

FOUNDATIONS OF PROJECT MANAGEMENT

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WHO AM I?



- Envirothon - exploring creeks, learning through field trips and fishing
- 2017, BS. Environmental Resource Management, Penn State
- 2017-2021, Penn State Ag & Environment Center
- 2021, Master of Project Management, Penn State
- 2021-spring 2025, TeamAg Inc. – Private Ag Consultant
- Current, Director with the State Conservation Commission

TYPE IN THE CHAT:

HOW MANY OF YOU MANAGE PROJECTS?

WHAT DOES PROJECT MANAGEMENT MEAN
TO YOU?



PROJECT MANAGEMENT FUNDAMENTALS: 3-LEGGED STOOL



Time



Cost



Quality



Quality (scope)



What is the overall goal and how will we reach it?

- Well defined, discrete deliverables
- Work breakdown (what tasks need to be done - group them)
- Specifications & Requirements

Identify stakeholders – Roles & Requirements

- Funding organizations (SCC, NFWF, DEP, etc.)
- Fund Recipients (Municipality, NGO, landowners, etc.)
- Technical Consultants (SCC or CD staff, 3rd party engineers, municipal staff, etc.)
- Project Owner
- Government Agencies (Federal, State, County, Municipal)

How will we recognize & track progress and success?

- SMART Metrics (specific, measurable, achievable, relevant, time-bound)
- Set expectations
- Limit scope creep



