



COGENCE GMP 4 Step Process

**Trust and Collaboration throughout the Process through Team Building,
Continuous Approval, and Accountability**



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INTRODUCTION

COGENCE GMP VOCABULARY

CM – Construction Manager

Continuous Criteria Team Validation – The process of completing the design and cost validation form Target Criteria Team (TCT) Sign Off (Step 2) through the final control estimate (Step 3) by regularly updating the control estimate schedule validation and continuously providing the team feedback on how it is tracking in comparison to the Target Criteria Team Sign Off Document (TCTD).

Contract Allowances – Most Guaranteed Maximum Prices (GMP)s are established prior to the completion of contract plans and specifications. Defined dollar allowance values for work which will be required, by non-fully quantifiable until the design is finalized, or work is installed should be included. (Example: Allowance if CM GMP for door hardware not yet specified.) The owner holds exceeds the GMP funding amount.

Cost Exposure Holds – There are several potential exposures which are difficult to quantify early in the process. A cost exposure hold number represents the best team estimate of the potential impact. (Example: Cost held within a subcontract for touch up painting.) The contractor holds the financial risk if the cost of an exposure hold exceeds the GMP funding amount.

Design Assist (DA) – Project Delivery Proactive approach when construction trade contractors are selected early in design and construction process and engage with the design team (A/E) to provide real-time input on material specifications, lead times, cost, schedule, constructability, and project logistics.

Estimates

- **Control Estimate**
 - The current team approved budget can also be viewed as the control estimate.
- **Current Project Budget Tracker**
 - The current project budget tracker is always validated against the team approved budget/control estimate.
 - The current project budget tracker is updated regularly or on an agreed to frequency to keep the team on course between major milestones.
 - The current project budget tracker includes accepted and pending project scope changes and cost impacts.
- **Final Control Estimate**
 - The final approved control estimate prior to Step 4 GMP – Target Criteria Team Document Amendment (TCTDA).

FF&E – Furniture, Fixtures, and Equipment

COGENCE GMP VOCABULARY

GMP – Guaranteed Maximum Price. . The GMP is an amendment to the CM Contract establishing the Contract Sum and Contract Time.

LD – Liquidated Damages. LDs are a sum established in the Contract Documents to be paid to the Owner due to the CM's failure to complete the Work within the Contract Time for achievement of Substantial Completion, or any applicable portion of the Work on or prior to any associated Milestone.

OAC – Owner, Architect and Contractor

Project Initiation Document (PID) – This initial document is known as a baseline documented vantage point. All starting assumptions and existing information which is relevant, even if later proved to be inaccurate should be included. Some owners can develop the document on their own, at the point when the project is conceived.

Scope Tracker – The Scope Tracker documents all changes of scope from the original project scope through the acceptance of the GMP by the owner. It includes the specific change, change status and the net cost impact to the project budget of ongoing estimates. All owner accepted changes in the scope tracker will be included in the GMP as part of the base or alternated as directed by the Owner.

SD, DD, CD – Schematic Design, Design Development, Construction Documents

Target Criteria Team (TCT) – This is the COGENCE collaborative project team which consists of key stakeholders, Owner, Owner Representative, Design Professionals (A/E Consultants, CM Trade Partners [if selected], including Design Assist Trade Partners, Specialty Consultants).

Target Criteria Team Document Amendment (TCTDA) – Amendment document prepared at conclusion of Step 3 with any updated scope, alternates etc., to the initial Target Criteria Team Sign Off Document (TCTD), that will become the tracking control estimating document for comparison purposes to the GMP which will be prepared in Step 4.

Target Criteria Team Sign Off Document (TCTD) – The formalizing document prepared at conclusion of Step 2 which memorializes the targeted budget, budget assumptions, outline plans and specifications and project master milestone schedule and other relevant information that the team will utilize as a baseline tracking document as they move through steps 3 and 4.



PREFACE

The COGENCE GMP 4 Step Process is a guide that Cogence has assembled with the goal of trust and collaboration through the process through Team Building, Continuous Approval, and Accountability.

While called the COGENCE GMP Process, the steps are in place to help establish a project process from the initiation of a project from the Owner, through the design stages, GMP, and construction.

The COGENCE GMP Process is designed to work in conjunction with and enhance the project's contractual requirements, not to substitute them in order to set the project's culture.

Knowing that each project is unique based on its scope, size, and project team members, the COGENCE GMP 4 Step Process can be scaled in order to apply the pertinent elements to the specific project requirements. A Project Checklist has been developed in order to assist the project team to determine the elements to incorporate into their project while having all team members buy-into the process established as they are all active participants in determining the process.

The following COGENCE GMP Process Document is set up to provide an overview of the 4 Steps, while providing high level information on each step. Each of the 4 Steps elements are then expanded on in the tabbed reference sections. This allows a project team to be aware of all the elements of the Process, while being able to then reference the elements being utilized on their project in more detail.



ABOUT COGENCE

COGENCE Alliance has a singular focus: Improve project outcomes through collaborative delivery methods.

OUR VISION

Our goal is to transform the design and construction industry. We are advocates for:

- A collaborative project culture that leverages each team member's strengths.
- Reduced risks and improved outcomes for everyone.
- Projects that are financially successful and enjoyable.

Through COGENCE, we share resources and develop new lines of thought to move our industry forward.

OUR NAME

"COGENCE" comes from a Latin word meaning "drive together" or "thinking that is well organized." It embodies the collaborative spirit and thoughtful approach we hope to foster.

WHO WE ARE

COGENCE Alliance brings together owners, architects, engineers, construction trades, and affiliated parties, giving each an equal voice.

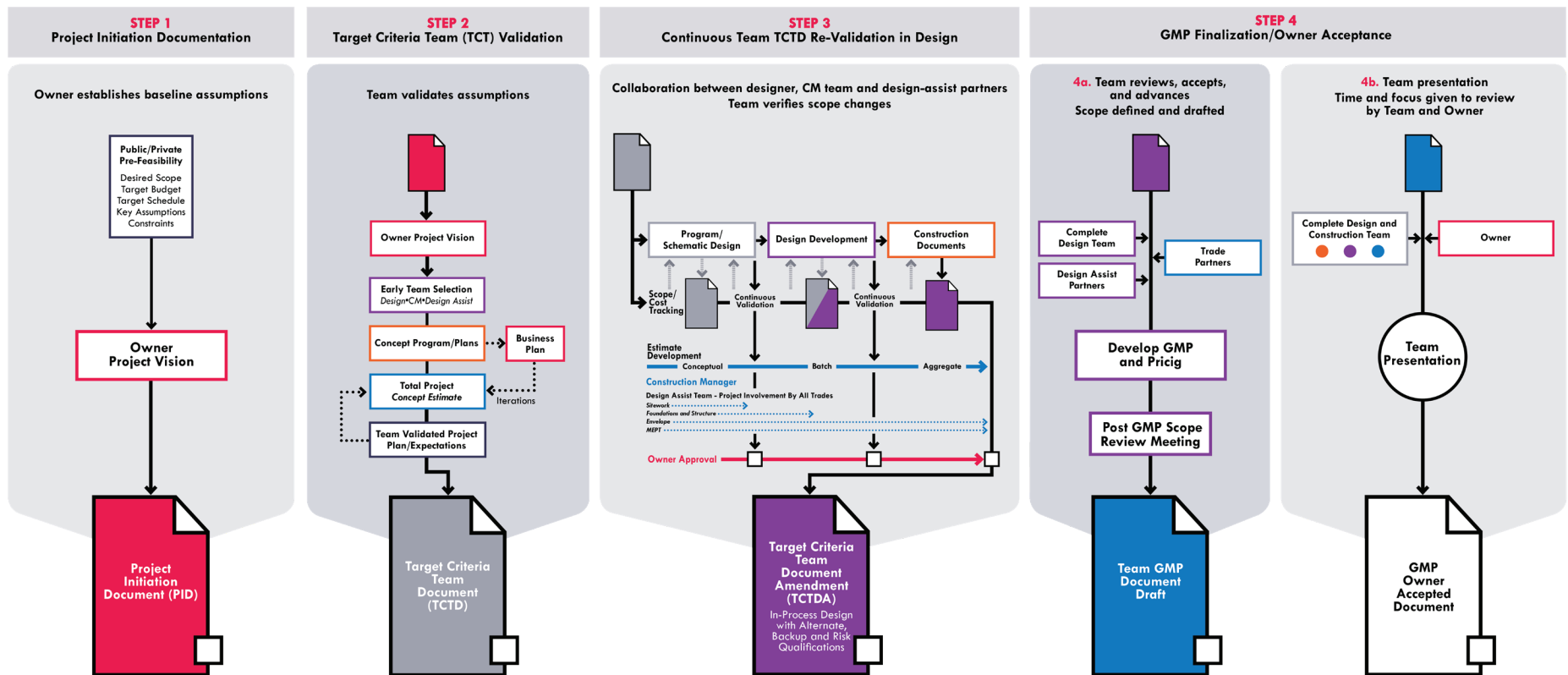


EXECUTIVE SUMMARY

COGENCE Alliance

Owners+Architects+Engineers+Contractors

COGENCE GMP PROCESS





COGENCE GMP PROCESS BACKGROUND

The COGENCE GMP Process was developed to reduce the risk for all stakeholders that exists in the current traditional GMP process. By utilizing this four-step process the entire project team will operate more collaboratively and have a documented process from the project initiation phase through the finalization and presentation of the GMP to the owner. This approach will increase communication, drive efficiency, provide a well organized documented process always comparing estimates back to the latest owner approved budget, and improve the trust and collaboration that is essential with high performance teams.

Time to maximize your next GMP the COGENCE Way!



COGENCE GMP PROCESS GOALS

The GMP process was created by a diverse group of industry representatives to improve the industry for ALL PARTICIPANTS. These are the guiding principles from which the COGENCE GMP process was built and from which future changes will be measured before adoption.

- Develop a process that reduces risk for all stakeholders
- Set a strong foundation for the process
- Define alignment with the Team and other typical process
- Increase collaboration, responsibility and total team trust
- Develop a process that is a repeatable documented process
- Develop process that is meant to help all projects in the design/construction industry, (not just a select CM-GMP project group)
- Organize to allow parts of process to be used individually
- This document is written around performing a CM-GMP project to maintain process continuity
- This document is intended to be accessible at multiple levels (executive summary all the way to detail)

Core Guiding Principles

- transparency
- value-added input encouraged
- teamwork from start to finish
- sign-off by each team member
- supportive of one another

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COGENCE GMP IMPLEMENTATION

1. Review the COGENCE GMP Process Overview
2. Select from the Checklist the items to implement.
 - a. NOTE: Team buy-in is critical if electing to follow these checklist items AFTER the team has been selected. “Forced buy-in” typically does not end up producing successful team outcomes.
3. Document for the project team the COGENCE GMP Process Activities on your project:
 - a. Attach checklist of COGENCE GMP activities to your RFP for professional and CM/GC services.
 - b. AND/OR Agree as a project team to adopt the checklist of COGENCE GMP activities. Make document part of the onboarding process for new project members.
 - c. AND/OR Adopt checklist and appendix to your contract.
4. Use the Detailed description of the process activities, located in the appendix, to execute.
5. Measure performance as a team and hold each other accountable.
6. Define a leader or champion for the COGENCE process for each project from start to finish.
7. Depending on the Owner and the size of the project, develop a principals committee.
8. Clear need to define who is managing Step 2 and 3.



COGENCE GMP PROCESS

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COGENCE GMP 4-STEP OVERVIEW

Step 1 – Project Initiation Document (PID)

Initial phase where owner initiates need to develop a project and develops a PID defining the goals and scope of a new project.

Step 2 – Target Criteria Team (TCT) Validation

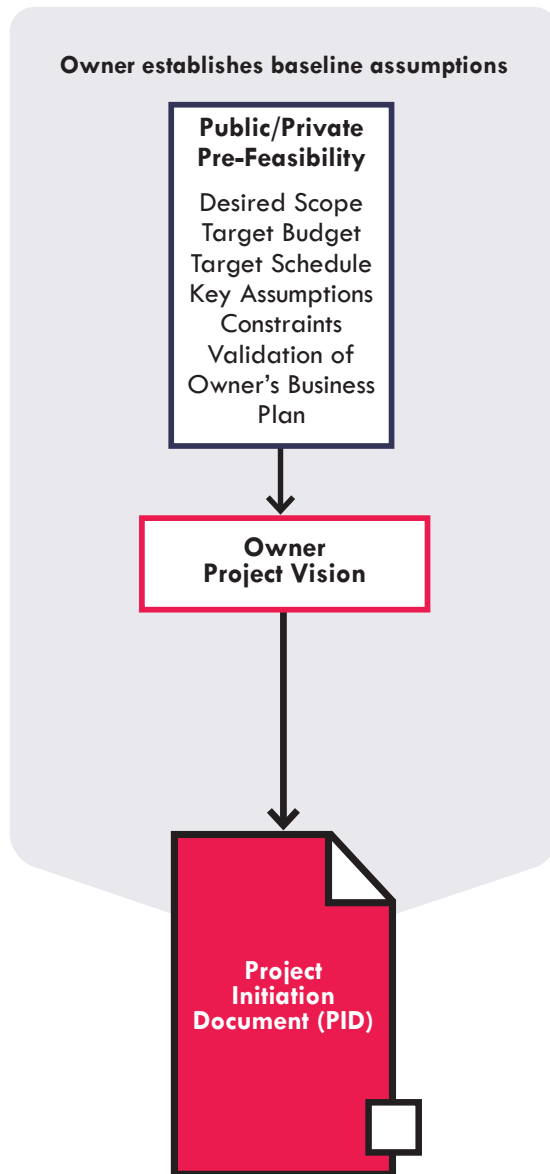
TCT is assembled together and team organization is on-boarded. Project expectations are defined and team sign-offs on guidance document, including decision-making process and owner governance structure.

Step 3 – Continuous Team TCTD Re-Validation in Design

The construction, design, estimating, and scheduling teams work collaboratively DURING the design phases (program, SD, DD, CD) in preparation of the development of the GMP in the next step.

Step 4 – GMP Finalization/Owner Acceptance

The GMP (guaranteed maximum price) is assembled. The trade contractor pricing and scope review sessions occur in this step. The TCTD amendment is developed. Presentation by the team to the owner. Responding to owner questions, review and acceptance of qualifications, alternatives, value engineering suggestions (if applicable) and owner acceptance of GMP document.



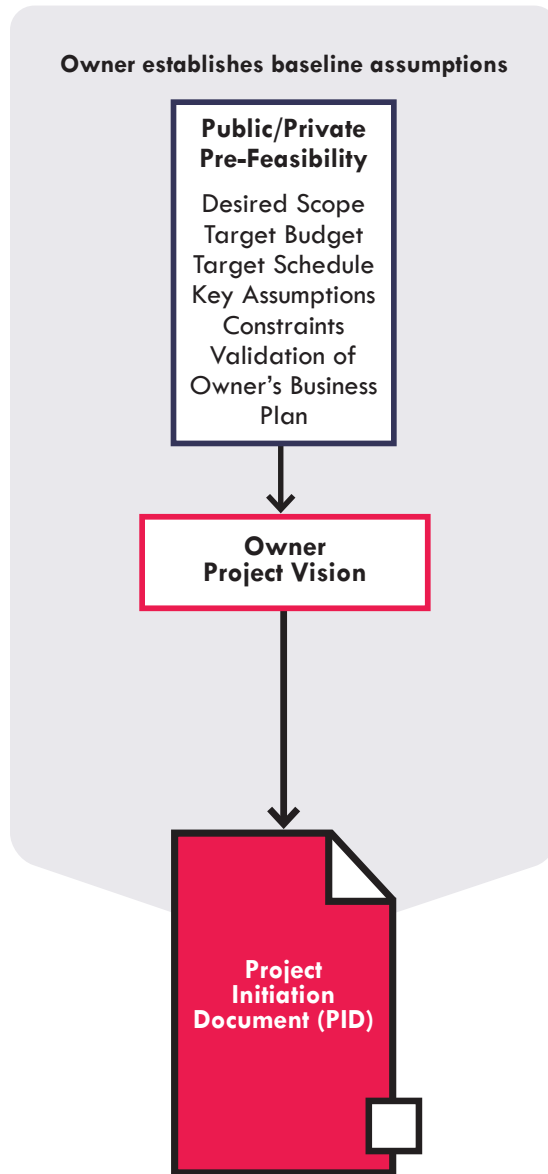
STEP 1: DEVELOP A PROJECT INITIATION DOCUMENT (PID)

This step is often overlooked or under-documented by the owner. The goal is to develop a baseline for all parties ultimately involved in the project. All starting assumptions and existing information is relevant, even if later proven to be inaccurate. Some owners can develop the document on their own, at the point when the project is conceived and with their internal resources.

Other owners may utilize a planning period, a study phase and/or counsel from outside service providers either as part of their normal process or as part of a go/no go evaluation for their organization or for a specific project. In any case, the level of documentation in the PID is simply a function of information that the owner has assembled and that is available once they decide that this will in fact be a project and they intend to hire and mobilize a design and construction team (Step 2).

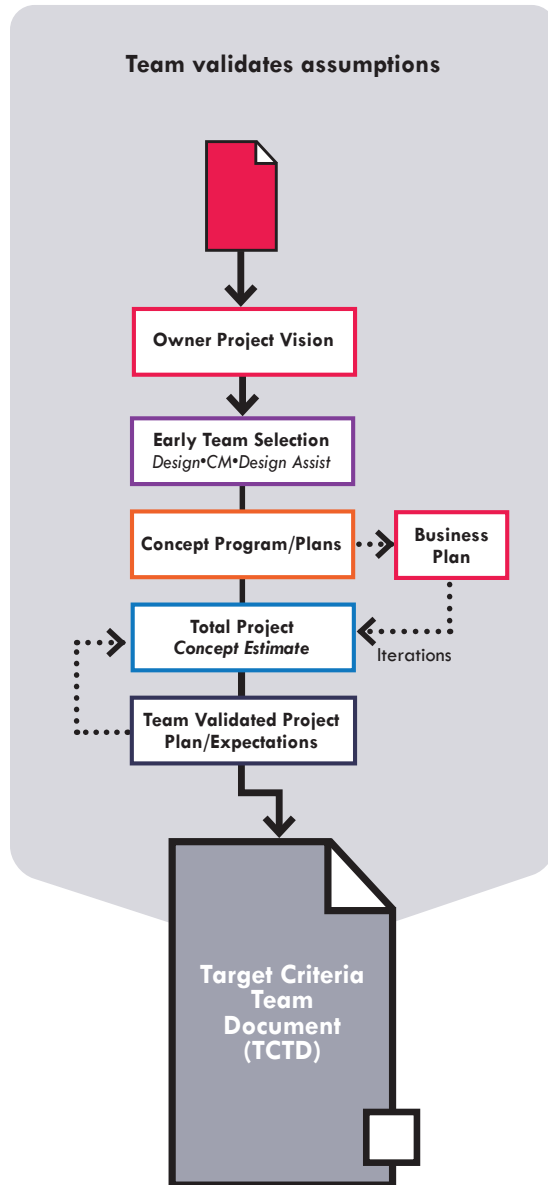
One of the most critical aspects of the PID is that the owner must desire and understand that the information in the PID is going to be vetted, challenged, examined and discussed by the entire project team, prior to its adoption. The COGENCE process is best fitted for a collaborative project team relationship in which the owner expects the process details to be further developed by the team. Owners with rigid “top-down” project processes and agreement terms will typically return less value from this approach. On the following pages we highlight checklist items together with the associated rationale for each item.

