Lean Contracting Practices without an IPD Contract and the New ConsensusDocs 305 Lean Construction Addendum



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ConsensusDocs 12+ Years



1 Goal

Improve the design and construction industry with Best Practice Contracts



12 Years publishes best practice contracts



100+ Standard contract documents.



40 Leading construction associations participating in the Coalition.





\$1,000,000+ In donated free educational licenses.

\$40+ Billion in Construction Contracts

ZERO Reported Cases





What is the ConsensusDocs 305?



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Ways to Contract for Lean Design + Construction

- Integrated Project Delivery (IPD) Agreement (a/k/a IFOA)
 - e.g., CD 300 (2016 edition)
- Custom-created IPD-ish design & construction agreements
- Vague references to Lean added to an owner's standard contract
- Now with CD305, an industry standard form outside of IPD that addresses a wide spectrum of Lean practices



Addendum to What?

ConsensusDocs 305 can be used with:

- ConsensusDocs 500 Agreement between Owner & CM
- Other forms of CM at Risk contracts
- Construction contracts under Design-Bid-Build
- Owner contracts with Design Professional
- Not intended for Design-Build Prime Contracts, but ...
 - ConsensusDocs 341 will be published this summer.



How is this Different than IPD?



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Addendum vs. Silence

- Increase alignment among parties
- First collaborative act
- Parameters for Lean behavior and activities
- Some Lean methods will conflict with standard contract language, so Addendum overrides
- Allows enforcement of Lean requirements, but take care



Using the CD 305

- When?
 - O/A/C are committed to Lean, but one or more are not ready or able to enter an IPD Agreement
 - As early in the Project as the Owner will allow
- How?

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- Jointly negotiated, separately attached
- Check-the-box

Typical Chronology of IPD Project



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CD305 Check-the-Box Example 1





CD305 Check-the-Box Example 2





CD305 Check-the-Box Example 3





What about Incentives?

- CD305 does not itself provide for incentive compensation
- Too much variability to standardize incentives
- CD305 does provide for Performance Improvement Program, which individual projects could use as a platform for incentive compensation
- Provide for incentives through amendment to Owner contracts



Reliable Promises 3.3

- Conditions of satisfaction must be clear
- Competent to perform
- Time estimated and reserved
- Performer sincere
- Performer accepts consequences







Core Group Owner, Design Professional, Constructor

- Owner, Design Professional, and Constructor Reps, plus others invited
- Resolves problems through consensus decisions and best interests of the project
- Selects team

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- Provides daily leadership for the project
- Manages budget and design process
- Implements production control
- Oversees personnel and team members.



Core Group - Key Attributes

- Candor and thick skin
- Enthusiasm for change and improvement
- Commitment to goals and principles
- Ability to decide and commit
- No hierarchy
- Shared accountability and responsibility.





Performance Improvement Program

- 15 performance metrics
- Periodic evaluations
- A focus on team members' behaviors
- Clear standards for evaluating performance
- Feedback mechanism on improvements.



Implementing Team Leadership & Culture

- Aligning Personal, Team and Project Goals
- Focus on Clarity of Requests and Commitments
- Coaching
- Equip the Team for Rapid Learning



Aligning Personal, Team and Project Goals







Focus on Clarity of Requests and Commitments



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Coaching





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Equip the Team for Rapid Learning







Project Planning System

Section 5.1

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- What is a Project Planning System
- Weekly Planning Cycle
- Daily Adjustments
- Implied Practices



What is a Project Planning System



Source: Ballard, Tommelein. 2016 Benchmark for the Last Planner System®







Weekly Planning Cycle



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Daily Adjustments





Implied Practices

Commitments, Reliability, Handoffs

6/4/2012 6/11/2012 6/18/2012

5/28/2012

PPC Chart

120 ¬ Variance Chart 100 89 93 84 80 70 75 77 62 66 70 66 50 **Baseline Industry Reliability 54%** 30 2/27/2012 3/5/2012 3/12/2012 3/19/2012 -3/26/2012 4/2/2012 -4/9/2012 4/16/2012 4/23/2012 4/30/2012 5/7/2012 5/14/2012 5/21/2012 2/20/2012 Materials / Change ers Approvals Equipment RFI's te Work Weather Laboi Space Othei Submittal her Decisio Conditior





