insulation	\$ 750.00	\$ 750.00	\$ 750.00		\$ 750.00	100%	\$ 750.00	
12	Exterior: Siding & Insulation	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00		\$ 4,000.00	100%	\$ 4,000.00	
13	Exterior: Siding & Insulation	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00	100%	\$ 1,000.00	
14	Exterior: Siding & Insulation	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	
15	Exterior: Siding & Insulation	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	
16	Exterior: Siding & Insulation	\$ 300.00	\$ 300.00	\$ 300.00		\$ 300.00	100%	\$ 300.00	
C	Interiors								
17	First Floor: Interior Construction	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00		\$ 3,000.00	100%	\$ 3,000.00	
18	Second Floor: Interior Construction	\$ 400.00	\$ 400.00	\$ 400.00		\$ 400.00	100%	\$ 400.00	
19	Roof: Interior Construction	\$ 350.00	\$ 350.00	\$ 350.00		\$ 350.00	100%	\$ 350.00	
20	Exterior: Siding & Insulation	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00		\$ 3,000.00	100%	\$ 3,000.00	
21	Exterior: Siding & Insulation	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	
22	Exterior: Siding & Insulation	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00	100%	\$ 1,000.00	
23	Exterior: Siding & Insulation	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00	100%	\$ 1,000.00	
24	Exterior: Siding & Insulation	\$ 750.00	\$ 750.00	\$ 750.00		\$ 750.00	100%	\$ 750.00	
25	Exterior: Siding & Insulation	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00		\$ 4,000.00	100%	\$ 4,000.00	
26	Exterior: Siding & Insulation	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00	100%	\$ 1,000.00	
27	Exterior: Siding & Insulation	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	
28	Exterior: Siding & Insulation	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	
29	Exterior: Siding & Insulation	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	
30	Exterior: Siding & Insulation	\$ 500.00	\$ 500.00	\$ 500.00		\$ 500.00	100%	\$ 500.00	

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2. CASE STUDY: MALIBU RESIDENCE

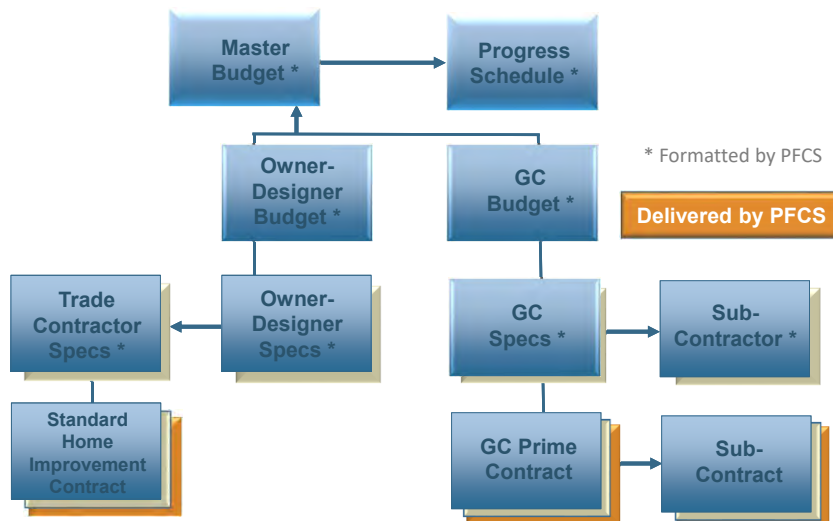
Budget & Schedule



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2. CASE STUDY: MALIBU RESIDENCE

Contract



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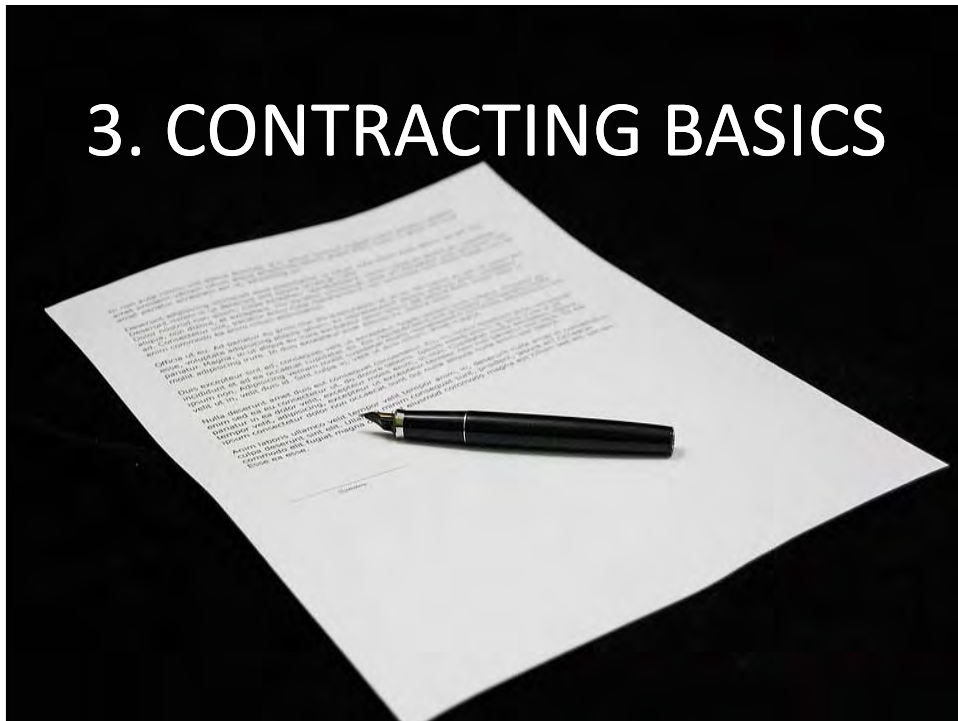
2. CASE STUDY: MALIBU RESIDENCE

PFCS BLM Process

- | | |
|----------------------|------------------------|
| 1. EVALUATE | 7. COORDINATE WORK |
| 2. DEFINE & SPECIFY | 8. VERIFY QUALITY |
| 3. BUDGET | 9. CHANGE MANAGEMENT |
| 4. TENDER & CONTRACT | 10. PAYMENT PROCESSING |
| 5. SCHEDULE & NOTICE | 11. PROJECT CLOSE |
| 6. PROJECT KICKOFF | 12. REPEAT FOREVER |

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3. CONTRACTING BASICS



3. CONTRACTING BASICS

Remember the Golden Rule



“The one with the gold should make the rules.”

3. CONTRACTING BASICS

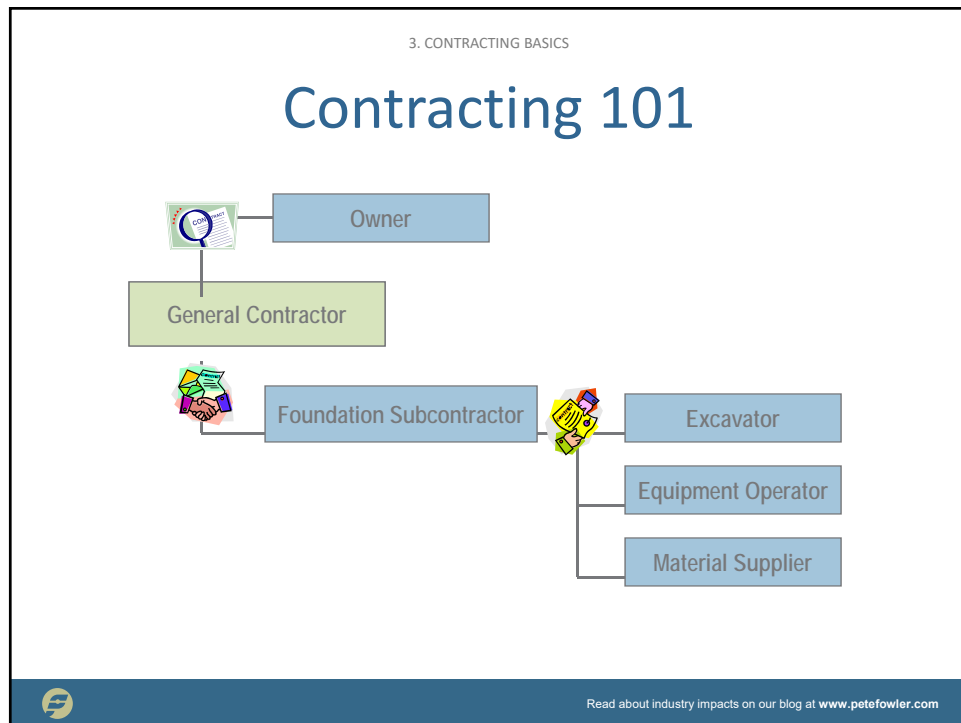
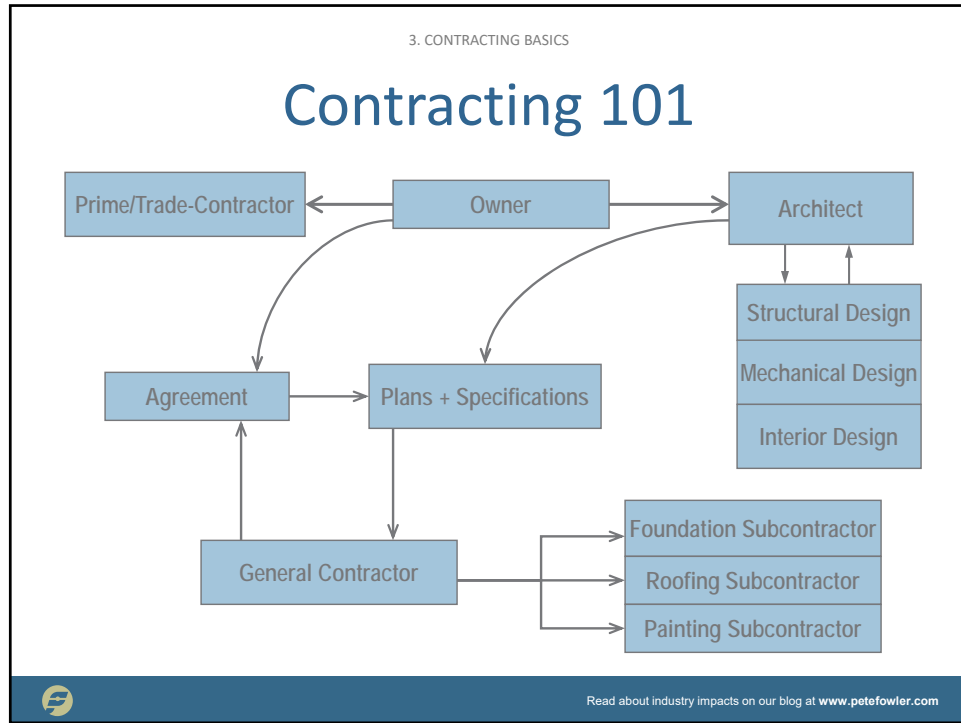
The Golden Rule

**DON'T SIGN A CONTRACT
CREATED BY THAT
CONTRACTOR!**

If you only learn one thing today, this is that one thing.



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3. CONTRACTING BASICS

Contracting 101

PRIME VS SUB CONTRACTS

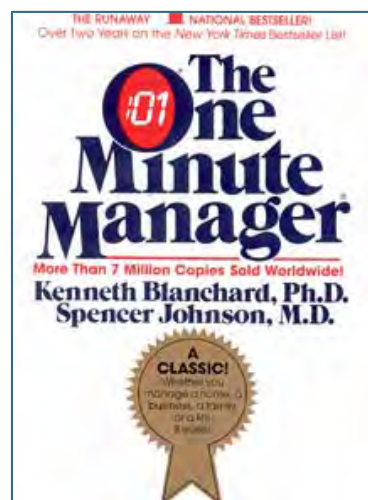


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3. CONTRACTING BASICS

Contracting 101

DEFINE WHAT GOOD PERFORMANCE LOOKS LIKE



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3. CONTRACTING BASICS

Contracting 101

PROJECT DELIVERY SCHEMES

- Design-Bid-Build
- Construction Management
- Design-Build
- Owner-Builder
- Construction Manager – At Risk



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3. CONTRACTING BASICS

Professional Contracting Discipline



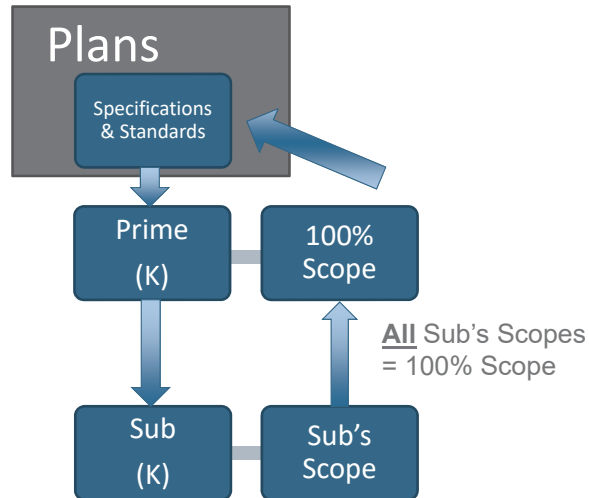
Scope	Budget	Actual	Schedule
1. Item 1	\$ XXX	\$ XXX	Plan/Actual
2. Item 2	\$ XXX	\$ XXX	Plan/Actual
3. Item 3	\$ XXX	\$ XXX	Plan/Actual
4. Item 4	\$ XXX	\$ XXX	Plan/Actual
5. Item 5	\$ XXX	\$ XXX	Plan/Actual
6. TOTAL	\$ X,XXX	\$ X,XXX	



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3. CONTRACTING BASICS

Professional Contracting Discipline

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3. CONTRACTING BASICS

Professional Contracting Discipline

CONSTRUCTION DOCUMENT LITERACY

- | | |
|---------------------------|--|
| 1. Plans | 14. General Conditions to the Contract |
| 2. Specifications | 15. Subcontract |
| 3. Scope of Work | 16. Change Order & Log |
| 4. Budget | 17. Purchase Order |
| 5. Estimate | 18. Daily Log |
| 6. Schedule of Values | 19. Meeting Agenda / Minutes (Notes) |
| 7. Expense Log / Register | 20. Project Contacts Register |
| 8. Allowance Schedule | 21. Application for Payment |
| 9. Progress Schedule | 22. Lien Release |
| 10. Request for Proposal | 23. Punch List |
| 11. Addendum | 24. Insurance Certificate |
| 12. Prime Contract | 25. Inspection Documentation |
| 13. Contract Addenda | |

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3. CONTRACTING BASICS

Professional Contracting Discipline

PROJECT CONTROLS

The project control environment should have policies, procedures, and measurable tasks to communicate with the owner, administer the project documentation, manage the scope, budget, costs, and progress schedule to control all aspects of the project.

Minimum project control, especially if you're going spend over \$1 million: Scope Management. Budget & Cost Accounting & Invoicing. Planning and Progress Management (Schedule). Variation/Change Control. Risk Analysis. Project Reporting.



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3. CONTRACTING BASICS

DBSKCV CM Method



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3. CONTRACTING BASICS

DBSKCV CM Method

- Define: Plans, Scope of Work, Specifications
- Budget: Budget, Schedule of Values
- Schedule: Project Schedule, Notice to Proceed
- Contract: Prime Contract, General Conditions, Addenda A: Scope of Work (from Define above), Addenda B: Payment Request Forms
- Coordinate: Correspondence, Daily Log
- Verify: Application for Payment, Hold Points, Certificate of Substantial Completion

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3. CONTRACTING BASICS

A SENSIBLE LIST

**“A PROBLEM WELL STATED IS A PROBLEM
HALF-SOLVED.”**

CHARLES KETTERING

© Lifehack Quotes

3. CONTRACTING BASICS

A Sensible List

A SIMPLIFIED SCOPE, BUDGET AND SCHEDULE

Scope	Budget	Actual	Schedule
1. Item 1	\$ XXX	\$ XXX	Plan/Actual
2. Item 2	\$ XXX	\$ XXX	Plan/Actual
3. Item 3	\$ XXX	\$ XXX	Plan/Actual
4. Item 4	\$ XXX	\$ XXX	Plan/Actual
5. Item 5	\$ XXX	\$ XXX	Plan/Actual
6. TOTAL	\$ X,XXX	\$ X,XXX	

And compare performance to plan.



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3. CONTRACTING BASICS

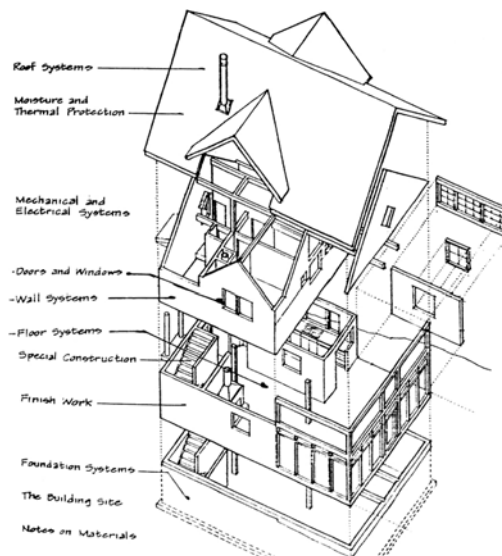
A Sensible List

WBS EXAMPLES - ELEMENTS:

Buildings are composed of elements like foundations, walls and roofs.

A masonry wall is a building "Element."

The bricks and mortar are the individual "components" of masonry walls.



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3. CONTRACTING BASICS

A Sensible List

Organizational Schemes

Uniformat (PFCS Standard):

Level 1 Structure

- A. Substructure
- B. Superstructure
- C. Interiors
- D. Services
- E. Equipment & Furnishings
- F. Special Construction & Demolition
- G. Building Site work
- H. Other



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3. CONTRACTING BASICS

A Sensible List

Organizational Schemes

Uniformat (PFCS Standard):

- | | |
|--|---|
| <ul style="list-style-type: none"> A. Superstructure B 2010 Siding <ul style="list-style-type: none"> - Leaks - Incorrect Nailing B 2060 Exterior Paint <ul style="list-style-type: none"> - Deteriorated Trim - Delaminating B 3001 Roof <ul style="list-style-type: none"> - Damage - Leaks - Missing Underlayment | <ul style="list-style-type: none"> B. Interiors C 3011 Interior Paint <ul style="list-style-type: none"> - Inadequate Coverage - Wrong Color |
|--|---|



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3. CONTRACTING BASICS

A Sensible List

Why This Matters

DURING CONSTRUCTION:

- Scope of Work
- Request for Proposal incl. Bid Forms and Schedule of Values
- Bid Analysis
- Contracting
- Insurance Information
- Scheduling
- Payment Processing
- Change Order Processing
- Quality Assurance Inspections
- Project Closeout



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3. CONTRACTING BASICS

Who? The Most Important Q



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3. CONTRACTING BASICS

Who? The Most Important Q

CONTRACTOR LICENSE REQUIREMENTS

- If you hire an unlicensed contractor, you're not a victim.
- Google "cslb checklist for homeowners"
- Discussion of their recommendations:
 - Did you check if the license is valid?
 - Did you call references?
 - Did you read the contract?
 - Etc... Many more.

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3. CONTRACTING BASICS

Managing Construction Quality

HOW DO WE VERIFY OUR CONSTRUCTION PROJECTS ARE GOING TO PERFORM?

Define

(K) Contract

- During the define phase, we make sure our design hypothesis is reasonable by having someone with experience in building performance issues review, comment and recommend improvements
- We make sure the plans, specifications, standards, and contracts are consistent in describing to the contractors who will install the specified material "what good performance looks like";

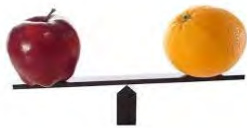
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3. CONTRACTING BASICS

Managing Construction Quality

HOW DO WE VERIFY OUR CONSTRUCTION PROJECTS ARE GOING TO PERFORM?

Verify



- We establish a procedure to “verify” at specified *Hold-Points* during construction;
- During construction we inspect to verify conformance with the design (plans, specs, standards, and contracts).
- After the initial assemblies are installed, test them to verify performance, or build a mock-up and test it before construction (whichever is more cost effective).



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3. CONTRACTING BASICS

Managing Construction Quality

HOW DO WE VERIFY OUR CONSTRUCTION PROJECTS ARE GOING TO PERFORM?

- Remember: We must be willing to administer consequences to project team members who don't do what they promise.
- You will get resistance.
- If a contractor has signed a contract to perform that is consistent with a specified standard, it will sometimes take a strong will to make some of them perform.



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3. CONTRACTING BASICS

Managing Construction Quality

10/17/2014

PROJECT NAME
Independent Quality Review

Page 1 of 1

Line	Description of Potential Services	Service and Document Review Levels																		Typical Duration	
		1A	1B	1C	2A	2B	2C	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	6C	Low	High
1	Evaluation of plans and specifications	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	8	40
2	Evaluation of referenced standards	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	4	40
3	Evaluation of contracts (scope of work)				x				x					x						4	40
4	Hold Point Development							x	x	x	x	x	x	x	x	x	x	x	x	4	40
5	Mock-Up of Assemblies and Testing											x	x	x	x	x	x	x	x	16	80
6	Recommendations (final)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	8	80
7	Meetings or Teleconferences	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	40
8	Review of Updated Design	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	4	40
9	Visual Inspection				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	4	160
10	Testing							x	x	x	x	x	x	x	x	x	x	x	x	8	80
11	Final Report											x	x	x	x	x	x	x	x	8	40
12																					
13	Potential Deliverables																				
14	Opinion Letter re: Evaluation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	16
15	Issues List with Recommendations	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	16
16	Inspection Summary				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	8
17	Inspection Report											x	x	x	x	x	x	x	x	4	16
18	Location Matrix				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	16
19	Hold Points				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	16
20	Testing Protocol							x	x	x	x	x	x	x	x	x	x	x	x	2	16
21	Testing Summary Report							x	x	x	x	x	x	x	x	x	x	x	x	4	16
22	Project Close Report							x	x	x	x	x	x	x	x	x	x	x	x	4	16

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3. CONTRACTING BASICS

Who Is In Charge of What?