*The **COGENCE** process is best fitted for a collaborative project team relationship in which the owner expects the process details to be further developed by the team.*



PROJECT INITIATION SUMMARY

In summary, the PID is a starting point and a baseline of information that will not need to be perfect or complete; however, it will be a common and understood starting point upon which a very strong foundation can then be formed by the entire project team.



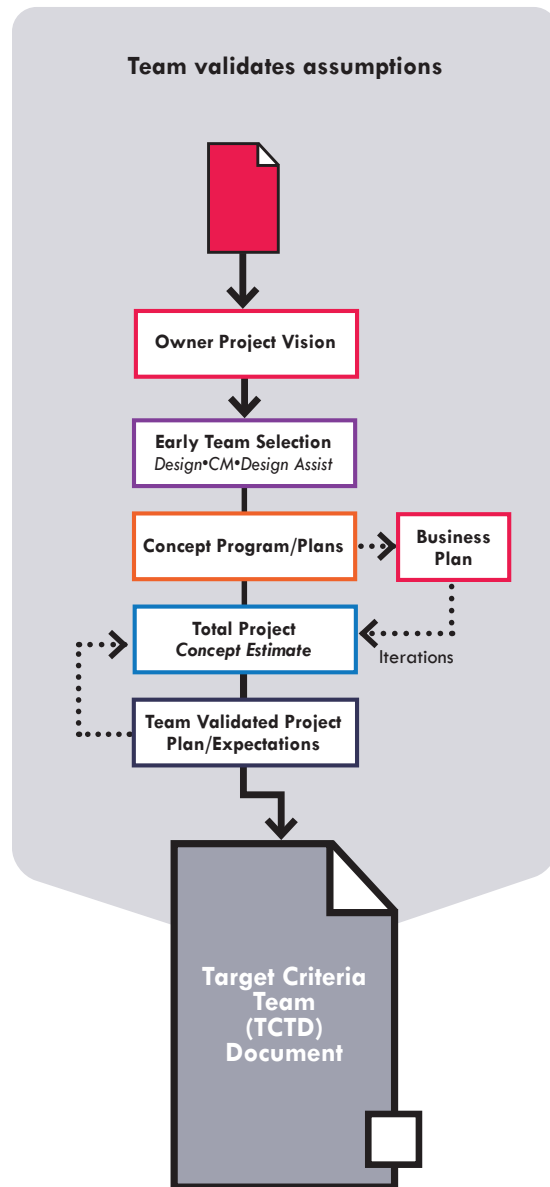
STEP 2: DEVELOP A TARGET CRITERIA TEAM SIGN OFF DOCUMENT (TCTD)

The PID has been completed and now it is time to on-board the team and begin the COGENCE team approach at the very outset of the project. One goal of this step is to inform the entire team of the PID baseline that was established as part of Step 1 and define an organized process for input into an updated consensus baseline document that not only can be signed by the entire team, but also used as a reference to when the project is altered or further developed in later stages. In this case, starting assumptions and existing information is qualified and confirmed and should be a strong basis for moving forward.

For some owners this may be a difficult step as this is early in the project development process and they may not want to embrace other counter or contrary views or opinions from those developed in the PID. From the perspective of COGENCE there are two critical aspects to Step 2. **First**, the TCT sign off document represents the thinking, knowledge and experience of the entire project team to further inform the PID to a much broader perspective. **Second**, this document will provide all of the important foundational elements to set the appropriate expectations among the entire project team and the owner. On the following pages we highlight checklist items together with the associated rationale for each item.

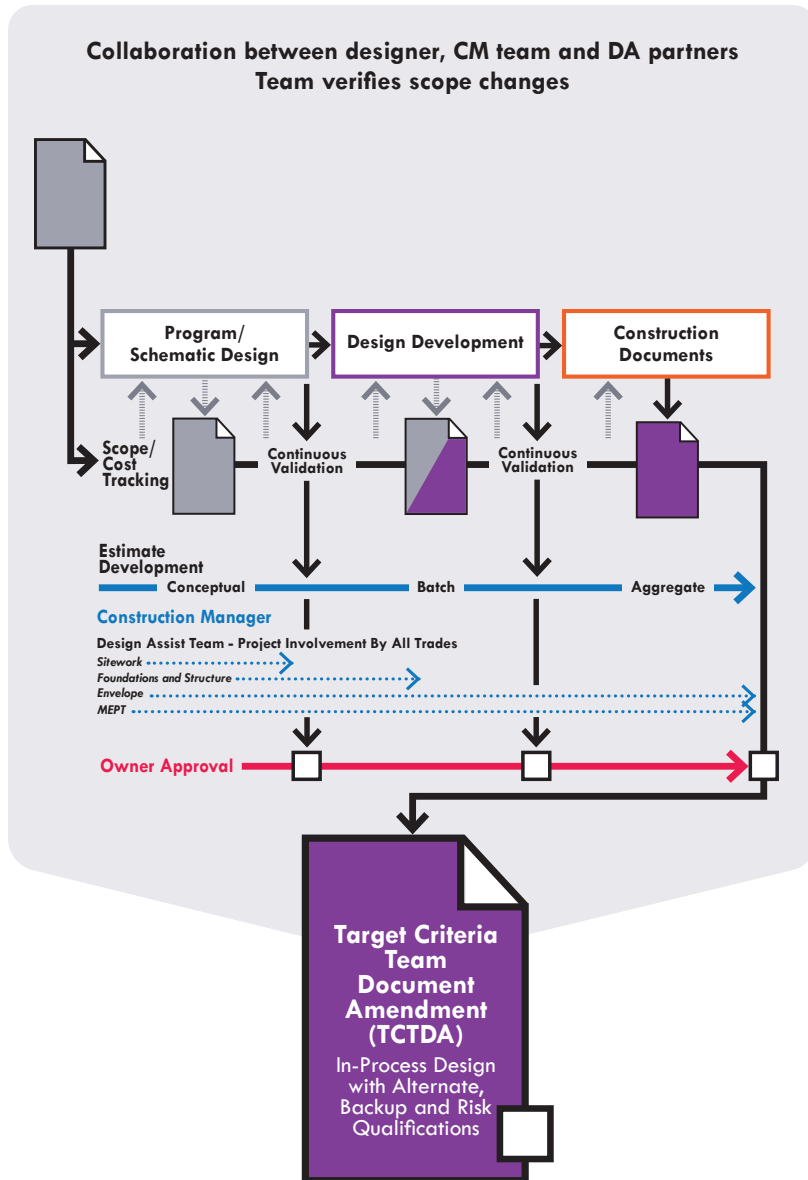
Every project has an early vision, project goals, at least some criteria and, in some cases, primarily with more sophisticated owners, an identified program or scope of work. The documentation of these items is very important and may highlight that there is not consensus on these items from the owner's perspective which is very important for the project team to know at the outset so they can help the owner resolve any issue early in the process.

The Target Criteria Team Sign Off Document represents the thinking, knowledge and experience of the entire project team to further inform the PID to a much broader perspective.



DEVELOP A TARGET CRITERIA TEAM SIGN OFF DOCUMENT (TCTD)

In summary, the TCTD is the truing up of PID baseline and information will form the foundation of the project.



STEP 3: CONTINUOUS TEAM TCTD RE-VALIDATION

The goal of Step 3 is to complete the design and cost validation from TCT Sign Off (Step 2) through the final control estimate by regularly updating the control estimate. The final control estimate will be reconciled during Step 4, The GMP Assembly. It is the COGENCE philosophy that this step is more collaborative and continuous than the traditional GMP process. Below are the key elements associated with COGENCE Partners:

Owner/Owners Representative

- Validate/update Total Project Cost including Soft Costs and Furniture Fixtures & Equipment (FF&E)

Design Team

- Design to the parameters established in the TCT document
- Communicate deviations from the TCT document to the project team when these changes are realized during the design process
- Work with contractors to determine scopes of work/systems where design is advanced enough for "hard pricing"

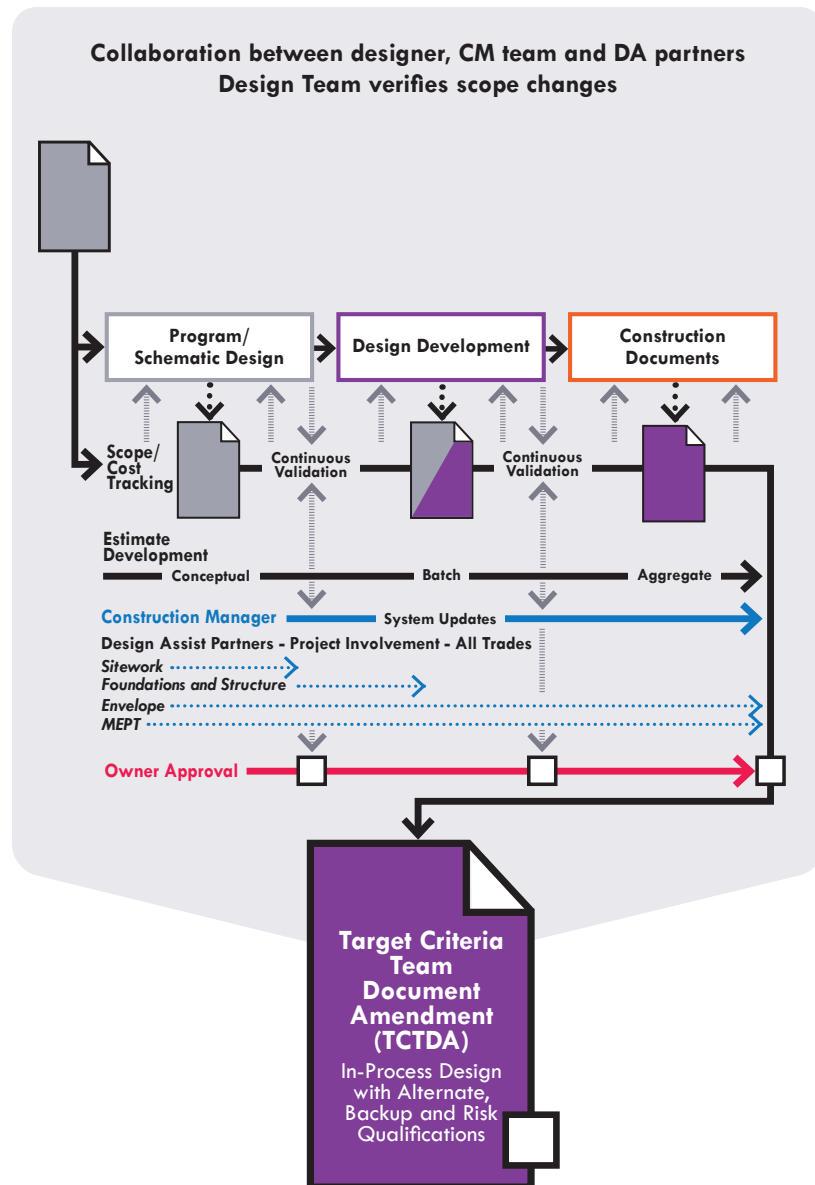
Construction Manager (CM)

- Continually estimate and add detail when available to the "hard scope" and validate the total construction cost as design develops and evolves
- Provide cost value to customer in a team collaborative manner
- Establish and manage Design and Construction Contingency
- Provide constructability input to drive value
- Provide metrics to project team on preconstruction services spent to date and amount of "hard pricing" in current control estimate
- Document and Distribute design/construction schedule to all project team
- Document and Distribute the budget tracker to all project team

Design Assist (DA) Trade Partners

- Provide cost value to customer in a team collaborative manner
- Provide constructability input to drive value
- Provide conceptual pricing for TCT Documents, estimate "hard scope" and validate total trade construction cost as agreed to with the team
- Provide ongoing cost tracking and options pricing as agreed to with the project team

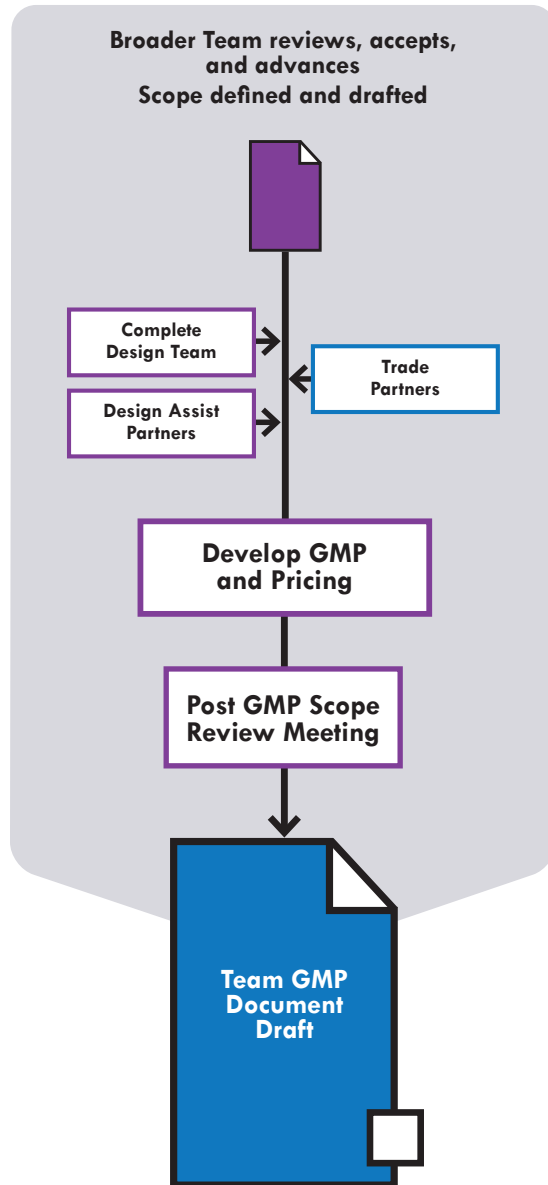
The conclusion of this step is the sign off and approval of the final design and control estimate prior to GMP assembly.



CONTINUOUS TEAM TCTD RE-VALIDATION

In summary, the Continuous Team TCTD Validation Step is the process of completing the design and cost validation from TCT Sign Off (Step 2) through the final control estimate by regularly updating the control estimate, schedule validation and continuously providing the team feedback on how it is tracking in comparison to the TCTD. It is the COGENCE philosophy that this Step is more collaborative and fully integrated with the Design team, CM team, and Design Assist trade partners. The team executes an amendment document prepared at the conclusion of Step 3 with any updated scope adjustments and/or alterations to the initial TCTD. This will become the scope tracker estimating document for comparison purposes for the GMP which will be prepared in Step 4.

There is a time in the design and pre-construction process where the bias of the OAC meeting shifts from design to construction. This is shown in Step 3 during design development where graphically the box turns from grey to purple. During this period the material scope is in alignment, there is a level of confidence with key design decisions, and the focus shifts to construction logistics and buy-out.

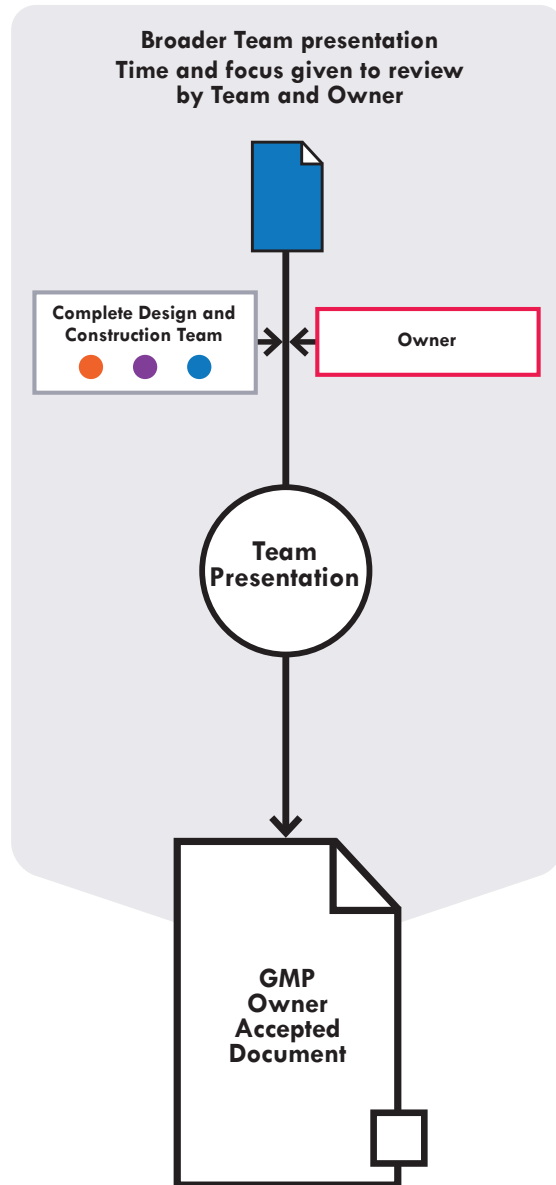


STEP 4A. GMP ASSEMBLY AND SCOPE REVIEW

The COGENCE GMP Step 4 has to do with the proper Assembly and Scope Review Process. Traditionally, in the industry, this step has been heavily controlled and managed by the CM with little or no involvement from the rest of the team. For the COGENCE process, one of the key differences is that the team has much more involvement in this step. An additional difference is that all of the documentation of Steps 1 – Step 3 are back-checked and an explanation included in the presentation to the owner. Lastly, the result of this Step is a team GMP and not just the CMs GMP.

In Summary, the GMP Assembly and Scope Review is the time for the Target Criteria Team to invest in the completeness and accuracy of the GMP Scope. The additional benefit is trust within the team built by common understanding and “buy-in” by all to the basis for the scope, schedule and budget. This trust prepares the group to act together in Step 4 GMP Finalization/Owner Acceptance and for the rest of the project.

