Northern California Chapter / Joint Meeting

Monthly Meeting Agenda

June 5, 2019

1. Introductions: Welcome to LCI – NorCal Chapter
2. Salad Chat Assignment
3. Introductions + Tables’ Salad Chat Report Out
4. Main Topic: **With $10B in work in the next 10 years, what are owners like DGS, SFO, and UCSF looking for in their partners?**
5. Key Takeaways & Questions
6. Training opportunities, coming events
7. Plus/Delta
With $10B in work in the next 10 years, what are owners like DGS, SFO, and UCSF looking for in their partners? rney

5:30 to 6:30 – Salad Chat
6:30 to 7:45 – Presentation
7:45 to 8:15 – Key Takeaways - Questions
8:15 to 8:30 – Closing Remarks, Plus/Delta
Describe your best public project and what made it successful.
Lean Construction Institute &
International Partnering Institute
(State Projects Infrastructure Fund) “SPIF”

Mike Meredith, Capital Outlay Program Manager
Wednesday 6-5-19 | 5:30p-8:00p | Embassy Suites, Walnut Creek, Ca.
Welcome

Thank you to both LCI and IPI for the program opportunity

Thank you McGuire Hester for sponsoring
Introductions

- **Mike Meredith**, DBIA Fellow
- Department of General Services
- Capital Outlay Program Manager
Presentation Overview

What is the “SPIF” program

Partnering focus in SPIF

Lean Principles Implementation
<table>
<thead>
<tr>
<th>Project Description</th>
<th>Delivery Method</th>
<th>Funding Status</th>
<th>Approx. Square Footage</th>
<th>Approx. Stipulated Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;P&quot; Street: New Department of Natural</td>
<td>D-B Stipulated Sum</td>
<td>Funded</td>
<td>840,000</td>
<td>520,000,000</td>
</tr>
<tr>
<td>Resources Building</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>&quot;O&quot; Street: CHHS Building</td>
<td>D-B Stipulated Sum</td>
<td>Funded</td>
<td>370,000</td>
<td>231,000,000</td>
</tr>
<tr>
<td>Fiscal Year 16/17 &amp; 17/18 Contracts in Place (Subtotal)</td>
<td></td>
<td></td>
<td>1,210,000</td>
<td>751,000,000</td>
</tr>
<tr>
<td>Jesse Unruh Building Rehabilitation</td>
<td>Design-Build</td>
<td>PC Funded</td>
<td>164,206</td>
<td>70,000,000</td>
</tr>
<tr>
<td>Gregory Bateson Building Rehabilitation</td>
<td>Design-Build</td>
<td>PC Funded</td>
<td>293,516</td>
<td>131,000,000</td>
</tr>
<tr>
<td>Richards Blvd. Complex</td>
<td>Design-Build</td>
<td>PC Funded</td>
<td>1,343,800</td>
<td>915,000,000</td>
</tr>
<tr>
<td>Printing Plant Demo</td>
<td>DBB - Low Bid</td>
<td>Award in process</td>
<td>0</td>
<td>12,000,000</td>
</tr>
<tr>
<td>Resources Renovation</td>
<td>Design-Build</td>
<td>PC Funding July 1</td>
<td>657,000</td>
<td>312,000,000</td>
</tr>
<tr>
<td>Fiscal Year 18/19 &amp; 19/20 (Subtotal)</td>
<td></td>
<td></td>
<td>2,458,522</td>
<td>1,435,000,000</td>
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<tr>
<td>Blue Anchor Building Renovation</td>
<td>Design-Build</td>
<td>Future FY</td>
<td>24,794</td>
<td>TBD</td>
</tr>
<tr>
<td>EDD Complex Renovation</td>
<td>Design-Build</td>
<td>Future FY</td>
<td>645,113</td>
<td>TBD</td>
</tr>
<tr>
<td>450 N Street Renovation</td>
<td>Design-Build</td>
<td>Future FY</td>
<td>657,000</td>
<td>TBD</td>
</tr>
<tr>
<td>Fiscal Year 20/21 &amp; 21/22 (Subtotal)</td>
<td></td>
<td></td>
<td>1,326,907</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>SPIF Program Approximate (Total)</strong></td>
<td></td>
<td></td>
<td><strong>4,995,429</strong></td>
<td><strong>2,979,000,000</strong></td>
</tr>
</tbody>
</table>
Resources Bldg. “P” street Plaza elevation
What - SPIF 2.0 Program current focus