BLM	ACTIVITIES/DELIVERABLES
1. Evaluate	Documents, Meetings, Inspection Reports, Property Condition Assessment
2. Define & Specify	Scope of Work, Specifications, RFP for Design, Meetings
3. Budget	Budget, Estimate, Meetings
4. Tender & Contract	Request for Proposal (RFP), Bid Analysis, Recommendations, Contracts
5. Schedule & Notice	Progress Schedule, Correspondence
6. Project Kickoff	Meeting Agenda & Minutes
7. Coordinate Work	Correspondence, Meeting Minutes
8. Verify Quality	Inspection Checklists, Inspection Report, Rework Notice
9. Change Management	Proposed Change Order Analysis, Change Order, Meetings, Budget Updates
10. Payment Processing	Project Status Memo, Payment Application Memo
11. Project Close	Project Close Memo, Lien Releases, Maintenance Plan, Warranty
12. Repeat Forever	Opinion Letter

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3. CONTRACTING BASICS

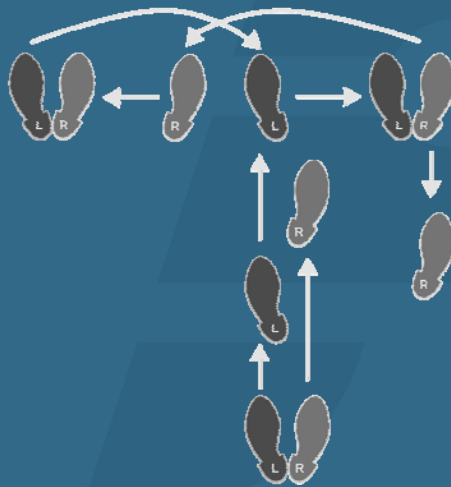
Who Is In Charge of What?

BLM	OWNER	CM	DESIGNER(S)	CONTRACTOR
1. Evaluate				
2. Define & Specify				
3. Budget				
4. Tender & Contract				
5. Schedule & Notice				
6. Project Kickoff				
7. Coordinate Work				
8. Verify Quality				
9. Change Management				
10. Payment Processing				
11. Project Close				
12. Repeat Forever				



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4. CONTRACTING STEP-BY-STEP



4. CONTRACTING STEP-BY-STEP

Evaluate

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4. CONTRACTING STEP-BY-STEP

Define & Specify

"I would like a car, please."

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4. CONTRACTING STEP-BY-STEP

Define & Specify

PLANS & SPECIFICATIONS

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4. CONTRACTING STEP-BY-STEP

Budget

Scope	Budget	Schedule
Item 1	\$XXX	Week 1
Item 2	\$XXX	Week 2
Item 3	\$XXX	Week 3
Item 4	\$XXX	Week 3
Item 5	\$XXX	Week 4
TOTAL	\$X, XXX	

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4. CONTRACTING STEP-BY-STEP

Tender & Contract

Who Would You Prefer as Your Contractor?



Criminal
VS
Incompetent

4. CONTRACTING STEP-BY-STEP

Tender & Contract

ANALYZING BIDS

Pete Fowler
CONSTRUCTION
Services, Inc.

Bid Analysis Memorandum

Date: 11/11/11
To: Construction Order Associates
From: Pete Fowler Construction Services, Inc.
Project: 111111 Construction, Alameda, CA (FFC's Project 10, 10-241)
Contract: 111111/11

One Construction Order of Direction

Line Item	Description	Quantity	Bidder #1	Bidder #2	Bidder #3	Bidder #4
1	Cleaning (CSI 01 74): Vinyl siding - OMITTED	All BLDGS	-	-	-	-
2	Rough Carpentry (CSI 06 10): Repair of damaged OSB below window sill. Connected to Item 5 - see below.	15% (11-13 Windows)	\$3,250.00	\$4,340.00	\$1,350.70	\$2,731.00
3	Rough Carpentry (CSI 06 10): Treat Exposed OSB	2 BLDGS	\$420.00	\$1,920.00	\$766.36	\$14,633.00
4	Omitted	N/A	-	-	-	-
5	Siding (CSI 07 46): Leaks at corners of Window Sill.	76 Windows	\$12,160.00	\$10,960.00	\$13,281.52	\$24,472.00
6	Omitted	N/A	-	-	-	-
7	Siding (CSI 07 46): Siding Corner Trim Components	10 Each, 2 SF total	\$500.00	\$610.00	\$960.00	\$1,725.00
8	Siding (CSI 07 46): Siding Warping due to Reflected Sunlight	4 LOC, 10 SF total	\$400.00	\$190.00	\$117.90	\$5,520.00
9	Flashing and Sheet Metal (CSI 07 61): Lifting Roof to Wall Metal Flashing	All BLDGS, 450 LF total	\$675.00	\$580.00	\$576.50	\$5,175.00
10	Other (Supervision or General Conditions)		\$0.00	\$500.00	\$2,994.69	\$22,713.00
10	Overhead and Profit		\$3,288.60	\$2,860.00	\$5,177.54	\$0.00
12	Grand Total		\$20,693.60	\$21,960.00	\$25,225.21	\$76,969.00

1 Bidder = Proposed (5/5) = 4 Pages

111111 Construction, Alameda, CA (FFC's Project 10, 10-241)
111111/11



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29

4. CONTRACTING STEP-BY-STEP

Project Kick-Off & Coordinate Work



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4. CONTRACTING STEP-BY-STEP

Verify Quality



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4. CONTRACTING STEP-BY-STEP

Change Management

SE-480 Construction Change Order 67161 Edition

AGENCY: _____ (Name)

PROJECT: _____ (Number)

CHANGE ORDER NO.: _____ (Number)

1. Change Order ☐ Initiate Project ☐ Amend Condition ☐ Change Completion ☐ Designer Request ☐ Change(s) ☐ Reduce Cost ☐ Schedule Change ☐ Design Correction ☐ Other

2. Description of the Change Order, and the proposed adjustments in Contract Scope: _____
 Reference any attachments to name and date.

3. Adjustments in the Contract Sum: (The overhead and profit combined shall not exceed the values allowed in the Contract)

a. Original Contract Sum: _____

b. Change by Previously Approved Change Orders: _____

c. Contract Sum prior to this Change Order: _____

d. Amount of this Change Order, including overhead and profit: _____

e. New Contract Sum, including this Change Order: _____

4. Adjustments in Contract Time

a. Original Date for Substantial Completion: _____

b. Change in Days by Previously Approved Change Orders: _____ Days

c. Change in Days for this Change Order: _____ Days

d. New Date for Substantial Completion: _____

3. Adjustments in the Contract Sum: (The overhead and profit combined shall not exceed the values allowed in the Contract)

- a. Original Contract Sum: _____
- b. Change by Previously Approved Change Orders: _____
- c. Contract Sum prior to this Change Order: _____
- d. Amount of this Change Order, including overhead and profit: _____
- e. New Contract Sum, including this Change Order: _____

4. Adjustments in Contract Time:

- a. Original Date for Substantial Completion: _____
- b. Change in Days by Previously Approved Change Orders: _____ Days
- c. Change in Days for this Change Order: _____ Days
- d. New Date for Substantial Completion: _____



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4. CONTRACTING STEP-BY-STEP

Payment Processing



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4. CONTRACTING STEP-BY-STEP

Payment Processing

#	Scope	Milestone	Value	PMT #1	PMT #2	PMT #3	Total Paid
1	Excavation	200	250	200	0	0	200
2	Walls *1	200	300	30	0	0	30
3	Roof					0	0
4	Signa					0	0
5	Paint					0	0
6	Comp					0	0
7	Total					0	230
8	-					-	
9	CO#1						10
10	CO#2					-	
11	CO#3					-	
12	CO#4: Landscaping	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	Total	-	1,010	240	-	-	240



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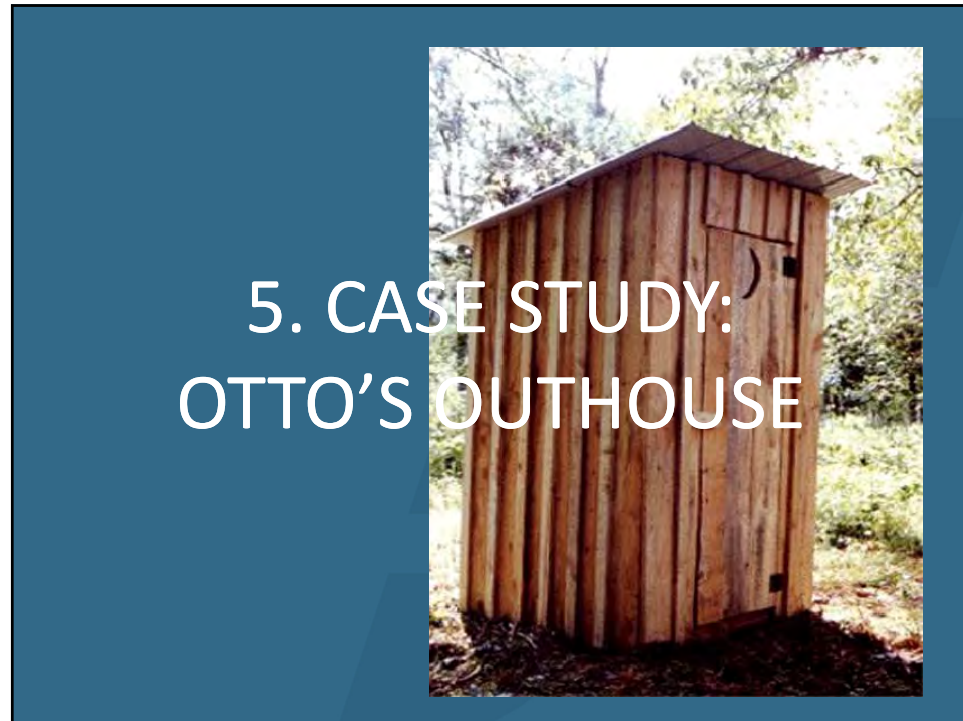
4. CONTRACTING STEP-BY-STEP

Project Close

- Project close memo
- Lien releases
- Maintenance Plan
- Warranty
- Colors
- Specs for re-use
- Project players with contact info



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5. CASE STUDY: OTTO'S OUTHOUSE

5. CASE STUDY: OTTO'S OUTHOUSE

PFCS BLM Process

- | | |
|----------------------|------------------------|
| 1. EVALUATE | 7. COORDINATE WORK |
| 2. DEFINE & SPECIFY | 8. VERIFY QUALITY |
| 3. BUDGET | 9. CHANGE MANAGEMENT |
| 4. TENDER & CONTRACT | 10. PAYMENT PROCESSING |
| 5. SCHEDULE & NOTICE | 11. PROJECT CLOSE |
| 6. PROJECT KICKOFF | 12. REPEAT FOREVER |



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5. CASE STUDY: OTTO'S OUTHOUSE

A Simplified Case Study

DEFINE-BUDGET-SCHEDULE

- Define: A new outhouse approx. 100 feet from an existing rural residence. Not pretentious; a quality and esthetic consistent with the residence. The building shall be 4 feet square and 8 feet tall, a single door and one interior seat. Wood frame construction, exterior wood siding, and sloped roof with asphalt composition shingles. See Specifications for details.
- Budget: Total project costs of approx. \$1,000.
- Schedule: We need to have this new construction completed before the end of this year.

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5. CASE STUDY: OTTO'S OUTHOUSE

A Simplified Case Study

CONTRACT-COORDINATE-VERIFY

- Contract: We intend to construct this project under a traditional Design-Bid-Build scenario, with a construction manager as advisor.
- Coordinate: We will have a construction manager as advisor to the owner who stewards the project from beginning to end, coordinating design professionals, soliciting bids, facilitating contract agreements, processing payments, and verifying conformance.
- Verify: The construction manager will process payment applications, conduct site visits at pre-defined hold points and conduct a final walk-through with the general contractor.

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5. CASE STUDY: OTTO'S OUTHOUSE

A Simplified Case Study

SCOPE OF WORK & SPECIFICATIONS

1. Excavation: Strict conformance with National Outhouse Builders Association (NOBA) *Manual of Practice* for excavation.
2. Walls
 - A. Materials: Top quality lumber. Non-corrosive fasteners.
 - B. Workmanship: Strict conformance with NOBA *Manual*.
3. Roof
 - A. Materials: GAF roofing materials. Style selected by Owner.
 - B. Workmanship: Conform with manufacturers instructions.
4. Signage: See photograph
5. Paint
 - A. Paint Materials: Matched primer and two top coats from a national manufacturer.
 - B. Sealant Materials: Shall conform with ASTM C920
 - C. Workmanship: Strict conformance with manufacturer's recommendations.

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5. CASE STUDY: OTTO'S OUTHOUSE

Schedule

#	What	When (Week)
1	Excavation	1
2	Walls	2
3	Roof	2
4	Paint	3
5	Complete	3

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5. CASE STUDY: OTTO'S OUTHOUSE

Contract

Schedule of Values

MILESTONES VS. VALUES

Notes:

- (1.) Allowance of \$30 for hardware.
 (2.) Allowance of \$40 for signs.
 (3.) Allowance of \$40 for paint material.
 (4.) Exclusion - Ladder

#	Scope	Milestone	Value	PMT #1	PMT #2	PMT #3	Total Paid
1	Excavation	200	250	0	0	0	0
2	Walls *1	200	300	0	0	0	0
3	Roof	200	200	0	0	0	0
4	Signage*2	100	50	0	0	0	0
5	Paint*3	100	100	0	0	0	0
6	Complete	200	100	0	0	0	0
7	Total	1,000	1,000	0	0	0	0
8	-	-	-	-	-	-	-
9	CO#1	-	-	-	-	-	-
10	CO#2	-	-	-	-	-	-
11	CO#3	-	-	-	-	-	-
12	CO#4	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	Total	-	-	-	-	-	-

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5. CASE STUDY: OTTO'S OUTHOUSE

Payment Application

Payment Application #1

Notes:

- (1.) Allowance of \$30 for hardware.
 (2.) Allowance of \$40 for signs.
 (3.) Allowance of \$40 for paint material.
 (4.) Exclusion - Ladder

#	Scope	Value	PMT #1	PMT #2	PMT #3	Total
1	Excavation	250	200	0	0	200
2	Walls *1	300	30	0	0	30
3	Roof	200	0	0	0	0
4	Signage*2	50	0	0	0	0
5	Paint*3	100	0	0	0	0
6	Complete	100	0	0	0	0
7	Total	1,000	230	0	0	230
8	-	-	-	-	-	-
9	CO#1: Hardware	10	10	-	-	10
10	CO#2: Delete Signs	-50	-	-	-	-
11	CO#3	-	-	-	-	-
12	CO#4	-	-	-	-	-
13	-	-	-	-	-	-
14	Total	960	240	-	-	240

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5. CASE STUDY: OTTO'S OUTHOUSE

Payment Application

Payment Application #2

Notes:

- (1.) Allowance of \$30 for hardware.
- (2.) Allowance of \$40 for signs.
- (3.) Allowance of \$40 for paint material.
- (4.) Exclusion - Ladder

#	Scope	Value	PMT #1	PMT #2	PMT #3	Total Paid
1	Excavation	250	200	50	0	250
2	Walls *1	300	30	270	0	300
3	Roof	200	0	200	0	200
4	Signage*2	50	0	50	0	50
5	Paint*3	100	0	0	0	0
6	Complete	100	0	0	0	0
7	Total	1,000	230	570	0	800
8	-	-	-	-	-	-
9	CO#1: Hardware	10	10	-	-	10
10	CO#2: Delete Signs	-50	-	-50	-	-50
11	CO#3	-	-	-	-	-
12	CO#4	-	-	-	-	-
13	-	-	-	-	-	-
14	Total	960	240	520	-	760

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5. CASE STUDY: OTTO'S OUTHOUSE

Payment Application

Payment Application #3

Notes:

- (1.) Allowance of \$30 for hardware.
- (2.) Allowance of \$40 for signs.
- (3.) Allowance of \$40 for paint material.
- (4.) Exclusion - Ladder

#	Scope	Value	PMT #1	PMT #2	PMT #3	Total Paid
1	Excavation	250	200	50	0	250
2	Walls *1	300	30	270	0	300
3	Roof	200	0	200	0	200
4	Signage*2	50	0	50	0	50
5	Paint*3	100	0	0	100	100
6	Complete	100	0	0	100	100
7	Total	1,000	230	570	200	1,000
8	-	-	-	-	-	-
9	CO#1: Hardware	10	10	-	-	10
10	CO#2: Delete Signs	-50	-	-50	-	-50
11	CO#3: Paint	60	-	-	60	60
12	CO#4: Landscaping	100	-	-	100	100
13	-	-	-	-	-	-
14	Total	1,120	240	520	360	1,120

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6. RISK MANAGEMENT & INSURANCE



6. RISK MANAGEMENT & INSURANCE

What is Risk Management?

- This is a bad risk management strategy.
- It also happens to be the strategy most commonly employed.



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6. RISK MANAGEMENT & INSURANCE

What is Risk Management?

Risk Management – Mechanism by which risks and uncertainties that threaten success are identified and dealt with accordingly.

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6. RISK MANAGEMENT & INSURANCE

The ABC's of Risk Management

- A. Avoid Potentially Dangerous Situations
- B. Be really good at the work you do
- C. C.Y.A. (Cover Your Assets)

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6. RISK MANAGEMENT & INSURANCE

The ABC's of Risk Management

- A. We must face the fact that “risk avoidance” as a construction professional is impossible,
- B. Being good at what you do means doing all you can to make sure a project succeeds, and doing a little bit of someone else’s job will sometimes become necessary; and,
- C. The best “coverage” is avoiding problems by delivering work that meets expectations. Just accept buyers expect high quality *and* performance, even when they pay rock-bottom prices, and lawyers expect perfection; the former is hard, but easier than the latter.



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6. RISK MANAGEMENT & INSURANCE

Fund Control



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6. RISK MANAGEMENT & INSURANCE

Insurance Requirements

- Why is Insurance so important?
- Types of Insurance
- A word about Insurance Claims
- How best to avoid costly claims litigation?
- Importance of understanding key construction documents

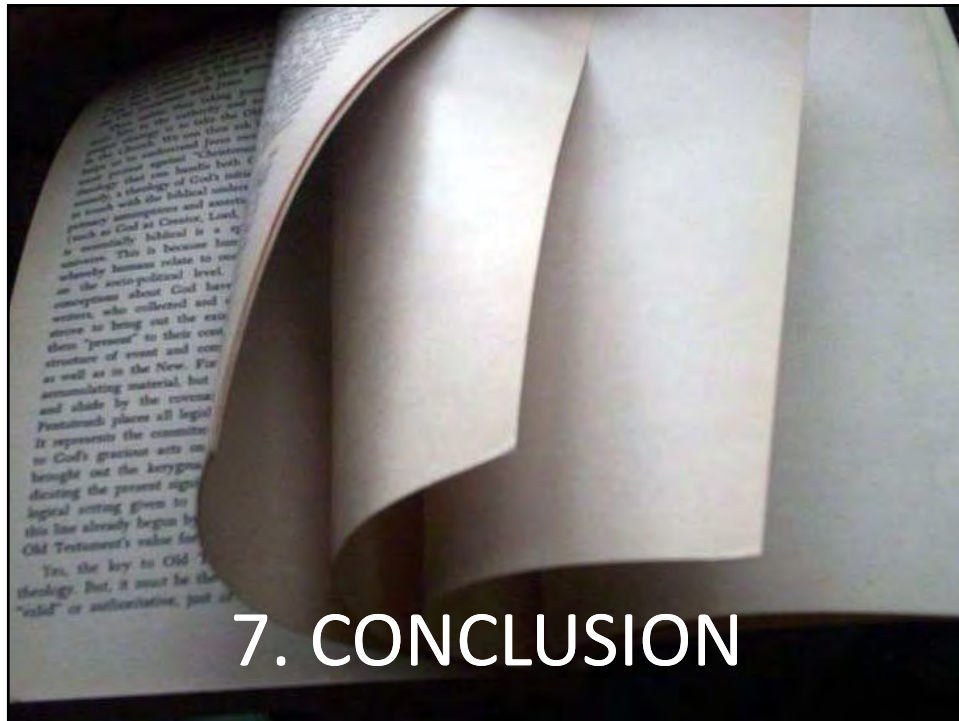
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6. RISK MANAGEMENT & INSURANCE

Insurance Considerations

- All contractors on your project must have Commercial General Liability (CGL) insurance.
- Does the Owner's policy cover the property while it's undergoing construction or renovations?
- If something gets damaged along the way, how will you handle this?

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7. CONCLUSION

Conclusion

- Learning Objectives
- Program Outline
- Back-Up Materials
- Webinar Materials/CE Certificates
- Feedback



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7. CONCLUSION

Learning Objectives

1. Review simplified and real-life case studies
2. Review contracting basics, including our contracting 101 framework, to explain the roles and responsibilities of the various parties in construction.
3. Dig into the details of what should be done in the planning of a significant work of construction or remodeling.
4. Offer a framework for crafting and agreement that includes incentives for cost savings and makes the contractor and the owners partner in the creation of a beautiful home.
5. Learn how to balance the various interests in managing projects; most importantly the (a.) scope, (b.) budget and (c.) schedule.



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7. CONCLUSION

Program Outline

1. Introduction
2. Case Study: Malibu Residence
3. Contracting Basics
4. Contracting: Step-By-Step
5. Case Study: Otto's Outhouse
6. Risk Management & Insurance
7. Conclusion



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7. CONCLUSION

Back-Up Materials

1. DBSKCV Construction Management Method – A PFCS Whitepaper
2. Managing Property Maintenance & Improvement – A PFCS Whitepaper
3. Managing Construction Quality – A PFCS Whitepaper
4. Who Would You Prefer As Your Contractor? – PFCS Blog Post
5. Avoid Bad Contractors: Basic Due Diligence in Hiring – PFCS Blog Post
6. Sample PFCS Request for Proposal
7. Meeting Management by PFCS

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7. CONCLUSION

Webinar Materials


[PROJECTS](#)
[PUBLICATIONS](#)
[SEMINARS](#)
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SEMINARS

Title	Event date
Slip, Trip, Fall & Personal Injury Claims	12/12/2017
Construction Contracts, Risks & Insurance	11/09/2017
State of the Construction Defect Industry: What's the Same and What's New	10/18/2017
Investigating & Evaluating General Liability Claims from a Building Design, Construction & Maintenance Perspective	09/12/2017
Building Leakage Evaluation & Testing (ASTM E2128) Using the Highest Professional Standards	08/15/2017
Construction Management 101	07/13/2017
Expert Testimony: Preparing in Advance and Analyzing it Afterward	06/15/2017
Construction Document Literacy	05/11/2017
How to Contract for 7-Figure Residential Construction & Remodeling: Applying Professional Contracting Discipline to an Often Messy Business	04/13/2017
Project Planning & Management for Professional Services: Managing Expert Work and Costs	03/15/2017
Contracting 101	02/14/2017
Analyzing & Monetizing Construction Claims: Construction Claim Analysis 101	01/12/2017
Window & Door Installation	12/08/2016
Understanding & Evaluating Construction Estimates	11/10/2016

Click on the seminar you attended

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7. CONCLUSION

CE CERTIFICATES WILL BE SENT OUT WITHIN 3 BUSINESS DAYS

(There is no need to contact us, Certificates of Attendance are sent to all who logged in for the seminar).



