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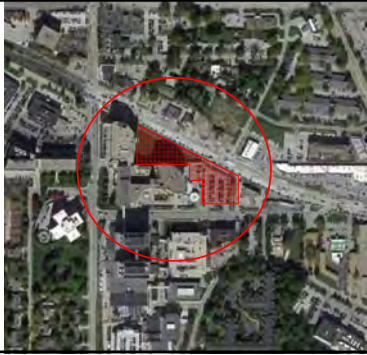
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**Project Highlights**

- Transforming CH&MC from a regional hospital to an internationally known specialty pediatric hospital
- Lease for NICU space in Methodist Hospital ends on May 31, 2021
- Target date of hospital addition completion is February 2021




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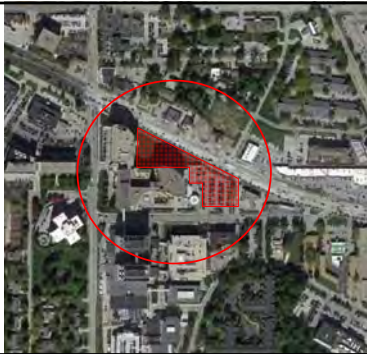
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**Project Highlights**

- Hubbard Center for Children
  - \$383 M Project Cost
  - o 427,000 SF addition
  - o 42,000 SF renovation
- East Parking Garage
  - o 762 stalls
- Increasing the number of inpatient beds from 184 to 220




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**Important Project Considerations**

- Design and construction that will meet the needs in the community for a very long time
- State of the art facility
- Children's competes for pediatric specialists and the facility makes a big difference in attracting talent
- Hospital is full very often and children have to be transported to other children's hospitals outside of Omaha




