

Construction Defect Litigation from the Plaintiff Perspective



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Pete Fowler
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Construction Defect Litigation from the Plaintiff Perspective

INTRODUCTION

Construction Defect Litigation from the Plaintiff Perspective is a series of case studies in successful planning, analysis and execution of expert work on behalf of plaintiff real property owners. This program will walk you through the process, standards and reasoning for inspection, analysis, testing, reporting, specifying repairs, and estimating costs of the repair work.

Construction defect litigation can be expensive, confusing and long lasting, but it doesn't have to be. Through this presentation, PFCS will break down the process, and provide approaches and alternatives that add value to property owners involved in Construction defect litigation.

PROGRAM OUTLINE

1. Introduction
2. In the Beginning
3. Inspection & Evaluation
4. Analysis & Estimate
5. Testing
6. Reports and Possible Further Work
7. Conclusion

LEARNING OBJECTIVES

- Discuss building performance analysis standards
- Discuss various strategies for approaching construction defect cases from the plaintiff's perspective
- Outline a beginning-to-end process for handling construction defect litigation
- Show real-life case studies applying various approaches to construction defect litigation matters
- Show examples of good work

BACK-UP MATERIALS (CASE STUDIES)

1. Small Multi-family Project (PFCS 06-295)
2. Small Single Family Project (PFCS 15-165)
3. Small Commercial Project (PFCS 15-121)
4. Medium Multi-family Project (PFCS 14-320)
5. Medium Commercial Project (PFCS 15-161)
6. Medium Residential Project (PFCS A2-124)
7. Medium Multi-family Project (PFCS 12-281)
8. Large Residential Project (PFCS 14-301)

PROGRAM CONTENTS

1. Introduction

- A. Presenter Information
- B. Webinar Materials
- C. CE Certificates
- D. Feedback
- E. Learning Objectives
- F. Property Condition Assessment (ASTM E2018)
- G. Building Leak Evaluation (ASTM E2128)
- H. PFCS Building Performance Analysis Method
- I. Plaintiff Project Process Flowchart
- J. Case Study

2. In the Beginning

- A. Project Intake
- B. Strategy
- C. Plan & Proposal
- D. First 10 Things
- E. Issues List
- F. Case Studies

3. Inspection & Evaluation

- A. PFCS Building Performance Methodology
- B. Standards for Inspection and Evaluation
- C. Distillation and Utilization of gathered data

4. Analysis & Estimate

- A. What is a Construction Defect?
- B. What Should Be Fixed!?
- C. Logic & Critical Thinking
- D. IIACC Method and Issue by Issue Analysis
- E. Plans, Specifications, Codes, Standards
- F. Repair Estimating
- G. Case Studies

5. Analysis & Estimate

- A. PFCS Building Leakage Evaluation Seminar
- B. ASTM E2128 Standard Guide for Evaluating Water Leakage of Building Walls
- C. ROI
- D. Investigation Documentation
- E. Case Studies

6. Testing

- A. PFCS Building Leakage Evaluation
- B. ASTM E2128 Standard Guide for Evaluating Water Leakage of Building Walls
- C. ROI
- D. Investigation Documentation
- E. Case Studies

7. Reports and Possible Further Work

- A. Strategy
- B. PFCS Communicating in Writing
- C. Inspection Summary
- D. Issues List
- E. Testing Summary & Maps
- F. Opinion Letter
- G. Report
- H. Specifications and RFPs to Contractors
- I. Others Possible Work
- J. Case Studies

8. Conclusion

- A. Learning Objectives
- B. Program Outline
- C. Back-Up Materials
- D. Recommendations
- E. Webinar Materials
- F. CE Certificates
- G. Feedback
- H. Program Outline




BACK-UP MATERIALS (CASE STUDIES)

1. Small Multi-family Project (PFCS 06-295)
 - A. Inspection Notes and Photos
 - B. Issues-Discussion Matrix
 - C. Scope and Estimate
 - D. Opinion Letter with Recommendations
2. Small Single Family Project (PFCS 15-165)
 - A. Plan and Proposal
 - B. Document Summary
 - C. Property Condition Assessment (Report)
3. Small Commercial Project (PFCS 15-121)
 - A. Proposal
 - B. Document Summary
 - C. Property Condition Assessment (Report)
4. Medium Multi-family Project (PFCS 14-320)
 - A. Inspection Summary ready for litigation
 - B. Issues List
 - C. Testing Plan
5. Medium Commercial Project (PFCS 15-161)
 - A. Investigation Report and Map
 - B. Report with Maps
 - C. Specifications
6. Medium Residential Project (PFCS A2-124)
 - A. Defect List
 - B. Estimate
 - C. Report
7. Medium Multi-family Project (PFCS 12-281)
 - A. Report
 - B. RFP to Contractors
8. Large Residential Project (PFCS 14-301)
 - A. Contracting Recommendations
 - B. Architectural Expert Memo in response to RFP
 - C. Owners, Attorney, and Expert Meeting Agenda





Construction Defect Litigation from the Plaintiff Perspective

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2015

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The slide has a dark blue background with the title 'Construction Defect Litigation from the Plaintiff Perspective' in white, sans-serif font. The bottom section is divided into three parts: the Pete Fowler Construction Services, Inc. logo on the left, the year '2015' in the center, and the website URL and phone numbers on the right.

1. INTRODUCTION

PFCS: Who We Are

SOLUTIONS

We are a team of construction experts and project management professionals who specialize in creating **REAL PRACTICAL SOLUTIONS** for property owners & managers, builders & developers, construction contractors, product manufacturers & suppliers, lawyers and insurers.



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1. INTRODUCTION

PFCS: We Know Buildings



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1. INTRODUCTION

PFCS: We Know Buildings



CLIENTS

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



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1. INTRODUCTION

PFCS Services

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

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



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1. INTRODUCTION

The PFCS Way: SOLUTIONS

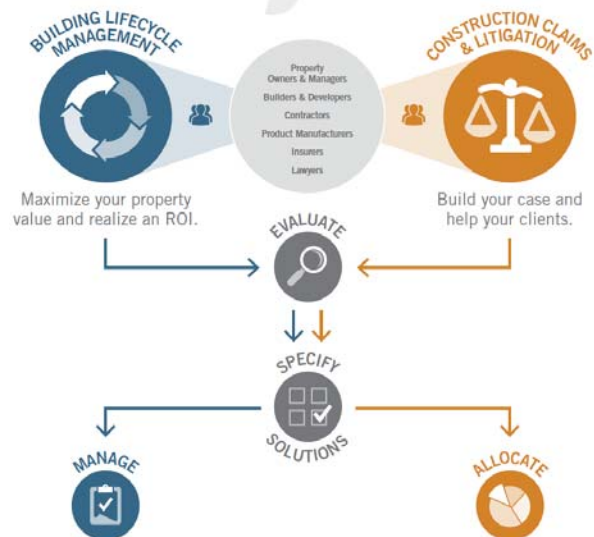
- **EXPERTISE:** Technical experts who are focused on real practical solutions is surprisingly hard to find. We found them. And we work to keep that focus.
- **PROJECT MANAGEMENT:** To deliver valuable work with measurable return on investment (ROI), we have to manage the Scope, Budget and Schedule of our work.
- **TECHNOLOGY:** We use proprietary technology to create valuable work faster, better and cheaper, to make the information available to all applicable stakeholders, and to create a permanent digital record at no extra cost.
- **STANDARDS:** To help clients manage building lifecycle performance and costs, we compare each project to industry standards and best practices, then apply professional judgment to develop strategies and step-by-step plans for maximizing ROI for maintenance and repair expenditures.