For the **COGENCE** process, one of the key differences is that the team has much more involvement in this step.



STEP 4B. GMP ACCEPTANCE

The COGENCE Step 4 simply allows for the appropriate presentation of a GMP. The entire team is present and the necessary time allows for a detailed presentation of all key elements of the GMP. Most often the owner will go straight to the bottom line. The COGENCE process requires that the team go through all of the background and context of the GMP along with the cost discussion. It is actually the last phase of the COGENCE process which sets the final scope agreement between the team and the owner. This should allow the strongest foundation and team understanding to move through the remaining design and construction phases of the project.

The last phase of the **COGENCE** process sets the final scope agreement between the team and the owner. This should allow the strongest foundation and team understanding to move through the remaining design and construction phases of the project.

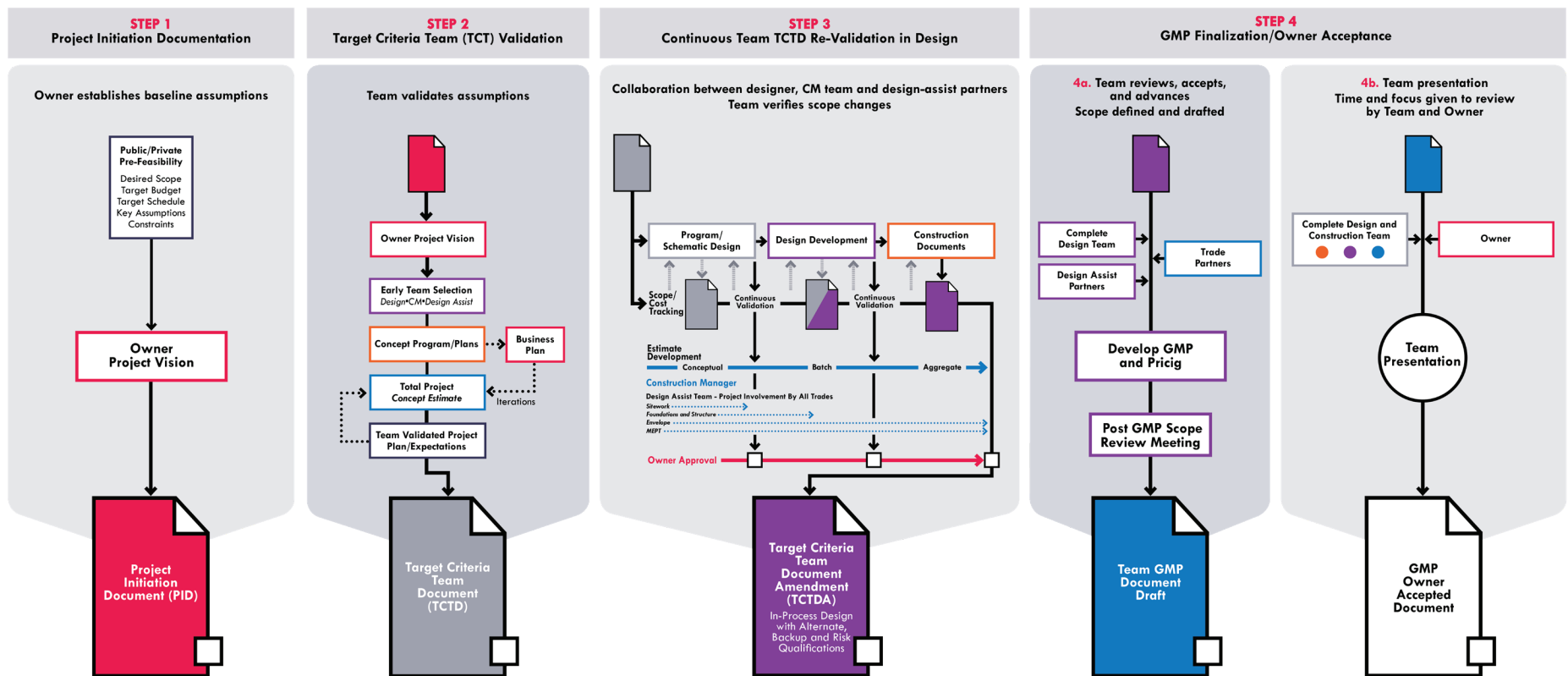


COGENCE GMP VS. TRADITIONAL GMP PROCESS

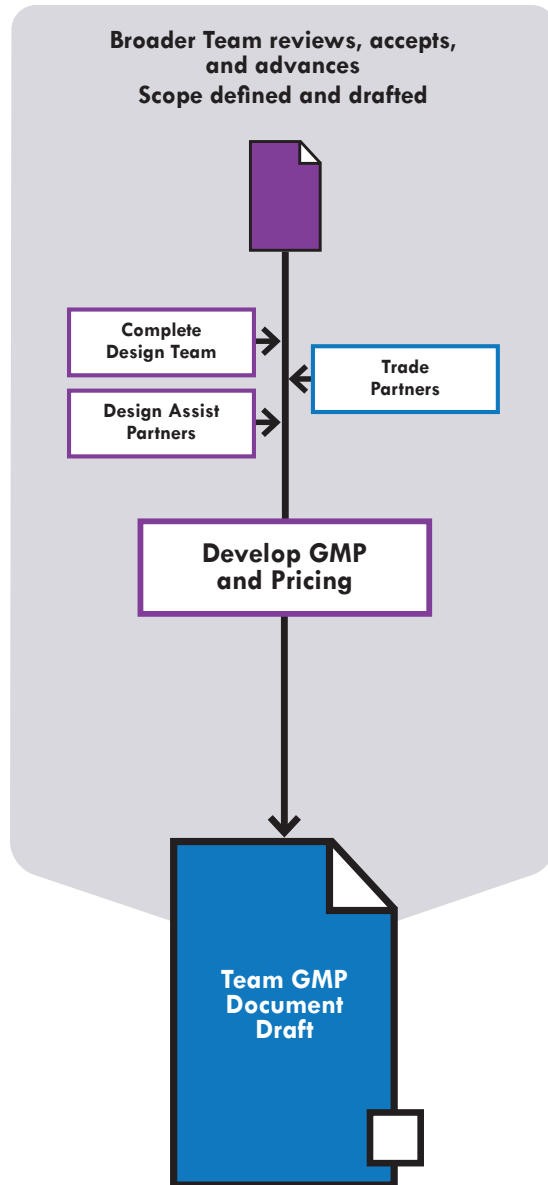
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HOW COGENCE GMP PROCESS DIFFERS FROM TRADITIONAL GMP PROCESS



COGENCE GMP PROCESS	TRADITIONAL GMP PROCESS
Team agrees to all TCT Goals (including Budget and Schedule)	Budget and Construction Schedule targets are contractor responsibility
Team prioritizes strong project communications and collaboration in planning (reduces team risk)	Communication is typically “as required.” Creates “silos” and increases project risk of scope gaps.
Design Team Scope of Services are understood by project team	Design team scope of services is typically not communicated to construction team and leads to unintended tension between construction and design team due to differing expectations between parties regarding A/E’s responsibilities and services.
Contractor’s extent of Scheduling Preconstruction/Estimating Services, are understood by project team.	Contractor extent of Scheduling Preconstruction/Estimating Services, are unknown to rest of team, leading to potential missed opportunities for cost savings or design improvement.
Team collectively determines drawing packages (or system diagrams) required for project, eliminating the effort required to issue unneeded or non-complete packages.	Drawing packages (SD, DD) are issued with minimal input from construction on what is critical and what is not in order for the A/E to fulfill standard role responsibilities and contract requirements. Commonly these drawing packages result in contractors restarting estimates from scratch and “losing” most of the original estimate’s value.
Team Agreement on Design/Preconstruction Schedule down to the Engineer/ Trade Partner level.	CM develops and maintains schedule. Engineer/ Trade Partner level communication is “ad hoc” with results that vary significantly.
Combined Design/Construction Schedule with team approach to continuous validation, to provide quicker estimating feedback.	Estimating focused on traditional drawing packages (SD, DD, CD). Cost validation only occurs at specific dates and is oftentimes received too late to impact design.
Reallocate Preconstruction/Estimating Services from “contracted” to “job specific” to maximize options and provide “real time” pricing.	“Contracted” estimating typically results in re-estimating incomplete designs (churn).
Clear communication in OAC to report status, identify and resolve issues, and agree on design and preconstruction work that is ready to perform next.	Without a developed team concept, project members tend to focus on their firm’s priorities and schedule. Waiting for information and answers is common.



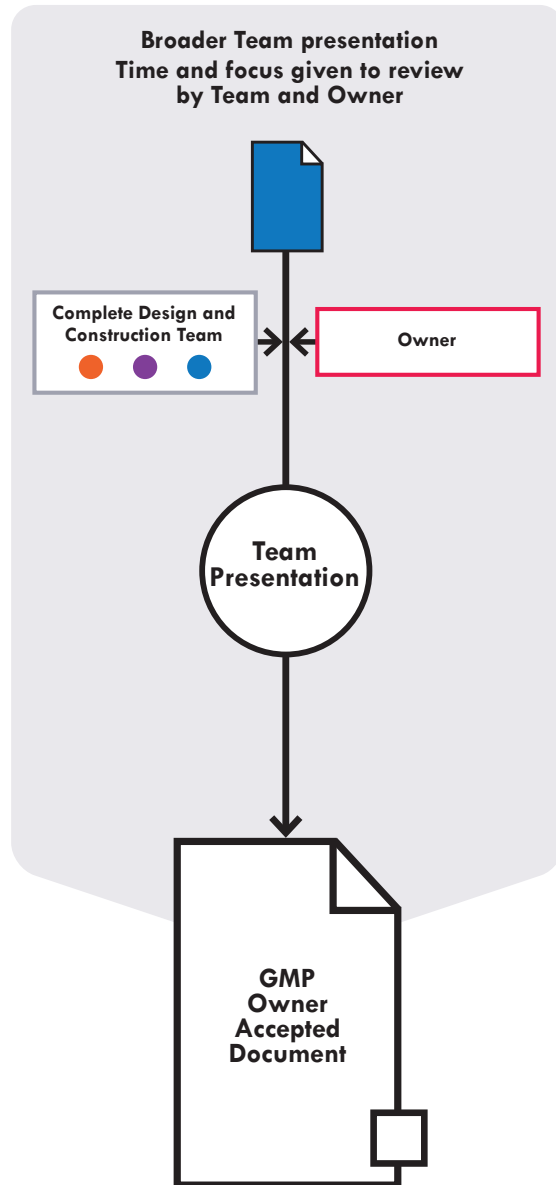
UNIQUE IDEAS FROM COGENCE

Steps 1–3 Lower Risk/Cost at Start of GMP Assembly due to:

- Transparent process, with defined responsibilities and checks/balances on all parties, lowers risk to all
- Lower risk/uncertainty results in lower construction estimates due to strong team agreement and clear definition of all scope – TCT planning during step 3 to quantify/mitigate risk reduces uncertainty entering GMP estimate
- Higher organization and planning by TCT results in lower project risk/lower estimate allowances/contingencies due to:
 - Combined Design/Preconstruction/Construction Schedule
 - Clear design package definitions
 - DA input, when applicable, improves construction phasing plan in schedule/packages
- More criteria versus budget issues are solved due to:
 - Defined Project Value and
 - Improved Designer and Contractor “buy-in” to deliver both owner criteria and meet budget.

Step 4 builds team unity and owner confidence with:

- More transparency on pricing evaluation process
- Impending team sign off/owner presentation of GMP incentivizes designers/contractors to communicate and resolve scope/budget issues.
- Planning for ongoing design activities during the GMP Assembly avoids surprises and wasted design effort
- Significant team focus, vetting and confirmation in this step is consistent with the owners largest financial project commitment;
- COGENCE recommends a thorough prep and QA/QC exercise for Step 4
- Sign off ensures team united at owner presentation



BIG IDEAS FROM COGENCE

- Key trades now on the team and there may be new members; the key principals of these organizations can participate in an organized way and get introduced to the team including explanation of their role.
- If CM and a particular trade do not have a full business deal yet, this could be transparent enough to allow for the proper understanding of the risk and if that risk is being carried by the CM, an appreciation by the owner.
- Team allows the right process and enough time to thoroughly explain the information and the quantifiable relationships with the design documents.
- The COGENCE process requires some investment of team time and compensation throughout the project beyond the normal and typical percentages. However, there should be a substantial return on investment realized by the owner at project completion.
- Team should be able to show in the presentation the project from start to finish and track all the major modifications along the way; one last time for the team to look back on the road traveled.
- Step 4 does not allow the owner to turn to the bottom line before hearing the entire story.
- Step 4 has the owner assemble as much of their team as possible to hear the presentation, including all the background.
- If there are cost or budget issues, the team is required to come forward with the proactive ideas of Step 4 and as such the team is not deterred if the owner does not like the number.
- The result should be that the owner feels more comfortable that they are getting the best value and that the savings options that meet design intent have been examined and included; allows team to move into construction phase as a team and with confidence of a strong foundation and alignment.
- Should be a contractual commitment that the CM feels confident about, because of the stronger understanding between the contractual parties.
- Should be a design that the A/E feels confident about, because it was achieved at the best value.
- If this important communication step is executed correctly, the opportunity or risk of misalignment should be as low as possible.
- The team should fully understand the project challenges that are still ahead and work as a team to address them...less clarity on extraneous things allows for better focus on the important and critical path items.



COGENCE GMP PROCESS SELF-SELECTION STEPS TO FOLLOW



SELF-SELECT COGENCE PROCESS STEPS TO FOLLOW

The COGENCE GMP process was written to follow a CM-GMP project delivery process, however, individual parts of the process can be “Self Selected” for use by the project team on any project with any contract type.

Checklists of the detailed activities in each of the 4 Steps in the COGENCE GMP Process are listed below. Use the checklists as a menu of the activities from which your project team can select the actions to be incorporated into your project.

If your project is already started, that is no problem. Utilize any of the steps that can be helpful.



SELF-SELECT COGENCE PROCESS STEPS TO FOLLOW

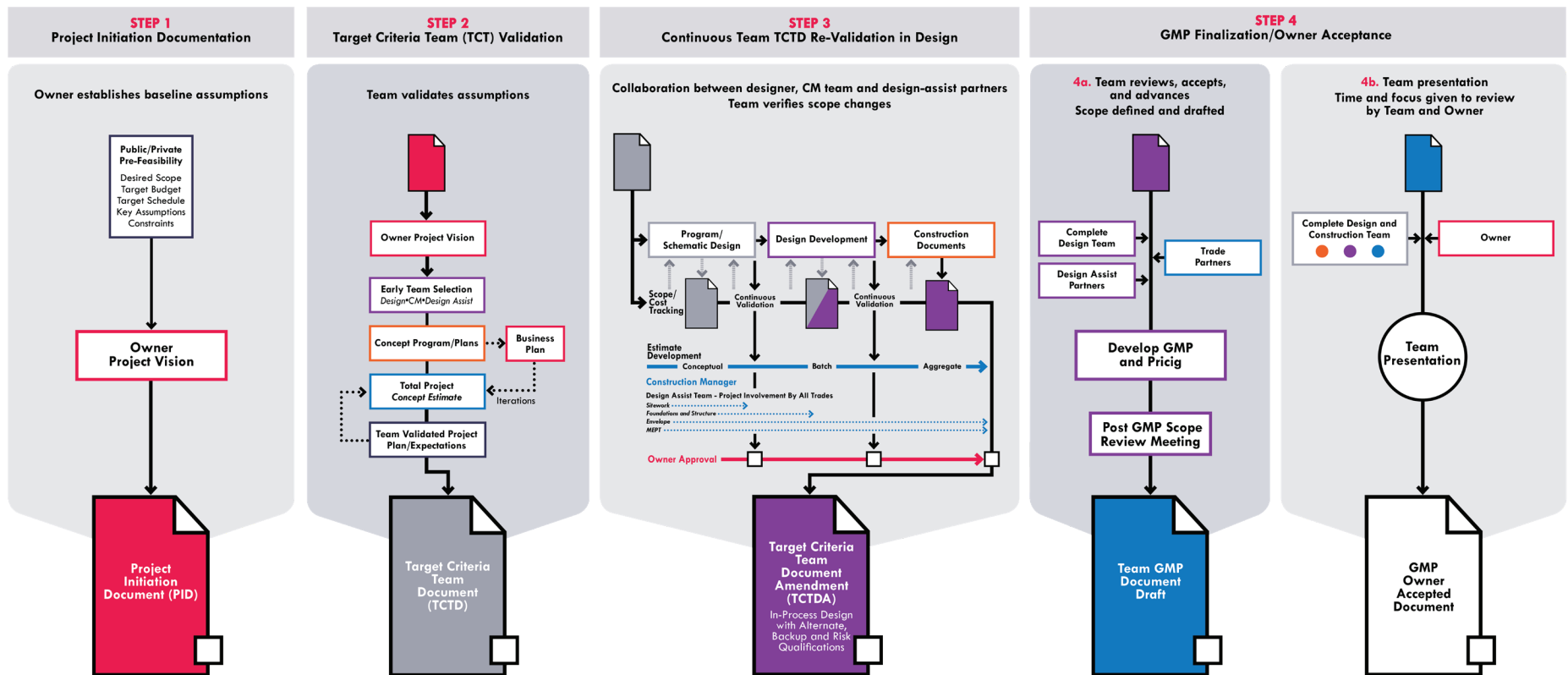
Note for Users: The COGENCE GMP committee has written this document for experienced practitioners in the use of a CM – GMP project. Therefore, when deciding on use of individual activities for other project delivery types OR the PARTIAL use of these activities on a CM-GMP project, we recommend:

1. Set your desired project reasons for using the process activities. Pick according to your goals.
 - a. What improvement do you plan to achieve by performing this activity on your project?
2. There are several larger efforts that require completing several process activities. If the goal is to complete any of these larger efforts, then be sure to select the applicable sub-activities that “add up” to the larger effort.
3. Not all activities are independent of others. Group activities with required predecessor activities, as necessary to achieve your goal.
4. Don’t over commit. We prefer that you complete all of the COGENCE GMP processes that you start, rather than the opposite. This should leave you wanting to adopt more of the COGENCE GMP Processes on future projects.
5. Please contact us for advice on implementation. COGENCE members, including COGENCE GMP Process Committee members, welcome interest in the process and are willing to assist, when possible.
 - a. The majority of the lessons learned in this document were passed to us by others in one form of mentoring or group project experience or another. We intend to pass on to others what we have learned, just like many have done for us.

