PDDM Chapter 3 – PROJECT MANAGEMENT

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PDDM CHAPTER 3
PROJECT MANAGEMENT

3.1 GENERAL

3.1.1 PROJECT MANAGEMENT PHILOSOPHY

The Federal Lands Highway (FLH) offices operate under a variation of matrix organizational structures. FLH Project Management program facilitates proactive project management and fiscal accountability to ensure successful project completion. The FLH Project Manager (PM) is ultimately responsible for delivery of a constructed project following the five process groups (initiation, planning, execution, monitoring/controlling, and closeout) established by the Project Management Institute's (PMI's) Guide to the Project Management Body of Knowledge (PMBOK). This provides FLH with the capacity to respond to a fluctuating program environment and to optimize the usage of resources (internal and external) to manage program delivery in an efficient and effective manner. With commitments to an ever-growing number of partners to deliver high-quality projects on time, on budget, and within scope, the use of project management tools ensures that early scope, budget, and schedule is defined, endorsed, measured, and then modified through change control.

3.1.2 ROLE OF THE PROJECT MANAGER

The PM is responsible for the overall leadership, strategy, direction, coordination, implementation, execution, control, and completion of project management activities from initiation through project closeout, while ensuring consistency with FHWA business strategy, commitments, and goals. The PM provides project leadership to Cross-Functional Teams (CFTs) and internal and external project partners and stakeholders. They set clear project goals and expectations to meet scope, schedule, budget, quality requirements, and actively manage risks throughout the project. The PM is the primary point of contact for a project for CFTs, A/E consultants, project partners, stakeholders, regulatory agencies, and the public.

The responsibilities of the PM apply to all projects, regardless of whether the project is delivered by internal staff or Architecture/Engineering (A/E) consultants. Where A/E consultants are used to supplement FLH staff, the project delivery process to partners and customers should be seamless. Both the FLH and A/E PM should have, at a minimum, a familiarity and understanding of all major issues and risks of the project and lead the decision-making process to ensure that all aspects of the project are considered. This includes managing the level of involvement and oversight of the internal Project Support Team (PST) on A/E delivered projects to align with the overall project risks. Again, the FLH PM will be the main point of contact for our partner agencies and will lead and manage the coordination and communication between the PST and the A/E.

3.1.3 THE USE OF PROJECT CONTROLS

Project controls are the data gathering, management, and analytical processes used to predict, understand, and constructively influence the time and cost outcomes of a project or program. This is accomplished through the communication of information in formats that assist effective management and decision making. Project controls are an FLH business tool that allows FLH to manage and deliver the FLH program of projects, making data-driven decisions based on resource and funding availability.

The PM provides leadership in project controls and utilizes Project Management Information Systems (PMIS), including financial management systems, scheduling systems, other reporting tools, earned value management, and processes to initiate, plan, execute, monitor and control, and close out projects. During execution and monitoring, the PM is responsible for identifying and implementing change control procedures.

3.2 PROJECT INITIATION

Planning and Programming leads the initiation process with the identification of transportation system deficiencies and ends with the advancement of projects funded under each program to the delivery teams for planning and development. The primary outcome is a program of projects that address preservation, mobility, and safety, while meeting the relative needs of the stakeholders. The initiating process revolves around a series of steps designed to identify transportation deficiencies, evaluate projects using standardized criteria, prioritize improvement projects, and program those projects for project development and construction.

The PM provides input to the FLH Program Manager early on to develop high-level iterations of the overall project feasibility. PMs will consider stakeholder expectations, a project's feasibility, potential risks/opportunities, program balancing, and be thoughtful of FLH organizational and operational goals. PM deliverables during the initiation phase may include application reviews, refined descriptions of the project objective, technical assistance requests, evaluation of alternatives, initial project scope statement, programmatic cost estimates, and identification of FLH resources.

