Northern California Chapter / Joint Meeting
Monthly Meeting Agenda
April 10, 2019

1. Introductions: Welcome to LCI – NorCal Chapter
2. Salad Chat Assignment
3. Introductions + Tables’ Salad Chat Report Out
4. Main Topic: **Leveraging Your Supply Chain for Business and Project Success**
5. Key Takeaways & Questions
6. Training opportunities, coming events
7. Plus/Delta
TONIGHT’S PRESENTATION

Leveraging Your Supply Chain for Business and Project Success

5:30 to 6:30 – Salad Chat
6:30 to 7:30 – Presentation
7:30 to 8:15 – Panel Questions - Key Take aways
8:15 to 8:30 – Closing Remarks, Plus/Delta
What does Supply Chain mean to you?

&

How many links (people) in the chain are you connected to?
What does supply chain mean to you?

“Sequence of processes involved in the production and distribution of a commodity”

- Google
What does supply chain mean to you?

“A supply chain is a network between a company and its suppliers to produce and distribute a specific product to the final buyer. This network includes different activities, people, entities, information, and resources. The supply chain also represents the steps it takes to get the product or service from their original state to the customer.”

- Investopedia
GMP/Lump Sum Project Structure and Supply Chain

Diagram showing project structure with labels:
- O
- X
- A
- C
- X1, X2, X3
- A1, A2, A3
- C1, C2, C3
- x1a, x1b, x1c, x2a, x2b, x2c, x3a, x3b, x3c
- DELIVERABLE
GMP/Lump Sum Project Structure and Supply Chain
IFOA Project Structure and Supply Chain

Diagram showing the project structure and supply chain with nodes and connections.
IFOA Project Structure and Supply Chain
Cry Me Some Weep Holes
Cry Me Some Weep Holes
Cry Me Some Weep Holes
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Grab and Go… but where will air blow?
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Grab and Go… but where will air blow?
MRI going to make it doc???
MRI going to make it doc???
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MRI going to make it doc???
a simple concept.
complicated.
a simple concept.
Supply Chain Management

MATERIAL PLANNING
PROCUREMENT & INTEGRATION
WAREHOUSE & FULFILLMENT
DISTRIBUTION
REPAIRS & RETURNS

complicated.

complex.
One team, 2 prefab systems.

Composite racks

Composite panels
COMPOSITE RACKS

- Internal team
- Concepted at beginning of design
- Trade partners materials / constructability to get within budget
- Collaboration w/ AHJ for off-site factory inspection
DIRTT Room-by-room review

idea ➔ design ➔ model

submit ➔ sub ➔ gc ➔ cd’s

gc ➔ design ➔ gc ➔ sub

use ➔ punch ➔ install ➔ fab

Collaborative integration

Coordination ...3-4 slides
Physical and process coordination.
Humans produced the panels.
Evolution and status of open issues before releasing for fabrication
Reliability: PPC, CL, PRCO
MOB TI - Reasons for Variance
Date Range: Last 8 Weeks showing Last 6 Days
Report Date: 2018-09-16

- Constraint Complete but not Communicated
- Constraint Not Complete
- Other
- Unavailable Material
- Unreliable Reporting - Status Unknown
- Workflow Replanned Mid-Cycle
- Unplanned Constraint Not Complete in Time
- Unavailable Labor
- External Party Failed to Meet Commitment
- C&S Team Constraint Not Completed in Time
- Unplanned Constraint Not Complete
- Constraint Not Complete in Time
- Committed Work Not Understood or Mis-Described

Variance Repot
Supply Chain
The GC Perspective
• STARTING TO THINK OF PROJECTS AS PRODUCTION SYSTEMS

• WORK TOGETHER TO SYSTEMATICALLY CONTROL CAPACITY AND MAXIMIZE FLOW

• MORE VERTICAL INTEGRATED ALLOWS FOR TRUE PRODUCTION PLANNING AND SUPPLY CHAIN OPTIMIZATION
New Rules, New Roles
Build The Team and Culture

- Align Individual Expectations
- Trade Representation
- True Engagement
- Bridge the Gap (iterative vs Linear)
- Facilitate the workings of overall supply Chain
Facilitate Wider Cross Functional Influences In Preconstruction & Design

- Planning and Programming (Design that allow for fabrication)
- System Selection (Steel or concrete)
- Detailing, Parts and Piece (Bolted connections vs welded)
- Installation/ Production Strategy (East to West, One crew or two, Prefab)
Capture Ideas: Innovation Log

• Beam Penetrations
• Precut Hangers
• Staggered Start Times
• Oversized Fire Protection
• 2 Tier Columns
• 2 Story Unitized
• Standing Drywall
• Shared lift program
Create a New Environment
CREATE A STABLE ENVIRONMENT TO ALLOW FLOW

Keeping Everyone Working

Make Everyone Flow

Optimize the slowest trade, then set the rhythm or takt of construction

Keeping Everyone Working

Make Everyone Flow

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TAKT PLAN:
Establish Production Rules

Material and shop floor optimization

- Freshley processed materials can replace the use of materials for inventory and labor costs.
- The labor required to process the materials is reduced.