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COGENCE GMP PROCESS



CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Define needs/vision/goals/criteria/scope if applicable		
Business case defined <ul style="list-style-type: none"> • Proforma developed • Starting cost assumptions • Starting schedule/time expectations 		
External resources for project internal go/no go decision		
Other internal information/assumptions		
Final project internal Go/No Go completed		
Project delivery method selected?/Assumptions?		
Contract terms to allow COGENCE 4 Step Process		
Identify who is the owner-totality of the owner decision-making process		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
RFQ/RFPs for A/E, CM, DAs and Owners Representative if required Is Design Assist applicable or not? (complete Design Assist Go/No Go Matrix)		
Project team members established (Organization Chart developed)		
Total team alignment Governance Structure identified (Defined Decision Making)		
Team building process enabled		
PID shared with team members established for review and questions		
Plan TCT kickoff workshop agenda and schedule date		
Design assumption, criteria, program, early concept review		
Review and complete benchmarking exercise include high side-low side		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Complete TCT schedule, budget, and contingency management plan - Risk Analysis complete and documented		
Document significant changes from original PID		
Team generated Design/Construction Schedule developed (Pull Plan Method applied)		
Plan for transparent Communication of Workflow (big-room?/co-location?)		
Team agreement on ability to execute (financially stable)		
Team executes TCT document		
Owner decision-making body approval of the TCT document approved by project team, when applicable		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Target Criteria Budget Team Sign Off (from Step 2)		
Establish early price packaging for phased construction/long lead items		
Agenda and Schedule for OAC Inclusive of COGENCE Process		
Establish regular OAC meetings, owner required milestones and deadlines i.e. Board Approval, estimate approval, design approval (pull planning)		
Establish and agree to design requirements, frequency and deliverables for each estimate		
Establish estimate templates in a reconciliation format for each stage of document level completion. Confirm architect(s) and engineer(s) buy in with scope of services for detailed TCT Validation process		
Set schedule of designer/estimator meetings by discipline for planning and technical discussions to execute the combined design/construction schedule		
Establish estimating team responsibility matrix		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish trade contractor (non DA) participation for unit and market pricing, including pricing interval dates		
Establish DA estimate (if required) and cost data for each required estimate		
Estimating team completes detailed take-offs and validates trade contractor input		
OAC to Establish and Approve CM Estimating Budget (and DA Estimating Budget, if appropriate) per the detailed TCT validation process		
Confirm architect(s) and engineer(s) buy in with scope of services for detailed TCT Validation process		
Monitor the team design/preconstruction schedule down to the engineer/DA trade partner level		
Decide who is setting agenda, running and taking minutes for the OAC meetings		
Establish estimate assumptions and clarifications		
Establish Cost Savings/Potential Project Alternate List		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Design Assist scope modification tracker in place		
Regular estimate updates using scope tracker with design team and owner as information is updated		
Review final control estimate per interval with owner and design team		
Modify final estimate based on owner and design team final comments and review		
Construction team to set up GMP template and documentation		
Sign off and approval of the final design and control estimate prior to GMP assembly		
Team executes TCTD amendment		

CHECKLIST

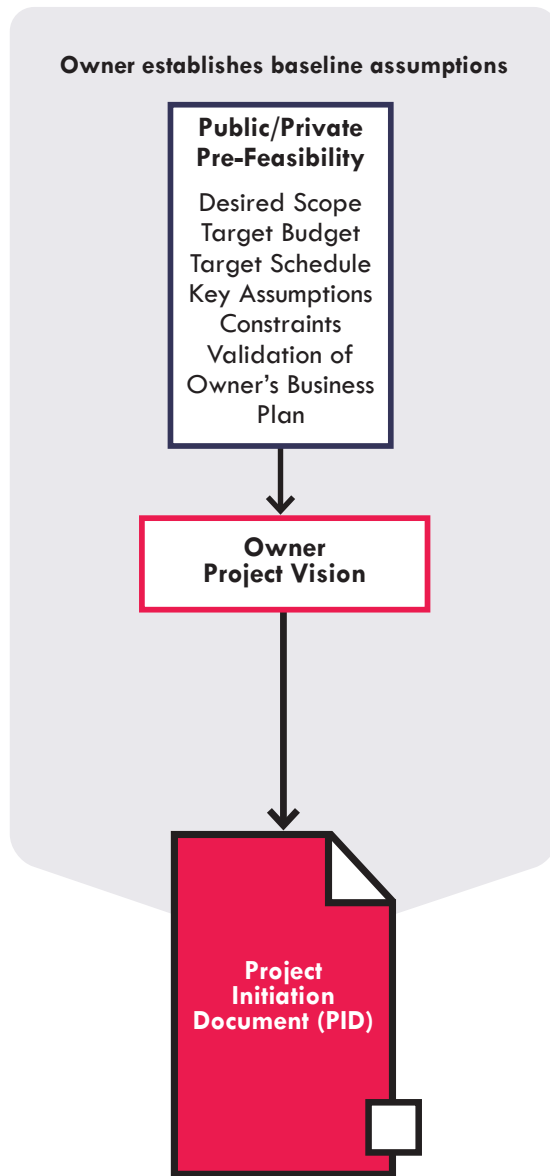
ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Design team to issue design intent (prose) statement		
Final control estimate team sign off (from Step 3)		
Develop and agree as a team on the trade contractor pricing list		
Develop GMP pricing schedule and finalize overall project schedule		
Scopes of Work for individual pricing packages completed		
Receive, record and review pricing		
Complete <u>trade contractor</u> scope review w/design team and owner		
Schedule a team page turn of the documents to review and discuss holds and allowances and identify any remaining risks		
<u>DA</u> reconciliation with design team and owner (if applicable)		
Complete assumptions and clarifications		
Review and agree to final project schedule		
Team signoff on GMP amendment		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Transparent team communication and presentation of GMP and background to ownership team		
Owner reviews and comments on assumptions and clarifications (A+C's) completed		
Review A+C's, alternates reviewed and accepted or rejected, finalize GMP schedule of values		
Owner acceptance/sign off of GMP document		
Team acceptance document		



APPENDIX 1 - ACTIVITY



DEVELOP A PROJECT INITIATION DOCUMENT

This step is often overlooked or under-documented by the owner. The goal is to develop a consistent and well-documented baseline for all parties ultimately involved in the project. All starting assumptions and existing information is relevant, even if later proved to be inaccurate. Some owners can develop the document on their own, at the point when the project is conceived and with their internal resources. Other owners may utilize a planning period, a study phase and/or counsel from outside service providers either as part of their normal process or as part of a go/no go evaluation for their organization or for a specific project. In any case, the level of documentation in the PID is simply a function of information that the owner has assembled and that is available once a decision to proceed has been made and the design and construction team is mobilized (Step 2).

One of the most critical aspects of the PID is that the owner must desire and understand that the information in the PID is going to be vetted, challenged, examined and discussed by the entire project team, prior to its adoption. The **COGENCE** process is best fitted for a collaborative project team relationship in which the owner expects the process details to be further developed by the team. Even in a “top-down” organization doing this will add value. On the following pages we highlight checklist items together with the associated rationale for each item.

*The **COGENCE** process is best fitted for a collaborative project team relationship in which the owner expects the process details to be further developed by the team.*

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Define needs/vision/goals/criteria/scope if applicable		
Business case defined <ul style="list-style-type: none"> • Proforma developed • Starting cost assumptions • Starting schedule/time expectations 		
External resources for project internal go/no go decision		
Other internal information/assumptions		
Final project internal Go/No Go completed		
Project delivery method selected?/Assumptions?		
Contract terms to allow COGENCE Four Step Process		
Identify who is the owner-totality of the owner decision-making process		

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Define needs/vision/goals/criteria/scope if applicable		

Description:

Every project has an early vision, project goals, at least some criteria and in some cases primarily with more sophisticated owners, an identified program or scope of work. The documentation of these items is very important and may highlight that there is not a consensus on these items within the owner's organization, which is very important for the project team to understand at the outset so it can help the owner resolve any issue early in the process.

Equally important in the COGENCE process is that there might not be a consensus on the PID program/scope of work once the project team is on-boarded. This is a project condition that all want to avoid and is addressed in Step 2 during the kickoff meeting.

An additional benefit of documenting the needs/vision/goals/criteria/scope in Step 1 is that the owner would typically assemble the appropriate individuals who are approvers for all aspects of the program/business case which will in turn help define the owner decision-making organization. In some cases the needs/goals of the project involve important drivers that must be fully understood by the project team (e.g. out of compliance, loss of revenue, loss of opportunity, changing business model, alignment with a new strategic plan, current environment is not acceptable, aging existing infrastructure costing money, etc.) All criteria is relevant including: this is what we think this project should look like; "we don't want a Cadillac, we want a Chevy"; "we are trying to make a strategic or symbolic (it needs to be sustainably built, high design, iconic etc.) statement with this project" and so on.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Business Case Defined		

The business case is simply referring to the important information that the project team should know including:

- **Starting cost assumptions**

Descriptions:

Probably the most important piece of information in the PID is “what does the owner think this effort is going to cost for the Needs/Vision/Goals/Criteria/Scope described in the previous step?” It is important that this information is clearly communicated, is obviously preliminary, and accurately reflects the starting perspective and initial assumptions of the owner. It is also important to understand that for the COGENCE process, the project budget/scope is not yet set; the starting project budget is not established without team input and not finalized in Step 1. It is simply a starting cost assumption. It should be noted that there is a difference between what an owner “thinks” something will cost (preliminary budget) and the absolute cost limitation. Most projects start with a cost/budget limitation and are “budget driven.” it is critical that absolute cost limitations be disclosed.

For example:

- My board thinks it should cost X and our Design and Construction Department thinks it should cost Y.
- We have X dollars currently in place and we think we can raise another X dollars.
- We have calculated a Bond Issuance at 6%.
- We have the hard cost identified; however, have not estimated the soft or the contingency costs.
- We did a similar project 4 years ago and we expect that this will cost the same amount, plus escalation.
- If this project costs over X, our Proforma won’t work and there is no project as we can’t afford or justify doing it.
- Are there any cost limitations?

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Business Case Defined		

The business case is simply referring to the important information that the project team should know including:

- **Starting schedule/time expectations**

Descriptions:

Probably the second most important piece of information is expectation with respect to time. Often, the time frame demands create unreasonable expectations of success with a very difficult starting foundation. In its worst case it creates a risk of significant delay damages; in its best case it may just stress the project such that normal procedure is short-circuited, increasing the risk of an error or omission. By way of illustration, if one is in need of surgery and the standard time for the surgery is 1 hour, one would never go to the surgeon and say, "I know the standard time is 1 hour, however, you need to do this one in 30 minutes." However, often in the design and construction business, initial slow decision making puts the project at a like disadvantage. The owner often has a time demand that is very real, which must be well documented.

Examples of Schedule of Time Expectations include:

- Occupancy Dates
- Seasonal Demands
- Start of Revenue Expectations in the Business Plan
- Event or Commitment Driven (owner contract date obligations, opening day sporting venue, etc.)
- Academic Calendars
- Similar to the cost items above are expectations of the decision makers, my CEO thinks this should take 8 weeks, etc.
- Or any other time assumption that is relevant to the organization doing the project

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
External resources for project internal go/no go decision		

Description:

It is important to understand if an owner has consulted with someone, and is starting with this informed perspective and the context of the information given. Sometimes this is a very thorough effort (paid studies) and sometimes this is an out of context question (bumped into someone at dinner), and anywhere in between. The key here is documenting this information and hopefully confirming that it is accurately benchmarked and not a false point of reassurance to the owner and/or not used as a hammer on the team selected from here forward. Team needs ALL EXTERNAL BASIS for the go/no go decision to move to step 2, even the opinion of a friend in construction. All basis is important.

For example:

- I asked XYZ contractor and they said they could do “it” for this amount.
- I paid an architect (without an engineer and a Construction Manager) to look at “it” and he estimated this amount.
- A vendor said these projects usually cost this amount.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Other internal Information/assumptions		

Description:

The other information category is very broad, yet could be equally important to the project team. While the information type may be far reaching, it is important to document and come back to or resolve as the project develops.

Examples might include:

- The owner faction is divided on this issue or the overall project and/or need.
- One of our lead decision makers likes this type of architecture.
- Our lead donor sells this product which can be applied on the project.
- This project is being driven by one individual and if he/she leaves the project is dead.
- We always consult with our interior decorator on all design decisions.
- We may have a “not in my back yard” (NIMBY) issue on the project.
- Our alternative to executing this project is.....
- Our President is a fan of Design Build.
- 2 camps on what amenities we should include in our Program.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Final project internal Go/No Go completed		

Description:

This is one of the most important elements of the PID, yet it is oftentimes unclear. This is also one of the first tests of the owner's decision making. It is for the purposes of understanding if this project is a Go and if not yet, what information is needed to make it a Go. A large number of projects die on the vine and in some cases the owner spends a significant amount of money before the death is realized. Once the Go/No Go decision is made, it should be clear to the team who made it.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Project delivery method selected?/Assumptions?		

Description:

This documented item includes the owner putting down on paper, their starting assumptions on project delivery. If the owner is open to ideas, they should state so and project delivery can be discussed and resolved in Step 2. If the owner has selected a project delivery, it will help define the RFQs/RFPs that go out to select the team. As a very important and often overlooked step, it will allow the team to come back and discuss project delivery as one may identify a known delivery model, but the selected team may have a much different experience or expectation associated with that model. The Owner, design and construction team need to determine if design assist is a value added process for the project. Again, this is for the purpose of starting the discussion and the important aspect is getting the starting assumptions down in the PID.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Contract terms to allow COGENCE Four Step Process		

Description:
 This checklist item will allow the owner to consult with legal counsel (inside or out) and confirm that a team or collaborative approach is what the owner is interested in pursuing. Additionally, with public owners, it will force the owners early in the process to vet any laws, ordinances, or regulations that constrain contracting and procurement requirements and methods.

ACTIVITY DESCRIPTION

ACTIVITY

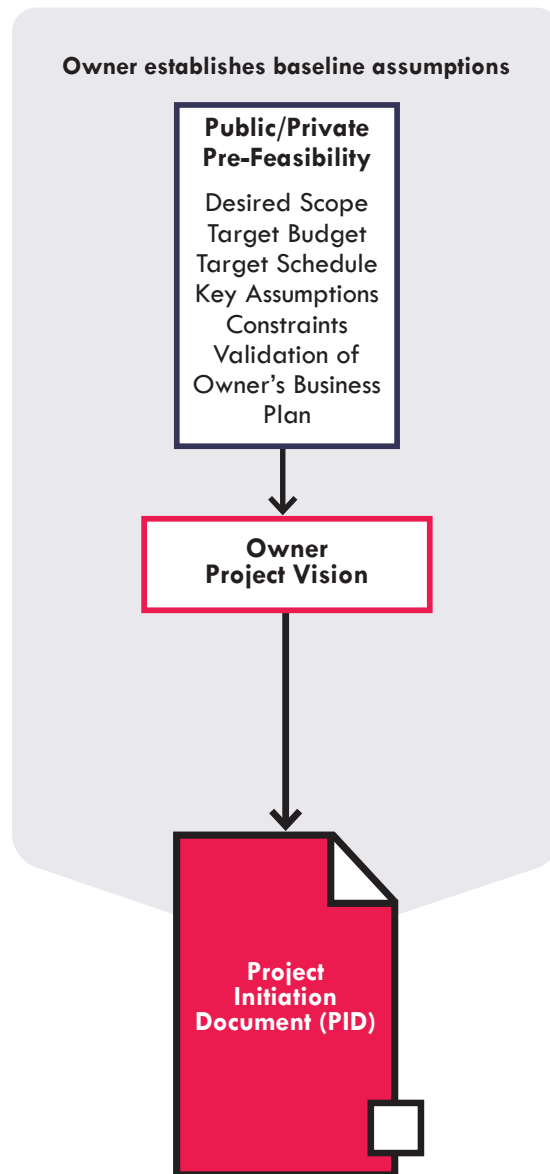
COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Identify and understand who is “behind the curtain” of the owner decision-making process

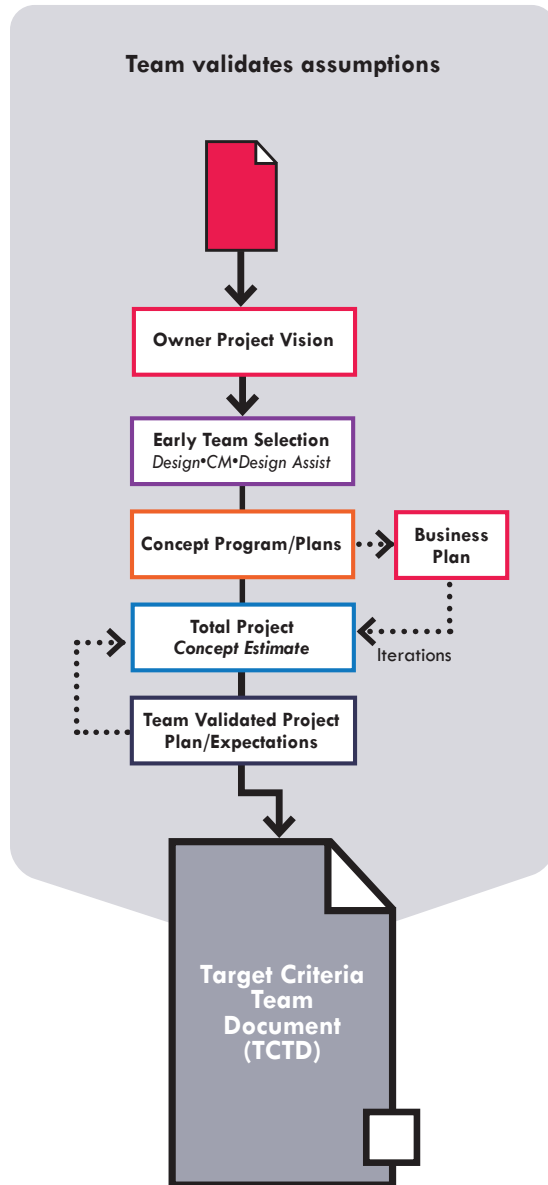
Description:

The PID should document the owner review, approval and final decision-making organization. Often the owner shields or is uncomfortable sharing the process with the team. Additionally, while an owner may have a documented organization chart, the champions of the project will drive the project. In this case, this is informational for the project team and wouldn't be one of the items that would be challenged or vetted, simply understood by the project team. Additionally a single point of contact (POC) for the owner is useful, as some projects have different views or directives coming to the team at the same time. Also, there are differences of user groups inside the owner and the people responsible for getting the project done and also in the people in control of the money which can be on different agendas. The value of this typically is that the Design and Construction team will have a good feel, based on experience, risk and/or the magnitude of the decision, when something would normally be elevated or what groups should be involved. Additionally, it often becomes of great value in terms of building the schedule and the work plans. Often the owner will not understand the full impact of a 3-month decision-making process in the middle of the preconstruction process and the detrimental impact that this may create.