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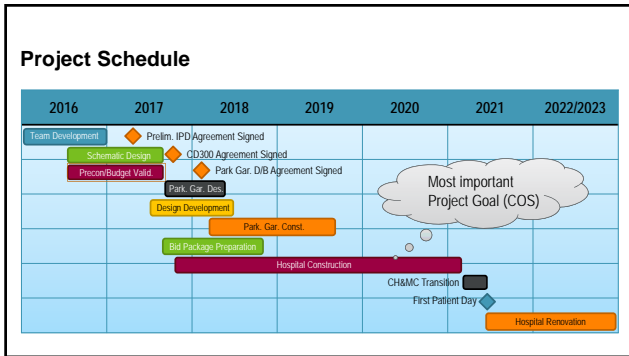
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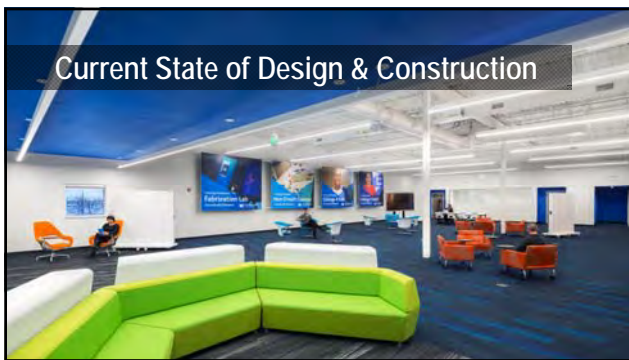
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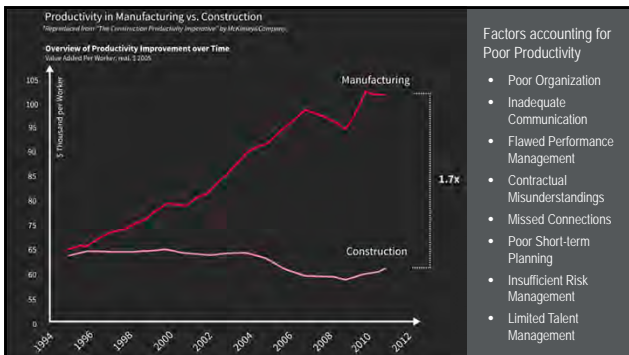
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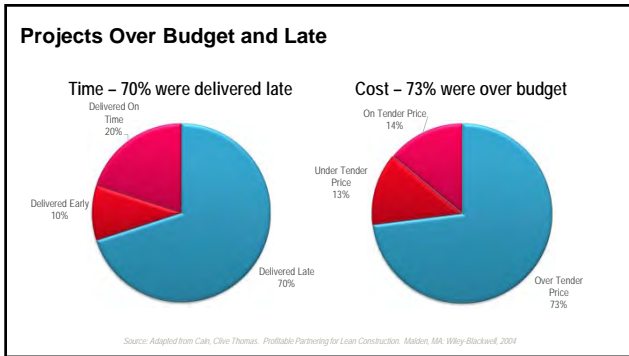
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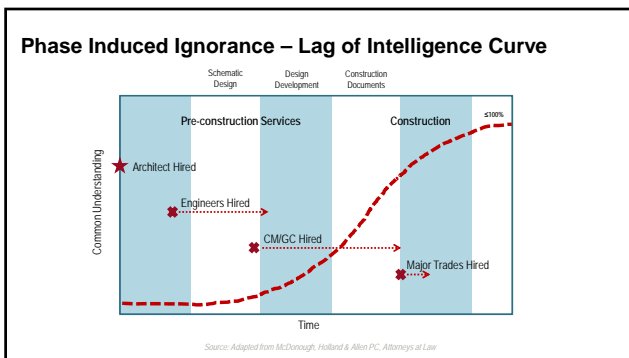
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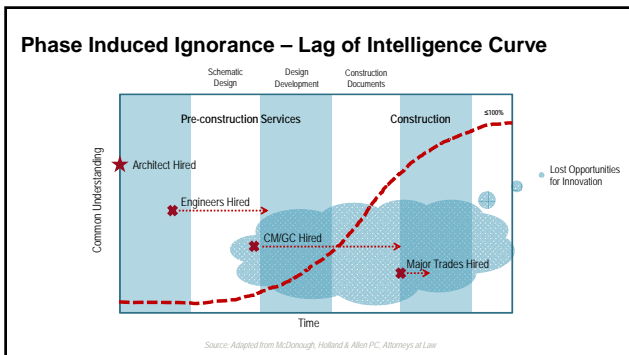
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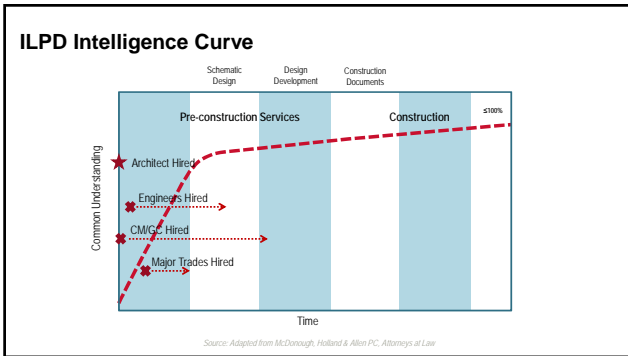
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### What is Waste?

Overproduction      Waiting      Inventory      Movement

Effort      Rework of Errors      Processing      Under-Utilized Talent

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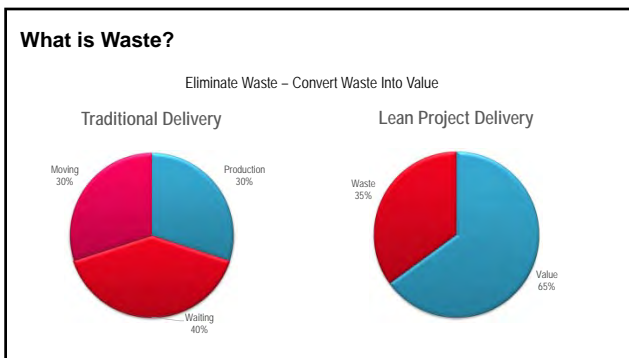
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### Silos – Traditional Project Delivery

