

24TH ANNUAL



24TH LCI CONGRESS
OCTOBER 18-21

Creatively Defining 'Who Does What Work, When' to get a Vaccine Facility Online ASAP

William Mangum, IPS-Integrated Projected Services, LLC

Helene Cilione, Merck & Co. Inc.

Pete Makowskyj, G-CON Manufacturing, Inc.

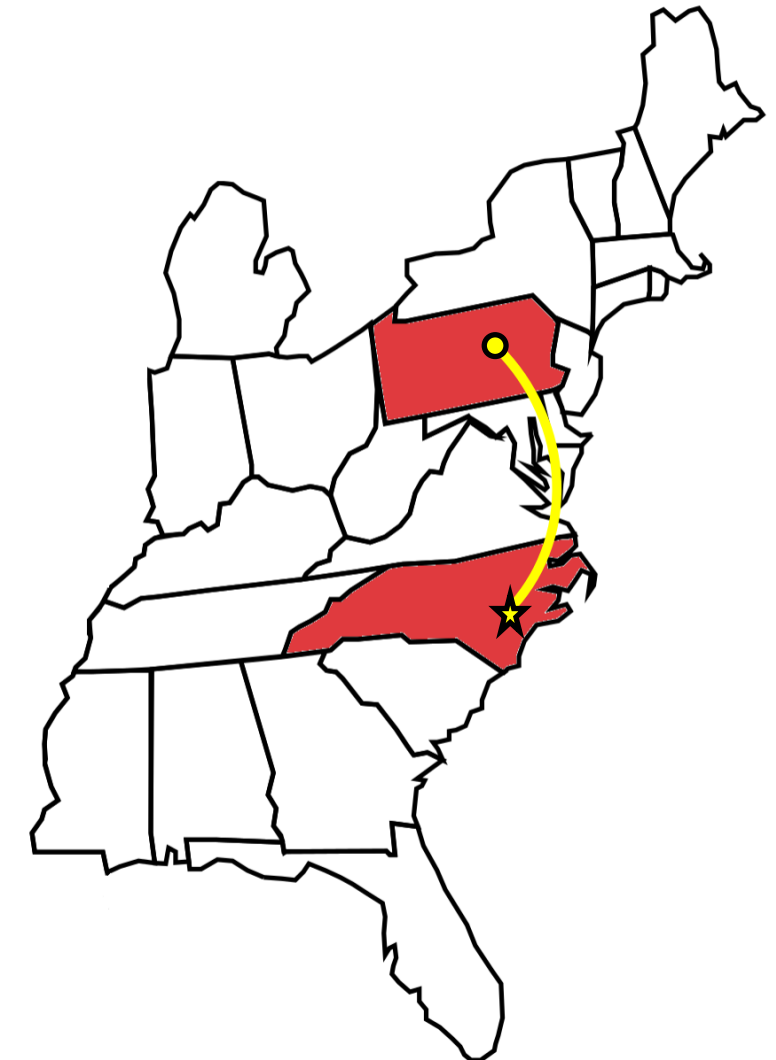
John Gable, H.T. Lyons, Inc.

20 October 2022

LEAN GUMBO: THE RIGHT INGREDIENTS FOR PROJECT SUCCESS

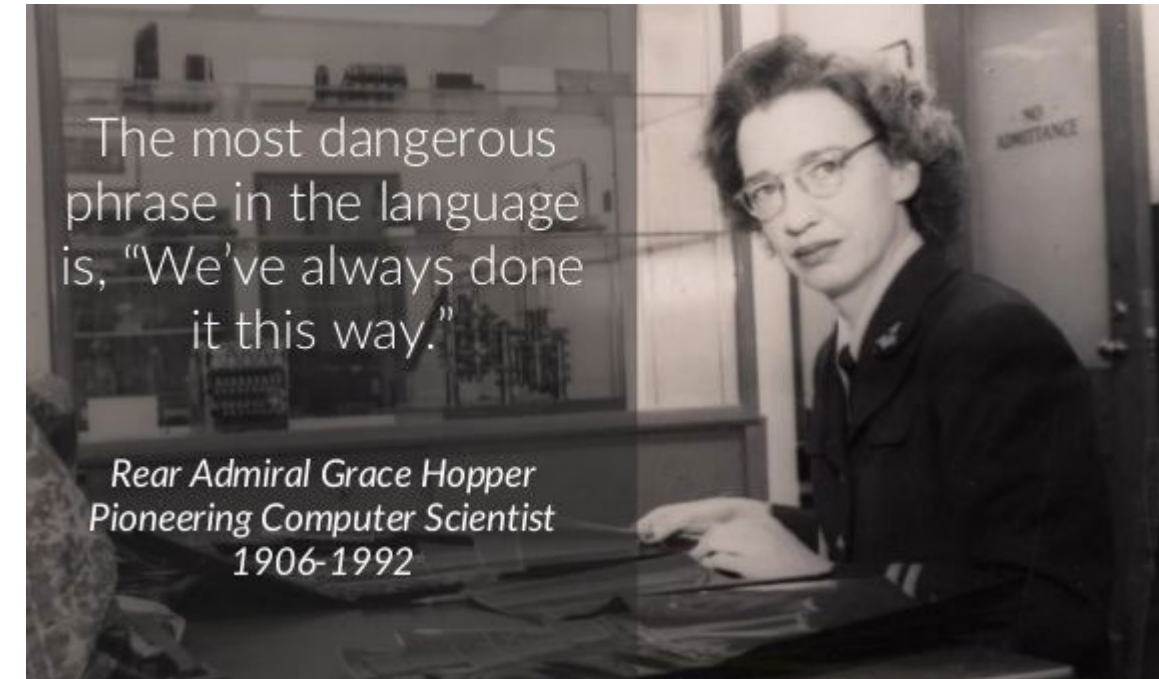
Problem Statement

- Merck approached IPS to provided EPCMV services for a Vaccine Filling Facility Capable of Being Relocated in the Future
- Inevitable change struck project
 - Requirement for serialization led to an additional 600 SF being added after basic engineering
 - It was determined the planned site was incapable of receiving the process and project was relocated following issuance of construction documents