PROJECT INITIATION SUMMARY

In summary, the PID is a starting point and a baseline of information that will not need to be perfect or complete; however, it will be a common and understood starting point upon which a very strong foundation can then be formed by the entire project team.



DEVELOP A TARGET CRITERIA TEAM SIGN OFF DOCUMENT (TCTD)

The Project Initiation Document (PID) has been completed and now it is time to on-board the team and begin the COGENCE team approach at the very outset of the project. The goal of this step is to let the entire team understand the PID baseline that was established as part of Step 1 and define an organized process for input into an updated consensus baseline document that not only can be signed by the entire team, but also used as a reference if the project is altered or further developed in later stages. In this case, starting assumptions and existing information is qualified and confirmed and should be a strong basis for moving forward.

For some owners this may be a difficult step as this is early in the project development process and they may not want to embrace other counter or contrary views or opinions from those developed in the PID. From COGENCE's perspective there are two critical aspects to Step 2. **First**, the TCTD represents the thinking, knowledge, value added input (independent of their role), and experience of the entire project team to further inform the PID to a much broader perspective. **Second**, this document will provide all of the important foundational elements to launch a large project initiative and set the appropriate expectations among the entire project team and the owner. On the following pages we highlight checklist items together with the associated rationale for each item.

Every project has an early vision, goals, at least some criteria and in some cases, primarily with more sophisticated owners, an identified program or scope of work. The documentation of these items is very important and may highlight that there is not a consensus on these items among the owner which is very important for the project team to know at the outset so they can help the owner resolve any issue early in the process.

The Target Criteria Team Sign Off Document represents the thinking, knowledge and experience of the entire project team to further inform the PID to a much broader perspective.

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
RFQ/RFPs for A/E, CM, DAs and Owners Representative if required Is Design Assist applicable or not? (complete Design Assist Go/No Go Matrix)		
Project team members established (Organization Chart developed)		
Total team alignment Governance Structure identified (Defined Decision Making)		
Team building process enabled		
PID shared with team members established for review and questions		
Plan TCT kickoff workshop agenda and schedule date		
Design assumption, criteria, program, early concept review		
Review and complete benchmarking exercise include high side-low side		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Complete TCT schedule, budget, and contingency management plan - Risk Analysis complete and documented		
Document significant changes from original PID		
Team generated Design/Construction Schedule developed (Pull Plan Method applied)		
Plan for transparent Communication of Workflow (big-room?/co-location?)		
Team agreement on ability to execute (financially stable)		
Team executes TCT document		
Owner decision-making body approval of the TCT document approved by project team, when applicable		

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
RFQ/RFPs for A/E, CM, DAs and Owners Representative if required Is Design Assist applicable or not? (complete Design Assist Go/No Go Matrix)		

Descriptions:

The tone and the terms that are set forth on-boarding the team are important first step in the process. Items to include in the development of the RFQ or RFPs include:

- Most importantly the documents should be developed and the team should be on-boarded
- The wording of the RFQ and RFP should read such that the owner is interested in building a team
- All RFQs and RFPs should be aligned and discuss the other team members being brought on board
- If RFQs and RFPs have contract terms such as penalties, LDs, etc; there should be careful evaluation and this should be brought forward to the entire project team so that they can agree on how to build a schedule that meets the requirement
- The RFQ/RFP should solicit other thoughts and ideas in addition to the information requested
- Is Design Assist applicable or not? (complete Design Assist Go/No Go Matrix on following page)
- Team Agreement on Design/Preconstruction Schedule down to the Engineer/Trade Partner level
- Understand internal clients

ACTIVITY DESCRIPTION

ACTIVITY

COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

RFQ/RFPs for A/E, CM, DAs and Owners Representative if required
Is Design Assist applicable or not? (complete Design Assist Go/No Go Matrix)

COGENCE DESIGN ASSIST DECISION-MAKING PROCESS - GO / NO GO

Scale is Y=5, N=0, unless noted otherwise

	Y/N	Points
1 Design Level Completeness		
Concept (5)		0
Schematic (3)		0
Design Development (0)		0
2 Type of Work		
Concrete, steel, curtainwall, masonry/precast/terracotta, plumbing, HVAC, Electrical, Technology		0
Will BIM Modeling be utilized and sharing with the DA help expedite the designers' timelines		0
Does the Trade have design attributes that will be High Risk or complex		0
Will there be a delegated design to the trade trade contractor		0
Are there challenging constructability issues		0
Are there challenging phasing issues		0
Are there challenging logistics issues		0
Do Trade contractors design or engineer their own systems		0
Is owner ok with not seeking competitive pricing		0
Do users need to wait to determine/implement latest technology		0
Budget pressure target (tight number) require early certainty?		0
3 Timing and Resources		
Schedule		
Compressed (5)		0
Standard (3)		0
Will real time pricing be required		0
Are there long lead items required		0
Will market pricing be difficult to gauge due to custom products		0
Does trade demand outweigh local market capabilities or capacity		0
Is there an opportunity for Prefabrication		0
Are local resources/market conditions (busy) that it would be advantageous to lock in a contractor early		0
Is schedule acceleration a priority		0
Will RFIs be anticipated to be reduced with early "Do'er" on the Team		0
Maximum Points Available		100
Score		0
Percentage		0

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Project team members established (Organization Chart developed)		

Description:

Help develop and determine roles and responsibilities for each team member, including the owner.

Clarity on organizational structure

- Key leaders for each position

Early establishment of:

- Principal team partners
- Core team partners

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Total team alignment Governance Structure identified (Defined Decision Making)		

Description:

Once the organization chart is in place, it should lead to a candid conversation of how decisions get made by the owner. Is the project team a consultant and/or a decision-making body? Very early in the process the team must review and fully understand an owner provided Project Governance and Funding Document. It is imperative that the entire team understand and incorporate the appropriate parties and associated approval gates into the process and schedule. (On the following page is an example of an owner governance structure diagram.)

For Example:

- What is the decision-making authority of the Owner's Representative?
- What is the decision-making authority of the Planning, Design and Construction team (internal)?
- What is the reporting structure of the owner; who does POC report to and what decisions are they involved with?
- What decisions do the user groups make?
- When is the C-Suite involved?
- What decisions have to go to the board of directors?
- Is someone in a different office making any of the decisions, such as Supply Chain, Finance, Audit, etc.
- What happens when the D&C team is making a bad or uninformed decision?
- What decisions have already been made and are they having a positive or negative impact on the project?
- How does the risk get documented when a decision is made to keep the team going, however it is not final?
- How does a final decision get documented versus a direction for further exploration (process like A3s should be discussed; color coding different levels of decisions or showing open versus closed, etc.)?

ACTIVITY DESCRIPTION

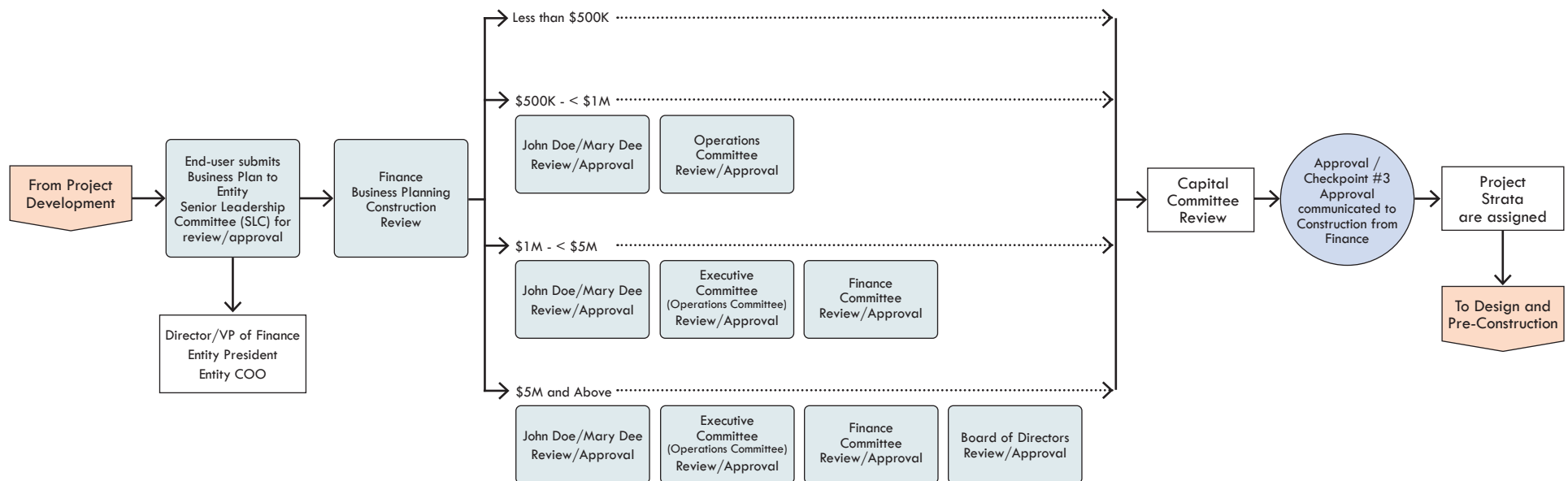
ACTIVITY

COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Total team alignment Governance Structure identified (Defined Decision Making)

Owner Governance Structure Diagram Example



ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Team building process enabled		

Description:

In order for a team to work well together they must get to know one another on a more personal level. This is a matter of just taking the time to have social gatherings together as a team and/or spend the necessary time with meetings to reach a comfort level. While some clients may feel like this will occur over time, the specific dynamic or a project may not allow it to occur in real time. In any event, the team should be able to let their guard down with one another, which should foster more candid conversation throughout the project. This is a measurable item and the strength of the team is the one of the best barometers that a project can have. The risk of not facilitating team building is that the project team members do not organically come together and work as a team.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
PID shared with team members established for review and questions		

Description:

The PID should be explained in detail to the entire team. The most important part of this discussion is the goal to enhance the PID and not simply for the team to patronize their new client. In the cases where the PID was completed by other firms not moving forward with the project (a previous study) the firm/team that did the study should be present to explain what they were thinking and what they were told at the time as well as to field questions from the team. If directions, assumptions or program have changed, it is normal and it should be documented and discussed including the reasons why the original direction has changed.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
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Plan TCT kickoff workshop agenda and schedule date		
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Description:

One of the most important aspects of COGENCE Step # 2 is that the TCT workshop must have a detailed agenda and as such, the meeting requires thought and planning before scheduling. It can be one meeting or several meetings. For example the TCT workshop can include the two sections above and often should be a 4-8 hour session with the entire team. Preparing for a multi-million dollar expenditure and making sure that the entire team is on the same page at the beginning is a critical step.

The agenda should include the following:

- Explanation of PID (see below)
- Review Key Assumptions and Criteria (see below)
- Review of valuable items learned from the interviews and/or selection process
- Tasks given to the team; they should bring experiences and information on similar projects into the discussion, thoughts on current direction, etc.
- Review of key owner items/drivers – what are the most important items and conditions of satisfaction for the project to the owner
- What are the current thoughts by the owner (design, cost, timing of tasks, etc.)
- Review of all foundational aspects including scope, schedule, budget, etc.
- Review of all aspects of the Budget including hard and soft costs, contingencies and who controls them
- What is driving the GMP? Financing, law or ordinance, phase construction?
- When is the GMP going to be established and with what information
- The attendees should include:
 - Project team
 - Internal owner staff that uniquely explain any part of PID
 - External resources that uniquely explain any part of PID (i.e. planning consultant who developed initial program)

ACTIVITY DESCRIPTION

ACTIVITY

COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Design assumption, criteria, program, early concept review

Description:

There are many critical elements that establish the start of a project. These elements should be discussed with cost notwithstanding first, and secondly, with budget in mind.

Examples might include:

- The assumption on size (sq. ft.; is back of house accounted for; is size of budget dictating; etc.)
- Key program elements – no design should be started without some form of a documented program
- What concept is in the owners head; typically there is a concept that should be discussed; for example, I traveled to another campus and I really like theirs (what do you like about it exactly?)
- Process that will be performed in building (thinking industrial/manufacturing)
- Do we know the site? Will land acquisition be required?

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Review and complete benchmarking exercise include high side-low side		

Description:

Once some of the above discussions have taken place, one area that is helpful on expectation setting, is framing the information in the context of other similar projects or benchmarking. You often hear “we want a Chevy not a Cadillac or a Marriot Courtyard, not a full service Marriot”. This type of thinking can be developed with specifics and does not need to be communicated in the abstract. For example, Science Buildings on college campuses can range from \$250 per sq. ft. to \$650 per sq. ft. Hotels can range from \$200,000 per key to \$600,000 per key.

Understanding the wide range of the variance and targeting the high side and the low side of this specific project is what is important. For example, we would like our building to be in the \$400 – 450/sq. ft. range with most of the building attributes from the lower cost benchmarking to occur to resolve the premium associated with the difficult site topography issues. After bandwidth analysis review the team revisits the discussion and agrees on a target criteria budget for the project.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Complete TCT schedule, budget, and contingency management plan - Risk Analysis complete and documented		

Description:

Documenting items from the TCT workshop and really examining the risks associated with moving forward should eliminate unnecessary and unintended directions (teams that get 6 months, 2 years down a path and ask “how did we get here?”) Every project should have a least 5-10 areas where the risks should be documented and discussed as the project progresses.

Risk can come in all shapes and forms, for example:

- The user group on this project has a lot of authority and they have never been involved in a Design and Construction Project.
- Currently tariffs are being discussed on an international stage and as a result the cost of some items are very volatile.
- This project has only 60% funding in place and as such may not be feasible with the required program and projected budget.
- There are three distinct funding entities involved and they all have different goals and objectives associated with the project and they don’t always align.
- This owner had a bad experience with their last project going 25% over budget.
- The owner has not allocated money for several soft cost categories like PR, move management, etc.
- Workforce availability

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Document significant changes from original PID		

Description:

The PID would be clearly amended with the input of the entire team. As such, the original PID and then subsequent additions and modifications should be shown with Track Changes, color-coding or by some method that is clear.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Activate a team generated Design/Construction Schedule (Pull Plan Method applied)		

Description:

The project schedule should be discussed and developed with the entire team input. If a member of the team is uncomfortable with any of the durations, needs, responsibilities, or commitments, these should be discussed. Assumptions should be documented that inform the schedule, as well as methodology on what is the process when a date slips, for example “Does the schedule slip or has float been built into the schedule?”. The key to the schedule is the meta data associated with each of the durations and the documentation of those assumptions.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Plan for transparent Communication of Workflow (Co-location?)		

Description:

The key to the COGENCE process is about transparent communications and coordinated, well-documented workflow. One way to achieve this is through project team co-location. Like all aspects of good process this must be examined at the risk of upsetting the normal work-flows in the offices. As such a threshold analysis should be conducted on whether the benefits of co-locating are warranted. For example, items such as percentage of time on the project, IT system development, size and length of project, will the owner be part of the co-location should all be discussed in advance of the decision. If the project doesn't allow for co-location, the team should discuss transparency and information-sharing as well as other tools utilized on the project.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Team agreement on ability to execute (financially stable)		

Description:

If a project is financially unsound at the start (e.g. funding expected, but not identified to date; business case is sound, but owner not in position to self finance 100% of project costs), the team should embrace this and decide what risk the lack of committed funding is creating and perhaps what dysfunction it may create in decision-making.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Team executes TCT document		

Description:

1. TCTB: The TCT will establish a TCTB. The TCTB is an amount that the project contract sum shall be targeted not to exceed. The project contract sum consists of the construction manager's fee plus the cost of the work and may also include the owners FF&E and soft costs (including all design costs) if the team so determines. COGENCE recommends the TCTD includes total project budget.
2. Itemized statement of the TCTB, organized by trade categories, allowances, contingencies, alternates, the construction manager's fee, and other items that comprise the TCTB.
3. The TCTB is based on the following alternates, if any, which are described in the contract documents and are hereby accepted by the owner.
4. Allowances included in the TCT budget, if any.
5. Assumptions and clarifications on which the TCTB is based.
6. The TCTB is based upon the following supplementary and other conditions of the contract.
7. The TCTB is based upon the following specifications: (either list the specifications, or refer to an attached exhibit).
8. The TCTB is based upon the following drawings: (either list the drawings, or refer to attachment to this agreement).
9. The TCTB is based upon the following other documents and information: (list any other documents or information, or refer to attached exhibit).
10. The design/construction/activation project schedule, which includes the anticipated substantial completion, punch list, owner activation, and final completion milestones.
11. Have a cover letter executed by the team.

ACTIVITY DESCRIPTION

ACTIVITY

COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Team executes TCT document

Description:

It is more the formality of this step as the moment that the entire team was on the same page and put it in writing that is important here.

