

Operations & Engineering Workgroup

October 12, 2022



Agenda

- Action items from August 2022 meeting
 - None
- 1.1 Review and comment on Engineering & Geotech Amendment 3 Task Order updates
- 1.2 Review and comment on considerations for establishing the Project baseline schedule
- Engineering and Construction Manager's Report

Select Discussion Questions from September Workshop



Would your agency be interested in acquiring land, performing mitigation, and beginning some construction ahead of a Water Right if it could save 5-10% on the cost of Sites Water? What are the risks?



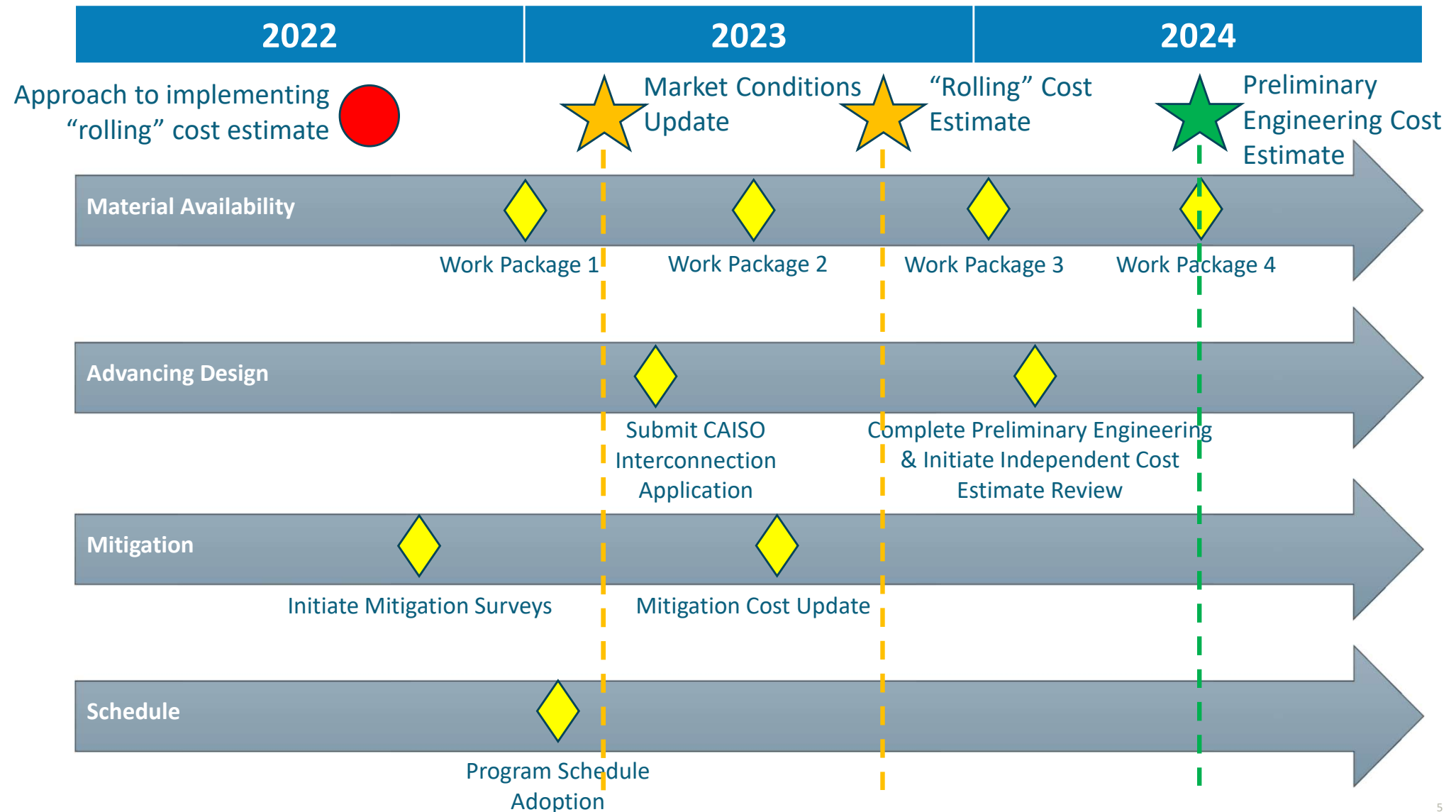
How will your agency approach sizing its storage account and how will the decision be influenced by the annual debt service?