- Budget: ~$1.4 Billion for five projects
- Design-Build Projects

- Richards Boulevard Office Complex ~$915M
- Unruh Building Renovation ~$70M
- Bateson Building...
- Resources Building Renovation ~$312M
- Printing Plant Demolition ~$12M
What - SPIF Sequencing

FY 2016-17
<table>
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<td>New O Street Office Building</td>
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<td>Renovate Bateson</td>
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<td>New Nat. Resources Agency HQ Bldg.</td>
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<td>Renovate Jesse Unruh Building</td>
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<td>Renovate Old Resources Bldg</td>
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<tr>
<td>Renovate EDD Complex</td>
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<tr>
<td>Demolish State Printing Plant</td>
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<tr>
<td>New Richards Blvd Office Campus</td>
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<tr>
<td>Renovate Office Bldg #28 (450 N St)</td>
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<td>Renovate Blue Anchor Building</td>
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</table>
What - Organization of Program

Mike Meredith
Capital Outlay Program Manager
What - Program Management Team

RICHARDS BOULEVARD OFFICE COMPLEX PROJECT TEAM
- Mike Meredith (Capital Outlay Program Manager)
- Julie Sanchez (Associate Construction Analyst)
- Amie Nulman (Associate Principal)
- Richard Standiford (Project Director III)
- Juli Kawahata (Project Director I)
- John Webber (Project Manager)
- Jeremy Massey (Project Manager)
- Amber Brodie (Project Manager)

BATESON & UNRUH PROJECT TEAM
- Paul Wilburn (Project Director I)
- Leslie Sakai Nesley (Project Director III)
- Erik Heerhartz (Project Director I)
- Courtney McLeod (Partner)
- Jennifer Costa (Associate/Project Manager)
- John Zorich (Associate/Project Manager)

JACOBS
- Randy Severini (Program Integration)
- Andrew Mittleman (Program Manager)
- Jodi Hempy (Program Coordinator)
- Jeremy Massey (Project Manager)

ARUP
- Amie Nulman (Associate Principal)
- Alex Korter (Associate Principal)

CO ARCHITECTS
- Kevin McCauley (Project Manager)

DREYFUSS+BLACKFORD
- Golden (Partner)

PRINTING PLANT DEMOLITION PROJECT TEAM
- Juli Kawahata (Project Director I)
- Jennifer Costa (Associate/Project Manager)
- John Zorich (Associate/Project Manager)
What - Project Management

- **Contract Elements**
  - Design-Build Delivery, Best Value, Two Step, w/ Stipulated Sum
    - YES – we want to do Progressive Design-Build and working on it!!!
  - Project Labor Agreement & Community Workforce Agreement
  - Contractor Controlled Insurance Place (CCIP)
  - Commissioning
  - Carbon Neutrality & Mass Timber Elements
  - Lean Tools/Principles
  - Small Business (SBE) & Disabled Veteran Business Enterprise (DVBE)
What - How will we execute the project?

- Design-Build 2-Step Best Value with Stipulated Sum

**RFQ**
- Financial Capacity
- Safety Record
- Design Build Team
- Project Experience
- Approach
- Interview

**RFP**
- Designated Subcontractors
- Proposed Design
- Design and Construction Management
- Small Business/DVB Utilization Plan
Partnering

Mike Meredith
Capital Outlay Program Manager
Partnering

Best-in-Class Project Team

Owner of Choice
“Coming together is a beginning; keeping together is progress; working together is success.” - Henry Ford
Partnering - Owner Confidence: Trust

- “Lean Project Delivery”, “Commercial Real Estate Revolution”, “Speed of Trust”. All books stress and encourage Design-Builders and Owners to “trust” each other. Trust = Competence + Character

- Can’t have TRUST without both components!!!