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1. INTRODUCTION

The PFCS Way



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1. INTRODUCTION

The PFCS Way

ON ALL PROJECTS

Building Information Management: We pick up where Zillow and Google leave off. We use technology to collect, organize, structure and store documents and building info forever.

Evaluate Performance: We perform structured building inspection and testing evaluations, exceeding the highest standards.

Specify Solutions: We analyze, report, make recommendations and compose specifications and estimates for construction, maintenance & repairs.

BLM OR LITIGATION?

Manage Quality: We apply professional construction management discipline to get work done, and create and execute construction quality assurance plans.

Allocate Responsibility: For insurance and legal clients we use our expertise in evaluating, specifying and managing construction to compare what happened in problem projects to what should have. We apply professional judgment to allocate responsibility.



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1. INTRODUCTION

Program Outline

1. Introduction
2. In the Beginning
3. Inspection & Evaluation
4. Analysis & Estimate
5. Testing
6. Reports and Possible Further Work
7. Conclusion



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1. INTRODUCTION



1. INTRODUCTION

Introduction

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- F. Property Condition Assessment (ASTM E2018)
- G. Building Leak Evaluation (ASTM E2128)
- H. PFCS Building Performance Analysis Method
- I. Plaintiff Project Process Flowchart
- J. Case Study





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1. INTRODUCTION

Learning Objectives

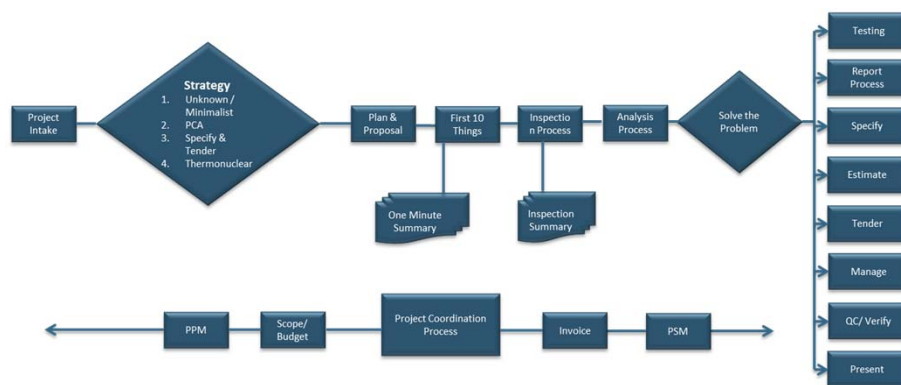
- Discuss building performance analysis standards
- Discuss various strategies for approaching construction defect cases from the plaintiff's perspective
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1. INTRODUCTION

Process Flowchart



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1. INTRODUCTION

Case Studies

1. Small Multi-family Project (PFCS 06-295)
 - A. Inspection Notes and Photos
 - B. Issues-Discussion Matrix
 - C. Scope and Estimate
 - D. Opinion Letter with Recommendations
8. Large Residential Project (PFCS 14-301)
 - A. Contracting Recommendations
 - B. Architectural Expert Memo in response to RFP
 - C. Owners, Attorney, and Expert Meeting Agenda



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2. IN THE BEGINNING

2. IN THE BEGINNING

Contents

- A. Project Intake
- B. Strategy
- C. Plan & Proposal
- D. First 10 Things
- E. Issues List
- F. Case Studies



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2. IN THE BEGINNING

Project Intake

The screenshot shows a 'New Project' form within a software application. The form is divided into several sections:

- Name:** A text input field with a placeholder 'Enter a name'.
- Project State:** A dropdown menu with the text 'Which state is the project in?'.
- Handling Office:** A dropdown menu with the text 'Select an Office...'.
- Type:** A dropdown menu with the text 'Select a Project Type...'.
- Proposal:** A checkbox labeled 'Proposal'.
- Conflict Check:** A text input field with a placeholder 'Enter search terms to run a conflict check...'.
- Opportunities:** A text input field with a placeholder 'Enter search terms to find an existing opportunity...'.
- Create a new opportunity:** A radio button.
- Don't link to an opportunity:** A radio button.
- One Minute Summary:** A section containing a list of questions:
 - 1. BIG PICTURE OF THE PROJECT (What, Where, How Big, When, Who)
 - 2. CLIENT'S ROLE IN THE BIG PICTURE (Who, What, When, Where, How Much)
 - 3. WHY ARE WE HERE? ISSUES (Who, What, When, Where, Why, How Much)
 - 4. WHAT HAS PFCS DONE? (Who, What, When, Where, How Much)
 - 5. WHAT SHOULD PFCS DO? (What, Who, When, How Much, Why, How)
- FIRST 10 THINGS:** A list of items:
 - Project Plan & Budget
 - Project Images
 - Calendar key actions for the project team



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2. IN THE BEGINNING

Strategy

Options

A. Unknown / Minimalist

B. PCA

C. Specify & Tender

D. Analyze Completely & Present Formally

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2. IN THE BEGINNING

Plan & Proposal

Line	Scope of Work / Deliverables	Status	Original Plan		Current Plan	
			Hours	Costs	Hours	Costs
1	Level 1: Preparatory Work					
2	A. Client Access Information (including One Minute Summary)		2	\$ 290.00	2	\$ 290.00
3	B. Images and Information		1	\$ 145.00	1	\$ 145.00
4	C. Issues / Inspection Checklist		2	\$ 290.00	4	\$ 580.00
5	D. Document Index		2	\$ 290.00	8	\$ 1,160.00
6						
7	Level 2: Preliminary Investigation					
8	A. Document Review and Summary		4	\$ 580.00	16	\$ 2,320.00
9	B. Interviews with Key Players		2	\$ 290.00	4	\$ 580.00
10	C. Visual Inspection: Prepare, Execute, Process Documentation		16	\$ 2,320.00	20	\$ 2,900.00
11	D. Contract Summary		2	\$ 290.00	3	\$ 435.00
12	E. Meetings / Telephone Conferences		0	\$ -	8	\$ 1,160.00
13						
14	Level 3: Analysis					
15	A. Update Issues Lists		4	\$ 580.00	4	\$ 580.00
16	B. Preliminary Analysis (Issues-Discussion Matrix)		6	\$ 870.00	16	\$ 2,320.00
17	C. Opinion Letter w- Recommendations		10	\$ 1,450.00	24	\$ 3,480.00
18	D. Players List		2	\$ 290.00	4	\$ 580.00
19	E. Meetings / Telephone Conferences		0	\$ -	8	\$ 1,160.00
20						
21	Level 4: Detailed Analysis					
22	A. Testing Protocol				4	\$ 580.00
23	B. Testing: Coordinate, Conduct and Process Documentation				32	\$ 4,640.00
24	C. Issues List Update				8	\$ 1,160.00
25	D. Finalize Analysis (Issues Summary Report)				24	\$ 3,480.00
26	E. Construction Cost Estimate (Level 4)				24	\$ 3,480.00
27						
28	Level 5: Final Analysis					
29	A. Presentation Outline				8	\$ 1,160.00
30	B. Presentation				32	\$ 4,640.00
31	C. Meetings				16	\$ 2,320.00
32	D. Deposition Testimony				40	\$ 5,800.00
33	E. Trial Testimony				40	\$ 5,800.00
34						
35						
36	Total		53	\$ 7,685.00	350	\$ 50,750.00