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7. CONCLUSION

Your Feedback is Important

SURVEY SAYS!



You will receive a survey link immediately following the webinar. We put a lot of effort into providing these programs free of charge, we just ask that you take a few seconds to leave your feedback on today's presentation



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Join us for our next WEBINAR:

Construction Document Literacy

Thursday, May 11, 2017



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7. CONCLUSION

Q & A



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The DBSKCV™ Construction Management Method

What is this DBSKCV™ “Method”?

Since the time of the ancient Greeks, humans have been creating and using problem solving “methods” to help us structure situations to aid in identifying the best available alternatives. Some examples of these methods include:

- Classic Problem Solving (Where are we? Where are we going? How do we get there?)
- Scientific Method (Observe, Hypothesize, Predict, Test, Repeat)
- Alcoholics Anonymous’ 12-Steps (admit, believe, decide, inventory, confess, prepare, ask, list, amends, continue inventory, pray for knowledge, help)
- Dr. Deming’s 14-Points for Quality Management (purpose, philosophy, variation, suppliers, improvement, training, leadership, fear, barriers, slogans, eliminate MBO, workmanship, self-improvement, transformation)
- Six Sigma for Process Improvement (Define, Measure, Analyze, Improve, Control)
- Franklin Covey’s Project Management Method (Visualize, Plan, Implement, Close)
- Project Management Institute’s 9 Project Management Categories (Management of Scope, Time, Cost, Human Resource, Risk, Quality, Procurement, Communication, Integration)
- ASTM Standards: E 2018 Property Condition Assessments, E 2128 Standard Guide for Evaluating Water Leakage of Building Walls, E 1739 Guide for Risk Based Corrective Action.

The DBSKCV™ (pronounced “dib-skiv” - DiB-SKCiV) Method is a six-category framework to aid construction professionals in achieving construction project objectives. The DBSKCV™ Method begins with a

Project Plan (Figure 1), which starts with identification of the project Objective. We then use the *DBSKCV™ Menu of Deliverables* (Figure 2) as a menu to select documents or actions that will aid us in moving from where we are to our stated objective. The final step in project planning is to create a step-by-step list of actions. First we plan the work, and then we work the plan. Take a minute or two to review the plan and menu.

This is harder than it sounds. Construction people have a bias toward action; which is a good thing – we like to see things happen. But we need to resist the temptation to do work before planning. This way, we can be sure to not waste time on unnecessary activity, which is a common source of project failure.

What is Construction Management (CM)?

The Construction Management Association of America (CMAA) says the 120 most common responsibilities of a Construction Manager fall into the following 7 categories:

1. Project Management Planning, 2. Cost Management, 3. Time Management, 4. Quality Management, 5. Contract Administration, 6. Safety Management and 7. CM Professional Practice. This includes specific activities like defining the responsibilities and management structure of the project management team, organizing and leading by implementing project controls, defining roles and responsibilities and developing communication protocols,

and identifying elements of project design and construction likely to give rise to disputes and claims.

Why is Construction and Construction Management Important?

Construction professionals are living in a new world. The following social & economic realities make construction, CM and professionalism in construction critical:

- Building construction is a fundamental component of human society.
- Construction constitutes nearly 10% of Gross Domestic Product (GDP).
- Consumers are expecting quality increases and price decreases in all products.
- The building industry, in general, is not keeping pace with the quality and price improvements that many industries are making.
- The building industry is not attracting the brightest young people into the industry.
- Consumers are more litigious than ever and are becoming more and more so.
- There is a proliferation of attorneys.
- The built-environment has been altered dramatically in the last 20 years.
- Consumers are more conscious of building related health issues than ever.
- In some areas, a lack of skilled construction labor makes the construction professional's job even more critical.

Project Planning and Management

There is no way to 100% guarantee project success. The closest I have found to a guarantee (and I have been looking long and hard) is to hire highly experienced geniuses, or to use a proven **system**. So if you are not a genius, or can not afford an entire team of them, you better read on.

It is also my experience that **planning always saves time**. As I mentioned before, construction people want to see things happen and it takes discipline to resist the temptation to start working before completing the Project Plan. Remember: Planning is the closest we can get to a guarantee of project success.

Growing legal risks, administrative issues, sky-rocketing workers' compensation costs, increasing fees and taxation, and complicated insurance issues are only a few of the reasons why the price of construction is higher today than ever before. In addition, managing risk and facilitating a smooth operation are reasons enough to use a system for the management of your project.

We have all heard the adage: "Good people are hard to find." I think good companies are even harder to find. All great businesses create systems that help good people achieve the goals of the company. Most companies, particularly in the construction industry, rely on individuals to develop their own systems. This means the individual has to be some kind of genius. Geniuses **are** hard to find, but not as hard to find as good companies with good systems.

The construction industry is attracting fewer "geniuses" than other industries. We need to make it easier for construction managers to succeed, giving them tools and techniques to keep promises, balancing the big three (cost, quality, and time), to offer continuously improving value (more quality for less cost and time), and to **earn** the money they could make in competing industries. Teaching construction managers to plan profitable projects and manage them through fruition is a fundamental that the construction industry is not doing well enough.

Dealing with contractors and subcontractors requires skill, professionalism, and a system.

The quality of contractors ranges from excellent to criminally incompetent, which can make the process range from complex but satisfying, to nightmarish and costly. We can not rely on contractors to act professionally – if they do, let it be a pleasant surprise, and when some don't, we must have a system in place to manage the problem. My experience suggests that a nice but incompetent contractor might cost us more than a competent criminal. Don't let yourself be the victim of a contractor's lack of sophistication. If you use a *process* to guide you in dealing with problem contractors and project pitfalls, success is much more likely. The right planning activities at the beginning of the project will equip you to deal with the incompetent or the unscrupulous.

Summary of the DBSKCV™ Method

- Define the Scope of Work (this includes the design phase).
- Budget: identify how much the project will cost the contractor and owner.
- Schedule when the construction will happen and share this information.
- Contract: Who is doing what? Everyone should know what to expect.
- Coordinate the construction.
- Verify, document and communicate that everyone is doing what they should.

Each of these categories could be books by themselves. The idea here is to fly over the subject of Construction Management so that we see the big-picture. We need to understand the forest, so we don't get lost in the trees. Dealing with details before understanding the big picture can be dangerous. In construction, dangerous means expensive.

I. Define the Scope of Work

The "Define" phase of construction management consists of documenting the

work to be performed. This is usually done graphically and in writing with plans, specifications, references to codes and standards, and detailed "Scope of Work" documents. Getting a clear, specific and detailed project scope is the first step in the construction project management process.

See the DBSKCV™ Method Menu of Deliverables (Figure 2) for the most common scope of work documentation. Depending on the type of project, this is sometimes the work of architects and engineers, but many projects are defined by owners and contractors.

Complete, detailed scope of work documentation allows parties a mutual understanding of what is being bought and sold. My company has consulted on many projects where the owner and the contractor were in dispute and the root cause was a lack of clarity from the beginning. A good "scope of work" is like building on a proper foundation and should identify the quantities and locations ("scope") of the work as well as materials, specifications, methods and standards of workmanship. Until you have specified in writing the location, size, shape, materials and workmanship you are envisioning for your project, you are not ready to move forward in the planning process. The "scope of work" (i.e. mutual understanding of what is being bought and sold) should be updated as necessary throughout the project.

Keep in mind that the specifications or methods that are defined in the Scope of Work can mean the difference between long term success and failure. As an example, the right paint specifications can double the life of a paint job. If the owner thinks they are buying a 10-year paint job, but the specification will not deliver, a "re-meeting of the minds" might be called for.

Owners or their representatives should not sign a one or two page "Proposal" from a contractor. The "Scope of Work" in such a document is not likely to contain information specific enough to protect the owner if the workmanship is poor. In addition, the contract language will not protect the parties as well as a more complete and professional contract.

II. Budget

Estimating and budgeting are stand-alone areas of professional practice which some construction professionals dedicate their entire careers to. A good estimate for construction is based on lots of assumptions, including the scope of work. If the scope is a moving target, so will the construction costs. Direct costs of construction are usually categorized by Labor, Materials, Equipment and Subcontractors. Most good contractors estimate what they think direct construction costs will be, and then add for overhead, profit, other project costs and contingency, to come up with a contract price.

Total construction cost is made up of so many little pieces that it can become incomprehensible without a system for management. My company has worked on projects in dispute where the records were maintained so poorly that it was impossible to determine the exact costs of construction.

The importance of managing the budget cannot be understated. Before, during and after construction, the construction manager should always know where the project stands relative to the budget. During the course of construction you should know exactly what has been paid and the approximate amount remaining to complete the project.

Keeping an Expense Register that is coded to allocate all expenses is a critical activity

so the original and updated Schedule of Values can be compared to the actual project expense. A Budget Worksheet (similar to AIA form G703) should be setup at the beginning of the project and maintained through project close.

III. Schedule

A schedule can take many forms, including Barr / Gantt charts, or CPM (Critical Path Method) Schedules, but the simplest is a list of activities and when they will be performed. A competent contractor should be willing to put a schedule in writing. The owner should add some contingency time of her own. The schedule gives everyone an idea of what will go on and when and will serve as a measuring stick to compare plan to actual progress. With this tool, everyone can identify problems early.

Scheduling is about communication. Successful project management requires communication of expectations with everyone involved: owner(s), designers, contractor(s), government agencies, subcontractors, suppliers, and more. Each activity in construction is usually pretty simple; the greatest difficulty is often in coordination of so many parties. There are often more things to do and coordinate than people can keep organized in their heads. Unfortunately, many projects never have a schedule put to paper, or even if they have one at the beginning, it is not used as a management tool throughout construction.

IV. Contract

A contract is a binding agreement. It should be used as a communication tool to make sure that all parties understand and agree exactly what is being bought and sold. Like any other powerful tool, it can be dangerous, so be careful. Don't let the excitement of a

big project, a smooth talker, or a busy schedule allow you to gloss over the details.

A prime construction contract is an agreement between the owner and a contractor. A subcontract is an agreement between a prime contractor and some other contractor who will perform all or a portion of the work covered in the prime contract. Thus, if an owner contracts directly with a “subcontractor” like a painter, this is not a subcontract; it is a prime contract. Prime and subcontractors have different rights and responsibilities. Unfortunately, some prime and sub-contractors do not operate professionally.

All contracts for construction should be in writing. We will hit only the high-points here, but at a minimum, a construction contract should contain:

- Full contact information for all parties to the agreement, including contractor license information, physical location of all parties, and a description of the property in question.
- Detailed “Scope of Work” with material, equipment and workmanship specifications. This might include plans, and written specifications describing the work in detail, a list of fixtures, etc...
- Contract Price (Schedule of Values, Allowance Schedule, etc...)
- Payment Schedule
- Construction Schedule and any consequences for failure.

Change Orders are a natural part of construction and a contingency for them should be built into the budget. Change orders become a part of the construction contract, should always be in writing, and should be negotiated and signed at the time the change occurs, not at the end of the project.

A Payment Schedule should be negotiated at the time the contract is signed. Try to never pay more than the value of the work in place. That is, if the project is 50% complete and you have paid 75% of the contract price, then you are in a dangerous position.

Contractors’ lien rights are a complicated collection of legal protections to make sure contractors get paid for improving property. Collection of lien releases verifies that contractors have been paid and protects the property from liens.

V. Coordinate

The “coordinate” phase of construction management takes our planning and puts it to work. We spend a lot of time and energy in the define, budget, schedule, and contract phases, even though we get none of the satisfaction of seeing physical work take place. Remember: When the time to perform has arrived, the time to prepare has passed. If you effectively defined, budgeted, scheduled, and contracted the project, then this phase will go as smoothly as construction ever goes (so there will still be some problems to solve). Coordination of contractors, subcontractors, materials, equipment, inspections, changes, unforeseen conditions, personalities and forces of nature are always a challenge.

In addition to the real “work” of a construction project, the coordination phase is where the miscommunication, screaming matches, fistfights, litigation and endless frustration often occur; we could also call this phase “Herding Cats”. Managing a project from beginning to end requires a combination of construction knowledge, management skills, political savvy, and patience. While construction is usually a simple assemblage of labor, material, equipment and subcontractors, there are so

many moving parts that things regularly can and do go wrong.

Management of construction requires effective communication. Let's make this as clear as possible: OVER COMMUNICATE, in writing. If you have never read *The One Minute Manager*, do so before you start your next project; it takes less than 2-hours and will save more than that in the first week. The point is: (1.) Figure out what good performance looks like, communicate and document it in writing, and get agreement that everyone shares your vision (One Minute Goals). (2.) Make sure there are rewards for good performance because we all want to feel good about doing good work (One Minute Praisings), and (3.) have the courage to administer consequences for poor performance (One Minute Reprimands).

You need to have a filing system for your project and religiously document and file the mountain of project information. There are things that should be performed regularly to keep the project progressing. Forms that might be used and/or updated include: Scope of Work, Specifications, Finish Schedule(s), Schedule of Values, Budget, Expense Register, Project Schedule, Change Orders, Purchase Orders, Contacts List, Daily Log (who did what, how long it took, noteworthy conversations, etc...), Correspondence, Safety Meeting Minutes, Accident Reports, Inspection Check-Lists, Municipal inspection information, etc.

VI. Verify

Verifying that the construction is proceeding as planned is critical. This is where we compare our progress to plan. Big problems start small. When we find variations from our plan, we use our documentation system to memorialize them. Remember that property improvement contractors have become the #1 consumer complaint in the

U.S.; if you do not want to be a sad statistic, then problems need to be nipped-in-the-bud.

The building department might want to inspect at specified points for life-safety issues. If someone says no permit is required, ask them to put it in writing, or call the municipality. Remember: The building department is not where inspection ends. We have listened to scores of owners bemoaning their fate saying, "Where were the city inspectors?", when they had buildings that leaked or were otherwise constructed poorly. The owner or representative will want to "verify" at various hold-points to ensure the quantity and quality of workmanship. There may be special assemblies like roofs, decks, windows or weather-resistive assemblies that should be tested to make sure they were constructed appropriately.

The contractor will be asking for payments based on the Payment Schedule and you will need to verify the work is complete and built to the standards established in the "define" phase of planning. In addition, the owner will want to collect lien releases for work that is completed and paid.

Conclusion

Remember: 1. Use a system to document your objectives and the process of construction, in writing. 2. Communicate with all of the players in the process. 3. Put everything in writing: People are more committed and more accountable when they have put all their promises in writing.

DBSKCV Method

Project Plan - CM

FIGURE 1

Objective

Generic Objective: We will complete and deliver the construction project as promised, with the negotiated level of quality, appropriate building performance, within budget and schedule. Based on our professionalism and effectiveness we will have EARNED enthusiastic recommendations from the client, the respect of other skilled professionals with whom we worked, and the profits we had planned for.

Method

		Description
1	D	Define
2	B	Budget
3	S	Schedule
4	K	Contract
5	C	Coordinate
6	V	Verify
7		
8		
9		
10		

Deliverables

	Description	Priority	Who	When
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Actions / Tasks / Work Breakdown Structure

	Description	Priority	Who	When	Time	\$
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
					-	\$ -

DBSKCV Method

Menu of Deliverables

FIGURE 2

Define	
Deliverables	
Project Summary (AIA G806, G808 & G809)	Workmanship / Trade Standards
Project Checklist (AIA D200)	Architect's Supplemental Instructions (AIA G710)
Plans (As-Built, New Work)	Construction Change Directive (AIA G714, G714 CMA)
Details (Plan, Section, Elevation)	RFI (Request for Information) (AIA G716)
Specifications	RFI (Request for Information) Log
Code References	RFP (Request for Proposal)
Building Standards (ASTM, AAMA, Etc.)	Submittal Transmittal
Testing Standards	Submittal Checklist/Log (Shop Drawing & Sample Record AIA G712)
Schedules: Room, Location, Area, Finishes, Equipment, Door, Window, etc.	Scope of Work (Prime & Sub)

Budget	
Deliverables	
Estimate: Feasibility	Expense Log / Check Register
Estimate: Design/Development	Payment / Application for Payment Log (CSI Form)
Estimate: Bid / Proposal	Allowance Schedule
Estimate Back-Up	Budget: Update (Weekly/Monthly)
Budget (Pre-Construction)	Change Order Summary / Log
Schedule of Values / Budget Worksheet (AIA G703)	

Schedule	
Deliverables	
Project Schedule: List	Project Schedule Actual vs. Plan
Project Schedule: Gantt / Bar	Notice to Proceed
Project Schedule: CPM	Work Breakdown Structure (WBS)

(K) Contract	
Deliverables	
Design Contract (AIA B141, B151, B155)	Indemnity Agreement
CM Contract (AIA B801 CMA)	Addenda (Other)
Consultant Agreement (AIA C141, C142, C727)	RFP (Request for Proposal)/Instructions to Bidders (AIA G709, A701)
Prime Contract (incl. Home Improvement) (AIA A101, A105, A107)	Bid Analysis
General Conditions (AIA A201, A201 CMA)	Proposal (incl. Prime K, Scope & Budget)
Contractor's Qualification Statement (AIA A305)	Subcontract (AIA A401)
Bid, Performance and Payment Bonds (AIA A310, A312)	Work Changes Proposal Request (AIA G709)
Supplemental Conditions (AIA A511)	Change Order (AIA G701, G701 CMA)
Insurance Requirements	Purchase Order

Coordinate	
Deliverables	
Project Plan	Materials List
Correspondence (Letter, Fax, Memo, E-Mail) (AIA G810)	Meeting Agenda
Communication Log	Meeting Minutes
Daily Log	Project Contacts (AIA: Subs G805, Team Directory G807)
Project File (Table of Contents)	One Minute Goals (via One Minute Manager)

Verify	
Deliverables	
Inspection Check-Lists	Safety Plan & Meeting Minutes
Inspection Documentation / Field Report (AIA G711)	Accident / Incident Reports
Municipal Inspection Documents	Timesheets
Hold Points	Punch List
Payment Schedule	Project Close Documents
Application for Payment (AIA G702/703, G702 CMA)	Certificate of Substantial Completion (AIA G704, G704 CMA)
Lien Releases (AIA G70)	Insurance & Additional Insured Endorsements
Contractor's Affidavit of Payment of Debts (AIA G706)	

DBSKCV Method

Project Plan - CM Sample

FIGURE 3

Objective

Generic Objective: We will complete and deliver the construction project as promised, with the negotiated level of quality, appropriate building performance, within budget and schedule. Based on our professionalism and effectiveness we will have EARNED enthusiastic recommendations from the client, the respect of other skilled professionals with whom we worked, and the profits we had planned for.

Method

		Description
1	D	Define The project is a 4,200 SF commercial tenant improvement.
2	B	Budget The contract price is \$168,000.
3	S	Schedule The Project Schedule allows for 4 months to complete.
4	K	Contract The contract is a standard AIA Form Fixed Price Agreement.
5	C	Coordinate The plans are now in plan check, and should be ready in 2 weeks.
6	V	Verify Hold points include paint color sign-off, and the Payment Schedule is monthly.
7		
8		
9		
10		

Deliverables

	Description	Priority	Who	When
1	Plans	A	ARCH	IP
2	Scope of Work	A	PF	Done
3	Schedule of Values	B	PF	Done
4	Finish Schedule	B	PF	Done
5	Budget Worksheet	B	KL	This Week
6	Allowance Schedule	B	KL	Next Week
7	Project Schedule	B	PF	Next Week
8	Prime Contract	Done	PF	Done
9	Subcontracts (Drywall, ELEC, PLMG, Paint, Cleiling, Flooring)	B	KL	Soon
10				

Actions / Tasks / Work Breakdown Structure

	Description	Priority	Who	When	Time	\$
1	Call city to check on plans	A		This Week	0.5	
2	Compose Scope of Work document	A	PF	Done		
3	Port Schedule of Values to Budget Worksheet	B	KL	This Week	1.0	
4	Update Finish Schedule by room	B	PF	Done		
5	Create Allowance Schedule and Forward to Owner	B	KL	Next Week	2.0	
6	Create Project Schedule and forward to owner	B	PF	Next Week	2.0	
7	Lay-Out subcontracts & generic Scope of Work	B	KL	Next Week	5.0	
8	Coordinate with subcontractors and deliver information	B	KL	Next Week	8.0	
9	Finalize subcontract for Drywall	B	KL	Soon	4.0	
10	Finalize subcontract for ELEC	B	KL	Soon	4.0	
11	Finalize subcontract for PLMG	B	KL	Soon	4.0	
12	Finalize subcontract for Paint	B	KL	Soon	4.0	
13	Finalize subcontract for Ceiling	B	KL	Soon	4.0	
14	Finalize subcontract for Flooring	B	KL	Soon	4.0	
15	Prepare for project kick-off	B	PF	Soon	4.0	
16						
17						
18						
19						
20						
					46.5	\$ -

Introduction

Poor work by property improvement contractors is often one of the number one consumer complaints in the U.S. Our company often works for insurance companies, lawyers and owners in disputes over construction projects gone badly, so this is no surprise to us. Our experience is that only a small percentage of contractors involved in property maintenance or improvement are unscrupulous; unfortunately, many are so incompetent that they might as well be stealing.

Large maintenance projects should be considered “construction projects”, and managed with professionalism and processes. Due-diligence for property managers often requires the collection of apples-to-apples bids for maintenance, repairs and improvements; overcoming the difficulty of getting comparable proposals from contractors requires tremendous effort and professionalism. This article series offers a process through the planning and purchase of construction services to help you avoid common pitfalls that can lead to project shortcomings, physical defects, delays, cost over-runs, legal disputes, and headaches.

For the sake of discussion, we are talking about projects for maintenance or repairs of \$2,000 to \$200,000. For larger projects, we recommend professional construction management help. In truth, we feel projects of \$50,000 or less can be well served with professional help on budgets, bidding, contractor selection, contract development, coordination, and inspection. However, many owners or managers refuse to incur the front-end expense, not having the experience to recognize total project savings.

