



Kiewit



CPM SCHEDULES

AS A MANAGEMENT TOOL

AGENDA



INTRODUCTION



**WHAT IS A CPM
SCHEDULE**



**LIFECYCLE OF A
CPM SCHEDULE**



**MANAGEMENT
TOOLS**



**BENEFITS &
PITFALLS**



INTRODUCTION



ASIA KESSINGER

Schedule Manager with Kiewit since 2006

Background in transportation infrastructure including tunnels, bridges, and rail.



MATT MCMILLAN

Project Engineer with Kiewit since 2013

Background in heavy civil infrastructure projects ranging from bridges, roads, utilities, and power delivery.



SIGNIFICANCE	IMPORTANCE	BENEFITS
Required by contract	Time management	Enhances coordination
Documentation of plan and progress	Resource utilization: direct impact on cost	Identifies bottlenecks
Critical tasks identified for decision making	Accountability with partners	Contingency planning

KEY COMPONENTS OF A CPM

Milestones

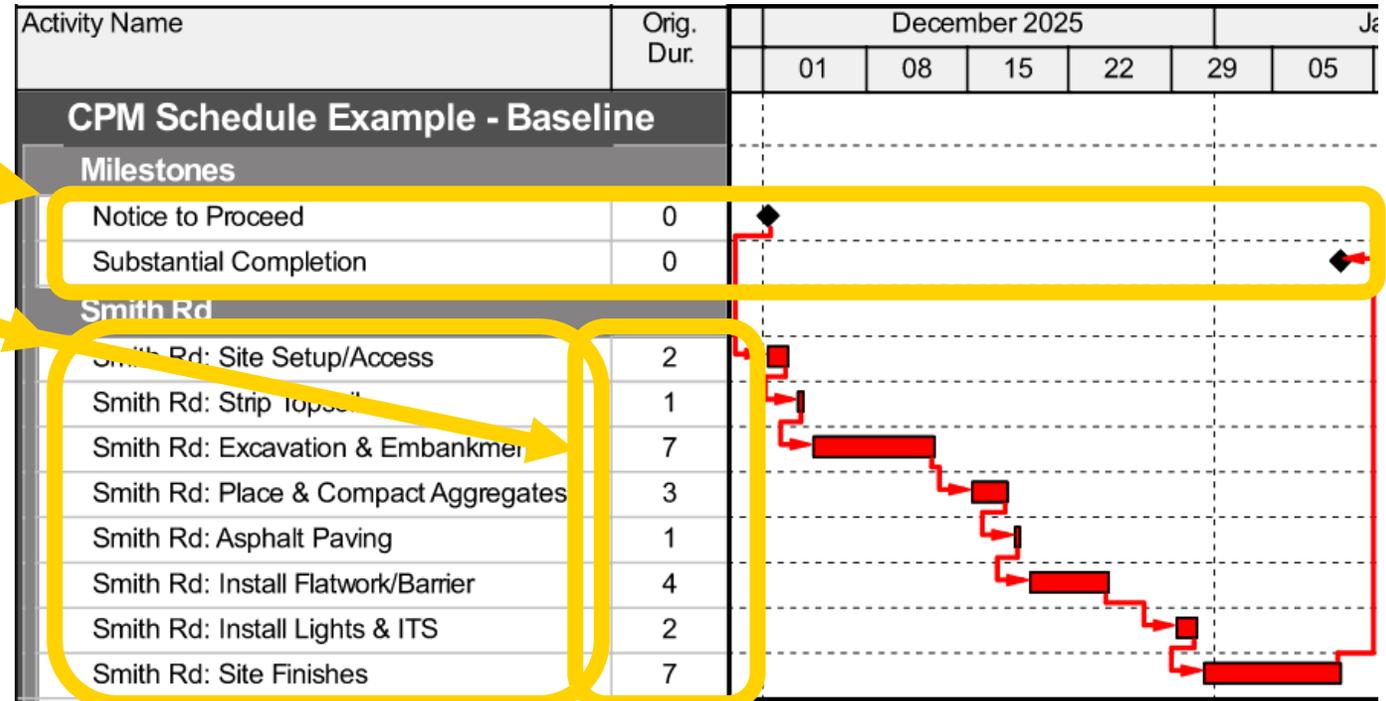
Clear Descriptions

Durations – in days, weeks, etc.

