

2018

Project Delivery Symposium: Delivering the future

CONTRACTORS PANEL



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

Moderator:

Greg Gidez AIA DBIA

Director of Design Services
Hensel Phelps

Panelists:

James Apodaca

Project Executive
Commodore Builders

Andrew Rhodes

Business Team
Preconstruction Lead
Southland Industries

Will Thompson

Vice President and District
Manager
Hensel Phelps Construction

Jim Pattee

Vice President
MC Dean



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

2018

Project Delivery Symposium: Delivering the future

James Apodaca – Commodore Builders



Project Delivery
an **AIA** Knowledge Community



Introduction



James Apodaca, Project Executive

AGC Project Delivery Forum Steering Committee Past Chair

Delivery Methods – Contractual

- Design – Bid – Build
- Design – Build
- CM at Risk
- IPD
- ECM / CM



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

Delivery Methods - Approaches

- Lean
- Design Assist
- Prefabrication
- Modularization



**The American
Institute
of Architects**

Project Delivery

an **AIA** Knowledge Community

What has worked?

- Match Charter School
- Three Buildings
 - Pre Engineered Gym with 4 Mods for offices and lockers
 - 2 – Two Story buildings a total of 80 Modules



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

Built in a factory - Indiana



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community



One year total construction



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

CM at Risk – Preconstruction

- Newton Fire Station #3 & HQ
- Temp ops
- Schedule
- Mission Critical
- State of the art Emergency Operations Command



Design Build



Printing Facility

Rail Access

Paper Storage

Keep same corporate look

Future: Collaboration

- Labor shortage will dictate a rethinking of how we deliver projects
- Design Assist
- Prefabrication
- Modularization
- Integration of Design Team

2018

Project Delivery Symposium: Delivering the future

Will Thompson – Hensel Phelps



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community



Trade Contractors and the Architects

“Unity is strength – when there is teamwork and collaboration, wonderful things can be achieved”.

~Mattie Stepanek

Sharp Chula Vista Oceanview Tower



Designer

SmithGroupJJR/ AVR P studios

Contract Type

Design-Build

Key Trade Partners

Design Assist Drywall

Design Assist Exterior Skin

Project Type

Medical Building

Project Successes



- Key Collaboration with Designer/ GC a year before project award
- Consistency of key team members from Designer and GC
- Key Trade Partners working with designers during design
- Virtual Design and Construction
- Heavy use of mockups early in the design process
- On Budget and project will be delivered 3 months ahead of schedule

Federal Data Center



Designer

Gensler/ Thornton Tomasetti/
Syska Hennessy

Contract Type

Design-Build

Key Trade Partners

Design Build Electrical/Mechanical
Steel / Precast

Project Type

Federal Data Center | Mission Critical

Project Successes



- Designer/ D-B Trade Partners/ GC all co-located during proposal phase
- Consistent team members co-located throughout construction and Commissioning
- Visibility into budget by key team members
- Executive Team Meetings every other week during project – ‘What is best for the project?’
- Virtual Design and Construction
- Large prefabrication designed into the model
- Reduced workhours on site by more than 30%

Arizona Cancer Center



Designer

ZGF/ AEI (MEP Designer)

MWG (Structural Engineer)

Contract Type

Design-Build

Design Assist

MEP, Exterior Closure

Shielding Trade Partners

Project Type

Medical and Research

Project Successes



- Building on previous successes – Firms and People
- Entire team invested in project success
- Designers given insight into budgets while making design decisions
- Key stakeholders identified “Sacred Cows” for a win-win relationship
- Virtual Design and Construction
- Regular Owner and End User Access by Team members

Benjamin P. Grogan and Jerry L. Dove FOB



Designer

Gensler/ Thornton Tomasetti/ Syska Hennessy

Contract Type

Design-Build

Key Trade Partners

Design Build Electrical

Design Build Mechanical

Design Build Exterior Glazing

Project Type

Federal Office Building

Project Successes



- Key Collaboration with Designer/GC a year before project award
- Virtual Design and Construction
- One of Kind Custom Curtain Wall System meeting hurricane and blast requirements (designed by Design-Build sub at time of project delivery)
- Continuous collaboration between client, End User, and Design-Build team

henselphelps.com



**The American
Institute
of Architects**

Project Delivery

an **AIA** Knowledge Community



HENSEL PHELPS
Plan. Build. Manage.