Growing legal risks, administrative issues, sky-rocketing workers’ compensation costs, increasing fees and taxation, and complicated insurance issues are only a few of the reasons why the price of construction is higher today than ever before. Since the prices are so high, saving a small percentage of total project costs can be quite meaningful. In addition, managing risk and facilitating a smooth operation are reasons enough to use a system for the management of your project. Do not rely on contractors to act professionally – if they do, let it be a pleasant surprise, and when some do not, have a system in place to manage the problem.

The quality of contractors ranges from excellent to criminally incompetent, which can make the process range from complex but satisfying, to nightmarish and costly. Sadly, nice but incompetent contractors might cost the owner more than a competent criminal. Success is more likely if you use a process to guide you in dealing with problem contractors and project pitfalls. Planning is the key. The right activities at the beginning of the project will equip you to deal with the incompetent or the unscrupulous.

Our System

1. Define the Scope of Work (this includes the design phase)
2. Budget: Identify how much the project will cost the contractor and owner
3. Schedule when the construction will happen (and share this information)
4. (K) Contract: Who is doing what? Everyone should know what to expect
5. Coordinate the work
6. Verify, document and communicate that everyone is doing what they should

I. Define the Scope of Work

The “Define” phase of construction management consists of documenting the work to be performed. This can be done graphically and in writing with plans, specifications and detailed “Scope of Work” documents. Getting a clear, specific and detailed project scope is the first step in the construction project management process.

A complete, detailed Scope of Work document moves the parties toward mutual understanding of what is being bought and sold. We have worked on many projects where the owner and the contractor were in dispute, and the root cause was a lack of clarity from the beginning. A maintenance or improvement project with a good scope of work is like building on a proper foundation. A good scope of work should identify the quantities and locations (scope) of work as well as methods to be employed or standards of workmanship.

Until you have specified in writing the location, size, shape, materials, fixtures, and workmanship you are envisioning for your project, you are not ready to move forward in the planning process. We suggest creating your own Scope of Work document, and updating it as necessary throughout the process.

Keep in mind that the method used can mean the difference between long term success and failure. As an example, the right paint specifications can double the life of a paint job.

For many reasons, you should not sign a one or two page proposal from a contractor for a significant property improvement or repair. The Scope of Work will not likely be adequate to clearly define the work specifically enough to protect you if the workmanship is poor. The contract language will also not benefit or protect the owner like a contract generated specifically on your behalf. See the next two articles in this

series for a more complete discussion of the importance of good construction contracts.

II. Budget

We do not have time here to discuss the estimating and budgeting process in detail but a good estimate for construction is based on lots of assumptions, including and most importantly, the scope of work. If the scope is a moving target, so will the construction costs. Direct costs of construction are usually categorized by Labor, Materials, Equipment, and Subcontractors. Most good contractors estimate what they think construction costs will be and then add for overhead, profit, other project costs, and contingency to come up with a contract price.

Total construction cost is made up of so many little pieces that it easily becomes incomprehensible without a management system. We have worked on projects in dispute where the records were maintained so poorly that it was impossible to determine the exact costs of construction. Do not let yourself be the victim of a contractor’s lack of sophistication.

The importance of managing the budget cannot be understated. Before, during and after construction you should know where you stand relative to the budget. During the course of construction you should know exactly what you have paid and the approximate remaining amount you will pay to complete the project.

III. Schedule

A schedule can take many forms but the simplest is a list of activities and when they will be performed. For property maintenance or improvement schedules we usually use bar charts. A competent contractor should be willing to put a schedule in writing. The owner can add some contingency time of their own but the schedule can give everyone an idea of what will go on and when. The schedule will serve as

a measuring stick to compare the plan to actual progress, and with this tool everyone can identify problems early.

Scheduling is about communication. Successful project management requires communication of expectations with everyone involved: owners, designers, contractors, government agencies, subcontractors, suppliers, and more. Each activity in construction is usually pretty simple; the greatest difficulty is often in coordination of so many parties. There are frequently more things to do and coordinate than people can keep organized in their head. Unfortunately, many property maintenance or improvement projects never have a schedule put to paper.

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A contract is a binding agreement. It should be used as a communication tool to make sure that all parties understand and agree exactly what is being bought and sold. Like any other powerful tool, it can be dangerous, so be careful. Do not let the excitement of a big project, a smooth talking contractor, or a busy schedule allow you to gloss over the details.

A prime construction contract is an agreement between the owner and a contractor. A subcontract is an agreement between a prime contractor and some other contractor who will perform all or a portion of the work covered in the prime contract. Thus, if you contract directly with a subcontractor like a painter, this is not a subcontract; it is a prime contract. Prime and subcontractors have different rights and responsibilities. Unfortunately, some prime and subcontractors do not operate professionally. All contracts for construction should be in writing. We will be dedicating an entire article to the topic in this series, so we will just hit the high-points here.

At a minimum, construction contracts need:

- Full contact information for all parties to the agreement, including contractor license

information, physical location of all parties, and a description of the property in question

- Detailed Scope of Work with material, equipment and workmanship specs. This might include plans, and written description of the work in detail, a list of fixtures, etc...
- Contract price
- Payment Schedule
- Construction Schedule and any consequences for failure

Change Orders are a natural part of construction and a contingency for them should be built into the budget. Change orders become a part of the construction contract, should always be in writing, and should be negotiated and signed at the time the change occurs, not at the end of the project.

A payment schedule should be negotiated at the time the contract is signed. Try to never pay more than the value of the work in place. That is, if the project is 50% complete and you have paid 75% of the contract price, then you are in a dangerous position.

Contractors' lien rights are a complicated collection of legal protections to make sure contractors get paid for improving property. Collection of lien releases verifies that contractors have been paid and protects the property from liens.

V. Coordinate

The "Coordinate" phase of construction management takes our planning and puts it to work. We spend a lot of time and energy in the define, budget, schedule, and contract phases, even though we get none of the satisfaction of seeing physical work take place. Remember: when the time to perform has arrived, the time to prepare has passed. If you effectively defined, budgeted, scheduled, and contracted the project, then this phase will go as smoothly as construction ever goes (so there will still be some problems to solve). Coordination of

contractors, subcontractors, materials, equipment, inspections, changes, unforeseen conditions, personalities, and forces of nature is always a challenge.

In addition to the real “work” of a construction project, the coordination phase is where the miscommunications, screaming matches, fistfights, litigation, and endless frustration often occur; we could also call this phase “Herding Cats”. Stewarding a project from beginning to end requires a combination of construction knowledge, management, sophistication, and patience. While construction is usually a simple assemblage of labor, material, equipment, and subcontractors, there are so many moving parts that things regularly can and do go wrong. Management of construction requires effective communication. Let’s make this as clear as possible: **COMMUNICATE, COMMUNICATE, COMMUNICATE** (in writing!).

You need to have a filing system for your project and religiously document and file all information. Forms that might be used and/or updated include: Scope of Work, Finish Schedule(s), Budget, Project Schedule, Change Orders, Purchase Orders, Contacts List, Daily Reports/Log (who did what, how long it took, noteworthy conversations, etc...), Safety/Accident Reports, Inspection Check-Lists, and Municipal Inspection (card) information. We do not have time here to explain all of this in detail but if you search on the internet for “construction” followed by the term you do not understand, it will not take long to find an explanation and example form.

VI. Verify

Verifying that the construction is proceeding as planned is critical. This is where we compare our progress to plan. Big problems start small. When we find variations from plan, we use our documentation system to memorialize them. Remember that contractors have become the

number one consumer complaint in the U.S.; if you do not want to be a sad statistic, then problems need to be nipped-in-the-bud.

The building department might want to see the project at specified points for life-safety issues. If your contractor tells you that no permit is required, ask them to put this fact in writing or call the building department. Remember: the building department is not where inspection ends; we have listened to scores of people bemoaning their fate saying, “Where were the city inspectors?”, when they had buildings that leaked or were constructed poorly. Someone needs to verify at various hold-points to ensure the quality of workmanship. There may be critical assemblies like roofs, decks, windows, or weather-resistive assemblies that should be tested to make sure they will perform.

The contractor will be asking for payment draws based on the Payment Schedule and you will need to verify the work is complete and built to the standards from the “Define” phase. In addition, the owner will want to collect lien releases for work that is completed and paid.

Conclusion

To really prepare for a big project, be sure to read the next four articles in the series. They will go into more detail about maintaining control during this complicated process of maintaining or improving your property. Remember: 1) use a system to document your objectives and the process of construction, in writing; 2) communicate with all of the players in the process; 3) put everything in writing. People are more committed and more accountable when they have put all their promises in writing.

Good Luck!

Managing Construction Quality



OFFICES

CALIFORNIA

949-240-9971

931 Calle Negocio, Ste J
San Clemente, CA 92673

CA License #713760

OREGON

503-246-3744

9320 SW Barbur Blvd, Ste 170
Portland, OR 97219

OR License #173960

GENERAL INQUIRY

info@petefowler.com

www.petefowler.com



Pete Fowler
CONSTRUCTION
Services, Inc.

THE GOOD OLD DAYS

Successful construction projects used to go something like this: Owners would hire experienced, hardworking Architects and Engineers who developed plans and specifications that were not perfect, but good enough that experienced, hardworking General Contractors could hire experienced, hardworking Trade Contractors to do the work of making a project happen. We worked through the inherent difficulties of construction by working long hours, keeping our word and understanding that “stuff happens”. We accepted that no project was perfect, that people screw up, and knew that there was little use in crying over spilled milk. The satisfaction of a job well done carried us through the toughest days.

We didn't spend much time telling specialists, like trade contractors, how to do their job. They had skilled tradesmen, the construction was relatively simple, and most contractors did things pretty much the same. If we had a contract, it was something the “suits” put together, and copies might not be sent to the job site since they had little or no connection to the “getting the job done”.

THE NEW WORLD

Construction professionals are living in a new world:

- Consumers expect quality increases and price decreases in all products.
- The building industry is not keeping pace with the quality and price advances many industries are making.
- Consumers are more litigious than ever and there is a proliferation of attorneys.
- The building industry is not attracting the best and brightest young people.
- The built-environment has been altered in the last 20 years, including increased complexity, less fault-tolerant materials, and tighter, slower drying buildings.
- Consumers are more conscious of building-related health issues than ever.
- In some areas, a lack of skilled construction labor makes the construction professional's job even more critical.

CONSTRUCTION MANAGEMENT

Our company delivers training in construction management and we have categorized the phases of project planning and management in a framework we call

“The DBSKCV™ (pronounced “dib-skiv”) Method.”

SUMMARY OF THE DBSKCV METHOD

- Define the Scope of Work (this includes the design phase).
- Budget: Identify how much the project will cost the contractors and owner.
- Schedule when the construction will happen and share this information.
- Contract (K): Who is doing what? Everyone should know what to expect.
- Coordinate the construction.
- Verify, document and communicate that everyone is doing what they should.

For details, please read *The DBSKCV™ Construction Management Method*.

CONSTRUCTION RISK MANAGEMENT

Growing legal risks, administrative issues, sky-rocketing workers' compensation costs, increasing fees and taxation, and complicated insurance issues are only a few of the reasons why the price of construction is higher today than ever before. Managing construction risk is a full time vocation for many professionals and beyond the scope of this article (we do training on this too).

THE ABC'S OF RISK MANAGEMENT

- A = Avoid Potentially Dangerous Situations (Impossible in construction)
- B = Be Really Good At What You Do
- C = Cover Your Assets

The ABC's apply to Managing Construction Quality because (A.) we must face the fact that "risk avoidance" as a construction professional is impossible, (B.) being good at what you do means doing all you can to make sure a project succeeds, and doing a little bit of someone else's job will sometimes become necessary, and (C.) the best "coverage" is

avoiding problems by delivering work that meets expectations. Just accept buyers expect high quality *and* performance, even when they pay rock-bottom prices, and lawyers expect perfection; the former is hard, but easier than the latter.

PROJECT DEFINITION

The "Define" phase of construction management consists of documenting the work to be performed. This is usually graphic and written with plans, specs, references to codes and standards, and detailed "Scope of Work" documents. Getting a clear, specific and detailed project scope is the first step in the construction project management process and it is where a project's "quality" should be established.

SOME QUICK DEFINITIONS

- Plans and Details: Graphic representation of construction.
- Specifications: Specs are the written representation of construction, which usually includes a greater level of detail regarding construction performance, process, products, and quality.
- Construction Contract: Agreement between two or more parties for the delivery of construction; plans and specifications are used as the definition of what is being bought and sold.
- Standards: Documents, with graphic and written information, referenced by plans, specifications and construction contracts, which specify performance criteria and/or methods in greater detail than typical plans or specifications. Standards are created by standards setting bodies like ASTM, product manufactures, and industry trade groups.

- Scope of Work: The written definition of what is being bought and sold. Usually articulated in writing by making a list or description of responsibilities and specific exclusions (work that is NOT included), with references to plans, specifications (prescriptive or performance based), and industry standards. I strongly prefer when the scope can be summarized in a 5-15 point list, or conform to the fundamentals of a 2 or 3 level "Work Breakdown Structure," collectively representing 100% of the project scope.
- Hold-Point: Critical time in the construction process where construction should stop for verification of conformance with plans, specifications, standards (including performance) and contracts. Verification can include inspection, testing, recording, and reporting.

In "the good old days" we left the details of "how to" to the trade contractors. After all, they are the specialists. But for the reasons stated above, leaving the details to trade contractors to work out among themselves has left a lot of projects in a less than enviable position: lack of integration, quality problems, re-work, leaks, lack of durability and on and on.

Owners or their representatives should no longer sign a one or two page "Proposal" from a contractor which serves as the "Scope of Work." Such documents are not likely to contain information specific enough to ensure the scope is complete, to ensure that the parties are on the same page for quality or performance, and they lack adequate contractual protections.

Specification writers making obscure references to documents that are difficult to obtain is not new. But acquiring these

documents is much easier due to the internet. It is now possible to "define" (design) our projects using readily accessible documents that we can use during the building process to make sure the on-site work is being installed and integrated correctly. This information needs to be integrated throughout the plans, specifications, standards and contracts. In practice, these documents should be created or referenced in the *Define* phase, referenced in the *Contract* phase, and used to compare the actual work in the field to the plan during *Coordination* and *Verification*.

MANAGING CONSTRUCTION QUALITY

There is no way to 100% guarantee project success and performance; the closest I have found is the use of a proven system.

Think of it this way: *Construction plans and specifications are a hypothesis, and a hypothesis should always be verified.* The hypothesis is that the designers and specialty consultants have composed a set of documents that are appropriate to build a project that will meet the *performance expectations* of the owners and applicable codes. The contractors on the project then work under the hypothesis that the design is functional, and that the work they do will also meet *performance expectations*.

Question: How do we verify our construction projects are going to perform?

Answer: (1.) During the define phase, we make sure our design hypothesis is reasonable by having someone with experience in building performance issues review, comment and recommend improvements; (2.) We make sure the plans, specifications, standards, and contracts are consistent in describing to the contractors who will install the specified material "what good performance looks like"; (3.) We establish a procedure to "verify" at

specified *Hold-Points* during construction; (4.) During construction we inspect to verify conformance with the design (plans, specs, standards, and contracts). (5.) After the initial assemblies are installed, test them to verify performance, or build a mock-up and test it before construction (whichever is more cost effective).

Remember: We must be willing to administer consequences to project team members who don't do what they promise. You will get resistance. If a contractor has signed a contract to perform consistent with a specified standard, it will sometimes take a strong will to make some of them perform.

ATTACHMENT: The attached *Independent Quality Review* spreadsheet is a matrix of optional activities one might perform or purchase from a consultant. The minimum activities required, for a third party to be of assistance in ensuring project quality, are identified; higher levels of service are like buying more insurance. Remember, this does not include *doing* the actual design. At a minimum, this is making sure the project definition is close to complete, and helping assure that proper installation and integration of the assemblies will lead to appropriate performance. Further work can ensure a connection between the plans, specifications, standards and contract scope of work documents.

QUALITY MANAGEMENT PLAN

Here is the system, organized in the context of The DBSKCV Method. Remember, the DBSKCV Method is iterative, meaning we walk through all steps many times throughout the life of a project. We should go through the "D-B Loop" (e.g Define-Budget-Repeat) many times before moving forward.

DEFINE

- Architectural, Structural, and Specialty Design
- Specification Writing
- Referenced Standards

QUALITY PLANNING

- Evaluation of plans and specs
- Evaluation of referenced standards, and contract / scope of work language review (Optional)
- Hold Point Development and performance verification planning (Optional)
- Mock-Up of assemblies and testing (Optional)
- Recommendations (final) from Quality Review Consultant
- Meetings or teleconferences between Quality Review Consultant and Owner, Designers and/or Contractors (Optional).
- Review of updated design, specification, referenced standards and contracts made in response to Recommendations from Independent Quality Review Consultant (Optional).

BUDGET

Update as necessary throughout the process. Make active decisions about "how much insurance to buy".

SCHEDULE

- Establish Hold Points
- Be prepared to stop the project if acceptable performance cannot be achieved

CONTRACT

Connect the Plans, Specifications, and Standards, Quality Management Plan, including Hold Points, to the Contract and Scope of Work documents so that Quality does not “cost extra” (in change orders) during construction.

COORDINATE

- Make sure prime and trade contractors know the standards they will be held to during the Verify phase.
- Coordinate actions at Hold Points in the construction schedule to verify quality of installations.

VERIFY

- Visual Inspection at Hold Points to verify conformance with project definition (plans, specs, standards and contract scope of work documents) and to evaluate any on-site changes (Optional)
- Testing to verify performance (Optional)
- Final Report that might include: Quality control process, design summary, evaluation process, inspection summary, testing summary and on-going maintenance recommendations (Optional)

PROJECT NAME

Independent Quality Review

Line	Description of Potential Services	Service and Document Review Levels																		Typical Durations	
		1A	1B	1C	2A	2B	2C	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	6C	Low	High
1	Evaluation of plans and specifications	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	8	40
2	Evaluation of referenced standards		x	x		x	x		x	x		x	x		x	x		x	x	4	40
3	Evaluation of contracts (scope of work)			x			x			x			x			x			x	4	40
4	Hold Point Development							x	x	x	x	x	x	x	x	x	x	x	x	4	40
5	Mock-Up of Assemblies and Testing										?	?	?	?	?	?	x	x	x	16	80
6	Recommendations (final)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	8	80
7	Meetings or Teleconferences	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	40
8	Review of Updated Design	?	?	?	?	?	?	?	?	?	?	?	?	x	x	x	x	x	x	4	40
9	Visual Inspection				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	4	160
10	Testing							x	x	x	x	x	x	x	x	x	x	x	x	8	80
11	Final Report										x	x	x	x	x	x	x	x	x	8	40
12																					
13	Potential Deliverables																				
14	Opinion Letter re: Evaluation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	16
15	Issues List with Recommendations	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	16
16	Inspection Summary				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	8
17	Inspection Report										x	x	x	x	x	x	x	x	x	4	16
18	Location Matrix				?	?	?	?	?	?	?	?	?	x	x	x	x	x	x	1	16
19	Hold Points				?	?	?	x	x	x	x	x	x	x	x	x	x	x	x	1	16
20	Testing Protocol							x	x	x	x	x	x	x	x	x	x	x	x	2	16
21	Testing Summary Report							x	x	x	x	x	x	x	x	x	x	x	x	4	16
22	Project Close Report							?	?	?	?	?	?	x	x	x	x	x	x	4	16

Explanation of Service Levels

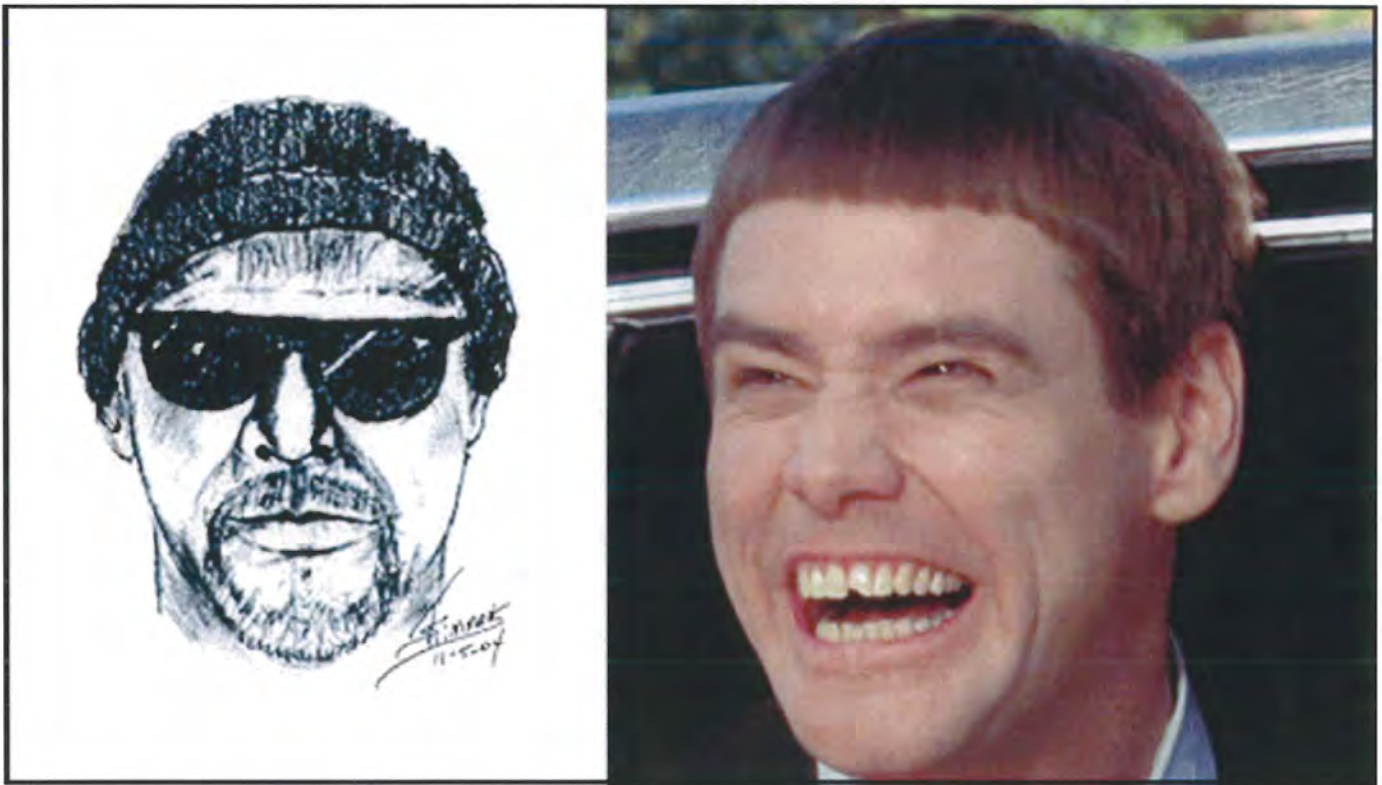
- L1: No Inspection
- L2: Limited Visual Inspection
- L3: Limited Visual, Limited Testing
- L4: Periodic Inspection, Limited Testing
- L5: Extensive Inspection, Limited Testing
- L6: Extensive Inspection, Extensive Testing

Document Review Levels

- A: Plans and Specs only
- B: Plans, Specs, and Standards
- C: Plans, Specs, and Standards and Contracts

Who Would You Prefer As Your Contractor?