- Plan at the right level
- Understand Non-Work Periods

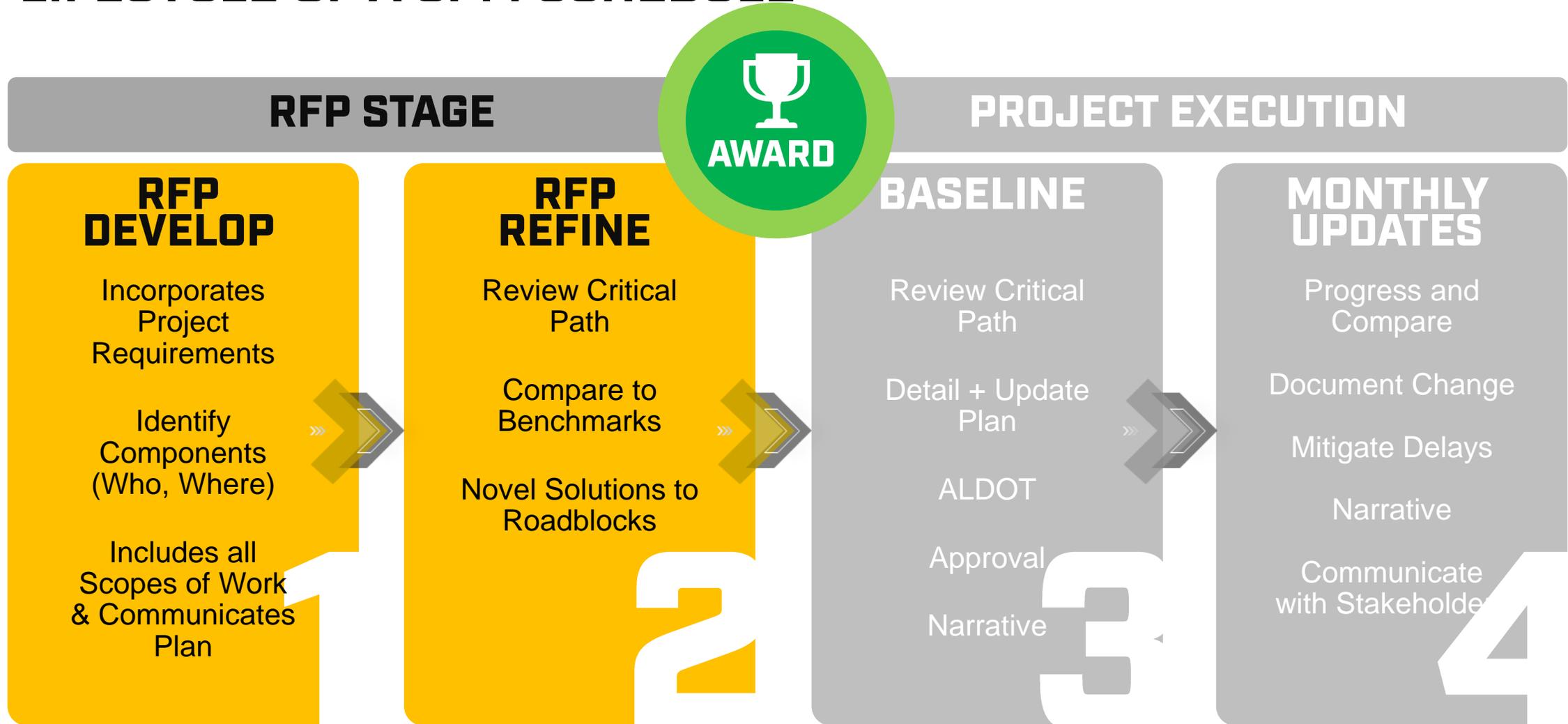
Logic/Relationships:

- Predecessors and Successors
- Physically driven logic:
 - Rebar before Concrete
- Resource driven logic
 - Two cranes, 4 work fronts
- Externally driven logic
 - Hurricanes