ACTIVITY DESCRIPTION

ACTIVITY

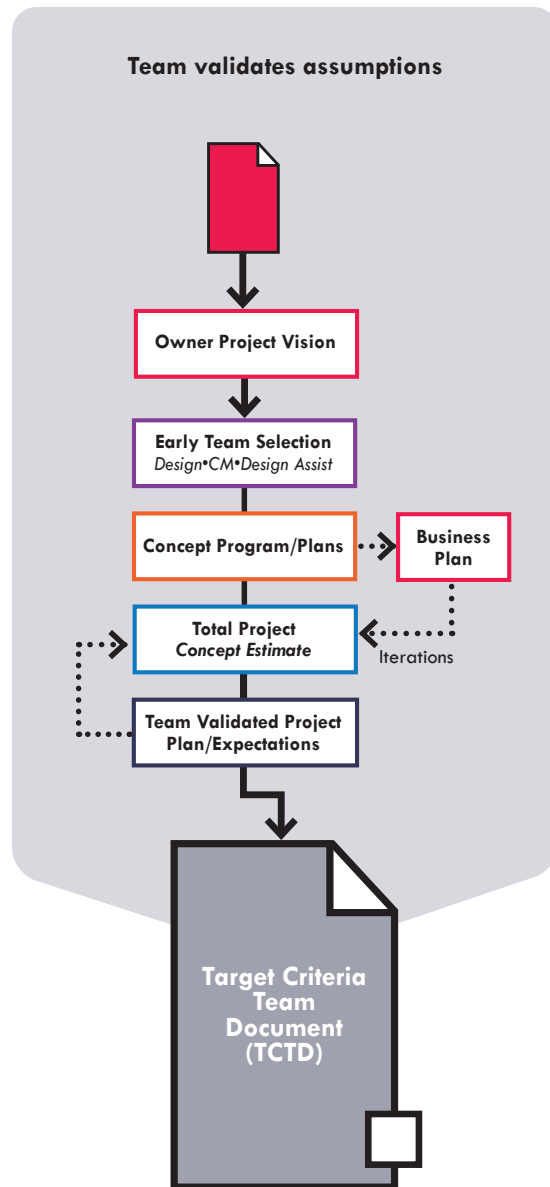
COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Owner decision-making body approval of the TCTD approved by project team, when applicable

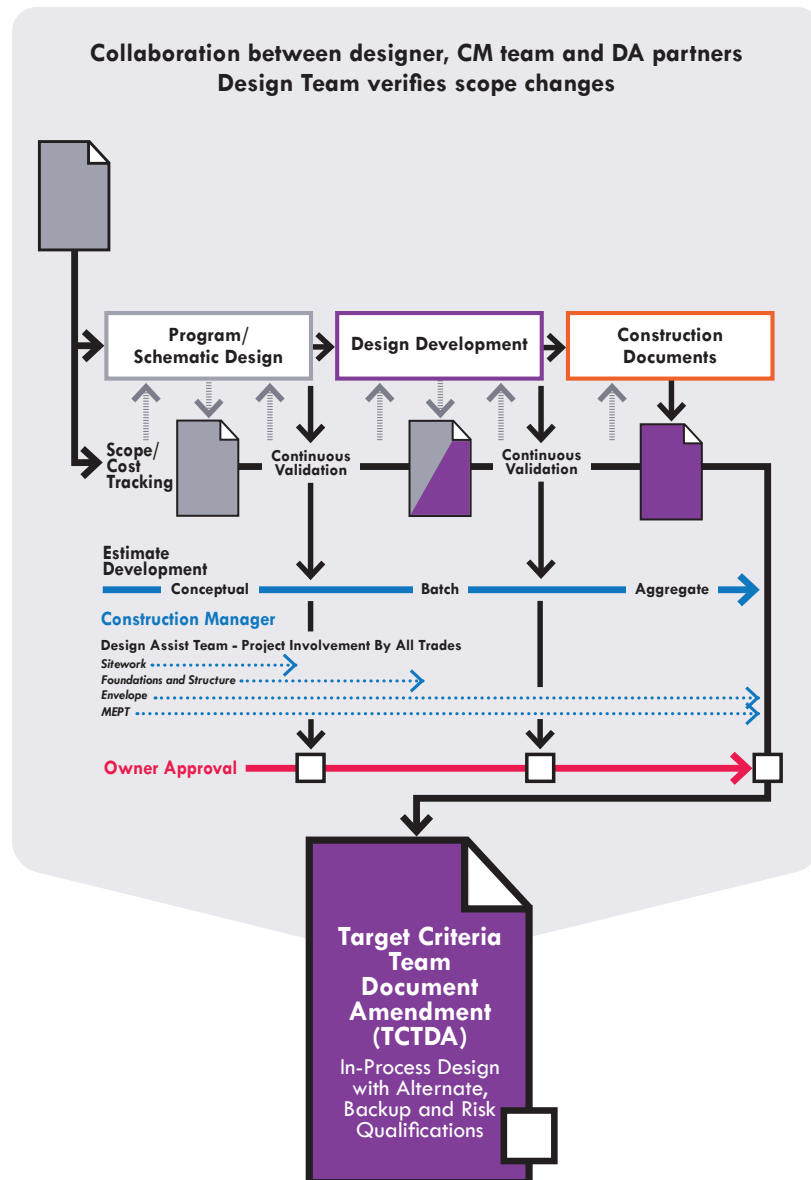
Description:

Owner needs to communicate the process for obtaining final sign off.



DEVELOP A TARGET CRITERIA TEAM SIGN OFF DOCUMENT (TCTD)

In summary, the TCTD is the truing up of PID baseline and information will form the foundation of the project.



CONTINUOUS TEAM TCTD RE-VALIDATION

The goal of Step 3 is to complete the design and cost validation from TCTD Sign Off (Step 2) through the final control estimate by regularly updating the control estimate. The final control estimate will be reconciled during Step 4, The GMP Assembly. It is the COGENCE philosophy that this Step is more collaborative and continuous than the traditional GMP process. Below are the key elements associated with COGENCE Partners:

Owner/Owners Representative

- Validate/update Total Project Cost including Soft Costs and Furniture Fixtures & Equipment (FF&E)

Design Team

- Design to the parameters established in the TCT document
- Communicate deviations from the TCT document to the project team when these changes are required during the design process
- Work with contractors to determine scopes of work/systems where design is advanced enough for "hard pricing"

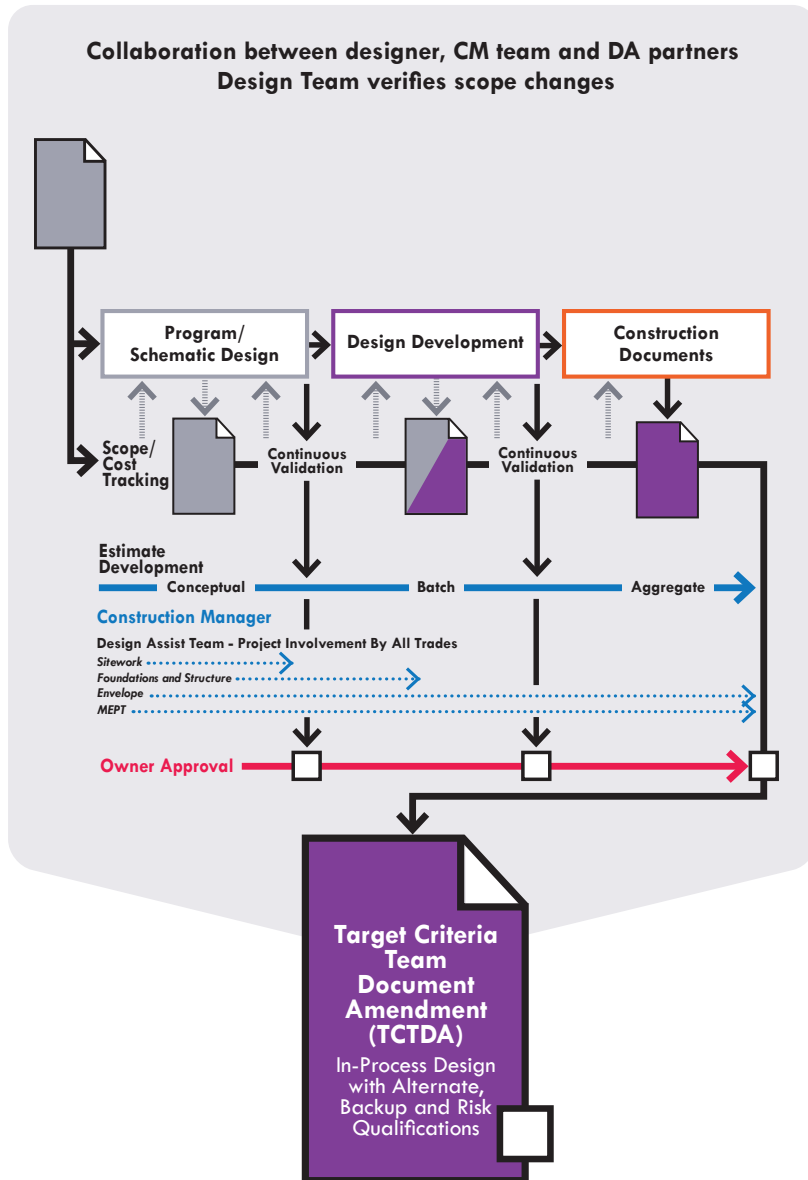
Construction Manager (CM)

- Continually estimate "hard scope" and validate the total construction cost as design develops and evolves
- Provide Cost Savings Opportunities and Potential Project Alternates in a team collaborative manner
- Establish and manage Design and Construction Contingency
- Provide constructability input to drive value
- Provide metrics to project team on preconstruction services spent to date and amount of "hard pricing" in current control estimate
- Document and Distribute design/construction schedule to all project team
- Document and Distribute the budget tracker to all project team

Design Assist (DA) Trade Partners

- Provide Cost Savings Opportunities and Potential Project Alternates in a team collaborative manner
- Provide constructability input to drive value
- Provide conceptual pricing for TCT Documents, estimate "hard scope" and validate total trade construction cost as agreed to with the team
- Provide ongoing cost tracking and options pricing as agreed to with the project team

The conclusion of this step is the sign off and approval of the final design and control estimate prior to GMP assembly.



COGENCE VS. TRADITIONAL GMP PROCESS

- All re-review and agree to all TCT Goals {including Budget and Schedule targets which are typically considered contractor goals}.
- All agree that strong project communications and collaboration in planning by the entire project team reduces the risk for all parties.
- Design Team Scope of Services (not necessarily fees) are understood in detail by project team.
- Extent of Scheduling Preconstruction/Estimating Services, similar to Professional Services, are understood in detail by project team.
- Group determines appropriate drawing packages in response to design contract terms, construction phasing requirements, ownership approval (funding) process and GMP Completion, as applicable.
- Team Agreement on Design/Preconstruction Schedule down to the Engineer/Trade Partner level.
- Combined Design/Construction Schedule with team approach to continuous validation, to provide quicker estimating feedback.
- Reallocate Preconstruction/Estimating Services from “contracted” to “job specific” to tailor effort to maximize options and “real time” pricing and minimize re-estimating incomplete design (churn).
- Attend and Communicate in OAC and AC meetings, as appropriate, to report status, identify and resolve issues, and agree on design and preconstruction work that is ready to perform next.

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Target Criteria Budget Team Sign Off (from Step 2)		
Establish early price packaging for phased construction/long lead items		
Agenda and Schedule for OAC Inclusive of COGENCE Process		
Establish regular OAC meetings, owner required milestones and deadlines i.e. Board Approval, estimate approval, design approval (pull planning)		
Establish and agree to design requirements, frequency and deliverables for each estimate		
Establish estimate templates in a reconciliation format for each stage of document level completion. Confirm architect(s) and engineer(s) buy in with scope of services for detailed TCT Validation process		
Set schedule of designer/estimator meetings by discipline for planning and technical discussions to execute the combined design/construction schedule		
Establish estimating team responsibility matrix		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish trade contractor (non DA) participation for unit and market pricing, including pricing interval dates		
Establish DA estimate (if required) and cost data for each required estimate		
Estimating team completes detailed take-offs and validates trade contractor input		
OAC to Establish and Approve CM Estimating Budget (and DA Estimating Budget, if appropriate) per the detailed TCT validation process		
Confirm architect(s) and engineer(s) buy in with scope of services for detailed TCT Validation process		
Monitor the team design/preconstruction schedule down to the engineer/DA trade partner level		
Decide who is setting agenda, running and taking minutes for the OAC meetings		
Establish estimate assumptions and clarifications		
Establish Cost Savings/Potential Project Alternate List		

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Design Assist scope modification tracker in place		
Regular estimate updates using scope tracker with design team and owner as information is updated		
Review final control estimate per interval with owner and design team		
Modify final estimate based on owner and design team final comments and review		
Construction team to set up GMP template and documentation		
Sign off and approval of the final design and control estimate prior to GMP assembly		
Team executes TCTD amendment		

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish early price packaging for phased construction		

Description:

This activity is for the continuous design alignment for *future* price package format/long lead items.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Agenda and Schedule for OAC Inclusive of COGENCE Process		

Description:

The agenda and schedule for owner, contractor and architect (OAC) inclusive of the COGENCE process must be established. The agenda and schedule needs to be updated and sent out to the team members early to allow the proper time to prepare information for the scheduled meeting. The schedule and agenda should include required team members, frequency of meetings, design updates, design schedule updates, construction schedule updates and construction cost updates. COGENCE strongly encourages full team member attendance.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish regular OAC meetings, owner required milestones and deadlines i.e. Board Approval, estimate approval, design approval (pull planning)		

Description:

Once the agenda and schedule for OAC meetings are established, the process should include required team members, frequency of meetings, design updates, design schedule updates, construction schedule updates and construction cost updates. The schedule should be updated in a pull planning format working backwards with the owner required milestones and deadlines in mind. Team members required need to strive to attend in person.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish and agree to design requirements, frequency and deliverables for each estimate		

Description:

The team needs to collectively agree on the design requirements, frequency and deliverables for each estimate, including contingency management plan. (i.e. schematic, design development, GMP) The AIA has guidelines for each phase design requirements that serve as a good foundation to be reviewed by and implemented by the team. Once agreed to by the team, these design deliverables will be required to be delivered in their entirety to the team at the date established on the schedule.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish estimate templates in a reconciliation format for each stage of document level completion. Confirm architect(s) and engineer(s) buy in with scope of services for detailed TCT Validation process		

Description:

Each estimate is set up in a side by side format with the Control Estimate on the left and Current Project Budget Tracker on the right so each line item can be easily reconciled. The format is typically in a building system format (sitework, demolition, excavation and foundations, superstructure frame, exterior wall, roofing, interiors, specialties and equipment, conveying systems, plumbing, fire protection, HVAC and electrical and technology) during the schematic and design development stages before being sorted into pricing packages that will be priced by the trade contractor trades. Estimate formats need to be agreed to by the team.

ACTIVITY DESCRIPTION

ACTIVITY

COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Set schedule of designer/estimator meetings by discipline for planning and technical discussions to execute the combined design/construction schedule

Description:

The design team and construction manager must agree to meeting time and frequency in order to assemble and agree to an overarching design/estimating/construction schedule. This schedule includes design deliverables and estimate deliverables that will be required at each estimate stage.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish estimating team responsibility matrix		

Description:

This matrix details the responsibility of each of the construction manager’s estimating team members and what specific tasks they are to follow. This includes take-off responsibility, trade contractor outreach, estimate assembly, cost savings opportunities, potential project alternates, construction schedule, site logistics, staffing, general conditions and general requirements. The lead estimating team member is supported with the technical information/drawing information by the design team leader for that discipline - similar to Target Value Design teams.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish trade contractor (non DA) participation for unit and market pricing, including pricing interval dates		

Description:

Lead estimator is to establish a trade contractor list for trades that are not associated with design assist, that will provide current unit cost. This list should be prequalified to determine appropriate resume, financial strength, and safety requirements and confirmed by both the design team and owner for acceptance.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish DA estimate (if required) and cost data for each req. estimate		

Description:

The design assist (DA) contractors will ideally be onboarded to the team during the Schematic Design (SD) phase. During the DA onboarding process, the DA contractor will provide their staffing, fee, reimbursables and credentials prior to their interview. Once the DA contractor has been selected and is incorporated as a team member, the DA contractor will provide estimates and preconstruction services at each phase of the design process, as recommended by the construction manager.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Estimating team completes detailed take-offs and validates sub. input		

Description:

Each member of the estimating team will complete their take-offs, as required in the responsibility matrix, and reach out to the trade contractors on the approved list for unit cost and market pricing validation. This process will be repeated for each estimate design phase.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
OAC to Establish and Approve CM Estimating Budget (and DA Estimating Budget, if appropriate) per the detailed TCT validation process		

Description:

At each design phase, the team will review and acknowledge the current Control Estimate. Once the estimate has team acceptance, the team will proceed into the next design and estimating phase.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Confirm architect(s) and engineer(s) buy in with scope of services for detailed TCT Validation process		

Description:

The design team will provide input on their scope of services as detailed in the TCT validation process. This scope of services should include services as related to furniture, fixtures and equipment (FF&E) and Soft Costs as well as building and site design services.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Monitor the team design/preconstruction schedule down to the engineer/DA trade partner level		

Description:

During the design/estimating process, the design team, construction manager and the DA contractors will be required to monitor progress per the established and agreed upon schedule. This schedule should be an agenda items and reviewed weekly at the OAC meetings to ensure that all team members are adhering to the schedule.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Decide who is setting agenda, running and taking minutes for the OAC meetings		

Description:

After establishing which team members attendance will be required at the OAC meetings, the team will agree and appoint a lead person or persons to set the agenda, run the OAC meeting and take and distribute meeting minutes to the team.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish estimate assumptions and clarifications		

Description:

At each estimate design phase, the estimate deliverable will have at a minimum a detailed estimate, construction schedule and assumptions and clarifications. These assumptions and clarifications are meant to further clarify the estimate by providing additional information that may not be addressed in the detail of the Control Estimate. These assumptions will also address and clarify the thought process behind the pricing of items that have not been designed yet.

