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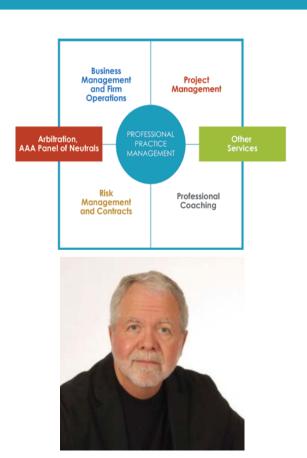
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Who Is Your Presenter?

- Business Management and Firm Operations
- Project Management
- Risk Management and Contracts
- Professional Coaching
- American Arbitration Panel of Construction Neutrals
- Job Title Descriptions and Competency Models
- Project Work Planning Workshops
- Project Reviews, Team Performance Evaluations
- Expert Witness





Thank You AIA!

Previous Webinar

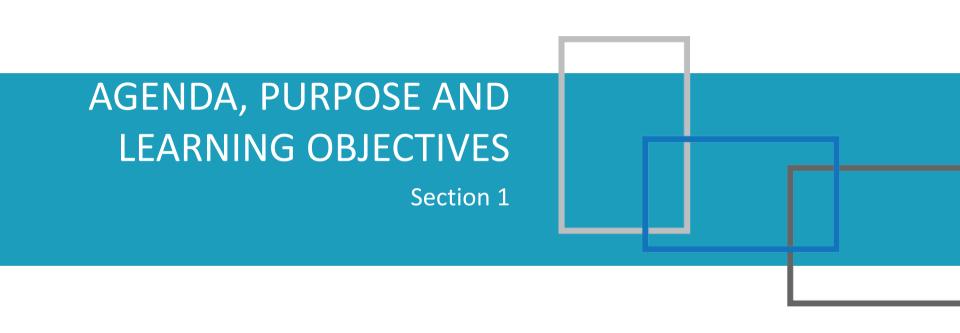
Accounting 101 for Project Managers, May 16, 2013

A Sound Training Program for Project Managers

- 1. Accounting 101 for Project Managers
- Project Work Planning, the Process (the philosophy and "why" of project planning)
- 3. Project Work Planning, the Application (using Deltek, Axium, Newforma or other enterprise accounting software)
- 4. Firm Business and Financial Management Principles

A Sound Training Program for Project Managers

This is truly a good program for everyone in a firm that promotes a good business culture. Perhaps a "lite" version of this agenda is appropriate for the wider audience but a good understanding and means to communicate with a common language at the project and firm levels is a very good thing.



Project Work Planning Webinar Agenda

- 1. Agenda, Purpose and Learning Objectives
- 2. The Process of Planning and Executing a Project
- 3. The Work Breakdown Structure (WBS)
- 4. The Capability Maturity Model

What Is Our Purpose?

- 1. We want to have <u>PROJECT WORK PLANS THAT SERVE US</u>, we do not want to <u>SERVE THE</u> <u>PROJECT WORK PLANS</u>.
- 2. All projects should have a project work plan in the firm's accounting/project management software and certain characteristics will be common in the plans.
- 3. Project work plans serve as a communication tool for project teams and provide regular feedback to project leaders.
- 4. We encourage the use of the appropriate level and number of tasks in project work plans that may be different for Project Managers and project types.
- 5. We want to keep this simple and understand there may different approaches by Principals, Project Managers and project types.

Learning Objectives

- 1. Understand the benefits of project work planning.
- Learn how to create the project plan and understand the roles and responsibilities of project team members.
- Understand and apply the principles of top-down, bottom-up and combination plans and budgets.
- 4. Learn how to monitor the plan and identify the root causes for plan adjustments.



What is a Project Work Plan and What Are It's Elements?

A Project Plan is a tool for accurately planning and monitoring projects. It defines measurable goals for the project which include:

- 1. The Scope of Services.
- 2. Tasks/Deliverables, Process.
- 3. People/resources who will do the project.
- 4. Consultants who will do their part of the project.
- 5. The projected hours required to do the work.
- 6. Schedule and Milestones.
- 7. Net Service Revenue/Project Budget and Expenses
- 8. Profit.

