



# Build**PERALTA** Academy

Build Peralta Academy  
Scheduling Basics  
Wednesday, January 13, 2021



# Safety - Starts with Self Wellness Tips



- Exercise. Aim for at least 30 minutes of exercise daily



- Eat healthy



- Avoid mind-altering substances



- Prioritize sleep



- Build an internal locus of control



- Quiet time 10 minutes a day



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Academy

# Agenda

- Welcome
- Commitment to Local Businesses
- Build Peralta Academy Schedule
- Course – Scheduling Basics
- Survey
- Closing



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Meet  
The  
Team



# Shonda Scott

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CEO / Founder  
360 Total Concept



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# Commitment to Local Businesses

Shonda Scott, 360 Total Concept

- PCCD Small Business Policy
  - 25% Small Local Business Participation
- Certification (small business located in 6 cities in Peralta District: Alameda, Albany, Berkeley, Emeryville, Oakland and Piedmont)
  - SLBE: Revenue size has not exceeded gross annual revenue for the past 3 consecutive years
    - Construction Firms: \$8.5M > under
    - Goods Non-Professional Services Firms \$6M > under
    - A/E and Professional Services \$3M > under
  - SELBE
    - For businesses that have not exceeded revenue of \$1.5M past 3 consecutive years
- Host Outreach Meetings
- Matchmaking Sessions with Primes
- Build Peralta Academy
  - Technical Assistance Workshops



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Meet  
The  
Team



# Bonnie James

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CEO  
BRJ & Associates



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# Build Peralta Academy Course Schedule (9 Part Series – Technical Assistance Workshops)

Course Title	Description	Instructors	Date
Developing A Safety Program During COVID19 Era	Learn The Law(s) Federal OSHA has approved California's use of its version of construction and OSHA safety	BRJ & Associates - Mark Edwards Avitus Group – Bill Kane	9/30/20
How to Bid Informally and Formally including CUPCCAA	Learn how to bid informally and formally including the CUPCCAA process, pre-qualification and other PCCD contracting procedures	PCCD – Brian Slaughter AECOM - Ray Loving	10/14/20
Small Business Guide to Access Capital; Manage Profitability and Cashflow	Learn about programs and opportunities for small businesses to achieve capital/cashflow in a COVID-19 Era, including PPP loan forgiveness	SBA - Julie Clowes Summit Bank - Tom Duryea FHLB–Kevin Blackburn PCV - Adria Moss Avitus Group - Pete Maki 360 Total Concept - Shonda Scott	10/28/20
Change Management: How to Manage Scope, Schedule & Budget	Learn the principles of planning for the identification and management of changes	PCCD Program Management/ Construction Management PM Panel: AECOM, BRJ, Kitchell, Roebblen, Swinerton	11/12/20
How to Obtain Bonding/Insurance	Learn how to obtain construction bonds and insurance for major projects and how to build bonding capacity for your company	Merriwether & Williams	11/18/20
Learn more about PCCD Small Business Program and Local Small Business Certification	Learn about PCCD's small local business program and how to get certified with local agencies	PCCD - Atheria Smith City of Oakland - Ernestine Nettles Port of Oakland - Ramona Dixon 360 Total Concept - Shonda Scott	12/09/20
How to Prepare Estimate	Learn the principles of how to prepare a construction estimate	AECOM - Peter Morris	12/16/20
Scheduling 101 - How to Prepare A Schedule	Learn the basics about project schedules: from critical path method to work breakdown structure and everything in between	AECOM - Craig Olsen	1/13/21
Small Business Administration Update - Surety-Bond Guarantee, PPP and loans	This course will provide details on SBA programs and they benefit small, local firms interested in working on public sector projects.	SBA - Julie Clowes	1/27/21



Meet  
The  
Expert



# Craig Olsen

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Senior Program Controls Manager  
AECOM

Credentials:

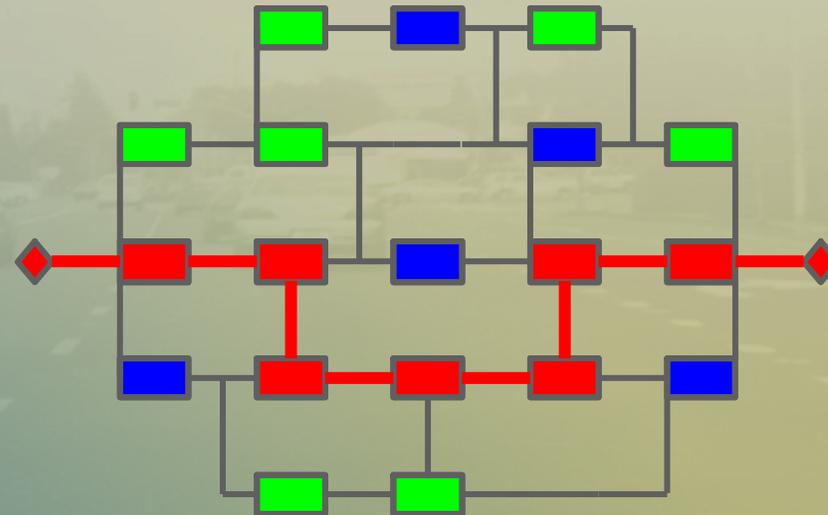
- CCP - Certified Cost Professional (AACE)
- PSP - Planning & Scheduling Professional (AACE)
- CCM - Certified Construction Manager (CMAA)
- eBCP>T - Certified eBuilder Professional & Trainee



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# SCHEDULING BASICS 101

January 2021





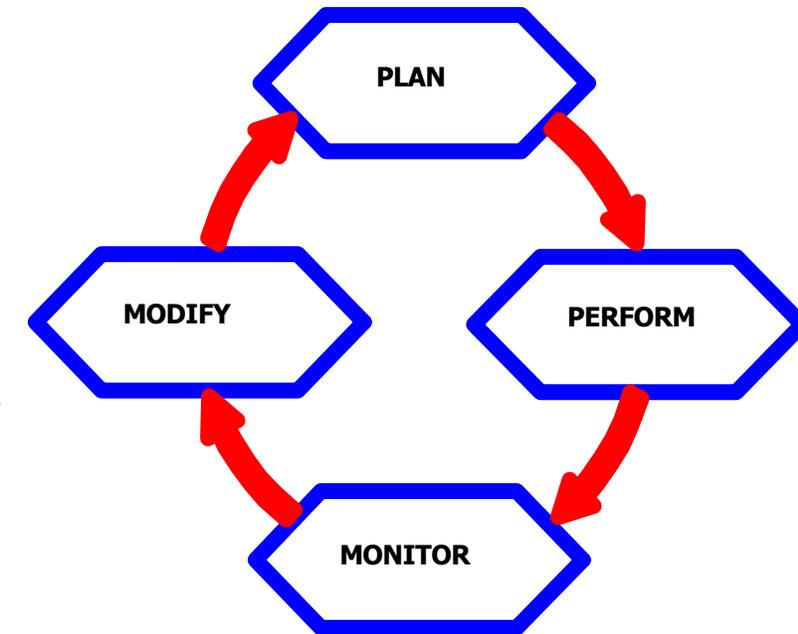
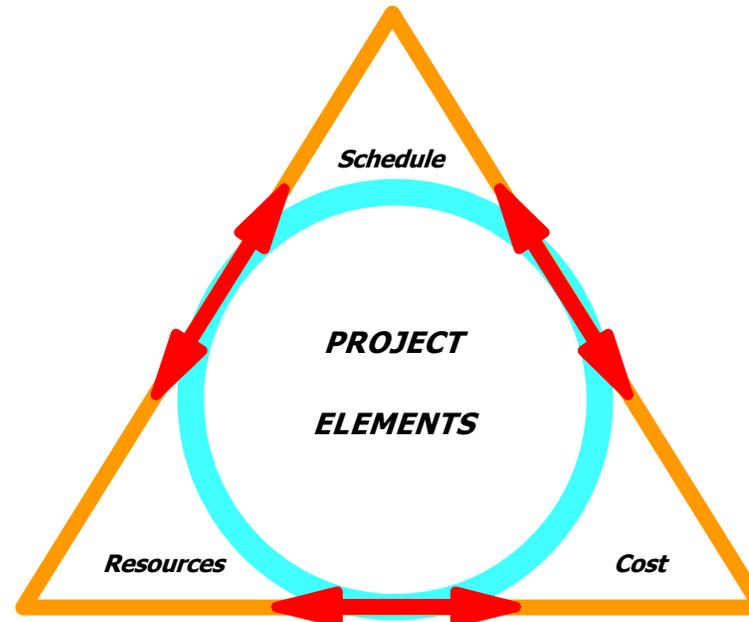
# Critical Path Method Scheduling (CPM)

