

MWPAAC E&P Committee Briefing

WTD CAPITAL PROJECT COST ESTIMATING & PROJECT CONTROL PROCESS IMPROVEMENT EFFORT

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MWPAAC E&P BRIEFING

- Process Improvement Approach
- Workshops
- Proof of Concepts & Pilots
- Next Steps

WORKPLAN AND TASK PROGRESS

- ☒ Analysis and Issues Identification (Oct-Dec 2015)
- ☒ Trend Analysis Fundamentals (January)
- ☒ Basis of Estimate (January & February)
- ☒ Contingency (March)
- ☒ Risk Management (April)
- ☒ Work Breakdown Structure, Coding and Estimate Format (May)
- ☐ Estimate Format / Estimate Deliverables Checklist / Estimate Reconciliation & Validation (July)
- ☐ Historical Data (TBD)
- ☐ TWG to make **Final Recommendations** to the Council and Executive *December 7, 2016*

BASIS OF ESTIMATE


- Basis of Estimate Concept Overview
- Development of Template and Guidance
- Initial Staff Training Completed (February)
- CSI Program Pilot
- CSO Program Pilot
- Basis of Estimate Draft Template Available for use by staff

King County
Wastewater Treatment
Division

BASIS OF ESTIMATE

Estimate ID:
Project Title:
Estimate Classification:

Requested by :
Prepared by :
Estimate Date :
Revision Date :