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2. IN THE BEGINNING

First 10 Things

- A. Project Plan & Budget
- B. Project Images
- C. Calendar key actions for the project team
- D. Document Management
- E. Project Timeline (5-20 key events)
- F. Project Players (3-15 key players)
- G. Locations/Components/Issues
- H. Client Access Invitations
- I. If there is nothing to do, calendar a note...
- J. Review with the Expert or Technical Lead



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2. IN THE BEGINNING

Issues List

- A. "A problem well stated..."
- B. A Sensible List
- C. WBS
- D. Unifomat



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2. IN THE BEGINNING


Issues List


3. A SENSIBLE LIST

"A PROBLEM WELL STATED IS A PROBLEM HALF-SOLVED."

CHARLES KETTERING

Lifehack Quotes

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2. IN THE BEGINNING

Issues List


3. A SENSIBLE LIST


Work Breakdown Structure

WBS AS OUTLINE FOR 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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2. IN THE BEGINNING

Issues 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

UNIFORMAT (PFCS STANDARD)

B 2010 Siding

- Leaks
- Incorrect Nailing

B 2060 Exterior Paint

- Deteriorated Trim
- Delaminating

B 3001 Roof

- Damage
- Leaks
- Missing Underlayment

C 3011 Interior Paint

- Inadequate Coverage
- Wrong Color



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2. IN THE BEGINNING

Case Studies

2. Small Single Family Project (PFCS 15-165)

- A. Plan and Proposal
- B. Document Summary
- C. PCA

4. Medium Multi-family Project (PFCS 14-320)

- A. Inspection Summary ready for litigation
- B. Testing Plan



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3. INSPECTION & EVALUATION

3. INSPECTION & EVALUATION

Contents

- A. PFCS Building Performance Analysis Standards
- B. Standards for Inspection and Evaluation
- C. Distillation and Utilization of gathered data
- D. Case Studies



Inspection & Evaluation

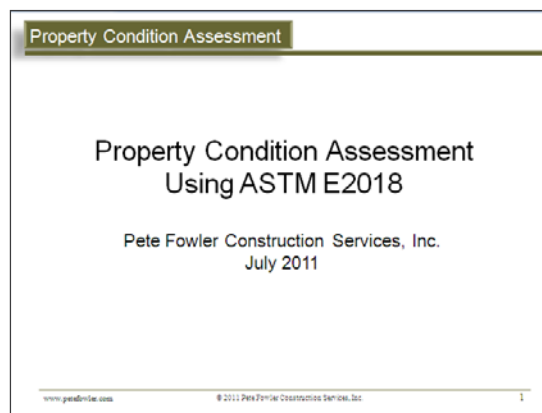
- Property Condition Assessment (ASTM E2018)
- Evaluating Water Leakage of Buildings (ASTM E2128)
- PFCS Building Lifecycle Management
- Other Inspection & Testing Standards
- Prioritizing
- Case Study



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Property Condition Assessment

- Document Review and Interviews
- Walk-Through Survey
- Opinions of Probable Costs to Remedy Physical Deficiencies
- Property Condition Report (PCR)



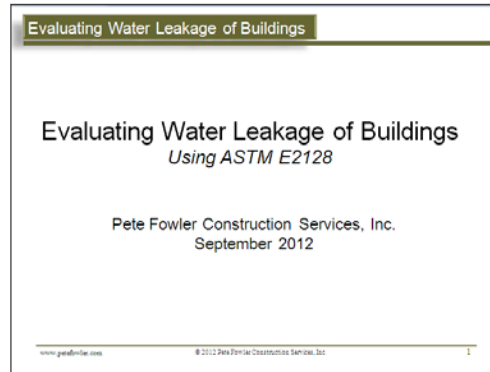
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3. INSPECTION & EVALUATION

Building Leak Evaluation

Systematic Approach to an Evaluation: Overview

1. Review of Project Documents
2. Evaluation of Design Concept
3. Determination of Service History
4. Inspection
5. Investigative Testing
6. Analysis
7. Report Preparation

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3. INSPECTION & EVALUATION

Building Performance Analysis

PFCS BPA PROCESS

1. Document & Information Management
2. Meetings/Interviews with Key People
3. Building Information Management
4. Inspection
5. Analysis
6. Testing (Only as Necessary)
7. Estimate
8. Report/Property Condition Report (PCR)

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3. INSPECTION & EVALUATION

Other Inspection & Testing Standards

- ASTM E1105 Standard Test Method for Field Determination of Water Penetration: 5 page test method; a procedure for determining the resistance to water penetration of windows and doors.
- AAMA 511-08 Voluntary Guideline for Forensic Water Penetration Testing of Fenestration Products: 11 pages. Offers a method & systematic approach for testing of fenestration products.
- AAMA 502-08 Voluntary Specification for Field Testing of Newly Installed Fenestration Products: 10 pages. Field test apparatus, sampling, test procedures and reports used in verifying water penetration resistance.
- PFCS Building Inspection and Testing: Our practices re: analysis of building performance from design, through construction and use.



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3. INSPECTION & EVALUATION

Prioritizing

PLAYING DOCTOR



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3. INSPECTION & EVALUATION

Prioritizing

PLAYING DOCTOR

- Playing (Building) Doctor: Examine, Diagnose, Prescribe
- Hippocratic Oath
- Examine: Structure, Standards
- Diagnose: Its not always obvious
- Prescribe: Do the right thing(s). And remember that one size does NOT fit all.
- Over Engineering: Not everyone can afford it.
- Evaluate: Apply Professional Judgment

