

26<sup>TH</sup> ANNUAL



26<sup>TH</sup> LCI CONGRESS  
OCTOBER 22-25, 2024

# The Emerging Practice of Design Integration

Keith Novenski, Indigenous PACT

Geoffrey Nelson, The Boldt Company

Brian Cheng, HDR Architecture Inc.

Brittany Williams, Strategic Innovation Specialist

Eleazer Hinojos, California Drywall Company

**SURFING THE WAVE OF LEAN DESIGN AND CONSTRUCTION**

THURSDAY, OCTOBER 24, 2024

# Agenda



• Problem Statement / A Brief History of Integration



• Our Stories



• Interactive Q&A

# Panelists



**Keith Novenski**  
Indigenous Pact



**Brittany Williams**  
Strategic Innovation  
Specialist



**Geoffrey Nelson**  
The Boldt Company



**Eli Hinojos**  
California Drywall



**Brian Cheng**  
HDR Inc.

# Questions & Poll



# Brief History of Design & Construction Delivery (and a problem statement)



# Traditional Delivery > Current State



DBIA Established in 1993



Lean Construction Institute Established in 1997



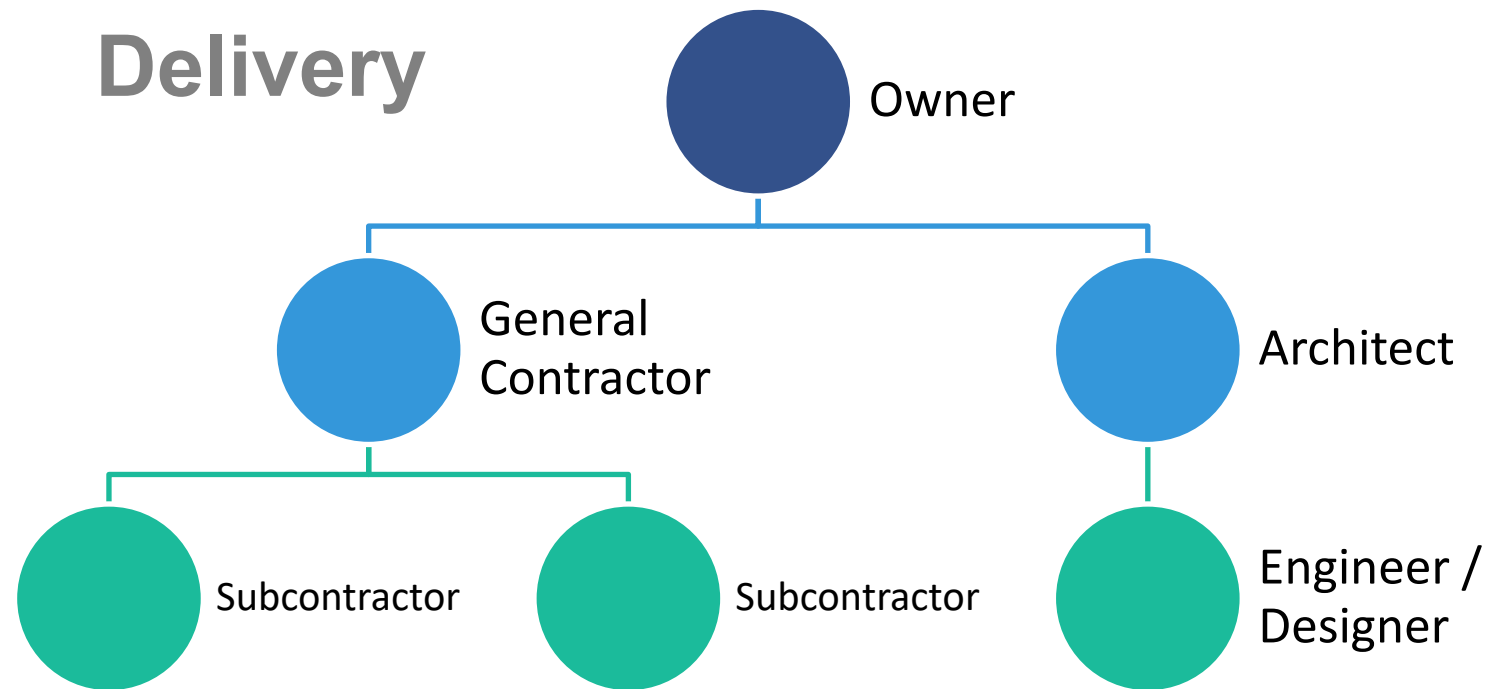
Emergence of IPD projects in early 2000s



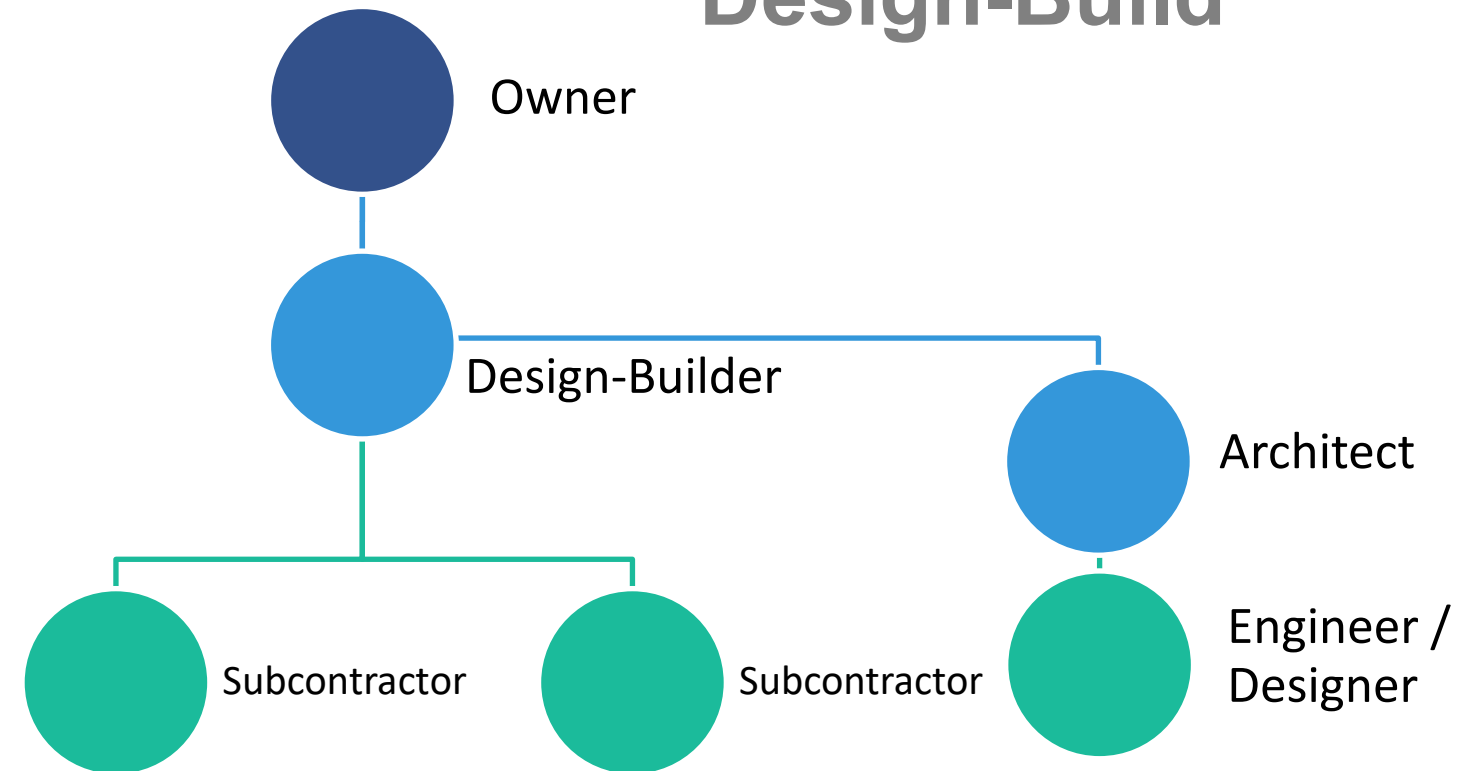
Design Management/Integration as a specific skillset emerges in 2013-2015