- Time-phase model of tasks
- Calculates Critical Path
- Relationships and lags
- Facilitates time impact analysis

**CPM**

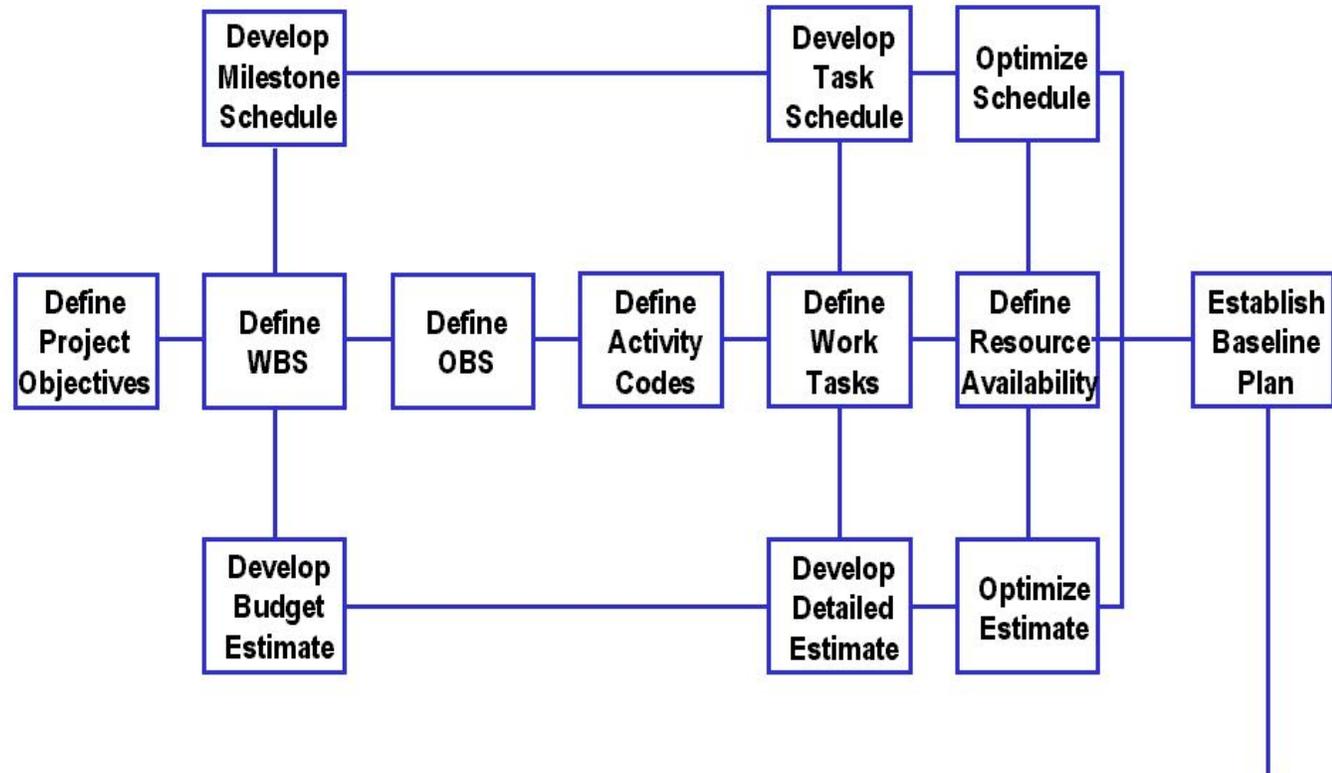
# Schedule Elements & Cycle

- Elements
- Cycle



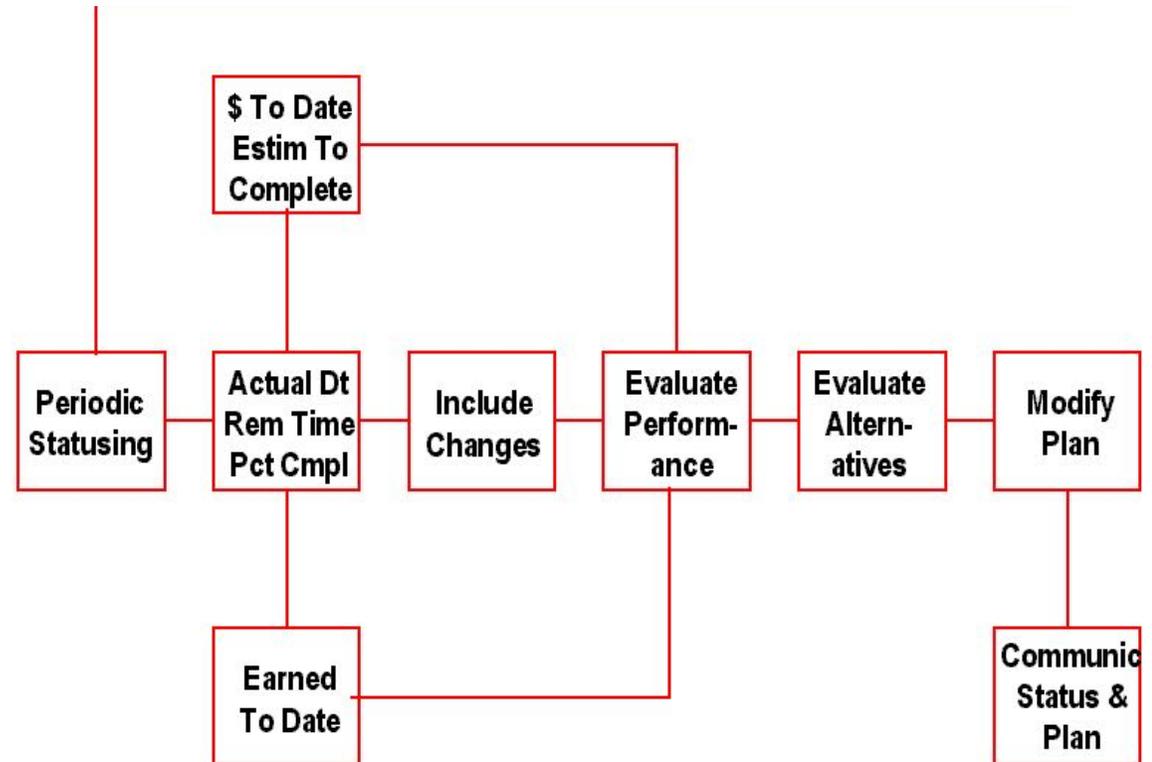
# Planning

- Objectives
- Team
- Information
- Work Plan
- Resources
- Costs
- Baseline



# Control

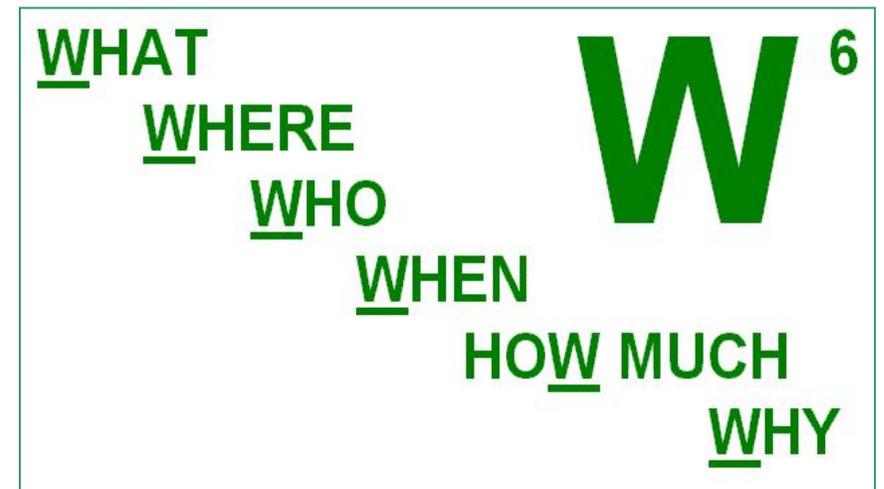
- Progress Updates
- Forecasts
- Measure
- Workarounds
- Revised Plan