Agenda Item 1.1

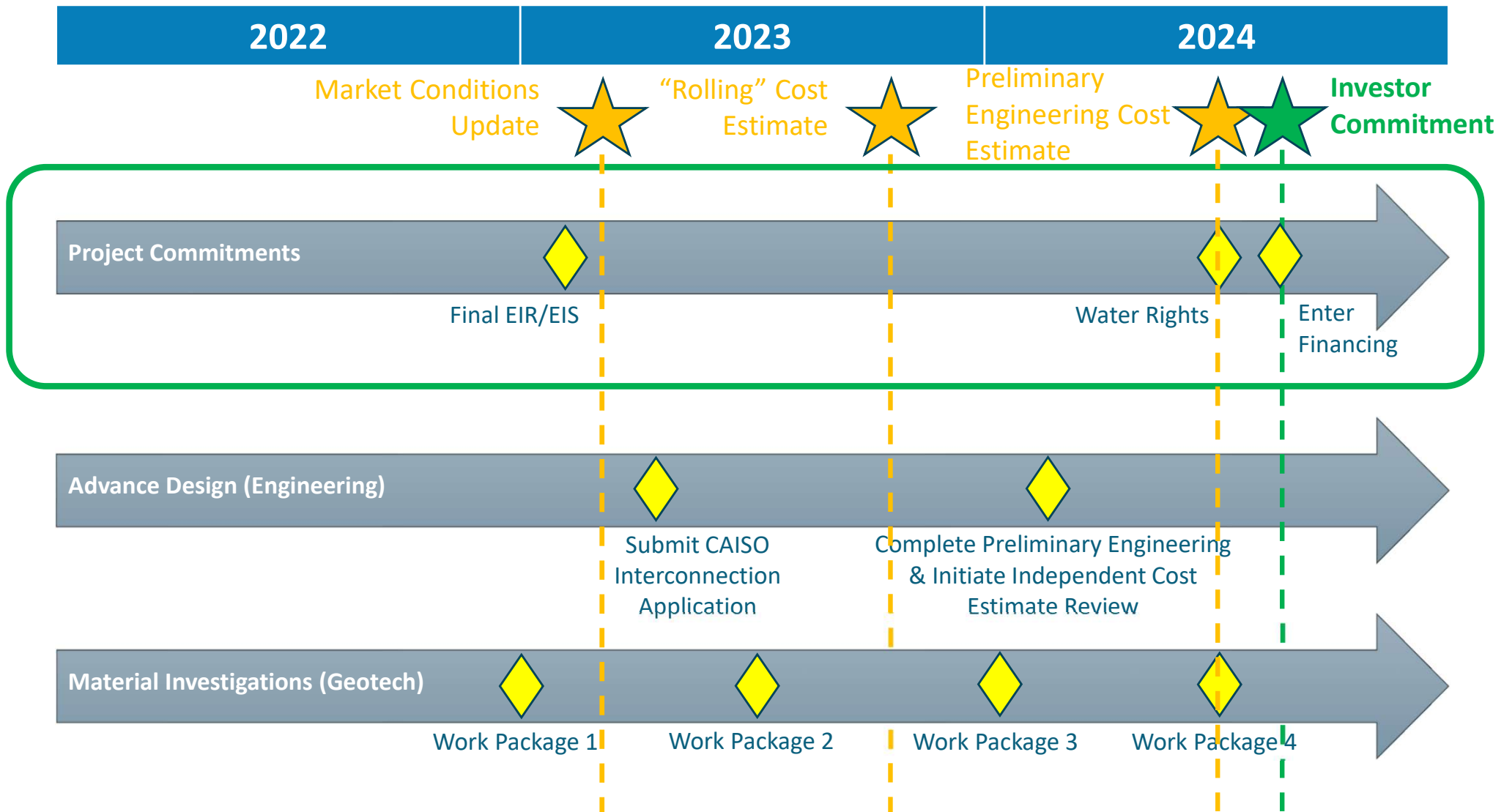
Review and Comment on Engineering & Geotech Amendment 3 Task Order Updates

