Operations & Engineering Workgroup

August 9, 2023

Sites

Agenda

1.1 - Review and comment on building blocks for Phase 3/4/5 staffing plan in advance of procurement and contracting with Reservoir Package Construction Manager at Risk (CMAR).

- ✓Planned Budget

1.2 - Review update on the TRR sizing and considerations.

- ✓Direct Construction Cost
- ✓Acquisition Cost or Schedule
- ✓Construction Schedule

Engineering and Construction Manager's Report

- Status of CAISO and DSOD coordination
- Suggestions for future agenda items
- September 13, 2023 special meeting on Project Schedule

Agenda Item 1.1
Procurement Strategy

JP Robinette & Jerry Brown

Process to Develop Procurement Strategy

Procurement Strategy
decisions made to date

- ✓ Proposes a **2-step, 2-contract approach** to procuring the CMAR for the Reservoir package
- ✓ Will include a check-in on water rights, key permits, CEQA, and financing **before initiating procurement**
- ✓ Goal to have CMAR on-board in 2025 **(to assist in developing 60% design)**

Before we bring the contractor on board, we need to conceptually establish the "owner's role" in delivering this project.

Refresher: Contract Strategy Values

Oversight: Given the Sites Authority's size and desire to remain streamlined, it will need to take an oversight role during design and construction. Recommend bringing an operations perspective for design input.

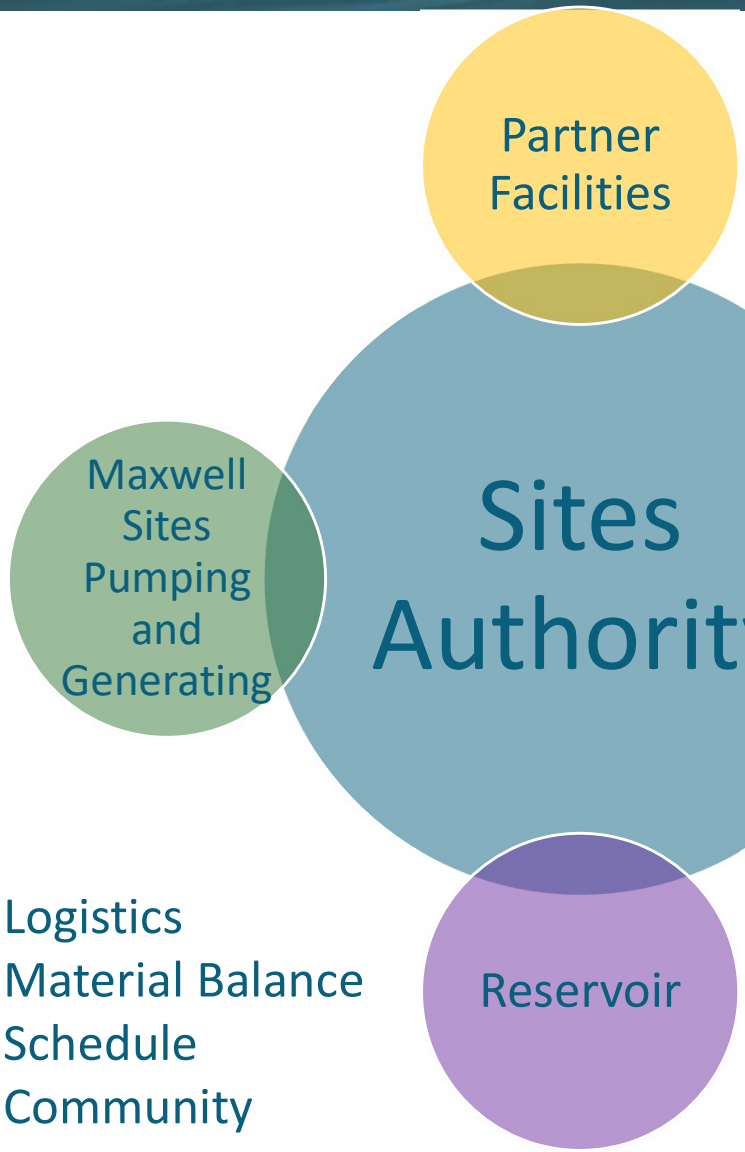
Construction Contracts: The number and size of construction contracts should prioritize qualified contractors and management of cost & risk.