3.2.1 PROJECT IDENTIFICATION

The PM is assigned to a project by the FLH Project Management Branch Chief. FLH tries to provide continuity for our partners and familiarity for our PMs to keep a stable program of work, and for coordination and efficiency reasons. The PM Branch Chief will typically follow the current PM assignments for our existing clients, program, or geographical region when selecting a PM. However, for special projects or for new clients, the PM Branch Chief will also consider complexity of the project, special project resource capacity requirements, duration of the project, and experience and special skills of the PM.

The FLH Program Manager will provide the PM with as much project information as possible, including project partner contact information. The PM collects and reviews the existing project information to gain a basic understanding of the project purpose and context and begins to identify any gaps in knowledge.

The PM will establish a project directory and upload gathered project information. A project directory is needed to store and share information between the project delivery team and the PM. The procedures for establishing a project directory varies between each FLH Division. Consult local guidance on how to establish a project directory.

Identifying stakeholders is part of the Initiation Process Group. It is important to know who the stakeholders are and how they may affect the project early in the project life cycle. Refer to Section 3.3.1 and the PMBOK for additional details and information. During the initiation phase, the PM should consider performing a stakeholder analysis to identify and determine the power and influence of the stakeholder group and how they may affect the project. The PM should maintain a stakeholder register containing all known information on each stakeholder group.

3.2.2 PRE-SCOPING AND DESIGN DELIVERY METHOD DECISION

When starting a new project, the PM is responsible for gathering all readily available information, developing a pre-scoping report, and recommending the design delivery method decision. Commonly available information may include Road Inventory Program (RIP) reports, Bridge Inspection Program (BIP) reports, as-builts and existing plans, Project Management Information System (PMIS) reports (for National Park Service Projects), Federal Lands Access Program (FLAP) applications, pre-programming scoping reports, maps, engineering studies/reports, utility agreements, BLM Master Title Plats, Geographic Information Systems (GIS) data, Right-of-Way information, accident reports/data, environmental reports, etc.

The PM is responsible for delivering a pre-scoping report/summary to facilitate a design delivery method decision, either in-house or A/E, while considering Division Action Plan goals. A report/summary is generated by the assigned PM summarizing all known information about the project, including an estimate of functional involvement and tentative milestone schedule dates. A pre-scoping report/summary is not a formal scoping document. It is intended to summarize basic information obtained from discussions at program meetings, application documents, or other communications with agencies. The report/summary is used to balance all new project starts against resource, technical, and project-specific needs. The PM should include a recommendation of delivery method for consideration to Division Leadership. The PM, in coordination with Functional Managers (FMs), discuss the delivery method decision, which is then finalized by Division Leadership.

Division Leadership determines the design delivery method decision (internal vs. A/E) based on available information (Pre-Scoping Report, applications, PMIS reports, etc.). Division Leadership takes into consideration internal resource availability, A/E utilization, employee development opportunities, technical complexity of the project, Division Action Plan goals, schedule constraints, etc. On some occasions, the design delivery method decision may be delayed or changed after scoping and must be managed by the PM. This may occur for various reasons, such as internal resource availability for scoping, overall cost of scoping activity, changes in internal resource availability or A/E utilization after scoping, uncertainty of multiple project scopes (e.g., Division Leadership to determine best projects for internal staff once scopes are better defined), projects that may not start for several years, accelerated delivery, etc.

3.2.3 SCOPE PLANNING

The PM will submit the Pre-Scoping Report/summary to the FMs to assist in assigning CFT/PST members. The PM will determine a scoping budget in coordination with the CFT/PST and assist the Program Manager with scoping/match agreements (if necessary), securing funding, and opening accounts for scoping activities. If it is decided the project will be delivered by A/E's, the PM will complete Task Orders (TO) for scoping as required with key PST member support, as needed.

The PM is responsible for establishing the initial lifecycle project schedule, developing initial high-level Preliminary Engineering (PE) budget, Construction Engineering (CE) budget, and updating the programed Construction (CN) Estimate if major discrepancies are identified. The PM will identify team needs and disseminate all known information to team members in preparation for the kickoff meeting.