Henry Luu

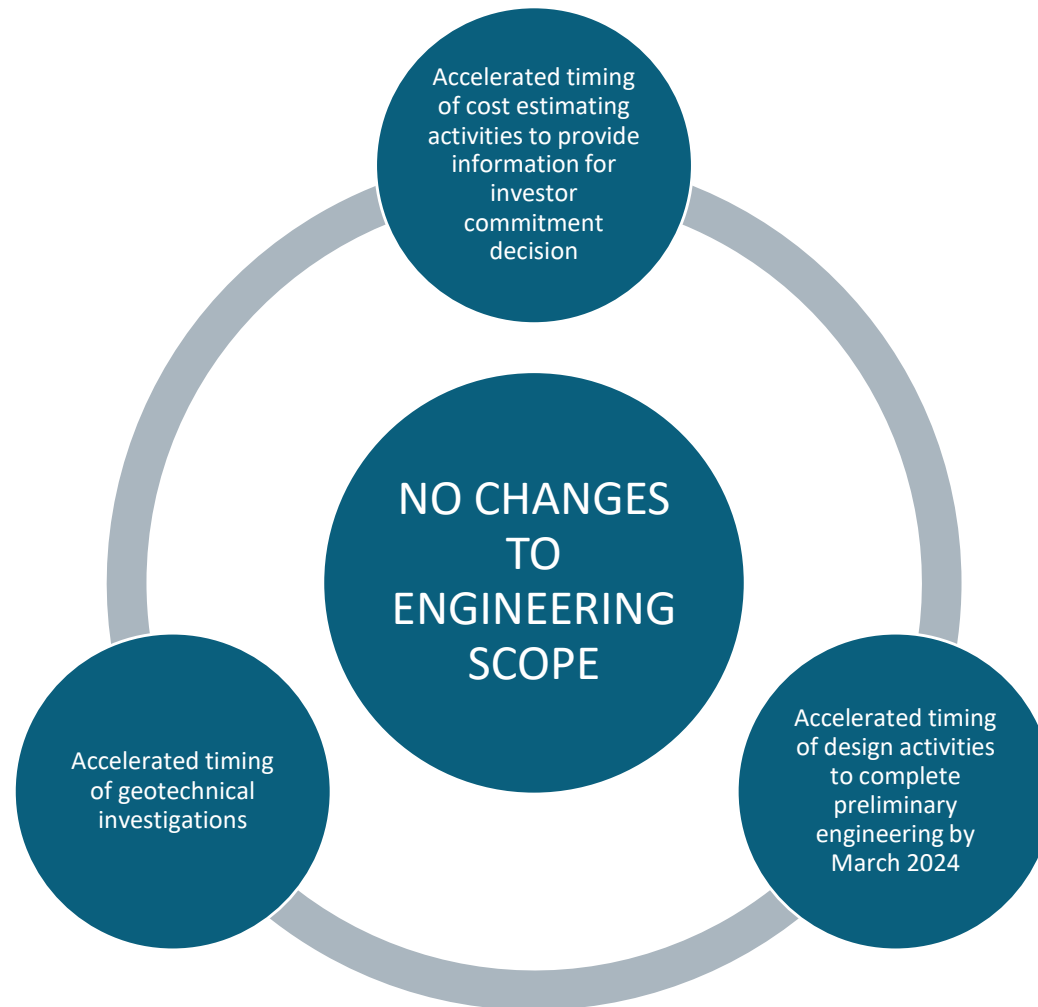
Amendment 3 “rolling” Cost Estimate Milestones