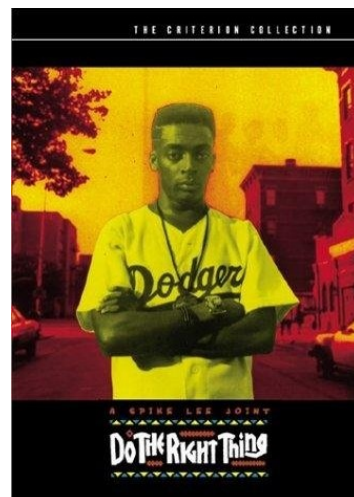
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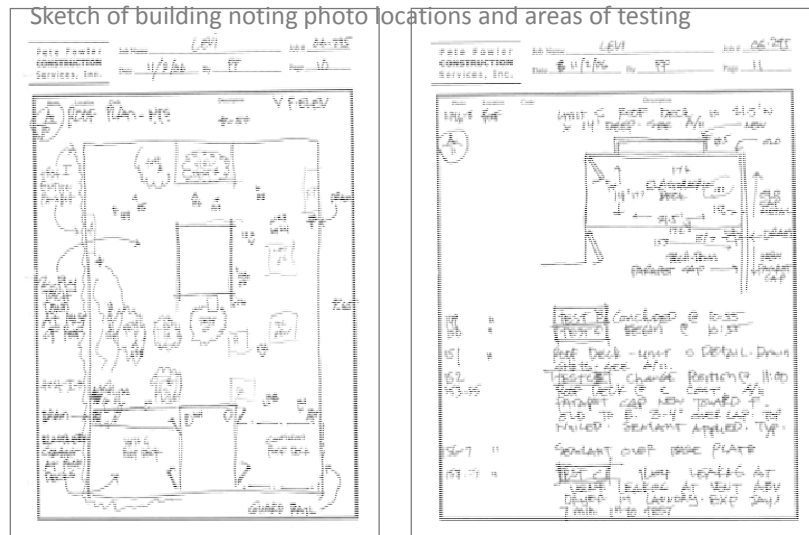
3. INSPECTION & EVALUATION

Prioritizing

DO THE RIGHT THING

- Building Life-Cycle Management
- Building Information Management
- Building Performance Analysis
- Prioritize
- Plan
- Execute
- Compare

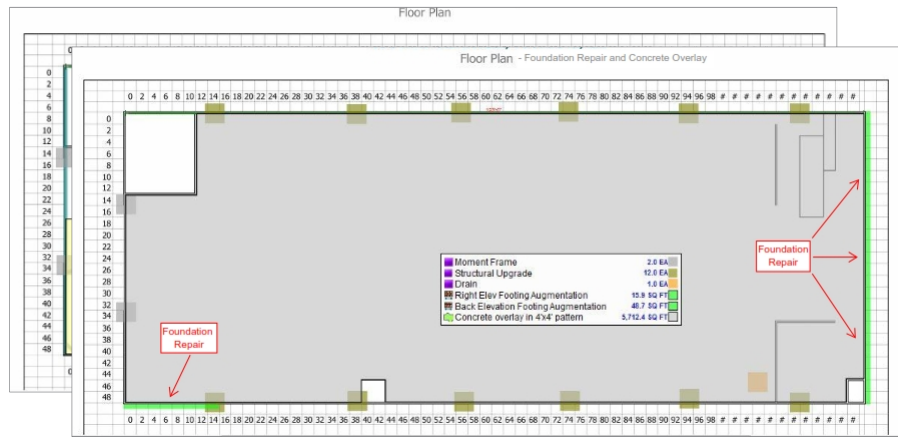
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3. INSPECTION & EVALUATION

Case Study

CASE STUDY: COMMERCIAL



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4. ANALYSIS & ESTIMATE



4. ANALYSIS & ESTIMATE

Contents

- A. Analyzing Construction Defects
- B. What is a Construction Defect?
- C. What Should Be Fixed!?
- D. Logic & Critical Thinking
- E. IIACC Method
- F. Plans, Specifications, Codes, Standards
- G. Estimating
- H. Case Studies



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4. ANALYSIS & ESTIMATE

Analyzing Construction Defects

- PFCS Analysis Process
- Strategy: SOLVE THE PROBLEM
 - Test, Specify, Estimate, Tender, Manage, Verify (QC)
- RFP's to co-experts
- Issues Update
- Issues Discussion
- Plan Review
- “Second 10 Things”



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What is a Defect?

Construction:

1. (*Noun*) To make or form by combining or arranging parts or elements.
2. To draw (a geometrical figure) with suitable instruments and under specified conditions.
3. To set in logical order.

Defect:

1. (*Noun*) An imperfection that impairs worth or utility: shortcoming <the grave defects in our foreign policy>.
2. An imperfection (as a vacancy or an unlike atom) in a crystal lattice.
3. [Latin defectus]: A lack of something necessary for completeness, adequacy, or perfection: deficiency <a hearing defect>.

Construction Defect: ??



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What is a Defect?

PFCS' DEFINITION

- The failure of a building assembly to be constructed in a reasonably workmanlike manner **AND** a failure to perform in a manner that should be reasonably expected by the buyer, owner or user.
- A condition which makes the property unsuitable for its intended use, or causes damage such that the expected service life is shortened unreasonably or an unreasonable maintenance burden is caused.



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4. ANALYSIS & ESTIMATE

What Should Be Fixed!?

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4. ANALYSIS & ESTIMATE

Specialty Consultants

- Types of Specialty Consultants
 - Architect, Engineer (Structural, Civil, Geotechnical, etc.), MEP, Accounting, Property Appraisal
- Recommend thinking about the work required from the specialty consultant and preparing a Request for Proposal (RFP) and interviews to select the best consultant for the conditions encountered at the project.

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4. ANALYSIS & ESTIMATE

Logical and Critical Thinking

FROM ASKING THE RIGHT QUESTIONS BY BROWNE & KEELEY:

1. What are the issues and conclusion?
2. What are the reasons?
3. What words or phrases are ambiguous?
4. What are the value conflicts and assumptions?
5. What are the descriptive assumptions?
6. Are there any fallacies in the reasoning?
7. How good is the evidence?
8. Are there rival causes?
9. Are the statistics deceptive?
10. What significant information is omitted?
11. What reasonable conclusions are possible?



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4. ANALYSIS & ESTIMATE

IIACC Method

Issue: Describe the issue in English, so everyone who needs to use the information to make a decision can understand. What and where.

Investigation: What have we done to figure out how the assembly is performing? Inspection. Interviews. Document Review. Testing. Maps/Diagrams. Reports.

Analysis: What should be considered? Codes. Standards. Design intent. Maintenance Manual. Performance. Aesthetics.

Conclusion: What do we *think*? Should we consider politics?

Costs: What do all of the parties think it is going to cost to fix?



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Plans, Specifications, Codes & Standards

Plans: Make references to plan sheets and details.

Specifications: Make references to variations from requirements in the specifications. Copy the pages into the file organized by issue or by party.

Codes: Refer to code requirements

Standards: Make references by issue or party.



Estimating Basics

IDENTIFY OR ESTIMATE ALL COSTS

- Remember the 100% Rule
- Costs are always an issue in solving building problems. But, it is my experience that cost is often not the primary issue, even if it appears to be.
- To figure out project costs, we need to identify the steps between “where we are” and “where we want to be” and estimate the cost of the steps; it is not as hard as most people make it out to be. This is the heart of solving building problems. Like the Issues List, we can usually identify 5 to 15 steps that will move the situation to conclusion.