3.3 PROJECT MANAGEMENT PLANNING

Project Management Planning is a critical component for successful project delivery that builds on the Project Scoping and ends with a completed Project Delivery Plan (PDP) endorsed by all members of the CFT/PST. Project Management Planning is a Project Manager-led process that is collaborative with all members of the CFT/PST who are responsible and accountable for their discipline's roles and budget for the project. Detailed Project Management Planning results in more efficiently delivered and successful projects by serving as the guidance through the life of the project.

3.3.1 PROJECT SCOPING

Project scoping is the critical first step in project management planning to verify the project scope, identify risks, and verify assumptions made in Project Programming and Initiation. Project scoping commences with a scoping kickoff meeting held in advance of either a scoping trip to the project site or desktop scoping. The scoping kickoff meeting is held with the CFT/PST and A/E to discuss scoping trip attendees, trip itinerary, information to gather while onsite, and to review available data and background information for the project.

Following the scoping kick-off meeting, the identified scoping team members will conduct the project scoping trip, and/or complete an appropriate desktop review. This trip generally begins with a scoping meeting with project partners, stakeholders, and the scoping team. The goal of this meeting is to have group introductions, discuss the assumed project scope, schedule and budget, review roles and responsibilities of all stakeholders, discuss partner expectations, go over the field review plan, discuss data collection techniques, and review scoping goals. The field review generally occurs over subsequent days, depending on project size and complexity. During this review, the scoping team can discuss all discipline concerns, document the project through data collection and photos, review assumptions made for the project, and identify any new or previously unknown concerns or areas of opportunity.

Once the scoping team returns from the scoping trip, a post-scoping meeting is held with the CFT/PST and A/E. The goal of this meeting is to summarize findings from the scoping trip, verify the project scope and budget are still valid, review action items, and discuss the scoping report to be developed.

The scoping report is developed jointly by the project team to document initial decisions, define project scope, determine design criteria, and identify all key issues with the project. Each discipline is responsible for completing their sections; however, the PM is responsible for ensuring a complete and accurate scoping report. The scoping report will be reviewed by the appropriate project partners and stakeholders prior to finalization for use with the Project Delivery Plan.

3.3.2 PROJECT DELIVERY PLAN (PDP)

When developing a PDP, also called a Project Management Plan or Project Plan, project teams establish the delivery approach and make decisions about how to proceed. This plan becomes the primary source of information for how the project will be executed, monitored, controlled, and closed. The project team, under the guidance of the PM, develops a Project Delivery Plan for every project. The PDP should be scaled appropriately based on the project complexity. Concurrence of the Project Delivery Plan by CFT/PST members is required through the Project Delivery Plan endorsement.

The Project Delivery Plan is a compilation of multiple documents that generally includes the Scoping Report, Scope of Work (SOW), PE and CE Budgets, CN Estimate, Project Schedule, Project Agreement, Risk Management Plan, Procurement Type, and Design Delivery Method. Larger or more complex projects may have several supplementary documents, such as Quality Control Plan, Communications Plan, Project Specific Change Control Plan, Procurement Plan, and Lessons Learned & Closeout Plan. The formation of a Project Delivery Plan coordinates all sub-plans into one document and forms the basis for Scope Definition and Management, Schedule Management, Cost Management, Risk Management, and Quality Management. See the "Project Delivery Plan Endorsement" document for a checklist of required project delivery documents.

3.3.3 PROJECT BASELINING

After completion of the PDP, an endorsement sheet with all PST/CFT members identified is distributed for signoff by each member, verifying their participation in development and their review and endorsement of the PDP. After fully endorsed, the final PDP is reviewed by the Project Management Branch Chief for final verification. The endorsement of the budget hours and schedules establishes the project baseline within Primavera. Following project baselining the project Preliminary Engineering commences.

3.4 PRELIMINARY ENGINEERING

The PM leads and oversees execution of project work to achieve the project objectives. The execution phase includes coordinating people, resources, and stakeholders to perform the activities in accordance with the PDP. The PM also monitors and controls scope, schedule, budget, and quality to identify any differences between planned and actual performance. For each variance, the PM is responsible for determining the severity of the impact, its source, and re-evaluating the work to be consistent with the project and organization goals and avoid further variances. If a project delivery plan requires revision, the change control process will be invoked.