There is no better way to understand a project's scope than to go through the process of building a project plan with the appropriate level of detail for that scope.

What Are the Benefits of Project Work Planning?

- 1. Understand and communicate the Scope of Services.
- 2. Establish a reasonable fee for the Scope of Services.
- 3. Better negotiate the Scope of Services and fee.
- 4. Identify staff/resource needs for the project.
- 5. Document roles and responsibilities for project teams and consultants.
- 6. Anticipate issues that can affect the schedule and financial goals for the project.
- 7. Identify scope changes that justify additional services.
- 8. Complete the project on time and on budget.
- 9. Identify and take corrective action if a project is not performing as planned.

The project work plan enables the Project Manager to be proactive and when necessary, appropriately reactive.

Who "Owns" the Project Work Plan?

The Project Manager "OWNS" the Project Work Plan, from cradle to grave...

The Project Manager should not be solely responsible for the development of the Work Plan. The Internal Team should participate and includes:

- 1. Principal-In-Charge
- 2. Project Architect
- 3. Project Designer
- 4. Consultants join the process after the Internal Team has developed the basic plan
- 5. Clients and Contractors join the process at the appropriate time and view only the schedule, milestones and timing of review and input in the plan.

The Process is Cyclic, With Four Main Elements

- Plan-Prepare information needed to execute the project: scope, schedules, contracts, staffing cartoon sets.
- 2. <u>Do</u>-Put the plan into action.
- 3. <u>Check-Periodically monitor progress of the work against the original plan. Verify that work completed is "per plan" and review upcoming task/activities.</u>
- 4. <u>Adjust</u>-Based on the results of checking the plan, make necessary adjustments to correct for circumstances. Act on those adjustments.

Plan Do Check Adjust Plan Do....

Life of a Project Work Plan

Pre-Negotiations

Negotiations

During the Project

Develop the initial project work plan to support the proposal to the client.

- Define the scope of the Project.
- Identify tasks required in each phase of the project.
- Identify staff needed to perform each task.
- Apply hours for each staff member by time period.
- Identify planned expenses (direct and reimbursable).
- Identify consultants and fee values.
- Establish fee and profit targets.

- Read and breakdown the RFP.
- Identify required processes.
 - QA/QC, Jurisdictional Input
- Incorporate Project Delivery issues
 - CM, D/B, DBB, Program Mgr.
 - Fast Track, Multiple Prime

Waiting until after contract negotiations to do this process eliminates the ability to negotiate the best deal possible.

Life of a Project Work Plan

Pre-Negotiations

Negotiations

During the Project

Reconcile the Project Work Plan to a negotiated fee and scope with the Owner.

- 1. Adjust services and associated hours.
 - Fewer bid packages, site visits, meetings, trips, etc.
- 2. Adjust Expenses.
 - Change direct expenses to reimbursable expenses.
- 3. Make final adjustments/negotiations with consultants.
- 4. Analyze the relationship between the newly negotiated fee and the required costs to understand the profit goals.
- 5. Prepare the contracts.

Life of a Project Work Plan

Pre-Negotiations

Negotiations

During the Project

Develop the initial project work plan to support the proposal to the client.

- 1. Verify that the work is on schedule, milestones and deliverables are being achieved in accordance with our contract obligations.
- 2. Monitor hours worked and costs incurred.
- 3. Review costs against budget.
- 4. Identify root causes of discrepancies.
- 5. Identify adjustments needed to complete the project while meeting contractual obligations and, if possible, maintain profitability.
- 6. Keep staffing requirements appropriate and current.
- 7. Gain agreement on adjustments from team and client as needed.
- 8. Update project work plan to reflect adjustments.