- Communicate





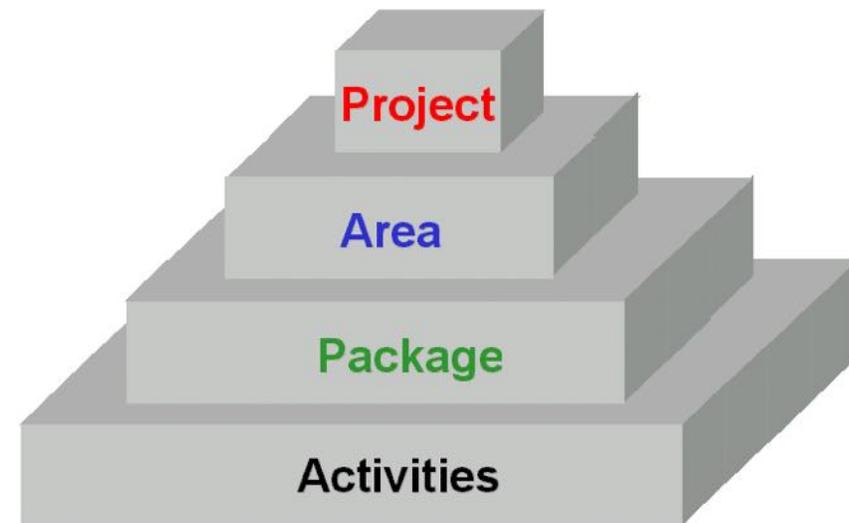
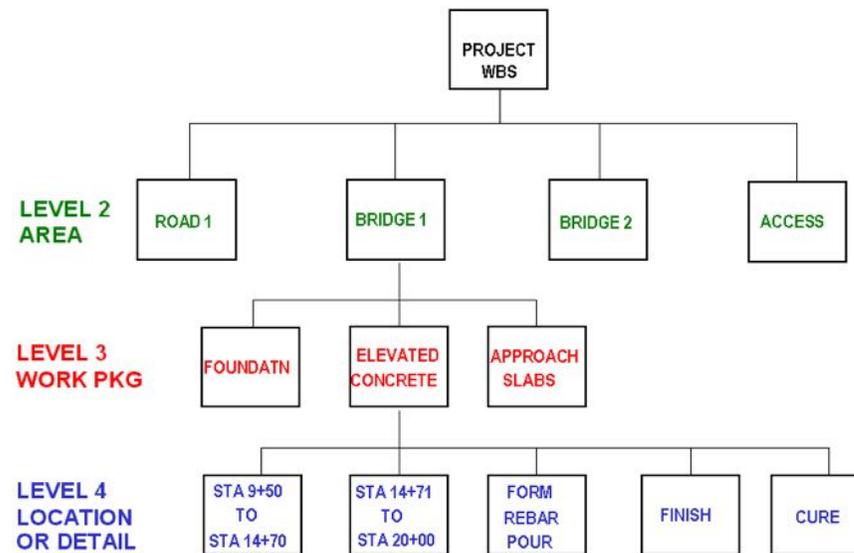
# Schedule Information Basis

- What has to be done?
- Where does it take place?
- Who has to do it?
- When does it have to be done?
- How much should it cost?
- Why does it have to be done in a certain sequence?



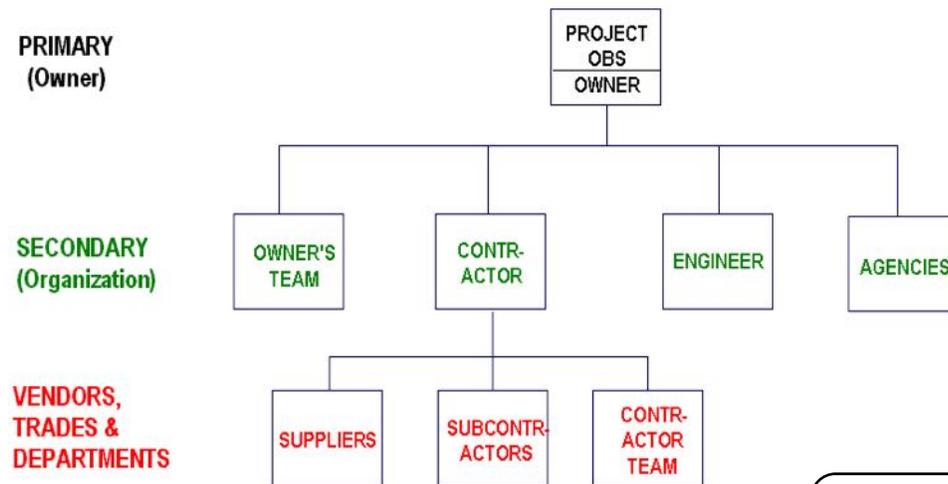
# Work Breakdown Structure (WBS)

- Organization of work to be performed
- Information Structure
- Facilitates Reporting