# Traditional Delivery > Current State

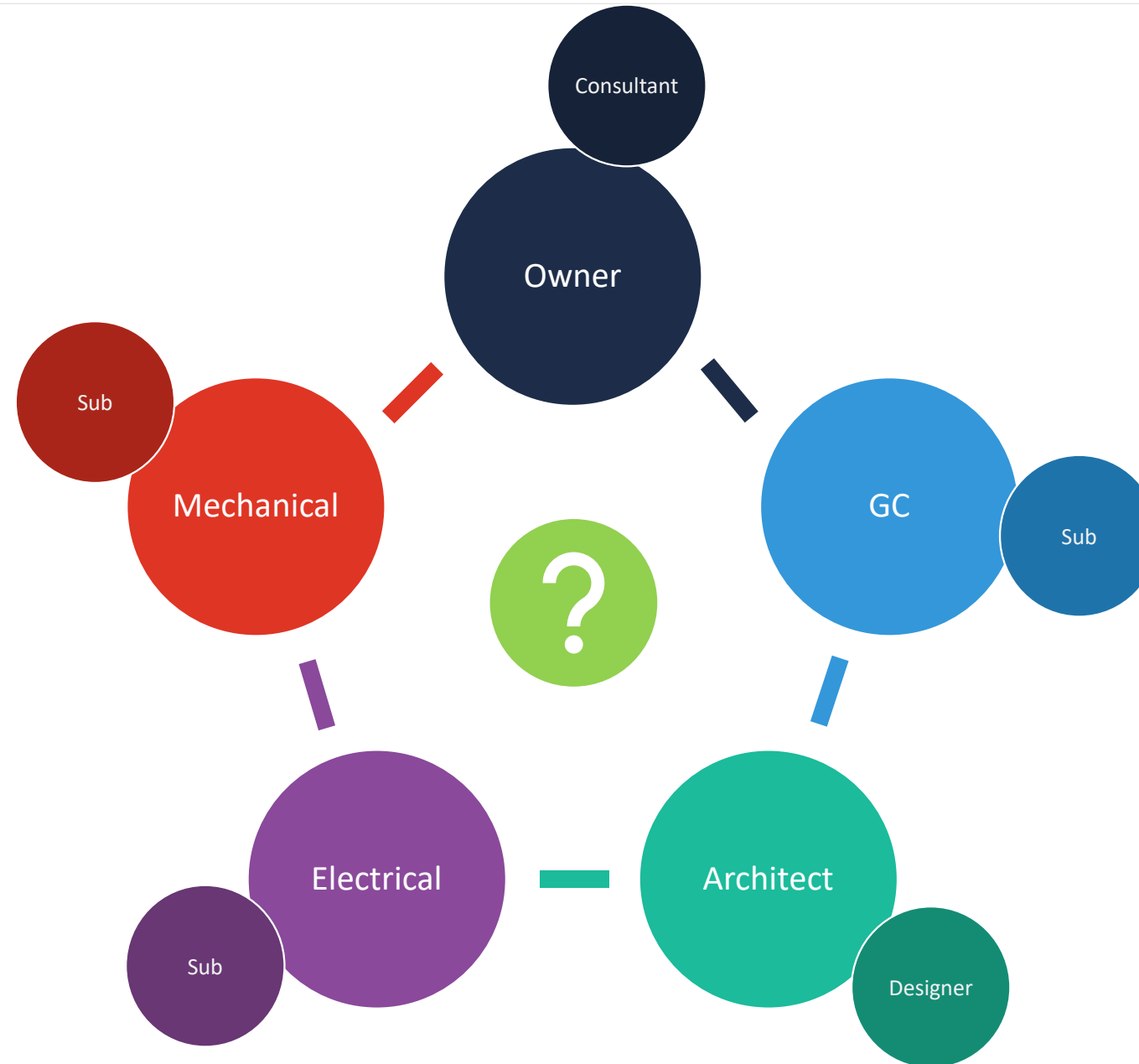
## Traditional Delivery



## Design-Build



# Traditional Delivery > Current State



# Keith Novenski, Indigenous Pact: Simplifying the Complexity





Together, we are changing the culture of healthcare.

We believe health is the starting point for building strong communities.



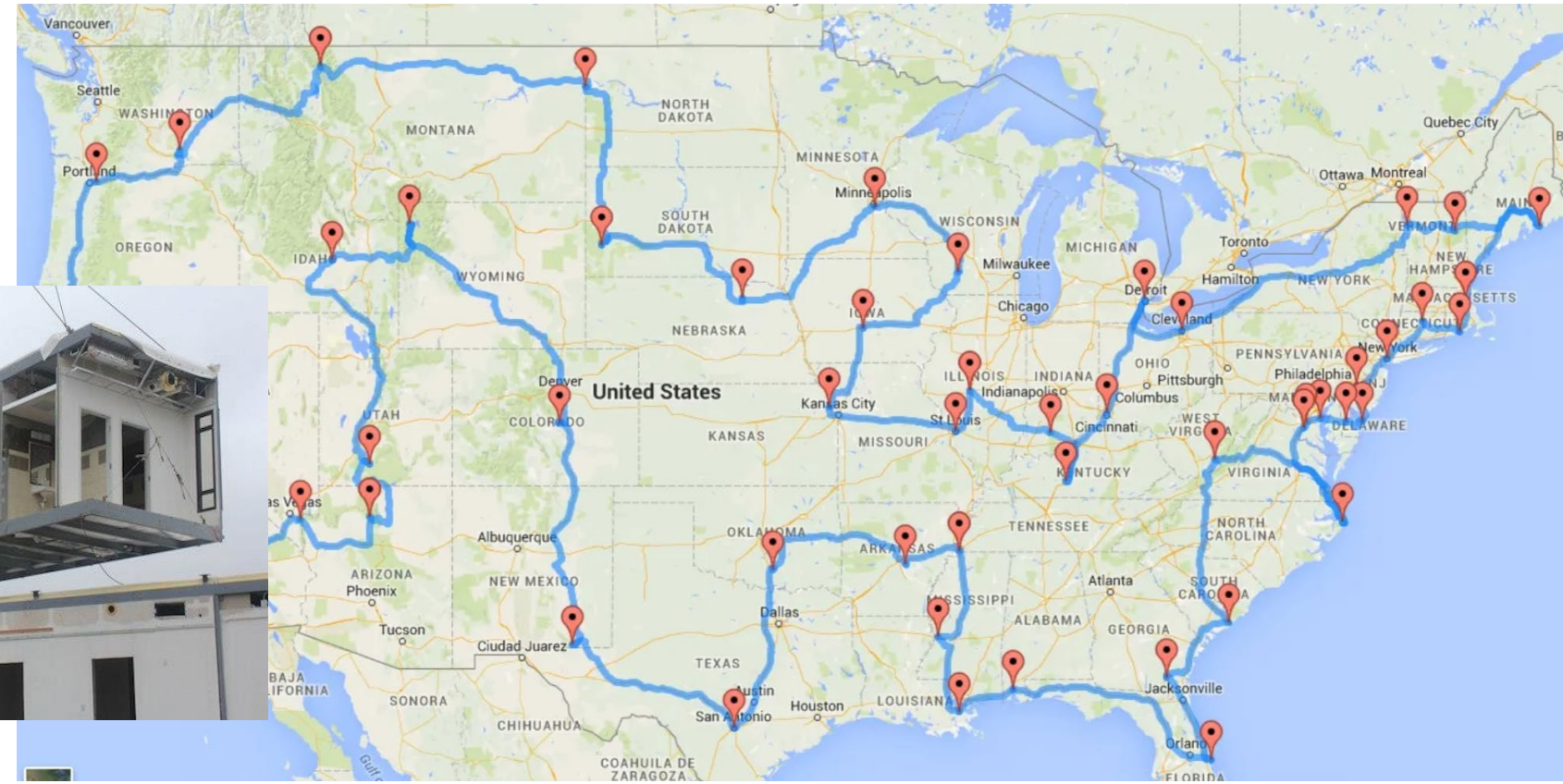
OUR MISSION

IS TO CREATE HEALTH EQUITY FOR AMERICAN INDIANS AND ALASKA NATIVES IN ONE GENERATION.

