Central Ohio Chapter Meeting #6: Project Success

January 30th, 2020

Mission + Purpose

Cogence *(Latin)*

"To drive together" or "Thinking that is well organized"

- -

The purpose of the Alliance is to bring Owners and Developers, Architects and Engineers, Construction Managers and Contractors, and Allied Industry Professionals together to advocate and be a resource for improved project delivery.

For more information visit us at www.cogence.org

Drive Together
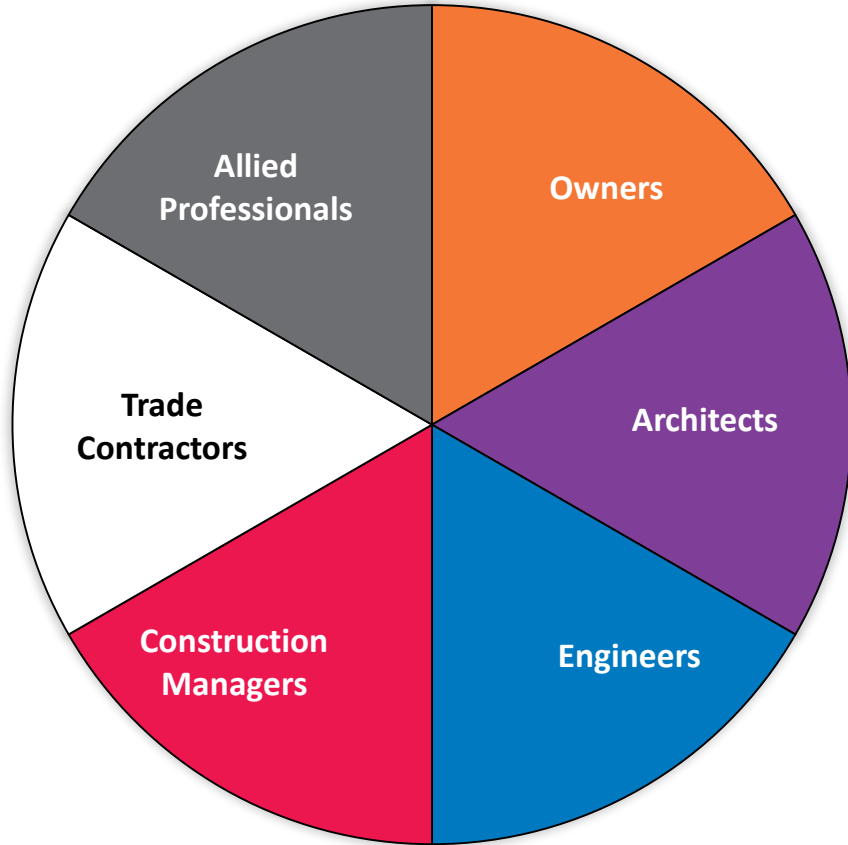
Balanced Voice

As a partner of COGENCE Alliance:

- **Affect and influence change in your organization and the market**

- **Work collaboratively and committedly with other Partners to meet the goals of change in the industry**

- **Avoid the promotion of special interest**

- **Not a Business Development Meeting**

- **Be a resource**

To Be a Partner

ENGAGE.
TRANSFORM.
WIN.

Central Ohio – Resource Committee

#1: Work in Silos
Products of Project
Success
(Avoid the Obvious)

#2: Work
Collaboratively
Written Definition
of Success

Summary:

7 Products of Successful Projects:

- Has Transparent Communication

- Meets or Exceeds Expectation

- Has Clearly Defined Goals

- Is Fun to Work on

- Encourages Mutual Trust and Respect Between Team Members

- Has Team Members who have a Shared Passion and Commitment

- Has growth opportunities for both teams and Individuals

#1: Work in Silos
Products of Project Success
(Avoid the Obvious)

#2: Work Collaboratively Written Definition of Success

Summary:

A Successful Project:

- **Table #1 - Fun project where individuals trust each other and have developed strong personal relationships and the desire to work together again. A project that meets all parties' objectives such as profitability, individual and team growth, mutual respect and satisfied end users.**

- **Table #2 - When the project meets the defined qualitative and quantitative requirements of a properly defined program, entre team sees the project as complete and without compromise and everyone would seek to work again as a team.**

- **Table #3 - From an environment that is trusting, collaborative, open and safe. All team members are engaged and invested in owning their portion of the project and the project as a whole. This results in owner's goals being met, partners/team members being educated, and strong relationships being built and or grown.**

- **Table #4 - Early involvement, early expectations, the right people/team, and commitment to successful execution. The team holds mutual respect, has a process to solve complex issues, and celebrates successes.**

- **Table #5 - Establishes a project culture where all stakeholders are well-informed and able to learn and grown. This will result in an outcome where we can have fun, be proud of, and want to repeat together.**

- **Table #6 - Team leadership creates a foundation of mutual trust and respect. This creates a streamlined process that fosters transparent communication. The team is proud of the project journey. We look forwards to working together again.**

Successful Tools Activities Processes?

Are They Impactful, Actionable, Measurable?

Can they be Developed into a Resource

<u>Summary:</u>

Integrated Groups – Identify Tools, Activities and Processes

Are these items Impactful, Actionable and Measurable?

Can we develop them into a Resource for the COGENCE Members to Utilize?

Successful Tools Activities Processes?

Are They Impactful, Actionable, Measurable?

Can they be Developed into a Resource

Common Topics (Tools) for Project Success

- **User/Owner Education Tools**

- **Colocation**

- **Push-Pull Planning Design/Construction**

- **KPI**

- **Responsibility Matrix**

Meeting #6
IMPLEMENT

Work Collaboratively

Create Best Practices and Useful Tools

Deliverable:
- Present Findings & Recommendations at Jan. Program

The Prep Work:

Signed up at the end of November's Program for a Topic that was interesting.

Groups met prior to todays program to discuss the Topic.

Groups developed the Topic into a Resource Tool for the COGENCE Partners to utilize.