Brick walls from years of Adversarial Contracts and Claims

Architect	Owner	CM/GC
Civil	Geotech	Site
Landscape	Traffic	Steel
Structural	Food Service	Mechanical
Mechanical	Materials	Electrical
Electrical	Medical Equip.	Plumbing
Plumbing	Operations	Landscape
Elevators	Diagnostics	Framing
Interior	Pharmacy	Floor Covering
Parking	Admin.	Painting
Silo	Silo	Silo

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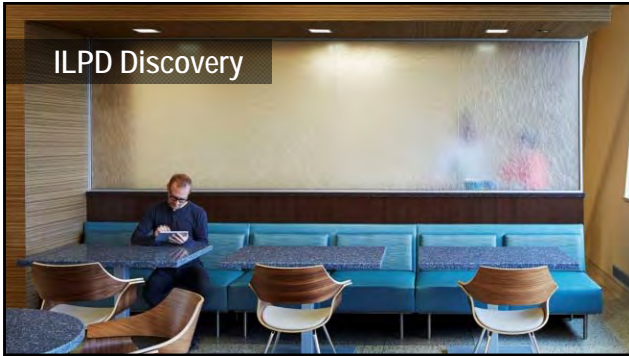
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**ILPD Discovery**

- CH&MC was introduced to ILPD on a tour to Akron Children's Hospital in 2013
- The team toured UHS' Henderson Hospital in June 2016
  - New 140,000 SF, 4 story hospital
  - Constructed in 13 months
    - June 15, 2015 to July 15, 2016
  - First patient day was October 31, 2016
- CH&MC and CBRE toured Piedmont Hospital in August of 2016



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**Big Ideas Learned**

- Established Estimated Maximum Price prior to start of construction
- One Integrated team with Owner, A/E, CM and trade partners signing agreement
- Owner's Project schedule met
- No RFI's (waste)
- Produce a higher quality product
- Incentivize team to meet project goals, Conditions of Satisfaction (COS)
- Decrease Claims



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### ILPD Discussion – September 2016

<b>Rationale</b>	<ul style="list-style-type: none"> <li>Value from team</li> <li>Balance of costs and Value</li> <li>Schedule is critical</li> <li>Partners had past relationship</li> </ul>
<b>Project Duration and Schedule</b>	<ul style="list-style-type: none"> <li>May 31, 2021 – Critical Date</li> <li>Hospital Tower</li> <li>Parking Garage</li> <li>Renovation</li> </ul>
<b>Project Participants</b>	<ul style="list-style-type: none"> <li>Partner Subs</li> <li>CBA process</li> <li>Other critical subs</li> <li>Colo space</li> </ul>
<b>Agreement</b>	<ul style="list-style-type: none"> <li>Initial agreement</li> <li>CD 300</li> <li>Final agreement</li> </ul>

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### ILPD Discussion – September 2016

<b>Management</b>	<ul style="list-style-type: none"> <li>Core Group</li> <li>Senior Executive Team</li> </ul>
<b>Cost of Work</b>	<ul style="list-style-type: none"> <li>Payable Cost – actual costs</li> <li>Audited Overhead Rate</li> <li>Set Profit %</li> </ul>
<b>Cost Milestones</b>	<ul style="list-style-type: none"> <li>Allowable Cost</li> <li>Expected Cost from Validation Study</li> <li>EMP</li> <li>Target Cost</li> </ul>
<b>Project Insurance</b>	<ul style="list-style-type: none"> <li>Gen. Liability</li> <li>Sub Guard</li> <li>Prof. design Liability</li> <li>Builder's Risk</li> <li>Project policy</li> </ul>

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### CD 300

ConsensusDocs® 300  
STANDARD MULTIPARTY INTEGRATED PROJECT DELIVERY (IPD) AGREEMENT

This page is solely for the information and convenience of ConsensusDocs users, and is not a part of the contract. This page includes information that may be confidential or otherwise restricted. The information on this page is intended for use by the parties to the contract. It is not intended to be used for any other purpose. If you are not a party to the contract, you should not rely on the information on this page. If you are a party to the contract, you should use the information on this page in accordance with the contract. If you have any questions about this page, please contact your legal counsel.

