

Mel's Take on How Young Professionals Learn Constructability in the Real World

THE WORLD'S GATHERING PLACE FOR ADVANCING CONCRETE

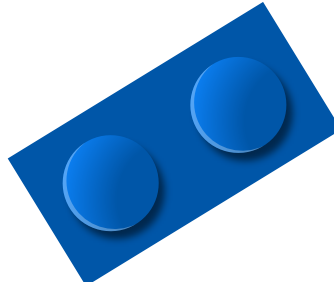
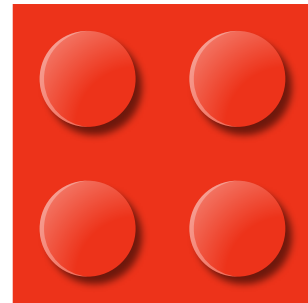
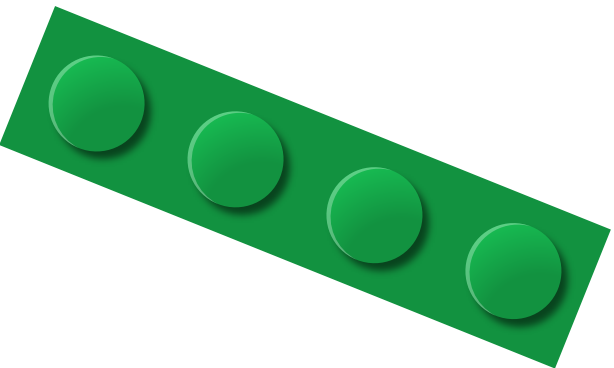
 **CONCRETE
CONVENTION**





Building Blocks of Constructability

Melissa R. Camarillo, Riteks, Inc., Chemical Admixtures
Houston, TX



ACI Fall Convention
November 3-6, 2024 | Philadelphia, PA, USA



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Jet Fueled Dreams

- We get the job after we graduate.
- The Job: Project Manager
- Share the news with friends and family.
- Time to celebrate.



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Pressure Machine

Celebrations are over.

Time to put your resume to work.

I've never PM'ed before.

But what if I did not learn it in college?

What if I have no clue what I am doing?

How do I get the job done? I need help.

Queue the ANXIETY.



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Coming out of Construction Law into Engineering

Hesitant on making decisions because I was not confident in the task I was given.

Anxiety ridden with new Deadlines and Commitments.

I managed to look outside the box.

I began to research.



What is Constructability? What does it mean?

Per ACI 134

The effective and timely integration of construction knowledge into the conceptual planning, design, construction, and field operations of a project to achieve the overall project objectives in the best possible time and accuracy at the most cost-effective levels.

Non-technical

Extent to which construction designs can be effectively and efficiently executed...safely.

Why is it important?

- Phila. Jury returns \$68.5M Verdict over Construction Worker's deadly fall
- Illinois Jury returns \$6.6M Verdict in Construction Negligence Case
- Injured Construction Worker Recovers \$5.5M because worksite had no ladder
- Construction company pays \$5M to Undocumented Worker crushed on site
- Mother suffers \$15.8M in damages one day before daughter's wedding in construction work zone
- Paralyzed construction worker receives \$21.7M after Spinal Snap at job site
- \$13M award in parking garage accident killing boy, injuring two
- Man crushed by building receives \$64.5M verdict plus confidential sett.

\$13M award in parking garage accident killing boy, injuring two

A 15-year-old boy, along with an injured mother and daughter in Milwaukee County, Wisconsin, were together awarded \$39M in damages by a jury when a 13-ton panel made by BlockBuilder1 (fell due to improper attachment. The estate of the deceased, received \$6.3M. The jury also awarded \$15M in punitive damages, with the other plaintiffs receiving no more than \$250,000 total due to a limit in state law. BlockBuilder1 was repairing a parking structure owned by the county, which received \$6M for the damage. The jury found the bulk of the blame – 88% – fell on BlockBuilder1. The project manager1, was found to be 10% at fault and the county 2%.

Courtesy of www.TheNationalTrialLawyers.org



Constructability Experts...Resources

- Construction Tradespeople
- Significant Hands-On Field Experience
- Supervising Experience
- Field Management Experience
- Good Troubleshooters

Principles

- Integration
- Construction knowledge
- Team Skill
- Corporate Objectives
- Available resource
- External factors
- Program
- Construction method
- Accessibility
- Specification
- Construction innovation
- Feedback

First Day on the Job

- Who? You're a PM
- What? You have been tasked your first project, Concrete Castle.
- When? You have 90 days to get it ready to Bid.
- Where? Concrete Pirates Engineering
- How? Let us develop a tool box of resources.



What RESOURCES do I have?



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What we know from Concept to Completion

- Scope
- Intent
- Preliminary planning/design
- Detailed engineering
- Construction