COGENCE Alliance
Owners+Architects+Engineers+Contractors

Meeting #6
IMPLEMENT

Work Collaboratively

Create Best Practices and Useful Tools

Deliverable:
- Present Findings & Recommendations at Jan. Program

Presentation of Tools

- **User/Owner Education Tools**

- **Colocation**

- **Push-Pull Planning Design/Construction**

- **KPI**

- **Responsibility Matrix**

Topic:
User/Owner Education Tools

**Authors: Mitch Acock, Sherm Moreland,
Doug Smith, Dwight Young**

Goal: Develop Owner focused tools to assist in the design and construction of their facilities

Balanced Voice

Pie chart segments:
- Owners
- Architects
- Engineers
- Construction Managers
- Trade Contractors
- Allied Professionals
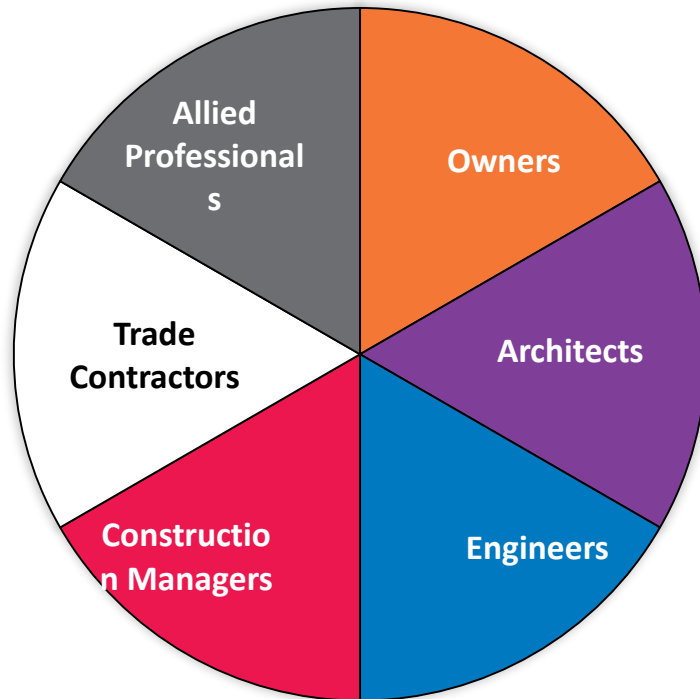
- Use a "Cogence" approach. That is, consider all team members

- Focus on a process where all parties are substantially involved

Premise

- Knowledge and/or Experience Gap amongst "team members"

- Unrealistic Expectations

- Manage / Mitigate Risk

- Paramount importance of the project initiation phase:

  - Assemble the Team

  - The Contract

  - The Program

  - Goals/Framework/Priorities

Premise

- A large source of conflict in projects occur during the **construction phase**.

- The root cause of the conflict is a **misalignment** of one party's expectations with the reality on the ground.

- The cause of that **misalignment** can have many sources
  - Knowledge and/or Experience Gap amongst "team members"
  - Unrealistic Expectations
  - Misunderstanding of each parties role in the project, their right and their responsibilities
  - Project mismanagement on the part of one of the parties
  - External forces beyond the control of any of the parties

- The conflict becomes exacerbated when **issues go unresolved**. Once this happens, there is no more effective teamwork.

- Lack of **communication** among the parties further exacerbates the conflict, silos get built, lawyers get called.

Hypothesis:

- **Establishing a formal communication process that serves both to align the parties and foster communication will significantly decrease the amount of internal conflict among the parties.**

Proposal

- Develop educational primers and project templates for team members to use at contract negotiations, outset of a construction, during a construction project, and as a post project evaluation.

    - Cogence Branded – Carries the inference that the perspective fairly balances the interests of all the parties.

    - Establishes a formalized process throughout the entire project timeline

A Brief Step Back

ARCHITECT	OWNERS	CM'S	TRADES	ENGINEERS	AFFILIATES
COMMUNICATION	BUDGET	TEAM MEMBERS	TEAM MEMBERS	COMMUNICATION	COMMUNICATION
BUDGET	COMMUNICATION	CONTRACTS	SCHEDULE	CHANGES	LEADERSHIP
CONTRACTS	LEADERSHIP	BUDGET	COMMUNICATION	CONTRACTS	CONTRACTS
SCHEDULE	FINANCIAL	COMMUNICATION	LEADERSHIP	SCHEDULE	DUE DILIGENCE
LEADERSHIP	QUALITY	SCHEDULE	CONTRACTS	BUDGET	SCHEDULE
FINANCIAL	SCHEDULE	LEADERSHIP	CHANGES	QUALITY	CHANGES
TEAM MEMBERS	CONTRACTS	QUALITY	FINANCIAL	LEADERSHIP	TEAM MEMBERS
QUALITY	TEAM MEMBERS	FINANCIAL	QUALITY	DUE DILIGENCE	QUALITY
CHANGES	CHANGES	CHANGES	BUDGET	TEAM MEMBERS	FINANCIAL
DUE DILIGENCE	DUE DILIGENCE	DUE DILIGENCE	DUE DILIGENCE	FINANCIAL	BUDGET

FINAL RANKED RESULTS

- COMMUNICATION
- CONTRACTS
- LEADERSHIP
- SCHEDULE
- BUDGET
- TEAM MEMBERS
- CHANGES
- FINANCIAL
- QUALITY
- DUE DILIGENCE

Recognize that the perspective of Project Risks vary among the various team members

Our takeaways

- **Divergence on contracts**
- **Communication is at the top**

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The Cogence Primer on the Construction Process
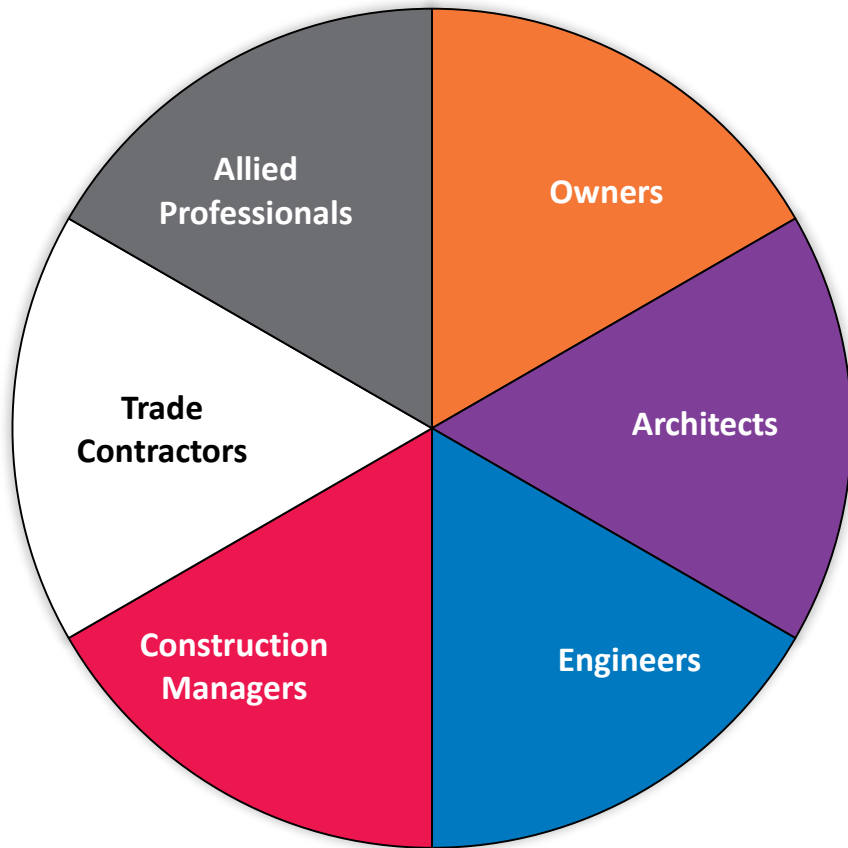
Balanced Voice

- Owner focused
  - Recognizes potential knowledge/experience gap
- Explains each party's rights and responsibilities throughout the project
- AIA A201 serves as the foundation
  - Fairly negotiated terms (risk)
  - Insurable
  - Understood By All Team Members
  - Recognizes the three party/two contract
- Written in English, not "Constructionese"

The Cogence Primer on the Construction Process

Sure glad the hole isn't at our end.