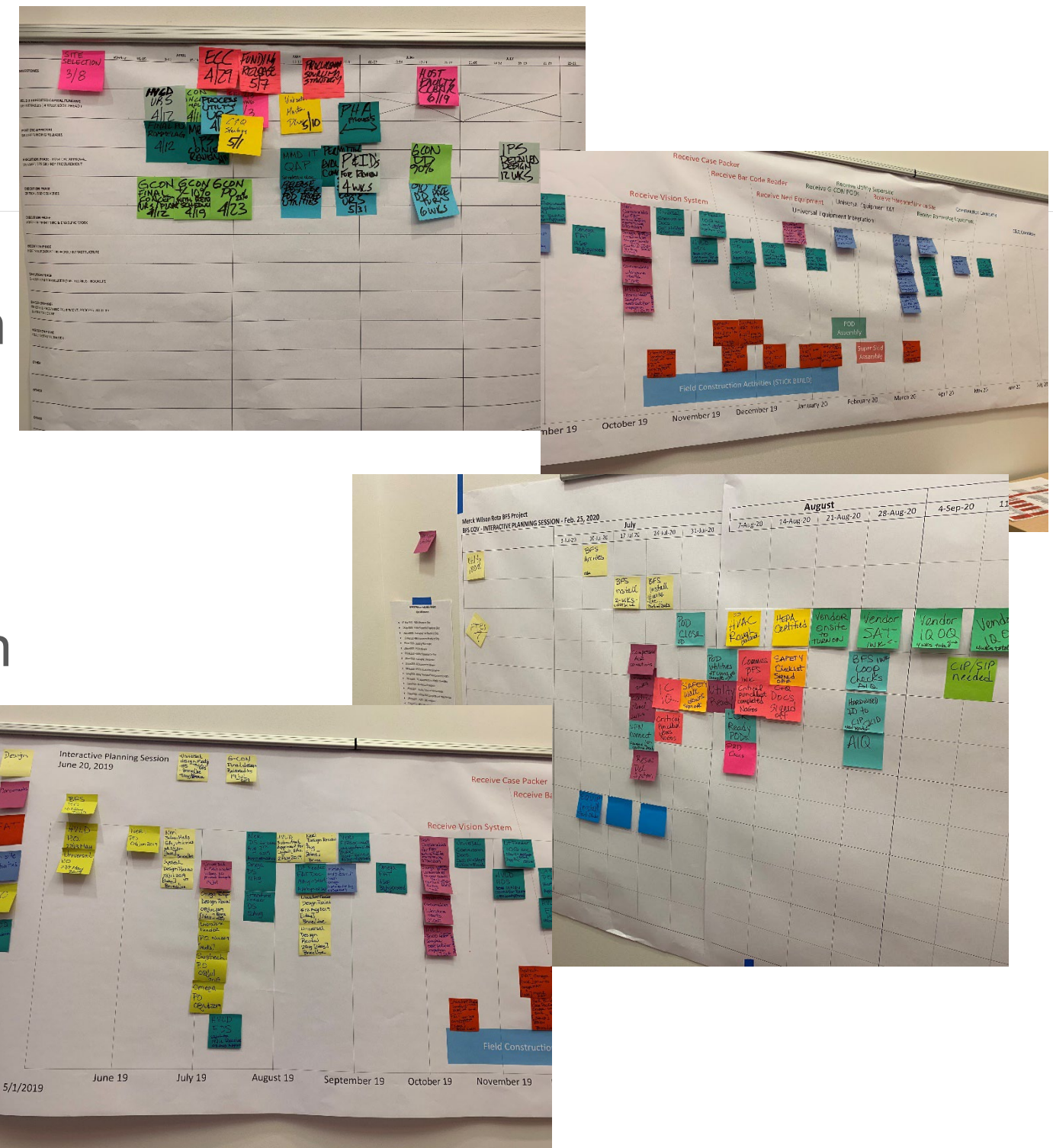
The Approach

- On-Boarded Key **Trusted** Partners early to eliminate constraints
- Don't accept "because we always do it this way"
- Focus on "standard" equipment, avoid customizing
- Reduce on-site work where possible
- Encourage asking "Why?"