THE FUTURE IS MODULAR



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community



M.C. DEAN[™]
BUILDING INTELLIGENCE

Modular Building for Non-modular Buildings



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

Benefits

Accelerates Delivery

Provides design certainty

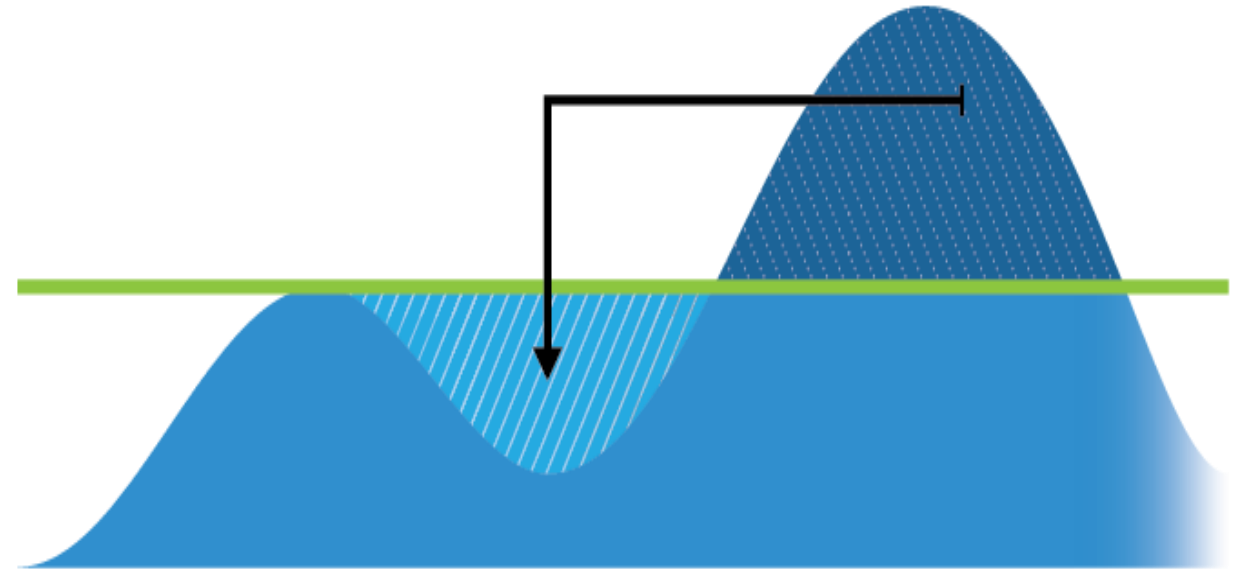