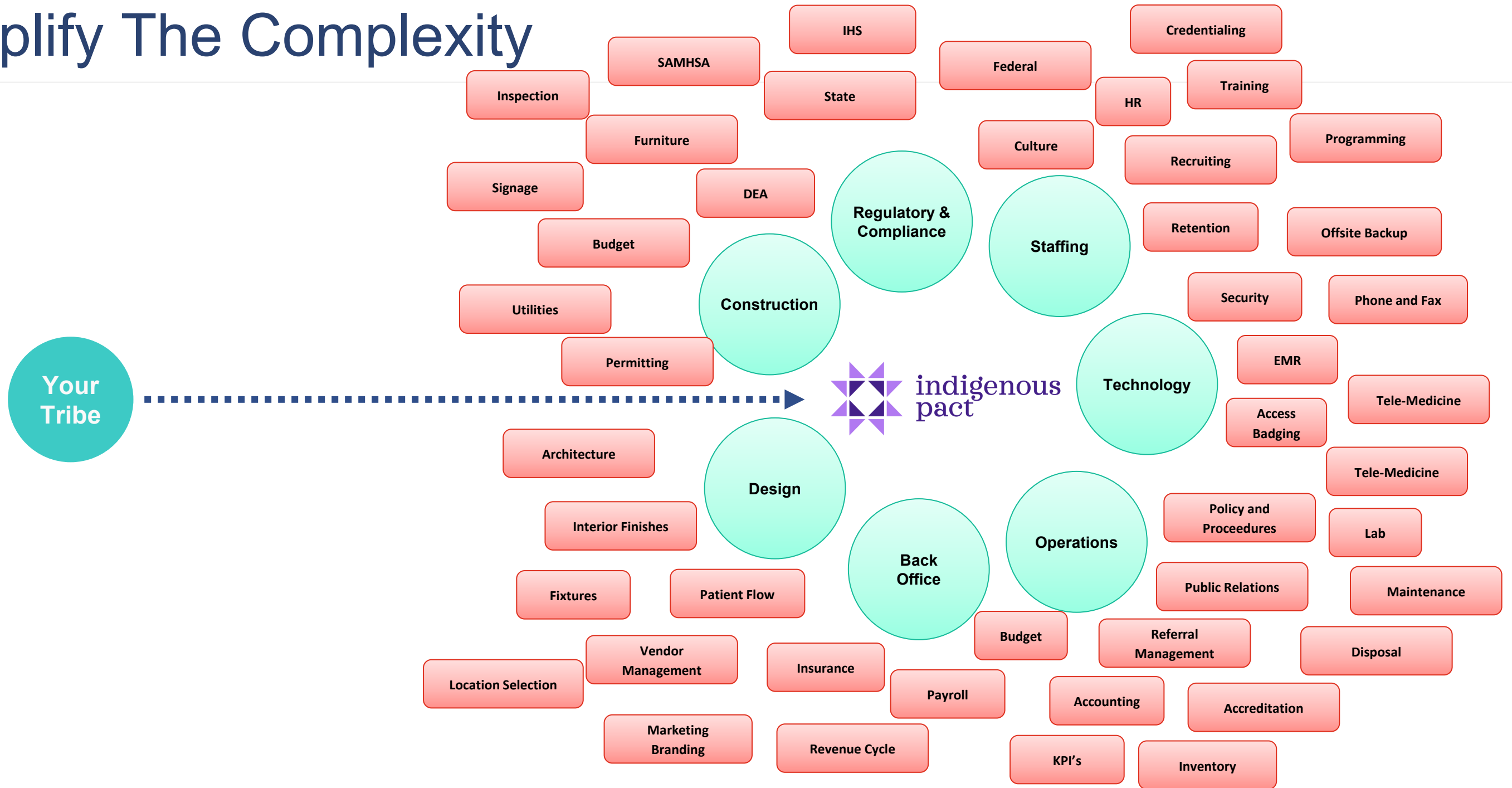


# Indigenous Pact Lean Journey

- ❖ Move from one-off projects to a standardized method
- ❖ National search
- ❖ Learnings during the Covid crisis
- ❖ Finding a new partner in an old relationship



# Simplify The Complexity



# Integrated Project Delivery (IPD)

What did not work in my experience:

- Having Construction, Architecture and Engineers staying in silos and hand off work
- Cost by square foot
- Construction, Architecture and Engineers never visiting the site or community

What has worked:

- Go and get things started, Audacity to try
- Have a mindset to fail forward
- Finding others that think like you
- Better, better, best in all we do
- Clients willing to take risks/lead (Time = Lives)
- Open communication, real time problem solving and promoting others before self
- Success comes from building the team (Construction, Architecture, Engineering) along with the Client, Consultant and Vendors such as Security, Information Technology, Furniture, Equipment and others.



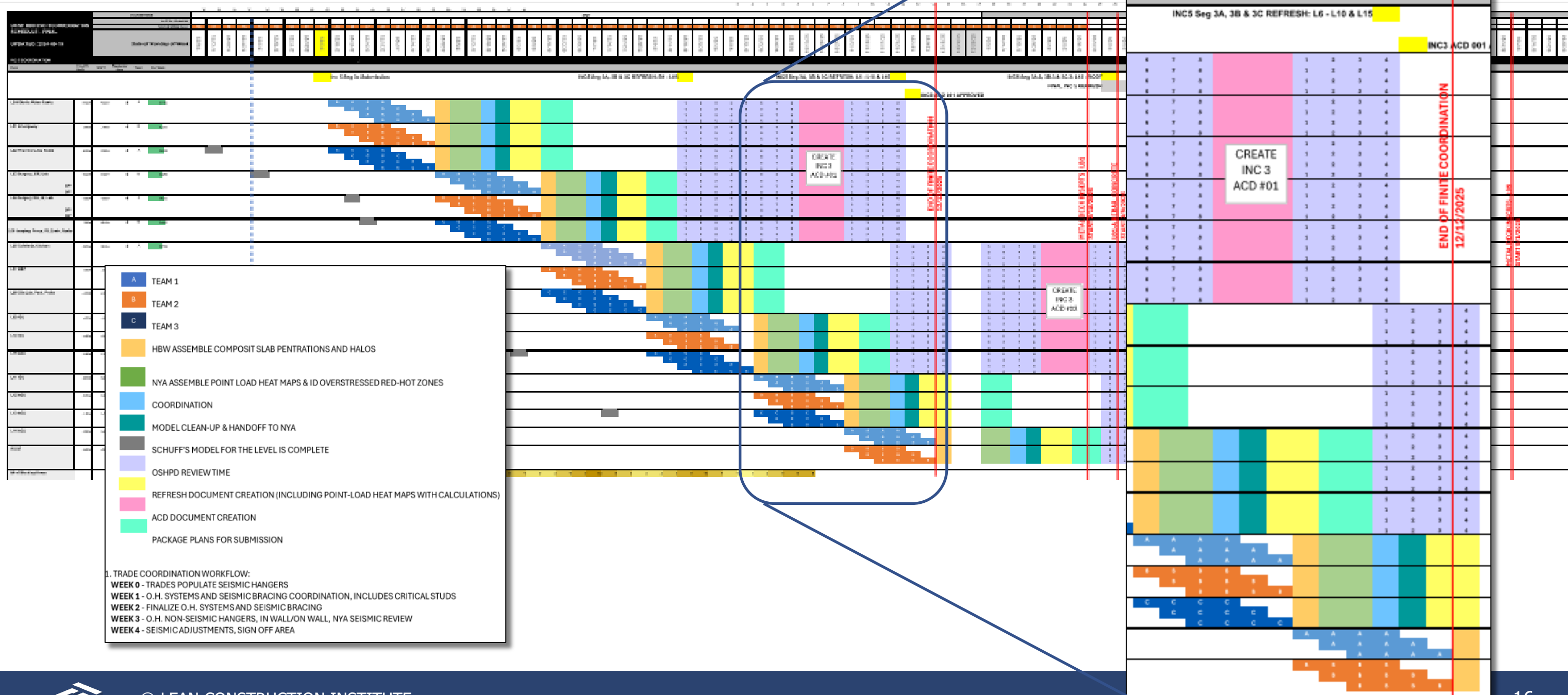
# Brian Cheng, HDR: Managing Design with Last Planner



# Architect vs IFOA Partner...



# Managing the design as networks of commitments



# SURFING THE WAVE OF LEAN DESIGN AND CONSTRUCTION

Revizto Workspace License: UCSF Helen Diller Hospital Tools: Select tool Region: North America (USA) AH Aaron Hanigan