- **Fosters communication about risk and risk management, especially at the contract negotiation phase.**
- **Do not need IPD to have early team involvement / commitment**

Cogence Project Templates for the Construction Process
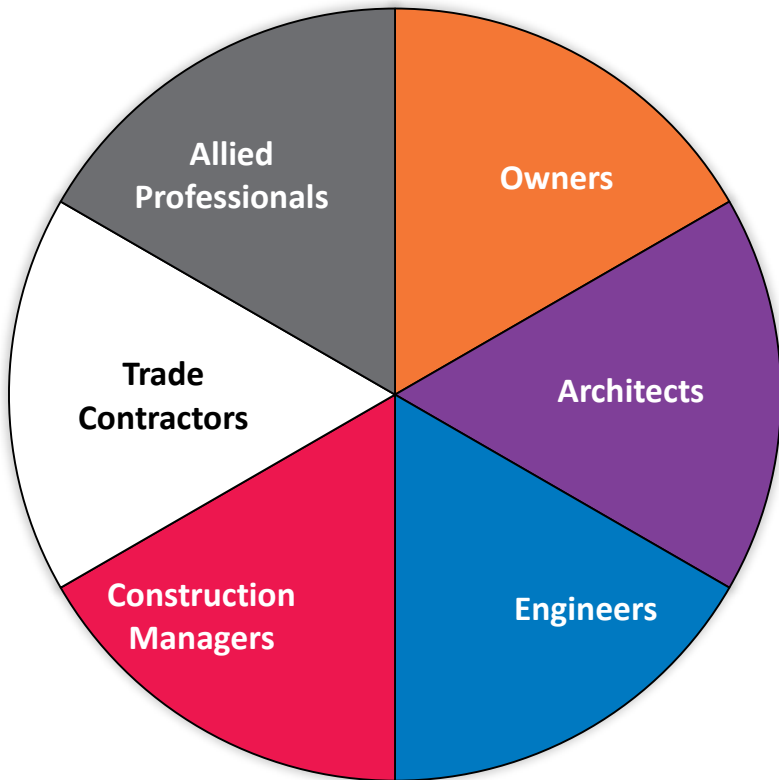
Balanced Voice

- **Creates a framework for TEAM project management.**
  - Allows Owner to customize to their priorities
- **Establishes post project evaluation criteria**
- **Establishes a Formal Communication Process about process....beyond the weekly design and construction process**

Tool: HOK book "problem seeking" (available on Amazon)

problem seeking

AN ARCHITECTURAL PROGRAMMING PRIMER

5TH EDITION

WILLIAM M. PEÑA
STEVEN A. PARSHALL

h·o·k
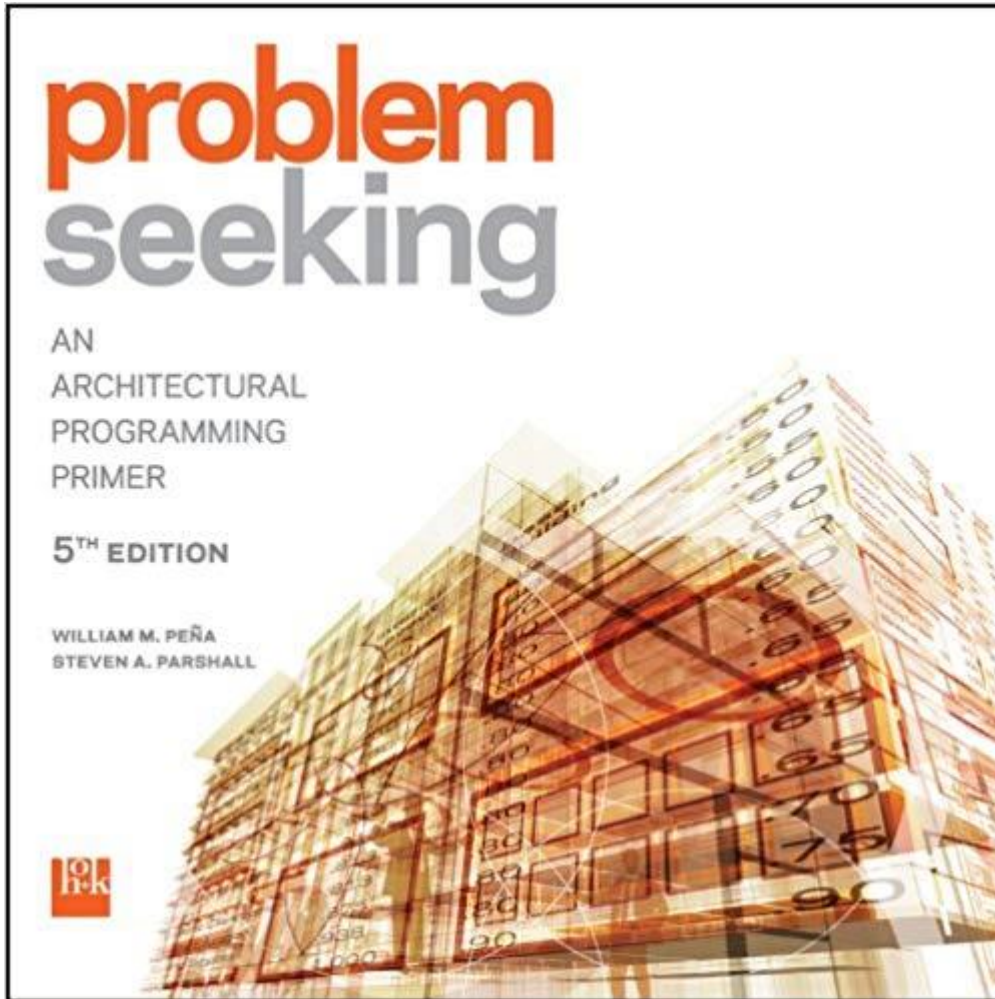
- A good program is a **framework** for design, but also serves as **criteria** for evaluating success

4 Considerations ➡

Function	1 People
	2 Activities
	3 Relationships
Form	4 Site
	5 Environment
	6 Quality
Economy	7 Initial budget
	8 Operating costs
	9 Life cycle costs
Time	10 Past
	11 Present
	12 Future