Improves Quality

Enhances Safety

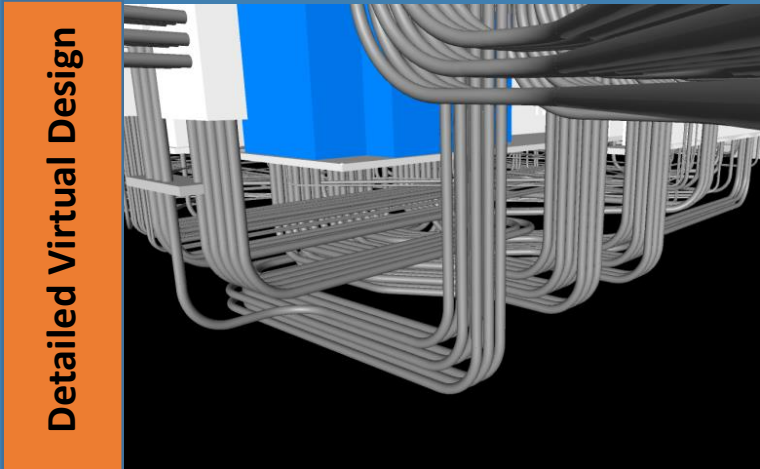
Eliminates on-site labor shortages

Reduces schedule compression risks

Allows for smaller engineering teams



Accelerates Delivery



3 Days vs 3 Weeks

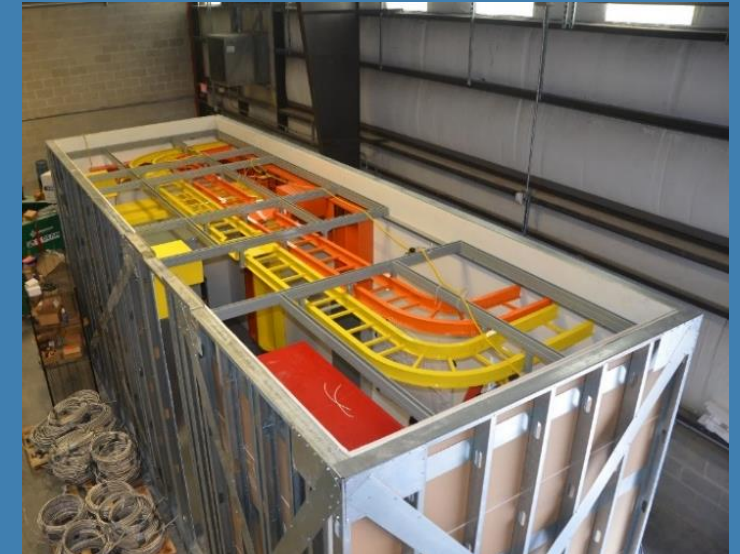
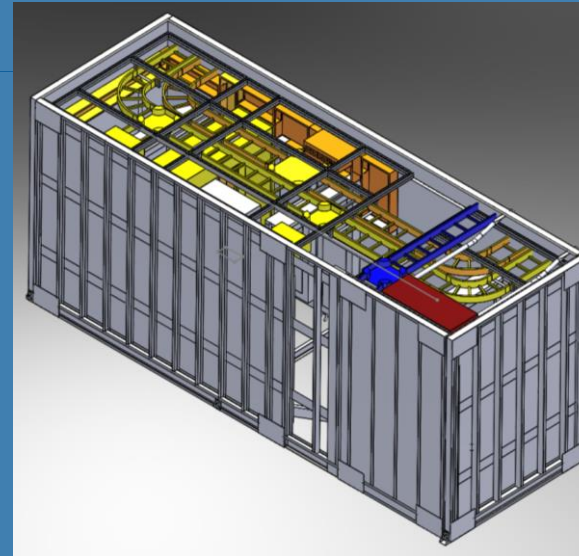