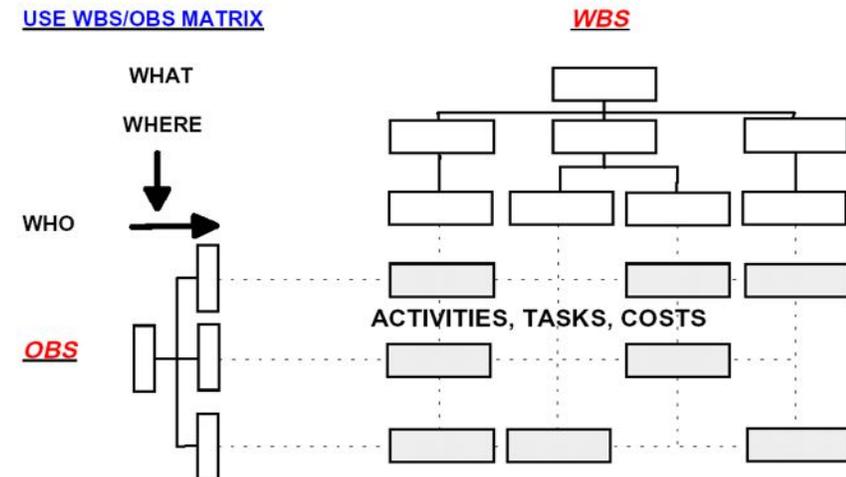


# Organizational Breakdown Structure (OBS)

- Team Organization
- Responsibility
- Reporting

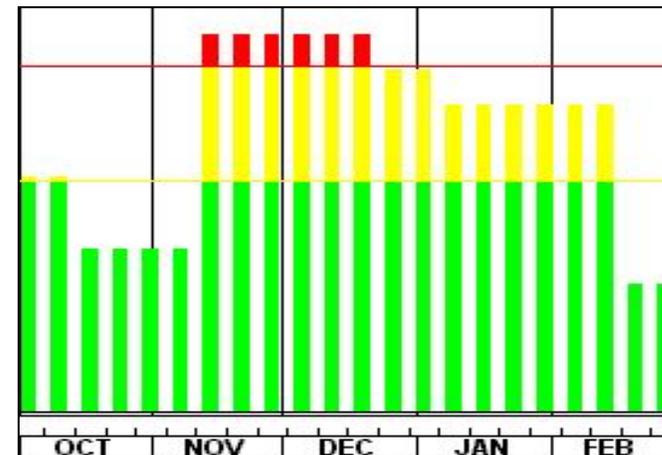


USE WBS/OBS MATRIX



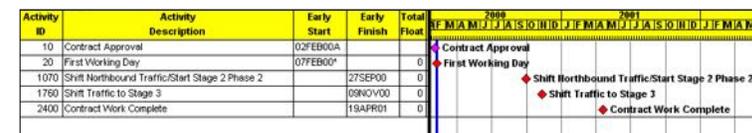
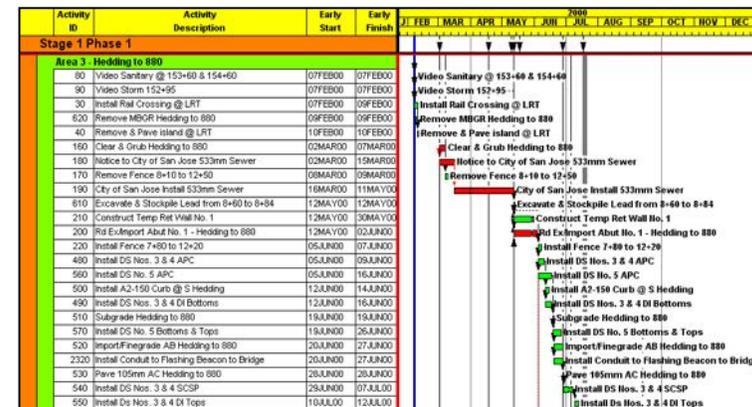
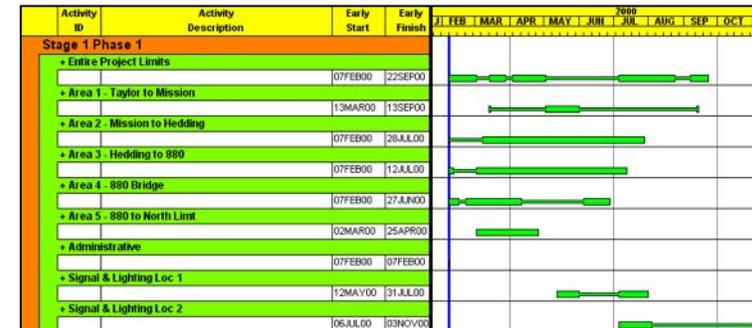
# Uses & Benefits of Schedules

- Identify Interfaces and dependencies
- Team's work plan
- Management Tool
- Analyze resource utilization
- Forecast completion



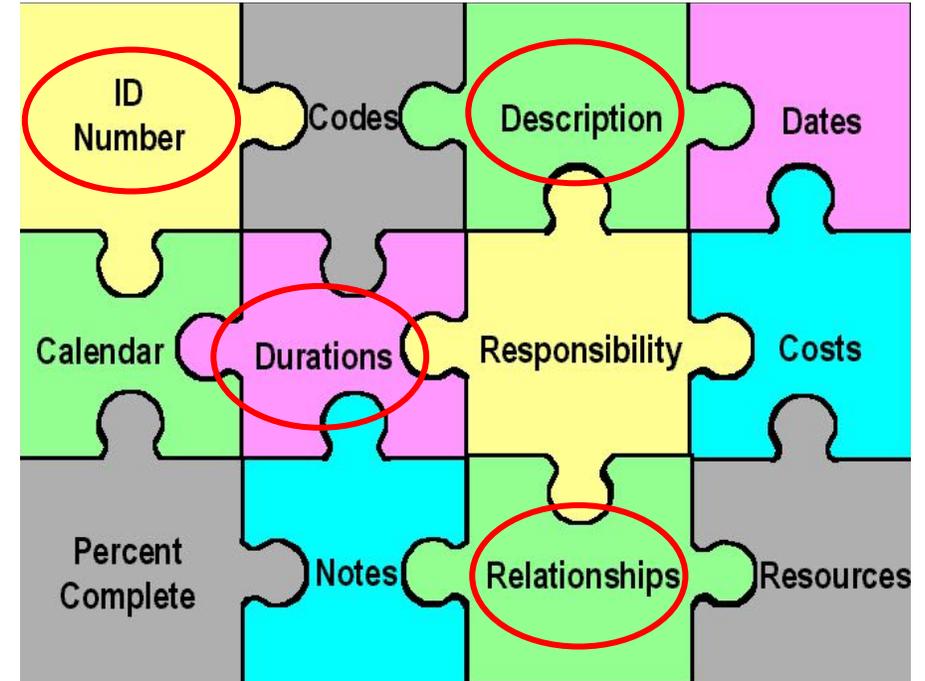
# Types of Schedules

- Summary provides rolled-up view
- Detail shows activities, relationships and sequence
- Milestones for key project dates
- Different perspectives from same file