Creating the Plan, Consider These Questions

- 1. What are the client's budget and schedule parameters?
- 2. What steps are required to complete the project?
 - Deliverables, milestones, processes.
- 3. Who are the appropriate staff/resources to fulfill these steps?
- 4. What consultants are needed?
- 5. When do the phases and milestones of the project need to be completed?
- 6. Can the Project Team commit to completing their parts of the project on schedule?
- 7. What fee and profit are acceptable to the firm?

Creating the Plan, Roles and Responsibilities

- 1. The Project Manager "owns" the project work plan and acts as the proactive coordinator of the team during its creation.
- 2. Other project leaders provide regular input and review.
- 3. The PM contacts outside consultants to get estimates of time, costs and resources for their parts of the project.
- 4. The PM and other project leaders identify the appropriate and confirm availability of staff for the project.
- 5. The PM develops the plan, budget and related documents.
- 6. The PM prepares the contract for the project and client.
- 7. After the contract is signed, the PM works with Accounting to input the plan and budget into the financial system.

Creating the Plan, Three Basic Approaches

- 1. Top-Down
- 2. Bottom-Up
- 3. Combination of Both

- It is essential to understand the importance of doing BOTH.
- Top-Down planning assumes a given fee value and distributes that fee to consultants, expense budgets and phases based on a predetermined formula.
- Bottom-Up planning makes no assumptions about fees, but builds up costs based on a project's scope and schedule, defining tasks required to achieve the scope and assigning resources and hours to each.

A Top-Down plan will not tell you if the fee value is appropriate for the scope of work, or what the potential profit will be for the project. Top-Down results provide a benchmark against which to test or compare the more detailed results of a Bottom-Up plan.

Top-Down Planning

- 1. The Top-Down approach to project work planning begins with a financial view: What is the client willing to pay for this project?
- Planning generates an overall budget into hours, expenses and consultants.
- 3. The challenge of Top-Down planning is to be albe to get the work done within the scope defined and deliver quality within the budgeted fee.

Example of Top-Down Planning

Initial Assumptions:

- 1. The Construction Cost for the project is \$10,000,000.
- 2. Gross Fee is 7% of Construction Cost = \$700,000.
- 3. Consultants will be 40% of the Gross Fee = \$280,000.
- 4. Phases will utilize specific percentages of the Gross Fee.
- 5. The average hourly rate at a 3.5 Multiplier is \$100.
- 6. The Direct Expense Budget is 5% of NSR.
- 7. The Contingency is 5% of NSR.

Fees	\$ Amount	
Gross Fee @ 7%	\$700,000.00	
Consultant Fees @ 40%	\$280,000.00	
Net Service Revenue (NSR)	\$420,000.00	
Direct Expenses Budget	\$21,000.00	5%
NSR Minus Direct Expenses Budget	\$399,000.00	
Contingency	\$21,000.00	5%
Project Labor Budget	\$378,000.00	

Example of Top-Down Project Budgeting by Phase

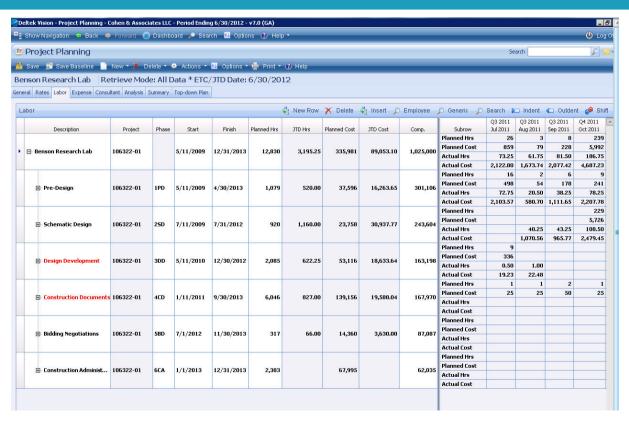
Project Budget By Phase	\$ Amount	% Amount	Hours
Project Planning	\$7,560	2%	76
Preliminary Design (If needed)	\$11,340	3%	113
Schematic Design (10% Total)	\$26,460	7%	265
Design Development	\$86,940	23%	869
Construction Documents	\$139,860	37%	1,399
Bidding/Negotiations	\$7,560	2%	76
Construction Administration	\$94,500	25%	945
Post Construction	\$3,780	1%	38
Project Labor Budget	\$378,000	100%	3,780

These guidelines and amounts will be different for Market Sectors and project types.