 **King County**
Department of Natural Resources and Parks
Wastewater Treatment Division

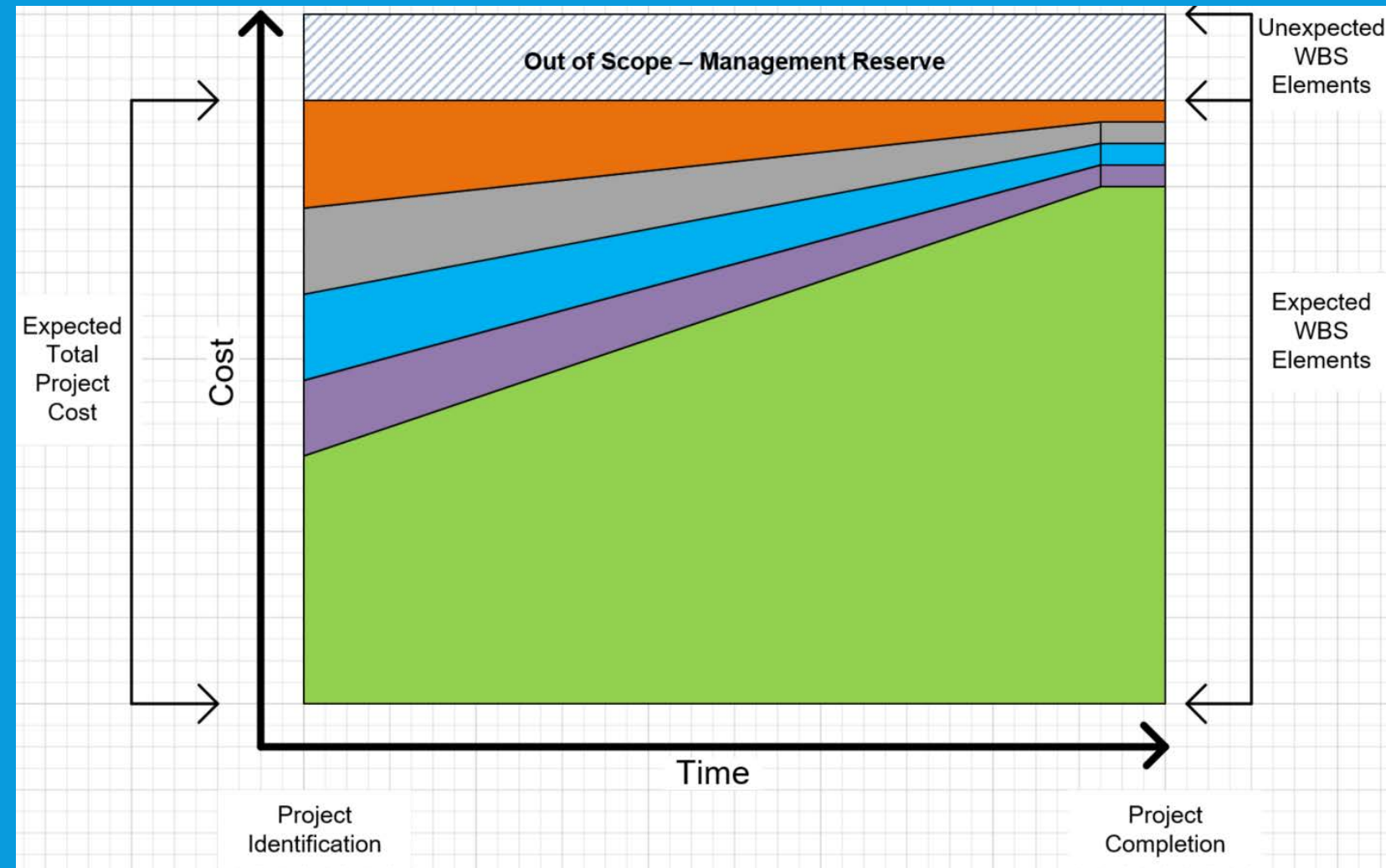
TREND ANALYSIS

- Trend Analysis Concept Overview
 - Framework
 - Change Management
 - Process Guidance
 - Templates
- Development of Tool and
- Magnolia Proof of Concept
- Pilot Project Kickoff (Jun

PROJECT TREND ALERT			PROJECT SER NUMBER		
PTA #	REV.	DATE			
100	1	12-1-2014			
PROJECT TITLES					
Right of Way Purchase - For Gravity Connector from Storage Tank					
CHANGE TITLE					INITIATOR
Right of Way - Change					DH
BRIEF DESCRIPTION OF SUGGESTED CHANGE:					
Additional R/W is needed to allow construction access and permanent easement for the 36-in connector line from the CSO Storage Tank to the existing gravity line east of the Magnolia Bridge.					
BUSINESS CASE / EXPLANATION					
Alternative routes for the connector line were examined and the alignment under the Magnolia Bridge was selected. Therefore, access must be provided to allow access to the existing trunk sewer. This expense was not included in the BoE for the 30% project submittal. Following construction, it may be possible for a portion of the land to be returned/sold back to the current owner since future pipeline maintenance will only require limited access with no need for laydown areas.					
CHANGE CATEGORY:					
<input type="checkbox"/> SCOPE - CHANGE IN DELIVERABLES					
<input checked="" type="checkbox"/> DESIGN DEVELOPMENT - CHANGE IN PROJECT TEAM SOLUTION - OR A CUSTOMER / STAKEHOLDER SCOPE CHANGE					
<input type="checkbox"/> FORECAST ONLY - ESTIMATE CHANGE NOT DRIVEN BY EITHER DESIGN DEVELOPMENT OR SCOPE CHANGE					
BUSINESS CASE / JUSTIFICATION:					
<input checked="" type="checkbox"/> CHANGE NECESSARY TO PREVENT FUNCTIONAL FAILURE					
<input type="checkbox"/> CHANGE NOT A MUST, BUT WILL ADD VALUE (HIGH MARGINAL BENEFIT)					
					INITIATOR (SIGNATURE)
					DH

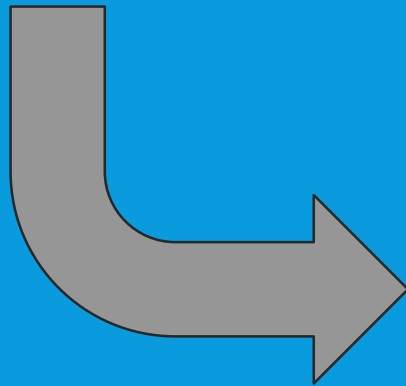
PROJECT CHANGE MANAGEMENT AND TREND ANALYSIS														
[[INSERT PROJECT TITLE]]														
[[INSERT DATE]]														
PCA #	Description	Initiator	Date Initiated	WBS Code	Project Phase	Impact Type	Change Category	COST			SCHEDULE			Status
								Construction Cost Variance	Allied Cost Impact	Total Cost Variance	Design Variance	Forecasted Design Duration	Construction Variance	Forecasted Const. Duration
100									markup	sum		sum		sum
101														
102														
103														
104														
105														
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126														
127														
128														
129														
130														
								Total Submitted						
								Total Pending						
								Total Approved						
								Total Rejected						