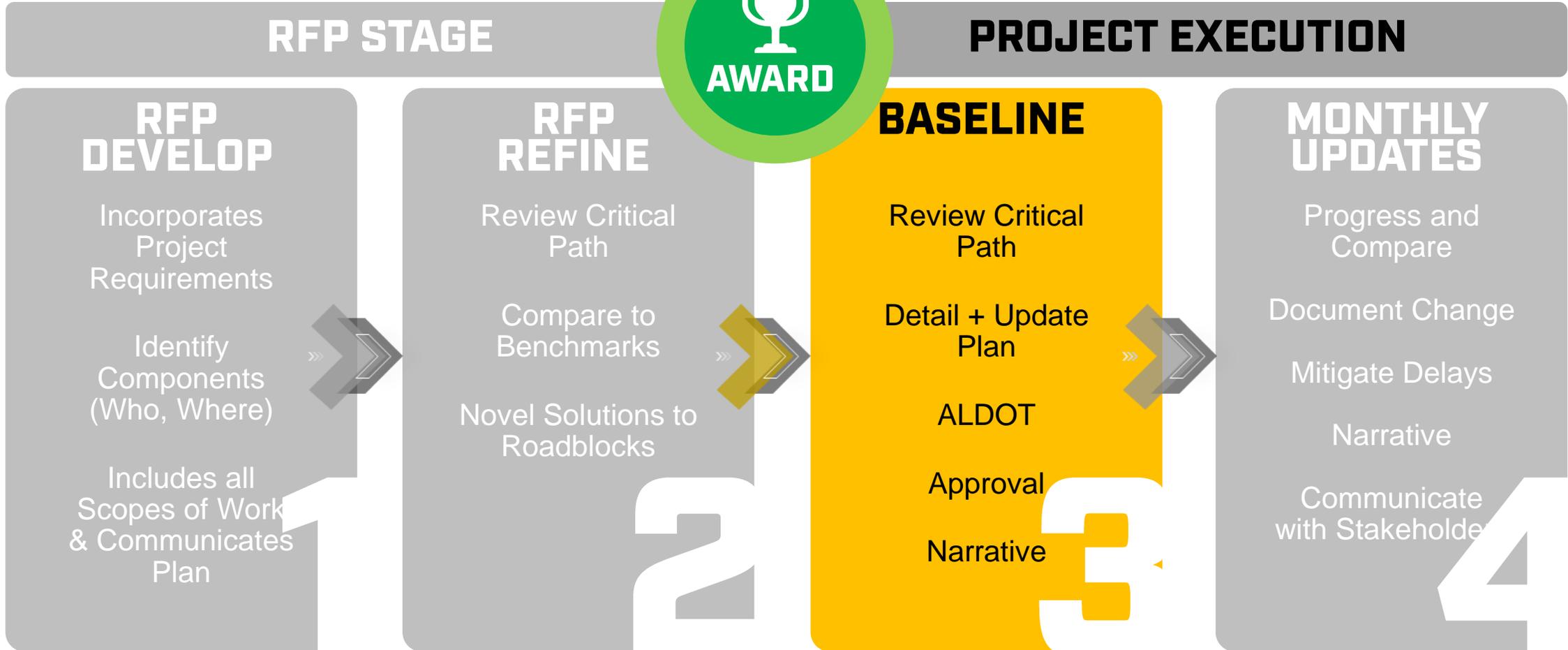


**EVERY TASK NEEDS TO HAVE
AT LEAST ONE LOGIC TIE
EXCEPT THE FIRST AND LAST
FOR THE PROJECT**

