



Roles and Responsibilities

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CPS Roles and Responsibilities

Capital Project Solutions (CPS) is a full-service 100% Project Management / Owner Representative (PM/OR) organization that offers a team of construction industry professionals, armed with state-of-the-art technology to coordinate and manage any and all aspect of construction project activity. CPS will assist in the process of planning, design, procurement, contracts, construction and closeout to assure the owner's interest is front and center throughout the lifecycle of the building project. The following is a more detailed overview and highlights of the general roles and responsibilities provided and performed by CPS.

Project Management:

CPS will develop a clear understanding of the owner's goals and objectives and manage the project team through leadership and communication. Our role is to work closely with the project architects and contractors and ensure the owner's interest is at the heart of all decisions. Our primary goal is to create real value through maximizing planning and design efficiencies while minimizing the risk of project delays, cost overruns and unnecessary change orders.

Planning Assistance:

Proper front-end planning can help to ensure a project's success before it begins. CPS will help tailor a plan to address project needs ranging from scope, budget, schedule, and team requirements, to process implementation and ongoing performance-based evaluation. This includes anticipating risks and developing mitigation strategies that will help save time and money. CPS will assist in the strategic/conceptual planning process to identify the project's purpose, vision, mission, objectives and goals along with development of the program management systems including financials, procurement, contracts and schedules. CPS will perform due diligence through a preliminary budget analysis, scope of work review, identification and analysis of existing conditions along with permitting and environmental issues.

Risk Assessment

- Establish areas of potential risk with project participants
- Determine critical issues
- Develop counter measure plan for risks and critical issues
- Develop claims avoidance program

Design Assistance:

Proper oversight of the design process enhances owner goals, lowers owner risk and addresses scope, schedule and budget issues at the design stage of the project. CPS involvement begins at the planning stage of the project in order to develop a comprehensive understanding of the overall program and to transfer that base of knowledge to the various design entities. CPS will oversee the owner's interest throughout the entire design process, keeping a watchful eye on project requirements, quality and cost. Highly experienced in value engineering, CPS will work with the design team to evaluate design alternatives and advise the owner on the impact to the budget. Working with the design team, CPS provides first cost for various systems being considered in the design process enabling the owner to make informed decisions regarding selection of systems and products. CPS will ensure that the design team's final plans, specifications and construction documents are complete and understandable.

Design Assistance Services

- Define project parameters with design consultants (cost, schedule, quality, scope)
- Perform design reviews
- Develop Detailed Cost Estimates at each Design Milestone
- Advise on most effective solutions
- Detailed design schedule Perform Value Engineering
- Perform Life Cycle Cost analysis on major systems
- Perform constructability reviews
- Develop bid packing strategies
- Assist in development of bid documents
- Monitor LEED point status at various stages
- Review design documents for compliance to budget, schedule, quality, and scope

Procurement:

CPS provides a specialized procurement service, focused specifically on the delivery of architectural design and construction related contracts. Our procurement service extends from the project planning stage through final contract negotiation and award. Executing design and construction contracts requires a thorough understanding of owner requirements and risks, along with building plans, specifications, scheduling and industry practices. CPS will prepare comprehensive bid documents to properly reflect project goals and requirements, written in a language and format clearly understood by the competing design or construction companies. CPS will prepare all delivery documents ranging from request for qualifications (RFQ) and request for proposal (RFP), as well as any procurement method specifically

tailored for the project. CPS can pre-qualify proposers/bidders and conduct all preliminary proposal/bid meetings. CPS will evaluate the proposals/bids and when requested, make recommendation for award.

Procurement Services

- Develop Specifications and Scope of Work
- Project Estimating and Budget
- Development Identify “best value” procurement options
- Develop RFP’s, RFQ’s, and Bid Packages
- Pre-bid and Pre-proposal activities
- Assist in Evaluation of Bids and Proposals Negotiations

Contract Management:

CPS will proactively manage the contract to ensure that the duties and obligations of all the parties to the contract are fully adhered to. This includes ensuring that the work is performed as specified by the contract documents, that proper documentation of the work is maintained and changes are properly addressed, authorized and incorporated into the contract. All contract provisions regarding cost, schedule, quality and compliance will be identified, tracked and documented from inception through project closeout. As contract manager, CPS involvement begins at the planning and design stage of the project, assisting with scope development, cost estimates, incorporating value engineering, and developing a detailed understanding of important project components.