Criteria

Pie chart with three equal segments labeled "Quality", "Quantity", and "Time", with "$" pointing to the circle.
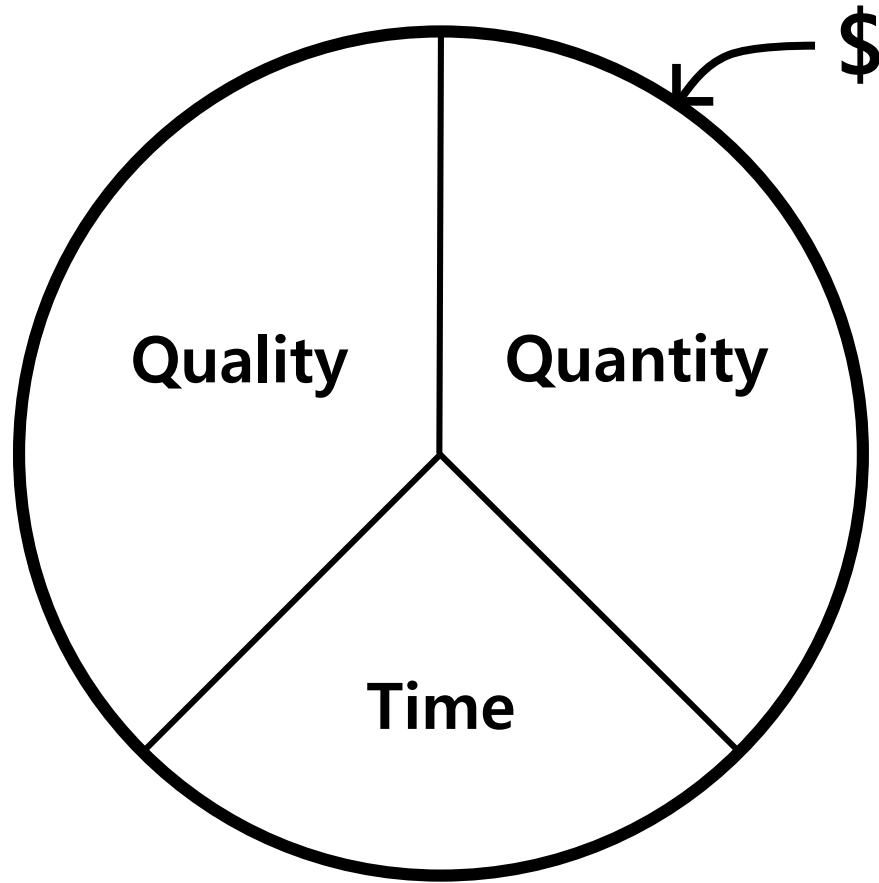
- **Define success criteria (see pie chart)**
  - *"Realistic Expectations"*
  - *When possible, make it visual*
  - *Include Qualitative as well as Quantitative Goals*
- **Document before moving forward**
  - *"Team Consensus/Alignment"*
- **Speak in understandable terms**
  - http://www.aiaetn.org/find-an-architect/design-to-construction/
  - http://www.areforum.org/up/Construction%20Documents%20and%20Services/D200.pdf

Note: generally acceptable terms exist without industry bias, don't reinvent the wheel, just agree and be consistent

Tool: A3

- **Issue Name**
- **Date**
- **Champion**
- **Decision Maker**
- **System**
- **Guidelines**
- **Codes**
- **Discussion**
- **Criteria**
- **Decision**
- **Action**

A3 #	Title		Date Opened		Date of Current Issuance	
HVAC - 06	HVAC Surgery Temperature/Humidity Requirements		08/21/17		-	
	Discipline		Champion		Decision Maker	Author
	HVAC		Dynamix – Frank Hartley		Surgical Executive Committee	Dynamix – Frank Hartley
	Participants: Frank Hartley, Scott Jones, April Preston, Tom Wright, Robert Riordan					

Sub-System	Owner Departments
Operating Room HVAC	Facilities, Surgery, Infection Control

Decision Introduction
1. Temperature and humidity requirements in Operating Rooms drive HVAC system choices and building energy usage.
2. The ultimate decision for OR temperature/humidity would rest with the users and is often based on surgical procedures as well as staff comfort. A request for low temperatures (below FGI Guidelines) and rapid-reheat (above FGI Guidelines) are not uncommon.
3. Given existing campus chilled water system supply temperature of 42°F, most operating rooms on the campus should not be set below 66degF without risking high humidity issues (above 60%RH).
   a. The team recommends 68degF as the low setting to ensure humidity is controlled, which is consistent with FGI and AORN guidelines.
4. Guidelines have recently allowed a low-end humidity range of 20%RH. However, some medical equipment may require higher minimum humidity levels to ensure proper operation and reduce static discharge potential.
   a. The team recommends a minimum operating room design of 35%RH in order to allow flexibility for equipment installation. Owner will therefore have the flexibility to adjust lower if desired in the future.

2014 Facility Guidelines Institute (FGI) Requirements for Operating Rooms, ASHRAE 170-2013:
1. Temperature
   a. Min: 68degF
   b. Max: 75degF
2. Relative Humidity (RH)
   a. Min: 20% RH
   b. Max: 60% RH

2018 Association of perioperative Registered Nurses (AORN) Guidelines for Operating Rooms and Procedural Rooms:
1. Temperature
   a. Min: 68degF
   b. Max: 75degF
2. Relative Humidity (RH)
   a. Min: 20% RH
   b. Max: 60% RH
3. Document daily on the unit's daily log

Actions to take if temperature and relative humidity parameters are out of range:
1. Contact Facilities Services to immediately address
2. New cases will not start until temperature and relative humidity parameters are in range
   a. If cases are currently in progress, finish cases, but do not start new case

NOTE: Both FGI and AORN Guidelines align. These ranges are also currently used by The Joint Commission.

Existing Campus Conditions and Peer Institution Criteria
1. Most operating room units on the Medical Center campus, including the new James Cancer Center, are designed per FGI and AORN guidelines. These rooms should only operate within the guidelines as listed in the previous section.
2. The operating and cath rooms in the Ross Heart Hospital have separate chilled water systems that can allow for a minimum temperature of 64degF in those rooms. This is below FGI and AORN guidelines. However, implementing such a system on a large scale for the new hospital would be a significant investment.