PROJECT COST BUILD-UP



CONTINGENCY

WTD Construction Contingency			Project Cont.
Construction Pricing Uncertainty Factor	Construction Definition Uncertainty Factor	Construction Change Order Contingency	Project Contingency



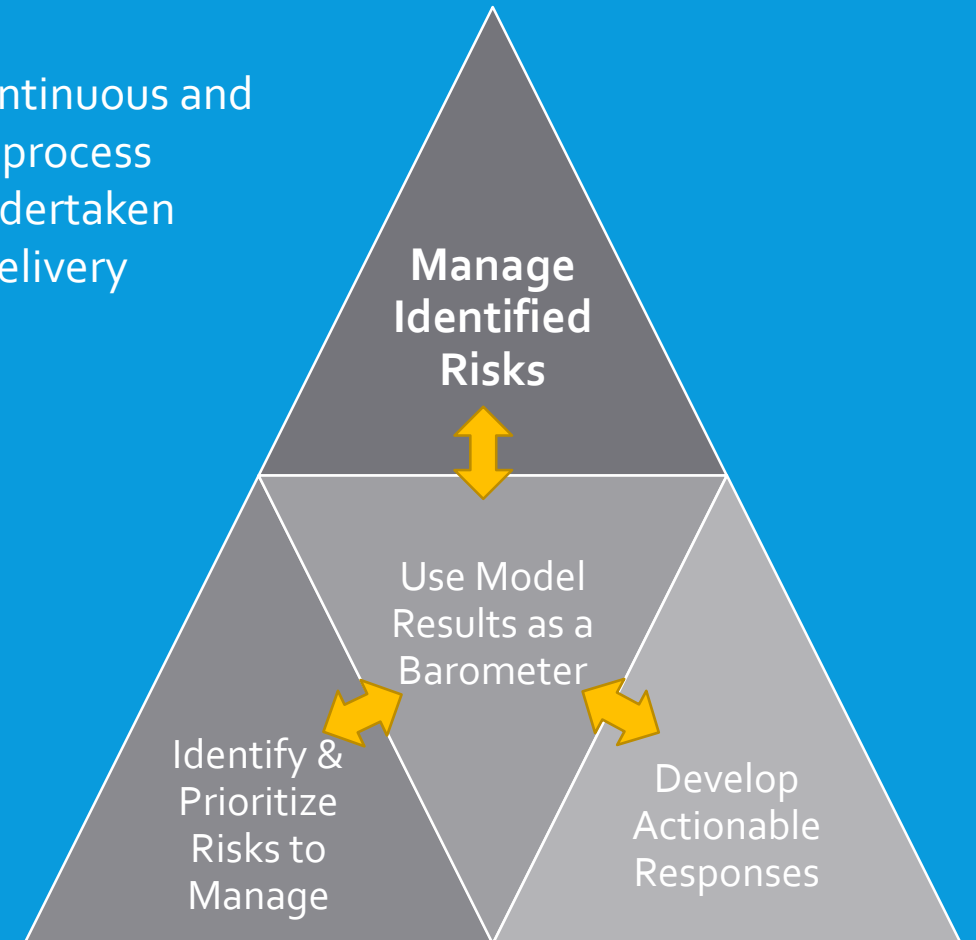