Project: HDH - Helen Diller Hospital

Project Info Project Team **Issue Tracker** Dashboards Reports Versions My Notifications

Filters Reset Save

Status: All Assignee: All Type: All Tags: All ID: All Status category not: Completed + More

Filter presets Issues (159)

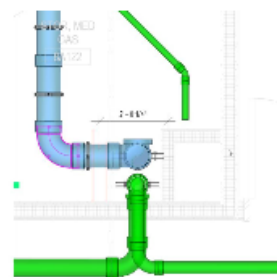
All issues (2) Current issues My open issues Reported by me Completed issues Watched

Issues (159)

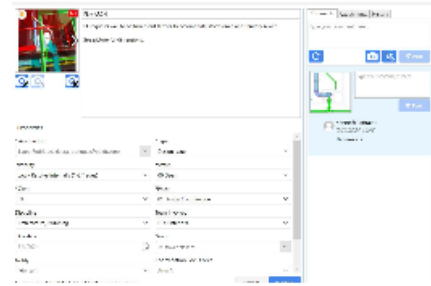
- ID 55 Laura Medina Rodriguez **D-AI** Open  
PL V AR -PL requests wall to be furred out farther to accomodate storm drain and sanitary sewer.  
7d
- ID 54 Laura Medina Rodriguez **D-AC** Open  
FP V ST, AR - Blockout required.
- Laura Medina Rodriguez **D-AI** Open  
require special framing.
- Laura Medina Rodriguez **D-AI** Open

Chat

Harsh Pandit 23:30



Harsh Pandit 23:30

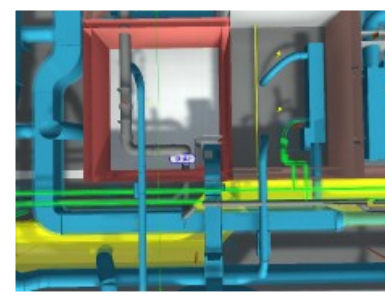


Message

Info

Open in app

Markup



ID 55

Stamp

**D-AI**

Title

PL V AR -PL requests wall to be furred out farther to accomodate storm drain and sanitary sewer.

Type

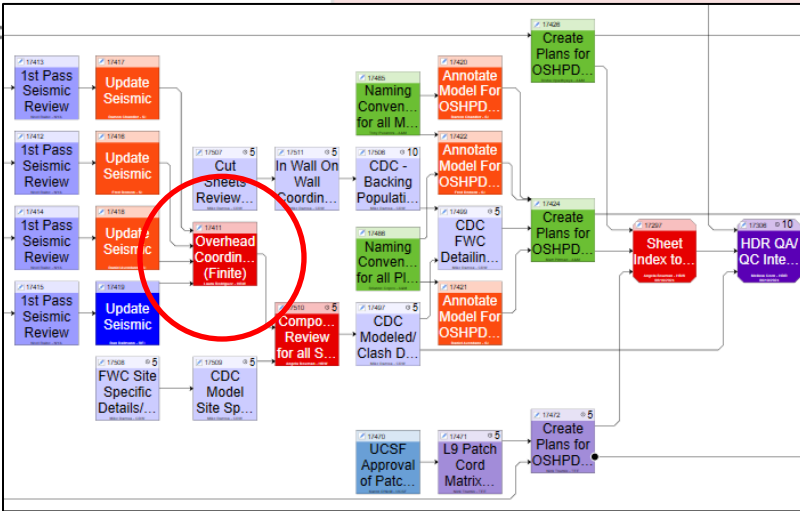
Standard issue

Status

Open

Assignee

1 2

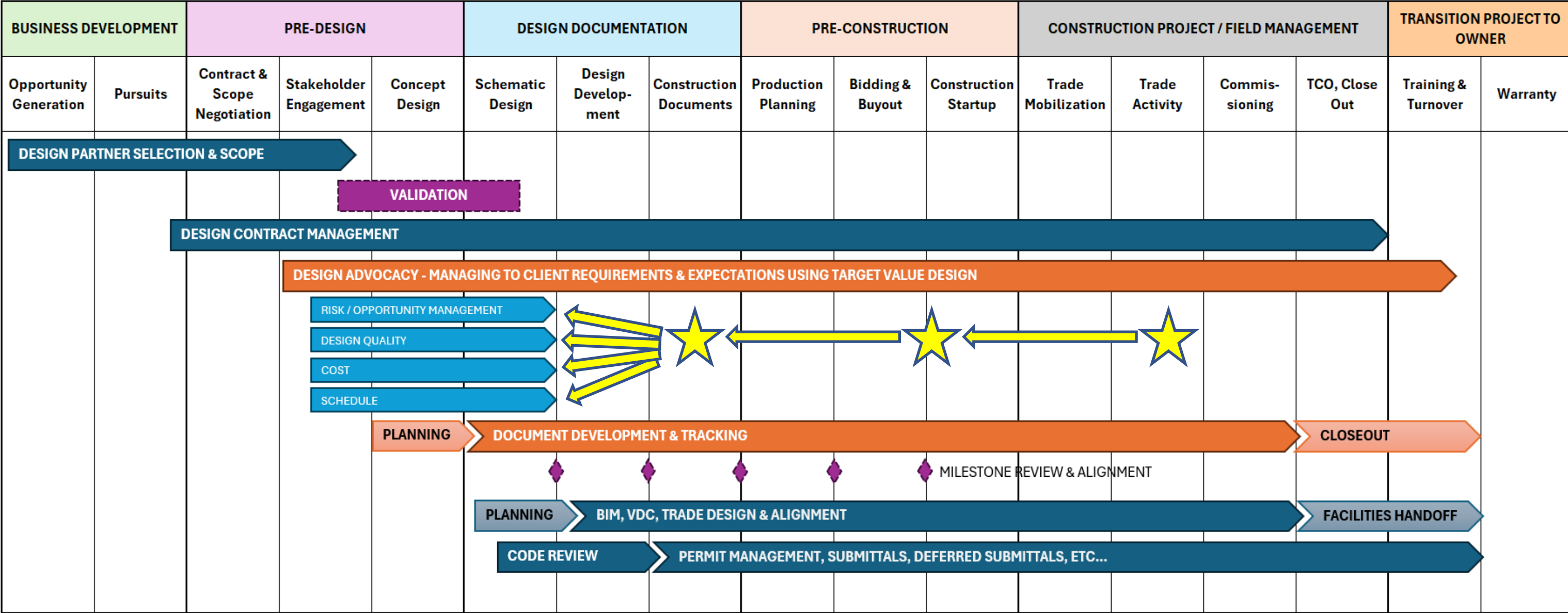


© LEAN CONSTRUCTION INSTITUTE

# Geoffrey Nelson, The Boldt Company: Construction as the Primary Customer of Design



# Design Management Continuum



# Its just flooring!

A tale of slab depression(s)



- DEPRESSION FOR INTEGRATED WALK OFF MAT (ONLY PUBLIC AREAS SHOWN)
- EPOXY TERRAZZO FLOORING WITH DEPRESSIONS
- EPOXY TERRAZZO FLOORING WITH **NO** DEPRESSIONS
- POTENTIALLY EPOXY TERRAZZO FLOORING

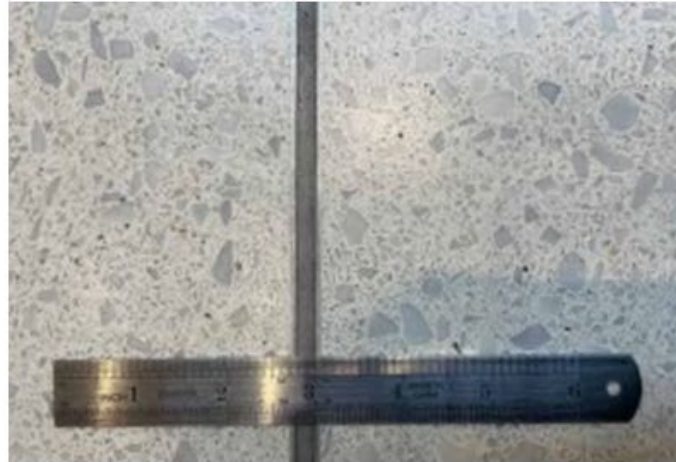
547\_REP-2\_DSK-0333-6  
 © HERZOG & DE MEURON | 547 HELEN DILLER MEDICAL CENTER, CRITERIA DESIGN 01.27.2023

architect of record	project no.	project	subproject	issue date	sheet
	547	HELEN DILLER MEDICAL CENTER		01.27.2023	2/5
design consultant	HERZOG & DE MEURON			drawn by	format
document title	TERRAZZO FLOORING POTENTIAL DEPRESSION LOCATIONS			OKS	A3
				scale	version
				n/a	6
				<b>DSK - 0333</b>	