The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

↓ Schedule Risk

an **AIA** Knowledge Community

+ Engineering in controlled environment

+ Issues resolved off critical path



EPMS Simulation and Connectivity Infrastructure at M.C. Dean Facility



The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

OUR PROJECT DELIVERY VALUE STREAM



The American
Institute
of Architects

Project Delivery

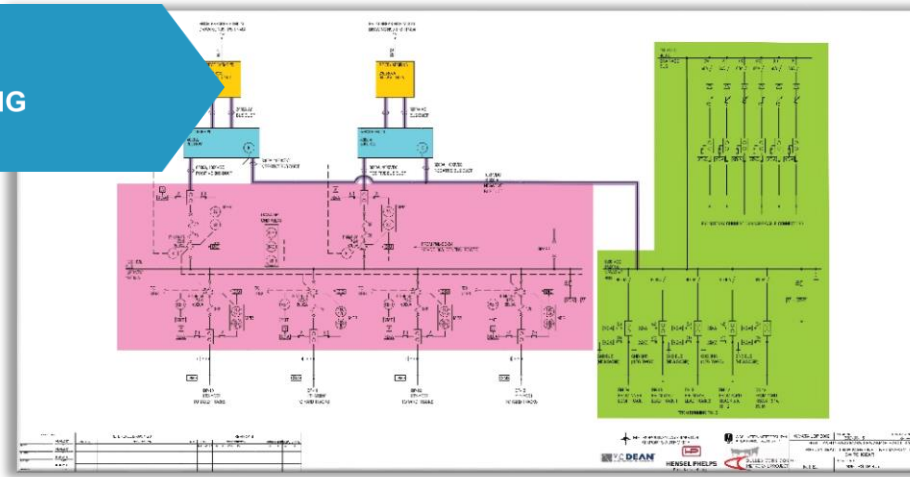
an **AIA** Knowledge Community



M.C. DEAN[™]
BUILDING INTELLIGENCE

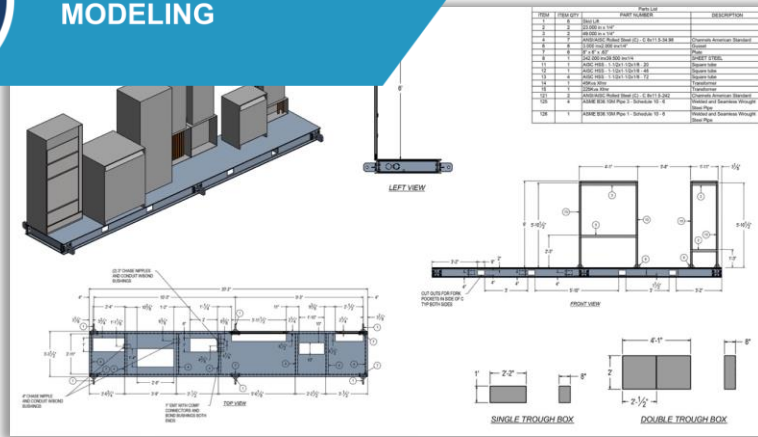
1

DESIGN:
ENGINEERING



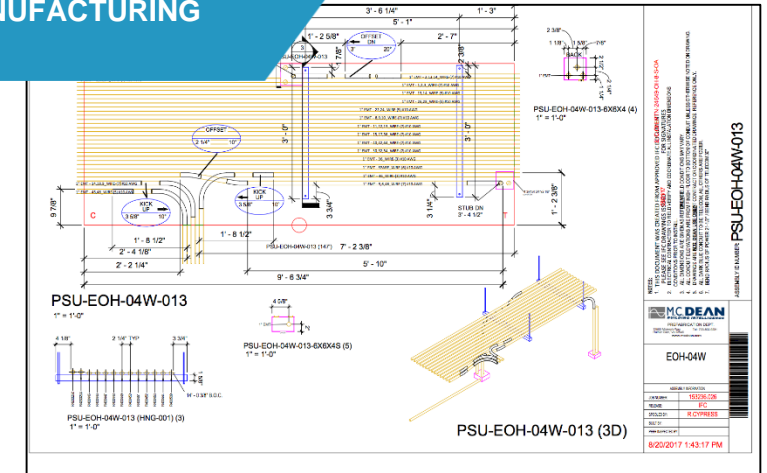
2

DESIGN:
MODELING



3

DESIGN:
MANUFACTURING



1

DESIGN:
ENGINEERING

2

DESIGN:
MODELING

3

DESIGN:
MANUFACTURING

4

FABRICATION &
MANUFACTURING

5

PRECOMMISSIONING
IN JOB CONNECT

6

SPECIALIZED
LOGISTICS

7

INSTALLATION,
COMMISSIONING,
& TURNOVER

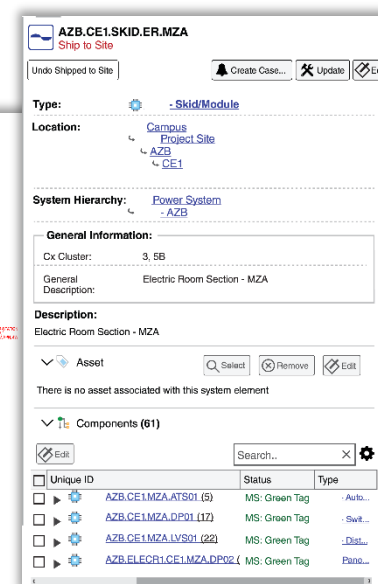
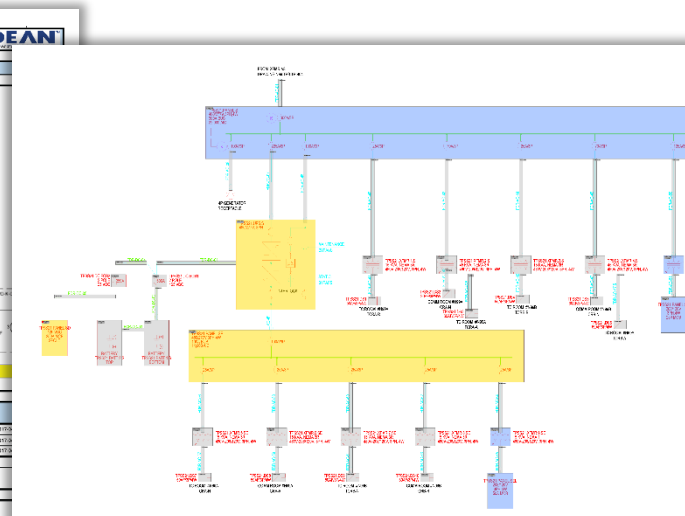
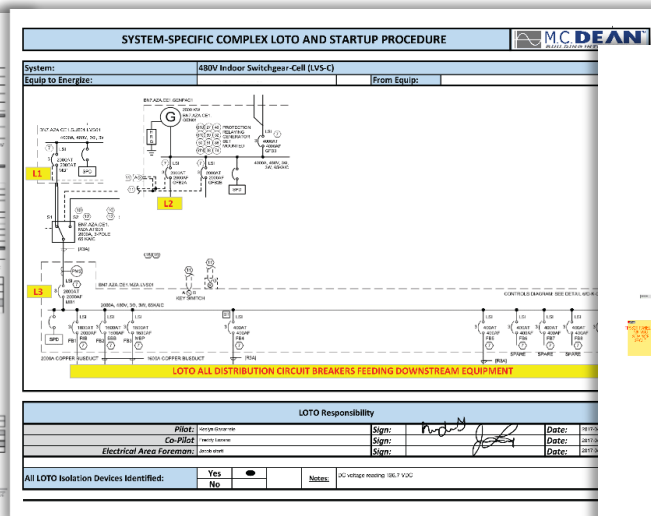