4. ANALYSIS & ESTIMATE

Estimating Basics

5 LEVELS – 10 STEPS

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Level 5 Estimating

5 Levels - 10 Steps

3/10/2009

Line	Steps	Level 1 Order of Magnitude	Level 2 Conceptual	Level 3 Preliminary	Level 4 Detailed	Level 5 Bid / Construction / Trial
1	Format	Summary Sheet Only	Add capital letters (or numbers if L1 are letters) with 2 to 15 items under each of the main categories	Conform with the WBS rules: Main Category, then capital letters or numbers, then alternate with each new level	See FFCS Samples for deeper and deeper levels. Conform to rules of WBS.	Final Pass for clarity and ease of making references and following all of the component parts.
2	Scope	A Level 1 Work Breakdown Structure (WBS): 1 paragraph to 1 page. There are only basic quantities (no real QTO) in approximate figures	Add details with 2-10 categories each with letters and CSI codes. Basic QTO on main items (SF, FA, LF, etc.) Usually not calculated units like Cubic Yards (CY)	Level 3 WBS with letters, numbers, and CSI codes. More detailed QTO.	Complete, detailed QTO.	Final Pass. Check QTO on key items.
3	Time Labor	Little or no breakdown of labor / time in this step	Rough Estimate. Typical crews. Round numbers, slightly over estimating. No calls	Productivity rates. Use Walker's book on big #s	Use Walker's Labor Rates	Final Pass
4	Material	A guesstimate. Little QTO. Quantities only - not cost of materials. Assembly level estimates at the most	QTO. Rough Estimate. Slightly over estimating. Books only for big #s, NO calls unless faster than book	Calls, Books, Maybe Alternatives	Calls, Bids, Alternatives refined	Final Pass
5	Equipment	WAG. Often none	Rough Estimate. No Calls	Calls, Books	Calls, Books, Bids	Final Pass
6	Subs	Unit prices, WAG. Use books only on BIG #s	Books, NO calls	Some Calls	Lots of Calls, Maybe send info, Maybe Bids	Final Pass
7	GC's	% of Direct Cost	Reconsider % or Amount	Reconsider % or Amount	Broken Down	Same as L4
8	OH	% of Direct Cost	Reconsider % or Amount	Reconsider % or Amount	Possibly Broken Down	Same as L4
9	Profit	% of Direct Cost	Reconsider % or Amount	Reconsider % or Amount	Reconsider % or Amount	Reconsider % or Amount
10	New Construction	WAG	SWAG	More Support	More Support	Calls Bids
11	Time:	1-4 Hours	2-24 Hours	16-100 Hours	50-200 Hours	100+ Hours

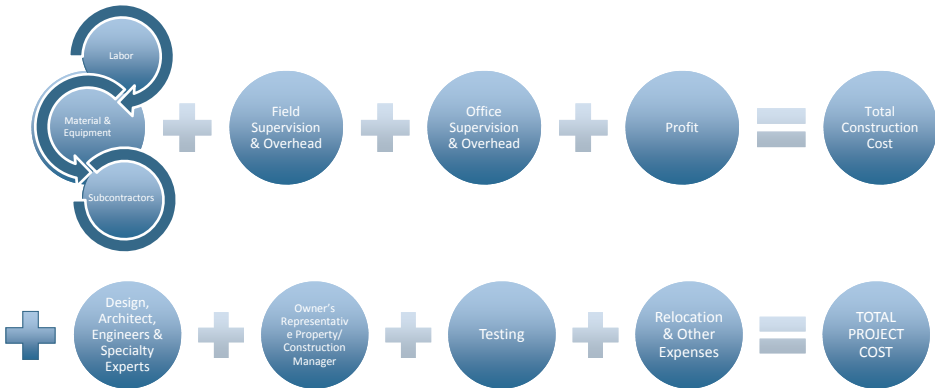


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4. ANALYSIS & ESTIMATE

Level 2+ Estimating

CONSTRUCTION COST FLOW CHART



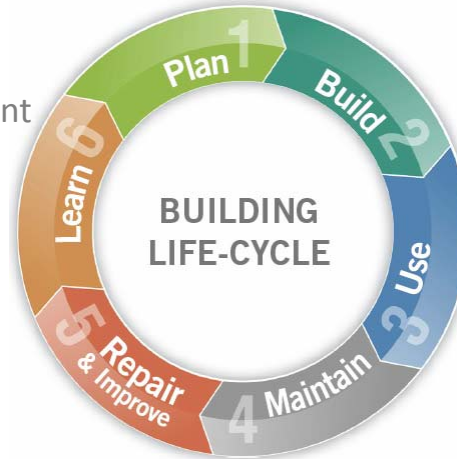
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4. ANALYSIS & ESTIMATE

BLM Defined

PFCS Definition of Building Lifecycle Management:

Actions taken with the intent of making intelligent, proactive decisions about building design, construction, use, maintenance, repair, and improvement, all while considering the entire service-life of the property.



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3. INSPECTION & EVALUATION

Building Lifecycle Management

We know buildings

EXPERTISE
PROJECT MANAGEMENT
TECHNOLOGY
STANDARDS
RESULTS

Maintaining your property is hard. We can help.

Building Life-Cycle Management Services for Owners, Associations and Managers

EVALUATION
Property Condition Assessment (per ASTM E2018)
Load Investigation and Testing (per ASTM E2129)
Information Management (incl. Doc. Document Storage and Access per ASTM E2160)

SPECIFICATION
Consultation
Maintenance Plan
Reserve Study (in close coordination with a Reserve Study specialist)
Budget
Life-Cycle Cost Analysis
Open Reviews for Maintenance, Repair and Improvement

QUALITY MANAGEMENT
Progress Schedule
Request for Proposal
Proposal / Bid Analysis
Contracts
Construction Management including break and change order processing
Quality Control Inspections
Warranty Management

PROJECT MANAGEMENT To deliver valuable work with maximum value to investors (clients), we strive to manage the design, budget and schedule of our work and yours.

TECHNOLOGY We use proprietary technology to create valuable work tools, better our clients, to make the information available to all apartment stakeholders, and to create a permanent digital record of an asset.

STANDARDS To help create manage building lifecycle performance and costs, we compare and report to industry standards and best practices. Best quality evidenced by alignment to service standards and regulatory codes for maintaining with the maintenance and repair expectations.

RESULTS We work across our clients to meet informed, effective results.