# Its just flooring!

A tale of slab depression(s)

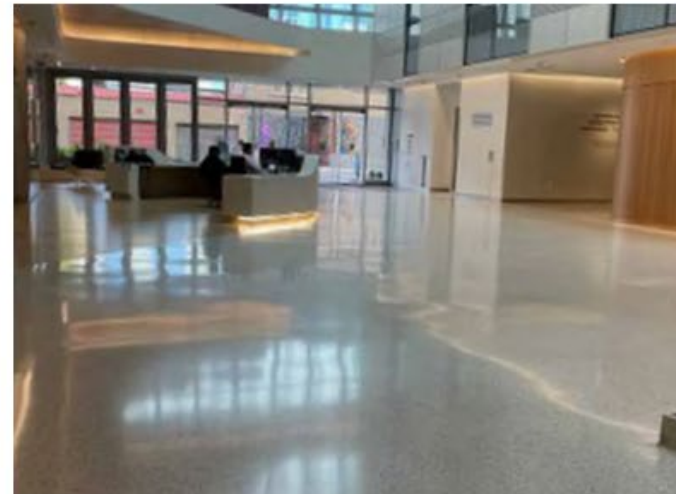
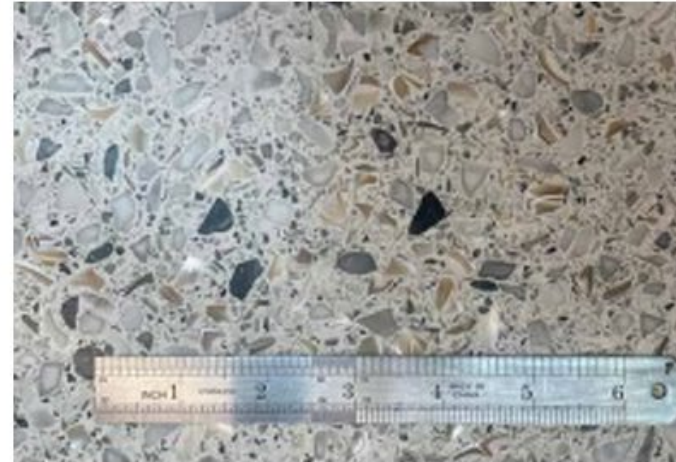
WEIL NEUROSCIENCES (1651 FOURTH STREET)



- 3/8" EPOXY TERRAZZO
  - #1 (1/4") AND #2 (3/8") AGGREGGATE
  - 100% COVERAGE CRACK SUPPRESSION MEMBRANE
  - EPOXY FILL FOR LEVELING
  - MOISTURE VAPOR BARRIER
  - STRUCTURE : SELF-SUPPORTING CONCRETE
  - AVERAGE FILL DEPTH : 7/8"
  - FLATNESS SPEC : 1/4" OVER 10', NON-CUMULATIVE
- HDM COMMENT: OBSERVED FLATNESS **NOT ACCEPTABLE**

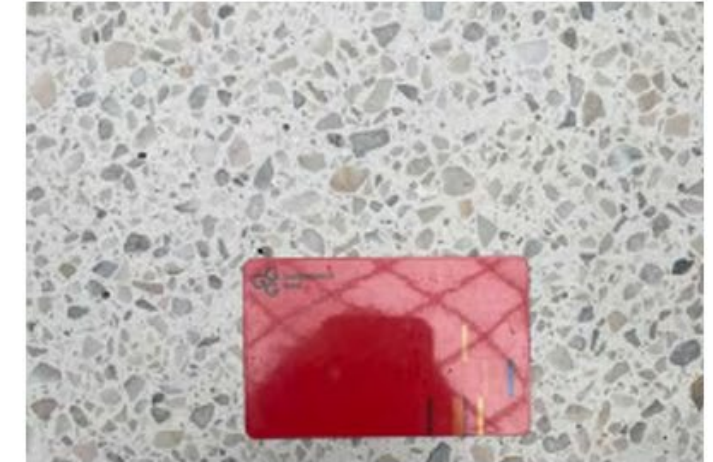
547\_REP-2\_DSK-0333-6  
 © HERZOG & DE MEURON | 547 HELEN DILLER MEDICAL CENTER, CRITERIA DESIGN 01.27.2023

NANCY PRITZKER (2130 THIRD STREET)



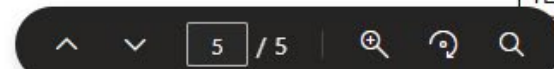
- 3/8" EPOXY TERRAZZO
- #1 (1/4") AND #2 (3/8") AGGREGGATE
- 100% COVERAGE CRACK SUPPRESSION MEMBRANE
- EPOXY FILL FOR LEVELING
- MOISTURE VAPOR BARRIER
- STRUCTURE : CONCRETE OVER METAL DECK
- AVERAGE FILL DEPTH : 3/8"
- FLATNESS SPEC : 1/8" OVER 10', NON-CUMULATIVE

NEW HOSPITAL AT STANFORD



- 3/8" EPOXY TERRAZZO
  - CRACK SUPPRESSION MEMBRANE
  - SHERWIN WILLIAMS EPOXY TERRAZZO #1100
- HDM COMMENT: FLATEST INSTALLATION, ACCEPTABLE REFERENCE

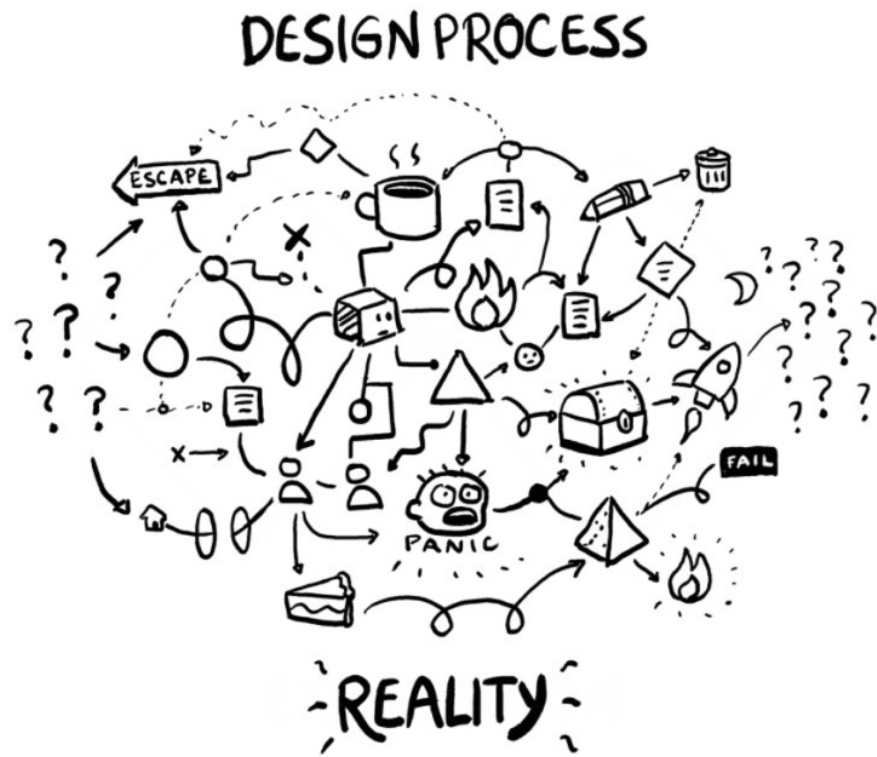
architect of record	project no.	project	subject	issue date	sheet
HERZOG & DE MEURON	547	HELEN DILLER MEDICAL CENTER		01.27.2023	5/5
design consultant	drawn by	scale	format	version	
HERZOG & DE MEURON	OKS	n / a	A3		
document title	TERRAZZO FLOORING		REFERENCE PROJECT SITE VISITS		
				<b>DSK - 0333</b>	<b>6</b>