There is a time in the design and pre-construction process where the bias of the OAC meeting shifts from design to construction. This is shown in Step 3 during design development where graphically the box turns from grey to purple. During this period the material scope is in alignment, there is a level of confidence with key design decisions, and the focus shifts to construction logistics and buy-out.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Establish Cost Savings/Potential Project Alternate List		

Description:

At each stage of the design process, the construction manager will work with the design team in providing potential cost savings opportunities and potential project alternates. These items are established to provide a path to budget in the event the owner is looking to lower the cost of the project or add scope to a project that is under budget. This cost savings list will be reviewed by the team and individual line item will be placed into accepted, rejected, under study or alternate categories. Following the review this Cost Savings/Potential Project Alternate list will be incorporated into the design phase Control Estimate package. It should be noted that alternatives only have value if they get an early Go/No Go decision to be included in the design package and fully designed and priced by trade contractors.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Regular estimate updates using scope tracker with design team and owner as information is updated		

Description:

During each design phase using the scope tracker, the estimate will be updated and reviewed by the team. These reviews, depending on the amount of information received should occur outside of the OAC meetings. These updates are in addition to the schedule design phase Control Estimate deliverables established per the schedule. At the teams recommendation, create options to resolve the difference between the Current Project Budget Tracker and the control estimate and/or monitor moving forward.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Review final control estimate per interval with owner and design team		

Description:

The Final Control Estimate is the last estimate completed during a design phase prior to establishing a GMP. This estimate package will be reviewed with the team for acceptance. Once the Final Control Estimate is accepted by the team, it will be sorted into pricing packages for final GMP pricing.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Modify final estimate based on owner and design team final comments and review		

Description:

Once the final control estimate is delivered to the other team per the schedule, the team will meet in person to review the estimate package in detail and suggest any modifications. Once the team agrees on the modifications to the final control estimate, the construction manager will make the agreed upon modifications and resubmit to the team for final approval.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Construction team to set up GMP template and documentation		

Description:

Construction manager will set up the GMP template in a reconciliation format for comparison to the Final Control Estimate. Template should include a detailed summary, pricing package breakdown including incoming pricing, post-pricing adjustments, holds and allowances. Overall GMP template should also include the construction schedule, assumptions and clarifications, alternates, contract document list, and staffing and general conditions summary.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Design Assist scope modification tracker in place		

Description:

Throughout Step 3, the construction manager will put a design assist modification tracker in place for auditing the DA contractors pricing based on their estimate. The team will agree on the frequency of the update based on the design phase releases. The tracker should start with the DA contractors initial estimate value and be updated a minimum per design phase.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Sign off and approval of the final design and control estimate prior to GMP assembly		

Description:

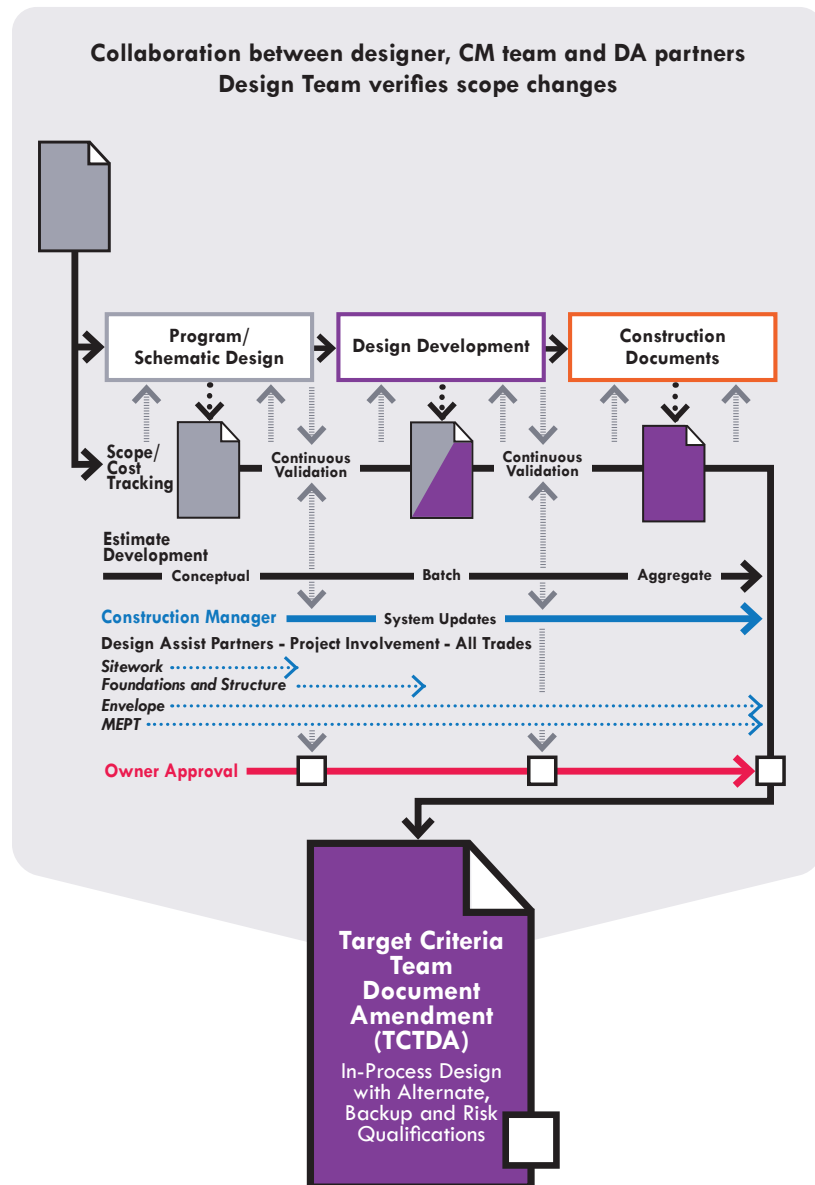
Once the final control estimate has been reviewed and reconciled by the team, the team will sign off on the final control estimate. The final control estimate will then be sorted into price packages for GMP pricing.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Team executes TCTD amendment		

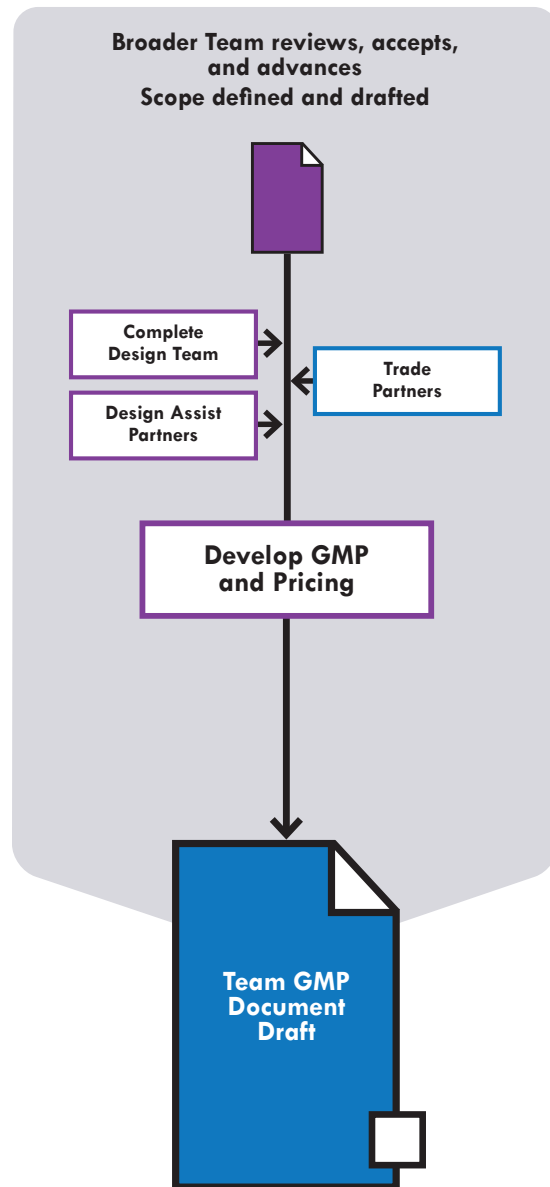
Description:

The team executes an amendment document prepared at conclusion of Step 3 with any updated scope adjustments and/or alterations to the initial TCTD, that will become the tracking control estimating document for comparison purposes to the GMP which will be prepared in Step 4.



CONTINUOUS TEAM TCTD VALIDATION

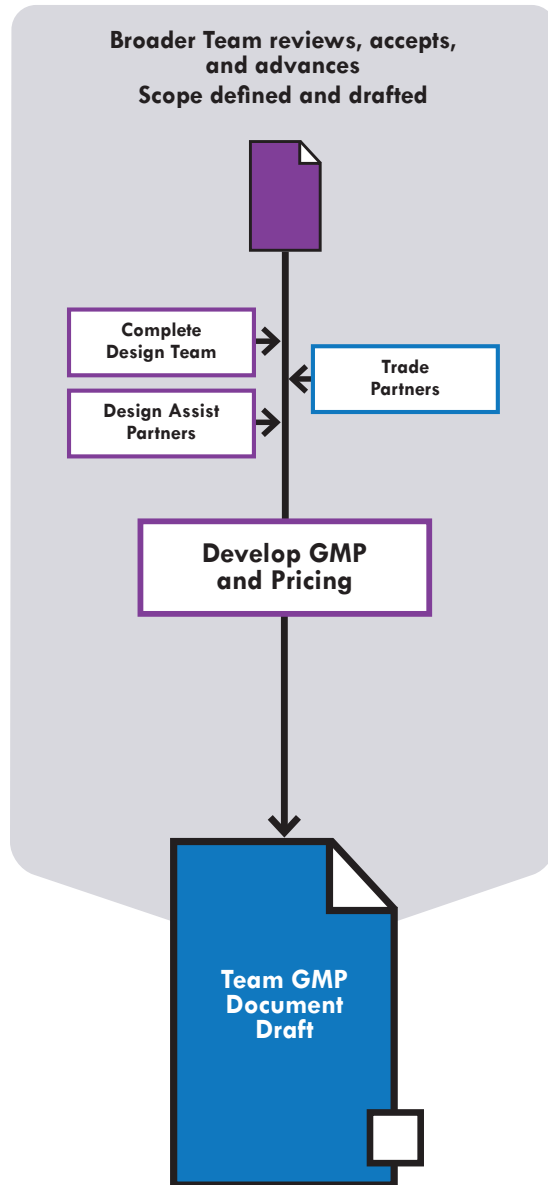
In summary, the Continuous Team TCTD Validation Step is the process of completing the design and cost validation from TCT Sign Off (Step 2) through the final control estimate by regularly updating the control estimate, schedule validation and continuously providing the team feedback on how it is tracking in comparison to the TCTD. It is the COGENCE philosophy that this Step is more collaborative and fully integrated with the Design team, CM team, and Design Assist trade partners. The team executes an amendment document prepared at conclusion of Step 3 with any updated scope adjustments and/or alterations to the initial TCTD, that will become the scope tracker estimating document for comparison purposes for the GMP which will be prepared in Step 4.



4A. GMP ASSEMBLY AND SCOPE REVIEW

The COGENCE GMP Step 4 has to do with the proper Assembly and Scope Review Process. Traditionally, in the industry, this step has been heavily controlled and managed by the CM with little or no involvement from the rest of the team. For the COGENCE process, one of the key differences is that the team has much more involvement in this step. An additional difference is that all of the documentation of Steps 1 – Step 3 are back-checked and an explanation included in the presentation to the owner. Lastly, the result of this Step is a team GMP and not just the CMs GMP.

For the **COGENCE** process, one of the key differences is that the team has much more involvement in this step.



UNIQUE IDEAS FROM COGENCE

Steps 1–3 Lower Risk/Cost at Start of GMP Assembly due to:

- Transparent process, with defined responsibilities and checks/balances on all parties, lowers risk to all
- Lower risk/uncertainty results in lower construction estimates due to strong team agreement and clear definition of all scope – TCT planning during step 3 to quantify/mitigate risk reduces uncertainty entering GMP estimate
- Higher organization and planning by TCT results in lower project risk/lower estimate allowances/contingencies due to:
 - Combined Design/Preconstruction/Construction Schedule
 - Clear design package definitions
 - DA input, when applicable, improves construction phasing plan in schedule/packages
- More criteria versus budget issues are solved due to:
 - Defined Project Value and
 - Improved Designer and Contractor “buy-in” to deliver both owner criteria and meet budget.

Step 4 builds team unity and owner confidence with:

- More transparency on pricing evaluation process
- Impending team sign off/owner presentation of GMP incentivizes designers/contractors to communicate and resolve scope/budget issues.
- Planning for ongoing design activities during the GMP Assembly avoids surprises and wasted design effort
- Significant team focus, vetting and confirmation in this step is consistent with the owners largest financial project commitment;
- COGENCE recommends a thorough prep and QA/QC exercise for Step 4
- Sign off ensures team united at owner presentation

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Design team to issue design intent (prose) statement		
Final control estimate team sign off (from Step 3)		
Develop and agree as a team on the trade contractor pricing list		
Develop GMP pricing schedule and finalize overall project schedule		
Scopes of Work for individual pricing packages completed		
Receive, record and review pricing		
Complete <u>trade contractor</u> scope review w/design team and owner		
Schedule a team page turn of the documents to review and discuss holds and allowances and identify any remaining risks		
<u>DA</u> reconciliation with design team and owner (if applicable)		
Complete assumptions and clarifications		
Review and agree to final project schedule		
Team signoff on GMP amendment		

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
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Design team to issue Design Intent (Prose) Statement		
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The key here is that the prose statement sets forth “qualities and quantities” not yet shown in the drawings but intended in the ultimate CDs. These are items that the CM can “count” or otherwise estimate and understand.

Description:

Design Team specifically documents the GMP scope through:

- Issuing a GMP set of plans and specifications.
- Documenting the upcoming plans/specification changes to complete a 100% construction document set including:
 - A final drawing list and specification table of contents.
 - A list of critical drawing changes to the GMP set documenting all changes in scope and added detail.
 - A section by section specification review listing the intent of any unspecified/underspecified items and any specification changes.

The Design Intent Statement provides the following:

- The level of GMP documentation that the team decided in Step 3 was required for the GMP.
- A complete GMP scope, with all documents coordinated to one specified date, used as the basis for the contractor pricing/estimates.
- Designer planning document utilized in TCT communications in order to release design during Step 4 with little risk of designer rework.
- Transparent document for entire TCT team, including all staff, to notify the team of deviations in scope that occur during Step 4 while allowing design progress.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
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Final Control Estimate Team Sign Off (from Step 3)		
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Description:

The Step 3 continuous estimating process is completed with a final control budget based on the following:

- “GMP Scope” is established by:
 - Issued GMP pricing package and
 - Associated Design Intent Statement (see previous checklist item).
- Contractors align control budget scope including log of scope/cost items with GMP scope by:
 - Scope log is modified to match the “GMP Scope” by tracking all items as accepted/rejected/not applicable* (NA)
 - Scope log is updated with GMP scope items missing from the accepted scope log. (or NA scope items are updated to be accepted).
- Contractor completes Final Control Estimate
 - A rough order of magnitude (ROM) budget and uncertainty (+/- %) is set for the missing GMP scope.**
 - The final control estimate is completed including the accepted estimates and missing scope ROM***

* Note – Scope items may be “NA”, yet worth keeping in log, in order to track estimating history and/or be updated to an accepted scope item in the future.

** Note – Since a detailed estimate will be performed for the GMP set, a ROM of the missing scope is appropriate to avoid significant waste.

*** Note – The missing scope ROM is feedback to the TCT. The \$ amount, % of total estimate, and uncertainty is a measurement of the work accomplished in Step 3 (and work to expect in Step 4).

ACTIVITY DESCRIPTION

ACTIVITY

COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Develop and agree as a team on the trade contractor pricing/proposer list

Description:

The Construction Manager shall create a trade contractor bidder/proposer list. This allows the owner and design team to comment openly regarding the minimum criteria for any bidder and the advantages of the potential bidders.

- CM selection process includes a clear definition of the transparency desired during the pricing list creation and subsequent “buy-in” during the interview.
- Typical transparent processes include:
 - CM issuance of selection criteria, appropriate for each trade, to the TCT.
 - “All Hands” TCT meeting to review/comment on the minimum criteria and recommended bidders by trade. A TCT approved bidder list is the deliverable from this meeting.
 - CM utilizes this bidder/proposer list for the GMP bid process and creates a deviation list for any changes made.
 - While the construction manager (CM) is responsible for Trade contractor selection by contract, the process is improved with the input from the TCT which addresses the unique project characteristics and the bidder list is indicative of firms reflects that criteria.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Develop GMP pricing schedule and finalize overall project schedule		

Description:

The construction manager will provide a GMP pricing schedule and a final construction schedule. The GMP schedule provides specific role, responsibilities and milestones of the construction manager's preconstruction team. Information that is required will be drawing and specification completion, scope of work completion, trade responsibility, pricing duration, scope review duration, GMP document assembly and owner milestone dates.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
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Scopes of Work for individual pricing packages completed		
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Description:

Construction Manager to create scope of work for all trade contractor pricing packages from the following documents, as applicable:

- Instruction to Bidders such as the following:
 - Invitation to Bid
 - Project Manual
 - Addendums
 - Price Breakdown spreadsheet
 - Safety Program
 - Site Logistics Program
- GMP Plans and Specifications
- GMP Design Intent Statement
- Combined Design/Preconstruction/Construction Schedule
- Subcontract

Additional documents for Design Assist (DA) Trade Contractors

- Project Initiation Document (PID)
- Target Criteria Team Sign Off Documents
- Definition of Roles and Responsibilities between the design team/DA trade contractors and construction manager/DA trade contractors

It should be noted that smaller trades do not often do contracts on GMP documents; they do them on final CDs.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Receive, record and review pricing		

Description:

Owner to receive and record trade contractors pricing unless the owner directs the pricing to be received by the construction manager. Pricing should be recorded with a time and date stamp. The pricing should be opened and recorded by the team. The construction manager should prepare price analysis scope sheets for each trade contractor prior to scope review. The price analysis scope sheets will be reviewed in person with the trade contractors and team during scope reviews.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Complete <u>trade contractor</u> scope review with CM, design team, and owner		

Description:

Trade contractor scope reviews will be scheduled and completed by the team following receipt of the trade contractor pricing. Previously set up price analysis scope sheets will have the detailed information to review with each trade contractor to ensure a complete scope of work is included in the pricing.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Schedule a team page turn of the documents to review and discuss holds and allowances and identify any remaining risks		

Description:

The Construction Manager (CM) leads a page turn with the rest of the Target Criteria Team (TCT)

- To discuss points in the project to stop work in order to perform inspections/obtain approvals before proceeding
- To make allowances for undefined or unknown criteria/scopes of work and
- To identify any remaining risks regarding the project

This integrated review will provide a “multi-discipline” perspective of the project uncertainty and deadlines while giving the team a shared understanding of status.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
<u>DA</u> reconciliation with design team and owner		

Description:

Construction Manager conducts a GMP Scope Review meeting with each DA trade contractor. The rest of the TCT team members are typically represented including owner, architect and trade engineer.

The agenda is largely a review of documents that explain scope, schedule and budget. Example scope documents are:

- GMP DA Estimate (or DA estimate side by side with CM estimate)
- GMP pricing package documents redlined for estimate
- DA Budget Tracker showing modifications to scope/schedule/budget through Step 3 and 4.
- Proposal Narrative
- Proposal Qualifications/Inclusions/Exclusions/Responsibility Matrices.

The goal is to understand scope first, then cost.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Complete assumptions and clarifications		

Description:

Assumptions and clarifications will be prepared by the construction manager to be included in the draft GMP. These assumptions and clarifications need to be thoroughly reviewed by the team.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Review and agree to final project schedule		

Description:

An updated schedule, the Final Project Schedule, will be prepared by the construction manager to be included in the draft GMP.

CM will conduct a review meeting with the TCT team and DA partners to receive comments and obtain team buy-in.