After a thorough examination of final plans and specifications, CPS will write or review the construction contract with an eye toward creating a fair, clear document that will reduce conflict during construction. CPS will oversee the procurement and award processes and will monitor the on-going activities throughout the duration of the project.

Contract Management Services

- Contract Oversight and Management
- Compliance
- Contract Modifications
- Quality Assurance
- Performance Monitoring
- Inspections
- Scheduling
- Estimating
- Cost Control
- Change Order Evaluations
- Claims Avoidance

- Cash Flow Forecasting
- Close-out / Occupancy Management

Reporting

- Develop Owner specific reporting requirements
- Establish reporting schedule
- Produce project "fact sheets" on a monthly basis

Quality Control

- Reference "CPS Quality Manual" for detailed plan
- Define overall quality goals with project participants
- Establish Design phase quality measures
- Establish Contractor Quality Management Program
- Establish auditing / compliance reviews
- Establish non-conformance procedures
- Perform construction quality inspections

Safety and Security

- Develop overall safety guidelines with contractor(s)
- Coordinate Safety / Site Security issues with local authorities
- Develop crisis management plan
- Monitor compliance with safety guidelines

Project Close-Out

- Develop completion procedures with contractor(s) and major suppliers
- Manage Commissioning Activities
- Develop completion / punchlist procedures with Owner contracted vendors
- Establish deliverables (i.e. warranties, lien releases, O&M manuals, etc.)

Cost Management (Tracking):

As cost manager, CPS will develop a thorough understanding of the required scope of the work and provide the owner with accurate and timely information relative to project costs. CPS provides comprehensive cost reporting and analyses at all stages of the project from the initial conceptual design through project close-out. Project feasibility / conceptual estimating allows the owner to make informative decisions early in the process regarding project scope and scale. At this early, conceptual stage CPS will take into account all project costs and verify that the owner has a complete and comprehensive budget. CPS will develop estimates at any or all major milestones in the design process including programming, schematic design, design development

and construction documents. Highly experienced in value engineering, CPS will work with the owner and the design team to evaluate design alternatives and advise the owner on the impact to the budget. Working with the design team, CPS will provide both first cost and life-cycle costs for various systems being considered in the design process enabling the owner to make informed decisions regarding selection of systems and products. In collaboration with the owner and design team, CPS will prepare a thorough assessment of all bids and when requested, make a recommendation to the owner for award. CPS will review all proposed change orders along with the associated impact on cost and schedule and make the appropriate recommendation to the owner for approval. CPS will prepare a final accounting and project close-out verifying that only the correct amounts have been billed and that the remaining funds (contingencies) are returned to the owner. Most importantly, CPS will prepare and retain all project documentation necessary for an internal audit.

Cost Management (Tracking) Services

- Develop overall project budget
- Allocate budget items and categorize assets
- Define/establish contingency management program
- Continual project forecasting and reporting
- Develop cost estimates during design
- Develop and implement change management program

Schedule Management (Tracking):

Effective scheduling is critical to the success of any project and begins at the planning stage with input from all parties involved. Time management is rooted in the development of a schedule that can be used as a tracking and decision-making tool by all project participants. CPS will establish a workable project schedule graphically presented in a concise and logical manner and provide regular updates throughout the life of the project. The development of the schedule must incorporate a clear definition of requirements by all project participants. All parties involved must arrive at a consensus. The schedule must be all-inclusive, realistic and incorporate all activities including all phases of design, approvals, owner reviews, equipment orders, construction and closeout.

A master milestone schedule for the complete project becomes the overall framework within which the design and construction of the facility will be controlled. This schedule includes key items during the design and construction activities and contains the constraints from which the detailed design and construction schedules are developed.

Scheduling Management (Tracking) Services

- Establish Master Schedule
- Develop scheduling requirements for project participants
- Develop design / pre-construction schedule
- Assist Contractor(s) with detailed construction schedule
- Maintain overall Master Schedule
- Coordinate various project participants
- Ensure integration of differing participant's activities
- Supplement general conditions with scheduling requirements

Coordination with Metro ITS

Once a project has been defined, the Metro ITS department head needs to be brought in as early as possible in the pre-budget and/or early due diligence phase. Every project has specific IT needs and requirements that makes ITS' involvement an integral component in the design process to insure a successful project.