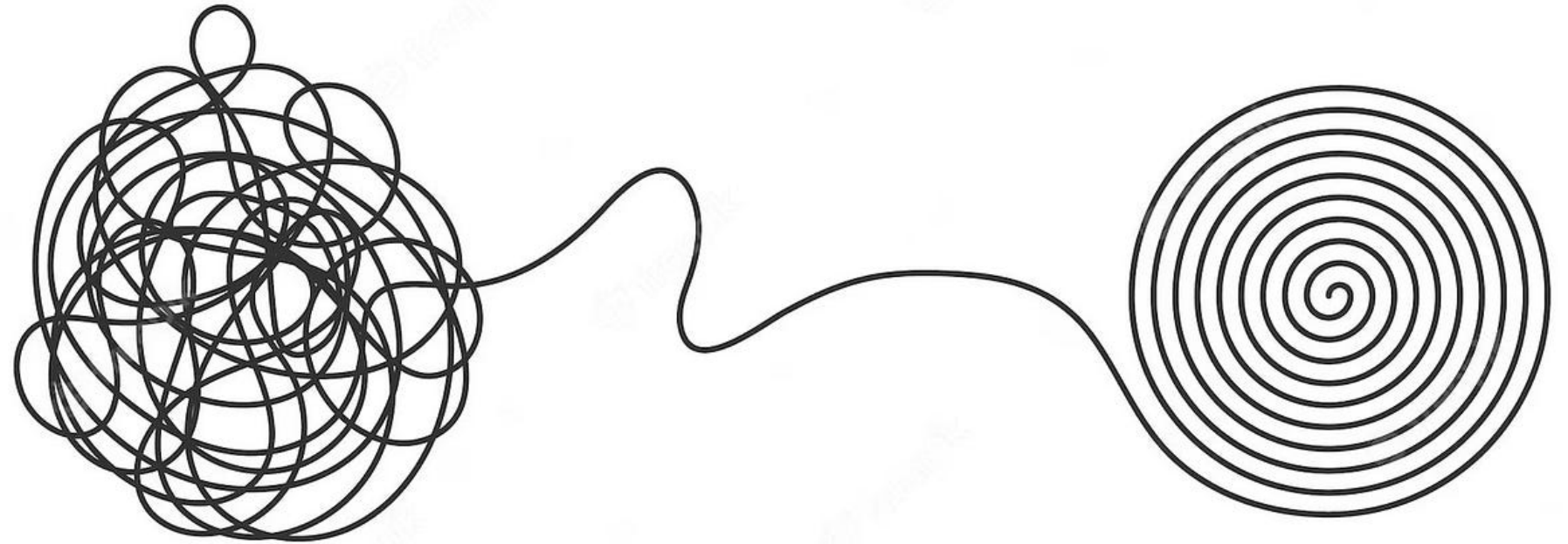
# Brittany Williams, Strategic Innovation: Leaning in to Disciplined Information Flow



# Design Process



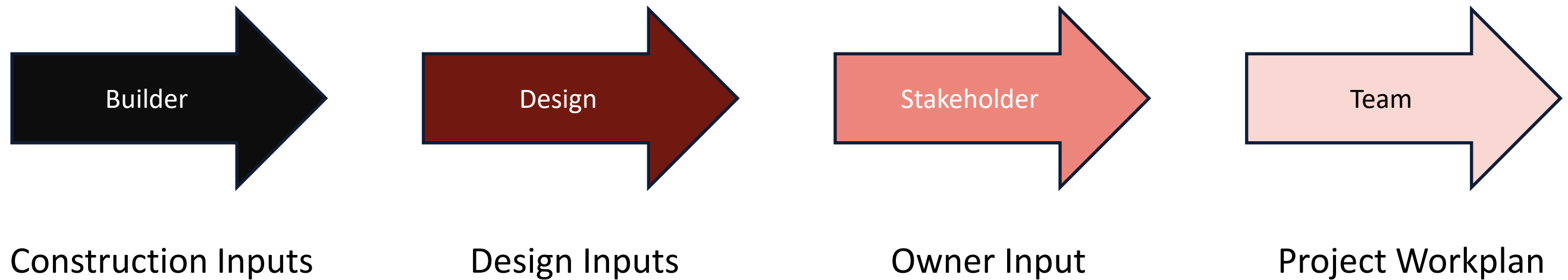
Current State of Project Delivery



Project Delivery with Disciplined Information Flow

# Disciplined Information Flow

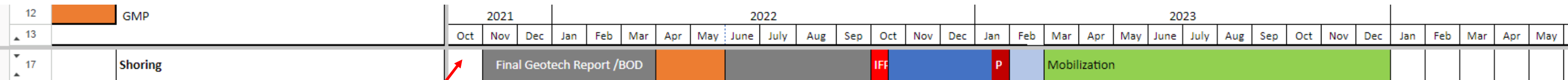
Integrated and disciplined communication which enables a defined and reliable flow of project information



Lean Principles:

- Start with the end in mind
- IPD Delivery Preferred
- Last Planner

# Begin With the End in Mind!



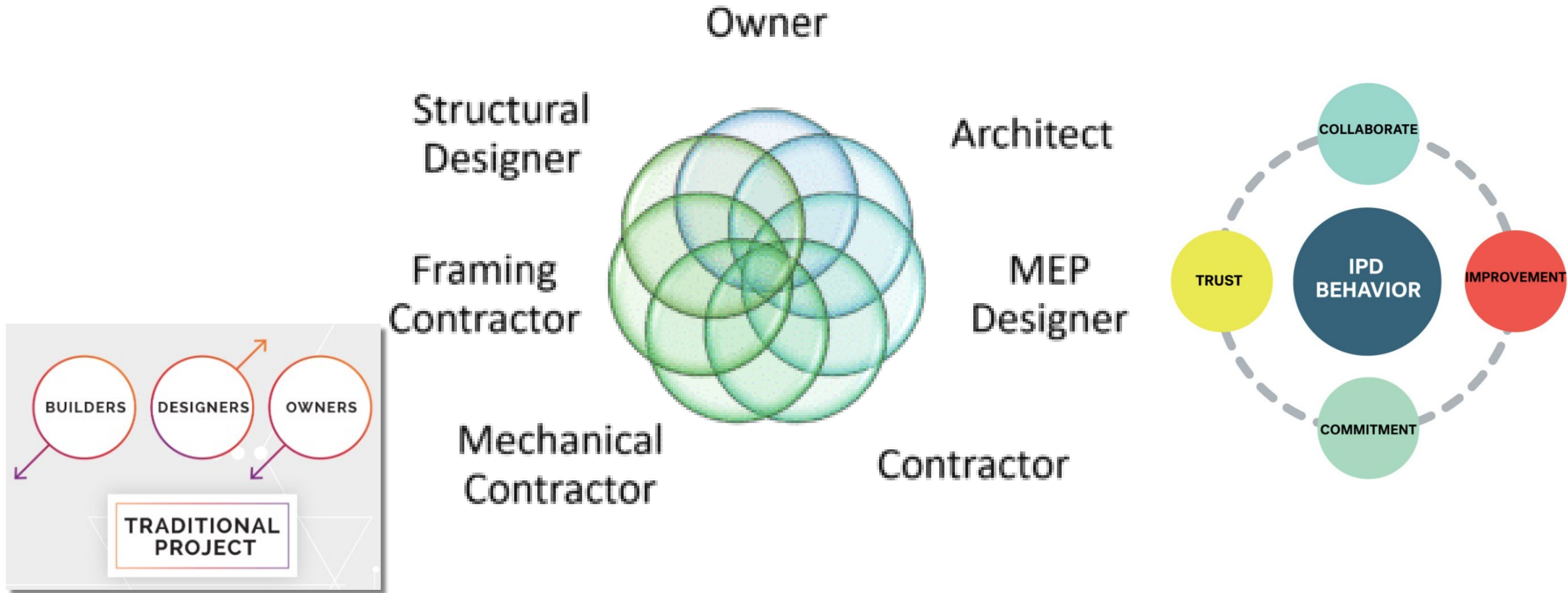
Owner Decision

- Identifying key stakeholder decisions unlock Construction, Supply Chain and Design