100

90

80 70

60 50 40

30

20 10 0

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Program Services & Validation







Integrated Design & TVD







Continuous Cost Modeling Preconstruction Phase: Constructor to:

- Provide continuous cost modeling and analysis
- Generate periodic cost model reports

Construction Phase: Constructor + Subcontractors to:

• Provide cost information and estimates requested by Core Group

Core Group to:

- Establish milestones for updating Project cost model
- Direct actions if cost model exceeds Allowable Cost

Compare to lower design-assist option in CD 541.





Target Value Design

- Collaborative DP still in charge and responsible, but must coord. + integrate with Team
- Value, Cost and Schedule and constructability are basic components of design (6.5.1)
- Written Protocols for Target costs [6.5.7.3 (a-h)]
- Add value w/ VAPs, TVD Clusters, A-3s (6.5.8)
- Design phases planning/programming, design, detailing, and production planning
- Uses pull based design process to drive innovation

Target Value Design Processes

Document Review

- Examine Design Documents with reasonable care
- Advise Core Group of issues prompting additional contingency
- Suggest options for additional investigation

Target Value Pricing 6.5.7

- Establish Expected Cost and Target Cost early
- Target Cost only exceeded by express approval of Core Group.



Target Value Pricing

Continuing refinement of cost models

Cost analysis not to be deferred

- Byproduct of continuing TVD process
- Core Group jointly manages

Escalation addressed in:

- Estimates
- Expected Cost
- Target Cost

Expected Cost and Target Cost adjusted

- At Final Completion
- Reflecting difference between escalation allowance and actual escalation



Building Information Modeling (B.I.M.)

- BIM (verb) as a process not a software application
- Interconnected models and databases
- The power of BIM makes the payoff of lean greater
 - Provide continuous, immediate, and reliable information
 - Regarding design, scope, schedule, and cost.





Design Model

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Vs As-Built





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Design









Risk Assessment and Management 6.6

- Identify material risks in early workshops
- Create risk identification report
- Rank and focus on higher priority risks
 Likelihood of occurrence
 Time and cost impacts
- Develop Risk Management Plan with
 Contingency plans
 Assignment of primary responsibility
 Address roles of others in managing risk



Construction Phase Lean Features

Article 7

- 5S Plan
- Quality, Standardized Work, PDCA
- Material Flow
- Information Flow





5S Plan



Quality, Standardized Work, PDCA





Material Flow



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Information Flow



CONSTRAINTS						
	RESPONSIBLE		DATE			
DESCRIPTION	PRESON	CONTRACTOR	HDENTIFIED	NEEDED	· PROMISED	· RESOLVED
NAR 1. 2 RI	BRETT	MORT	11/2	11/3	(1 (3	
QTY OF DATA PROPS PER LOCATION - MOB CILZ IAT	SAM	MORT	11/2	11/18	11/18	
INTERIOR INVESTMENT FURNITURE ELEVATIONS - MUS	TONY	FATTH AHERN	11/2	11/8	11/8	
MEP URATE - MOB B-000IA	Tom BEVOIC	Hooper				
Counteriop Replacements	Sam	MAM	10/27	1/21	11/28	
DRAINAGE DETAIL - HBOT	MATT	MORT	11/2	11/4	11/2	11-2
HBOT GROUNDING DESIGN	SAM	MORT	112	11/7	11/7	
PRAXAIR CONNECTION (WHAT IS REGURED FOR INSTALL)	BILL	MORT	11/2	11/4	11/4	
IN WALL INSPECTION - SCHEDULE - MOB WIZ PH1	BILL	MORT	11/2	11/4	11/4	11/4
Nurse call IPU SW Patient-Ascension	Brett	Mort	11/7	11/11		
B-1124 Layout-core thru bont plate?	Kevin	Mort	11/2	11/7	11/7	
[219] Drywall Topout changes	Kevin	Mort	11/3	11/7	11/7	