Pete Fowler · March 2, 2016



You Might Be Surprised By My Choice

I have said this hundreds of times, and I have even testified to it once or twice: I would prefer a competent criminal contractor over an incompetent contractor. Time and again I have seen incompetent contractors cost Owners more than a criminal would ever dare to steal.

I am working on a project now where the Owner signed a contract with a general contractor for \$850,000 to construct a new home. He chose this contractor because the competing bid was \$20,000 higher. Through negligence in the contracting process, negligence in the building process,

and negligence in the billing and change management process, the project cost the Owner more than \$1.2 million. The project changed VERY little from the time the design was completed by the architect to the time the project was completed. And yet the cost increased more than \$350,000.

So if the Owners would have chosen the other contractor for \$20,000 more, they would have been FAR better off, even if he was a criminal who stole \$100,000 from them at the end of the project. Think of that. I'm not kidding.



Pete Fowler
CONSTRUCTION
Services, Inc.

Avoid Bad Contractors: Basic Due Diligence in Hiring

Pete Fowler • June 29, 2016



We recently published a post called [Who Would You Prefer As Your Contractor?](http://www.petefowler.com/blog/2016/2/9/who-would-you-prefer-as-your-contractor) (<http://www.petefowler.com/blog/2016/2/9/who-would-you-prefer-as-your-contractor>) So here is our method to find professional (not criminal or incompetent) Contractors or consultants. The process works for any type of hiring BTW, including doctors, lawyers, accountants... Seriously, anything. In list form, it seems like more work than it is. Jump to the bottom for an abbreviated procedure for small jobs.

Hiring Procedure

1. Outline the Scope of Work in a Sensible List (<http://pfcs.co/8bsh>). (<http://pfcs.co/8bsh>)
2. Define the Scope of Work clearly enough so the contractor knows exactly what to do and where, including material specifications and so that a third-party inspector can verify conformance with the specification.
3. Layout a Budget and Bid Form using the Sensible List (<http://pfcs.co/8bsh>).
4. Layout a Progress Schedule form using the Sensible List (<http://pfcs.co/8bsh>).
5. Use a blank contract form in coordination with the Owner's lawyer.
6. Write a "One Minute Summary" (less than 250 words) of the project and what you're looking for.
7. Package all of the above in an RFP (Request for Proposal), including an invitation to bid document that includes the One Minute Summary, minimum contractor requirements and qualifications, your selection process, some project images to give an idea of where and what the project is, etc.
8. Identify and pre-qualify interested contractors, and send them the RFP Package. If you don't know any contractors, then first apply [Proving the Obvious Using Google](http://www.petefowler.com/blog/2016/2/22/proving-the-obvious-using-google) (<http://www.petefowler.com/blog/2016/2/22/proving-the-obvious-using-google>) to find some, then:
 1. Call anyone remotely connected to the contracting specialty we're looking for. Get them on the phone and:
 2. Read the One Minute Summary and ask if they offer the kind of help we're looking for. If yes:
 3. Interview them and take really good notes. Ask all the who, what, when, where, why, how, how many, and how much (8 W's) questions. If no:
 4. Ask them if they know who can help, and try to get more than one referral, if possible. Ask "Who is the best person in this field?"
 5. Repeat this from item 8.1-8.4 until you have spoken to AT LEAST 3 qualified, interested vendors. More than 3 is WAY better; up to as many as 10 because people often fail to deliver the bids they promise

deliver the bids they promise.

6. Each vendor we speak with we learn something important, so after the last one we sometimes need to re-interview the earlier people before making a decision.
7. If you are new to an area, this could take 2-4 hours but you will begin to hear the same names over and over. This is when you know you've made enough calls. It's best to keep track of how many people referred you to each of the prospective contractors.
9. Job walk the contractors.
10. Accept bids only on the Bid Form and with a Progress Schedule filled in by the contractor and a list of 3 current and applicable references with contact information.
11. Evaluate proposals, contractors, bids and schedules.
12. Call references and verify contractor's license and insurance.
13. Make a hiring decision.
14. Execute the agreement.
15. Collect all insurance documents.
16. Set a date for the Project Kickoff Meeting.
17. Keep planning for project success.

Abbreviated Process to Quickly Hire a Specialty Contractor for A Small Job

1. Write a "One Minute Summary" (less than 250 words) of the situation and what we're looking for.
2. Call anyone remotely connected to the specialty we're looking for. Get them on the phone and:
3. Read the One Minute Summary and ask if they offer the kind of help we're looking for. If yes:
4. Interview them and take really good notes. Ask all the who, what, when, where, why, how, how many, and how much (8 W's) questions. If no:
5. Ask them if they know who can help, and try to get more than one referral, if possible. Ask "Who is the best person in this field?"
6. Repeat this from item 2. until we have spoken to AT LEAST 3 qualified, interested people / vendors. Each one we speak with we learn something important, so after the last one we sometimes need to re-interview the earlier people before making a decision.
7. Verify contractor's license and insurance.
8. Review notes and make a hiring decision.
9. Update the One Minute Summary and use it as part of the written "Agreement" (contract) with our chosen professional. Make sure the Objective is stated really clearly. For construction, you also need a detailed, written Scope of Work (too much detail for this post).
10. Refer back to the written Agreement throughout the engagement, especially when payments are being made. to make sure the objective is being met.

Resources

1. Click here for a PDF version of this post. (/s/2A-2016-06-30-Avoid_Bad_Contractors-3.pdf)



Residence



, Los Angeles, CA 90045



OFFICES

CALIFORNIA

949-240-9971

CA License #713760

OREGON

503-660-8670

OR License #173960

MAILING ADDRESS

931 Calle Negocio, Ste J
San Clemente, CA 92673

GENERAL INQUIRY

info@petefowler.com
www.petefowler.com



Pete Fowler
CONSTRUCTION
Services, Inc.

Project #16-187

Date: 06/24/2016
To: FILE
From: Pete Fowler Construction Services, Inc.
Project: [REDACTED] Residence (PFCS 16-187)
Regarding: Request for Proposal

Dear Contractor:

We need help with the remodel of a single family home in Los Angeles. We are looking for a contractor to evaluate the existing conditions and make written repair recommendations.

GENERAL PROJECT INFORMATION

- The home is a single-level, single family residence is located at [REDACTED], Los Angeles, California [REDACTED], is 2,261 square feet with three bedrooms and two bathrooms.
- Our firm (PFCS) is working as the Owner's Representative / Consultant for the Owner (he is a client of ours in the course of his business). We are coordinating the evaluation of the physical performance, specification for maintenance or repairs, and management of the work related to this scope of work. We call this project the [REDACTED] Residence. The Owner will be your client and pay your bill. See the attached Project Images.

WORK TO BE PERFORMED

- Install 17 new windows (preferably Milgard Tuscan or Milgard Ultra). One window surrounded by brick will need to be retrofit.
- Remove existing siding with new siding and paint the remainder of the house and garage.
- Remove wooden patio pergola and install waterproof vinyl patio cover.
- Replace the front double doors.
- Remove portion of interior brick wall and install mantel over remaining bricks.
- Install new attic insulation.
- Coordination with a consultant for the Owner will be necessary.

SELECTION PROCESS

- The Owner and/or its representative will select a contractor to perform the work. A contractor will be selected on the basis of the following:
- References for similar projects
- The completeness of the contractor's written proposal.
- The contractor's demonstrated ability to complete the work within the budget and with as few extras/change orders as possible.

- The contractor's demonstrated ability to adhere to an agreed upon construction schedule.
- The total cost of the project.

MINIMUM QUALIFICATIONS

Contractor must demonstrate the following qualifications:

- Appropriate contractor's license in good standing. The contractors' bonds must be in good standing.
- Workers Compensation Insurance: Current active worker's compensation insurance. The Contractor selected for this project should be prepared to provide the homeowner with a Certificate of Insurance confirming coverage prior to commencement of any work.
- General Liability Insurance: A policy of liability insurance issued by a carrier authorized to write primary lines of insurance in the State of California with minimum coverage of \$1,000,000 per occurrence for General Contractors and minimum coverage of \$1,000,000 per occurrence for Specialty Contractors. The insurance must provide completed operations coverage, and must include the Owner and their Consultant as additional insured. The Contractor will be required to provide the Owner and their Consultant with Certificates of Insurance prior to the commencement of any work.

If you have any questions, please call Sheila Comparan at 949.240.9971.

ATTACHMENTS

- Project Images
- Scope of Work
- Window List
- Budget (Bid) form
- Progress Schedule form
- Blank Contract





Pete Fowler
CONSTRUCTION
Services, Inc.

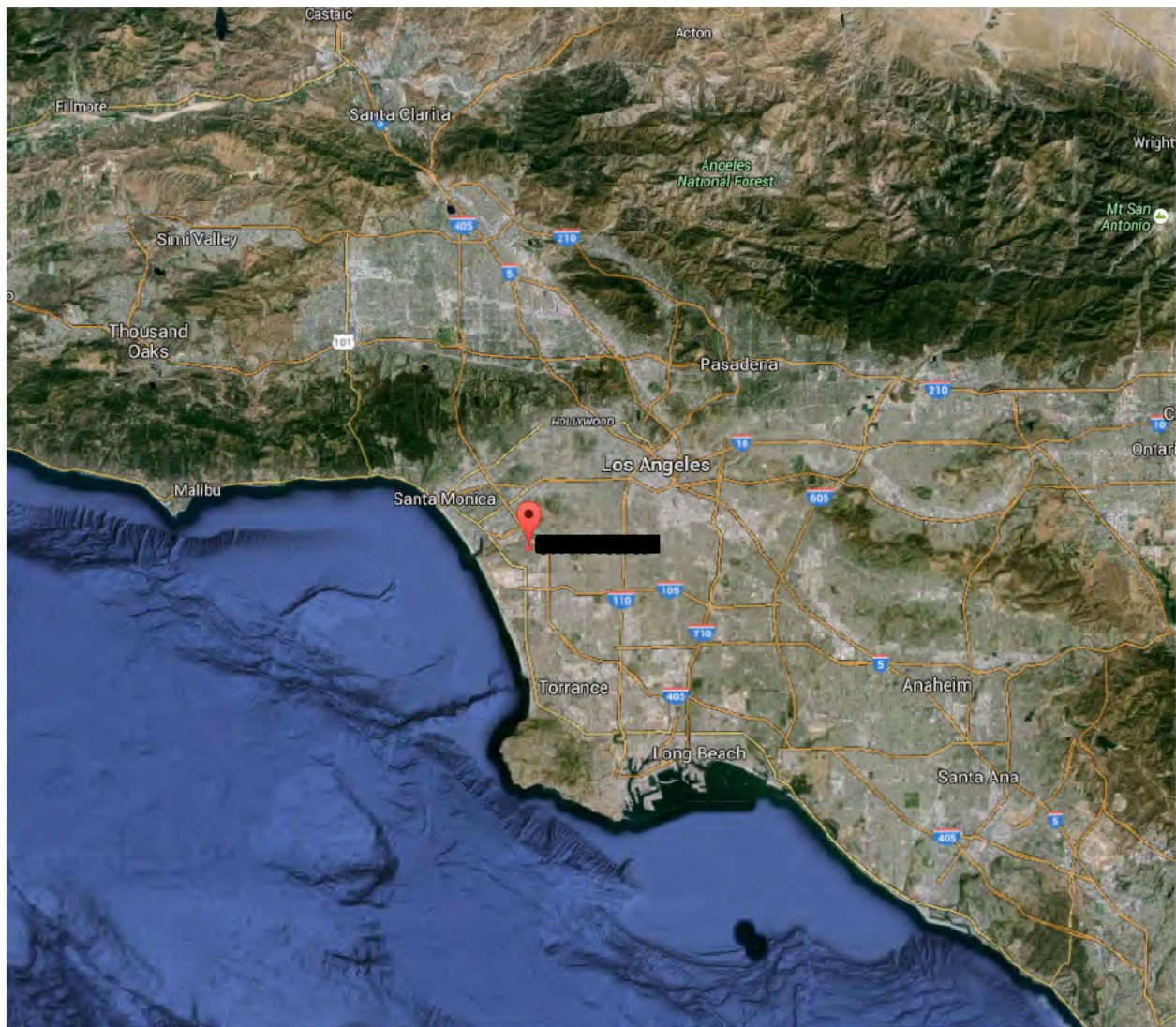
Project Images

Date: 06/20/2016
To: FILE
From: Pete Fowler Construction Services, Inc.
Project: [REDACTED] Residence (PFCS 16-187)
Regarding: Project Images

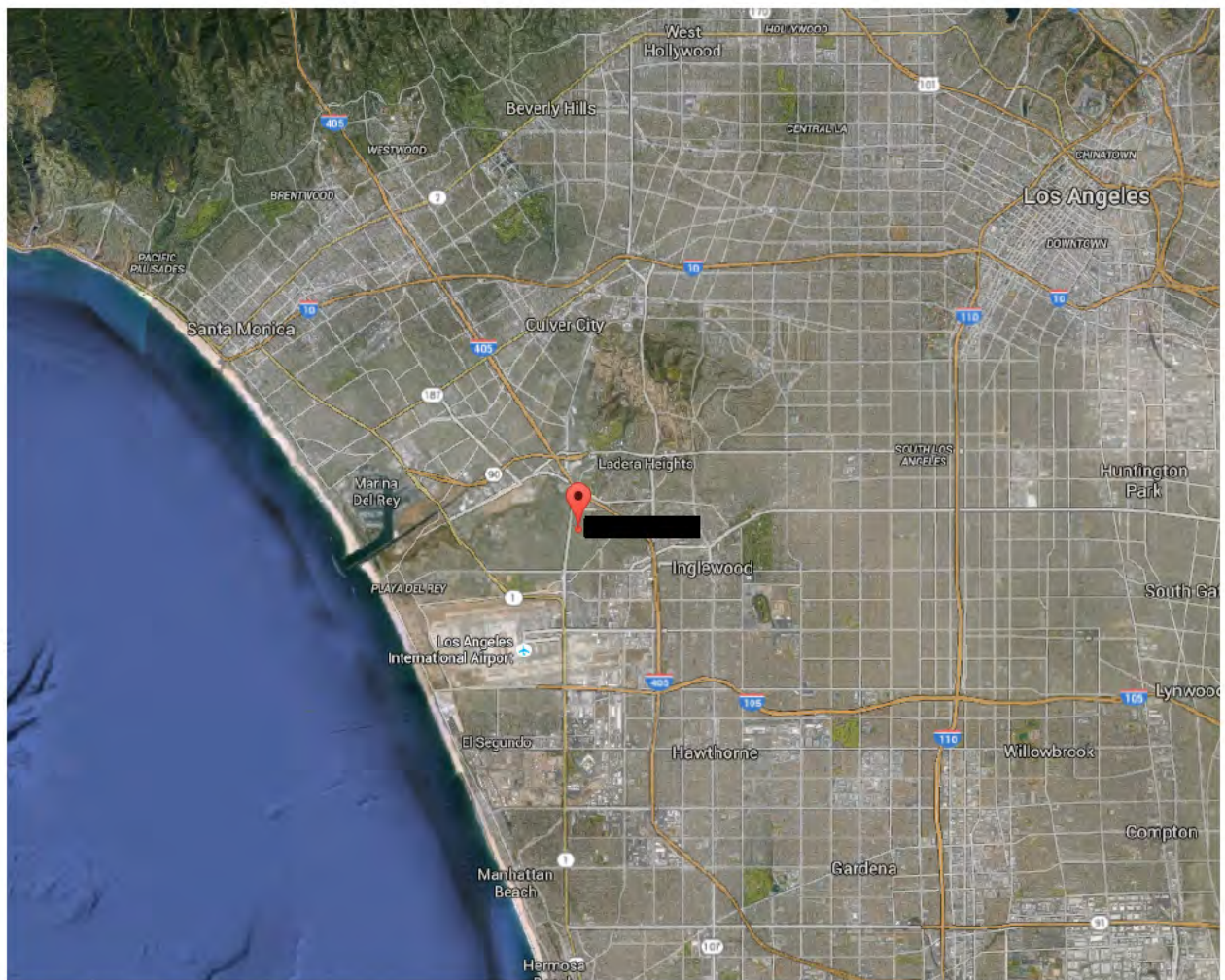


Elevation - Zillow photograph.