3.4.1 COORDINATION AND EXECUTION

The development of the plans, specifications, and estimate (PS&E) involves various stages of review. The PM leads office reviews and onsite field reviews at milestone phases applicable to the specific project to ensure that the design and PS&E reflect and are consistent with contextual values and with federal, state, and local stakeholders' goals, objectives, and standards. It is important to ensure the reviewers have the appropriate information (e.g., plans, specifications, cost estimate, exhibits, visualizations) sufficiently in advance for them to schedule their time to perform a comprehensive review of the information and to formulate their input or questions prior to the onsite meeting. Reviews are conducted in accordance with the guidance provided in Section 9.6.4. Progress reporting of schedule and budget performance, including issues affecting risk and change, should be a standing agenda item for all meetings.

3.4.2 RISK MANAGEMENT

Risk management is a continuous process that must be maintained as the project evolves, risks are more defined, and tangible resolution strategies emerge. The PM is required to track and manage risks throughout the project's life cycle. This requires that risks be revisited periodically to assess changes to the probability and impact to the project. During Preliminary Engineering, the PM will monitor the identified risks, continue to update the risk plan with newly identified risks, evaluate the impact and probability of the identified risk, and monitor the effectiveness of the risk response strategy. See Section 1.1.3 for additional guidance on risk management.

3.4.3 MONITOR AND CONTROL (EARNED VALUE MANAGEMENT)

PMs use Earned Value Management (EVM) principles to provide a mechanism for managing project scope, schedule, and budget in a proactive manner. Throughout the execution phase, performance measures are used to determine current project status and forecast variances at completion, to determine if corrective and preventative actions are required.

Once the project team begins executing the Project Delivery Plan and developing project deliverables, the consistent and constant flow of information on the true status of the project is essential to document scope completed, schedule consumed, and remaining effort. Day-to-day changes made to resources planned or spent and schedule dates planned or consumed are tracked using the working schedule. A working schedule is dynamic and, as time passes and the project evolves, the PM and CFT continuously update the schedule to reflect new realities,

whereas the Performance Measurement Baseline (PMBL) remains constant (frozen/fixed reference point) until the change control process is invoked to facilitate approved changes.

3.4.4 CHANGE CONTROL

The purpose of change control is to ensure that the proposed scope, schedule, and resource changes to the baseline are identified, evaluated, and the impacts of each change controlled. The change control process is used to identify, evaluate, approve or reject, and document proposed changes. The approved changes are then added to the performance measurement baseline and the actions brought back to and implemented in the execution phase. The PM will ensure that all individual project changes are evaluated, all appropriate parties are informed of proposed changes, documentation is controlled and updated, and potential impacts at the program level are addressed.

3.4.5 QUALITY ASSURANCE

PMs ensure acceptable quality while executing the project within scope, on time, and within budget. Acceptable quality means that the project meets the needs of the client agency, public, and satisfies all regulatory, and operational requirements. PMs set the direction for the project, establish the goals, determine the level of involvement of the functional disciplines, and make risk assessment decisions that balance quality, schedule, and cost. Overall responsibility for completion of the final PS&E deliverables rests with the PM. See Division specific PM Branch Quality Management Plans for additional information.

3.5 ACQUISITIONS

The PM provides acquisition support and/or completes deliverables for execution of design service task orders, construction inspection task orders, and construction contracts. The PM is accountable for the scope, schedule, and budget for all contracts and should be informed of all contract actions.

3.5.1 DESIGN

In many cases, the PM serves as the Contracting Officer's Representative (COR) for A/E consultant design services task orders. When acting as the COR, the PM completes the following:

- Scope of work (SOW)
- Independent government estimate (IGE)
- COR nomination memorandum (Memo)
- Certified procurement request (PR)
- Pre-Negotiation Memo
- Negotiations
- Price Negotiation Memo (after negotiations have commenced)

Once the task order is executed, the PM monitors completion of task order scope and reviews and approves invoices.