Amendment 3 Task Order Engineering & Geotech Key Milestones



Engineering Scope Updates



Engineering Budget Updates

- No changes to Amendment 3 Engineering total budget
- Activities delayed in 2022 will be executed in 2023
- Accelerated activities will begin in 2023 and completed by July 2024

Subject Area	2022	2023	2024	Amendment 3 Total
Engineering (2021 plan)	\$18,715,000	\$30,516,000	\$20,485,000	\$69,716,000
Engineering (working 2022 forecast)	\$16,512,653	\$36,350,302	\$16,853,045	\$69,716,000

Next Steps

- Project Controls team analyzes revenue and expense projections for Amendment 3
- Coordinate and prioritize work to align with revenue stream
- Continue to track investor commitment information needs vs. engineering progress

Discussion



Does your agency require a Class 3 cost estimate before investor commitment (signing a Benefits and Obligations Contract, enter financing) with the Authority?



Are there cost components of particular interest for your home board? (ex: contingencies)

Questions?



Agenda Item 1.2:

Review and Comment on Considerations for Establishing the Project Baseline Schedule

JP Robinette

Amendment 3 Main Goals and Objectives



Obtain key permits



Obtain water rights



Secure project
financing

Schedule Moves the Cost Needle

Fixed Costs

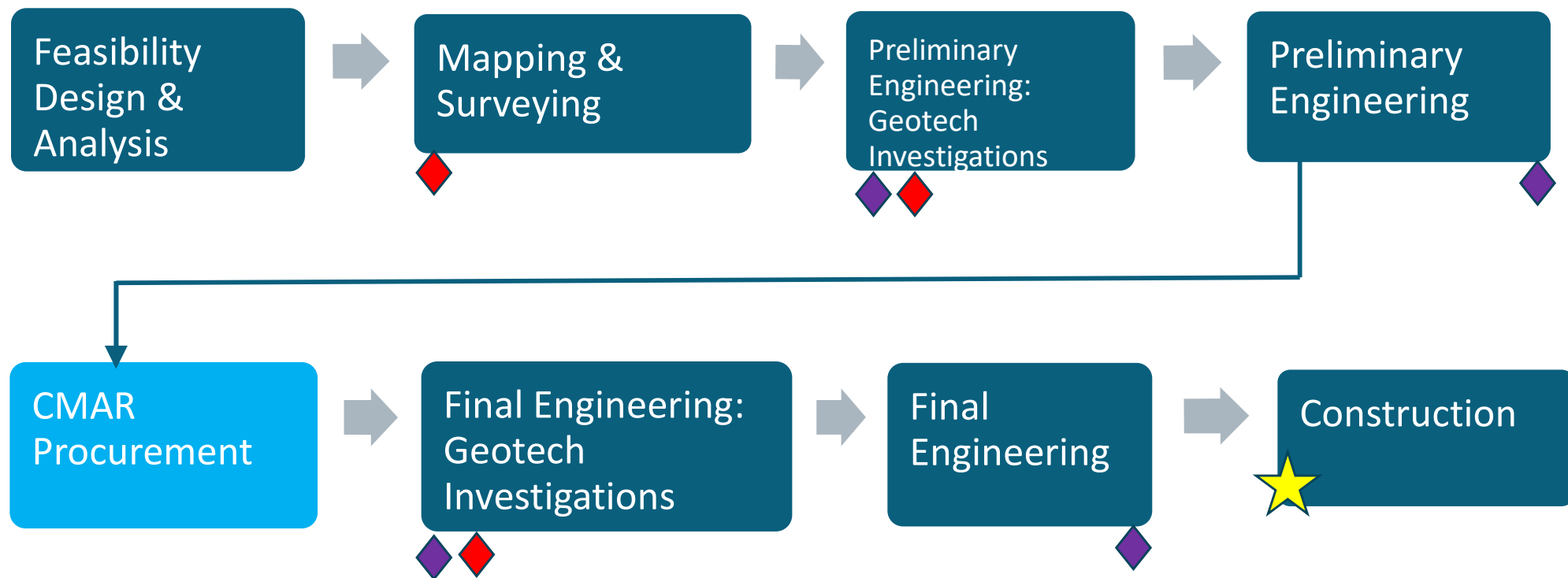
- Interest rates (financing participants)
- Pace (schedule)
- Controlling construction costs (delivery method & risk allocation)
- Bifurcated costs
- Extreme market conditions