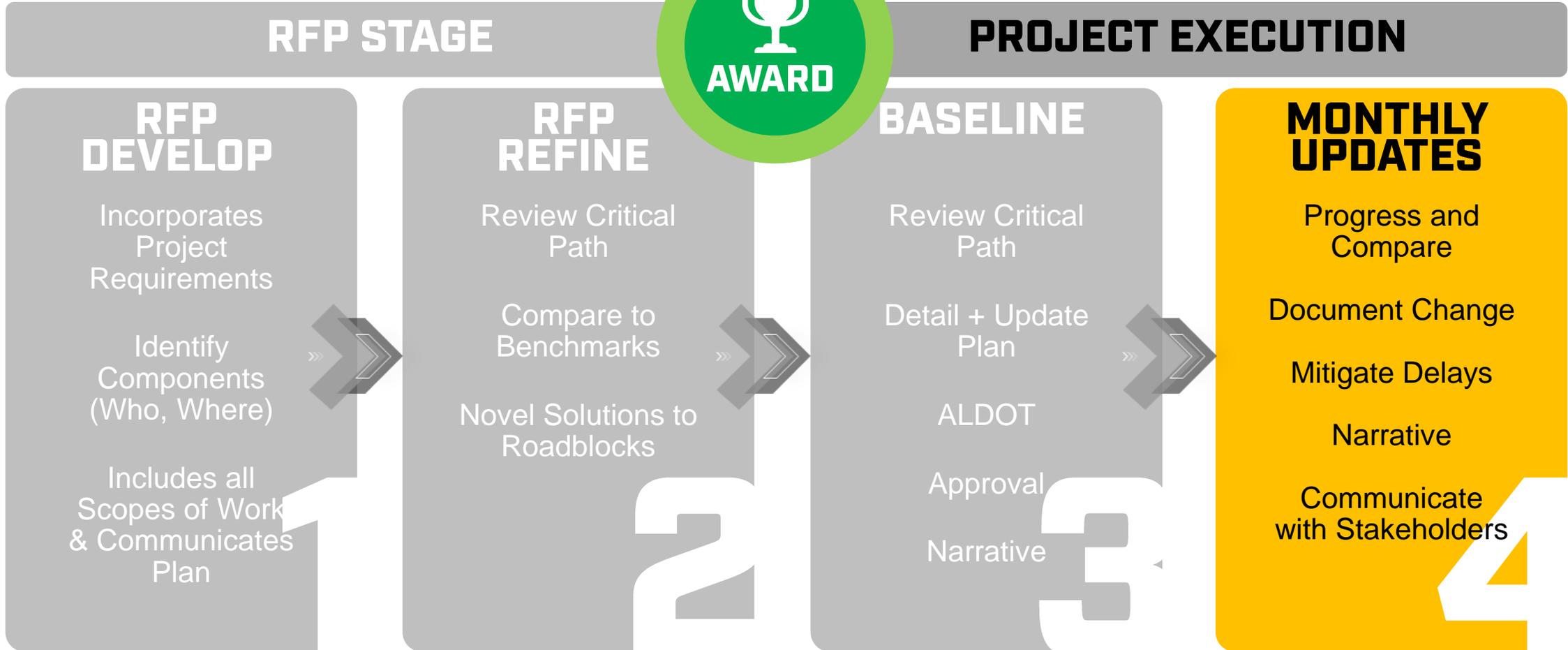
LIFECYCLE OF A CPM SCHEDULE



LIFECYCLE OF A CPM SCHEDULE

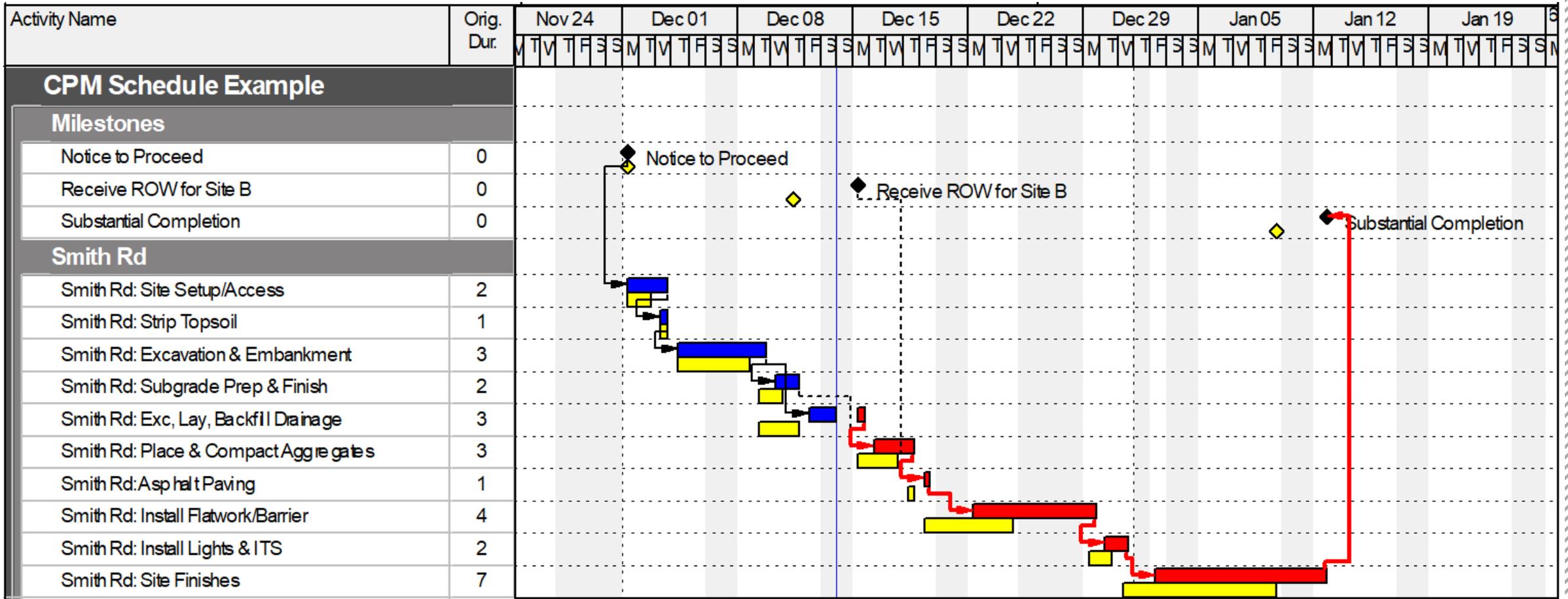