Team Discussion
1. *Hospital Program Meeting:* During the November 2nd, 2017 meeting, Dr. Jones stated that she does not feel any temperatures more stringent than FGI will be required. Campus chilled water should be sufficient.
2. *Hospital Program Meeting:* A follow-up meeting was held on January 29th, 2018.
   a. A recommendation from this group will be presented to the Surgical Executive Committee.
   b. Do new technologies that produce additional heat in operating rooms affect the recommendation?
      i. Response: No. The design can accommodate additional room heat load with proper airflow design. However, minimum and maximum temperature and humidity cannot be exceeded once a decision is made.
   c. Can the Building Automation System be set so that users are not able to adjust space temperatures below the min and max allowable settings?
      i. Response: Yes. Each operating room can include its own adjustable thermostat, with min and max setpoint lock-outs as needed.
   d. All in attendance agreed maintaining FGI and AORN guidelines (68degF-75degF) for temperature would be preferred.
   e. All in attendance agreed tightening the FGI and AORN Relative Humidity guidelines from 20-60% RH to 35-60% RH would be preferred to allow for future flexibility of equipment installation. These will be system design values and can be returned to FGI and AORN guidelines during operation if humidity-sensitive equipment is not installed.

Action Items/ Next Steps

What?	Who?	When?
Confirm with A3 Team the recommendation as listed below is final.	A3 Team	
A3 Team to present recommendation to Surgical Executive Committee	A3 Team	

RECOMMENDATION FROM A3 TEAM:
Temperatures available from the normal chilled water distribution, similar to the James, will be sufficient.

Tool: Responsibility Matrix

- **Adaptable to each project's specific criteria, staffing, etc.**

- **Separate Matrix for each Phase**
  - **General Items**
  - **Project Accounting**
  - **Meeting Minutes & Agendas**
  - **Design Development Phase**
  - **Construction Documents Phase**
  - **Construction**
  - **Project Close-Out**
  - **Owner Move In**

Construction Responsibility Matrix

	Owner	Architect	CM	Owner User Group	Owner IT	3rd Party Vendor	Other
Permitting	S	S	P				
AHJ - Inspection		S	P				
Tax Exempt Material Procurement	S		P				
Safety Monitoring	S		P				
Submittals and Shop Drawings		S	P				
Facilitate Owner/Architect/Contractor Meetings	S	S	P	S	S		
Change Order Review	P	S	S				
PCO / CO	S	S	P				
Issue Construction Change Directives	P	S	P				
Requests for Information Responses & Change Bulletins		P	S	I			
Update Construction Budget	S		P				
Update Construction Schedule	S		P			I	
Update Project Budget	P			I			
Update Owner Project Schedule	P			I		I	
Monitor Insurance Requirements	S		P				
Procure Furniture, Equipment and IT items	P			I	P		
Produce Monthly Construction Reports (where necessary)	I		P	I	I	I	
Field Observations	S	P	S				
Site Security	I	I	P				
Wayfinding / Temporary Signage	S		P				
Site Cleanliness	S	I	P				
Mock Up's	S	S	P				
Coordinate 3rd Party Vendors	P	I	S		S	S	
Commissioning	S	S				P	
QA	S	S	P				
Punchlist	S	P	S		I		
Substantial Completion Certificate	S	P	S				
Occupancy Certificate	S	P	S	I	I		

Primary =	P	Ultimately responsible for the completion/accuracy/etc. of the particular task
Secondary =	S	Has a stake in the particular task, and has a duty to provide input and see that the task has been completed
Inform =	I	Should be made aware of the task proceedings, but is not involved in providing input to that particular task

Summary

- We believe these tools make projects successful because......
  - Early team involvement gets better and more diverse thinking at the table early......go slow to go fast
  - Education and engagement for team expectation alignment
  - Documentation for clarity, consensus building, and risk reduction
  - Formalizes Communication

Topic:
COLOCATION

**Authors: Jonathan Wilch, Lori Bongiorno,
Brian Smith, Steve Hermiller**

Definition of the Colocation tool & Why

- Co-location is lean construction technique which is intended to improve collaboration through greater team integration by physically bringing together designers, builders, users and owner together to work in a single location, generally on-site or within close proximity of the project site.

- Produce a flowchart to help an owner determine if Colocation is appropriate for a project.

- Premise Statement: Colocation is not appropriate for every project, however, this tool will help Owners decide when Colocation is crucial for a successful project based on key metrics.

What are the benefits of Colocation?

- Encourages collaboration

- Facilitates open communication

- Speeds up processes and approvals

- Builds teamwork

- Allows owner to understand process and project more quickly

- Creates a sense of ownership for the project when everyone is working together closely

- Facilitates an open book process

- Reduces change orders

- Creates an understanding of other disciplines

What are the pitfalls of Colocation?

- Cost

- Too many conversations/distractions

- Inefficiency of not being in your own space & having the right tools

- Has to be an effective work space - professional environment

- Being detached from your own organization - can't collaborate with the rest of the team as effectively (spec writers, etc).

- A new setting and new working environment requires a new process.

- Requires every team members buy-in

Considerations for appropriateness of Colocation

- Project schedule

- Project size & complexity

- High speed internet availability

- Space availability

- Cost benefit analysis

- Requires certain team members participation (Owner or Owner's Rep, Design Team, CM, Certain Trades)

Other tools to facilitate better communication & collaboration

- Lean Process Mindset/Approach

- Effective and In-depth project kickoff

- Colocation full-time or at key points in the schedule (i.e. user meetings during design, shop drawing review, construction)

- Software to promote collaboration

- Video meetings

PUSH PULL PLANNING

Authors: Nick McCullough, Rick Allen, Jay Sharp,
Will Vranich, Tom Garske, and Angela Kolosky

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WHAT IS PUSH PULL PLANNING?

- A tool by which team members can determine the process in which to achieve their goal and identify pain points or critical path items for a project
- Team members establish a deadline and work backwards to ensure path and milestones align, during this process the deadline might PUSH or PULL

PREMISE

This tool is believed to make a project successful because…

1. Push Pull plans act as an algorithm – identifying the step by step process
2. It allows team members to develop a strategic plan for the process
   - We do strategic planning in other areas of our business, why not on projects?
3. By including stakeholders **EARLY**, we can build ownership of the process and project
4. It builds **TRUST** and **EMPATHY** within the team by doing it **TOGETHER**

PUSH PULL PLANNING

Risk Assessment

10,000 FT

PRE-PLANNING/PLANNING PUSH PULL

STAKEHOLDERS:
Owner   Trades (depending
Architect   on contract)
Engineers
CM

100 FT

PRE-CON. PUSH PULL

STAKEHOLDERS:
Owner   Trades
Architect
Engineers
CM

10 FT

TRADES PUSH PULL

STAKEHOLDERS:
Owner   Trades
Architect
Engineers
CM

PRE-PLANNING   PLANNING   DD   CD   PRE CON.   CON.   OCCUPANCY

Increasing RISK and COST to schedule relatve to when the project team is brought together

PUSH PULL PLANNING

PRE-PLANNING/PLANNING

- Lead times, including specialty items
- Owner's "SIGN OFF" process
- Project Risks (Site, Materials, Labor, 3rd Parties, Weather, etc.)
- LOD
- BIM Model Sharing/Ownership
- Fabrication methods (modular, etc.)
- Financing
- Coordination/hand off
- Permitting process
- LEAN
- Infection Control/Cleanliness
- QA/QC requirements
- Security/Access
- What are conditions of satisfaction? Define what is success? Mutual, for all team members
- Interconnectivity of trades

PRE-CON.