Establishing production rules

- Defining the rules helps in maintaining consistency in production.
- It ensures that all processes are followed consistently.

Production planning and scheduling

- The production planning and scheduling process helps in determining the production schedule.
- It ensures that the production is carried out in a timely manner.

Production overview

- The production overview provides a clear understanding of the production process.
- It helps in identifying areas that need improvement.

Production control

- Production control is essential to ensure the quality of the production.
- It helps in maintaining consistency in production.

Production performance

- The production performance is measured using various metrics.
- It helps in identifying areas that need improvement.

Production review

- The production review is conducted regularly to identify areas that need improvement.
- It helps in identifying areas that need improvement.

Production downtime

- Production downtime is minimized to ensure that production is carried out in a timely manner.
- It helps in maintaining consistency in production.

Production cost

- The production cost is minimized to ensure that production is carried out in a cost-effective manner.
- It helps in maintaining consistency in production.

Production quality

- The production quality is maintained to ensure that the products are of high quality.
- It helps in maintaining consistency in production.

Production safety

- The production safety is maintained to ensure that the production is carried out in a safe manner.
- It helps in maintaining consistency in production.

Production management

- The production management is essential to ensure that the production is carried out in a timely manner.
- It helps in maintaining consistency in production.

Production support

- The production support is essential to ensure that the production is carried out in a timely manner.
- It helps in maintaining consistency in production.

Production data

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- It helps in maintaining consistency in production.

Production environment

- The production environment is maintained to ensure that the production is carried out in a safe manner.
- It helps in maintaining consistency in production.

Production benchmarking

- The production benchmarking helps in identifying areas that need improvement.
- It helps in maintaining consistency in production.

Production goals

- The production goals are set to ensure that the production is carried out in a timely manner.
- It helps in maintaining consistency in production.

Production strategy

- The production strategy is essential to ensure that the production is carried out in a cost-effective manner.
- It helps in maintaining consistency in production.

Production decisions

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Integrator of Supply Chain, Fabrication
Supply Chain Alignment

- Model and Spooled to Area
- Pre-Fabricated & Kitted to Area
- Packaged and Labeled to Area
- Deliver to Area
Cross Functional Prefabrication Strategy

Drivers for Prefabrication
- Limited Workforce
- Improved Quality
- Schedule

Design for Prefabrication
- Prefabrication workshop
- Finalize Prefabrication Matrix
- Prefabrication Strategy

Prefabrication Execution Plan
- Fabrication Facility
- Logistics
Fabrication: Provide What We Need
Can We Change Quick Enough!... Or be left behind
The Supply Chain

How We Manage, Mitigate and Meliorate the Process

The 3M’s
Let’s Talk About…

Our Labor Pool
Our Vendors
The RFI Process
SMWIA Geographic Territory

SMWIA Local Union territories by county

Local 104
District 1
5,075 Members

Local 104
District 2
2,029 Members

Local 105

Local 104
District 3
256 Members

Local 206
How Do You Treat Your Best Asset & Greatest Risk?
With Care, Respect & Dignity
Invest in Their Training & Development
The Mission of the Workforce Development Division is to advance shared prosperity in San Francisco by retaining, attracting, and creating the conditions to grow jobs; and training, preparing and connection resident to these jobs; with the goal of helping all residents achieve economic self-sufficiency.

18-week training that focuses on both hard and soft skills
City-wide recruitment and outreach through Community Organizations
Partnerships with several local Labor Unions and Apprenticeship Programs
Support from many large and small construction firms
CityBuild & The Labor Pool Shortage Opportunity

- 8 Year Partnership/Relationship
- Influenced over 500 Potential Candidates
- Conducted Approximately 16 Workshops
- Sit on the Interview Panel
- Hired over 20 Students
- 1 Foreperson, 1 Detailer Currently, Apprentices
- Changes Lives – for Us and Them
Vendor & Material Management Opportunity
Vendor & Material Management