Project Costs: Cost certainty must be established as soon as possible.

Project Schedule: Look for opportunities to expedite schedule in order to reduce Project costs.

Project Risks: Balance risks with values – *share* risks with partners.

Refresher: Contract Strategy Risk Summary



- Ownership
- Operations

- Hydraulics
- Power
- System Controls
- O&M

- Dunnigan Pipeline
- Huffmaster Road
- Reservoir Clearing

- Mitigation
- Recreation

- Logistics
- Material Balance
- Schedule
- Community

The owner must take a proactive role in a CMAR delivery

"CMAR project delivery is most often chosen when the owner wants to capture some of the benefits of design-build delivery, while maintaining **direct control** of project definition and design. The primary disadvantage of CMAR, compared with design-build, is the lack of single-point accountability; **CMAR requires the owner to be more proactive in promoting collaboration between the designer and the builder.**"

Water and Wastewater Collaborative Delivery Handbook, Water Collaborative Delivery Association

Typical ”Owner’s Role” in Civil Works Construction

- Manages Budget – allocate funds, monitor expenses, ensures project stays within approved budget limits
- Hires and Contracts for Expertise – selecting contractors, suppliers, consultants, negotiating contracts, reviewing bids, awarding contracts
- Complies with Regulations – ensures compliance with laws, regulations, permits, and approvals
- **Oversees the Project – monitors and ensures progress according to approved plans and timeline, conducts inspections, address issues**
- Communicates and Manages Partners – main point of contact for govt agencies, partners, local communities, ensures effective communication to keep everyone inform and aligned
- Manages Risk – identifies potential risks and uncertainties and develops strategies to mitigate – safety, contingency plans, insurance coverage
- Ensures Quality Control – ensuring completed project meets required quality standards
- **Receives Completed Project – takes possession of the facility when completed and initiates operations and delivery of benefits**

The 2020 Strategic Plan established 'effective organization" as an overarching goal

- Fundamental objectives in building a conceptual Phase 3/4/5 organization:
  - Create a lean, efficient organization, built on a culture of excellence
  - Identify "owner employees" for key positions to sufficiently oversee construction
  - Establish areas of operating/financial core competency and configure staffing to nurture and develop these areas
  - Create a structure that builds institutional knowledge
  - Bring experienced and developing talent to the region with the project as opposed to cannibalizing existing talent

Core competencies are unique abilities possessed by the organization that provide strategic advantage