The American
Institute
of Architects

Project Delivery

an **AIA** Knowledge Community

FABRICATION & MANUFACTURING



PRECOMMISSIONING IN JOB CONNECT

DESIGN: ENGINEERING

DESIGN: MODELING

**DESIGN:
MANUFACTURING**

FABRICATION & MANUFACTURING

PRECOMMISSIONING IN JOB CONNECT

SPECIALIZED LOGISTICS

INSTALLATION, COMMISSIONING, & TURNOVER



**The American
Institute
of Architects**

Project Delivery

an **AIA** Knowledge Community

6 SPECIALIZED LOGISTICS



7 INSTALLATION, COMMISSIONING, & TURNOVER

- 1 DESIGN: ENGINEERING
- 2 DESIGN: MODELING
- 3 DESIGN: MANUFACTURING
- 4 FABRICATION & MANUFACTURING
- 5 PRECOMMISSIONING IN JOB CONNECT
- 6 SPECIALIZED LOGISTICS
- 7 INSTALLATION, COMMISSIONING, & TURNOVER



The American Institute of Architects

Project Delivery

an AIA Knowledge Community

2018

Project Delivery Symposium: Delivering the future

Andrew Rhodes – Southland Industries



Project Delivery
an **AIA** Knowledge Community



If you only remember one thing...