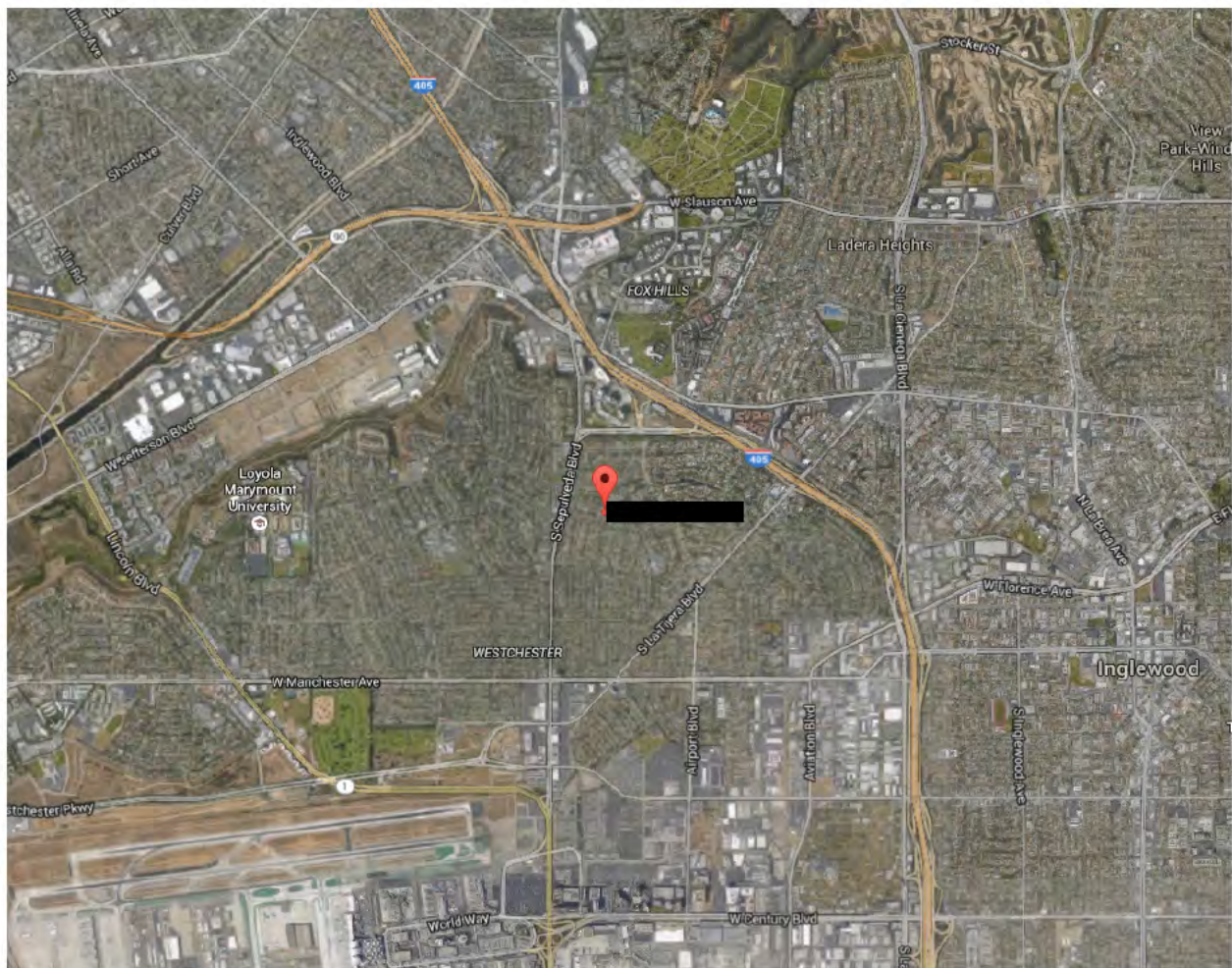




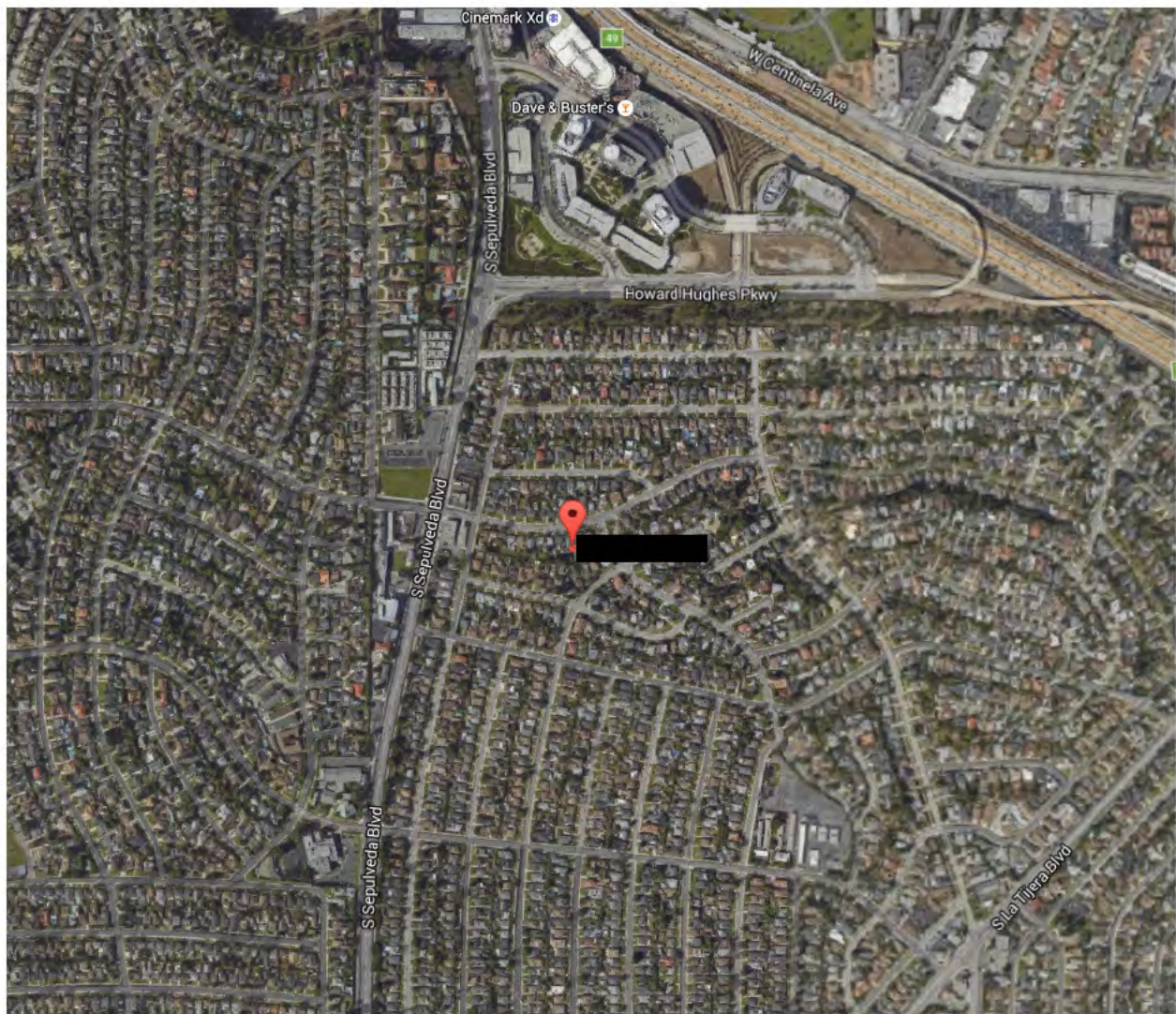
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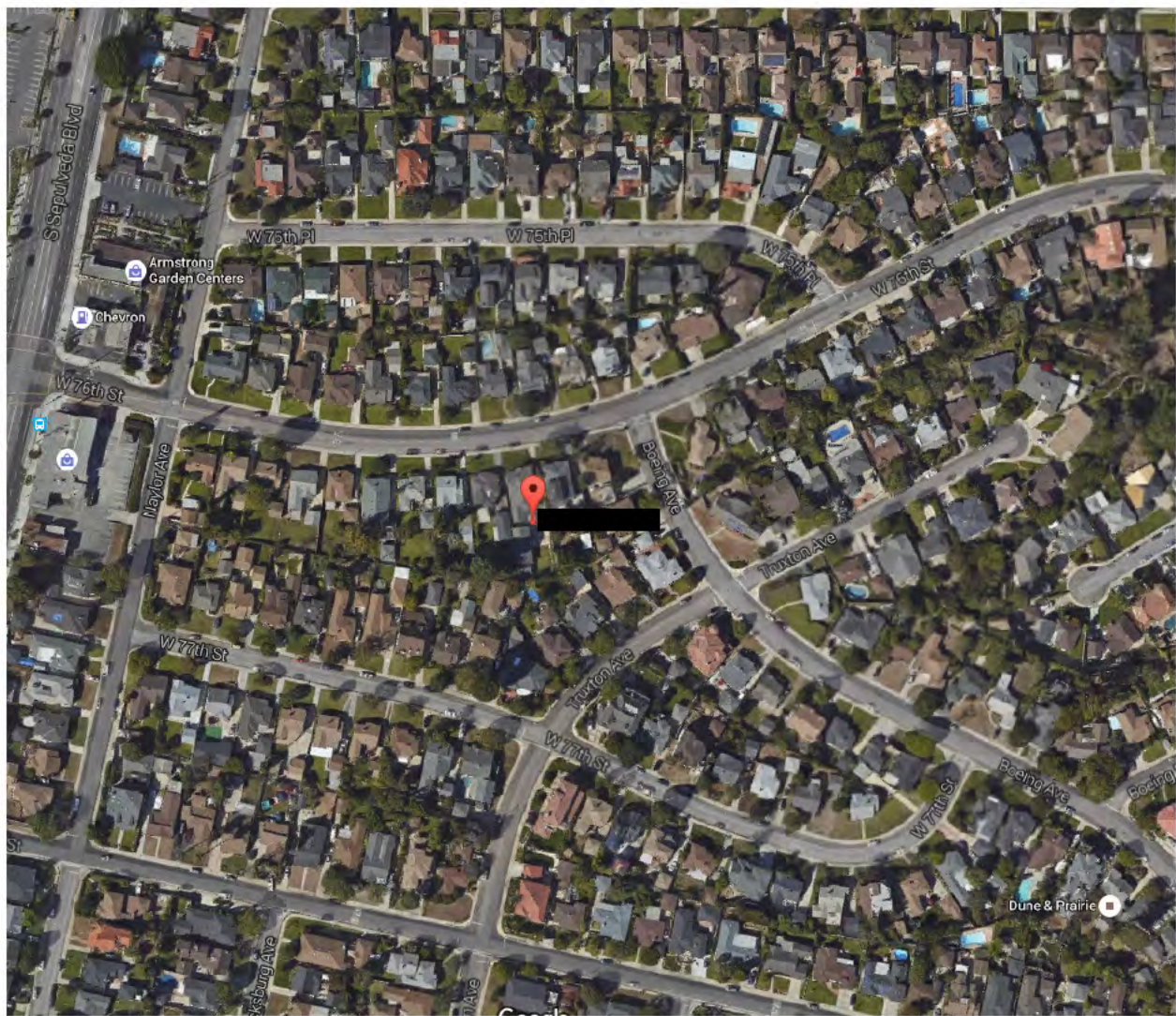
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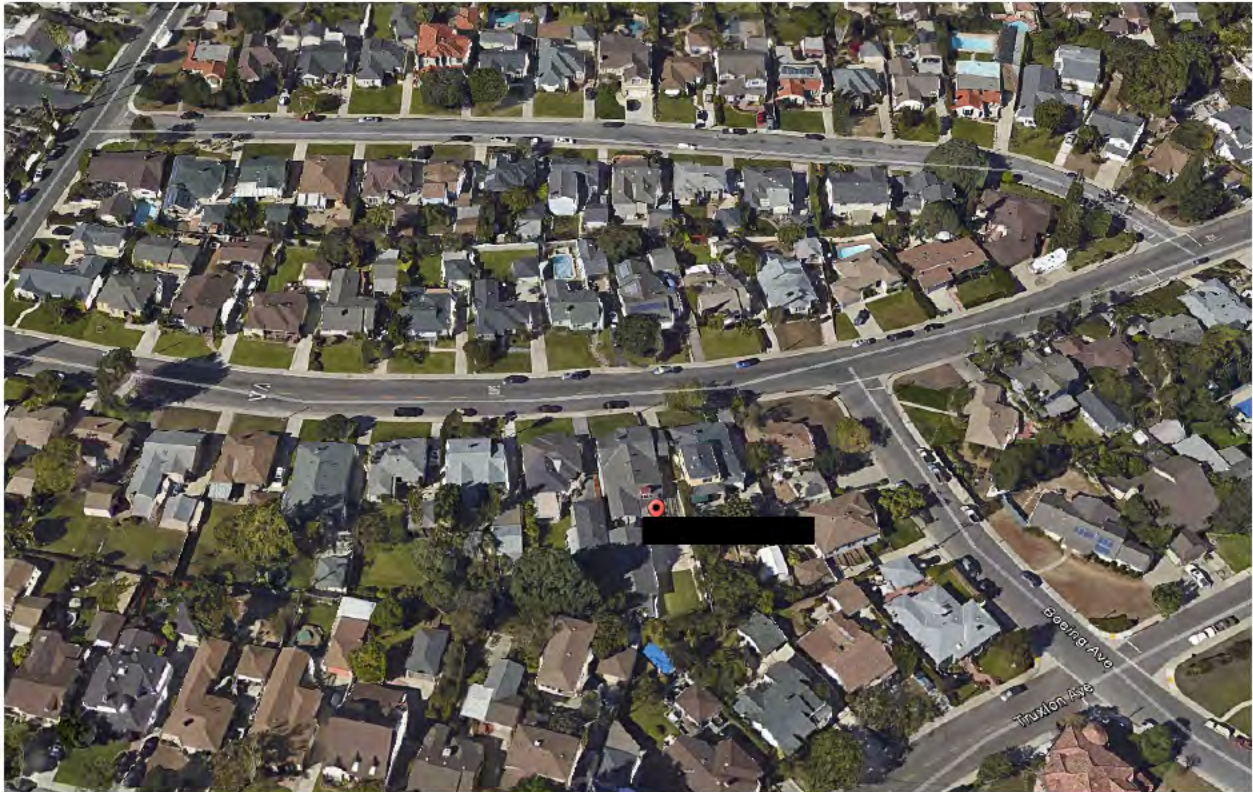
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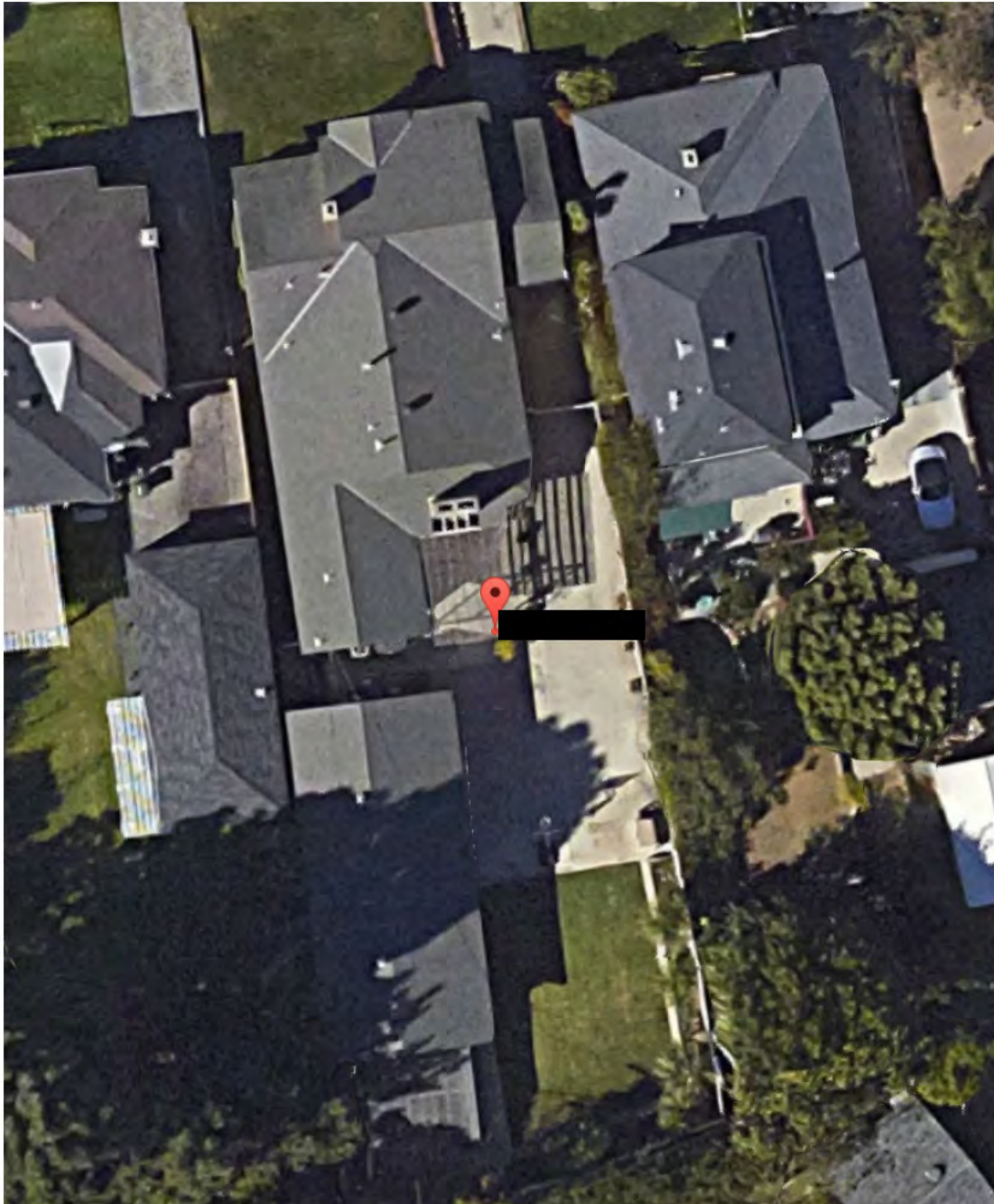
Vicinity - 2016-06-20_081921.jpg



Vicinity - 2016-06-20_081623.jpg



Vicinity - 2016-06-20_081737.jpg



Roof - 2016-06-20_081846.jpg



Elevation - 2016-06-20_081109.jpg





Elevation - Zillow photograph of back elevation.





Zillow photograph of back elevation.



Interior - Photo of interior brick wall from Owner.

Date: 06/24/2016
To: FILE
From: Pete Fowler Construction Services, Inc.
Project: [REDACTED] Residence (PFCS 16-187)
Regarding: Specifications
Note: For mediation purposes only. Protected under all applicable evidence codes.

General Project Description

The home is a single-level, single family residence is located at [REDACTED], Los Angeles, California [REDACTED], is 2,261 square feet with three bedrooms and two bathrooms. Original construction of this residence was 1947.

Scope of Work Summary

Homeowner is looking for construction management assistance with the replacement of 17 windows, one of which will need to be retrofitted. removing the old siding and replace with new siding, painting the entire residence and garage, replacing the front double doors and removing the wooden patio pergola and installing a new vinyl patio cover. The interior work will include new R38 attic insulation (cap 38 can lights) and cutting down a portion of a brick wall and install a mantle over the remaining bricks.

The purpose of this document is to establish specifications for the repair, so the work can be bid, contracted and managed.

The contractor is encouraged to get familiar with the site prior to submitting a bid. A description of logistics of repairs shall be included with the proposal. Access to the site is required and can be coordinated through the Owner's Representative.

Scope of Work – Specifications Sections

B - Superstructure

- 1. B2013 Siding & Trim (incl. demolition and removal of existing)
- 2. B2020 Windows (incl. demolition and removal of existing)
- 3. B2030 Exterior Doors (incl. demolition and removal of existing)
- 4. B2060 Exterior Coatings (Paint)
- 5. B3003 Roof / Attic Insulation

C - Interiors

- 6. C1010 Interior Walls (including necessary demolition)
- 7. C1035 Finish Carpentry & Architectural Woodwork
- 8. C3010 Gypsum Wallboard & Interior Plaster
- 9. C3011 Interior Paint

G - Building Sitework

- 10. G2041 Patio Cover (incl. demolition and removal of existing)



B. Superstructure - B2013 Siding & Trim (incl. demolition and removal of existing)

GENERAL

Remove the old siding replace with new siding. Coordinate this with painting.

MATERIALS

Materials shall be MANUFACTURER PRODUCT.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



B. Superstructure - B2020 Windows (incl. demolition and removal of existing)

GENERAL

Remove and replace all 17 windows. All but one will be a traditional new construction style installation. One in brick masonry will be a retrofit.

MATERIALS

Milgard Tuscany or Milgard Ultra.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



B. Superstructure - B2030 Exterior Doors (incl. demolition and removal of existing)

GENERAL

Replace front double doors.

MATERIALS

Materials shall be MANUFACTURER PRODUCT.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.





Elevation - Zillow photograph.



B. Superstructure - B2060 Exterior Coatings (Paint)

GENERAL

Painting the entire house and garage.

MATERIALS

Coordinate colors with Owner / Representative. Manufacturer shall be a major manufacturer with local technical representatives and specifications for surface preparation and application. Materials shall be approved by the technical representative for appropriateness of use on this project. Primer and top coats shall be products matched by the manufacturer and technical representative.

EXECUTION

Prepare surfaces and install / apply in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



B. Superstructure - B3003 Roof / Attic Insulation (incl. protection of can lights)

GENERAL

Add new R38 attic insulation and protect / cap 38 can lights as necessary.

MATERIALS

Materials shall be MANUFACTURER PRODUCT.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



C. Interiors - C1010 Interior Walls (including necessary demolition)

GENERAL

Remove portion of an interior brick wall (See picture) It is currently 10'10" (height) by 8'2". Leave approximately 3'3" by 4'9" and install a mantel over the remaining bricks.

MATERIALS

Materials shall be MANUFACTURER PRODUCT.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit installation details / sketches / diagrams / shop drawings (they need not be fancy) to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



C. Interiors - C1035 Finish Carpentry & Architectural Woodwork

GENERAL

Interior brick wall is currently 10'10" (height) by 8'2". Remove a section and leave approximately 3'3" by 4'9" and install a mantel over the remaining bricks.

MATERIALS

Materials shall be MANUFACTURER PRODUCT.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



C. Interiors - C3010 Gypsum Wallboard & Interior Plaster

GENERAL

Remove a portion of an interior brick wall (See picture) It is currently 10'10" (height) by 8'2". Leave approximately 3'3" by 4'9" and install a mantel over the remaining bricks.

MATERIALS

Materials shall be MANUFACTURER PRODUCT.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.





Interior - Photo of interior brick wall from Owner.

C. Interiors - C3011 Interior Paint

GENERAL

Paint new wall where brick has been removed.

MATERIALS

It is preferable to use the same paint manufacturer as the exterior paint.

EXECUTION

Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



G. Building Sitework - G2041 Patio Cover (incl. demolition and removal of existing)

GENERAL

Remove existing wood patio pergola and install new vinyl patio cover.

MATERIALS

Materials shall be MANUFACTURER PRODUCT.

EXECUTION

Dispose of all removed materials. Install in strict conformance with manufacturer's installation instructions.

QUALITY ASSURANCE

Prior to beginning construction, submit manufacturer's installation instruction to the Owner's representative for approval. Coordinate with Owner's Representative to establish hold-point inspection schedule prior to beginning construction.



	Quantity	Width/Height	Frame	Glass	Tempered	Vent	Grid	Notes
1	2	17 x 73	Nail	3	Yes	DBH	Yes (Minimal)	These windows are in an area where siding is to be replaced. Also will be needs to be reframed with a 2-3 inch header added, window size may be slightly smaller due to reframing
2	1	94 x 73	Nail	3	Yes	DBH (1/4)-O (1/2)- DBH (1/4)	Yes (Minimal) but not on middle O window	This window is in an area where siding is to be replaced. Also will be needs to be reframed with a 2-3 inch header added, window size may be slightly smaller due to reframing
3	1	32 x 47	Retrofit	3	No	DBH	Yes (Minimal)	This window is an area where it is surrounded by brick.
4	1	38 x 33	Nail	3	No	XO	No	This window is in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
5	1	38 x 33	Nail	3	No	XO	No	This window is in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
6	1	17 1/2 x 61 1/2	Nail	3	No	DBH	No	This window is in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
7	2	17 x 34	Nail	3	No	DBH	No	These windows are in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
8	1	57 x 34	Nail	3	No	XO	No	This window is in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
9	1	22 x 34	Nail	Obscure	Yes	DBH	No	This window is in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
10	2	48 x 42	Nail	3	No	XO,OX	No	These windows are in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others. One large window being broken down to two smaller with new area of Stucco and Framing in between
11	1	71 x 42	Nail	3	No	XOX (1/3-1/3-1/3)	No	and replaced. Painting by others. Reframing and stucco cut down to comply with fire code.
12	1	46 x 15	Nail	Obscure	No	Awning	No	This window is in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
13	1	70 1/2 x 21	Nail	3	No	XOX (1/4-1/2-1/4)	Yes (Minimal)	This window is in an area where there is stucco, the stucco needs to be broken out and replaced. Painting by others.
14	1	56 x 34	Nail	3	No	OX	Yes (Minimal)	This window is in an area where siding is to be replaced.

[REDACTED] Residence
 Schedule of Values

	Item #	Description	Scheduled Value	Work Completed		Presently Stored (Not in D or E)	Total Completed & Stored To Date (D+E+F)	%(G/C)	Balance To Finish (C-G)	Retainage (If Variable Rate)
				From Previous Application (D+E)	This Period					
4	B	Superstructure								
5	1. B2013	Siding & Trim (incl. demolition and removal of existing)								
6	2. B2020	Windows (incl. demolition and removal of existing)								
7	3. B2030	Exterior Doors (incl. demolition and removal of existing)								
8	4. B2060	Exterior Coatings (Paint)								
9	5. B3003	Roof / Attic Insulation (incl. protection of can lights)								
10	C	Interiors								
11	6. C1010	Interior Walls (including necessary demolition)								
12	7. C1035	Finish Carpentry & Architectural Woodwork								
13	8. C3010	Gypsum Wallboard & Interior Plaster								
14	9. C3011	Interior Paint								
15	G	Building Sitework								
16	10. G2041	Patio Cover (incl. demolition and removal of existing)								
17										
18										
19										

[REDACTED] Residence

Progress Schedule

#	Code	Description	When										
1	B	Superstructure											
2	1. B2013	Siding & Trim (incl. demolition and removal of existing)											
3	2. B2020	Windows (incl. demolition and removal of existing)											
4	3. B2030	Exterior Doors (incl. demolition and removal of existing)											
5	4. B2060	Exterior Coatings (Paint)											
6	5. B3003	Roof / Attic Insulation (incl. protection of can lights)											
7	C	Interiors											
8	6. C1010	Interior Walls (including necessary demolition)											
9	7. C1035	Finish Carpentry & Architectural Woodwork											
10	8. C3010	Gypsum Wallboard & Interior Plaster											
11	9. C3011	Interior Paint											
12	G	Building Sitework											
13	10. G2041	Patio Cover (incl. demolition and removal of existing)											
14													
15													



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ConsensusDocs® 205 **STANDARD SHORT FORM AGREEMENT BETWEEN OWNER AND CONSTRUCTOR** **(Lump Sum Price)**

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ConsensusDocs® 205

STANDARD SHORT FORM AGREEMENT BETWEEN OWNER AND
CONSTRUCTOR
(Lump Sum Price)



Job Number: []

Account Code: []

This Agreement is made this [] day of [], [], by and between

OWNER, []

and

CONSTRUCTOR, []

Tax identification number (TIN) [] Contractor License No., if applicable []

The Owner and Constructor are collectively the "Parties." Notice to the Parties shall be given at the above addresses.