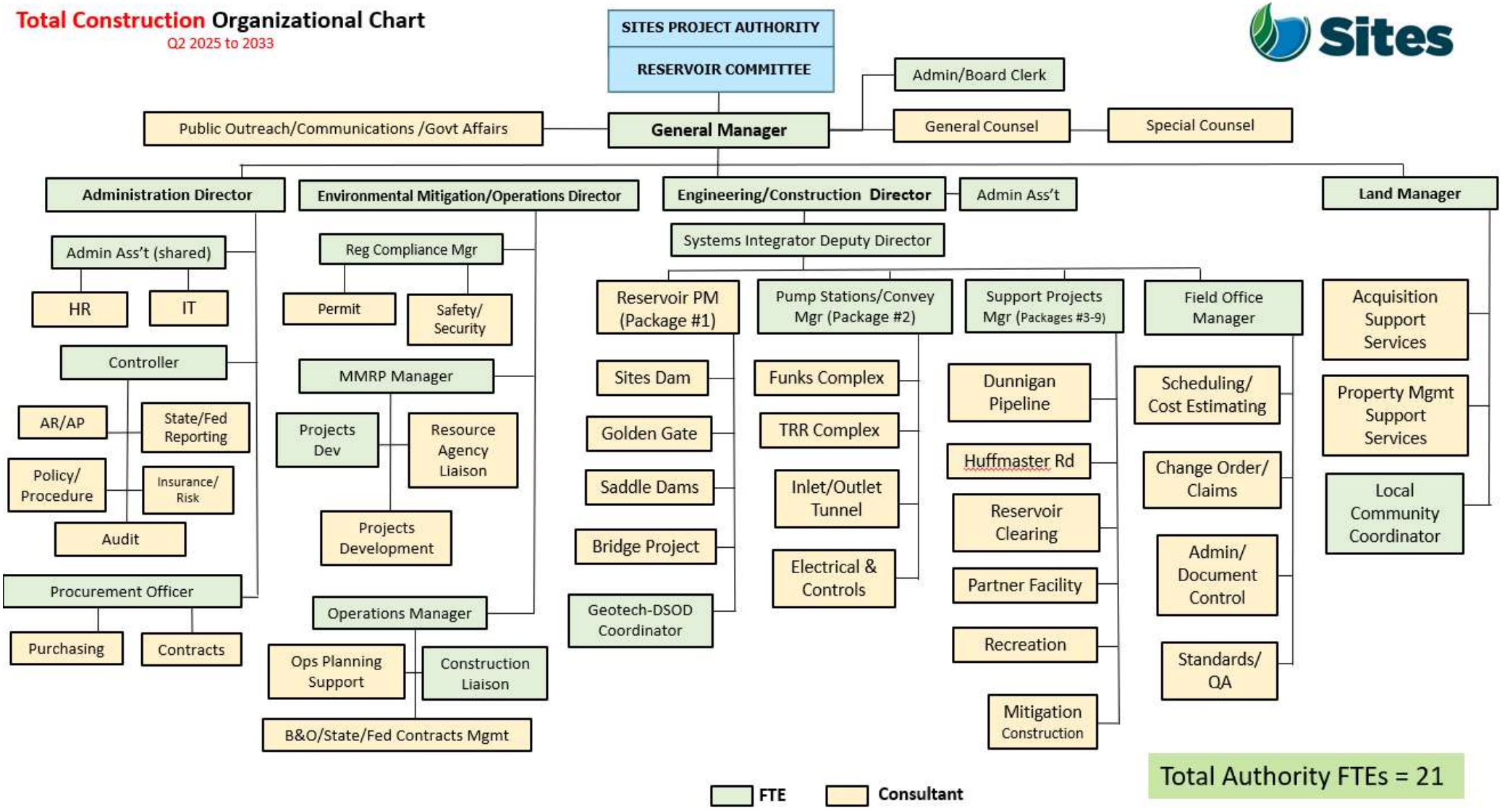
Core Operating Competencies

1. Dam safety and dam monitoring
2. In Depth Knowledge of California and Delta water operations
3. Understanding water measurement, monitoring, and reporting
4. Understanding permit requirements, compliance and regulatory reporting
5. Understanding SCADA, controls, and cybersecurity
6. Collaborating with Facility Partner/State/Federal Operations
7. Managing large rotating and hydraulic equipment (mechanical)
8. Maintaining site security
9. Preparing for and responding to emergency
10. Managing land holdings
11. Understanding electrical power budgeting, purchasing, and marketing
12. Administering agreements and contracts
13. Committed to respectful, supportive local community and tribal relations