Integrated Lean Project Delivery (ILPD) can produce better project outcomes than traditional delivery methods

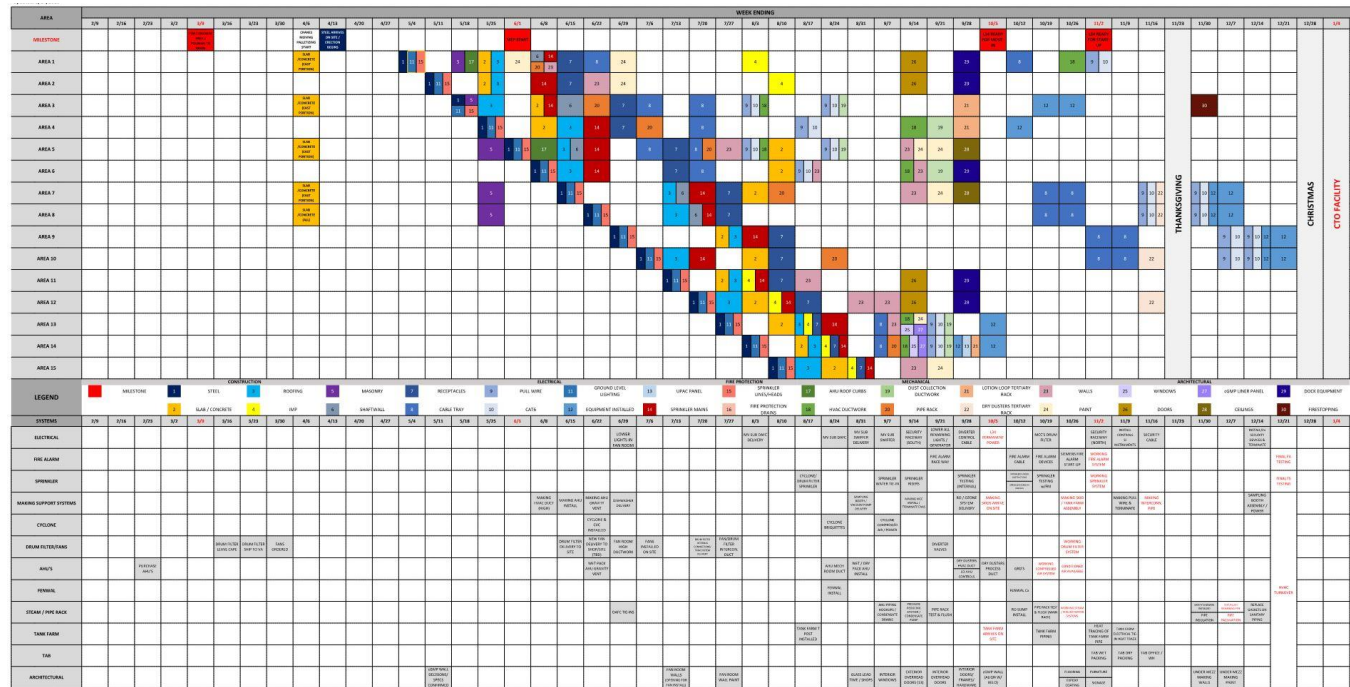
- Commercial Terms – IFOA, Shared Risk/Savings
- Progressively Selected Team – Validation, Design, and Construction
- Target Value Design
- Maximize Prefabrication