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ConsensusDocs 541 Design Assist Addendum

ConsensusDocs® 541 ADDENDUM TO AGREEMENTS BETWEEN OWNER AND CONSTRUCTION MANAGER AND BETWEEN OWNER AND DESIGN PROFESSIONAL FOR DESIGN-ASSIST SERVICES (Design-Assist Addendum)

ARTICLE 1 AGREEMENT ARTICLE 2 RESPONSIBILITIES OF THE PARTIES ARTICLE 3 DESIGN-ASSIST SUBCONTRACTORS ARTICLE 4 DESIGN-ASSIST SCOPE OF WORK ARTICLE 5 OPTIONAL ADDITIONAL DESIGN-ASSIST SERVICES. ARTICLE 6 DESIGN RESPONSIBILITY ARTICLE 7 COMPENSATION FOR DESIGN-ASSIST SERVICES ARTICLE 8 TERMINATION ARTICLE 9 ADDITIONAL INSURANCE ARTICLE 10 MISCELLANEOUS PROVISIONS.					
ARTICLE 1 AGREEMENT					
Job Number: [] Account Code: []					
This Addendum is made on the [] day of [] , [] , to that certain contract ("CM Agreement") dated [] by and between					
OWNER: []					
and					
CONSTRUCTION MANAGER: []					
Tax identification number (TIN): [] Contractor License No., if applicable: []					
And to that certain contract ("Design Professional Agreement") dated [] by and between					
OWNER					
and					
DESIGN PROFESSIONAL: []					
Owner, Construction Manager, and Design Professional are collectively the "Parties."					
PROJECT: []					
ARTICLE 2 RESPONSIBILITIES OF THE PARTIES					

2.1 Owner, Construction Manager, and Design Professional agree to participate in a collaborative design process where Construction Manager shall provide design-assist preconstruction services.

2.2 Owner shall work with Construction Manager and Design Professional to identify the Project objectives, including budget and time criteria, space requirements and relationships, flexibility and expandability requirements, special equipment and systems, and Worksite requirements. Owner shall provide full information in a timely manner regarding requirements for the Project, including Owner's Program and other relevant information.



ConsensusDocs¹⁰ 541 - Addendum to Agreements Between Owner and Construction Manager and Between Owner and Design Professional for Design-Assist Services. ¹¹ September 2018. THIS DOCUMENT MAY HAVE BEEN MODIFIED. The CommunuDocs technology jadient oretastes a redime comparison to the standard language which the purchaster of this contract is authorized to share for every purposes. Consultation with legal and insurance ocumes lare strongly encouraged. You may only make copies of finalized documents for distribution to parties in direct connection with this contract. Any other uses are strongly encouraged. You may only make copies of finalized documents for distribution to parties in direct connection with this contract. Any other uses are strongly problemed.

- Addendum to prime agreements, consultant and subs
- Optional tools from CD 305:
 - BIM
 - Owner's program evaluation
 - Value Analysis
 - Cost modeling
 - Optional risk analysis
 - Optional production planning
- Constructability (in 541 only)
- Manpower analysis, design-build packages early procurement packages, etc. (in 541 only)
- Design Coordination (in 541 only).



How do you Structure the ConsensusDocs 305 & 541?



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The Collabometer



"**Collabometer**" Courtesy of Jack Mumma Michigan State University



Design-Assist can help Prevent Against



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Questions?

Lean Contracting w/o IPD & the New ConsensusDocs 305 Download a sample by registering at <u>www.consensusdocs.org</u>.



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