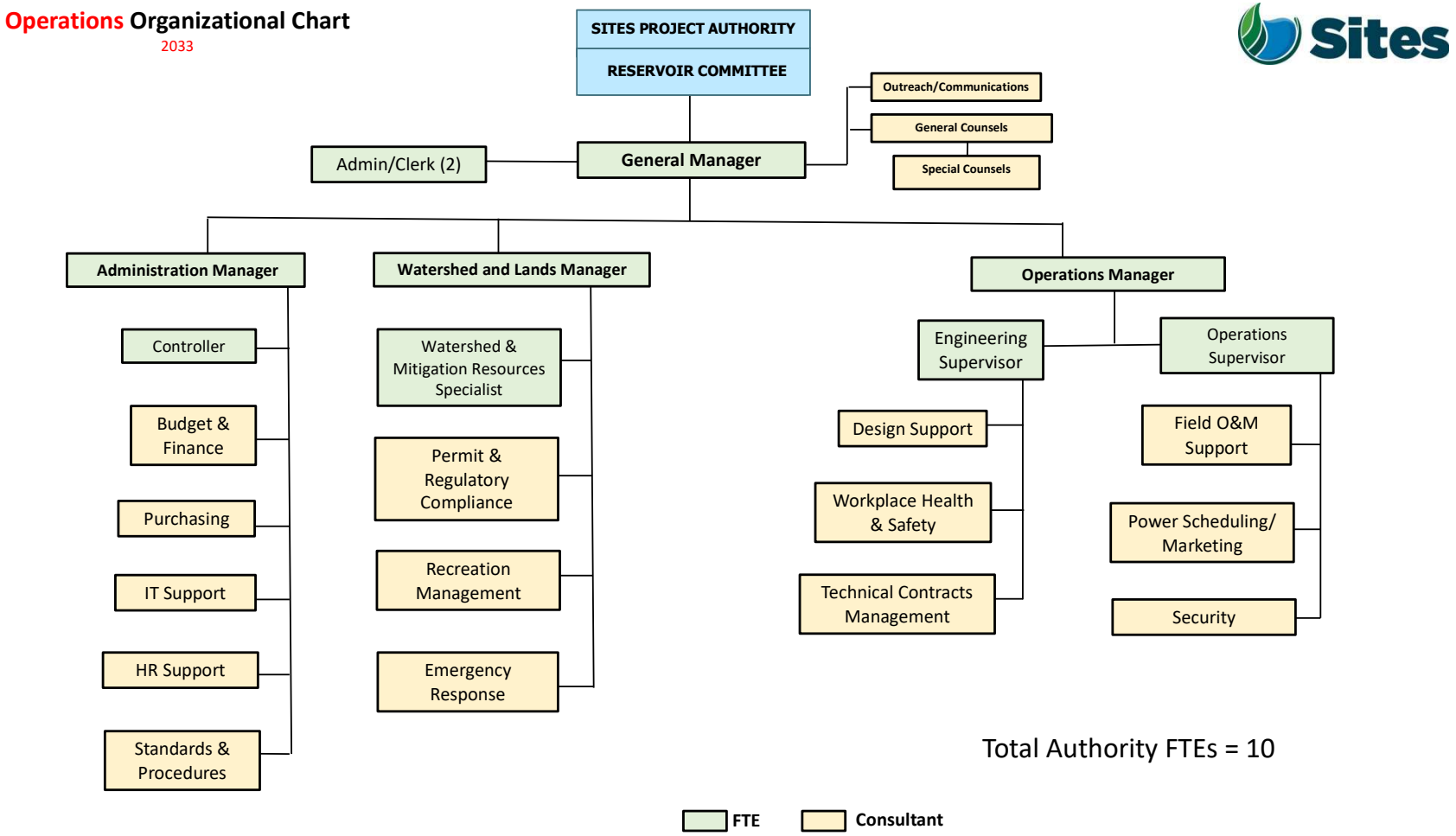
Business Competencies

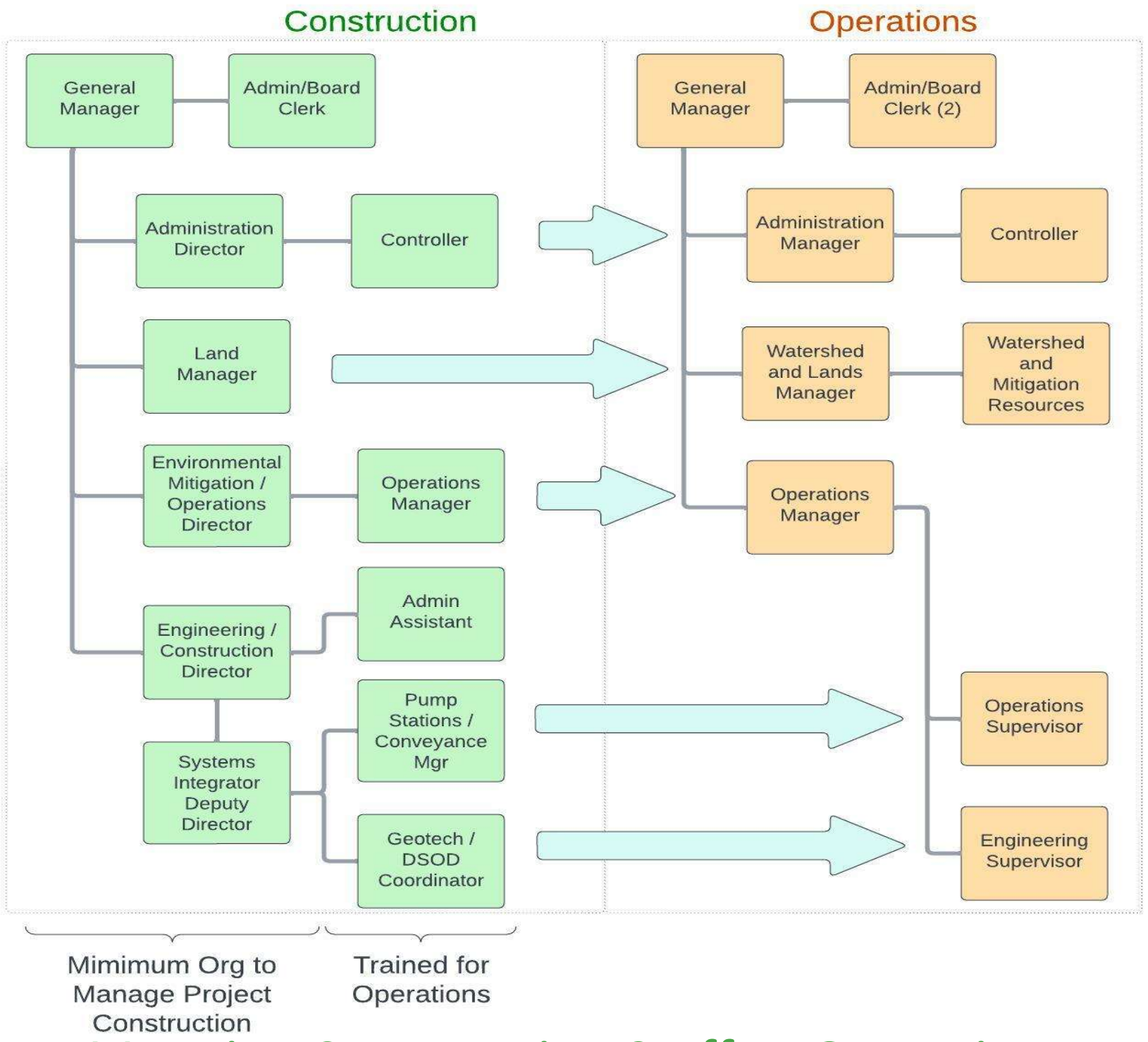
1. Financial management and controls

Conceptual Construction Organization



Conceptual Operations Organization





Mapping Construction Staff to Operations

Next Steps for Staffing Plan Development

- O&E provide feedback on building blocks (objectives and desired core competencies)
- Refer further discussion and development of building blocks and staffing plan to the Governance Ad Hoc Committee – Fall 2023
- Reach consensus on a Phase 3/4/5 conceptual staffing plan among the full Board on a schedule to support the CMAR procurement.