**EMERGENCY INSTRUCTIONS:** are provided solely to help you complete the Agreement. To sharing or file information with the "E" button on the "Home" tab is not an intended function.

**Red Lines:** Indicate the fields that are typically required to complete contract.  
**Blue Lines:** Indicate the fields that may or may not be required for a complete contract.  
**Grey Lines:** Indicate general instructions.

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**Key Contractual Concepts**



- Lean Construction Principles
- Collaborative Project Management
- Project Objectives
- Validation Phase
- Preconstruction Phase
- Cost

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**Key Contractual Concepts**



Lean Construction Principles

- IPD Team

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**Key Contractual Concepts**



Collaborative Proj. Mgmt.

- Core Group
- Senior Executive Team

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**Key Contractual Concepts**



**Project Objectives**

- Owner's Program
- Owner's Responsibilities
- Contractor's Responsibilities
- Designer's Responsibilities

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**Key Contractual Concepts**



**Validation Phase**

- Owner's Program
- Validation Study
- Expected Cost

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**Key Contractual Concepts**



**Preconstruction Phase**

- BIM Approach
- Cost Modeling
- Pull Based Planning
- Target Value Pricing

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### Key Contractual Concepts



- Cost
  - Payable Cost
  - Risk Pool
  - EMP

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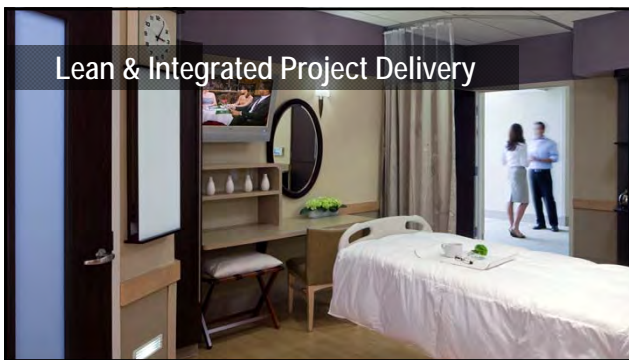
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### Conditions of Satisfaction – C.O.S.

*"There must be consistency in direction" – W. Edwards Deming*

- **Why** Conditions of Satisfaction are a decision making guide and align the team's focus.
- **What** – Each CoS is a commitment and all team members are responsible for delivering according to the CoS. By agreeing to and signing up to the CoS the project team members make a Reliable Promise to one another. The Project CoS define what "success" means for the project team.
- **When** – CoS should be co-developed as soon as possible, but should not be finalized until all the key players are engaged to have input and agree to the CoS.

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**Conditions of Satisfaction (from Henderson Hospital)**

- Patient Satisfaction & Long Term Energy Efficiency
- New Design & Construction Standards
- Stakeholders say we are their #1 Customers
- Wow Factor – systems, means & methods
- One or more improvements each day
- Tell a good story
- Deliver the Project for \$170 M
- First patient day was October 31, 2016




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**CHMC Conditions of Satisfaction** – ranked in order and percentage of incentives:

- Schedule – 50%
- Cost – 40%
- Quality – 10%

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**The Integrated Project Team**