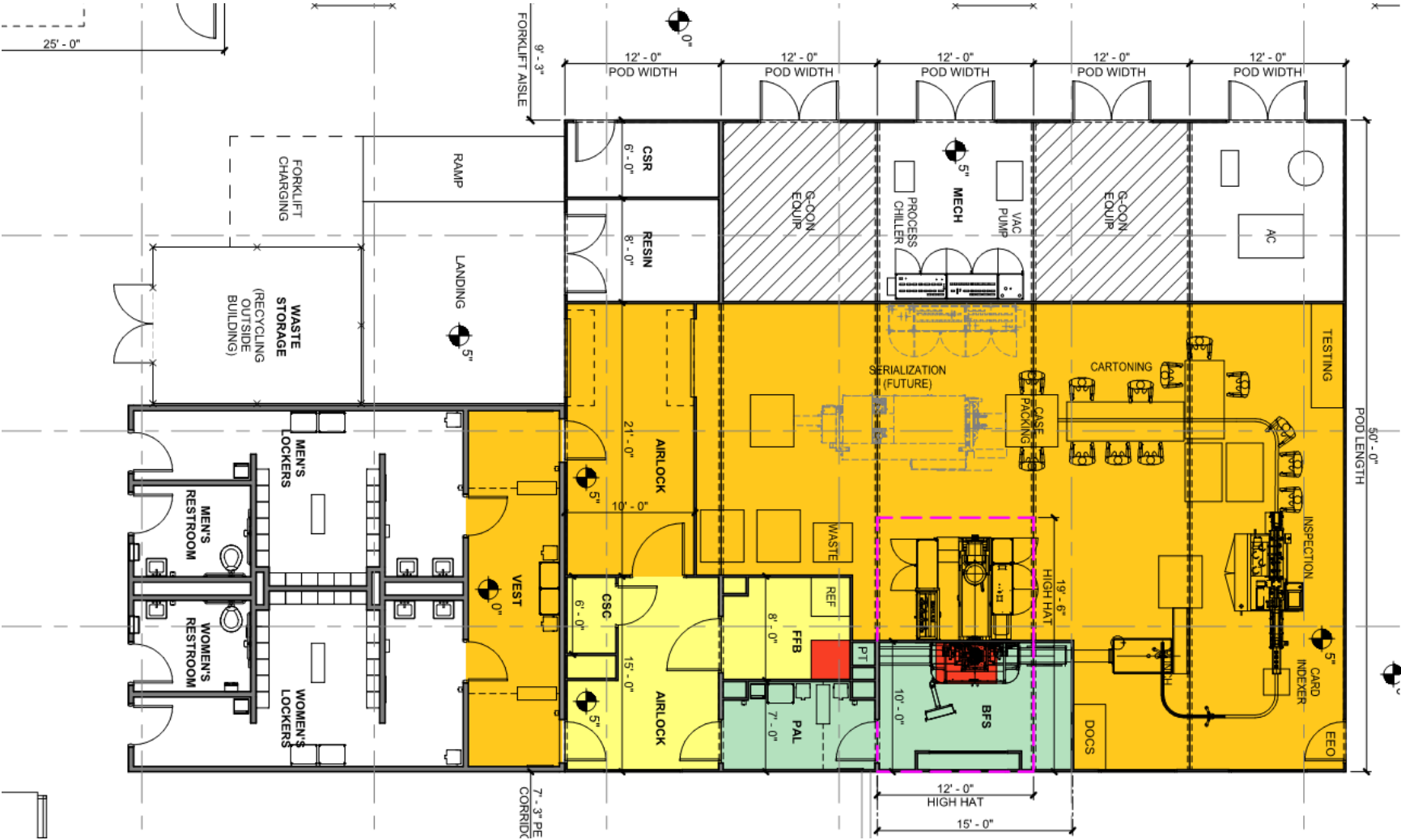


Design with the End in Mind

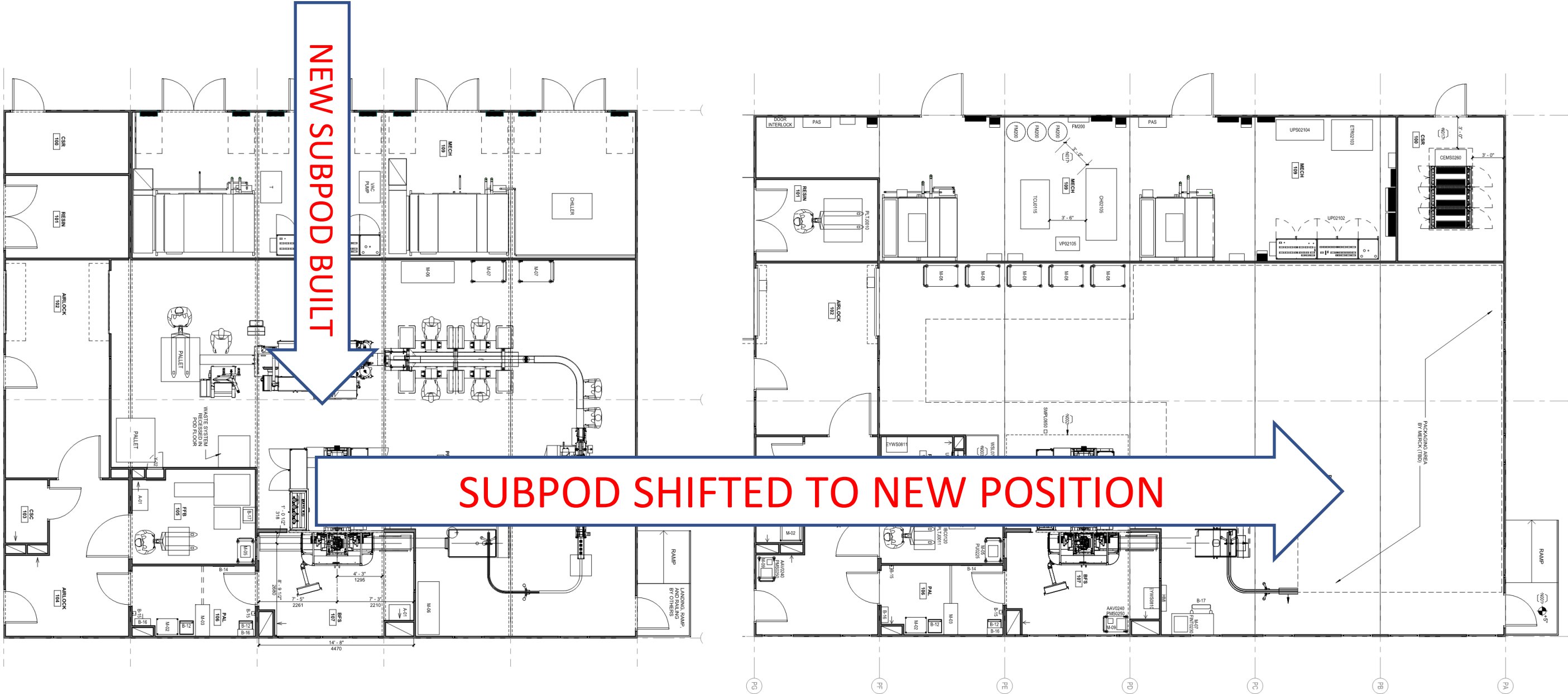
- Overall project leadership from Construction Team
- Focus on Continuous Team throughout Project Lifecycle
- Pull Planning started during Concept Design Phase & continued through execution
 - Trade Partners & Vendors Involved