Today – Leading Integrated Delivery of Project

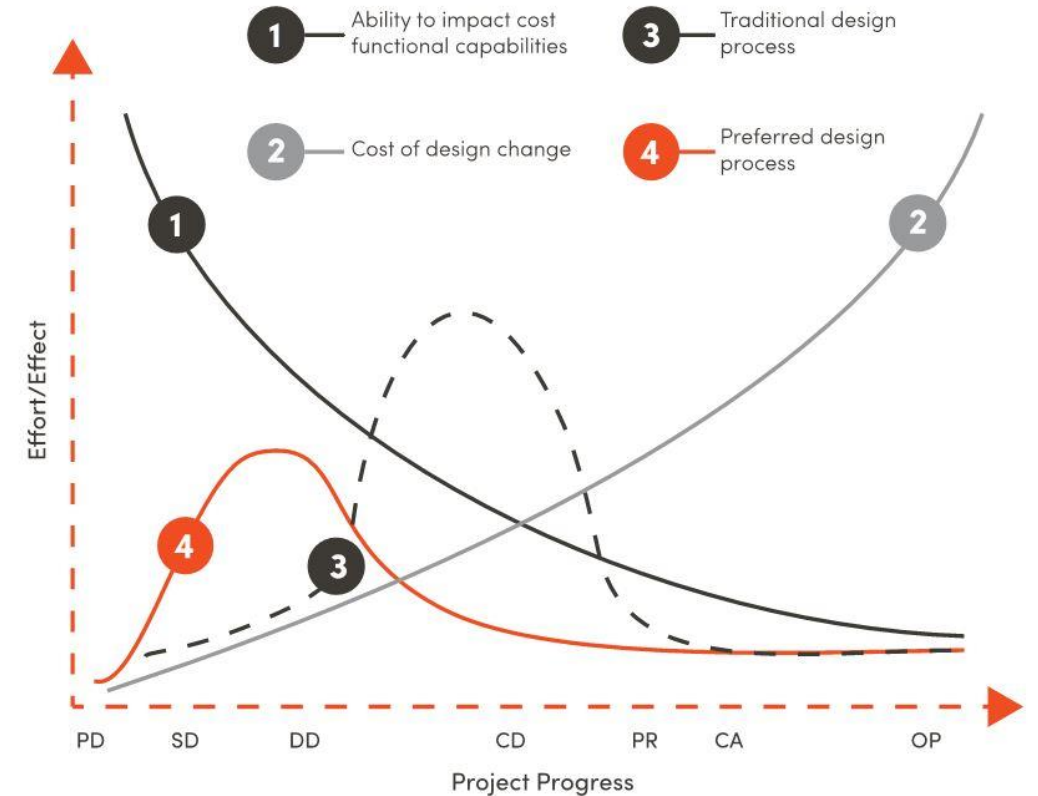


- No longer just a “Mechanical Sub”
 - Facilitation – Ask the right questions
 - Breadth of Knowledge
- Must have relationship-based skills
 - High Emotional Intelligence
 - Trust and Respect
 - Lack of Ego – Team before Me