Variable Costs

- Power
- Losses (evaporation and seepage)



Engineering & Construction

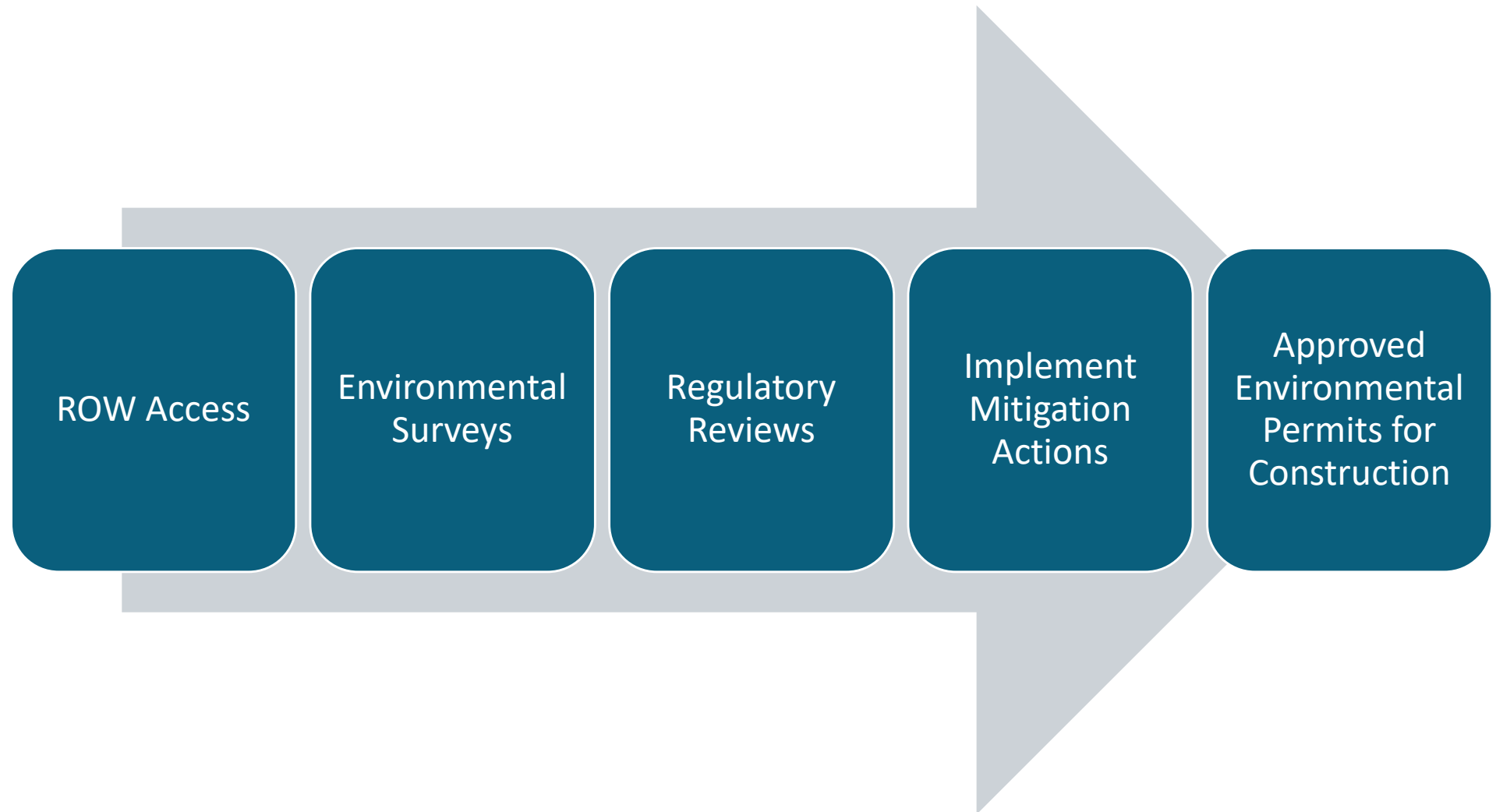


◆ Regulatory Actions

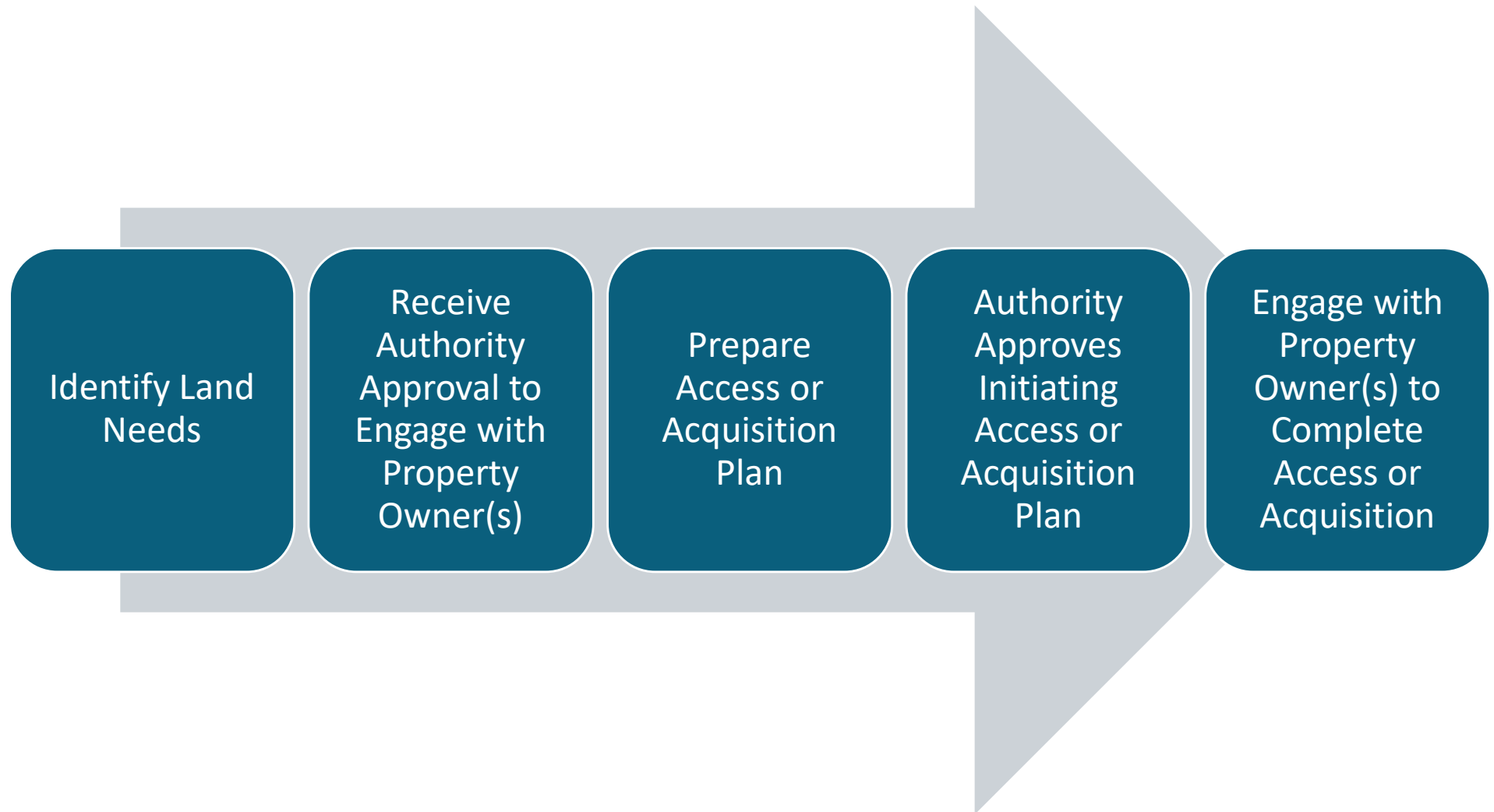
◆ Temporary Access

★ Requires Regulatory Approvals and Completion of Property Acquisitions

Environmental Permitting & Mitigation Process for getting to Construction



Real Estate Process for getting to Construction



Opportunities to Influence Schedule

- **Real Estate** – initiate acquisitions prior to obtaining key permits and/or water rights **(after certified EIR/EIS)**
 - Supports required environmental surveys
 - Supports geotechnical investigations
 - Potential schedule/time savings by eliminating a need for two separate negotiation actions: temporary access and permanent acquisition
 - *Risk: the Authority owns and is responsible for the acquired properties regardless of Project status*
 - *Risk: expenditures related to initiating real estate acquisitions have not been accounted for within the Amendment 3 budget*

Opportunities to Influence Schedule

- **Contracting and Procurement** – initiate CMAR procurement prior to investor commitment
 - Benefits in having insight on potential construction schedule efficiencies, value engineering, and material handling