The Right Team: Engineering Efficiency

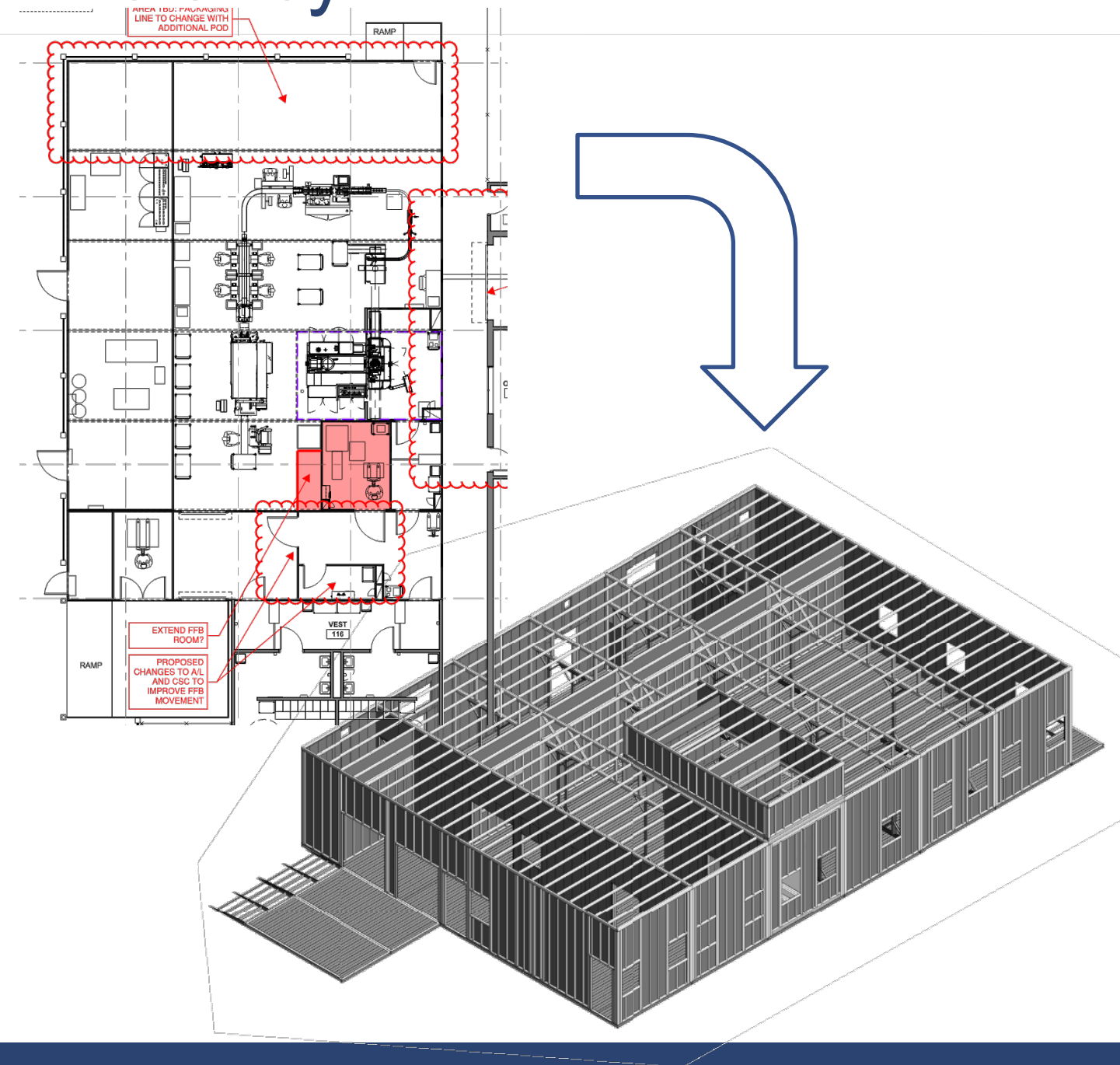


The Right Team: Engineering Efficiency



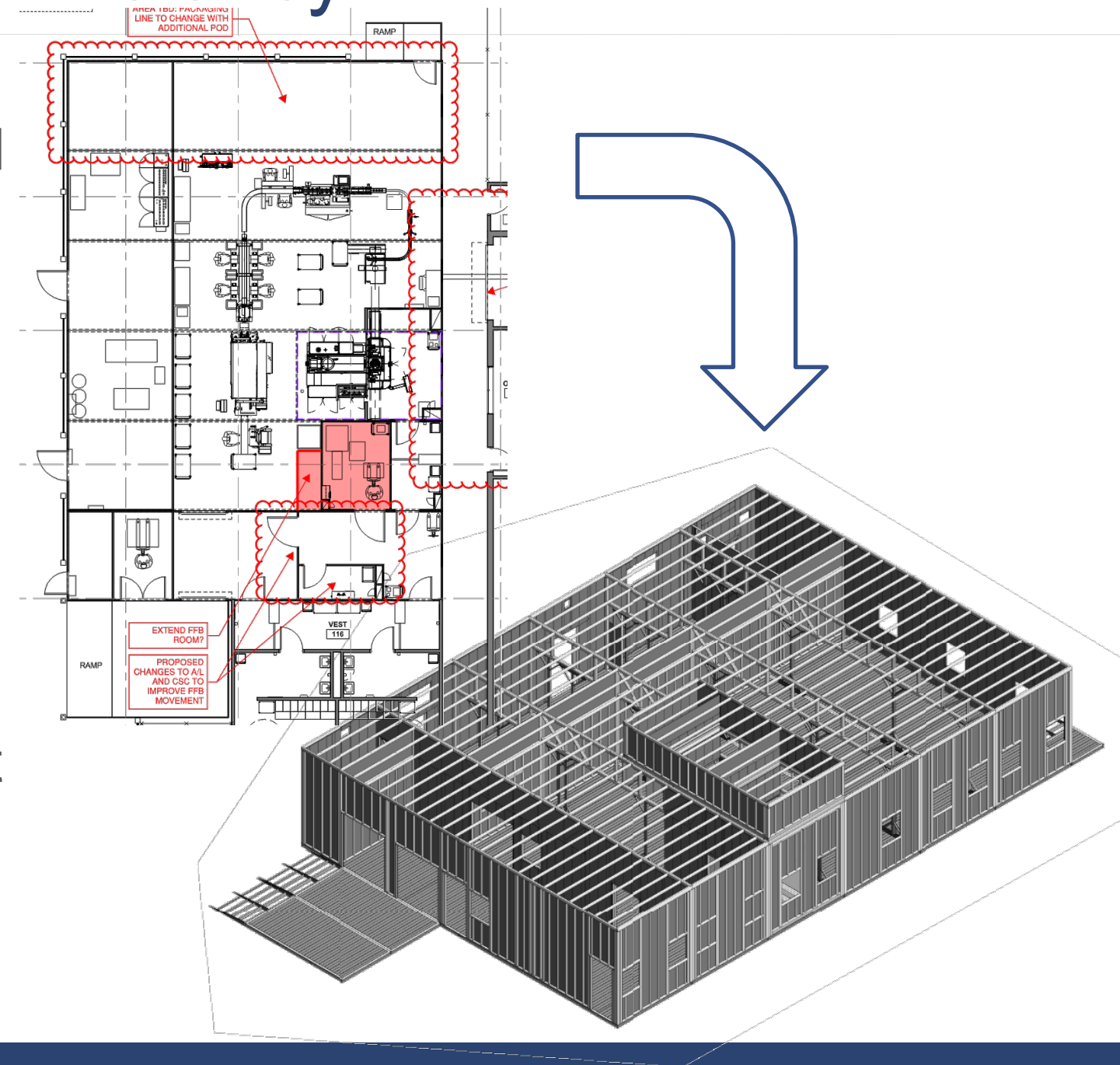
The Right Team: Engineering Efficiency

- When Process Footprint increased the collaboration between GCON & IPS minimized overall impact
- **GCON took prelim. Layout adjustments and optimized with current built structure.**
- Modular design of PODs allowed GCON to quickly make adjustments
- Change was delivered with no impact to overall delivery schedule.



The Right Team: Engineering Efficiency

- Assess impacts to procurement and build
- Long lead items already in procurement
 - Mechanical scope deep dive
 - Order or pull material out of inventory for added scope
- Retrofit build out that was impacted by change
 - Minor in nature since majority of fit out had not taken place yet