Created order forms to communicate needs to vendor
Includes floor break out, sizes, zones, color codes
Vendor modified to meet their needs and approved
Created control and improves communication
Reduces mistakes and gives control to forepersons
Improvement Through Process
Design and the RFI Process Opportunity
Partnering with EOR & Architectural Leads

Started due to schedule constraints and incomplete documents

Reduces information required to our teams – give what we need only

Improved communication (see Detailer note)

Served as their QA/QC for contract documents

Provided layout & sizing – EOR reviewed and approved

Proposed equipment changes and constructability discussions

Informed both Arch/Struct of design needs for spatial coordination
How Do We Tie This All Up
Wrap Up

Listen to your people
Attack the complex like eating an elephant
Work to be a little better each day
Fix it
Empower your people to see and do something
Don’t settle for just okay
Know what sets you a part – as a company, project team an individual
It’s not easy – it’s not impossible
It takes all of us
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LIGHTNING ROUND

1st Round – Questions

2nd Round – Key Takeaways
Join LCI

Annual Membership Costs

• Corporate: $7,500 (National)/ $5,000 (Regional, <50 employees)
• Vendor Membership: $7,500
  Law Firm / CPA Membership: $3,000
• Individual: $250 per year
• Academic: $75 (Faculty)/ $50 (Student)

Benefits

• Listing on LCI website with contact information and link to member site
• Access to Members-Only Website for materials, forms, training materials etc.
• Reduced fees for LCI Seminars, Workshops and Research Meetings.

For additional benefits, information and to sign up, go to:
WWW.LEANCONSTRUCTION.ORG
Transforming Design and Construction: A Framework for Change

WILLIAM R. (BILL) SEED, Executive Editor

A diverse set of contributors have collaborated to create this Framework for Learning based on the transformative projects and experiences of their Lean practices. They span the breadth of the industry: owners, designers, builders, specialty contractors, educators and consultants. The papers, presented in chapter format, are intended to encourage discussion, learning and experimentation. They alone will not offer sufficient knowledge to implement all of these concepts. They will, however, help direct readers further along their learning journey.

Pricing (up to 6 copies):*
Non-member: $53/ea.
Member: $33/ea.

Bulk discounts (for corporate members only):
Please contact Julia Shellhouse
LCI Books available for order

LCI Special Edition: This Is Lean
NIKLAS MODIG & PÄR ÅHLSTRÖM

This is Lean gives an easily accessible, structured, and inspiring account and description of Lean. Most important perhaps is the value and effect of the joint development of the whole organization, and the structured way of working from co-workers to executives. Here are enormous benefits to gain — both for co-workers, for the company and organization, and not the least for the customer.

Pricing (up to 6 copies):*
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Member: $24/ea.

Bulk discounts (for corporate members only):
Please contact Julia Shellhouse
* the price of the book reflects shipping costs
Target Value Delivery: Practitioner Guidebook to Implementation – Current State 2016  
Kristin Hill, Katherine Copeland and Christian Pikel  
As the second edition in LCI’s Transforming Design & Construction series, this manual, written by a team of over 20 Target Value Design practitioners, is made to provide readers with a “how to” of TVD in real projects.

Pricing (up to 6 copies):*  
Non-member: $52/ea.  
Member: $33/ea.

Bulk discounts (for corporate members only):  
Please contact Julia Shellhouse  
* the price of the book reflects shipping costs
REMIN DERS & FYIs

Learning Program
• Additional training dates coming soon
  • May 1 – Sacramento HGA – Intro to Lean Project Delivery
  • May 3 – Oakland AIA - Intro to Lean Project Delivery
  • May 29 – Sacramento HGA – Intro to Last Planner System
  • May 31 – Oakland AIA - Intro to Last Planner System
  • Sept TBD – Sacramento TBD – Mindset of an Effective Big Room
  • Sept TBD – Oakland TBD – Mindset of an Effective Big Room

Monthly Meeting program
• May 8 – Bay Area – Lean Meetings – A Collaboration Fundamental
• May 8 – Central Valley – Instituting a Reflection Process
• June 12 - Combined meeting in Walnut Creek
• July – Summer Break – No meeting
• August 14 – Separate meetings in Sacramento and Oakland
A Must-Attend Design Industry Event

SAVE THE DATE

MAY 29-30, 2019 • CHICAGO, IL

LEAN IN DESIGN FORUM
LCI COMMUNITIES OF PRACTICE

SAVE THE DATE

21ST

LCI CONGRESS

OCTOBER 14-18, 2019  |  FORT WORTH, TEXAS
WRAP UP

Plus / Delta - Feedback to improve meeting

Thanks!
Adjourned – Drive Injury Free

Don’t Forget to Join LCI and LCI NorCal on LinkedIn