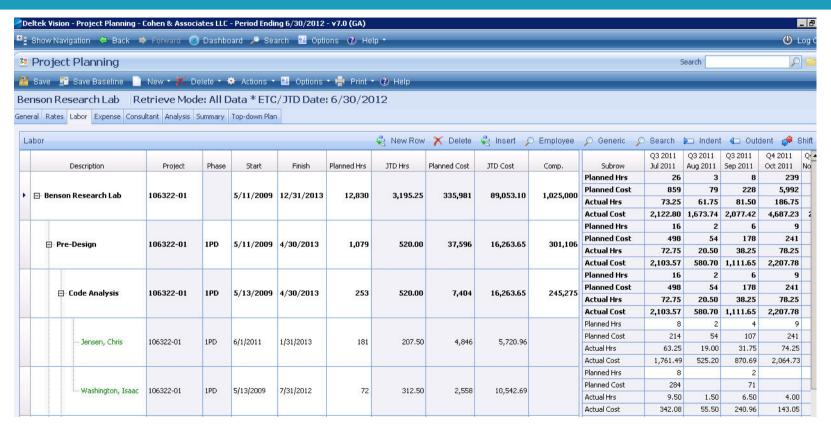
Bottom-Up Planning

- 1. The Bottom-Up approach to project work planning begins with a process view: What will it take to complete the project?
- 2. Planning identifies the tasks, hours and expenses needed to complete the desired project scope.
- 3. The challenge to Bottom-Up Planning is to keep project fees within a range that the client or market is willing to accept.

Deltek Project Planning Example



Deltek Project Planning Example



Combination of Top-Down and Bottom-Up Planning

- The best approach to project work planning combines Top-Down and Bottom-Up methods.
- The Project Manger and other project leaders look at both the financial and process views and modify the plan to strike a balance.
- 3. They often work through several versions of the plan, adjusting assignments, expenses, tasks, schedule and scope to arrive at a plan that:
 - Is feasible.
 - Meets client expectations.
 - Provides the firm and consultants reasonable fees and profits.

Key Monitoring Questions

- 1. Are we on schedule?
- 2. Are we completing work within the hours and costs allotted?
- 3. Are we incurring any unplanned costs?
- 4. Is the client requesting changes that would affect cost and schedule?
- 5. Are there other opportunities to shift costs from one task or phase to another?
- 6. Is there anything deviating from the Plan and WHY?

Think of the project work plan as a set of instructions by which you are building a successful project.

A plan gone unchecked is the same as no plan at all.

Project Manager Roles and Responsibilities

- 1. Review project financial reports regularly, at least once per month.
- 2. Involve the project team in discussions about plan deviations.
- Talk with the client regularly to manage expectations and identify any client issues or potential changes as early as possible.
- 4. Develop plans for adjustments and corrective actions.
- 5. Review adjustments with fellow project leaders involved.
- 6. Negotiate additional fees or scope changes with the client when appropriate (as soon as you are aware of them).
- 7. Update the project work plan to reflect adjustments made.

Root Causes for Plan Adjustments

<u>Issues often arise on projects that make it necessary to adjust the plan in order to meet the client's needs</u> and maintain schedule or profitability. When this occurs it is important to understand why the adjustments are necessary. There are two possible root causes:

The Design Team

- Our Misjudgment.
- Staff unable to complete tasks within allotted hours/costs.
- Consultants unable to meet schedules.
- Unforeseen technical issues.
- Resources become unavailable.
- Inability to design within the budget.

Client/Others

- Client-requested changes
- Client delays in reviews and approvals.
- External factors client is responsible for.
- Jurisdictional changes.

Design Team Adjustments – What To Do?