Procurement strategy next steps

- Sept 2023: Informational Item at Joint Meeting
- Q3 2023: Procure legal advisor
- Q3-Q4 2023: Pre-Prepare Procurement and Contract Documents
- In 2024: Check in on status of CEQA, water right, funding, Benefits and Obligations contract before “pulling the trigger” on initiating formal procurement
- Ongoing: Continue Market Engagement

Slide 16

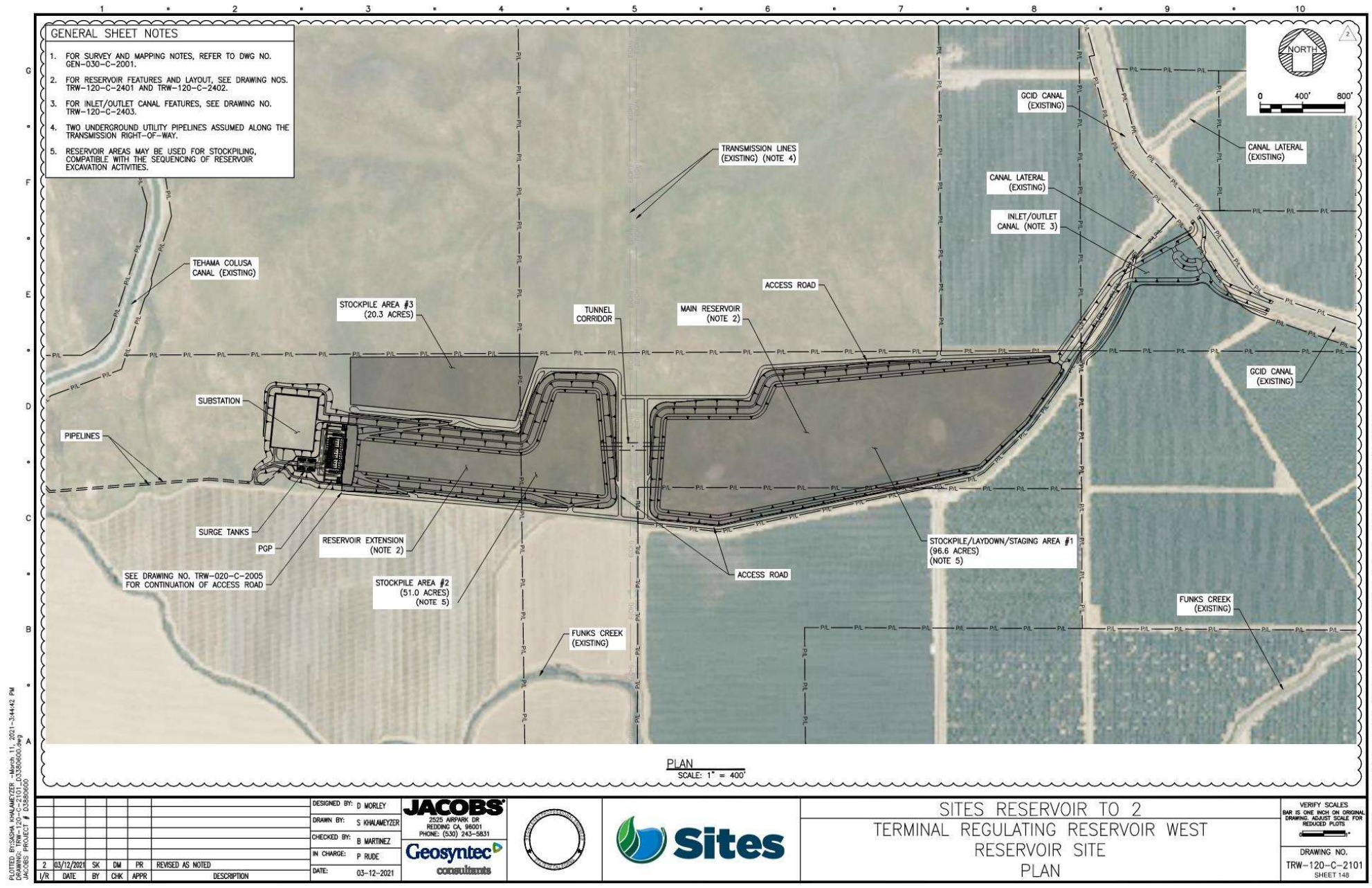
CH0 JP - unsure if you want to state this [market engagement] or not
Cheyanne Harris, 2023-08-03T20:33:58.939

Questions?