- TRUST – Important Business case to be made for it! Not just hyperbola
Partnering - Owner Confidence: Alignment Expectations of D-B Entity

- Honesty, Open Communication, Listen
- Decisions: What is in the Project’s best Interest?
- Executive Level Engagement
- When it is D-B’s issue to resolve – Own up to it!!!
- Develop References – we do call!!!
- Build confidence thru your reputation and business dealings. Are you Design-Build centric?
Partnering - Owner Confidence: Alignment Expectations from D-B Entity

- Use Formal Partnering - Especially FOCUS GROUPS!!
- Offer to help with Owner’s Issues and Obstacles
- Win Respect of Authorities Having Jurisdiction & Stakeholders
  › Very difficult issue in our industry right now
- Be a progressive Entity – today’s project needs are very broad, complex, and diverse. Are Design-Builders equipped for the broad expectations?
Resources P street project
Lean Principles

Mike Meredith
Capital Outlay Program Manager
Lean Principles – The Why

Why is DGS jumping on board. Lean is New for Us!!

› We see operational efficiencies for Owner to participate in

› Want to be a progressive Owner

› If the industry and practitioners are using it we need to be educated.
Lean Principles - The Why

- The use of lean tools and principles has become prevalent in the Industry
  - In fact many industries
    - Manufacturing
    - Healthcare
    - Construction

- Many General Contractors have integrated Lean tools into their standard project delivery processes
Lean Principals – What to implement?

- Jumping in at shallow end
  - We recognize our lack of experience in Lean
  - Strategy to bring our staff along and build our culture
  - Not sure how we want to formalize our RFP's
    - Or do we simply make it part of the competition?
Lean Principles - The Why

- Compliments our Design Build Strategies
  - Commonality with D-B’s collaborative environment

- A case has been made that it makes good business sense
  - Higher Quality, due to increased collaboration and advanced planning
  - Lower cost, due to less re-work and reduced waste
Lean Principles - The Why: Productivity

In the United States, labor productivity in construction has declined since 1968, in contrast to rising productivity in other sectors.

Gross value added per hour worked, constant prices
Index: 100 = 1947

- **Agriculture**: Compound annual growth rate, 1947-2010 = 4.5%; Total change = 16.1x
- **Manufacturing**: Compound annual growth rate, 1947-2010 = 3.5%; Total change = 8.6x
- **Wholesale and retail**: Compound annual growth rate, 1947-2010 = 3.4%; Total change = 8.0x
- **Overall economy**: Compound annual growth rate, 1947-2010 = 1.9%; Total change = 3.3x
- **Mining**: Compound annual growth rate, 1947-2010 = 0.5%; Total change = 1.4x
- **Construction**: Compound annual growth rate, 1947-2010 = 0.1%; Total change = 1.1x
O street 3rd floor deck
Lean Principles - The Why: Perception

- **Lean Practitioners**
  - Inefficient/Highly Inefficient: 62%
  - Neutral: 19%
  - Efficient/Highly Efficient: 19%

- **Non-Practitioners**
  - Inefficient/Highly Inefficient: 55%
  - Neutral: 5%
  - Efficient/Highly Efficient: 26%
Lean Principles - The Why: Benefits


BENEFITS REPORTED BY A HIGH PERCENTAGE OF LEAN PRACTITIONERS
(by Level of Achievement)

- **Improved Safety**
  - High Level of Achievement: 39%
  - Medium Level of Achievement: 38%
  - Total: 77%

- **Greater Customer Satisfaction**
  - High Level of Achievement: 38%
  - Medium Level of Achievement: 42%
  - Total: 80%