LIFECYCLE OF A CPM SCHEDULE



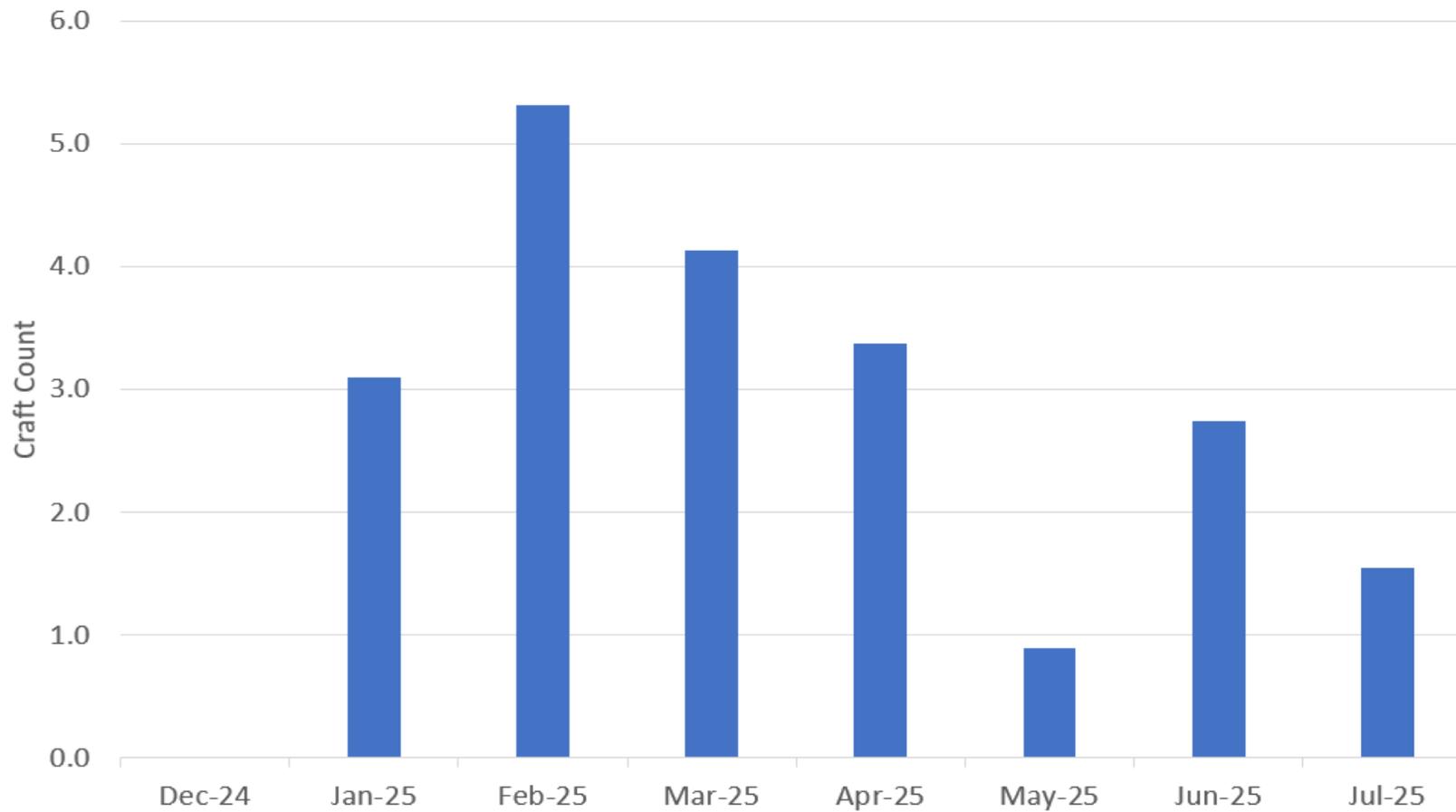
MONTHLY UPDATES

UPDATE: a periodic examination of progress