Pete Fowler Construction Services, Inc.
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4. ANALYSIS & ESTIMATE

Lifecycle Cost Analysis

Building Lifecycle Management
BLM Matrix

Page 1 of 1

#	Code	Description	Construction		Year 1		Year 5		Year 10		Year 15		Year 20		Year 25		Year 30		Year 35		Year 40		Year 45		Year 50	
			Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
1	0000	Substructure																								
2	0100	Foundations, Concrete & Scaffolding																								
3	0200	Superstructure / Masonrywork																								
4	0300	Interiorwork																								
5	0400	Roof, Ceilings & Windows																								
6	0500	Exterior Cladding, Siding & Trim																								
7	0600	Interior Wall Treatments																								
8	0700	Interior Wall Accessories & Decorative Metal																								
9	0800	Partitions																								
10	0900	Partitions, Glass / Entrance Sliding																								
11	1000	Partitions, Glass / Entrance Sliding																								
12	1100	Partitions, Glass / Entrance Sliding																								
13	1200	Partitions, Glass / Entrance Sliding																								
14	1300	Partitions, Glass / Entrance Sliding																								
15	1400	Partitions, Glass / Entrance Sliding																								
16	1500	Partitions, Glass / Entrance Sliding																								
17	1600	Partitions, Glass / Entrance Sliding																								
18	1700	Partitions, Glass / Entrance Sliding																								
19	1800	Partitions, Glass / Entrance Sliding																								
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28	2700	Partitions, Glass / Entrance Sliding																								
29	2800	Partitions, Glass / Entrance Sliding																								
30	2900	Partitions, Glass / Entrance Sliding																								
31	3000	Partitions, Glass / Entrance Sliding																								
32	3100	Partitions, Glass / Entrance Sliding																								
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41	4000	Partitions, Glass / Entrance Sliding																								
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47	4600	Partitions, Glass / Entrance Sliding																								
48	4700	Partitions, Glass / Entrance Sliding																								
49	4800	Partitions, Glass / Entrance Sliding																								
50	4900	Partitions, Glass / Entrance Sliding																								
51	5000	Partitions, Glass / Entrance Sliding																								
52	5100	Partitions, Glass / Entrance Sliding																								
53	5200	Partitions, Glass / Entrance Sliding																								
54	5300	Partitions, Glass / Entrance Sliding																								
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69	6800	Partitions, Glass / Entrance Sliding																								
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91	9000	Partitions, Glass / Entrance Sliding																								
92	9100	Partitions, Glass / Entrance Sliding																								
93	9200	Partitions, Glass / Entrance Sliding																								

4. ANALYSIS & ESTIMATE

Case Studies

6. Medium Residential Project (PFCS A2-124)

- A. Defect List
- B. Estimate
- C. Report

7. Medium Multi-family Project (PFCS 12-281)

- A. Report (Not CD)
- B. RFP to Contractors



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5. TESTING

5. TESTING

Contents

- A. PFCS Building Leakage Evaluation Seminar
- B. ASTM E2128 Standard Guide for Evaluating Water Leakage of Building Walls
- C. ROI
- D. Investigation Documentation
- E. Case Studies



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Building Leakage Evaluation



Pete Fowler
CONSTRUCTION
Services, Inc.

March 27, 2014

www.petefowler.com

CA 949.240.9971 CO 303.554.0381 OR 503.246.3744

5. TESTING

ASTM E2128-01A SECTIONS



5. TESTING

ASTM E21218-01a Sections

- Scope
- Referenced Documents
- Terminology
- Significance and Use
- Systematic Approach to an Evaluation: Overview
 - Review of Project Documents
 - Evaluation of Design Concept
 - Determination of Service History
 - Inspection
 - Investigative Testing
 - Analysis
 - Report Preparation
- Annex A1: Mandatory Information
- Appendixes (X1 through X8)



5. TESTING

ROI

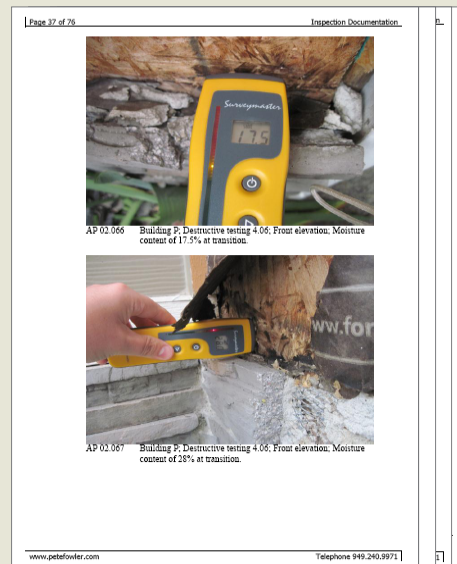


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5. TESTING

3. SAMPLE DOCUMENTS

Investigation Documentation



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5. TESTING

Case Studies

1. Small Multi-family Project (PFCS 06-295)
 - A. Inspection Notes and Photos
4. Medium Multi-family Project (PFCS 14-320)
 - A. Inspection Summary ready for litigation
 - B. Testing Plan



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6. REPORTS AND POSSIBLE FURTHER WORK

6. REPORTS & POSSIBLE FURTHER WORK

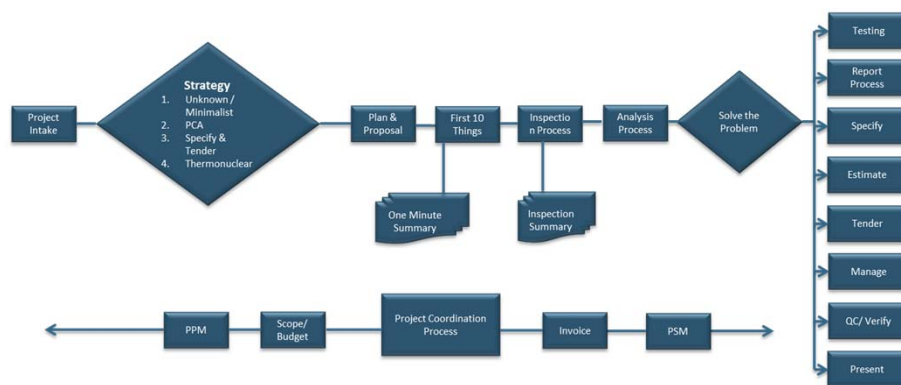
Contents

- A. Strategy
- B. PFCS Communicating in Writing
- C. Inspection Summary
- D. Issues List
- E. Testing Summary & Maps
- F. Opinion Letter
- G. Report
- H. Specifications and RFPs to Contractors
- I. Others Possible Work
- J. Case Studies

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6. REPORTS & POSSIBLE FURTHER WORK

Strategy

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6. REPORTS & POSSIBLE FURTHER WORK

PFCS Communicating In Writing

- A. Communicating in Writing © 2005
 - B. Writing is work
 - C. Summarize from A to Z
 - D. Lots of Passes
 - E. Prepare. Draft. Polish.
 - F. Awesome Work: PFCS Service Guarantee.
- Item 5 of 6. We always communicate in plain English so our clients can use the information to make informed decisions.



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6. REPORTS & POSSIBLE FURTHER WORK

Inspection Summary

Inspection Summary

Date: February 05, 2015
 To: FILE
 From: Pete Fowler Construction Services, Inc.
 Project: Orion Glass to Regal Industries, Inc. (PFCS 13-002)
 Regarding: Inspection Summary
 Note: For resolution purposes only. Protected under all applicable evidence codes.

Project Overview

This project concerns Westlake Landmark which consists of two office buildings in Westlake Village, CA. Construction of both buildings was completed in 2006. Both buildings are three story steel framed and concrete construction with cement plaster (stucco) cladding and stone clad walls with parapets, low sloped roofs, and aluminum storefront style glazing (windows).