- 1. Project Manger should discuss the situation with the relevant team members, consultants or market sector leaders.
- 2. Identify the options to resolve the situation with the least negative impact of the budget.
- 3. If a major adjustment is needed, review it with fellow project leaders.
- 4. Make whatever adjustments are necessary and still meet our contractual obligations to the client.
- 5. In situations where the issue has been visible to the client, communicate the adjustments to the client promptly.

Client and Other Adjustments – What To Do?

- 1. Project Manger should immediately identify all conditions associated with the situation.
- 2. Promptly communicate the situation to the client, pointing out that a fee or schedule change may be required to resolve it.
- 3. Discuss the situation with relevant team members, consultants or market leaders.
- 4. Identify options to resolve the situation and their associated costs.
- 5. Present options to the client and gain agreement on a solution.
- 6. Amend the contract as needed.
- 7. Adjust the project work plan to reflect the changes.

If the client is the cause of the issue, make every effort to gain agreement on a solution before proceeding with the work in question and incurring costs.

Project Work Planning Summary

- 1. Create a Project Work Plan for ALL PROJECTS.
- 2. Create a Project Work Plan prior to submitting a fee proposal.
- 3. Involve others in creating the Project Work Plan.
- 4. Employ a level of detail in the Project Work Plan commensurate with the complexity and scope of the project.
- 5. Use the Project Work Plan in the contract negotiation process.
- 6. Share the Project Work Plan with the project team.
- 7. Monitor the Project Work Plan a minimum of once per month.
- 8. Adjust the Project Work Plan as needed.
- 9. Request additional time and/or compensations as appropriate for adjustments.

Accounting Terminology

<u>Planned</u>: Initial labor hours and dollars planned prior to the start of the project.

<u>Job-To-Date (JTD):</u> Labor hours and dollars spent as of the current date.

<u>Estimate-To-Complete (ETC):</u> Labor hours and dollars estimated from the current date to project completion.

<u>Estimate at Completion (EAC)</u>: Estimated Total Direct Labor to be incurred by project completion based on Actual Direct Labor to date plus Projected Direct Labor to finish. EAC can also be calculated on Other Direct Expenses, Consultants and Profit.

<u>Planned – EAC</u>: The Balance (over/under) of labor hours and dollars project as of current date at project completion.

JTD + ETC = EAC
Planned - EAC = Balance

Deltek Cost Summary

	P	Labor +P	Expenses +	Consultants +P	Total Amts 🕀	Total Hrs →
Þ	Planned	335,981.00	151,459.00	133,602.00	621,042.00	12,830.00
	JTD	89,053.10	1,925.00	19,828.27	110,806.37	3,195.25
E	ETC	311,353.00	149,854.00	133,602.00	594,809.00	11,848.00
	EAC	400,406.10	151,779.00	153,430.27	705,615.37	15,043.25
	Planned - EAC	-64,425.10	-320,00	-19,828.27	-84,573.37	-2,213.25