PROJECT: []

DESIGN PROFESSIONAL: []

1. THE WORK The Constructor shall furnish construction administration and management services and use the Constructor's diligent efforts to perform the Work in an expeditious manner consistent with the Contract Documents. The Constructor shall provide all labor, materials, equipment and services



necessary to complete the Work, as described in Exhibit A "The Work", all of which shall be provided in full accord with and reasonably inferable from the Contract Documents.

2. PRICE As full compensation for performance by the Constructor of the Work, the Owner shall pay the Constructor the lump sum price of [_____] dollars [(\$[_____])]. The lump sum price is hereinafter referred to as the Contract Price, which shall be subject to increase or decrease as provided in this Agreement.

3. EXHIBITS The following attached exhibits are made part of this Agreement:

- A. EXHIBIT A: The Work, [_____] pages.
- B. EXHIBIT B: Contract Documents.
- C. EXHIBIT C: Progress Schedule, [_____] pages.
- D. EXHIBIT D: Alternates and Unit Prices, [_____] pages.

4. ETHICS The Parties shall perform their obligations with integrity, ensuring at a minimum that each: (a) avoids conflicts of interest and promptly discloses any to the other Party; and (b) warrants that it has not and shall not pay nor receive any contingent fees or gratuities to or from the other Party, including its agents, officers, and employees, subcontractors, or others for whom they may be liable, to secure preferential treatment.

5. CONSTRUCTOR'S RESPONSIBILITIES The Constructor shall be responsible for supervision and coordination of the Work, including the construction means, methods, techniques, sequences, and procedures utilized, unless the Contract Documents give other specific instructions.

5.1. Except for permits and fees that are the responsibility of the Owner pursuant to this Agreement, the Constructor shall obtain and pay for all necessary permits, licenses, and renewals pertaining to the Work.

5.2. The Constructor shall pay all applicable taxes legally enacted when bids are received or negotiations concluded for the Work provided by the Constructor.

5.3. In the event that the Owner elects to perform work at the Worksite directly or by others retained by the Owner, the Constructor and Owner shall coordinate the activities of all forces at the Worksite and shall agree upon fair and reasonable schedules and operational procedures for Worksite activities. The Owner shall require each separate contractor to cooperate with the Constructor and assist with the coordination of activities and the review of construction schedules and operations. The Contract Price and Contract Time shall be equitably adjusted, as mutually agreed by the Parties, for changes made necessary by the coordination of construction activities, and the construction schedule shall be revised accordingly.

5.4. In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Contract Documents, prior to commencing the Work, the Constructor shall examine and compare the drawings and specifications with information furnished by the Owner pursuant to section 6.2; relevant field measurements made by the Constructor; and any visible conditions at the Worksite affecting the Work.

5.5. COMPLIANCE WITH LAWS The Constructor shall comply with all laws at its own costs. The Constructor shall be liable to the Owner for all loss, cost, or expense, attributable to any acts or omissions by the Constructor, its employees, subcontractors, and agents for failure to comply with laws, including, fines, penalties, or corrective measures.



5.6. WARRANTY

5.6.1. The Work shall be executed in accordance with the Contract Documents in a workmanlike manner. The Constructor warrants that all materials and equipment shall be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. The Constructor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. The Constructor's warranty does not include remedies for defects or damages caused by normal wear and tear during normal usage, use for a purpose for which the Project was not intended, improper or insufficient maintenance, modifications performed by the Owner or others retained by Owner, or abuse.

5.6.2. If, prior to the Date of Substantial Completion and within one year after the date of Substantial Completion of the Work, any portion of the Work is found to be not in conformance with the Contract Documents ("Defective Work"), the Owner shall promptly notify the Constructor in writing. Unless the Owner provides written acceptance of the condition, the Constructor shall promptly correct the Defective Work at its own cost and time and bear the expense of additional services required for correction of any Defective Work for which it is responsible.

5.7. SAFETY The Constructor shall have overall responsibility for safety precautions and programs in the performance of the Work, except that the Constructor's subcontractors shall also be responsible for the safety of persons or property in the performance of their work, and for compliance with the provisions of laws. The Constructor shall seek to avoid injury, loss or damage to persons or property by taking reasonable steps to protect its employees and other persons at the Worksite; materials and equipment stored at on-site or off-site locations for use in the Work; and property located at the Worksite and adjacent to Work areas, whether or not the property is part of the Work.

5.8. HAZARDOUS MATERIALS A Hazardous Material is any substance or material identified now or in the future as hazardous under any federal, state, or local law or regulation, or any other substance or material which may be considered hazardous or otherwise subject to statutory or regulatory requirement governing handling, disposal, or clean-up. The Constructor shall not be obligated to commence or continue work until any Hazardous Material discovered at the Worksite has been removed, or rendered or determined to be harmless by the Owner as certified by an independent testing laboratory and approved by the appropriate government agency. If the Constructor incurs additional costs or is delayed due to the presence or remediation of Hazardous Material, the Constructor shall be entitled to an equitable adjustment in the Contract Price or the Contract Time.

5.9. MATERIALS BROUGHT TO THE WORKSITE The Constructor shall be responsible for the proper delivery, handling, application, storage, removal, and disposal of all materials and substances brought to the Worksite by the Constructor in accordance with the Contract Documents and used or consumed in the performance of the Work.

5.10. SUBMITTALS The Constructor shall submit to the Owner and Design Professional for review and approval all shop drawings, samples, product data, and similar submittals required by the Contract Documents. Submittals may be submitted in electronic form if required in accordance with ConsensusDocs 200.2 and section 6.5. The Constructor shall be responsible to the Owner for the accuracy and conformity of its submittals to the Contract Documents. The Constructor shall prepare and deliver its submittals to the Owner and Design Professional in a manner consistent with the Schedule of the Work and in such time and sequence so as not to delay the performance of the Work or the work of the Owner and others retained by the Owner. The Constructor submittals shall identify in writing for each submittal all changes, deviations, or substitutions from the requirements of the Contract Documents. The approval of any Constructor submittal shall not be deemed to authorize



deviations, substitutions, or changes in the requirements of the Contract Documents unless express written approval is obtained from the Owner specifically authorizing such deviation, substitution, or change. Further, the Owner shall not make any change, deviation, or substitution through the submittal process without specifically identifying and authorizing such deviation to the Constructor. The Owner shall be responsible for review and approval of submittals with reasonable promptness to avoid causing delay. The Constructor shall perform all Work strictly in accordance with approved submittals. The Owner's approval does not relieve the Constructor from responsibility for Defective Work resulting from errors or omissions of any kind on the approved shop drawings.

5.11. WORKSITE CONDITIONS If the conditions at the Worksite are (a) subsurface or other physical conditions which are materially different from those indicated in the Contract Documents, or (b) unusual and unknown physical conditions which are materially different from conditions ordinarily encountered and generally recognized as inherent in the Work provided for in the Contract Documents, the Constructor shall stop Work and give prompt written notice of the condition to the Owner and Design Professional. The Constructor shall not be required to perform any work relating to the unknown condition without the written mutual agreement of the Parties. Any change in the Contract Price or Contract Time as a result of the unknown condition shall be made by Change Order.

5.12. CUTTING, FITTING, AND PATCHING The Constructor shall perform cutting, fitting, and patching necessary to coordinate the various parts of the Work and to prepare its Work for the work of the Owner or others retained by the Owner.

5.13. CLEANING UP The Constructor shall regularly remove debris and waste materials at the Worksite resulting from the Work. Prior to discontinuing Work in an area, the Constructor shall clean the area and remove all rubbish and its construction equipment, tools, machinery, waste, and surplus materials. The Constructor shall minimize and confine dust and debris resulting from construction activities. At the completion of the Work, the Constructor shall remove from the Worksite all construction equipment, tools, surplus materials, waste materials, and debris.

6. OWNER'S RESPONSIBILITIES Any information or services to be provided by the Owner shall be provided in a timely manner.

6.1. FINANCIAL INFORMATION Before commencing the Work and thereafter at the written request of the Constructor, the Owner shall provide the Constructor with evidence of Project financing. Evidence of such financing shall be a condition precedent to the Constructor's commencing or continuing the Work. The Constructor shall be notified prior to any material change in Project financing.

6.2. WORKSITE INFORMATION The Owner shall provide at the Owner's expense and with reasonable promptness the following, which the Constructor shall be entitled to rely upon for its accuracy and completeness:

6.2.1. information describing the physical characteristics of the Worksite, including surveys, Worksite evaluations, legal descriptions, data, or drawings depicting existing conditions, subsurface, and environmental studies, reports and investigations;

6.2.2. tests, inspections and other reports dealing with environmental matters, hazardous material and other existing conditions, including structural, mechanical, and chemical tests required by the Contract Documents or by law; and

6.2.3. any other information or services requested in writing by the Constructor that are relevant to the Constructor's performance of the Work and under the Owner's control. The information required by this subsection shall be provided in reasonable detail. Legal descriptions shall include easements, title restrictions, boundaries, and zoning restrictions. Worksite descriptions shall



include existing buildings and other construction and all other pertinent Worksite conditions. Adjacent property descriptions shall include structures, streets, sidewalks, alleys, and other features relevant to the Work. Utility details shall include available services, lines at the Worksite and adjacent thereto, and connection points. The information shall include public and private information, subsurface information, grades, contours, and elevations, drainage data, exact locations and dimensions, and benchmarks that can be used by the Constructor in laying out the Work.

6.3. MECHANICS AND CONSTRUCTION LIEN INFORMATION Within seven (7) days after receiving the Constructor's written request, the Owner shall provide the Constructor with the information necessary to give notice of or enforce mechanics lien rights and, where applicable, stop notices. This information shall include the Owner's interest in the real property on which the Project is located and the record legal title.

6.4. BUILDING PERMIT, FEES, AND APPROVALS Except for those required of the Constructor pursuant to this Agreement, the Owner shall secure and pay for all other permits, approvals, easements, assessments, and fees required for the development, construction, use, or occupancy of permanent structures or for permanent changes in existing facilities, including the building permit.

6.5. DOCUMENTS IN ELECTRONIC FORM If the Owner requires that the Owner, Design Professional, and Constructor exchange documents and data in electronic or digital form, prior to any such exchange, the Owner, Design Professional, and Constructor shall agree on a written protocol governing all exchanges in ConsensusDocs 200.2 or a separate addendum.

7. SUBCONTRACTS Work not performed by the Constructor with its own forces shall be performed by subcontractors. The Constructor agrees to bind every subcontractor and material supplier (and require every subcontractor to so bind its subcontractors and material suppliers) to all the provisions of this Agreement and the Contract Documents as they apply to the subcontractor's and material supplier's portions of the Work.

8. CONTRACT TIME

8.1. DATE OF COMMENCEMENT The Date of Commencement is the Agreement date on page one, unless otherwise set forth below: [____].

8.2. TIME Substantial Completion of the Work shall be achieved in [____] ([____]) days from the Date of Commencement. Unless otherwise specified in the Certificate of Substantial Completion, the Work shall be finally complete within [____] ([____]) days after the date of Substantial Completion, subject to adjustments as provided for in the Contract Documents. Time is of the essence for this Agreement.

9. SCHEDULE OF THE WORK Before submitting the first application for payment, the Constructor shall submit, for review by the Design Professional and approval by the Owner, a Schedule of the Work that shall show the dates on which the Constructor plans to begin and to complete various parts of the Work, including dates on which information and approvals are required from the Owner.

9.1. The Owner may determine the sequence in which the Work shall be performed, provided it does not unreasonably interfere with the Schedule of the Work. The Owner may require the Constructor to make reasonable changes in the sequence at any time during the performance of the Work in order to facilitate the performance of work by the Owner or others. To the extent such changes increase the Constructor's time and costs, the Contract Price and Contract Time shall be equitably adjusted.

10. DELAYS AND EXTENSIONS OF TIME



10.1. If the Constructor is delayed at any time in the commencement or progress of the Work by any cause beyond the control of the Constructor, the Constructor shall be entitled to an equitable extension of the Contract Time. Examples of causes beyond the control of the Constructor include, but are not limited to, the following: acts or omissions of the Owner, the Design Professional, or others; changes in the Work or the sequencing of the Work ordered by the Owner or arising from decisions of the Owner that impact the time of performance of the Work; transportation delays not reasonably foreseeable; labor disputes not involving the Constructor; general labor disputes impacting the Project but not specifically related to the Worksite; fire; terrorism, epidemics, adverse governmental actions, unavoidable accidents or circumstances; adverse weather conditions not reasonably anticipated; encountering Hazardous Materials; concealed or unknown conditions; and delay authorized by the Owner pending dispute resolution. The Constructor shall process any requests for equitable extensions of Contract Time in accordance with the provisions of ARTICLE 12.

10.2. In addition, if the Constructor incurs additional costs as a result of a delay that is caused by acts or omissions of the Owner, the Design Professional, or others, changes in the Work or the sequencing of the Work ordered by the Owner, or arising from decisions of the Owner that impact the time of performance of the Work, encountering Hazardous Materials, concealed or unknown conditions, or delay authorized by the Owner pending dispute resolution, the Constructor shall be entitled to an equitable adjustment in the Contract Price subject to ARTICLE 12.

10.3. In the event delays to the Work are encountered for any reason, the Constructor shall provide prompt written notice to the Owner of the cause of such delays after the Constructor first recognizes the delay. The Owner and Constructor agree to undertake reasonable steps to mitigate the effect of such delays.

10.4. NOTICE OF DELAY CLAIMS If the Constructor requests an equitable extension of the Contract Time or an equitable adjustment in the Contract Price as a result of a delay, the Constructor shall give the Owner written notice of the claim. If the Constructor causes delay in the completion of the Work, the Owner shall be entitled to recover its additional costs, subject to the mutual waiver of consequential damages herein.

11. ALLOWANCES All allowances stated in the Contract Documents shall be included in the Contract Price. While the Owner may direct the amounts of, and particular material suppliers or subcontractors for, specific allowance items, if the Constructor reasonably objects to a material supplier or subcontractor, it shall not be required to contract with them. The Owner shall select allowance items in a timely manner so as not to delay the Work. Allowances shall include the costs of materials and equipment delivered to the Worksite less applicable trade discounts and including requisite taxes, unloading and handling at the Worksite, and labor and installation, unless specifically stated otherwise. The Constructor's overhead and profit for the allowances shall be included in the Contract Price, but not in the allowances. The Contract Price shall be adjusted by Change Order to reflect the actual costs when they are greater than or less than the allowances.

12. CHANGES

12.1. The Constructor may request or the Owner may order changes in the Work or the timing or sequencing of performance of the Work that impacts the Contract Price or the Contract Time. All such changes in the Work that affect the Contract Time or Contract Price shall be formalized in a Change Order.

12.2. The Owner and Constructor shall negotiate in good faith an appropriate adjustment to the Contract Price or the Contract Time and shall conclude these negotiations as expeditiously as



possible. Acceptance of the Change Order and any adjustment in the Contract Price or Contract Time shall not be unreasonably withheld.

12.3. INTERIM DIRECTED CHANGE

12.3.1. The Constructor shall not be obligated to perform changes in the Work that impact the Contract Price or the Contract Time until a Change Order has been executed or a written Interim Directed Change has been issued. The Owner may issue a written Interim Directed Change directing a change in the Work prior to reaching agreement with the Constructor on the adjustment, if any, in the Contract Price or the Contract Time.

12.3.2. The Owner and the Constructor shall negotiate expeditiously and in good faith for appropriate adjustments, as applicable, to the Contract Price or the Contract Time arising out of an Interim Directed Change. As the changed work is performed, the Constructor shall submit its costs for such work with its application for payment. If there is a dispute as to the cost of the Work, the Owner shall pay the Constructor fifty percent (50%) of its estimated cost to perform the work. In such event, the Parties reserve their rights as to the disputed amount, submitted to the requirements of ARTICLE 20.

12.3.3. When the Owner and the Constructor agree upon the adjustment in the Contract Price or the Contract Time, for a change in the Work directed by an Interim Directed Change, such agreement shall be the subject of a Change Order.

12.4. COST OR CREDIT DETERMINATION

12.4.1. An increase or decrease in the Contract Price or the Contract Time resulting from a change in the Work shall be determined by one or more of the following methods:

12.4.1.1. unit prices set forth in this Agreement or as subsequently agreed;

12.4.1.2. a mutually accepted, itemized lump sum;

12.4.1.3. costs calculated on a basis agreed upon by the Owner and Constructor plus [_____] % overhead and [_____] % profit; or

12.4.1.4. by the method provided here: [_____].

12.4.1.5. If a cost or credit determination cannot be agreed to above, the cost of the change in the Work shall be determined by the reasonable actual expense incurred or savings realized in the performance of the Work resulting from the change. If there is a net increase in the Contract Price, the Constructor's overhead and profit shall be adjusted accordingly. In case of a net decrease in the Contract Price, the Constructor's overhead and profit shall not be adjusted unless ten percent (10%) or more of the Project is deleted. The Constructor shall maintain a documented itemized accounting evidencing the expenses and savings.

12.5. UNIT PRICES If unit prices are included in the Contract Documents or are subsequently agreed to by the Parties, but the character or quantity of such unit price items as originally contemplated is so different in a proposed Change Order that the original unit prices will cause substantial inequity to the Owner or Constructor, such unit prices shall be equitably adjusted.

12.6. PERFORMANCE OF CHANGED WORK The Constructor shall not be obligated to perform Changed Work until a Change Order has been executed by the Owner and Constructor.



13. PAYMENT

13.1. SCHEDULE OF VALUES Within twenty-one (21) days from the date of execution of this Agreement, the Constructor shall prepare and submit to the Owner and, if directed, the Design Professional, a schedule of values apportioned to the various divisions or phases of the Work. Each line item contained in the schedule of values shall be assigned a monetary price such that the total of all items shall equal the Contract Price.

13.2. PROGRESS PAYMENTS The Constructor shall submit to the Owner and, if directed, the Design Professional a monthly application for payment no later than the [____] day of the calendar month for the preceding thirty (30) days. The Constructor's applications for payment shall be itemized and supported by the Constructor's schedule of values and any other substantiating data as required by this Agreement. Payment applications shall include payment requests on account of properly authorized Change Orders. The Owner shall pay the amount otherwise due on any payment application, less any amounts as set forth below, no later than twenty (20) days after the Constructor has submitted a complete and accurate payment application. The Owner may deduct, from any progress payment, such amounts as may be retained pursuant to section 13.3.

13.3. RETAINAGE From each progress payment made prior to Substantial Completion the Owner may retain [____] percent ([____] %) of the amount otherwise due after deduction of any amounts as provided in section 13.4. After the Work is fifty percent (50%) complete, the Owner shall withhold no additional retainage and shall pay the Constructor the full amount due on subsequent progress payments.

13.4. ADJUSTMENT OF CONSTRUCTOR'S PAYMENT APPLICATION The Owner may adjust or reject a payment application or nullify a previously approved payment application, in whole or in part, as may reasonably be necessary to protect Owner from loss or damage based upon the following, to the extent that Constructor is responsible for such under this Agreement:

13.4.1. the Constructor's repeated failure to perform the Work as required by the Contract Documents;

13.4.2. loss or damage arising out of or relating to this Agreement and caused by the Constructor to the Owner or to others retained by the Owner to whom the Owner may be liable;

13.4.3. the Constructor's failure to properly pay subcontractors for labor, materials, or equipment furnished in connection with the Work following receipt of such payment from the Owner;

13.4.4. Defective Work not corrected in a timely fashion;

13.4.5. reasonable evidence of delay in performance of the Work such that the Work will not be completed within the Contract Time;

13.4.6. reasonable evidence demonstrating that the unpaid balance of the Contract Price is insufficient to fund the cost to complete the Work; and

13.4.7. uninsured third-party claims involving the Constructor or reasonable evidence demonstrating that third-party claims are likely to be filed unless and until the Constructor furnishes the Owner with adequate security in the form of a surety bond, letter of credit, or other collateral or commitment which are sufficient to discharge such claims if established.

No later than seven (7) days after receipt of an application for payment, the Owner shall give written notice to the Constructor disapproving or nullifying it or a portion of it, specifying the



reasons for the disapproval or nullification. When the above reasons for disapproving or nullifying an application for payment are removed, payment shall be made for the amounts previously withheld.

13.5. PAYMENT DELAY If for any reason not the fault of the Constructor, the Constructor does not receive a progress payment from the Owner within seven (7) days after the time such payment is due, the Constructor, upon giving seven (7) days' written notice to the Owner, and without prejudice to and in addition to any other legal remedies, may stop Work until payment of the full amount owing to the Constructor has been received. The Contract Price and Contract Time shall be equitably adjusted by Change Order for reasonable cost and delay resulting from shutdown, delay, and start-up.

13.6. SUBSTANTIAL COMPLETION When Substantial Completion of the Work or a designated portion thereof is achieved, the Constructor shall prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, and the respective responsibilities of the Owner and Constructor for interim items such as security, maintenance, utilities, insurance, and damage to the Work, and fixing the time for completion of all items on the list accompanying the Certificate. The Certificate of Substantial Completion shall be submitted by the Constructor to the Owner for written acceptance of responsibilities assigned in the Certificate. Unless otherwise provided in the Certificate of Substantial Completion, warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or a designated portion.

13.6.1. Upon acceptance by the Owner of the Certificate of Substantial Completion, the Owner shall pay to the Constructor the remaining retainage held by the Owner for the Work described in the Certificate of Substantial Completion less a sum equal to two hundred percent (200%) of the estimated cost of completing or correcting remaining items on that part of the Work, as agreed to by the Owner and Constructor as necessary to achieve final completion. Uncompleted items shall be completed by the Constructor in a mutually agreed timeframe. The Owner shall pay the Constructor monthly the amount retained for unfinished items as each item is completed.

13.7. FINAL COMPLETION When final completion has been achieved, the Constructor shall prepare for the Owner's acceptance a final application for payment stating that to the best of Constructor's knowledge, and based on the Owner's inspections, the Work has reached final completion in accordance with the Contract Documents.

13.7.1. Final payment of the balance of the Contract Price shall be made to the Constructor within twenty (20) days after the Constructor has submitted to the Owner a complete and accurate application for final payment and the following submissions:

13.7.1.1. an affidavit declaring any indebtedness connected with the Work, e.g. payrolls or invoices for materials or equipment, to have been paid, satisfied, or to be paid with the proceeds of final payment, so as not to encumber the Owner's property;

13.7.1.2. as-built drawings, manuals, copies of warranties, and all other close-out documents required by the Contract Documents;

13.7.1.3. release of any liens, conditioned on final payment being received;

13.7.1.4. consent of any surety, if applicable; and

13.7.1.5. a report of any accidents or injuries experienced by the Constructor or its subcontractors at the Worksite.