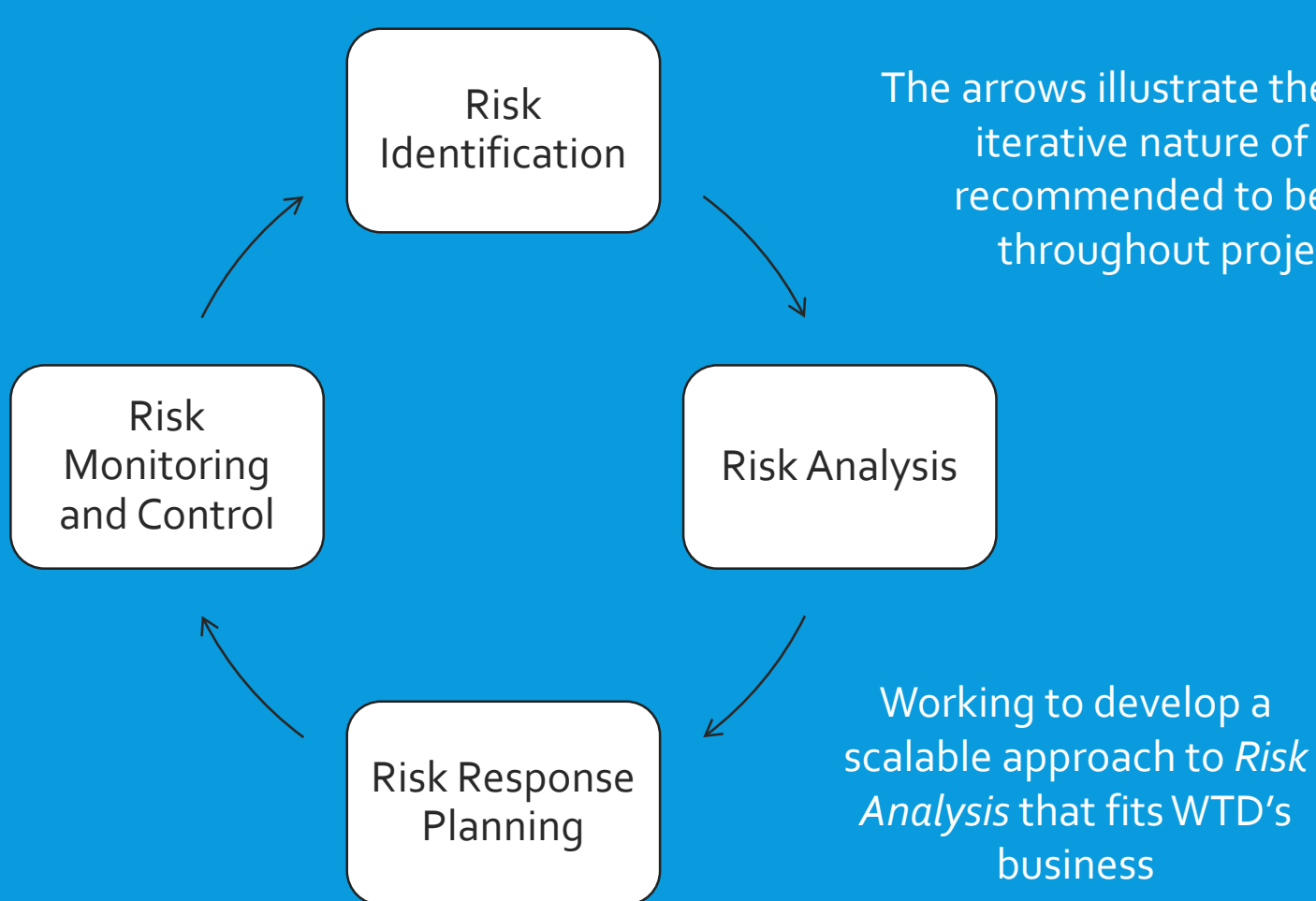
WTD Construction Allowances			Project Cont.	Project Reserves
Estimate Uncertainty Allowance	Design Uncertainty Allowance (AFIs)	Construction Change Order Allowance	Quantified Project Contingency (Using Confidence Intervals)	Management Reserve