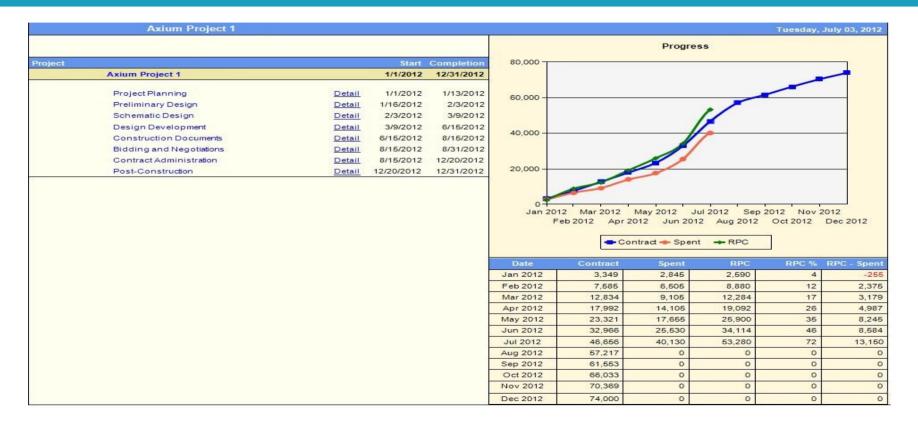
Deltek Cost Summary Detail

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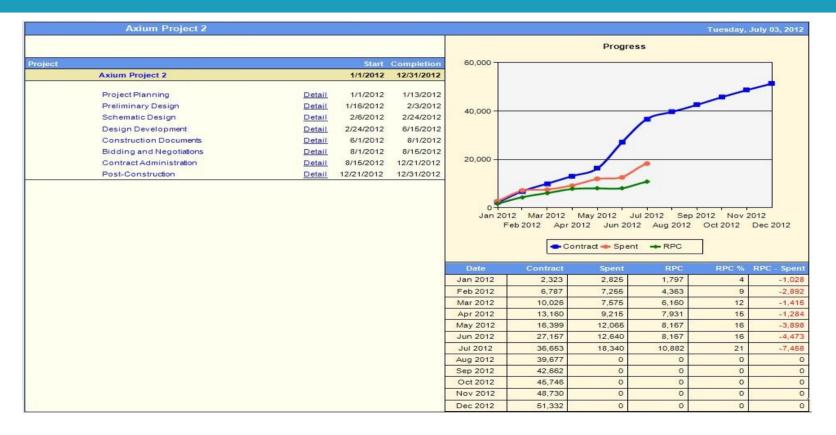
	<u> Labor</u>	<u>Hours</u>
Planned:	335,981.00	12,830.00
JDT:	89,053.10	3195.25
ETC:	311,353.00	11,848.00
EAC:	400,406.10	15,043.25
Planned-EAC:	-64,425.10	-2,213.25

Note: It is time to evaluate the Estimate-To-Complete Labor Dollars and Hours and identify potential adjustments that will affect the Estimate-At-Completion and reduce the project's losses.

Axium Progress Summary Example 1



Axium Progress Summary Example 2



Axium Progress Summary Examples Detail

Example 1

	<u>Contract</u>	<u>Spent</u>	<u>RPC</u>	RPC %	<u>RPC – Spent</u>	<u>Total Contract</u>
July 2012:	46,656	40,130	53,280	72	13,150	74,000

- 1. This project is doing well with a Reported Percent Complete ahead of schedule and Labor Dollars Spent.
- 2. It still is advisable to evaluate the ETC and confirm initial projected outcomes for the project.

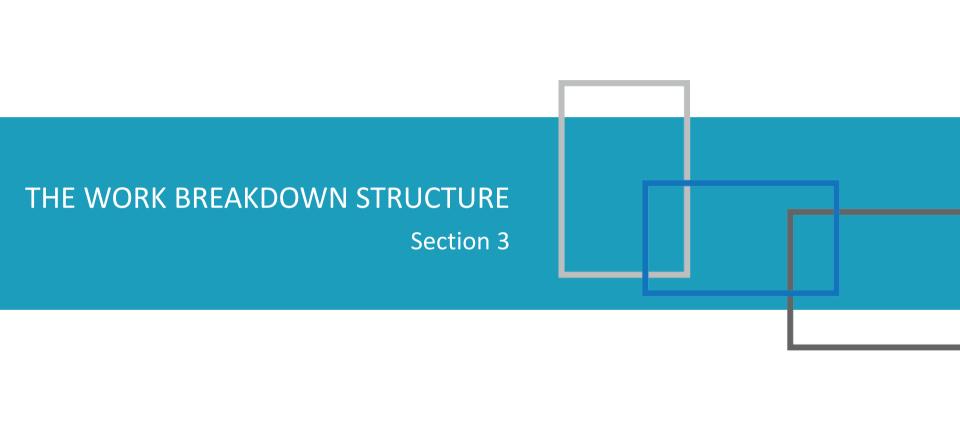
Example 2

	Contract	<u>Spent</u>	<u>RPC</u>	RPC %	RPC - Spent	Total Contract
July 2012:	36,653	18,340	10,882	21	-7,458	51,332

- 1. This project is not doing will with a Reported Percent Complete behind schedule and Labor Dollars Spent.
- 2. As with the Deltek example, it is time to evaluate the Estimate-To-Complete Labor Dollars and Hours and identify potential adjustments that will affect the Estimate-At-Completion and reduce the project's losses.