ILPD collaboration has many benefits



Schedule Alignment



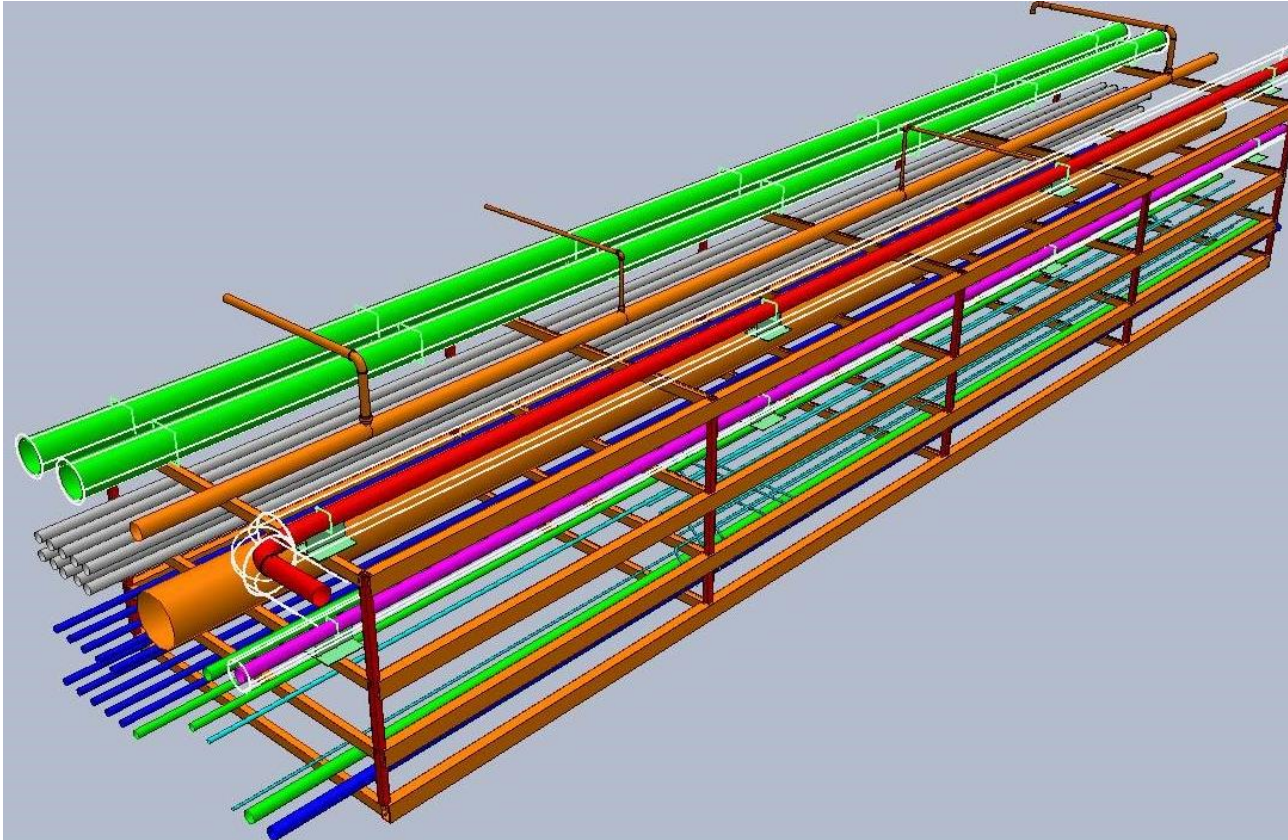
Cost as an INPUT to design

Project teams must remember...

The customer defines **value**

**Our purpose is to help the customer make
informed decisions**

Pipe Rack - Increase Value, Decrease Cost

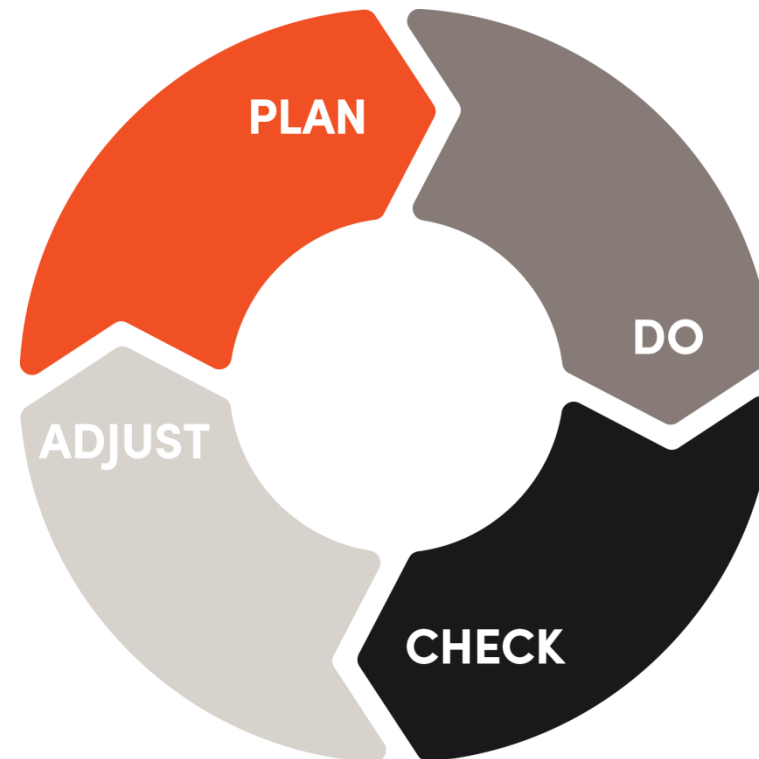


Multi-Disciplinary Savings:

- **Structural:** \$200K of \$400K saved
- **Mechanical:** \$250K of \$1.8M saved
- **Safety:** 7,800 hours moved to fab shop
- **Schedule:** 3 of 40 weeks eliminated

Tomorrow - Enabling Customer's Business

- Then: One stop shop for buildings
- Now: One stop shop for ANY customer need
 - Install production equipment
 - Assist/Lead Cx



QUESTIONS?



**The American
Institute
of Architects**

Project Delivery

an **AIA** Knowledge Community