General Inspection Summary

On 1/26/2015 Rene Gallegos attended a visual inspection and observation of repairs being performed by Viola Construction.

GENERAL INSPECTION INFORMATION

- 37 total photographs were taken, along with notes for each of the photographs. See PFCS Client Access <https://access.petefowler.com/>
- John Claudio, this, was in attendance
- Mark of Scott Howe was in attendance
- All exterior elevations were photographed
- Access to the building interiors was not permitted

VIOLA CONSTRUCTION SUPERVISOR

We spoke with the Viola Construction Supervisor. He explained that the locations of their work at the windows was indicated on the plans that we photographed (see photos below in the Building Exterior section). The window work included removal existing sill/window glazing stops where the gap to the mullion exceeded 1/8-inch, and replace with a new sill with a gap less than 1/8-inch on each side, and to apply clear silicone sealant at the vertical face of the new aluminum stop material (see Images section on the last page of this report for a marked up photograph indicating the names of the respective window components).

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6. REPORTS & POSSIBLE FURTHER WORK

Issues List

Pete Fowler CONSTRUCTION Services, Inc.

Issues List

Date: March 13, 2015
 To: Eric Beatty, Esq.
 SB Asset Partners, LP
 1212 East 18th Street, Suite 2
 Oakland, CA 94612
 Tel: (510) 542-7544
 E: EP959@SBAP-Partners.com

From: Pete Fowler Construction Services, Inc.
 Project: Country Club Village, Chino Hills, CA (PFC3 14-130)

Regarding: Issues List

Note: For resolution purposes only. Protected under all applicable customer orders.

Issues List

- (Uniform Code A1000) Foundations: Concrete Slab-On-Grade
 - A: Water intrusion / ponding at concrete slab on grade at garage door
 - B: Debris / void in concrete stem wall
- 81004 Wood Framing & Hardware
 - A: Improper construction of shear walls / incomplete shear transfer
 - B: Stained framing from water intrusion
- 80211 Exterior Enclosure: Doors / Header
 - A: Excessive ducts cracking
 - B: Missing cladding on wall
 - C: Stained ducts due to uncontrolled roof run off
 - D: Unsealed penetrations
 - E: Irregular finish at arch
 - F: Spalled ducts
 - G: Missing / buried weep screed at garage door
- 80220 Windows
 - A: Single hung windows don't operate properly
- 80300 Exterior Doors
 - A: Hardware finish deteriorated
 - B: Stucco separated from door moulding
- 80061 Sloped Roofs
 - A: Water intrusion from roof assembly
 - B: Missing diverter / sealing

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6. REPORTS & POSSIBLE FURTHER WORK

Testing Summary

#	PFC Test No.	Corresponding Test No. ¹	WU ²	Building	Elevation	Photo Ref	Orientation	Date	Testing Location	Damage	STC	Observation	
#	PFC											Observation	WI
1												Failed sealant adhesion, unprimed trim, deteriorated wood trim, rusted fasteners, window fasteners over SAM, omitted vertical leg on flashing, deteriorated GWB sheathing, microbial growth on GWB and OSB sheathing, inconsistent GWB gaps and overdriven fasteners, corroded GWB staples, SAM applied over window sill flanges.	X
2												Warped window frames, 1/8" to 1/4".	X
3												Grouted joint between stone and wood block and omission of dynamic sealant joint, corroded metal lath, microbial growth on GWB and OSB sheathing	
4												Omission of keyed scratch coat, lath not fully embedded in mortar, improper WRB Termination at grade, deteriorated WRB	
5												SAM applied over sill flange, improper window fastening (too close to corner and too far apart), warped and cracked wood trim, one layer of WRB under stone, stained GWB sheathing, rusted and overdriven fasteners	
14												Metal head flashing lapped over WRB, deteriorated WRB, fungal growth on trim cuts, microbial growth on GWB and rusted fasteners	
15													
16													
17													
18													



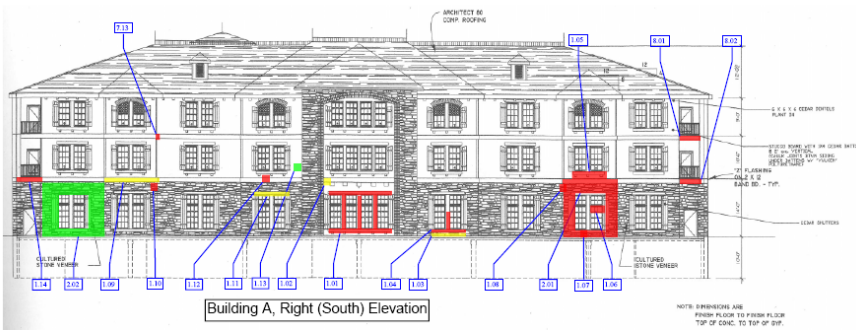
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6. REPORTS & POSSIBLE FURTHER WORK

Testing Map

08-276 Mainstreet Junction Destructive Testing Locations

- Blue = Bluth Forensics (BF) Testing
- Purple = Pete Fowler Construction Services (PFCS) Testing
- Orange = Northwest Building Consultants (NB) Testing
- Green = No Damage
- Yellow = Signs of Water Intrusion
- Red = Damage



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6. REPORTS & POSSIBLE FURTHER WORK

Testing Map

10-264 Vintage Creek: PFCS Testing Using Random Selection

- Red = Damage
- Yellow = Signs of Water Intrusion
- Green = No Damage



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6. REPORTS & POSSIBLE FURTHER WORK

Opinion Letter



Pete Fowler
CONSTRUCTION
Services, Inc.

Opinion Letter

Date: 04/04/2007

To: James Jones, Esq.
James & Lender
300 East Endemore Drive
Suite #1200
Oxnard, CA 93056
T: 805-684-5455
E: jones@joneslender.com

From: Pete Fowler Construction Services, Inc.

Project: Levi v Oost (PFCS 06-295)

Regarding: Opinion Letter

Note: For resolution purposes only. Protected under all applicable evidence codes.

Dear Mr. Jones and Mr. Branch:

Pete Fowler Construction Services, Inc. (PFCS) has analyzed documents and information related to roofing, waterproofing and water damage at 18 North Venice Blvd., Venice, CA. Our findings are summarized in this preliminary report.

I. Project Summary

The project is a 3-level, 4-unit condominium building near the beach in Venice, CA constructed around 1988-89. The building occupies the entire lot except for minimum set-backs (5 to 10-feet) at all four elevations. Level 1 consists of individual parking garages accessed at the back elevation, storage rooms, a studio and an entry foyer to access the elevator to the second floor (Units A and B or 1 and 2) and the third floor (Units C and D or 3 and 4). The building has a low slope roof, rooftop deck areas, wood siding and stucco exterior building walls, and a slab-on-grade foundation. There are four balcony decks on front and four on the back elevations.