- **Higher Quality Construction**
  - High Level of Achievement: 36%
  - Medium Level of Achievement: 48%
  - Total: 84%

- **Reduced Project Schedule**
  - High Level of Achievement: 34%
  - Medium Level of Achievement: 40%
  - Total: 74%

- **Greater Productivity**
  - High Level of Achievement: 33%
  - Medium Level of Achievement: 44%
  - Total: 77%

- **Greater Profitability/Reduced Costs**
  - High Level of Achievement: 30%
  - Medium Level of Achievement: 34%
  - Total: 64%

- **Better Risk Management**
  - High Level of Achievement: 21%
  - Medium Level of Achievement: 50%
  - Total: 71%
Lean Principles - The Why

- We are in the most prevalent region for implementation of Lean tools
Lean Principles – Where we are starting

○ Fundamentals
  › Big Room environment
  › Visualization
  › Last Planner
  › Choosing by advantages & the 5 Why’s
Lean Principles - The How

Education and Exposure to Lean Tools

- Leverage industry relationships
- Dave Umstot – Lean Project Delivery, Building Championship Project Teams
- LCI events, publications and trainings
- State of California training opportunities
Lean Principles - The How
Lean Principles - The How

- Co-Location “Big Room” Environments
  - Projects and Delivery method conducive to co-location

- Identify Value
  - Focus on key components (Lean Starter Pack)
  - Engage in elements that DGS staff can participate in
  - Determine minimum components to include in an RFP
Lean Principles - The How
Lean Principles - The What

- A Tool - Root Cause Analysis – 5 Why’s

5 WHYs Worksheet

Define the Problem: (Insert one of the top prioritized student needs)

Why is it happening? (Identify each as a concern, influence or control):

1. 
   → Why is that?

2. 
   → Why is that?

3. 
   → Why is that?

4. 
   → Why is that?

Caution: If your test answer is something you cannot control, go back up to previous answer.

5. 
   → Why is that?
Lean Principles - The What: Additional Tools

- A3 Problem Solving and Reporting

<table>
<thead>
<tr>
<th>PROCESS:</th>
<th>THEME:</th>
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<tbody>
<tr>
<td>BACKGROUND:</td>
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<table>
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<tr>
<th>CURRENT CONDITION:</th>
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<table>
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<th>ROOT CAUSE ANALYSIS:</th>
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<table>
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<tr>
<th>TARGET CONDITION:</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>IMPLEMENTATION PLAN:</th>
</tr>
</thead>
</table>

- List the actions which must be done in order to realize the Target Condition, along with the individual responsible for the action and a date limit.
- Add other items, such as cost, that are relevant to the implementation.

<table>
<thead>
<tr>
<th>Action</th>
<th>Responsibility</th>
<th>Deadline</th>
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<tr>
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<table>
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<th>OBJECT:</th>
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<tr>
<th>FOLLOW-UP:</th>
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<table>
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<tr>
<th>Plan</th>
<th>Actual</th>
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</table>
Lean Principles - The What

- A3 Problem Solving and Reporting

UCSF Block 33 - A3 Report

Post-Tensioned Slab

The Technical Performance Criteria document indicates that "post-tensioned systems are not permitted" for floor construction; however, UCSF has recently expressed openness to evaluating post-tensioning as an option for the Block 33 project.

**3 Proposed**

- Achieve a design for all elevated floors that meets the vibration and deflection requirements outlined in the TPC, that also provides flexibility for future tenant improvements and long term durability at a reasonable initial cost.

- Provide post-tensioned slabs at all elevated levels as follows:
  - Use 10" thick slabs at roofs, office areas, and non-procedure areas of the clinic to meet the 33,000 x 100 lbs vibration criteria.
  - Use 14" thick slabs at clinic procedure areas to meet the 4,000 x 100 lbs vibration criteria.
  - Provide an encapsulated PT system to protect the tendons and anchorages against corrosion.
  - Provide closure strips at levels 2 through 6 to reduce shear wall restraint effects from elastic shortening as well as concrete shrinkage and creep of the slabs.
  - The need for closure strips at levels 7 to roof will be reviewed as the final construction sequence is developed.