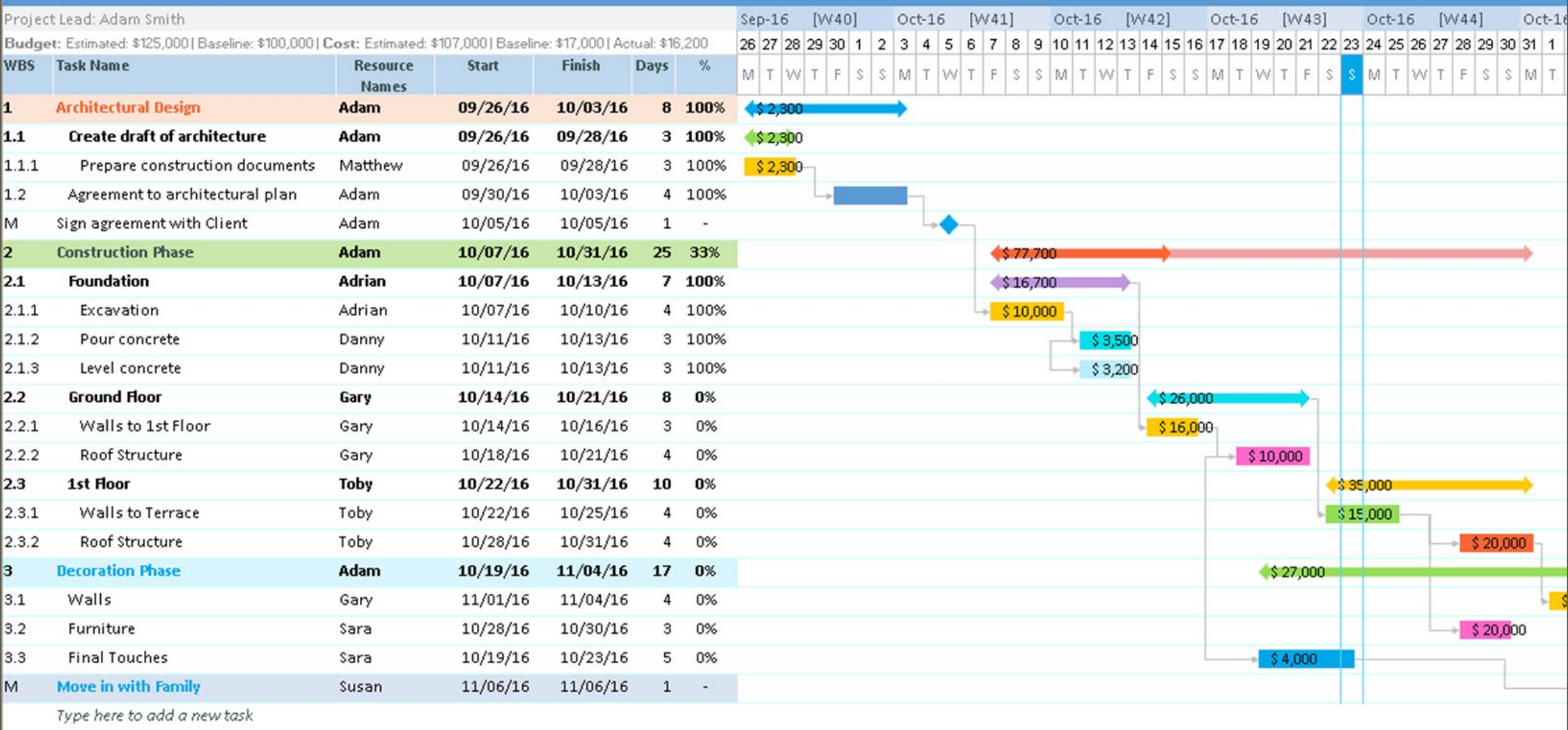
Time

Now that we know what we're doing and how:

- Assign duration to tasks and/or work packages
- Sort out any "dependencies"
- Consider your "critical paths"
- Make a schedule
- Assign parties if/when you can



Gantt Charts





Cost



Estimating (time, labor, materials)

- Admin, Planning , Design, Permitting
- Procurement/Bidding
- Implementation/Construction
- QA/QC Inspections
- Closeout