- Submittal Process
- Project Risks (Site, Materials, Labor, 3rd Parties, Weather, etc.)
- Fabrication methods (modular, etc.)
- Coordination/hand off
- Purchasing/contracts
- Permits
- LEAN
- Working hours
- QA/QC
- Security/Access
- Changes
- What are conditions of satisfaction? Define what is success? Mutual, for all team members
- Interconnectivity of trades

TRADES

- Task Duration
- What tasks are stackable? Including supervision
- Critical Path
- Money
- Permits
- Working Hours
- QA/QC
- Security/Access
- Weather
- Changes
- What are conditions of satisfaction? Define what is success? Mutual, for all team members
- Interconnectivity of trades

ASSIGNING ACCOUNTABILITY

PUSH PULL PLANNING

Ways to make PUSH PULL PLANS successful:

- Team members:
  - Include all primary stakeholders (especially the owner)
  - Need stakeholders who have the ability to make decisions
- Key Points:
  - Share risk/responsibility where appropriate earlier in the process
  - Team must follow up and revisit the plan with the same people in the room
  - Set up a communication protocol for disseminating discussion from meeting
  - Design schedules with adjustability
- Perform a Risk Assessment/Risk Tolerance – what is the most critical (budget, schedule, or some other factor?)
- Always ask: are constraints **FEASIBLE**, **REASONABLE**, **ADJUSTABLE**?

EXAMPLES

Where we did it:

Amazon Distribution Facility – Rossford, OH

- **Scope: 705,000 SF x 4 Stories to be completed July 2020**
- **Outcome:**
  - Due Diligence/Early Design: 5 developer-led design coordination meetings b/t Nov. 2018 and Jan. 2019
  - Bidding for Earthwork, Steel, Concrete, Shell occurred in January 2019
  - February 2019 – Project delayed by Amazon until fall 2019
  - March 2019 – Project resumed by Amazon with new completion date of September 2020.
  - Routine Owner / Designer/ Developer meetings resumed through June 2019
  - Contractor led Coordination meetings initiated in July 2019. Foundation design modified to assist schedule.
  - Project currently on schedule for substantial completion by September 2020.
- **Pull Planning:** Performed all phases of pull planning (pre-planning/pre-con/trades) and included all key stakeholders

EXAMPLES

Where we wished we had done it:

Downtown, USA 4 Story Parking Garage at Corporate HQ

- **Scope:** Demo onsite building, improve surface parking, new pedestrian entrance to HQ, and 3-4 story parking garage with agreement to perform stormwater upgrades for the City

- OAC met regularly, but subconsultants rarely met with team, Architect passed along Owner's intent to subconsultants

- **Outcome:** Key project expectations were missed, CM was rebid, project put on hold for 6 months, scope will most likely change to not include garage. Puts design team in unfavorable position with City as their expectations for new stormwater/garage might not be met

- **Pull Planning:** Pull planning would have identified many project unknowns such as permitting, expected work in ROW, coordination with city, schedule, budget, and Owner expectations

Establish Measurable Key Performance Indicators (KPI) for Project Success

Tim Gusler – Messer Construction

Jeff Ortman – HAWA Engineers

Tony DeCrescenzo – Elite Air

Andrea Pruneau – Thomas Marker

Joseph Ferdelman – Heapy

Randy Sleeper – Bruner Corp.

Define the Tool

Defined project risks provide a template to establish KPIs that will measure project success and improve the likelihood of achieving the desired project outcomes. Once KPIs are established the team then meets on a regular basis to rate performance and identify areas of improvement.

Premise Statement

Measurable KPIs make the project outcomes more predictable and intentional by identifying areas of improvement and keeping the team focused on the project risks and goals.

- **Project goals with measurable KPIs will...**

    » Build trust
    » Reduce fear
    » Promote project success

Project Risks

Communication	Budget	Financial
Contracts	Team Members	Quality
Leadership	Changes	Due Diligence
Schedule		Safety

Many project goals are defined based on the mitigation of risks that the Central Ohio Chapter of COGENCE defined as part of our Project Risk Series.

Key Performance Indicators - Examples

Quality:

Verify that Quality Processes occurs as established by the Design/Construction/Owner team.

- ❖ Design QA/QC procedures
- ❖ Developed Mock-ups
- ❖ Initial installation Inspections
- ❖ User Group Walk-Through
- ❖ Adherence to established Quality Standards

Budget:

Establish key drivers within the Budget that have significant impact and ensure the team is aware and responsible for identifying when these drivers changes.

Validate and Re-visit Budget at regular intervals:

- ❖ The Scope of the Project
- ❖ unit pricing, allowances and assumption.

Key Performance Indicators - Examples

Schedule:

Establish and re-visit a Project Schedule based on Push-Pull Scheduling process that Includes:

- ❖ Milestones (both Leading and Lagging)
- ❖ Substantial Completion dates
- ❖ Long lead items
- ❖ Critical Path

Establish proper recovery schedule process and expect NOT to use it.

Contract:

Establish dates for contract negotiation – Must be complete by established milestones.

No Contractors on site before signed contracts. Ensure that all parties understand the contractual issues and nuances.

- ❖ Is there contractual training needed in the industry?

Key Performance Indicators - Examples

Safety:

Some of the potential KPIs to be used for Safety:

- ❖ Number of Accident and incidents
- ❖ Near misses
- ❖ Infection control standards
- ❖ Safety and constructability <u>considerations</u> within design documents

Immediately address of unsafe conditions

Zero is the measured goal

Communication:

Agenda established for each meeting

Attendance at meetings by the right people at the right time

Issues List Tracking; utilization of list, time to complete,

Communication protocol established and utilized

Good Planning – No unplanned events

Messer Construction Co.'s
Quality Leadership System

Project Name : Conditions of Satisfaction (COS)

Key Performance Objectives	Fee at Risk	Quarterly Scores							Average Score	Final Percentage	Fee Earned
		Feb-20	May-20	Aug-20	Nov-20	Feb-21	May-21	Aug-21			
Safety											
No customer incidents or accidents (i.e. employees, visitors, public)	$ -										
No construction workforce incidents or accidents	$ -										
Quality											
Effective customer engagement in process to ensure quality	$ -										
Achieve quality objectives	$ -										
Schedule	$ -										
Effective schedule tracking and communication	$ -										
Achieve interim and completion schedule milestones	$ -										
Cost	$ -										
Effective cost tracking and communication	$ -										
Actual cost performance versus budget	$ -										
Customer Operations											
Effective communication with customer operations employees	$ -										
Maintain existing customer operations	$ -										
	$ -										$ -

Notes
Each key performance objective is measured on a quarterly basis throughout the project, when applicable
Final score determined by averaging all quarterly scores
Score definitions:
    5 = Exceed Expectations (120%)
    4 = Strongly Agree (100%)
    3 = Agree (80%)
    2 = Undecided (60%)
    1 = Disagree (40%)
    0 = Strongly Disagree (0%)
The 120% score can only make up fee lost from previous scores - the base fee is never exceeded

Messer
WeAreBuilding.