The IT design for a project begins in this early stage where the Department head selects the ITS PM who will assist in the design, specification, procurement, and oversee the Installation and implementation of the equipment, programs, wiring, etc. that will meet the customer's requirements.

The ITS PM should be included in all design, architectural, and engineering meetings with the customer/Owner throughout all phases to insure that the IT design is implemented properly.

As the project moves into the construction phase, the ITS PM should be included in all early scheduling meetings to assist with time frames as they will relate to actual labor time required to complete the wiring and equipment installation needs for the project. Metro ITS has pre-qualified and selected a number of subcontractors/suppliers who they feel are knowledgeable of Metro's IT requirements and qualified to perform in the field at a high level of success.

The ITS PM will write the specifications for the project and bid to the pre- approved subcontractors/suppliers. The successful bidder will then go under contract with Metro ITS to perform the work of this portion of the project.

The Metro ITS PM should attend all progress meetings held on site with the General Contractor to help oversee the IT portion of work from a timely delivery of material and equipment, quality of installation, and then through the close- out process to help insure a successful and well-coordinated project.

Coordination with Other Departments

Project Management of construction projects requires knowledge of modern management in addition to an elevated understanding of the design and construction process. While construction projects have a varied assortment of

objectives and constraints, the management of such projects, regardless of complexity, requires the entire project team to be on the same page.

Early in the planning stages of any project, it is critical to determine members of the project team. These team members can range from the various departments within Metro Government, such as Metro Codes, General Services, ITS, Public Works and Water and Sewer, NES, Nashville Gas along with the Project Architect and Construction Manager/General Contractor. CPS will coordinate with each Department and/or company through their respective contacts. These various contacts will be integral parts of the project team from the planning stages through project completion.

A date and time for project meetings, also referred to as OAC (Owner/Architect/Contractor) meetings will be established early in the project so that all team members can have meaningful participation, information and input. This is the best method for resolving issues quickly, before they impact the project.

Throughout the project, it will be critical to establish timelines for the various team members to have critical information submitted to the project manager for project documentation.

Technology:

CPS cannot fully implement our roles and responsibilities without the use of modern, state-of-the-art technology. All CPS staff members possess complete capabilities to transmit documents and interact electronically. Capabilities and software currently in place, and being used on Metro projects include:

- Email (MS Outlook)
- Documents (MS Suite) – Excel, Word, Power Point, Access
- Scheduling (MS Project) – Expertise in Primavera, Sure Track, Phoenix
- Document Control – Current access and using Metro’s ConstructWare for project information storage
- CPS Customized Cost Tracking System
- Mobile – all CPS staff and our team members use smart phone technologies
- Computers – all CPS staff are furnished with laptop computers using current MS Windows operating systems, including virus protection
- Samsung Galaxy Tab A field device used in conjunction with Procore
- CADD / BIM – some of our team members, where applicable, have complete capabilities for development and transmission of documents
- File Sharing – FTP sites available for document transmission
- Web hosting & Online Collaboration capabilities available

Procore Management Systems and Drone Technology

CPS has implemented Procore Technologies, the world's number one most widely used construction management software that is designed to improve performance, productivity and foster greater collaboration and communication across the project team. Procore's cloud-based construction project management platform will increase project efficiency and accountability by providing streamlined project communication and documentation. Procore will follow a construction project lifecycle from start to finish, automate project management tasks and create a central hub for real time project information to and for the client base and stakeholders.

Procore project management software is cloud-based and connects those involved through a uniformed platform. Every person involved, including key stakeholders, project managers, and vendors, can stay up to date on the project. Procore works to keep everyone in sync and allows users the ability to access documents and data, anytime, from anywhere. Procore provides real time updates and tracking of the project. The software is drawing centric, meaning everything the team needs is at your fingertips; from markups to version comparisons, to change events. Procore has many features many of which are outlined in this document.

Drawings:

Procore provides a seamless process for drawing management. Clients can quickly and easily view drawings and revisions from start to finish. Easily overlay and realign any 2 drawings to quickly see what's new and what's unchanged, and better protect general contractors and owners from the risk of rework and delays. Stakeholders can mark-up drawings and add notes from their smartphone, tablet, or computer. Procore users can also link RFIs, documents, submittals, photos, drop punch items, and share revisions automatically.