Removal of Waste



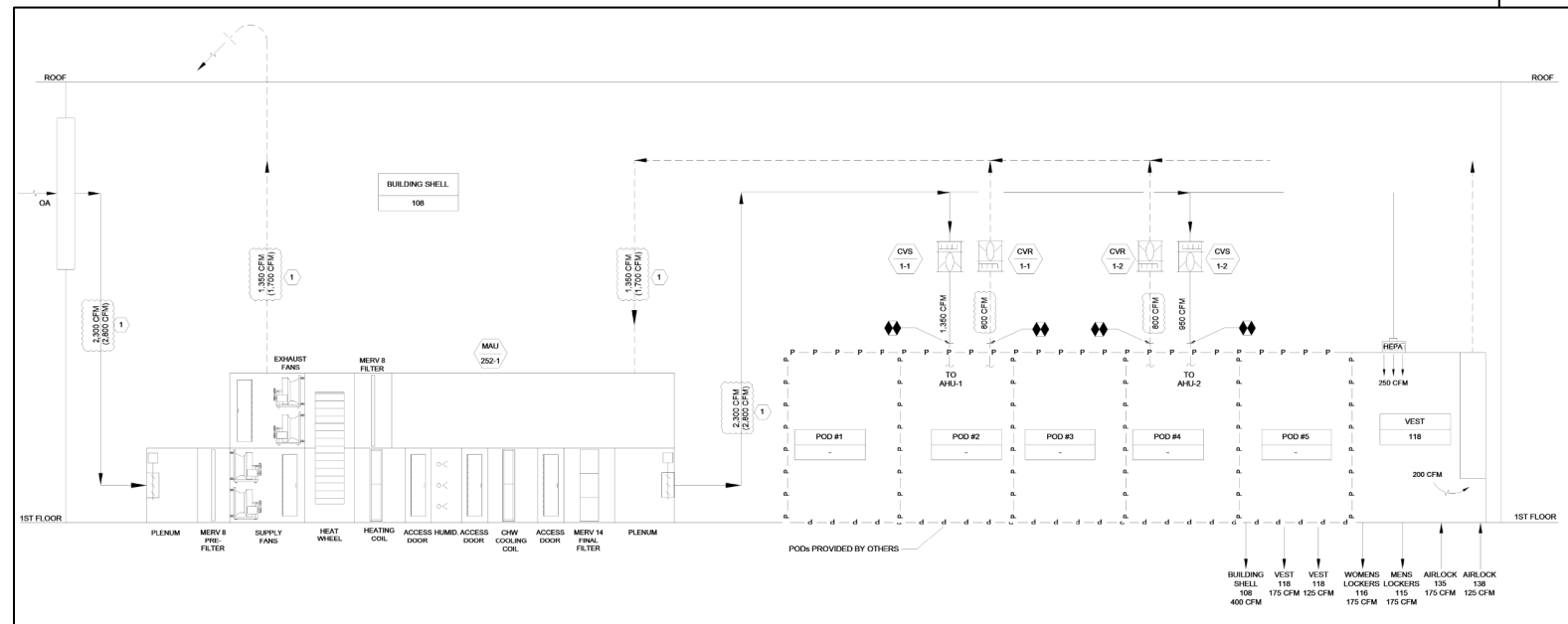
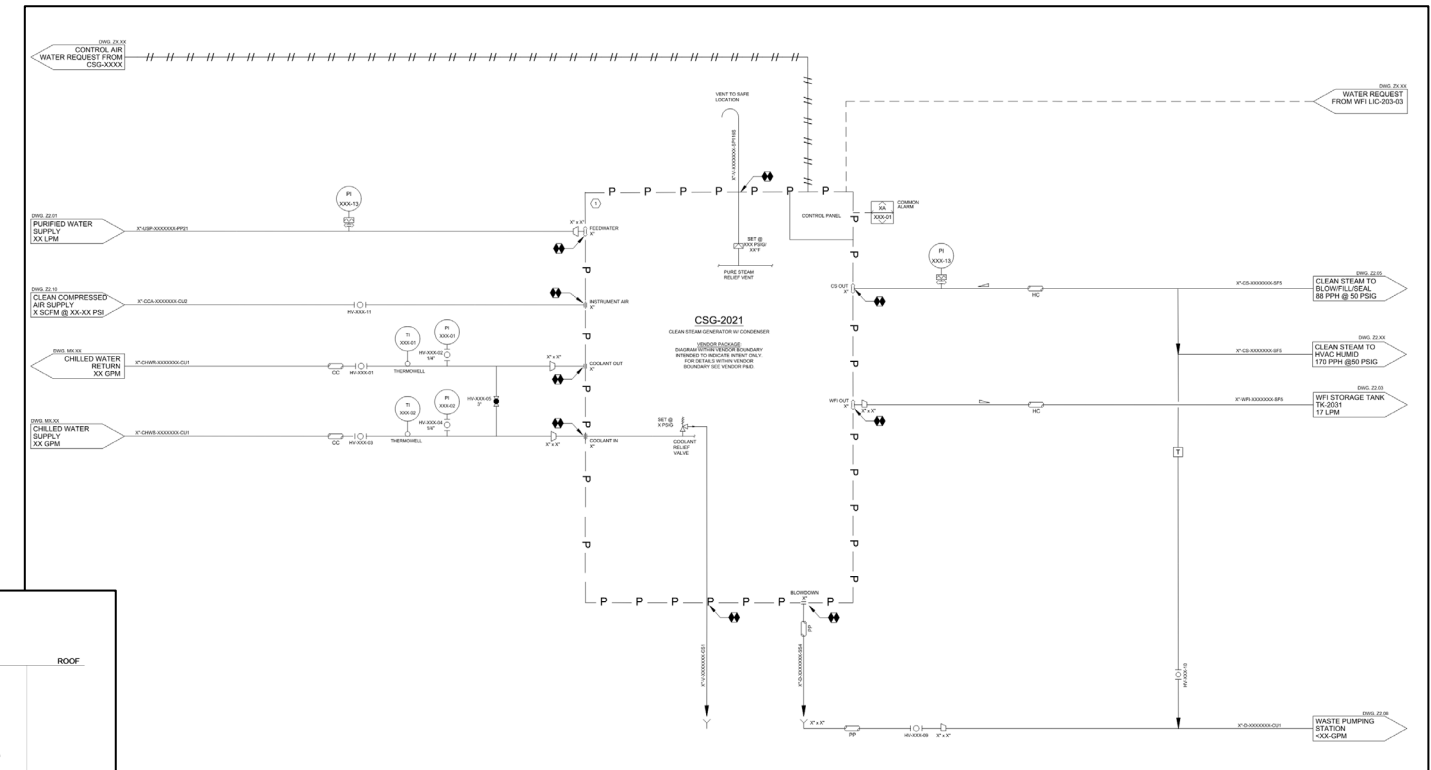
Process and Flow



Collaboration

Design with Construction not for Construction

- IPS Design – Developed Concept
 - Sized Equipment
 - Process and Instrumentation Diagrams
 - Basic Material Specification
 - E.O.R Responsibility Retained