CONTINGENCY

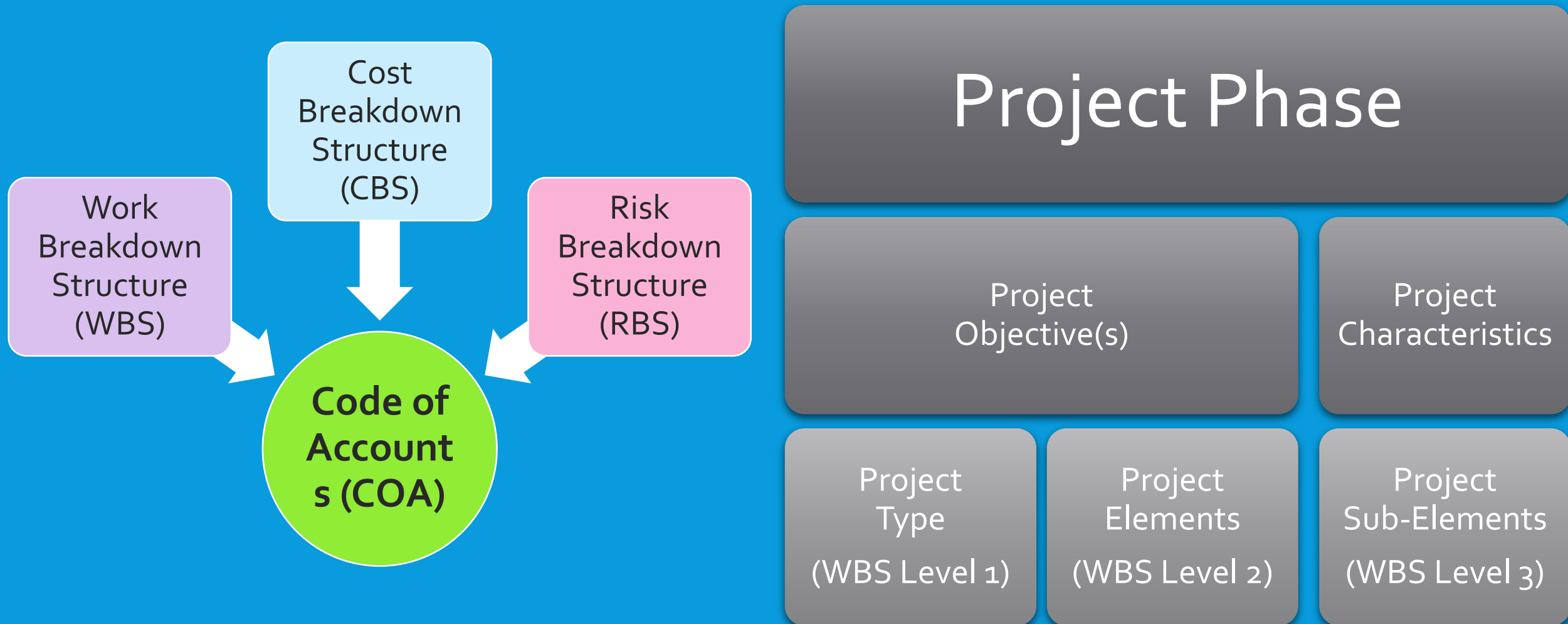
WTD Construction Contingency			Project Cont.
Construction Pricing Uncertainty Factor	Construction Definition Uncertainty Factor	Construction Change Order Contingency	Project Contingency
Up to 5%	25%	10%	30%
Up to 3%	20%	10%	25%
Up to 2%	15%	10%	15%
Up to 1%	10%	10%	10%
0%	0%	10%	5%

WTD Estimating & Construction Allowances			Project Contingency	Project Reserves
Construction Pricing Uncertainty Allowance	Allowance for Indeterminates (AFIs)	Construction Contract Change Order Allowance	Quantified Project Contingency	Management Reserve
Up to 5%	25%	10%	30% (P-90)	Calculated
Up to 3%	20%	10%	25% (P-80)	Calculated
Up to 2%	15%	10%	15% (P-70)	Calculated
Up to 1%	10%	10%	10% (P-60)	Calculated
0%	0%	10%	5% (P-50)	Calculated

RISK MANAGEMENT



WBS & CODING



PROOF-OF-CONCEPT AND PILOT PROJECTS

WTD Pilot Projects (to-date)

Lake Hills and NW Lake Sammamish Interceptor Upgrade

North Mercer Island & Enatai Interceptors Upgrade

Coal Creek Siphon & Trunk Parallel

CSO Control & Improvements – Magnolia

West Point Treatment Plant OGADS Replacement (Oxygen Generation and Dissolution System)

Georgetown Wet Weather Treatment Station

40+ CSO – Combined Sewer Overflow new project estimates

40+ CSI – Conveyance System Improvements new project estimates

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QUESTIONS