# Schedule Details

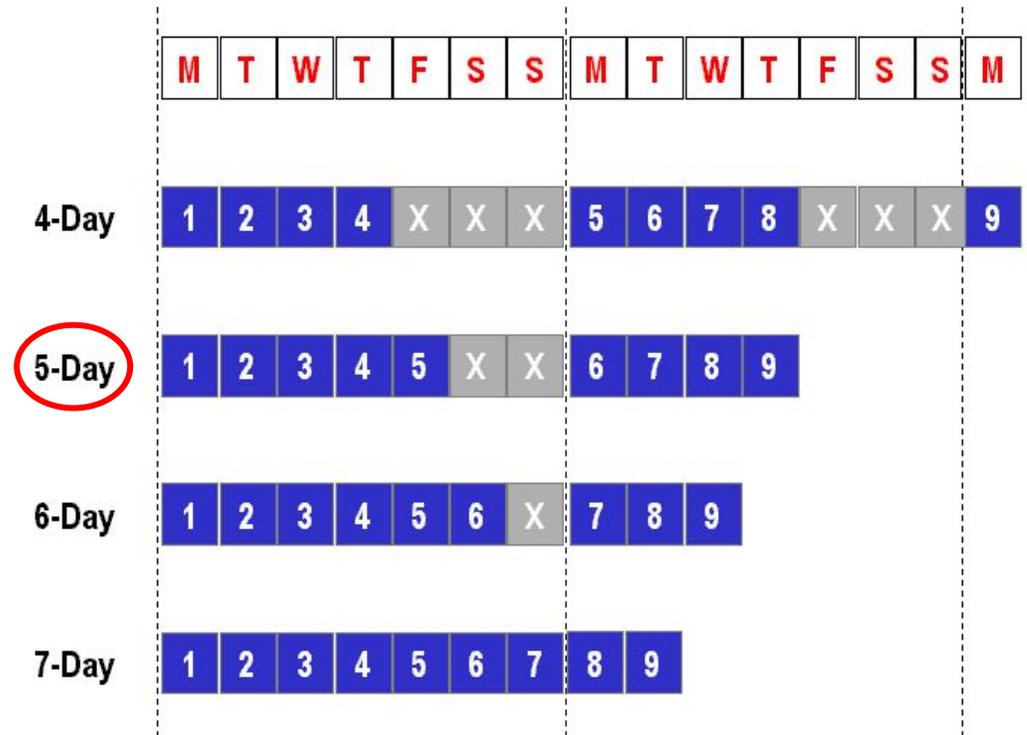
- Database of activity information
- Minimum Requirements
- Recommended items
- Optional items
- Other information





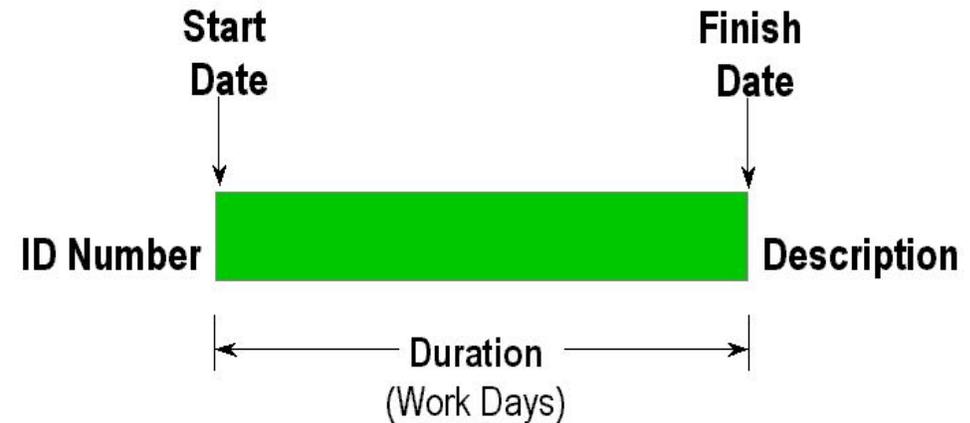
# Calendars

- Defines workdays and non-workdays
- One calendar per activity
- Multiple calendars per project



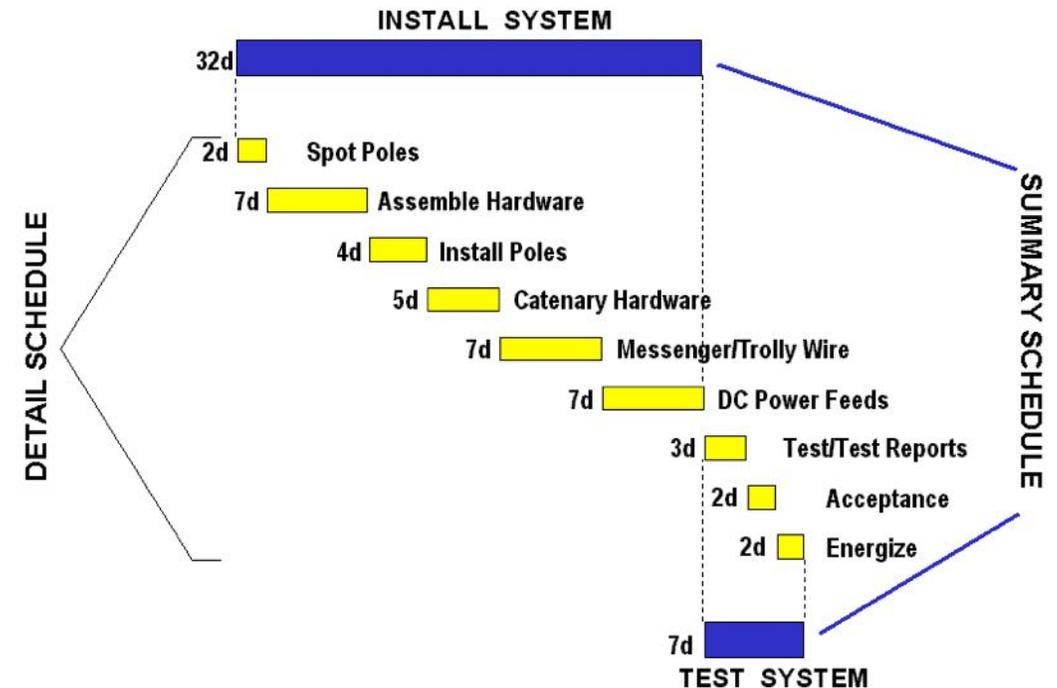
# Activities (bar elements)

- ID Number
- Start and Finish Dates
- Duration
- Description



# Activities (level of detail)

- High level activities represent a process or group of tasks – more difficult to manage
- Detail activities provide better information for relationships and events





# Milestones

- Designate start or finish of a group of activities or events
- Points of measurement
- Simplified perspective of project schedule

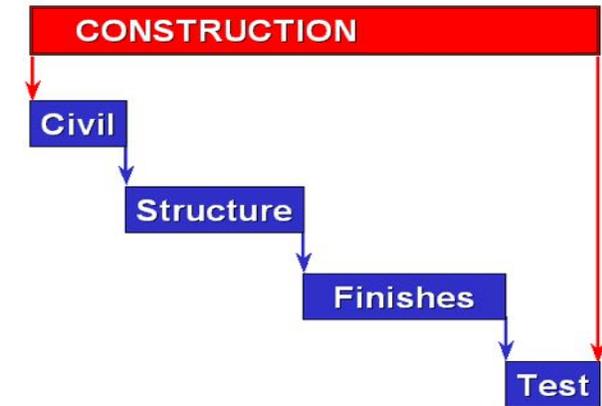
Act ID	Description	Orig Dur	2001												2002											
			Gantt chart for 2001												Gantt chart for 2002											
<b>STAGE 1</b>																										
1100	START CONSTRUCTION CONTRACT	0	[Gantt bar from start of 2001]																							
1700	COMPLETE STAGE 1	0													[Gantt bar from mid-2001 to mid-2002]											
<b>STAGE 2</b>																										
2700	COMPLETE PHASE 2	0													[Gantt bar from late 2001 to early 2002]											
2810	PROJECT COMPLETE	0													[Gantt bar from late 2001 to late 2002]											