Project
Conditions of Satisfaction Meeting
Date

Meeting attended by:
•

Messer Construction Co. will put **$XX** of the stated Construction Management fee "at-risk" as defined by the criteria below. Evaluation shall be made by individuals directly involved in the project from OWNER and shall not include other entities. Grading shall be made on a 5 point grading scale. Messer shall receive the corresponding % respectively of the "at-risk" fee corresponding to the grade received except as otherwise described below. Grading is not limited to whole numbers but may use at the Owner's discretion decimals (i.e. 3.75, 2.5 etc.) The total "at-risk" fee shall be divided among the criteria listed below:

Criteria – Safety:
- <u>No customer incidents or accidents</u> – Everyone, including all staff, general public and construction workers, shall be protected and safe at all times. Safe plans of action shall be developed to ensure good communication and planning is performed and adhered to at all times. This will ensure no accidents with staff and visitors.

- <u>No construction workforce incidents or accidents</u> – Ensuring that all workforce follows safety procedures and processes to ensure no injuries on the job. Construction personnel is not smoking or drinking on-site and they are using the public spaces respectfully.

Criteria – Quality:
- <u>Effective customer engagement in process to ensure quality</u> - The final product will be a quality design that meets the design criteria set forth by OWNER. This is the opportunity to ensure we are seeking and taking into account your input through design.

- <u>Achieve Quality Objectives</u> - Messer will construct and deliver space that meets the quality standards of OWNER

Criteria – Scheduling & Sequencing:
- <u>Effective schedule tracking and communication</u> – Messer will update and track the construction schedule on a weekly basis in order to ensure construction activities are being completed on time. Messer will communicate the updates of the schedule to OWNER on a monthly basis. Messer will also proactively create recovery schedules as needed if any challenges arise.

- <u>Achieve interim and completion schedule milestones</u> – Done needs to mean 100% done including punchlist (it will be noted that a long lead item on the punchlist may be an exception). The team shall identify key milestones in the schedule and meet these dates.

Criteria – Estimating Accuracy & Cost Control:
- <u>Effective cost tracking and communication</u> – Messer will provide accurate accounting and budget forecasting. Messer shall keep OWNER fully apprised of status of all costs versus budgets on an ongoing basis. This includes all direct labor, subcontracts, allowances, contingencies and pending changes to the work.

- <u>Actual Cost performance versus budget</u> – Once the scope aligns with OWNER's budget, Messer will manage the budget and stay within it.

Criteria – Customer Operations:
- <u>Effective communication with customer operations employees</u> – Messer shall create good communication and relationships with relevant facility personnel. This will allow us to work as a team and keep OWNER's needs at the forefront while accomplishing the required construction activities. This will also allow Messer to minimize the impact of construction on your operations, your patrons and public. Creating relationships and good communication is a matter of personal interaction and not driven by memos or e-mails.

- <u>Maintain existing customer operations</u> – This means no unplanned events. All shutdowns shall be planned and communicated to all parties prior to being conducted. The goal is to eliminate all unplanned events.

Other ideas/Options for scoring:

Miscellaneous notes:

Executive Summary:

The establishment of relevant KPIs for prioritized Risks and Goals for your project will require some time commitment by the Design/Construction/Owner team at the onset of the project and at regular intervals throughout the design and construction process. This team believes the benefit of achieving defined projects goals and mitigating team risk is well worth the time.

The General Risks outlined in our presentation were established during the Central Ohio COGENCE Risk roundtable discussions. However, specific risks and goals for each project should be defined by all the stakeholders working together. Once established, specific measurable KPIs should then be defined.

As discussed in the real-world examples, time must be set aside throughout the project to measure the results, re-visit the KPIs and adjust activities where areas of improvement are found.

Responsibility Matrix

Authors: Jennifer Horvath, David Scott, Tony Ruscilli, Frank Eisenhower, Steven Glass

Define the Tool

- The primary objective of the responsibility matrix is to align team roles and responsibilities early in the design and construction process

- The architect authors the responsibility matrix during the contracting phase with collaboration with all team members with the construction manager authoring during contracting

Premise Statement

This tool when done properly will mitigate risks in communication, leadership, and role clarity.

Types of Responsibility Matrices

- Owner generated responsibility matrix (including budget)
- Owner/Architect/CM/Engineers responsibility matrix
- Design Architect/AOR or CM Joint Venture/Teaming arrangements
- Specialty matrix- Any discipline with multiple firms performing tasks (i.e. IT, FFE, minority firm engagement, site, security, door hardware, etc)
- BIM responsibility matrix
- Internal role clarity responsibility matrix

Owner Responsibility Matrix Example

This example excels at establishing budget, documentation, furnishing and installation responsibilities. Budget assignment breaks down owner's budget into 8 different buckets.

RESPONSIBILITY MATRIX

Legend of Budget Assignments
- **CB** - Contractor's Budget
- **OEB** - Owner's Equipment Budget
- **OFB** - Owner's Furniture Budget
- **OAB** - Owner's Artwork Budget
- **OMB** - Owner's Moving Budget
- **OTB** - Owner's Television Budget
- **OCB** - Owner's Communication Budget
- **OSB** - Owner's Signage Budget
- **OSECB** - Owner's Security Budget

Legend of Parties
- **C** - Contractor (All Trades)
- **O** - Owner
- **U** - User Group
- **A** - Architect
- **E** - Engineer (M., E., P., FP.)
- **EQC** - Equipment Consultant
- **SC** - Signage Consultant
- **SV** - Signage Vendor
- **AV** - Artwork Vendor
- **FV** - Furniture Vendor
- **EQV** - Equipment Vendor
- **PTV** - Pneumatic Tube Vendor
- **SECV** - Security Vendor

Item	Budget Assignment	Design	Color Selection	Contract Documents	Furnish	Install
A. Site Work						
1. Signage / Wayfinding	OSB	SC	SC	SC	O	SV
B. Lighting						
1. Exam Lights	CB	E	A	E	C	C
C. Mechanical						
1. Custom AHU	CB	E	A	E	C	C
2. Packaged AHU	CB	E	A	E	C	C
D. Moving & Relocations	OMB	O	O	O	O	O
E. Special Systems						
1. Telephone Backboards	CB	E	A	E	C	C
2. Telephone Conduit	CB	E	A	E	C	C
3. Monitor Conduit & Coordination	CB	E	A	E	C	C
4. Nurse Call System	CB	E	A	E	C	C
5. Nurse Call Conduit	CB	E	A	E	C	C
6. Paging	CB	E	A	E	C	C
7. Paging Conduit	CB	E	A	E	C	C
8. Intercom	CB	E	A	E	C	C

Owner/Architect/CM/Engineer Responsibility Matrix

R - Responsible (for Generating/Creating/Complying/etc.)
A - Authority to Approve (the Document/Action/Program/etc.)
S - Supporting Role
I - Needs Information (Responsible Party to Provide)

This responsibility matrix is utilized most often within the industry. It focuses on role clarity.