Design with Construction not for Construction



Removal of
Waste

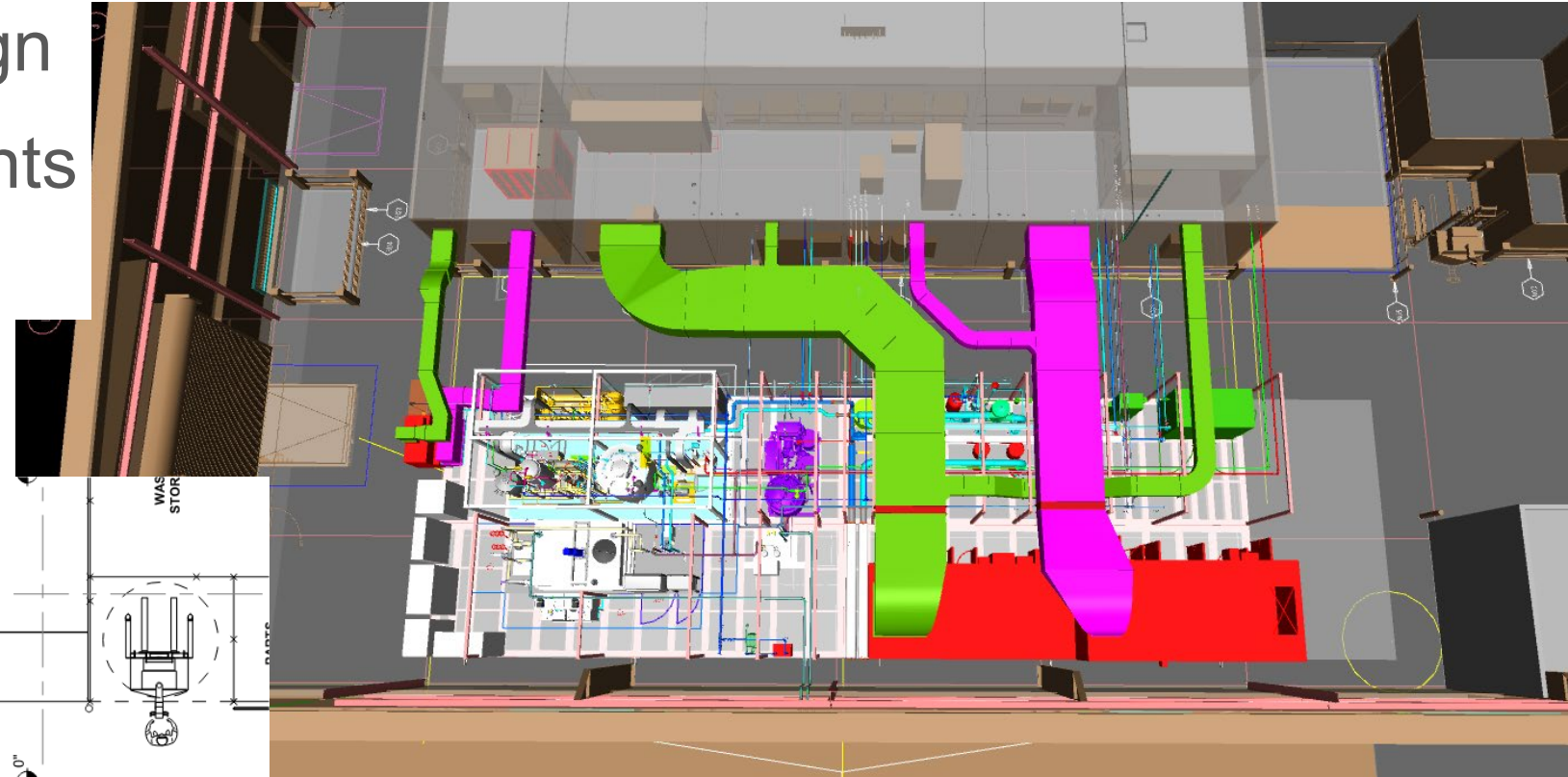
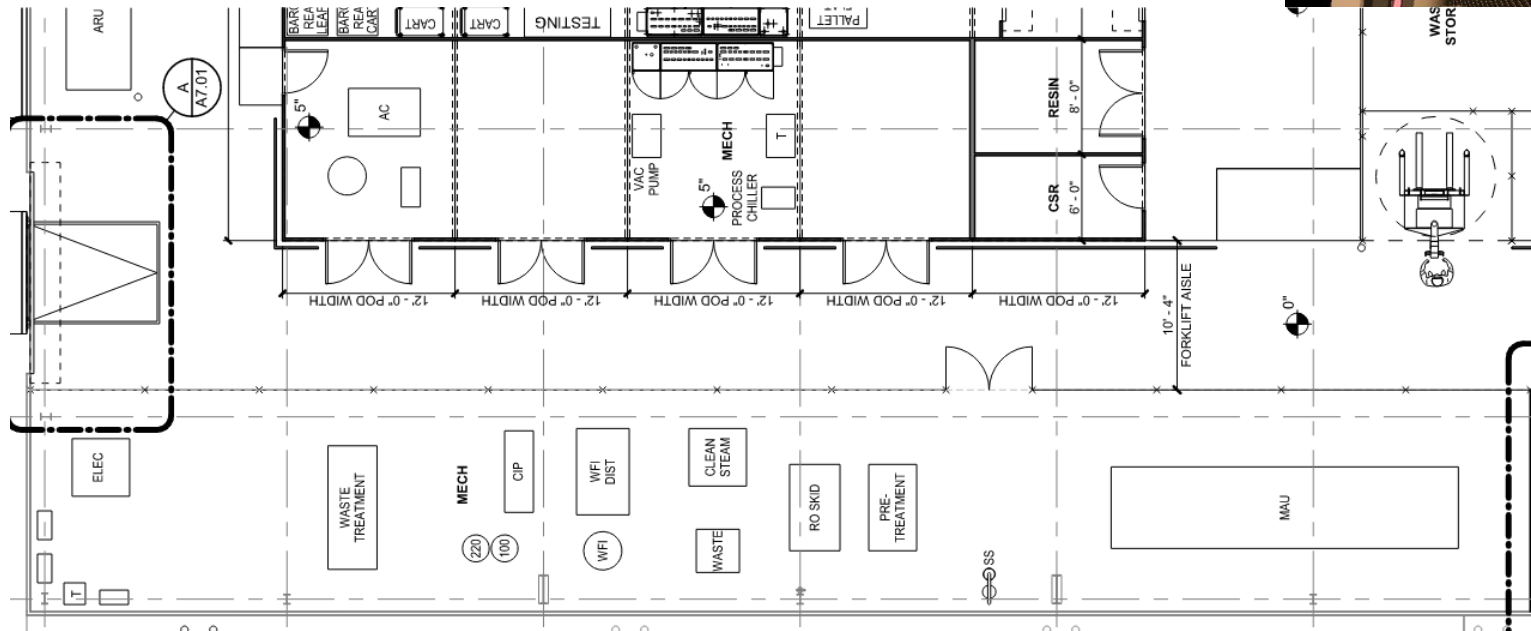


Process
and Flow



Collaboration

- H.T. Lyons developed Detailed Design
 - Early order of long lead components
 - Designed for modularization