The PM participates in acquisition planning, and in coordination with the Contracting Officer (CO), analyzes the feasible types of procurements and contracting methods for a project, and sets the schedule for advertisement and award. They synopsize the project for market research, review the results of the market research with the CO, and draft the acquisition plan for CO, prior to completion of final design and advertisement.

3.5.2 ACQUISITIONS CHECK-IN

At the completion of PS&E development, the PM is responsible for compiling all required project documents necessary to check-in the project with the Acquisitions office, for securing funds required to advertise the project, and for obtaining approval by the Chief of Engineering. Project documents required for check-in include all design-related deliverables such as the plans, specifications, estimates, environmental compliance documents, and all acquisition-related deliverables such as the determinations and findings memo and the brand name or equal memo. Refer to Division specific procedures for any additional required documents. After the project is checked in with the acquisition team, a legal sufficiency review is conducted with comments being jointly addressed by the CO, PM, and Design Team prior to advertisement.

3.5.3 ADVERTISEMENT AND AWARD

During advertisement, the PM, in coordination with the project CFT, will respond to all questions in a timely manner, so that the Acquisitions Specialist can post answers during the advertising period. The PM will support Acquisitions in determining if an amendment to the solicitation is needed.

The PM, along with the Acquisitions office, will review bids for completeness and accuracy, as needed, and discuss finding of any errors, omissions, or unbalanced bids with the CO. They will review bid prices against the Engineer's Estimate and against other bidders to see if any prices seem out of range and may cause issues during construction.

For 8(a) Small Business & Negotiated Awards, the PM will discuss potential contractors and negotiating strategy with the CO and participate in and support the Construction Operations Engineer (COE) in the completion of the pre-negotiation memo, negotiations, and completion of the price-negotiation memo.

The PM supports the COE in development of construction inspection service task orders and secures funds for this work.

3.6 CONSTRUCTION

3.6.1 DESIGN TO CONSTRUCTION HANDOFF

The PM, in conjunction with the COE, is responsible for coordinating a design-to-construction handoff meeting prior to FLH issuing a Notice to Proceed for the construction contract work. The goals of the handoff meeting include introducing the design and construction administration teams, discussing the project communication plan, reviewing complex technical aspects of the project and project-specific commitments and mitigations, relaying design intent and potential risk areas, and reviewing the Project Engineer's notebook. The PM will identify necessary participants for this meeting, but at a minimum should include the key CFT and construction administration staff.

3.6.2 CONSTRUCTION ACTIVITIES AND PROJECT AUTHORITY

The PM remains the main point of contact for external partner agencies (owning and maintaining agencies and federal land management agencies), regulatory agencies, other project stakeholders, and the FLH programmers. The PM will coordinate with these entities throughout construction.

The PM is accountable for managing overall project scope, schedule, and budget through completion of construction. As such, they should be in close communication and coordination with the COE. The PM is responsible for communicating budgetary requirements and limitations with the COE. The PM will support responses to contractor Requests for Information, participate in generating solutions to any issues that arise on the project, and secure additional funding for contract modifications, if needed. Proposed changes to scope, schedule, or budget, arising from construction, must be coordinated through the PM. The PM may attend the preconstruction conference, visit the site, and attend the final inspection and project closeout meeting, depending upon the project.

The PM does not have contract authority for the construction or construction administration contracts, and should, therefore, not direct the contractor or inspection staff. The COE is the main point of contact with the contractor on all issues.

3.6.3 CLOSEOUT

The PM is responsible for closing out and de-obligating funds from project agreements and any contracts for which the PM is the COR. As part of the closeout of contracts, for which the PM is COR, the PM is required to complete the Contractor Performance Assessment Reporting System (CPARS) evaluation. Prior to final closeout, the PM transmits all project records to the construction branch according to FLH records management policy. The PM, in coordination with the COE, should ensure that lessons learned from the project have been documented and distributed within the agency.