The Importance of ETC

Estimate-To-Complete is the single most important factor used in project tracking and monitoring; it must be done honestly, accurately and regularly to achieve project success.



The Value of Detail

When creating a project work plan, it is critical to plan down to a level of detail that defines individual tasks, the hours and costs associated with them and the schedule for performing them. The level of detail should reflect the complexity of the project (small, simple projects = small, simple project work plans).

Why are detailed Project Work Plans important?

- 1. Result in better understanding of the project scope.
- 2. During contract negotiations the detail helps make informed decisions on the impact of fee reduction to scope.
- 3. Detailed plans also help to explain the project to team members.
- 4. Detail provides the ability to monitor progress of deliverables and milestones and to control requests for work outside the contract scope of services.
- 5. Those outside a project team can understand and offer assistance if needed.
- 6. Projects can be handed off more effectively if necessary.

Work Breakdown Structure (WBS)

- •Level 1 Project Name
 - •Level 2 Phase

•Level 3 – Task

•Level 4 – Sub-Task

WBS Level 2 - Phase

- **Phase 1 Project Planning**
- **Phase 2 Preliminary Design**
- **Phase 3 Schematic Design**
- **Phase 4 Design Development**
- **Phase 5 Construction Documents**
- **Phase 6 Bidding/Negotiations**
- **Phase 7 Contract Administration**
- **Phase 8 Post Contract Services**

WBS Level 3 - Task

Phase 1 – Project Planning

Task 1 – Management

Task 2 – Sustainability

Task 3 – Communications

Task 4 – Project Quality Control

Phase 2 – Pre-Design

Task 1 – Management

Task 2 – Design

Task 3 – Sustainability

Task 4 - Production

Task 5 – Project Quality Control

Task 6 – Budget Evaluations

Task 7 - Communications

WBS Level 4 – Sub-Task

Phase 1 – Project Planning

Task 1 – Management

Sub-Task 1 – Task Level Management

Sub-Task 2 – Work Plan

Sub-Task 3 - Scheduling

Sub-Task 4 – Agreements

Sub-Task 5 – Accounting

Sub-Task 6 - Administration

Task 2 – Sustainability

Sub-Task 1 – Task Level Sustainability

Sub-Task 2 – Establish Sustainable Integrated Team Structure & Process

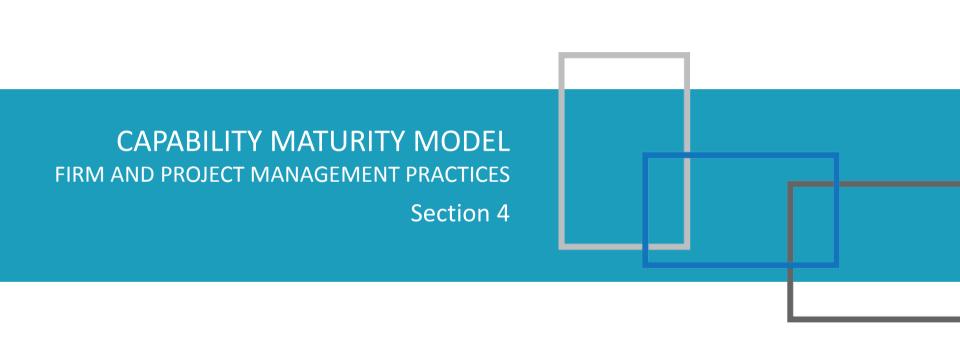
Work Breakdown Structure Summary

1 Project Name

- Phase 1 Project Planning
 - 3 Task 1 Management
 - 4 Sub-Task 1 Task Level Management
 - 4 Sub-Task 2 Work Plan
 - 4 Sub-Task 3 Scheduling
 - 4 Sub-Task 4 Agreements
 - 4 Sub-Task 5 Accounting
 - 4 Sub-Task 6 Administration

What Level Should Be Used?