ACTIVITY DESCRIPTION

ACTIVITY

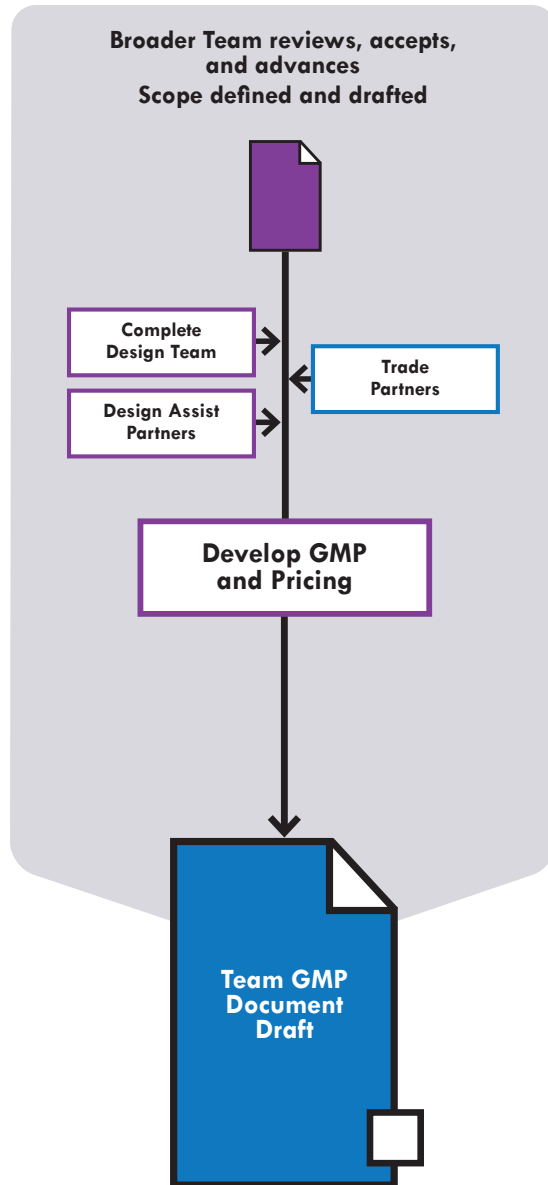
COMPLETED?

IF NOT COMPLETED - WHO ASSUMES RISK

Team signoff on GMP Amendment

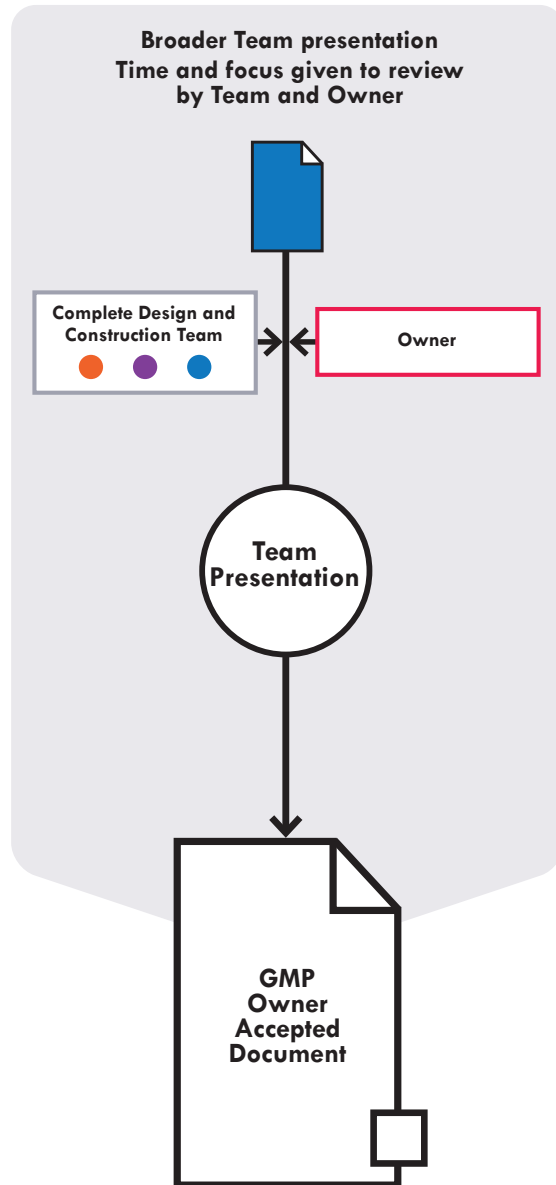
Description:

At a scheduled meeting, each member of the Target Criteria Team signs off to approve the GMP Amendment. It is important for this to be a face to face event with full team attendance, similar to any official document signing.



4A. GMP ASSEMBLY AND SCOPE REVIEW

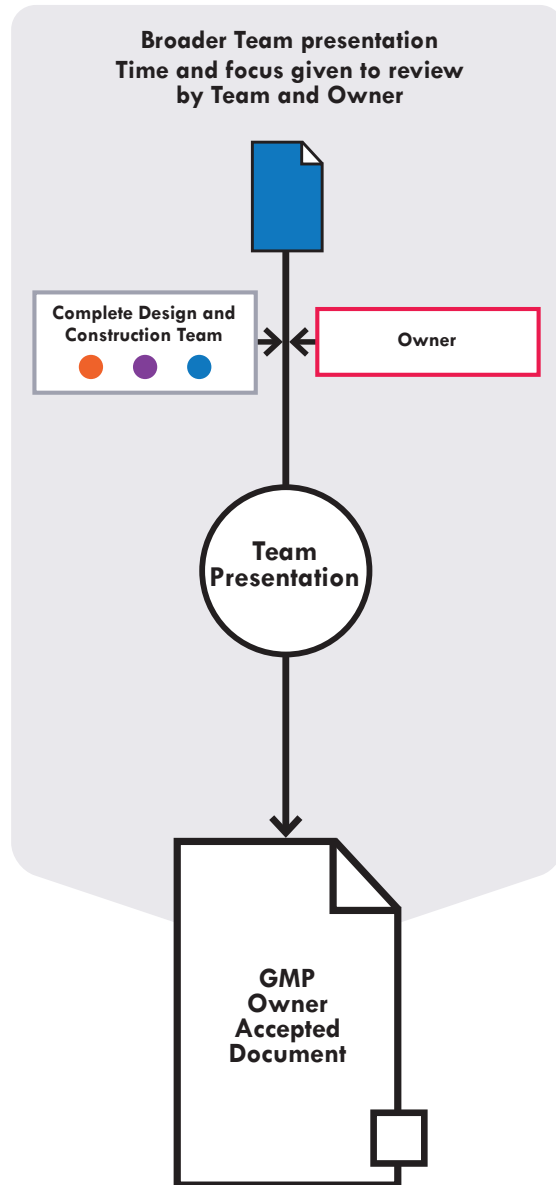
In Summary, the GMP Assembly and Scope Review is the time for the Target Criteria Team to invest in the completeness and accuracy of the GMP Scope. The additional benefit is trust within the team built by common understanding and “buy-in” by all to the basis for the scope, schedule and budget. This trust prepares the group to act together in Step 4 GMP Finalization/Owner Acceptance and for the rest of the project.



4B. GMP ACCEPTANCE

The COGENCE Step 4 simply allows for the appropriate presentation of a GMP. The entire team is present and the necessary time allows for a detailed presentation of all key elements of the GMP. Most often the owner will go straight to the bottom line. The COGENCE process requires that the team go through all of the background and context of the GMP along with the cost discussion. It is actually the last phase of the COGENCE process which sets the final scope agreement between the team and the owner. This should allow the strongest foundation and team understanding to move through the construction phase of the project.

The last phase of the **COGENCE** process sets the final scope agreement between the team and the owner. This should allow the strongest foundation and team understanding to move through the construction phase of the project.



BIG IDEAS FROM COGENCE

- Key trades now on the team and there may be new members; the key principals of these organizations can participate in an organized way and get introduced to the team including explanation of their role.
- If CM and a particular trade do not have a full business deal yet, this could be transparent enough to allow for the proper understanding of the risk and if that risk is being carried by the CM, an appreciation by the owner.
- Team allows the right process and enough time to thoroughly explain the information and the quantifiable relationships with the design documents.
- Team should be able to show in the presentation the project from start to finish and track all the major modifications along the way; one last time for the team to look back on the road traveled.
- Step 4 does not allow the owner to turn to the bottom line before hearing the entire story.
- Step 4 has the owner assemble as much of their team as possible to hear the presentation, including all the background.
- If there are cost or budget issues, the team is required to come forward with the proactive ideas of Step 4 and as such the team is not deterred if the owner does not like the number.
- The result should be that the owner feels more comfortable that they are getting the best value and that the savings options that meet design intent have been examined and included; allows team to move into construction phase as a team and with confidence of a strong foundation and alignment.
- Should be a contractual commitment that the CM feels confident about, because of the stronger understanding between the contractual parties.
- Should be a design that the A/E feels confident about, because it was achieved at the best value.
- If this important communication step is executed correctly, the opportunity or risk of misalignment should be as low as possible.
- The team should fully understand the project challenges that are still ahead and work as a team to address them...less clarity on extraneous things allows for better focus on the important and critical path items.

CHECKLIST

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Transparent team communication and presentation of GMP and background to ownership team		
Owner reviews and comments on assumptions and clarifications (A+C's) completed		
Review A+C's, alternates reviewed and accepted or rejected, finalize GMP schedule of values		
Owner acceptance/sign off of GMP document		
Team acceptance document		

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Transparent Team communication and presentation of GMP and background to ownership team		

Description:

The complete team gives full presentation to the owner. The time-frame should be a 4-8 hour session with a pre-planned agenda and graphic presentations of the GMP. All previous relevant documentation should be back-checked to confirm directions.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Owner reviews and comments on Assumptions and Clarification (A+C_s) completed		

Description:

The team goes through each GMP line item by line item and records the results. Owner assembles the full compliment of the owner decision makers. Allowances are fully discussed and an understanding created on how those will convert to GMP final costs.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Review A+Cs, Alternates reviewed and accepted or rejected, Finalize GMP Schedule of Values		

Description:

The schedule of values will be presented by the team and finalized at the acceptance meeting. Review final A+Cs, alternates, options and value management ideas with the owner.

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Owner acceptance/sign off of GMP document		

Description:

There shall be a formal document accepting the GMP and a documentation of any changes and assumptions. The entire team should fully understand the final agreement. (Formal GMP amendment)

ACTIVITY DESCRIPTION

ACTIVITY	COMPLETED?	IF NOT COMPLETED - WHO ASSUMES RISK
Team acceptance document		

Description:

There shall be a formal document for the other team members accepting and/or acknowledging the GMP.

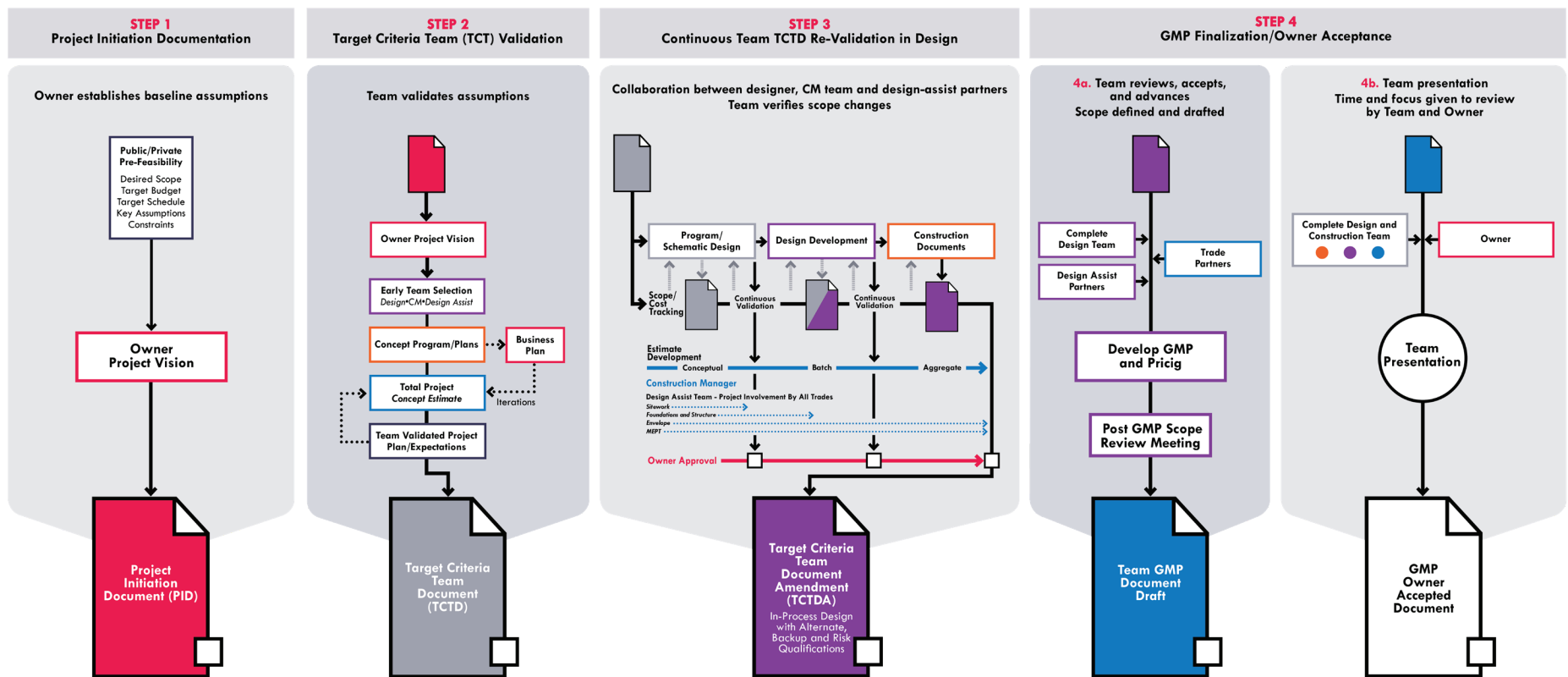


APPENDIX 2 - A LOOK BACK

A LOOK BACK

Culmination of Step 4 is a major milestone, The team should evaluate the plus/delta of the process and adjustments and possible improvements in team communications should be identified. In addition any major residual risk should be identified and a risk mitigation plan developed for the remainder of the project. The team should also realize that there will be challenges along the way and the team must continue to work through these items in a COGENCE fashion.

COGENCE GMP 4 Step Process





APPENDIX 3 - FAQs

COGENCE Alliance

Owners+Architects+Engineers+Contractors

COGENCE GMP FAQs

1. What is COGENCE not?

COGENCE is not an association of one type of industry professional and as such we are not trying to address just one view and/or trying to protect or improve one team member's business dynamics. COGENCE is also not trying to sell or promote a process for the sake notoriety, nor trying to enhance our competitive position. COGENCE, in the case of this GMP process and associated workbook, is simply trying to **help identify issues** with traditional behaviors to determine best practices to which all project stakeholders can agree to, **document an effective GMP process** (which as far as we can tell has not been done), **provide a tool** for all in the industry to use no matter the contract type, and, lastly, **promote collaborative thought process** as a better way to approach project delivery.

The COGENCE GMP process does not change the standard responsibilities as prescribed by contract and by role for each member of the project team. For example, the architect is still fully responsible for the design and all contractual commitments. The COGENCE GMP explains best practices by the project team in delivering the project together which most contracts and professional role descriptions are largely silent.



2. If the project is too far along in steps 1 and 2, is it OK to start at step 3?

Absolutely. It is the view of COGENCE that if at any point in the process the team becomes more collaborative and transparent and acts as a cohesive team with many of the principles discussed in this workbook, that this would only enhance the project from that point through project completion.

3. What if we have a GMP on day 1? What are the contractors typical responsibilities?

Many projects begin with a budget that cannot be exceeded as there is no more money available. It is COGENCE's belief that it is not only the contractor's responsibility, but the responsibility of the entire project team, to work together, communicate candidly and execute to the best of their ability with this project requirement. Typically, the contractor that is maintaining the estimate will remind and report to the team the estimate versus the budget. It is COGENCE's belief that when the estimate exceeds the budget, that the team working in conjunction with the owner identify ways to resolve the overage and meet the project requirement. Also, in COGENCE's view, no one team member has more responsibility than the other to try and meet a project requirement.



4. Changes during construction are hard on the GC team. How can we fix?

Changes in construction occur for many reasons. Some, such as the owner has new personnel that desire a change in scope, are not forecastable and there is not much a new process can provide to eliminate or fix. Clear, transparent and collaborative team communications and awareness prior to the start of construction, including strong project documentation from the start to the finish, should minimize changes to the benefit of the entire project team. (COGENCE believes that there is new process in this workbook that will help.) Additionally, all of the team members having the same understanding of the likely business impacts of change during construction should heighten the importance by all and maximize the teamwork in resolving the issues caused by change.

5. How early should trade contractors be involved in the process?

COGENCE believes that since the trades are 90+% of the construction cost early trade involvement is important. It is a project-by-project decision on what trades are more or less important on a project based on project type, complexity, owner purchasing requirements and many other factors. COGENCE believes that the owner with team input should decide on a project-by-project basis in Step 2 what trades they would like to have involved as well as the contractual relationship, if any, that they desire.



If a decision is made not to have the trades involved in Step 2, this can be revisited by the team and COGENCE would encourage that some trade involvement be considered also in Step 3. Step 4 is the traditional trade involvement, so anything prior to Step 4 would be considered early trade involvement.

6. Show an example of how trade involvement early can benefit the project.

During conceptual design the building square footage and height are often locked down as there are assumptions that include the space allotted or required for the plenum above the ceilings that dictate the floor-to-floor height and in turn the overall height of the building. It is possible that with early trade input (in this case in Step 3) and maybe some preliminary trade engineering as the design height of the building is being established, that the architect and the owner would be comfortable with a plenum that was, say, 6 inches to a 1 foot less than they otherwise would have locked into, and therefore, providing a lower floor-to-floor dimension. If this plenum height reduction is repeated on a tall multistory building or a high-rise structure this could result in significant savings of steel, concrete, curtain wall, finishes, etc. While the collaborative team time at that early decision point in SD of finalizing the floor-to-floor height could have been minimal, the savings at the setting of the GMP

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would be material. Since the trades are responsible for the Level 4 plenum use and design it could only be the trades that could confirm this most efficient design assumption. While a very experienced team might intuitively know that this is feasible, due to project responsibilities, roles and contractual risk, only the team together could confirm the most efficient design. While something might be feasible it must also be practical and in this case practicality might involve ease of installation, separation of spaces, etc. – again items that the specific mechanical, electrical and cabling trades, in this case working in dialogue with the owner, architect and engineer, could sign off on.



ACKNOWLEDGEMENTS

True to the COGENCE spirit, developing the COGENCE GMP Process has been a collaborative effort. We are grateful to the many industry professionals who contributed to the Process.

At the same time, every team needs leaders, and every big idea needs champions. COGENCE would like to acknowledge with gratitude Gary Hribar, Mark Crawford, and Don Dreier. Your leadership and dedication over the past two years has allowed COGENCE to share an exciting new approach to GMP development with the entire AEC industry. Thank you.

We would also like to express our gratitude to Jeff Appelbaum, Greg Consolo, Brian Laubscher, Erin Luke, Rick Mayer, Todd Sanders, and Jackie Werner for their contributions to the Process. Your review, feedback, and insights helped shape and refine the COGENCE GMP Process.



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COGENCE GMP 4 Step Process

**Trust and Collaboration throughout the Process through Team Building,
Continuous Approval, and Accountability**