Activity ID	2000												2001												2002			
	N	F	M	A	M	J	J	A	S	O	H	D	J	F	M	A	M	J	J	A	S	O	H	D	J	F	M	A
10	◆ Contract Approval																											
20	◆ First Working Day																											
1070	◆ Shift Northbound Traffic/Start Stage 2 Phase 2																											
1780	◆ Shift Traffic to Stage 3																											
2400	◆ Contract Work Complete																											

Project No.	Activity Description	Early Finish	2000												2001												2002												2003			
			Gantt chart for 2000												Gantt chart for 2001												Gantt chart for 2002												Gantt chart for 2003			
<b>Beachy ES - Addition</b>																																										
22-24067		02JUL03	[Gantt bar from mid-2000 to mid-2002]																																							
22-24067	NTP Date for Design	09FEB01	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Completion of Schematic Drawings	23APR01	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Completion of Design Development	12AUG01	[Gantt bar from early 2000 to early 2001]																																							
22-24067	NFA issued by DTSC	19AUG01	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Board Approval of CEQA, Project & Condensation	17DEC01	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Submit 100% Construction Documents to LAUSD	17DEC01	[Gantt bar from early 2000 to early 2001]																																							
22-24067	CDE Plan Approval	15FEB02	[Gantt bar from early 2000 to early 2001]																																							
22-24067	DSA Approval	14JUN02	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Bid Opening	26JUL02	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Award Contract to Construct	20SEP02	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Date of Construction NTP	25OCT02	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Final Inspection	02JUL03	[Gantt bar from early 2000 to early 2001]																																							
22-24067	Beneficial Occupancy	02JUL03	[Gantt bar from early 2000 to early 2001]																																							

# WBS Summary Bars

- Summarize dates of a group of activities
- Visibility to both the summary and detail
- “Headlines”



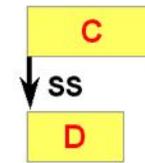
Act ID	Description	Orig Dur	2001											
			M	A	M	J	J	A	S	O	N	D	J	
1499	EXAMPLE FOR BRIDGE	203*	[Summary bar spanning the entire year]											
1500	EMBANKMENT FILL/ SETTLEMENT -	90	[Green bar]											
1510	EXCAV/PILES ABUTMENTS & BENTS	15			[Green bar]									
1520	BENT FOOTINGS - BR 720	20				[Green bar]								
1530	ABUTMENTS - BR 720	30					[Green bar]							
1540	COLUMNS - BR 720	25						[Green bar]						
1550	ERECT FALSEWORK - BR 720	15							[Green bar]					
1560	SOFFITS & STEMS - BR 720	25								[Green bar]				
1570	BRIDGE DECK BR 720	30									[Green bar]			
1590	APPROACH SLABS - BR 720	5									[Green bar]			
1580	REMOVE FALSEWORK - BR 720	10									[Green bar]			

# Relationships

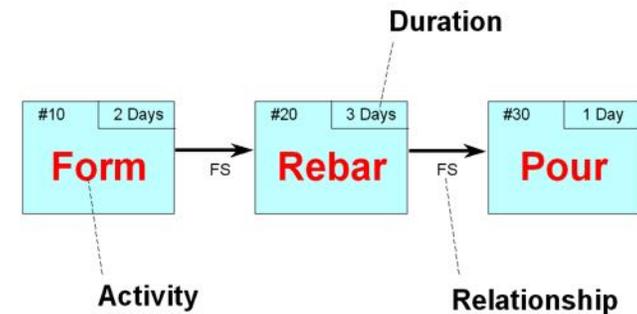
- Relationships define dependencies and interfaces
- Predecessors
- Successors
- Lags



Start-To-Start

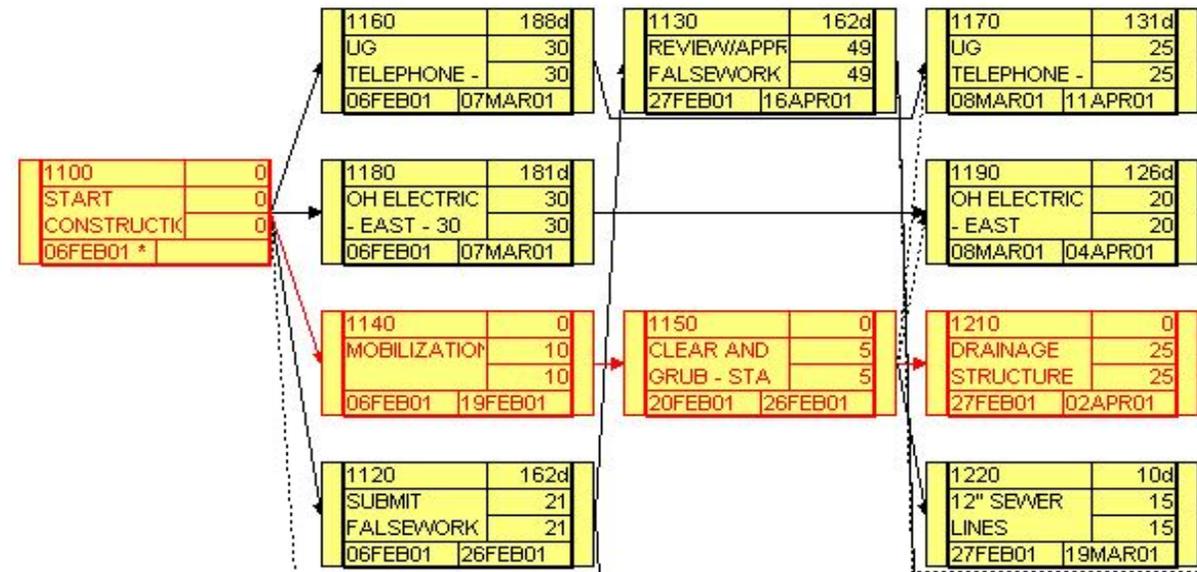


Finish-To-Finish



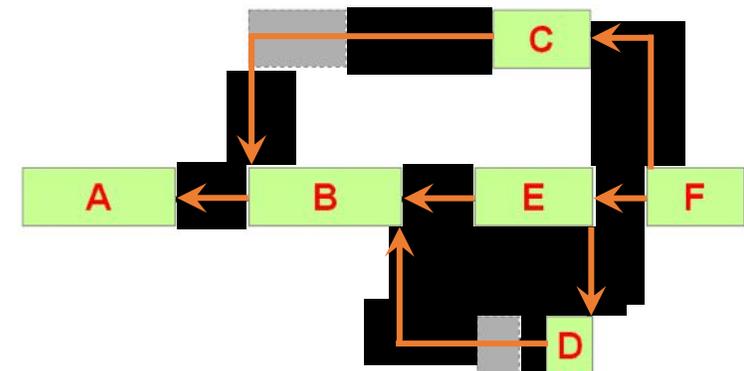
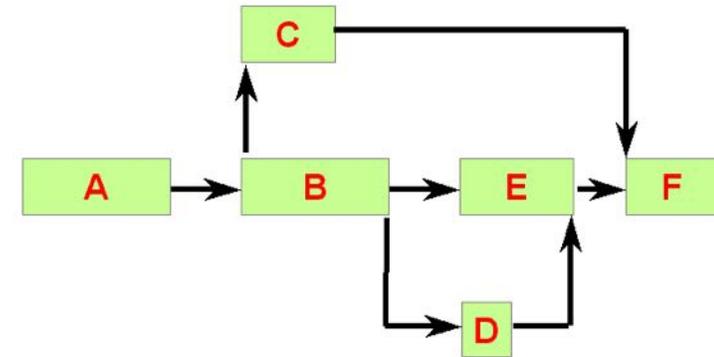
# Network