- Work planning does not come in a "one size fits all" mold as firms and project types are variable as well as project managers and teams.
- 2. Prepare the project plans to the level of detail that works for the team, project size and complexity and project manager. Do not go to a level of detail that is hard if not impossible to manage.
- 3. I think Planning to three, maybe four in some cases, levels in the Work Breakdown Structure (WBS) are fine for most projects, don't take too long to prepare and provide a manageable plan that can be monitored and updated as required.
- 4. Planning to two levels by simply adding staff/resources at the phase level is typically not detailed enough; however, I've seen it work well for experienced project managers that are very engaged in the project work.
- Planning to two levels often works well if detailed deliverable lists and "cartoon/mock-ups" of drawings are done for each phase of work.



Capability Maturity Model (CMM)

Level 1 – Initial (Chaotic): processes that are undocumented, in a state of dynamic change, tend to be driven *ad hoc*, uncontrolled and reactive.

Level 2 – Repeatable: some processes are repeatable with consistent results.

Level 3 – Defined: there are sets of defined and documented standard processes subject to some improvement over time.

Level 4 – Managed: using process metrics, management can effectively control project processes.

Level 5 – Optimizing: the focus is on continually improving process performance through both incremental and innovative technological changes/improvements.

CMM is a registered trademark of Carnegie Mellon University

PM Maturity Levels from PSMJ:

- Level 1 Principals perform (and manage) all projects
- Level 2 Principals manage all projects; non-principals do the work.
- Level 3 Non-principals manage small projects and/or tasks on large ones
- Level 4 Principals designate PM's who perform some (but not all) PM duties
- Level 5 Principals turn over all PM duties to PM's
- Level 6 Principals develop a team approach with PM's
- Level 7 The best PM's become a principal-level position

From PSMJ Project Management Bootcamp Manual

www.psmj.com

Which level in the model is your firm?

And what are YOU going to do about it?

Step 1 - Perform an honest assessment to determine your current level:

- Where is your firm in the Capability Maturity Model?
- Where are your principals and managers in the PM Maturity Model?
- Step 2 Obtain FIRM-WIDE commitment to achieve the highest level in both models.
- Step 3 Design a program for improvement that uses real projects as a means for change and limits traditional "training" as much as possible.

Rightful Credits

I'd like to thank Bob Gillcrist and my former firm HOK for providing certain documents and information used in this presentation.

Thank You For Your Participation!

Related Publications

- PSMJ Newsletter, February 2013 Show Your PM's the Numbers (other articles on Project Management in PSMJ forthcoming in 2013)
- PSMJ Newsletters, March through June, 2013 –
 Accounting 101 for PM's (series of four articles)
- AIA Practice Management Digest Article Project Planning and Revenue Projections: Where project management connects with firm operations
- AIA Handbook of Professional Practice Project Budgets, Work Planning and Monitoring Chapter (Fifteenth Edition to be published in 2013)

For more detail go to:

http://www.scevansconsulting.com/publications.php





Two Specialty Services

- 1. Firm Operations and Project Management Practices
 Assessment: An evaluation of both Firm Operations and
 Project Management practices needs to be done at the
 same time; one without the other limits the potential
 for growth and profitability. These two aspects of a
 firm's practice must be connected in terms of the
 financial metrics used to monitor firm-wide and project
 performance. The Assessment is simple and efficient.
- 2. Custom Project Work Planning Workshop: A different approach than seminars by national firms is utilized. The approach is a hands-on sessions including accounting terms/methods, the project work planning process and team-building aspects of process. The Workshop is designed using the software currently used and respects a firm's culture and practices.

Contact For Questions, Further Information: 785-887-6240 Direct

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