Design with Construction not for Construction



Removal of
Waste



Process
and Flow



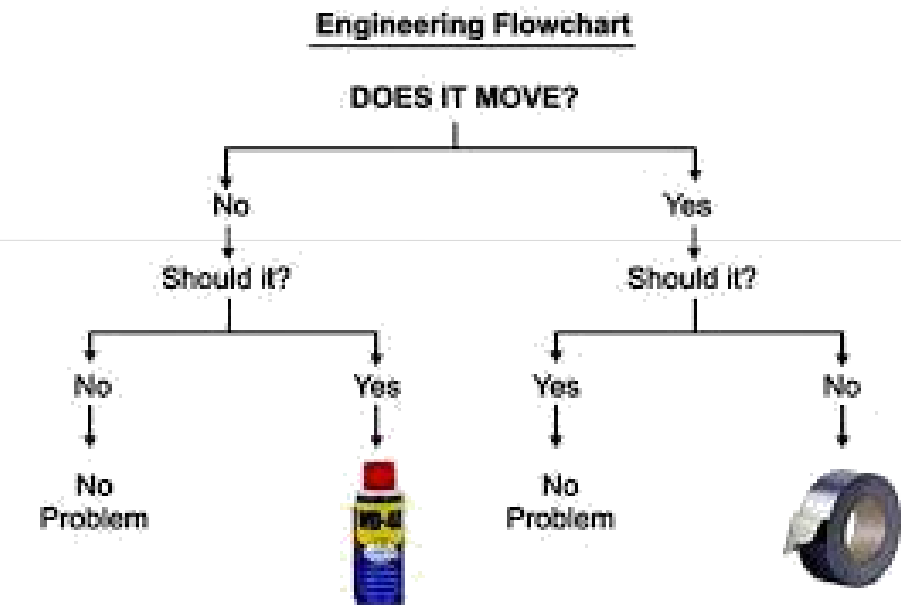
Collaboration

- Key Elements for Success
 - Trust by IPS Design in H.T. Lyons
 - Continuous communication
 - Deep understanding of design intent
 - Willingness to collaborate



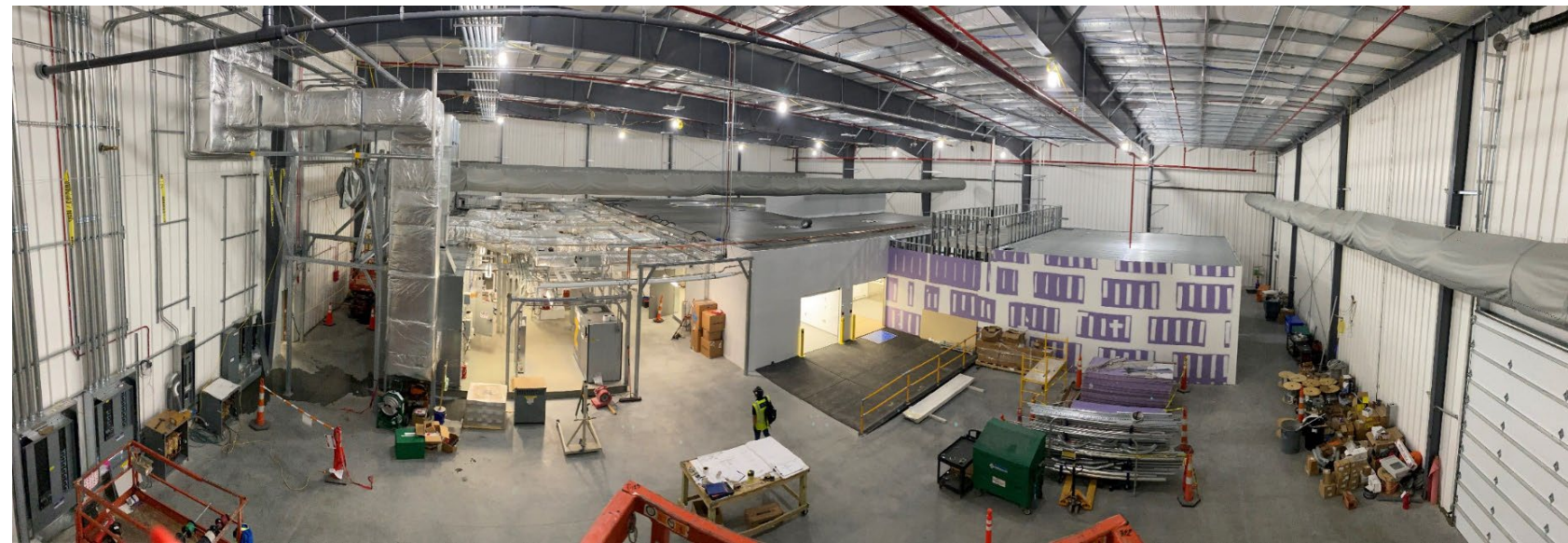
Our Challenges - It Didn't All Go Smoothly!

- Due to speed of shell building design it was not fully modeled by design build partner, quick model developed did not include purlins...all pre-fabricated piping and ducts penetrating exterior wall were three inches short.
- G-Con tweaked wall dimension to accommodate structure. Custom process piping valve box had to be built to address wall position.
- Accelerated site work resulted in no geo-tech drove addition of geo-piers
- COVID happened!!



So What?

- *Superskid & PODs delivered and set in two days and utilities flowing two weeks later*
- *Set the stage for Future Merck Projects and the Ways of Working*
- *Collective achievement of project goals - trades happy, client happy*
- *Overall reduction of Field Hours by 35% due to optimized design / execution*
 - Reduce hot works
 - Reduced headcount during pandemic



How can you apply this tomorrow?