Documents:

Procore's Company level "Documents" tool is a primary storage location for your project's mission-critical documents. Designed to accelerate business efficiency, this tool minimizes the amount of time it takes to capture, distribute, and share documents with your team. Offering virtually unlimited storage space and a variety of markup and revision management features, you can ensure that your staff always has access to the most current document versions made available. Procore's Document Management Tool provides permission access be set on a file to file basis and archiving for construction projects. With Procore's automatic revision control, project team members will always open the latest version of any document. Documents tool allows for real time interaction regardless of geographic location.

Daily Log:

Procore's Daily Log Tool is much more than just field notes linked to photographs. Procore offers a more powerful construction software solution for project managers who need to keep track of every detail including, but not limited to, labor, communication, equipment, materials, and job site events each day. All information contained in Procore's Daily Log Tool is automatically archived and saved to the cloud-based servers. Each daily log report can be exported as a PDF file and sent to team members.

Photos:

All photos and project information are safely backed up to the cloud. Photos can be taken or accessed in the field. Once taken, the photo will be uploaded into Procore within seconds. Photos can be automatically shared with project team members, and shared externally via email or smartphone. Photos can also be attached to daily logs, punch lists, drawings, etc. Pictures can also be uploaded from an external device such as a Drone. Drone technology allows end users a different vantage point of their projects.

RFI:

Requests-for-Information (RFIs) can help a project run smoothly and on schedule, but they can also cause delays. Delays can mean cost overruns and lost profit. Procore offers a timely RFI management tool that is key to good schedule management and overall project success. Team members can stay up to date on all RFIs from any device and location. An RFI is no longer an email between the contractor and the architect— Procore offers transparency and accountability to the RFI process and ensures no one on your team misses an overdue RFI again. In Procore, you can automatically send overdue reminder emails to all parties involved to keep RFIs on track.

Submittals:

Procore's submittal generator scans every page of your spec book and automatically generates a submittal register. Once uploaded, you can organize your submittal log by division, add shop drawings, and catalog pages. Attachments can be added to a submittal directly from your computer or directly from Procore's construction Document Management Tool. Procore offers a sophisticated distribution workflow. Multiple approvers can be designated, and every submittal can also be distributed to non- approvers. Procore allows specific submittals to be updated and queued for email distribution later.

Specifications:

With potentially thousands of spec pages; managing revisions, organizing, and distributing spec sections while maintaining the current set can be daunting. Procore provides a spec management tool designed to spend less time managing specs, and

more time getting work done. Team members can reference any past or present approved version of specifications to the project.

Meetings:

Centralized housing for all meeting minutes, agendas, and attendees throughout the course of the project. All team members with permission can reference all uploaded meetings. Follow up meetings or reviewing content of previous meetings is simply accessed in this centralized location.

Schedule:

Current project schedules are kept within Procore's schedule tool. This gives a real time view of the projects schedule to team members as soon as you log into the software. Schedules can be filtered with multiple views such as daily, weekly, and monthly. The scheduling tool highlights past due items, on course items, and items due within the coming days.

Project Directory:

The project directory tool is the centralized location for all project team members contact information. This convenient tool allows for any team member to easily access contact information to expedite decision making or questions. From team member names, organizations, phone numbers, or emails contacting project team members is expedient.

Drone Technology

CPS offers a staff of trained, certified and experienced drone pilots that have been utilizing drone technology for the past few years. Our pilots start from surveying the land during the conception phase of the project to capturing aerials of the final project documentation. With daily or weekly flights, site project teams benefit from an on-demand visual record of the latest construction progress and activity. Owners and other stakeholders understandably demand progress updates on a regular basis which is greatly enhance and expedited through drone technology.

Drone inspection is an improved method for teams to stay current and well-documented. With an experienced pilot, drones can better identify issues and problems that may be occurring at various points throughout the project. By using drone construction inspection, you improve the overall quality assurance process at the same time inspectors will be much safer on the ground while looking at a screen attached to their drone controller.

CPS has incorporated drone technology with Procore construction software, combining aerial photos and videos with ground photos on every project.