4 Analysis

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>PT SLABS</th>
<th>CONVENTIONAL SLABS</th>
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</thead>
<tbody>
<tr>
<td><strong>IMPLEMENTATION</strong></td>
<td></td>
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</tr>
<tr>
<td>Structure size: performance</td>
<td>Superior structure with some soil modifications</td>
<td>ADVANTAGE</td>
</tr>
<tr>
<td>Long term deflection:</td>
<td>PT reduces overall deflection</td>
<td>ADVANTAGE</td>
</tr>
<tr>
<td>Vibration performance:</td>
<td>E2E4AL</td>
<td>E2E4AL</td>
</tr>
<tr>
<td>Acoustic control:</td>
<td>E2E4AL</td>
<td>E2E4AL</td>
</tr>
<tr>
<td>Fire resistance:</td>
<td>Reduced fire risk</td>
<td>ADVANTAGE</td>
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<tr>
<td>Skewability:</td>
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<tr>
<td><strong>ADVANTAGES</strong></td>
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<tr>
<td>Non-structural anchorages:</td>
<td>Corrosion protection is required to avoid leakage</td>
<td></td>
</tr>
<tr>
<td>Failure structural openings:</td>
<td>Cracks opening are prior to conventional slab, ability to create non-slip openings will be likely limited</td>
<td>ADVANTAGE</td>
</tr>
<tr>
<td><strong>MEDIAN</strong></td>
<td>E2E4AL</td>
<td>E2E4AL</td>
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</tbody>
</table>

5 Action Plan

- UCSF to confirm that PT slabs are the best value floor construction for the project.
Lean Principles - The What

- Last Planner System®
  - A network of reliable “promises” or commitments
  - Keeping score is good = Percent Plan Complete
  - Safe environment
  - Constraint Removal
  - Learning
Lean Principles - The What

Choosing by Advantages Alternatives Analysis

Proposal Meeting #1 - Block 33

If I had to pick a team at the end of proposal meeting 1, it would be...

READ FIRST: How to read this table

For this ISM table, the factors can be grouped under 3 themes: Project, Lean Principles and Processes, and People. Under the project theme, evaluate all the factors that showed the level of understanding of the project specification by the team. Of course, there are many new project specifications that are listed, but the ones that we listed in the one that are listed they refer to. The same applies to the other columns.

CHOOSING BY ADVANTAGES (CBA) - Computed Y/V/VA

<table>
<thead>
<tr>
<th>STEP</th>
<th>Task</th>
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<tbody>
<tr>
<td>1</td>
<td>List the alternatives</td>
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<tr>
<td>2</td>
<td>List the factors</td>
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<tr>
<td>3</td>
<td>Determine the attributes of each alternative</td>
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<td>4</td>
<td>Underline the least preferred alternative in each factor</td>
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<td>5</td>
<td>Determine the differences from the least preferred alternative</td>
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<td>6</td>
<td>Assign a priority score to the parameters</td>
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<tr>
<td>7</td>
<td>Evaluate the advantages on the scale</td>
</tr>
<tr>
<td>8</td>
<td>Choose the alternative with the greatest total importance of advantage</td>
</tr>
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DEFINITIONS

| ALTERNATIVE | Alternative: two or more possible things, options from which one must be chosen.
| ATTRIBUTES | Attribute: a characteristic, quality or consequence of one alternative.
| ADVANTAGE | Advantage: difference between the attributes of two alternatives.
| FACTOR | Factor: an element, part or component of a decision.