- Series of activities and relationships
- Represents sequence of work plan
- Open ends



# Schedule Calculations

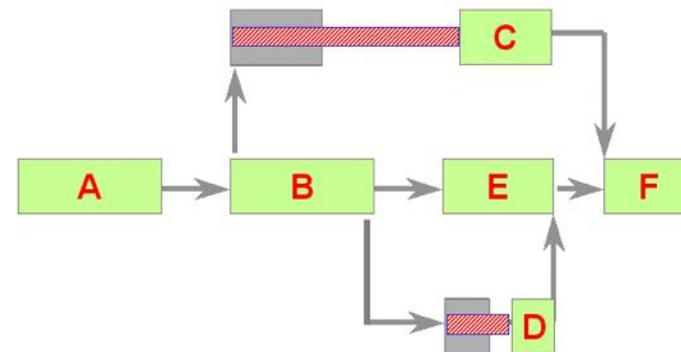
- CPM calculations determine the Start and Finish Dates
- Forward Pass
- Backward Pass
- Items that affect the calculated dates



# Float

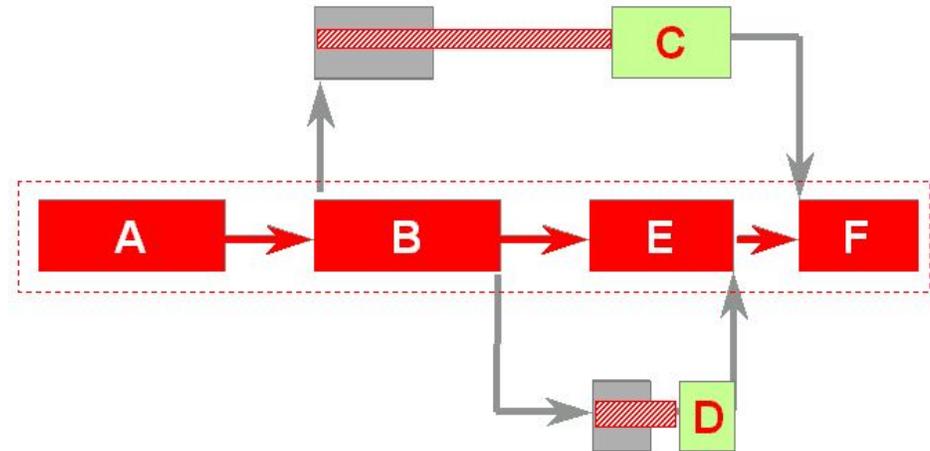
- Calculated by subtracting Early Finish Date from the Late Finish Date
- Represents the number of workdays an activity can slip without impacting the project completion date
- Positive Float
- Zero Float
- Negative Float

$$TF = LF - EF$$



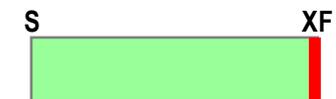
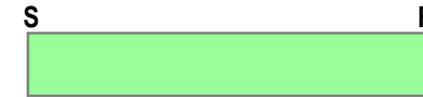
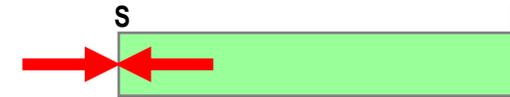
# Critical Path

- “Longest continuous path of activities through a project that determines the project completion date”
- Critical activity delays will impact the project completion date
- **Lowest amount of float**



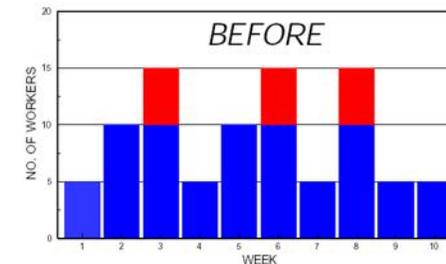
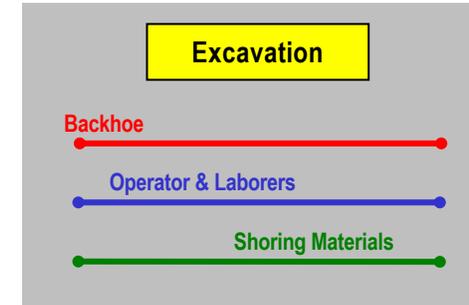
# Constraints

- Override relationships
- Can distort the schedule dates, float and critical path
- Start constraints
- Finish constraint
- Float constraint
- Duration constraint



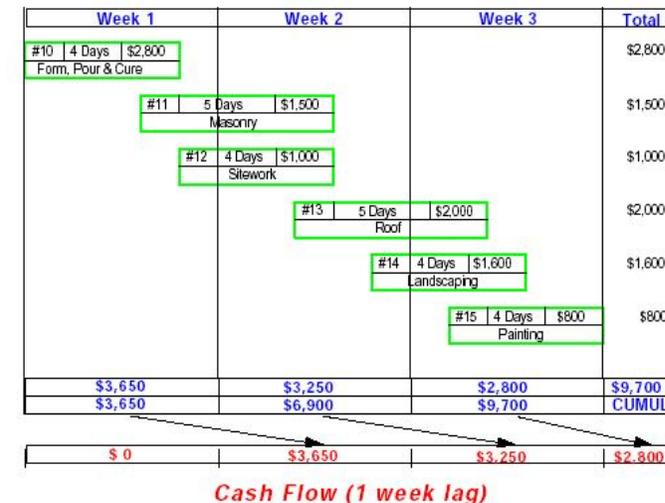
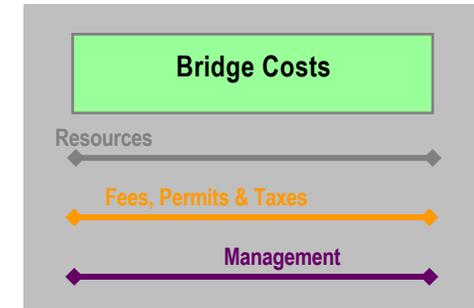
# Resources

- Optional for schedules
- Labor, Equipment, Materials
- Assigned to activities
- Represents what is needed to complete the work
- Provides forecast and ability to “balance” the project needs