MANAGEMENT TOOLS: RESOURCES

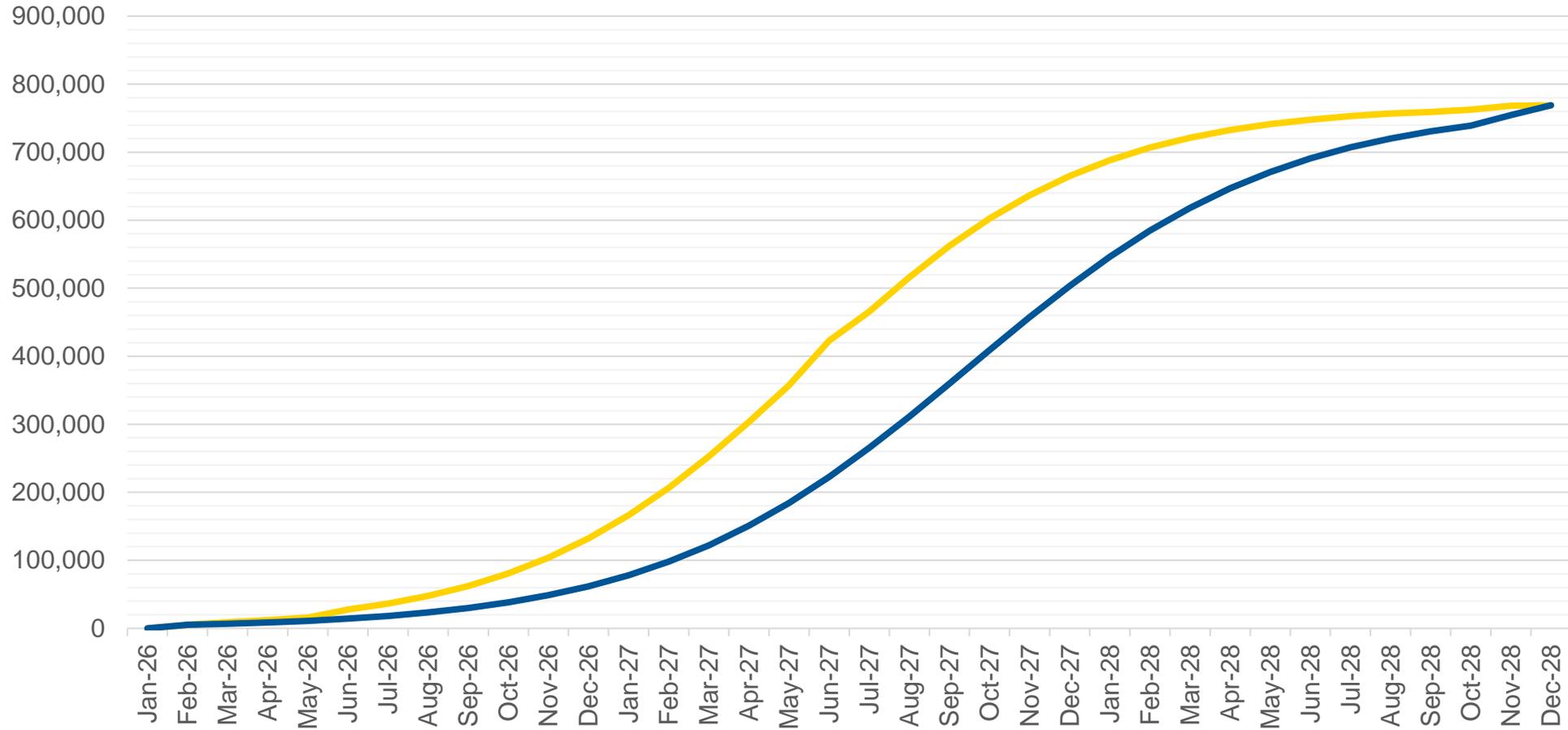
Crew Count by Month
Assuming 10 hours, 5 days workweek