Ms. Levi is the owner of the top right unit (Unit C or 3). She purchased the building before completion and sold three of the units as condominiums. Low-slope roof replacement work and replacement of the rooftop deck areas was performed by an unlicensed roofer hired by the HOA during the winter of 2004-05. Ms. Levi reported domestic leakage into her unit. There was additional leakage into the neighboring unit and the garage during the winter of 2005. This was due in part to the removal of the old roof and lack of protection during the rains. Although some repairs have been made the roof continues to leak into Units C and D (3 and 4). The owner is suing the HOA due to the leaks. There is interior damage and Ms. Levi has received estimates in the range of approximately \$100,000 for the interior repairs.


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6. REPORTS & POSSIBLE FURTHER WORK

Report



Pete Fowler
CONSTRUCTION
Services, Inc.

Report

Date: 07/17/2015

To: Eve A. Brackmann, Esq.
Stuart Kane LLP
630 Newport Center Dr Ste 300
Newport Beach, CA 92660
T: (949) 791-5188
E: ebrackmann@stuartkane.com

From: Pete Fowler Construction Services, Inc.

Project: Rainbow Sandals v Liberty (PFCS 15-161)

Regarding: Report

Note: For resolution purposes only. Protected under all applicable evidence codes.

Contents

- 1. Project Summary
- 2. Attachments to This Report
- 3. Key Timeline Events
- 4. Players
- 5. Key Information
- 6. PFCS Work
- 7. Costs
- 8. Conclusions

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6. REPORTS & POSSIBLE FURTHER WORK

Specifications

1. General	SIMPLY (REALLY, PLAIN ENGLISH) DESCRIBE THE WORK HERE: WHAT: WHERE (Locations): HOW MANY:
2. Materials	DESCRIBE THE MATERIALS IF WE ARE BEING SPECIFIC. IF NOT, THEN DESCRIBE WHAT WE WANT. GENERALLY A NATIONAL MANUFACTURER WITH EXCELLENT INSTALLATION INSTRUCTIONS. LOCAL TECHNICAL SUPPORT IS GREAT. BUT REALLY GOOD TECHNICAL SUPPORT THAT IS NOT LOCAL, IS SOMETIMES BETTER THAN LOCAL SUPPORT THAT IS NOT. EXAMPLE FOR AN ELECTRICAL SCOPE: A. Materials shall be of top quality and the invoices for materials shall be collected, maintained, and made available upon request by the Owner's Representative. B. Materials and components will be listed and labeled when and where required by the applicable code and municipality. C. All manufacturers' instructions, documentation, warranty, and maintenance information shall be delivered to the Owner's Representative at the time of payment application.
3. Execution	LIST THE SCOPE OF WORK HERE IN A LETTERED LIST. IF YOU GET TO Z, IT'S TOO MUCH DETAIL.
4. Quality Assurance	DESCRIBE HOW WE ARE MANAGING THE QUALITY. ARE THERE HOLD POINT INSPECTIONS? ARE WE RELYING ON THE MUNICIPALITY?

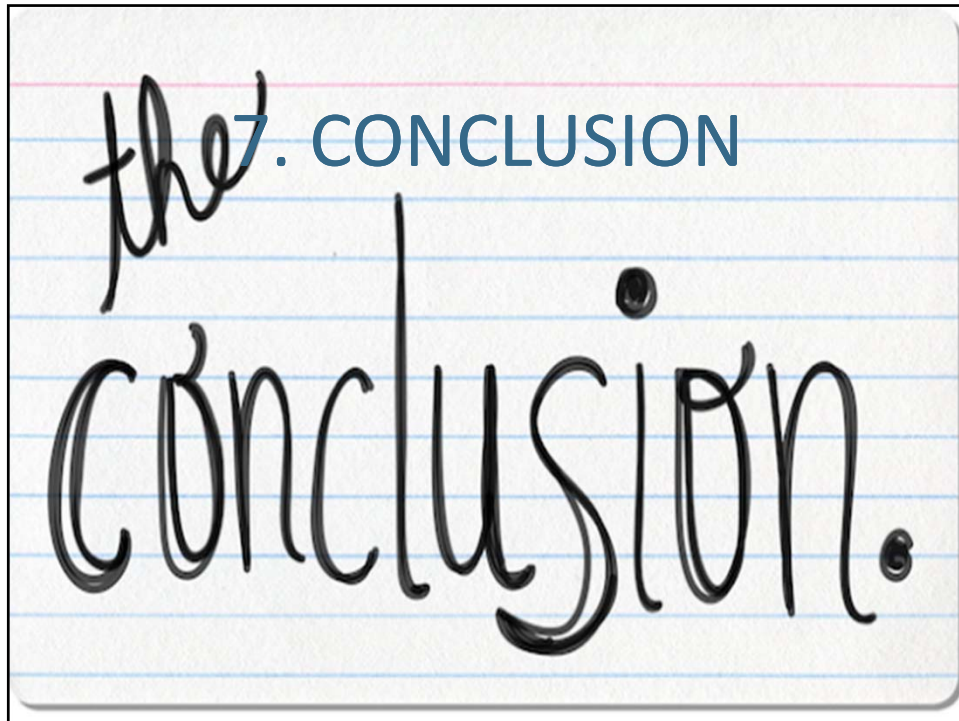
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6. REPORTS & POSSIBLE FURTHER WORK

Other Possible Work

- A. Investigation Recommendations
- B. RFP to Specialty Experts
- C. Inspection Request incl. Unbiased (Random) Selection
- D. Allocation
- E. Presentation
- F. Testimony
- G. RFP to Contractors
- H. Contract Composition & Negotiation
- I. Construction Management
- J. Quality Verification incl. Inspection

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7. CONCLUSION

Conclusion

- A. Learning Objectives
- B. Program Outline
- C. Back-Up Materials
- D. Recommendations
- E. Webinar Materials
- F. CE Certificates
- G. Feedback
- H. Program Outline



1. INTRODUCTION

Learning Objectives

- Discuss building performance analysis standards
- Discuss various strategies for approaching construction defect cases from the plaintiff's perspective
- Outline a beginning-to-end process for handling construction defect litigation
- Show real-life case studies applying various approaches to construction defect litigation matters
- Show examples of good work



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7. CONCLUSION

Back-Up Materials

1. Small Multi-family Project (PFCS 06-295)
2. Small Single Family Project (PFCS 15-165)
3. Small Commercial Project (PFCS 15-121)
4. Medium Multi-family Project (PFCS 14-320)
5. Medium Commercial Project (PFCS 15-161)
6. Medium Residential Project (PFCS A2-124)
7. Medium Multi-family Project (PFCS 12-281)
8. Large Residential Project (PFCS 14-301)



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7. CONCLUSION

Recommendations

1. Read through the program materials
2. Read the back-up materials
3. Apply the applicable industry standards to doing your work and/or hold your experts accountable to do so.
4. Be as systematic as possible.



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7. CONCLUSION

Program Outline

1. Introduction
2. In the Beginning
3. Inspection & Evaluation
4. Analysis & Estimate
5. Testing
6. Reports and Possible Further Work
7. Conclusion




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End

We know buildings

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PROJECT MANAGEMENT
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CONSTRUCTION
Services, Inc.