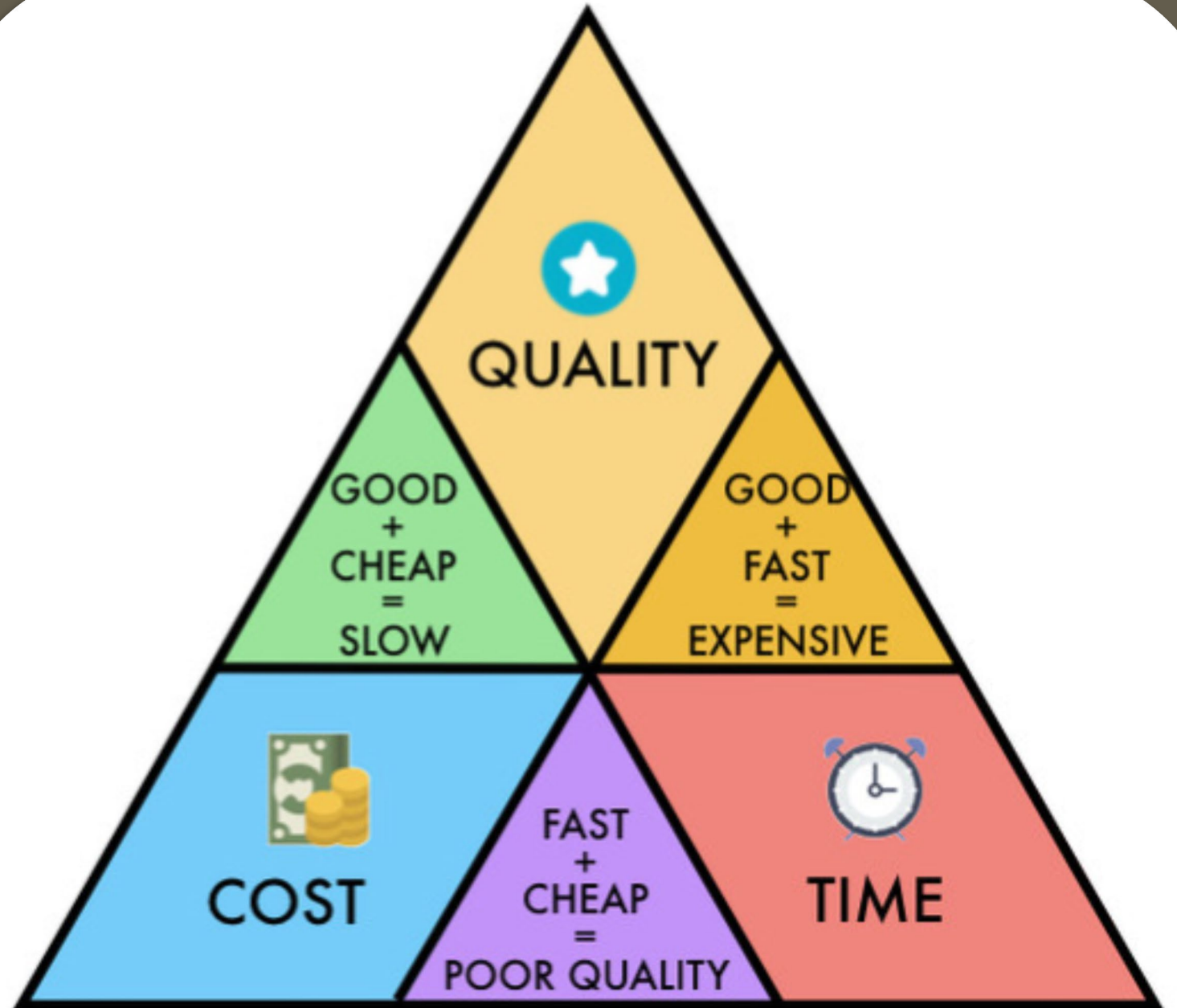
Financing

- Grants, Loans, Cash match

Bidding (competitive pricing)

- Request Quotes
- Informal Bids
- Sealed/Public Bids

FIND & BALANCE VALUE



UNDERSTANDING, PURSUING, & DELIVERING VALUE

- We all want "successful" projects
- Success can mean many things, to many people
- You can't manage what you don't understand, and you can't understand what you don't track!
 - Time (Schedules)
 - Cost (Budgets)
 - Quality (Scope, Specs, & Deliverables)
- Technology can be a powerful aid
 - CRM - Client Relationship Management
 - ERP - Enterprise Resource Planning
 - Project tracking software
 - Excel (fine tune your formulas!)



EXAMPLE PROJECT

Problem: There's a remote stream crossing in a state forest. It currently has 2 under-sized pipes, which are causing backups involving debris jams and flooding on the upstream side. The downstream side has some head-cutting and is limiting fish passage upstream. These issues are causing the maintenance crew a lot of trips out to the site and require more attention than other crossings they manage.

Project (Scope): Remove old, undersized culverts and replace them with a larger, single crossing that matches existing stream bed conditions, allows for fish passage, and reduces flooding and maintenance attention.



**BALANCING VALUE INVOLVES
MANAGING RISKS.**

WHAT RISKS CAN YOU THINK OF?



THAT AIN'T RIGHT - NOW WHAT?

- A field technician conducts regular inspections of critical installation items
- They find that something is not being, or has not been installed correctly
 - Cross pipes installed too deep
 - Insufficient crown on DSA
 - Etc...
- Best time for corrective action is now - QA before closeout is essential
- Request guidance from engineer/designer and reference admin manuals
- Discuss issues with stakeholders (engineer, contractor, funder, project owner) to make informed decisions
- Identify responsibilities - create a plan of action



DIFFERENT TYPES OF RISK TO CONTROL

		IMPACT				
		VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
PROBABILITY	VERY LIKELY	Yellow	Orange	Red	Red	Red
	LIKELY	Green	Yellow	Orange	Red	Red
	POSSIBLE	Green	Yellow	Yellow	Orange	Red
	UNLIKELY	Green	Green	Yellow	Yellow	Orange
	RARE	Green	Green	Green	Green	Yellow

HOW CAN WE MANAGE RISK?

- No dry seats on the Titanic!
 - Some risks are unavoidable, but manageable
- Contract Development & Review
- Expectation Setting/ Good Communication
- Contingency Planning
 - Insurance
 - Bonds
 - Risk register with mitigation plans