# Eli Hinojos, California Drywall: Partnering in Design



# Joining an Integrated Design Team

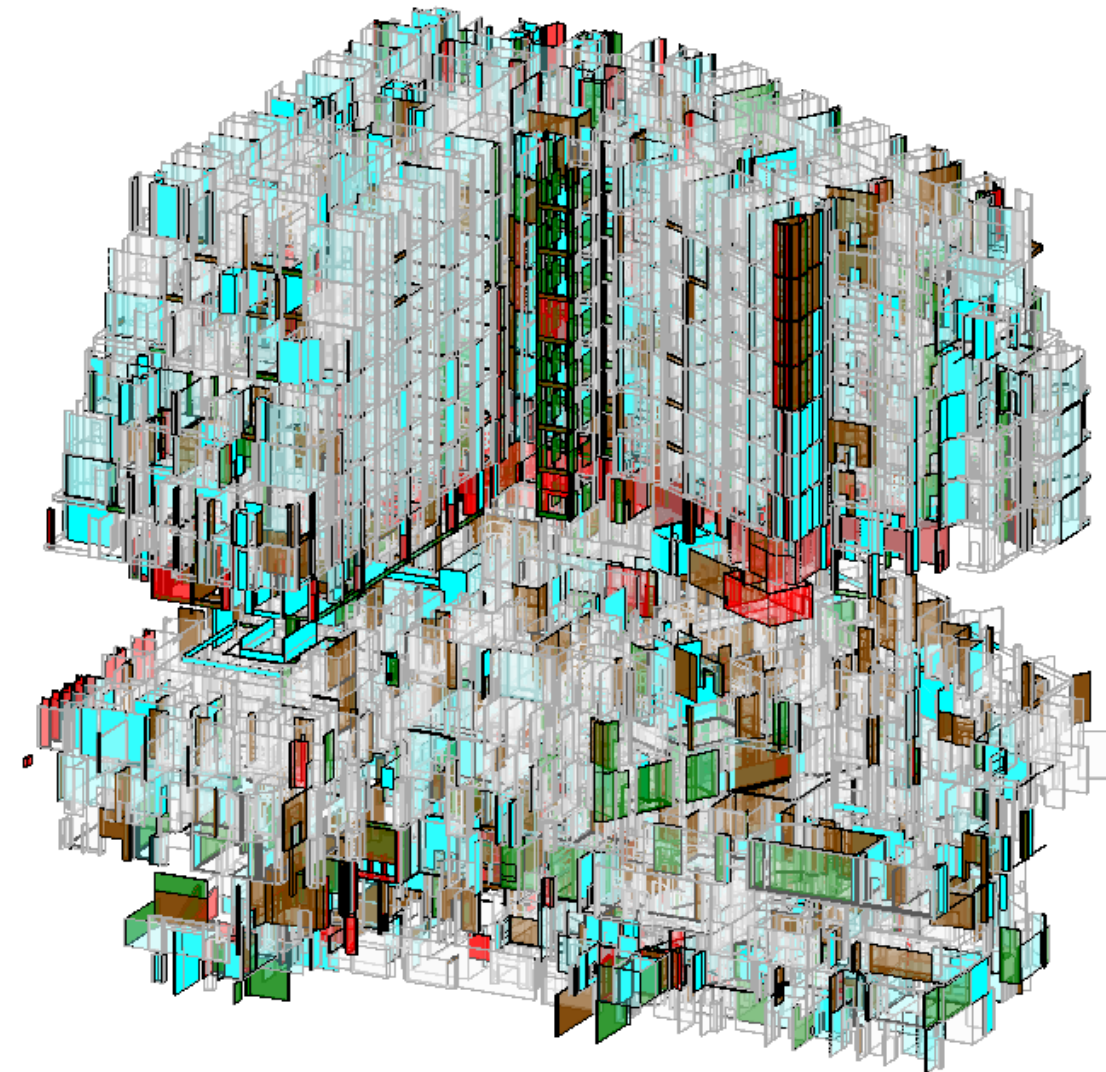


# Bringing our trade knowledge to design integration



# Learning and Developing Design Integration Tools

NEW HOSPITAL PROJECT TEAM



8/5-8/11			36319 7D Layout and Frame Walls c:TWR s: MU Resources: 0 A. Pinon (AS:8/7) FS:8/7 FF:8/15/2...
	8/12-8/18	-2 6917 1D SMR 2F - Remove Barricade- Pre-Phase 1C c:SMR, z:ML d:SMR Resources: 0 A. Hinojos FS:8/15 FF:8/15/24 - LF:8/1...	-4 31458 3D Coordinate final location of Misc Metals FOR... c:TWR d:EXTENC Resources: 0 S. Cundall FS:8/13 FF:8/15/24 - LF:8/9...
8/26-9/1	-6 6901 3D SMR 2F - Install Construction Barrier - Phase 1A c:SMR, z:ML d:SMR Resources: 0 S. Cundall FS:8/27 FF:8/29/24 - LF:8/2...		

Model 1 = NPH Arch Models Dated (240401)  
 Model 1 = NPH Arch Models Dated (240819)

# Questions & Discussion





26<sup>TH</sup> LCI CONGRESS  
OCTOBER 22-25, 2024



**In the spirit of continuous improvement, we would like to remind you to complete this session's survey! We look forward to receiving your feedback.**

Thank you!



# Contact Us

## **Keith Novenski**

Indigenous Pact

keith@indigenouspact.com

## **Aaron Hanigan**

HDR Architecture, Inc.

aaron.hanigan@hdrinc.com

## **Eli Hinojos**

California Drywall

ehinojos@caldrywall.com

## **Geoffrey Nelson**

The Boldt Company

geoffrey.nelson@boldt.com

## **Brittany Williams**

Strategic Innovation Specialist

bwilliams314@gmail.com



**26<sup>TH</sup> LCI CONGRESS**  
**OCTOBER 22-25, 2024**

**Thank you for attending this presentation. Enjoy the rest of the 26<sup>th</sup> Annual LCI Congress!**

# What questions do you have for the panel?

Where do you start?

Does introducing a new role/title risk further confusing the industry on what a design manager does?

Brittany- how did your team create list of decision targets for the clients? Was this done for each phase and can you share some of the decision targets from that project?

What's the best sales pitch for selling an Owner on the IFOA contract? And who should make that pitch?

How do you ensure all owner group design requirements are addressed well? Owner =multitudes who don't always agree

How does a contractor introduce a DM after the owner has already procured a design firm and they feel that the role is included with the design fee?

How do you manage design teams when Milestone dates are late or level of development are not met?

Can you differentiate 'design integration' from design-build and/or a successful CM/GC delivery? Or is it something that can and should be applied across both delivery methods?

# What questions do you have for the panel?

Should the DM be responsible for coordinating with the architect consultants?

Can you comment on the role of a design manager of bringing their experience and best practices to the team?

Designers should only draw/model the minimal amount of information necessary to build the project. How can a design manager help inform what is modeled.

Does it make most sense for DM/DI to be under the GC? Or as a separate contributor? Is there potential for conflict of interest?

How can a design manager inform a design team on the minimal amount of documentation to release construction activities to accelerate schedule.

In some projects, only one or two of the designers are familiar with Lean or are Lean Practitioners. Therefore traditional design creativity and iteration becomes a larger constraint. How do you solve

In Brian's case, who was the best to make the decisions?

Have any of you been able to bring a city inspector or AHJ onto one of your IPD teams to help streamline permitting, inspecting, and / or making revisions?

# What questions do you have for the panel?

When multiple parties have a design manager on staff (ie GC. & Arch) how do you divide or share responsibility?

Do your Teams experience feelings of disconnect from their respective main company offices when they spend 4-5 days a week in a Big Room? If so, how do you combat that?

Did you say Design Managers are responsible for the timing of when to bring on trade partners, and if so how do they determine that optimal timing?

Not everyone is built for the Big Room. How do you identify teammates that aren't working out? Do you have examples? Behaviors? And what is the process of "voting them off the island?"

How do you address massive inflation that occurs after TVD has been established? Does the contract get adjusted?

Do you think that design managers and precon managers are potentially redundant positions? If DM's are thinking they're also managing costs?

Can you speak more to the automated applications that allow more opportunities for cost validation?

Where have you seen failures in integrated design and what was the learning?

# What questions do you have for the panel?

Any ideas for how a design manager can function from the AE design side and interface with general contractor as a partner?

Brittany, how do you plan for cyclical design iterations in your disciplined information flow.

I love the concept, but as an Owner with 56 buildings, a rigid set of technical guidelines and space totaling over 5 million square feet, can design integration still be a useful tool?

Is the design manager taking leadership of the design team?