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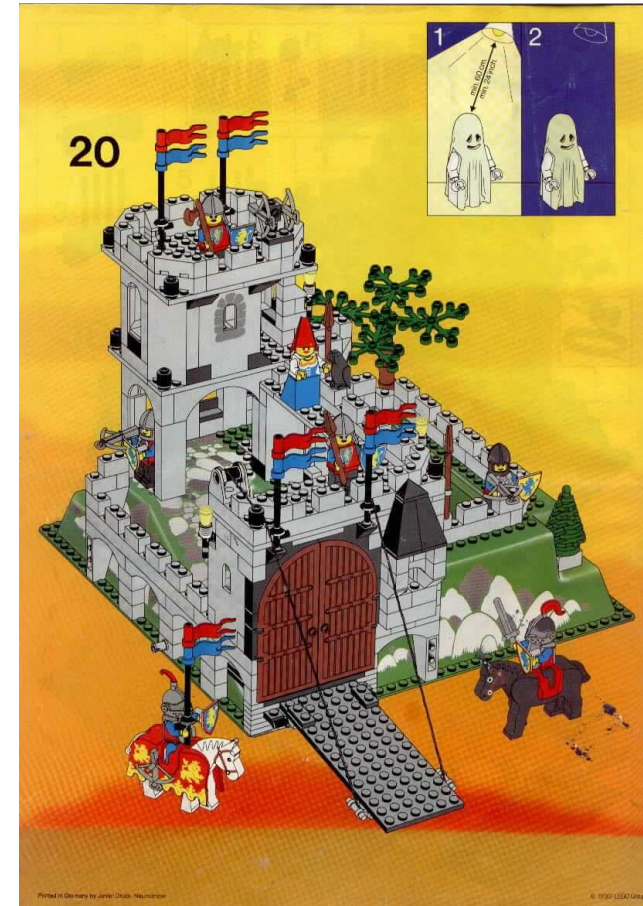


Scope and Intent

- The Project consists of constructing a Concrete Castle that will be ACI President Michael Paul's vacation home.
- Major emphasis on this contract will be to focus on the earthwork, structural slab and mass concrete placement for the structure.
- The intent of this contract is to use soil stabilization in preparation for the structural slab and mass concrete placement for the structure.

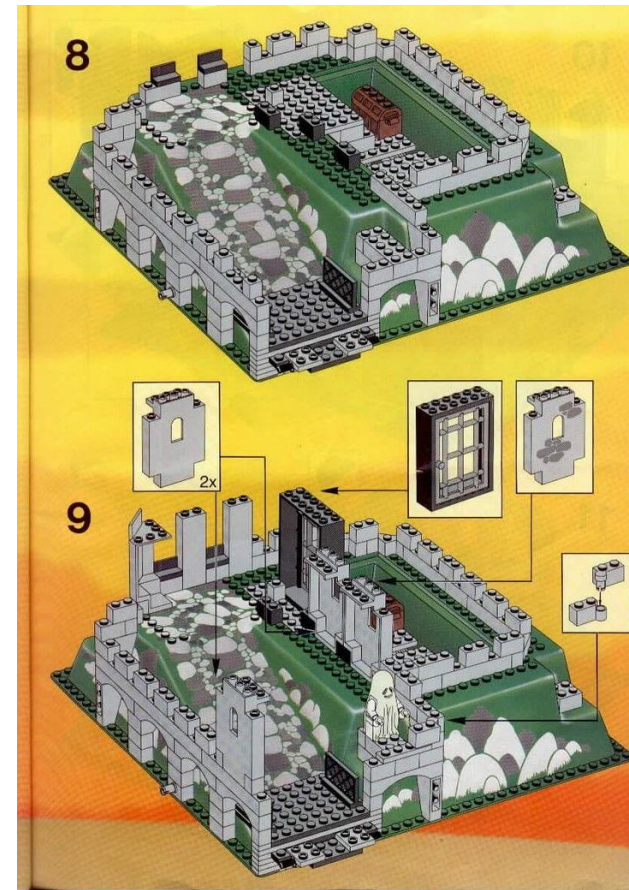
Design

- 8,000 square feet
- 11-inch thick walls (concrete)
- 2 story tower



Engineering

- Earthwork and soil stabilization.
- Multi Elevation Footings
- 3,500 psi concrete
- Load bearing walls are concrete



Construction

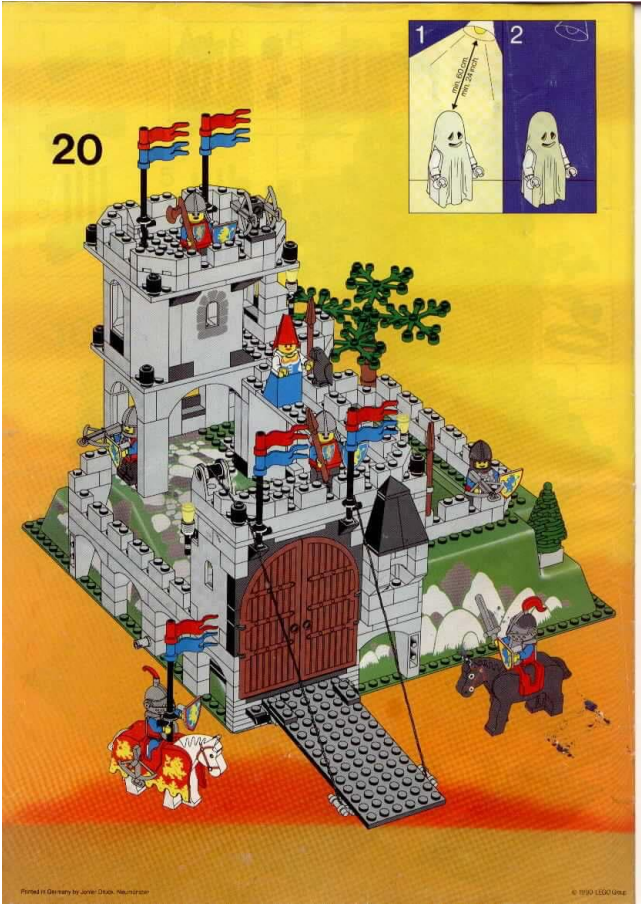


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Before and After



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What We Learned

- Utilize resources
- The who, what, when, where, how and why
- Constructability from a different perspective



Thank You

For Mentorship and Inquiries, find me on LinkedIn!

Melissa Camarillo
Business Development Manager – Chemical Admixtures Houston
mcamarillo@riteks.com