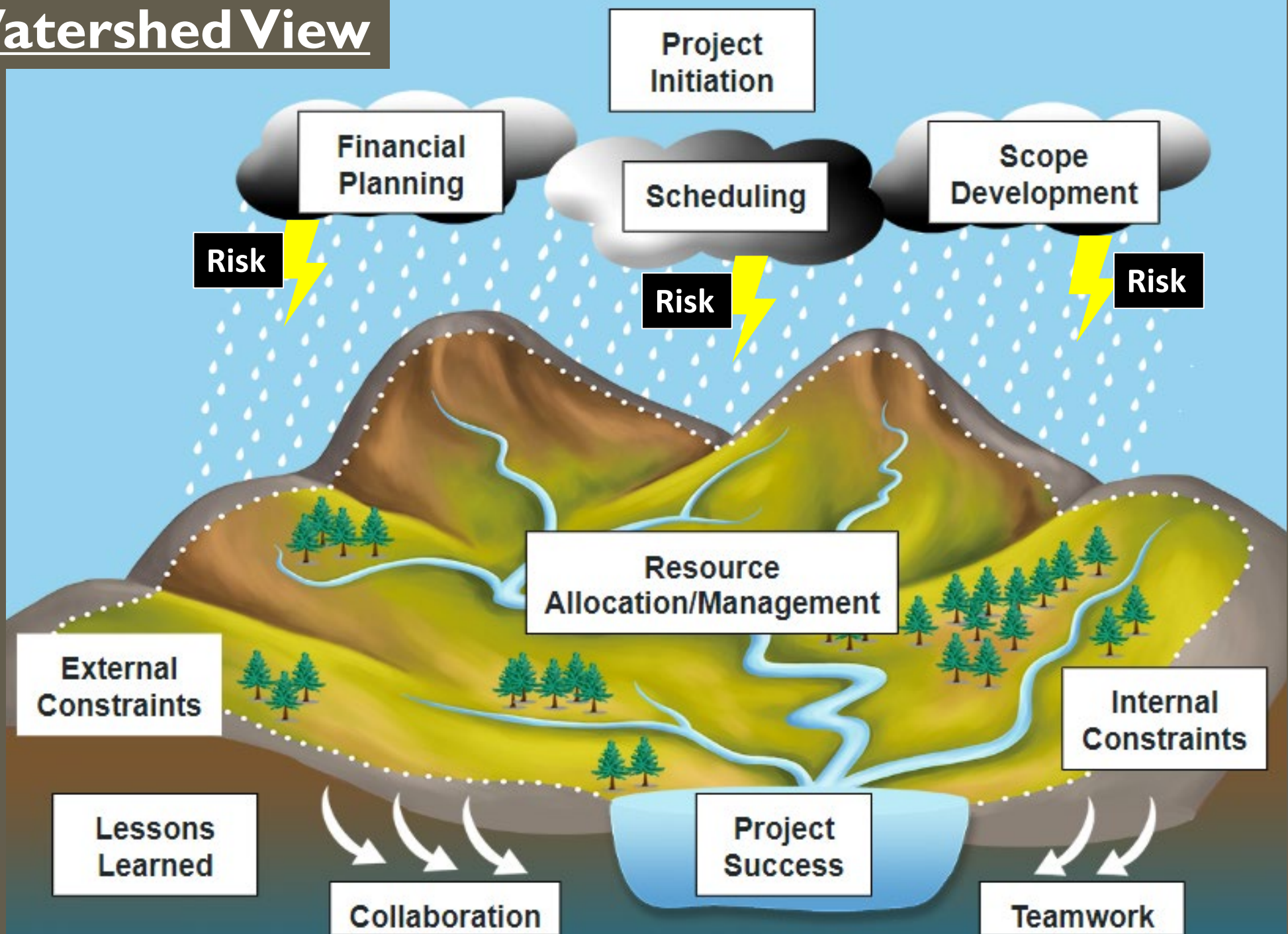
“An ounce of planning is worth a pound of cure”

PLANNING CONSIDERATIONS



- Good contracts = Better risk management
- Bid process can make contracts more effective
 - Communicate requirements/expectations
 - Answer questions transparently and equally
 - Contractors can help improve the scope in some cases
 - Bad bids are bad for everyone involved
- Always defer to PE sealed designs, program specifications, and admin manuals

The Watershed View



IMPORTANT TAKE-AWAYS

- Project management can drive success or cause strife – regardless of your position or organizational mission
- When things are chaotic, remember the foundations of management
- You will run into issues - learn from those issues and the folks around you
- Good project managers continue to learn and adapt endlessly



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Don't forget to have a little fun!