# Costs

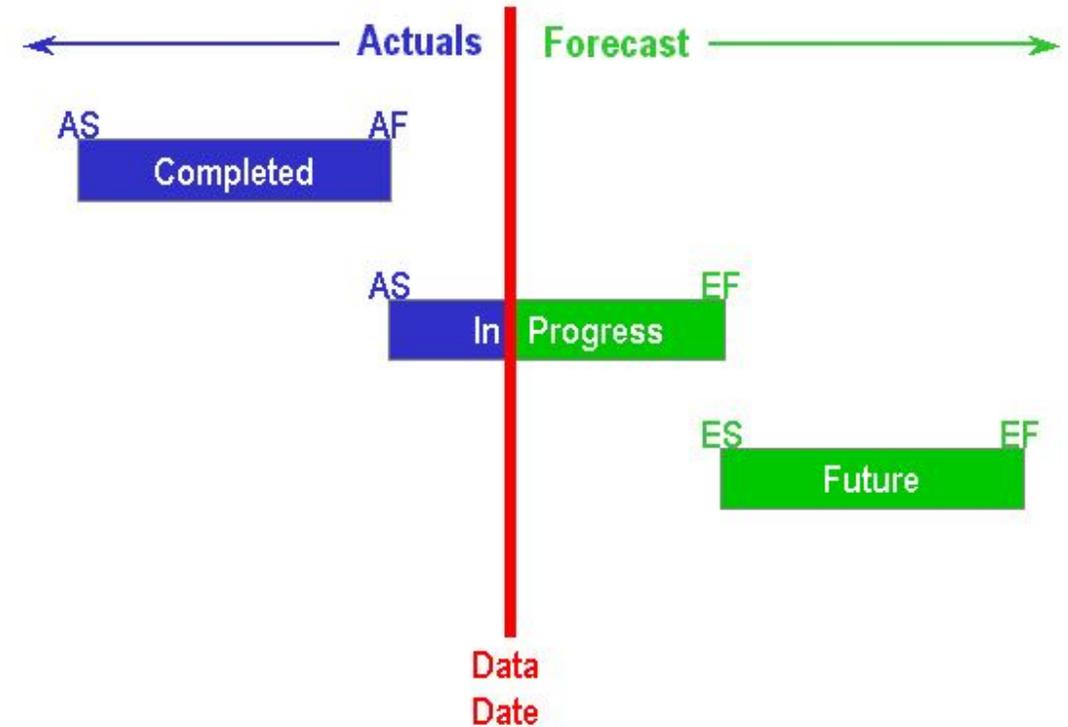
- Optional for schedules
- Costs for Resources, Other Direct Costs, Management
- Assigned to activities
- Represents the cost to complete the work
- Provides forecast of cash flow





# Schedule Updates

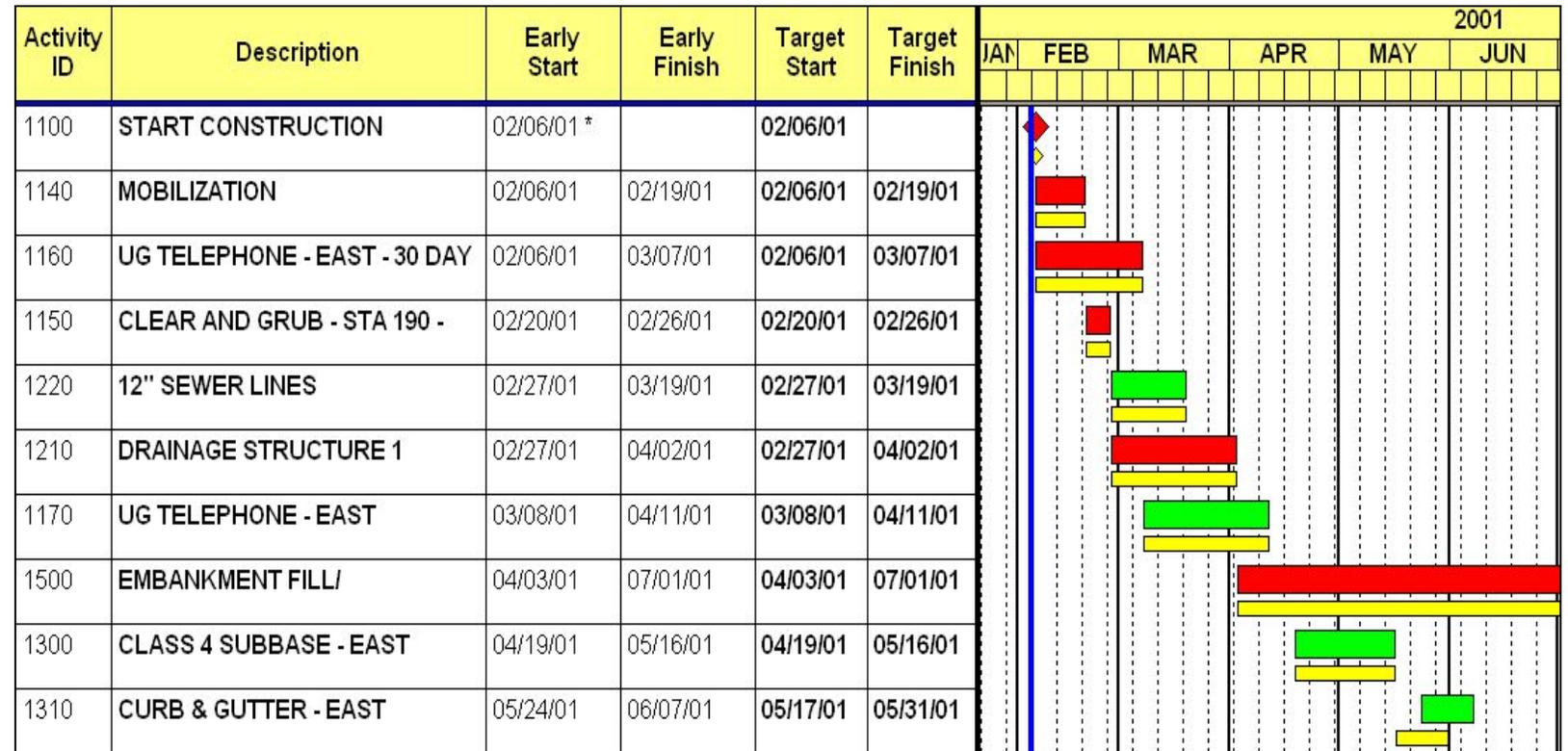
- Data Date
- Completed
- In Progress
- Future





# Comparison

- Baseline  
(planned)
- Update  
(actual)







# Track Key Statistics

CATEGORY	BASELINE SCHEDULE	FIRST UPDATE	SECOND UPDATE	THIRD UPDATE	FOURTH UPDATE
<b>Total No.Of Activities</b>	321	325	316	332	336
<b>% Critical Activities</b>	32%	44%	42%	38%	--
<b>Critical Path Total Float</b>	0	-10	-8	-4	--
<b>Total % Complete</b>	0%	20%	45%	80%	100%
<b>Project Completion Date</b>	3/01/02	3/15/02	3/13/02	3/07/02	3/06/02







# Schedule Recovery (~~Reducing Durations~~)

Activity ID	Description	Early Start	Early Finish	Target Start	Target Finish	Finish Variance	2001																			
							FEB				MAR				APR				MAY				JUN			
							05	12	19	26	05	12	19	26	02	09	16	23	30	07	14	21	28	04	11	18
1210	DRAINAGE STRUCTURE 1	03/05/01	04/06/01	02/27/01	04/02/01	-4d																				
1500	EMBANKMENT FILL/ SETTLEMENT - BRIDGE 720	04/07/01	07/05/01	04/03/01	07/01/01	-4d																				

Activity ID	Description	Early Start	Early Finish	Target Start	Target Finish	Finish Variance	2001																			
							FEB				MAR				APR				MAY				JUN			
							05	12	19	26	05	12	19	26	02	09	16	23	30	07	14	21	28	04	11	18
1210	DRAINAGE STRUCTURE 1	03/05/01	04/06/01	02/27/01	04/02/01	-4d																				
1500	EMBANKMENT FILL/ SETTLEMENT - BRIDGE 720	04/07/01 A	07/01/01	04/03/01	07/01/01	0																				



**BuildPERALTA**  
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QUESTIONS?





# BuildPERALTA Academy

## Build Peralta Bond Program Contact Information

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