<table>
<thead>
<tr>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODULARITY</td>
<td>Value Chain philosophy</td>
<td>Shanghai E-Motor Manufacturing</td>
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<tr>
<td>PROJECT: Understand that QPhit wants to</td>
<td>PROJECT: Understand and the differences between QPhit and Preco</td>
<td>PROJECT: Understand and the differences between QPhit and Preco</td>
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<tr>
<td>Criteria</td>
<td>Scores</td>
<td>Scores</td>
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<tr>
<td>Analysis</td>
<td>Average</td>
<td>Average</td>
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<tr>
<td>Factor</td>
<td>Room Identity</td>
<td>Project Identity</td>
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<tr>
<td>Very Good: the team wrote a lot of notes, the team wrote detailed notes, the team was prepared and organized</td>
<td>Very Good: the team was prepared and organized</td>
<td>Very Good: the team was prepared and organized</td>
</tr>
<tr>
<td>Low level: not enough information on this topic, the team was not able to answer the questions</td>
<td>Low level: not enough information on this topic, the team was not able to answer the questions</td>
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<tr>
<td>Low level: the team was not able to answer the questions</td>
<td>Low level: the team was not able to answer the questions</td>
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47
Lean Principles - The What

The Visual Work Place

- “What do I need to do my work?”
- “What do I need to share with others?”
- Making the Goal very obvious
- Use of Visual Aids/displays to paint the picture
Lean Principles - The What
Lean Principles - The What
Lean Principles - The What
Lean Principles - The What

- The Output – A Culture of Continuous Improvement

![Deming Cycle Diagram]
Lean Principles - The What

- Do we have the type of Staff that can support these processes?
  - Inclusion of Facilitators
  - Lean Consultants
  - Project Team Lean Managers
  - LCI Training Series
  - On the job training
What are owners looking for in their partners?

LCI Northern California Community of Practice

Scott Muxen
Associate Vice Chancellor, Capital Program Management
UCSF Real Estate

6/7/2019
Existing Project Portfolio – Campus

Current value of all projects in design and construction: $1.8B

Number of Projects: 416

- $250K or Less: 290
- $250K to $750K: 66
- $750K to $10M: 51
- Over $10M: 9
Joan and Sanford I. Weill Neurosciences Building
Wayne and Gladys Valley Center for Vision
The Tidelands
Graduate and Trainee Student Housing
Clinical Sciences Building
Retrofit and Renovation
UCSF Research and Academic Building at Zuckerberg San Francisco General
UCSF Child, Teen and Family Center and Department of Psychiatry Building
Future Program - Partial
Comprehensive Parnassus Heights Plan - CPHP
UCSF Project Delivery Basics

- What does UCSF look for in our partners?
- How do we select them?
- What else is important for all of you to understand about doing work with UCSF?
QUESTIONS?
1st Round – Key Takeaways
Join LCI

Annual Membership Costs
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LCI Books available for order

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.

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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.

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Kristin Hill, Katherine Copeland and Christian Pikel
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New LCI Project Validation Guide

- Answers what validation is, why it matters and how to best execute it.
- Provides direction and resources for validating projects using Lean principles.
- Maximizes team performance and gets owners the biggest bang for their buck.
- First of its kind! (No standard guide for project validation before it.)
- Based on research conducted by LCI Research Committee member Dr. David Grau & his Arizona State University research team.
- Available to all practitioners

Download it now by filling out the form at https://www.leanconstruction.org/learning/research/!
REMINDERS & FYIs

Learning Program
• Additional training dates coming soon
  • Intro to Lean Project Delivery
  • Mindset of an Effective Big Room
  • Last Planner System
  • Target Value Delivery

Monthly Meeting program
• July – Summer Break – No meeting
A Must-Attend Design Industry Event

SAVE THE DATE

MAY 29-30, 2019 • CHICAGO, IL

LEAN IN DESIGN FORUM

Lean Construction Institute
AIA
P2SL

Lean Construction Institute
Transforming Design and Construction
SAVE THE DATE

21ST LCICongress

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

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