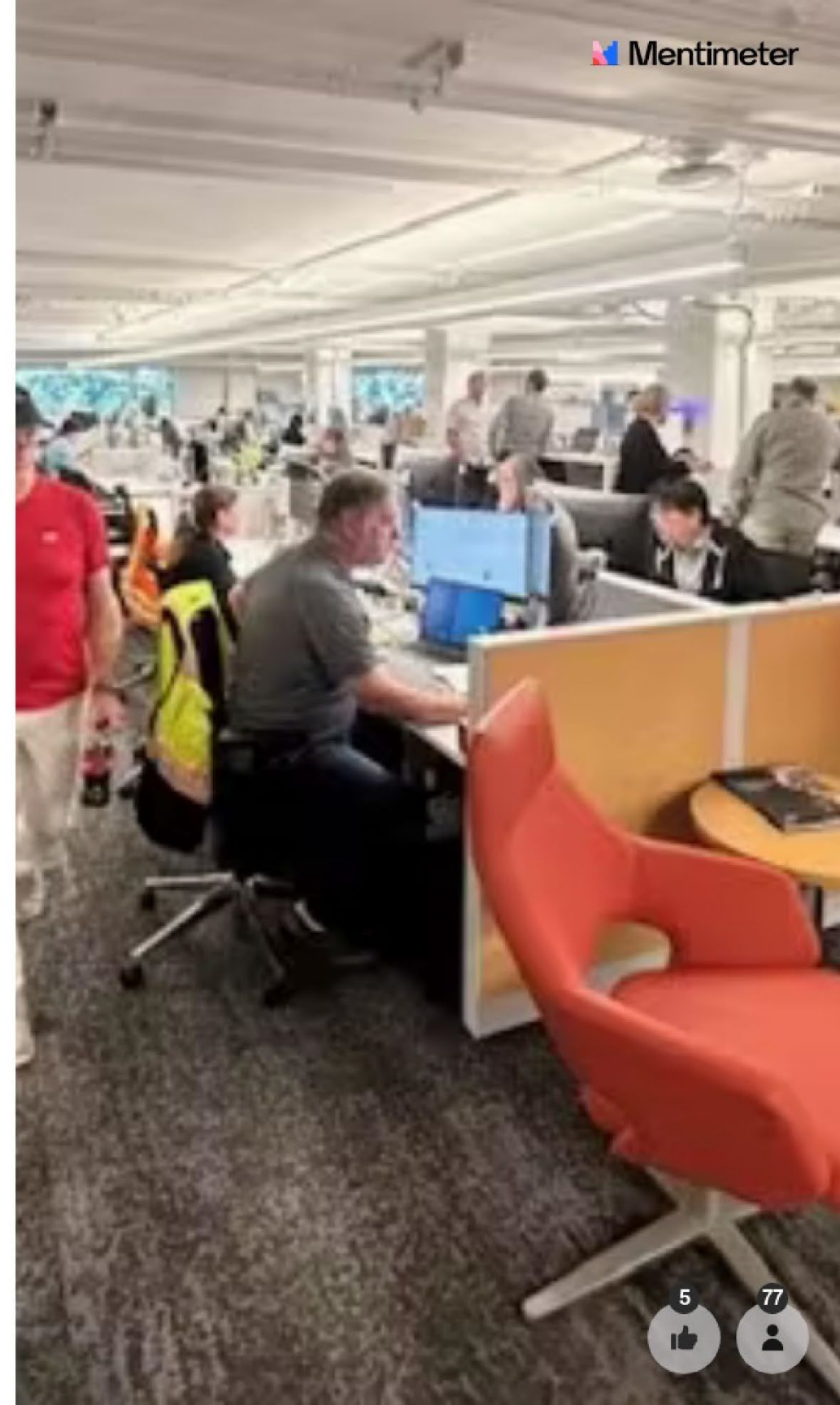
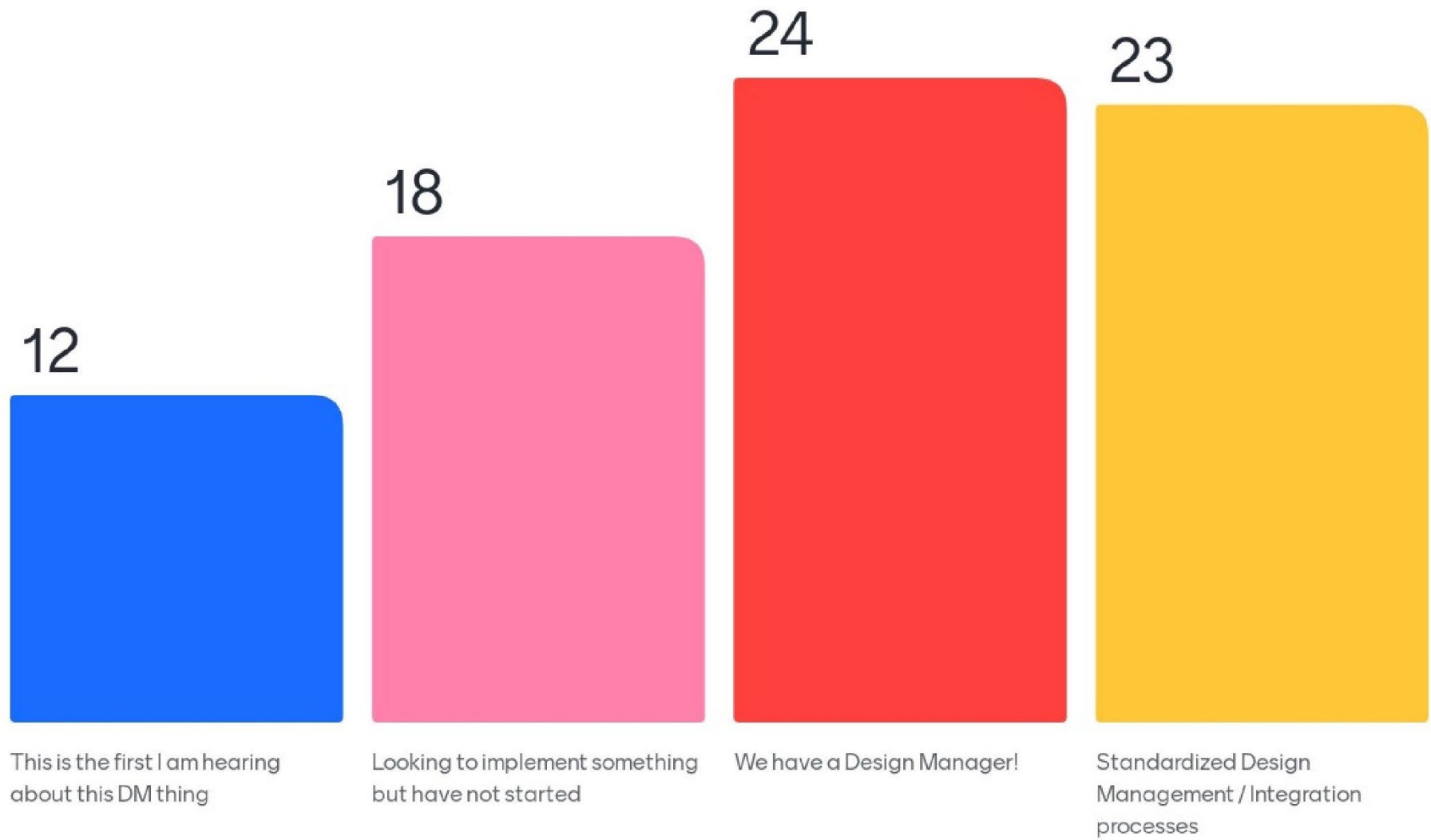
As a GC, the functions that you describe for a design manager are often taken on by an owner's rep or by an owner's PM. How do you suggest a GC put their own design manager in this role?

Eli, spoke of budget updates being completed live as the design develops instead of waiting for each design milestone. How were weekly design changes flagged to the trades, to streamline pricing?

We need a community to raise a building esp w/ PDB. How do you build the community on your projects ... and how do you build permitting agencies like OSHPD in?

How does a design manager differ from a construction manager? Shouldn't the CM be steering the ship? Design being a subconsultant or trade partner to the CM?

What is your level of Design Management/Integration implementation?



Who is best positioned to manage the design in collaborative project delivery (DB, IPD)?