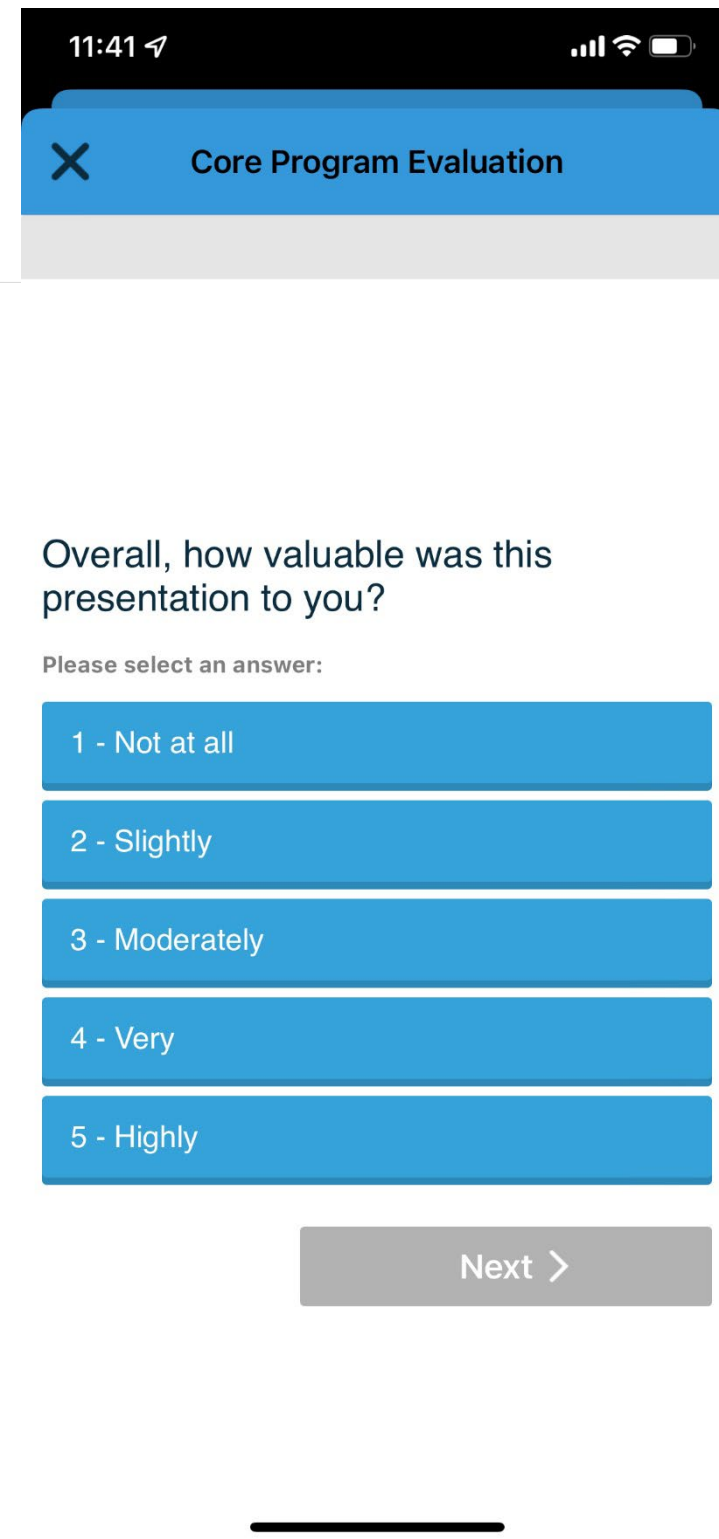
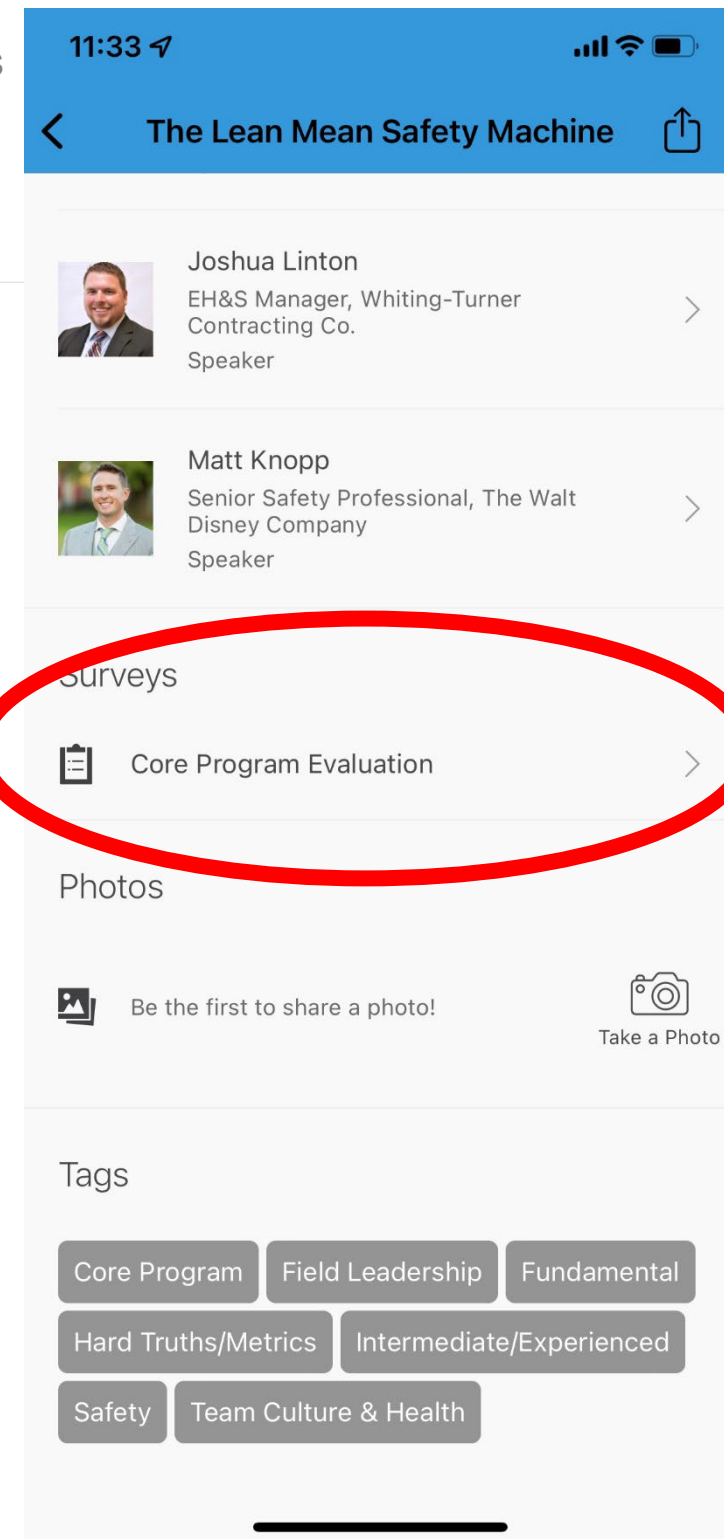
- *Leadership role of acting as client buffer / change*
- *Work to each team member's strengths*
 - Nobody was allowed to say "Not My Job"
 - Ownership of mistakes and acceptance of team to help resolve
- *Co-locating throughout Life of Project (IPS Offices and Field Offices as job developed)*
- *Treating Team Members as Partners not subcontractors*

Rate Presentations in the App

Continuous improvement: give presenters your feedback by taking the session evaluation!

1. Find the session under “schedule”
2. Click on it then scroll down
3. Click “core program evaluation”
4. Complete the 5-question evaluation

This information will determine the top 5 presentation teams and the top Live Lab





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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.



Contact Us

William Mangum



IPS – Integrated Project Services, LLC

wmangum@ipsdb.com

Helene Cilione



Merck & Co. Inc.

Helene_Cilione@merck.com

Pete Mak



G-CON Manufacturing, Inc.

pmak@gconbio.com

John Gable



H.T. Lyons, Inc.

john.gable@htlyons.com



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Thank you for attending this presentation. Enjoy the rest of the 24th Annual LCI Congress!