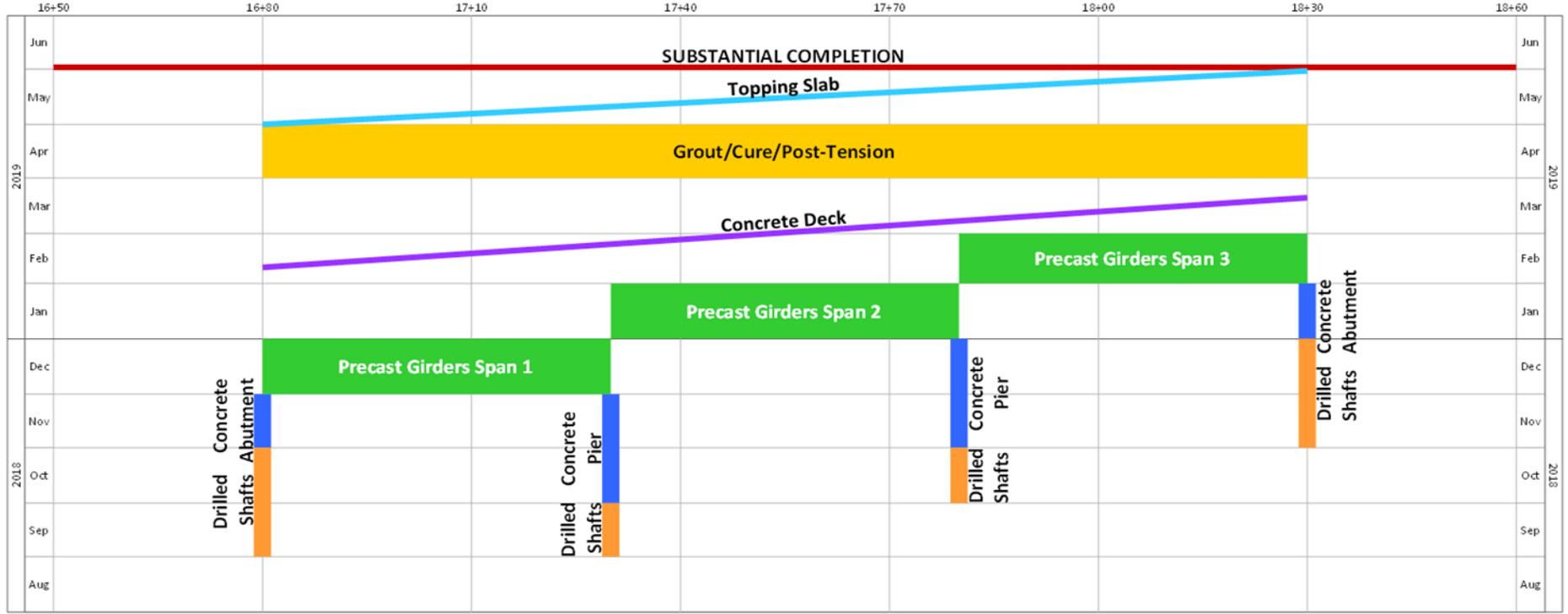
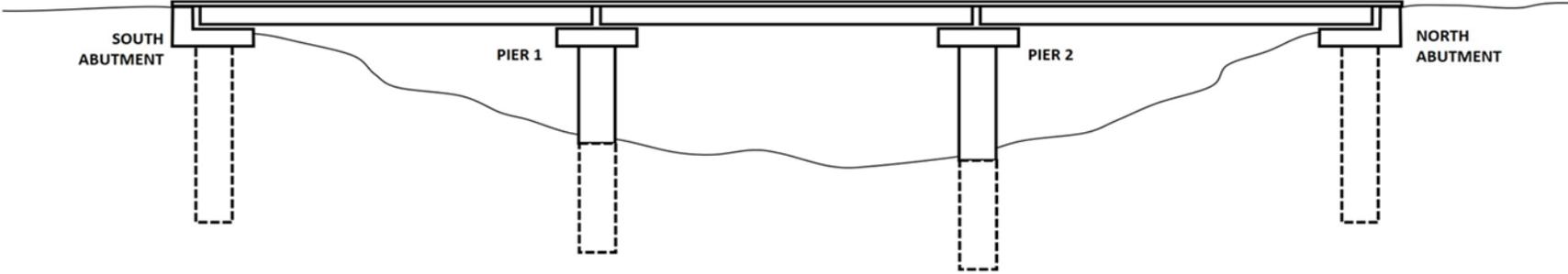
MANAGEMENT TOOLS: RESOURCES