Post Construction

	Owner (Athens City Schools)	Owner Rep. (RVC)	Design Professional (Schorr)	Construction Manager (Ruscilli)	Commissioning Agent (CxA)	Surveyor	Geotechnical Engineer / Borings	Material Testing / Inspection Professional	Environmental/Abatement Engineers
Develop Punch List	A	S	R	S	I				
Correct Punch List Deficiencies	I	I	I	R	I				
Manage Punch List Completion	I	S	A	R	I				
Voice & Data Acceptance	A/R	I		S					
Security Acceptance	A/R	I		S					
Life Safety Inspection(s)	I	I		R					
Commissioning	I	I		S	R				
Health Inspections	I	I		R					
Certificate of Occupancy	I	S		R					

Technology Responsibility Matrix Example

This technology example clearly identifies responsibility aimed at equipment, installation, wiring, etc.

ELECTRICAL AND TECHNOLOGY DIVISION OF SCOPE								
WORK SCOPE		**ELECTRICAL CONTRACTOR**		**TECHNOLOGY CONTRACTOR**		**OWNER'S SYSTEM SUPPLIER**		**OWNER**
SYSTEM	SPECIFIED IN DIVISION	FURNISH SYSTEM EQUIPMENT, WIRING, AND INSTALLATION	FURNISH AND INSTALL ROUGH-IN	FURNISH SYSTEM EQUIPMENT, WIRING, AND INSTALLATION	EQUIPMENT INSTALLATION AND WIRING	FURNISH SYSTEM EQUIPMENT, WIRING, AND INSTALLATION	EQUIPMENT INSTALLATION AND WIRING	FURNISH SYSTEM EQUIPMENT
VOICE/DATA	27	X	X	X	X	X	X	X
CATV	27	X	X	X	X	X	X	X
AUDIO VISUAL	27	X	X	X	X	X	X	X
INTERCOM	27	X	X	X	X	X	X	X
PAGING	27	X	X	X	X	X	X	X
DISTANCE LEARNING	27	X	X	X	X	X	X	X
NURSE CALL	27	X	X	X	X	X	X	X
PATIENT MONITORING	27	X	X	X	X	X	X	X
SECURITY / CCTV	[26] [27]	X	X	X	X	X	X	X
CLOCKS	[26] [27]	X	X	X	X	X	X	X
RESCUE ASSISTANCE	[26] [27]	X	X	X	X	X	X	X
DISTRIBUTED ANTENNA SYSTEM	27	X	X	X	X	X	X	X
TELECOMMUNICATIONS GROUNDING	27							

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Tips and Tricks

- This tool should be a part of the A/E and CM contract

- Most beneficial to review with all parties prior to fee proposal and during the contract phase

- This is an extremely helpful tool in educating client especially with clients with less experience

- State administered projects would benefit from collaboration with the client beyond putting it into the contract

- Balance the sophistication of the client and the complexity of the project with the scope and complexity of the tool

Tips and Tricks

- Tool is most effective when it's not a "Set it and forget it tool" but rather integral to your Quality Assurance process

- A signature from the PM of each discipline acknowledges scope and fee

- It should resolve scope discrepancy to eliminate risk

- Recommend the use of the tool with pull planning

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Tips and Tricks

- Drawings can be noted with the responsibility matrix to emphasize role clarity (AV/IT example)

- This tool is an agenda item for Weekly internal meetings and reviewed at the end of major phases in greater detail.

Process Improvement

- **Responsibility matrix of the future could incorporate schedule and budget and the collaborative team would meet to align early in the process.**

Executive Summary

- The fundamental nature of this tool facilitates better communication

- It is intended to be developed early in the project

- Intent of the tool is to minimize surprise and client dissatisfaction

- Improvement with this tool will address schedule and budget

Central Ohio Chapter
2020 Meeting Schedule

January 30	**Tools of Project Success**
March 25	**Cogence GMP Presentation**
May 20	**TBD**
July 15	**TBD**
Sept 16	**TBD**
Nov 18	**TBD**

Potential Future Topics:
- **Communication**
- **Contract Issues**
- **GMP**
- **Schedule Management**
- **Budget Management**
- **Teamwork**
- **Workforce Issues**
- **Project Management**
- **Quality**
- **Due Diligence**
- **Leadership**

All meetings are 4:30 PM to 6:30 PM, location M+A Architects, Grandview Yard

Past Programs – Northeast Chapter

2016	2017	2018	2019
Risk, Part 1	Financial Management	Team, Ellen Burts-Cooper	*Leadership: 4 Generations in the Workforce, Kelly Riggs
Risk, Part 2	Project Management	Quality, Part 1	Remove Waste, Innovate
Communication	Cogent Project Management	Quality, Part 2	Collaborative Scheduling
Leadership	Cogence GMP, Part 1	Planning to Fail	Waste Free, Part 2
Contracts, Part 1	Cogence GMP, Part 2	Town Hall	Integrating Technology
Contracts, Part 2	Town Hall	Early Engagement	Waste Free, Part 3
	Town Hall: Mike Isaacon, Producer Transformational Teams, Ellen Burts-Cooper Cogence GMP Successful Case Studies Owner Panel	Town Hall: Appreciative Inquiry, David Cooperrider Progressive Design Build, Beck Group Digital Future of CA Augmented Reality Cogence Quality	*Partnership with SMPS

Being a Partner, What Do You Get?

- Bi-monthly Partner Roundtables
    - » **Substantive, Challenging, Honest Dialogue**
- Larger Seminar Events
- Guest Facilitators
- Access to Industry Experts
- Influence Industry Change and Improvement
- Committee Opportunities
- Emerging Leader Development Opportunity
- Access to Resources

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What is the Cost of Membership? How Do I Join?

Annual Dues = $1000

1. Fill out the Commitment Letter on your table

2. Give the form to Bonnie (or a member of the formation committee) before you leave

3. You will receive an email with the ability to pay annual dues on-line

4. If you need to pay your dues and need to have the email resent see Bonnie or a committee member before you leave

Plus / Delta

https://cogence.org/

THE
FUTURE
DEPENDS
ON US.

When Is The Next Meeting?

Central Ohio Chapter
COGENCE GMP Presentation

Wednesday March 25, 2020

4:30pm -6:30pm

(Light hors d'oeuvres and drinks following the program)

Location: M+A Architects – Grandview Yard