13.8. Claims not reserved by the Owner in writing with the making of final payment shall be waived except for claims relating to liens or similar encumbrances, warranties, Defective Work, and latent defects. Unless the Constructor provides written identification of unsettled claims known to the Constructor at the time of making application for final payment, acceptance of final payment constitutes a waiver of such claims.

13.9. LATE PAYMENT Payments due but unpaid shall bear interest from the date payment is due at the statutory rate at the place of the Project.

14. INDEMNITY

14.1. To the fullest extent permitted by law, the Constructor shall indemnify and hold harmless the Owner, Owner's officers, directors, members, consultants, agents, and employees and the Design Professional (the Indemnitees) from all claims for bodily injury and property damage, other than to the Work itself and other property insured under section 15.3, including reasonable attorneys' fees, costs, and expenses, that may arise from the performance of the Work but only to the extent caused by the negligent acts or omissions of the Constructor, subcontractors or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable. The Constructor shall be entitled to reimbursement of any defense costs paid above the Constructor's percentage of liability for the underlying claim to the extent provided in the section immediately below.

14.2. To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Constructor, its officers, directors, or members, subcontractors, or anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable from all claims for bodily injury and property damage, other than property insured under section 15.3, including reasonable attorneys' fees, costs, and expenses, that may arise from the performance of work by the Owner, Design Professional, or others retained by the Owner, but only to the extent caused by the negligent acts or omissions of the Owner, the Design Professional, or others retained by the Owner. The Owner shall be entitled to reimbursement of any defense costs paid above the Owner's percentage of liability for the underlying claim to the extent provided in the section immediately above.

14.3. NO LIMITATION ON LIABILITY In any and all claims against the Indemnitees by any employee of the Constructor, anyone directly or indirectly employed by the Constructor or anyone for whose acts the Constructor may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Constructor under Workers' Compensation acts, disability benefit acts, or other employment benefit acts.

15. INSURANCE

15.1. Before commencing the Work and as a condition precedent to payment, the Constructor shall procure and maintain in force Workers' Compensation Insurance, Employers' Liability Insurance, Business Automobile Liability Insurance, and Commercial General Liability Insurance (CGL). The CGL policy shall include coverage for liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, contractual liability, and broad form property damage. The Constructor shall maintain completed operations liability insurance for one year after Substantial Completion, or as required by the Contract Documents, whichever is longer. If requested, the Constructor shall provide the Owner with certificates of the insurance coverage required. The Constructor's Employers' Liability, Business Automobile Liability, and CGL policies, as required in this article, shall be written with at least the following limits of liability:

15.1.1. Employers' Liability Insurance:



- a. \$[_____] bodily injury by accident per accident;
- b. \$[_____] bodily injury by disease policy limit
- c. \$[_____] bodily injury by disease per employee.

15.1.2. Business Automobile Liability Insurance:

- a. \$[_____] per accident.

15.1.3. CGL Insurance:

- a. \$[_____] per occurrence;
- b. \$[_____] general aggregate;
- c. \$[_____] products/completed operations aggregate;
- d. \$[_____] personal and advertising injury limit.

15.2. Employers' Liability, Business Automobile Liability, and CGL coverage required in the subsection above may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella liability policies. The Constructor shall maintain in effect all insurance coverage required in the section immediately above with insurance companies lawfully authorized to do business in the jurisdiction in which the Project is located. If the Constructor fails to obtain or maintain any insurance coverage required under this Agreement, the Owner may purchase such coverage and charge the expense to the Constructor, or terminate this Agreement. To the extent commercially available to the Constructor from its current insurance company, insurance policies required under section 15.1 shall contain a provision that the insurance company or its designee must give the Owner written notice transmitted in paper or electronic format: (a) 30 days before coverage is nonrenewed by the insurance company and (b) within 10 business days after cancelation of coverage by the insurance company. Prior to commencing the Work and upon renewal or replacement of the insurance policies, the Constructor shall furnish the Owner with certificates of insurance until one year after Substantial Completion or longer if required by the Contract Documents. In addition, if any insurance policy required under section 15.1 is not to be immediately replaced without lapse in coverage when it expires, exhausts its limits, or is to be cancelled, the Constructor shall give Owner prompt written notice upon actual or constructive knowledge of such condition.

15.3. PROPERTY INSURANCE Before the start of Work, the Owner shall obtain and maintain Builder's Risk Policy upon the entire Project for the full cost of replacement at the time of loss. This insurance shall also name the Constructor, subcontractors, subsubcontractors, material suppliers, and Design Professional as named insureds. This insurance shall be written as a Builder's Risk Policy or equivalent form to cover all risks of physical loss except those specifically excluded by the policy. The Owner shall be solely responsible for any deductible amounts or coinsurance penalties. This policy shall provide for a waiver of subrogation in favor of the Constructor, subcontractors, subsubcontractors, material suppliers and Design Professional. This insurance shall remain in effect until final payment has been made or until no person or entity other than the Owner has an insurable interest in the property to be covered by this insurance, whichever is sooner. Partial occupancy or use of the Work shall not commence until the Owner has secured the consent of the insurance company or companies providing the coverage required in this section. Before commencing the Work, the Owner shall provide a copy of the property policy or policies obtained in compliance with this section.



15.3.1. If the Owner does not intend to purchase the property insurance required by this Agreement, including all of the coverages and deductibles described herein, the Owner shall give written notice to the Constructor and the Design Professional before the Work is commenced. The Constructor may then provide insurance to protect its interests and the interests of the subcontractors and subsubcontractors, including the coverage of deductibles. The cost of this insurance shall be charged to the Owner in a Change Order. The Owner shall be responsible for all of the Constructor's costs reasonably attributed to the Owner's failure or neglect in purchasing or maintaining the coverage described above.

15.3.2. The Owner and Constructor waive all rights against each other and their respective employees, agents, contractors, subcontractors and subsubcontractors, and the Design Professional for damages caused by risks covered by the property insurance except such rights as they may have to the proceeds of the insurance and such rights as the Constructor may have for the failure of the Owner to obtain and maintain property insurance in compliance with section 15.2.

15.3.3. To the extent of the limits of the Constructor's CGL insurance specified in section 15.1 or []dollars (\$[]), whichever is more, the Constructor shall indemnify and hold harmless the Owner against any and all liability, claims, demands, damages, losses, and expenses, including attorneys' fees, in connection with or arising out of any damage or alleged damage to any of the Owner's existing adjacent property that may arise from the performance of the Work, to the extent caused by the negligent acts or omissions of the Constructor, subcontractor, or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable.

15.4. OWNER'S INSURANCE The Owner may procure and maintain insurance against loss of use of the Owner's property caused by fire or other casualty loss. The Owner shall either self-insure or obtain and maintain its own liability insurance for protection against claims arising out of the performance of this Agreement, including without limitation, loss of use and claims, losses and expenses arising out of the Owner's errors or omissions.

15.5. ADDITIONAL LIABILITY COVERAGE Owner []shall/ [] shall not (indicate one) require Constructor to purchase and maintain liability coverage, primary to Owner's coverage in the section immediately above.

15.5.1. If required by section immediately above, the additional liability coverage required of the Constructor shall be:

1. [] ADDITIONAL INSURED. The Owner shall be named as an additional insured on Constructor's CGL insurance specified, for operations and completed operations, but only with respect to liability for bodily injury, property damage or personal and advertising injury to the extent caused by the negligent acts or omissions of the Constructor, or those acting on the Constructor's behalf, in the performance of the Constructor's Work for the Owner at the Worksite.

2. [] .OCP. The Constructor shall provide an Owners' and Contractors' Protective Liability Insurance ("OCP") policy with limits equal to the limits on CGL insurance specified, or limits as otherwise required by the Owner. Any documented additional cost in the form of a surcharge associated with procuring the additional liability coverage in accordance with this subsection shall be paid by the Owner directly, or the costs may be reimbursed by the Owner to the Constructor by increasing the Contract Price to correspond to the actual cost required to purchase and maintain the additional liability coverage. Before commencing the Work, the Constructor shall provide either a copy of



the OCP policy, or a certificate and endorsement evidencing that the Owner has been named as an additional insured, as applicable.

16. BONDS Performance and Payment Bonds [] are/ [] are not required of the Constructor. Such bonds shall be issued by a surety admitted in the state in which the Project is located and must be acceptable to the Owner. The Owner's acceptance shall not be withheld without reasonable cause. The penal sum of the Payment Bond shall equal the penal sum of the Performance Bond.

17. LIMITED MUTUAL WAIVER OF CONSEQUENTIAL DAMAGES Except for (a) losses covered by insurance required by the Contract Documents, or (b) specific items of damages excluded from this waiver as mutually agreed upon by the Parties and identified below, the Parties agree to waive all claims against each other for any consequential damages that may arise out of or relate to this Agreement. The following items of damages are excluded from this mutual waiver: [].

17.1. The provisions of this section shall also apply to the termination of this Agreement and shall survive such termination. The Owner and the Constructor shall require similar waivers in contracts with subcontractors and others retained for the project.

18. RISK OF LOSS Except to the extent a loss is covered by applicable insurance, risk of loss or damage to the Work shall be upon the Constructor until the Date of Substantial Completion, unless otherwise agreed to by the Parties.

19. NOTICE TO CURE AND TERMINATION

19.1. NOTICE TO CURE A DEFAULT If the Constructor persistently fails to supply enough qualified workers, proper materials, or equipment to maintain the approved Schedule of the Work in accordance with article 9, or fails to make prompt payment to its workers, subcontractors, or material suppliers, disregards law or orders of any public authority having jurisdiction, or is otherwise guilty of a material breach of a provision of this Agreement, the Constructor may be deemed in default. If the Constructor fails within seven (7) business days after written notification to commence and continue satisfactory correction of such default with diligence and promptness, then the Owner shall give the Constructor a second written notice to correct the default within a three (3) business day period. If the Constructor fails to promptly commence and continue satisfactory correction of the default following receipt of such second notice, the Owner, without prejudice to any other rights or remedies, shall have the right to take reasonable steps it deems necessary to correct deficiencies and charge the cost to the Constructor, who shall be liable for such payments including reasonable overhead, profit, and attorneys' fees.

19.2. TERMINATION BY OWNER If, within seven (7) days of receipt of a notice to cure pursuant to section immediately above, the Constructor fails to commence and satisfactorily continue correction of the default set forth in the notice to cure, the Owner may notify the Constructor that it intends to terminate this Agreement for default absent appropriate corrective action within fourteen (14) additional days. After the expiration of the additional fourteen (14) day period, the Owner may terminate this Agreement by written notice absent appropriate corrective action. Termination for default is in addition to any other remedies available to the Owner. If the Owner's costs arising out of the Constructor's failure to cure, including the cost of completing the Work and reasonable attorney fees, exceed the unpaid Contract Price, the Constructor shall be liable to the Owner for such excess costs. If the Owner's costs are less than the unpaid Contract Price, the Owner shall pay the difference to the Constructor. In the event the Owner exercises its rights under this section, upon the request of the Constructor, the Owner shall furnish to Constructor a detailed accounting of the costs incurred by the Owner.



19.2.1. The Owner shall make reasonable efforts to mitigate damages arising from the Constructor default and shall promptly invoice the Constructor for all amounts due.

19.3. **TERMINATION BY CONSTRUCTOR** Upon seven (7) days' written notice to the Owner, the Constructor may terminate this Agreement if the Work has been stopped for a thirty (30) day period through no fault of the Constructor for any of the following reasons: (a) under court order or order of other governmental authorities having jurisdiction; (b) as a result of the declaration of a national emergency or other governmental act during which, through no act or fault of the Constructor, materials are not available.

19.3.1. In addition, upon seven (7) days' written notice to Owner, Constructor may terminate the Agreement if the Owner does any of the following: (a) fails to furnish reasonable evidence that sufficient funds are available and committed for the entire cost of the Project in accordance with section 6.1; (b) assigns this Agreement over the Constructor's reasonable objection; (c) fails to pay the Constructor in accordance with this Agreement and the Constructor has complied with the notice provisions of section 13.5; or (d) otherwise materially breaches this Agreement.

19.3.2. Upon termination by the Constructor pursuant to this Agreement, the Constructor shall be entitled to recover from the Owner payment for all Work executed and for any proven loss, cost, or expense in connection with the Work, including all demobilization costs plus reasonable overhead and profit.

19.4. **OBLIGATIONS ARISING BEFORE TERMINATION** Even after termination the provisions of this Agreement still apply to any Work performed, payments made, events occurring, costs charged or incurred, or obligations arising before the termination date.

20. CLAIMS AND DISPUTE RESOLUTION

20.1. **CLAIMS FOR ADDITIONAL COST OR TIME** Except as provided in sections 10.3 and 10.4 for any claim for an increase in the Contract Price or the Contract Time, the Constructor shall give the Owner written notice of the claim within fourteen (14) days after the occurrence giving rise to the claim or within fourteen (14) days after the Constructor first recognizes the condition giving rise to the claim, whichever is later. Except in an emergency, notice shall be given before proceeding with the Work. Any change in the Contract Price or the Contract Time resulting from such claim shall be authorized by Change Order.

20.2. **WORK CONTINUANCE AND PAYMENT** Unless otherwise agreed in writing, the Constructor shall continue the Work and maintain the Schedule of the Work during any dispute resolution proceedings. If the Constructor continues to perform, the Owner shall continue to make payments in accordance with the Agreement.

20.3. **DISPUTE MITIGATION THROUGH DIRECT DISCUSSIONS** If a dispute arises out of or relates to this Agreement or its breach, the Parties shall endeavor to settle the dispute through direct discussions. Within five (5) business days, the Parties' representatives, who shall possess the necessary authority to resolve such matter and who shall record the date of first discussions shall conduct direct discussions and make a good faith effort to resolve such dispute.

20.4. **MEDIATION** Disputes between the Owner and Constructor not resolved by direct discussion shall be submitted to mediation pursuant to the Construction Industry Mediation Rules of the American Arbitration Association (AAA). The Parties shall select the mediator within fifteen (15) days of the request for mediation. Engaging in mediation is a condition precedent to any form of binding dispute resolution.



20.5. BINDING DISPUTE RESOLUTION If neither direct discussions nor mediation successfully resolves the dispute, the Parties shall submit the matter to the binding dispute resolution procedure selected below:

☐ ARBITRATION Unless the Parties mutually agree otherwise in writing, all claims, disputes and matters in question arising out of, or relating to, this Agreement shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the AAA then in effect. This agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. An award entered in an arbitration proceeding shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction.

☐ LITIGATION Litigation in either the state or federal court having jurisdiction of the matter in the location of the Project.

20.5.1. COSTS The costs of any binding dispute resolution procedures and reasonable attorneys' fees shall be borne by the non-prevailing Party, as determined by the adjudicator of the dispute.

20.5.2. VENUE The venue of any binding dispute resolution procedure shall be the location of the Project, unless the Parties agree on a mutually convenient location.

20.5.3. Neither Party may commence arbitration if the claim or cause of action would be barred by the applicable statute of limitations had the claim or cause of action been filed in a state or federal court. Receipt of a demand for arbitration by the person or entity administering the arbitration shall constitute the commencement of legal proceedings for the purposes of determining whether a claim or cause of action is barred by the applicable statute of limitations.

20.5.4. An award entered in an arbitration proceeding pursuant to this Agreement shall be final and binding upon the Parties, and judgment may be entered upon an award in any court having jurisdiction.

21. MISCELLANEOUS

21.1. EXTENT OF AGREEMENT Except as expressly provided, this Agreement is for the exclusive benefit of the Parties and not for the benefit of any third party. This Agreement represents the entire and integrated agreement between the Parties, and supersedes all prior negotiations, representations, or agreements, either written or oral.

21.2. ASSIGNMENT Except as to the assignment of proceeds, neither Party shall assign its interest in this Agreement, in whole or in part, without the written consent of the other Party. The terms and conditions of this Agreement shall be binding upon both Parties, their partners, successors, assigns, and legal representatives.

21.3. GOVERNING LAW This Agreement shall be governed by the law in effect at the location of the Project.

21.4. JOINT DRAFTING The Parties expressly agree that this Agreement was jointly drafted, and that they both had opportunity to negotiate terms and to obtain assistance of counsel in reviewing terms prior to execution. This Agreement shall be construed neither against nor in favor of either Party, but shall be construed in a neutral manner.

OWNER:



BY: _____

PRINT NAME [] PRINT TITLE []

ATTEST: _____

NAME [] TITLE []

CONSTRUCTOR: []

BY: _____

PRINT NAME [] PRINT TITLE []

ATTEST: _____

NAME [] TITLE []

END OF DOCUMENT.

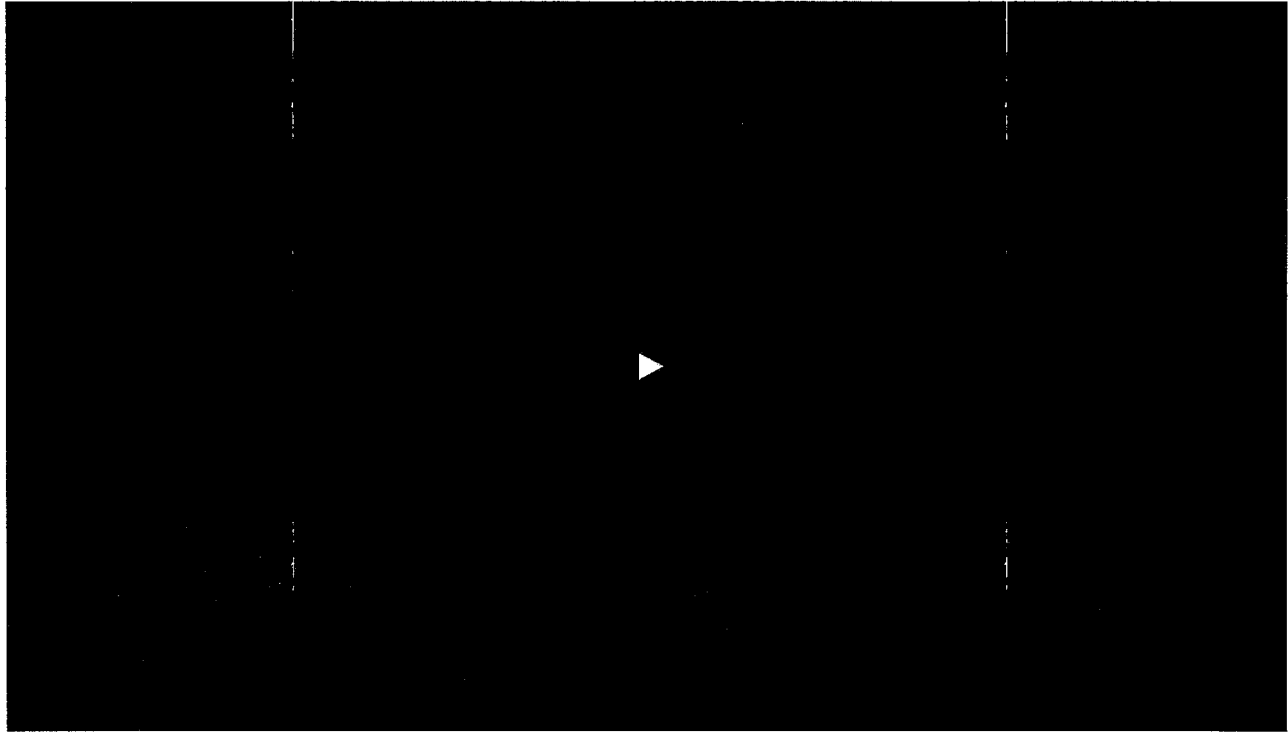
DRAFT





Meeting Management

Pete Fowler · October 18, 2010



The Effective Executive

Excerpt from THE EFFECTIVE EXECUTIVE by Peter Drucker, Introduction, pages XXI and XXII

"Good follow-up is just as important as the meeting itself. The great master of follow up was Alfred Sloan, the most effective business executive I have ever known. Sloan... headed General Motors from the 1920s until the 1950s..." (During this time GM overtook the early leader Ford to become and remain the largest auto maker in the world until 2006).

"At the beginning of a formal meeting, Sloan announced the meeting's purpose. He then listened. He never took notes and he rarely spoke except to clarify a confusing point. At the end he summed up, thanked the participants, and left. Then he immediately wrote a short memo addressed to one attendee of the meeting. In the note, he summarized the discussion and its conclusions and spelled out any work assignment decided upon in the meeting (including a decision to hold another meeting on the subject or to study an issue). He specified the deadline and the executive who was to be accountable for the assignment. He sent a copy of the memo to everyone who'd been present at the meeting. It was through these memos, each a small masterpiece - that Sloan made himself into an outstandingly effective executive."

Also see: Effective meeting management by Peter Drucker (<http://pfcs.co/meet>).

What We Have Learned

Our business is project based and every project is unique and has a new set of challenges for each member of the team. While a comprehensive project management system is an important tool set, getting the details right from day-to-day is done person-to-person. We have a meeting management method that everyone in the company is taught that helps us make meetings effective, offers a structure for delegating critical Action Steps, and has a built-in accountability mechanism. Our meeting agendas and minutes have 4 major components: Meeting information, agenda, minutes, and action steps (acronym M.A.M.A.). The heart of the system is to agree on SMART (specific measurable action oriented, realistic, and timely) Action Steps at the end of a meeting, and then paste

those action steps into the agenda for the following meeting as old business to make sure that each has been completed.

Sample Meeting Agenda/Minutes

Meeting Information: Who, What, When, Where, and Why

Agenda

1. Old Business:

1. A numbered list of all Action Steps from previous meetings
2. You say: "Bob, you committed to finishing estimate, is that done and sent?"

2. New Business:

1. A numbered, prioritized and organized list of all additional points that need to be discussed.
2. The discussion can jump from item to item and out of order.
3. Use these items as a check-list before the end of the meeting.

Minutes

1. Make numbered notes of what was discussed and decided.
2. These numbers don't necessarily need to correspond to the Agenda numbering.

Action Steps

1. Each Action Step should be discrete.
2. The SMARTer the better: Who, what, when, where, how, how much
3. These will be pasted into the next Agenda as Old Business to ensure completion.
4. Make sure everyone knows what good performance looks like.

View MAMA Meeting Management Agenda

(<http://static1.squarespace.com/static/5628ee3ee4b056cf2182763d/563be287e4b0a5d638653a70/563be28ce4b0a5d638653c32/144676519630Meeting-Management-Agenda-2011-05-23.pdf?format=original>)

This post was updated 2/10/2016