Manhours over Time

— Early Start — Late Start



MANAGEMENT TOOLS: LINEAR SCHEDULE



MANAGEMENT OF DELAYS & CHANGES

Indirects and LDs: Significant Cost



Periodic Updates are Bookends



Delays (Internal, External, Regional, Acts of God)



Appropriate Detail: Task Ownership

Activity Name	January 2026				
	29	05	12	19	
Smith Rd: Asphalt Paving					
Smith Rd: Install Flatwork/Barrier					
Smith Rd: Install Lights & ITS					
Smith Rd: Site Finishes					

A well-managed project using CPM builds confidence and trust between the client and the contractor, leading to higher client satisfaction and potential for future collaborations.

BENEFITS

CONTRACTOR	CLIENT
Resource Efficiency	On time delivery
Data Driven Insights	Accountability
Change Management	Deeper understanding of progress/value
Scenario/What-If Analysis	Identification of upcoming work / Staff allocation
Clear Communication Tool	

PITFALLS



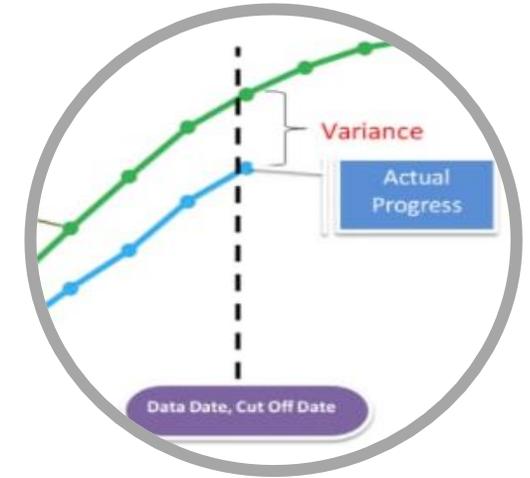
SCHEDULE QUALITY



LEVEL OF DETAIL



SCHEDULE DATA



SCHEDULE PROGRESS

THANK YOU!



Mobile River Bridge