 - Potential cost saving strategies and cost certainty
 - *Risk: CMAR procurement and engagement is an additional expense that is not accounted for within the Amendment 3 budget*
- **Construction Phasing** – balancing resources based on the critical path of construction packages
 - Greater assurance of balancing expenditures vs. revenue
 - *Risk: potential for critical path changes that may impact Program Schedule*

Next Steps

- Continue coordination with real estate and permitting teams in preparation of the Baseline Program Schedule
- Focus on managing costs and risk, while remaining aggressive with overall schedule
- Come back to this Workgroup to present analyses and staff recommendation of the Baseline Program Schedule (January 2023)

Discussion



What assurances are required to initiate early real estate acquisitions (before obtaining key permits and water rights)?



What type of risks should staff consider with regards to an accelerated schedule? (ex: Project reputation)



What analyses would be helpful for understanding schedule opportunities and risks? (ex: cost/benefit assessment)

Questions?



Agenda Item 2

Engineering and Construction Manager's Report

JP Robinette

Amendment 3 Geotechnical Program Updates

- Completed 5 shifts – executed work within the public right of way
 - Activities included pavement coring, borings, and piezometer installation
- Currently executing Shift 6 within the Sites Canyon
- Anticipated work for the remainder of this year are in the area of Sites Canyon, TCCA/Funks, Glenn County, and Wells Ranch

Sites Lodoga Bridge Design Consideration

- Feasibility design considered two bridges accommodating the 1.5MAF reservoir with the normal maximum water surface (NMWS) elevation at 498'
 - West bridge is approximately 1,400-ft (VE: replace bridge with embankment)
 - East bridge is approximately 1,633-ft
- A 1.8MAF reservoir would have a NMWS elevation at 520'
 - A 22-ft increase from the 1.5MAF NMWS elevation
- Accommodating a 1.8MAF reservoir NMWS elevation requires increasing the bridge design height and roadway approaches
 - 2020 Value Planning approximated order of magnitude cost increase of about 66% or around \$70M

Future Topics

- Status of power and system impact studies
- Reservoir management as it approaches deadpool
- Recreation considerations related to reservoir operations management

Questions?



Thank you!

Next Meeting: Wednesday, December 14, 2022 (1:30 pm – 3:30 pm)



Bullpen