**The Waldinger Corp.**  
*Mechanical*

**Architectural Wall Systems**  
*Envelope Contractor*

**Electric Company of Omaha**  
*Electrical*

**E&K Companies**  
Metal Stud and  
*Drywall Contractor*

**Drake Williams**  
Steel/Davis Erection  
*Steel Fabricator/ Erector*

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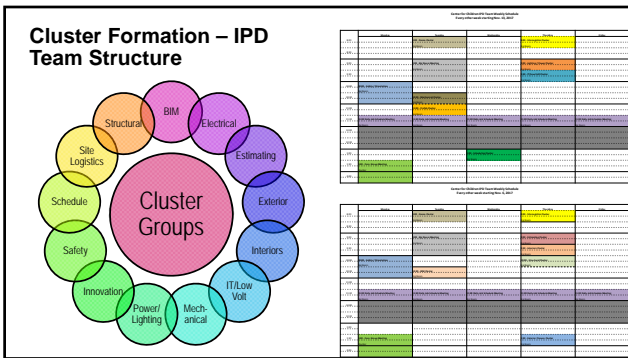
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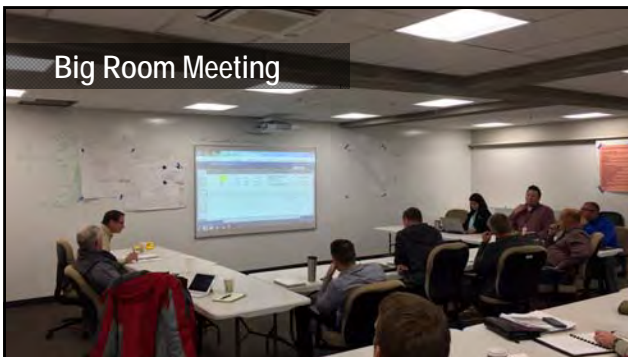
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### Team Building

- Monthly pot luck lunches
- Ice breaker at the beginning of each meeting
- Study action teams – book club
  - 5 Dysfunctions of a Team
  - Switch
  - Speed of Trust



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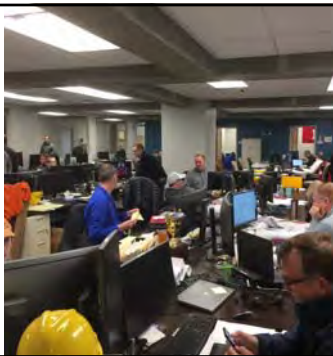
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### Innovation – Generation of Lean ideas

- Group purchasing of commodities
- A65 grade steel in lieu of A36 grade steel for columns - \$500,000 savings
- Early steel mill order package and start of steel detailing
- Utilized curtain wall – cost and schedule savings
- Owner purchase of small tools
- Project purchase of ladders and lifts – to be used by all trades
- Prefabrication – patient headwalls
- Integrated IT/OT Cyber Platform



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### Innovation & the Use of CbA and A3's

- Thinking like a Designer and Contractor
  - NEC 700.10.D
- Temporary SPC power
- Central Plant Location
- Helistop Location
- Patient Headwalls
- Utility Power Options



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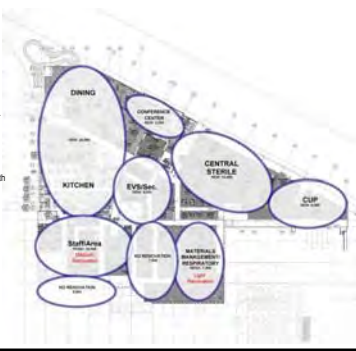
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### Project Scope Reduction

- June 2017 – request to reduce the project cost by \$50 - \$60 M (\$436 M to \$383 M)
- IPD Team collaborated to reduce scope of project
  - Eliminate LL5 – SOE (cost) and schedule
  - Consolidate HVAC to Level 3 from LL5 and 7<sup>th</sup> Floor
  - Move Central Plant to East end of Addition
  - Construct all of Imaging within addition
  - Shell one patient floor
  - Reduce renovation
- Overall scope of project from 587,000 SF to 469,000 SF – one and a half months to complete



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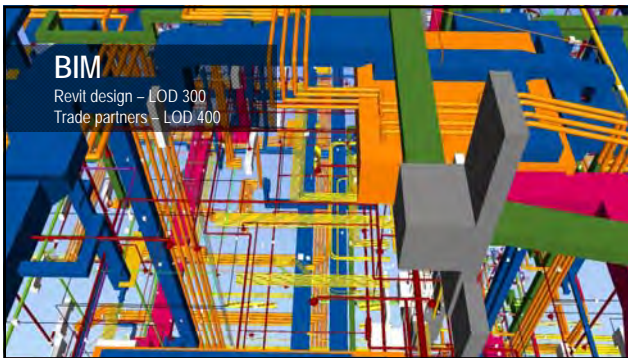
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### BIM

Revit design – LOD 300  
Trade partners – LOD 400



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