Agenda Item 1.2
TRR Sizing and Considerations

Henry Luu

TRR West

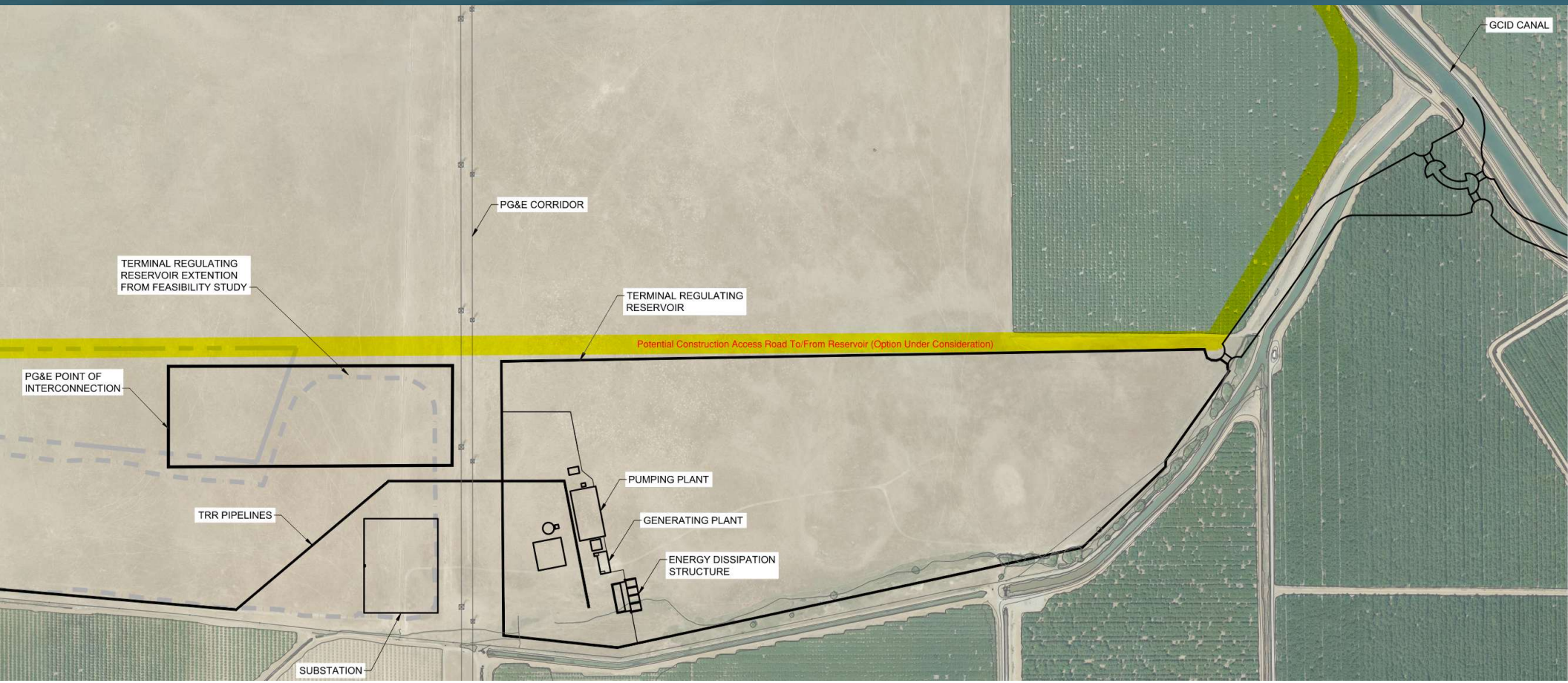

GENERAL SHEET NOTES
1. FOR SURVEY AND MAPPING NOTES, REFER TO DWG NO. GEN-030-C-2001.
2. FOR RESERVOIR FEATURES AND LAYOUT, SEE DRAWING NOS. TRW-120-C-2401 AND TRW-120-C-2402.
3. FOR INLET/OUTLET CANAL FEATURES, SEE DRAWING NO. TRW-120-C-2403.
4. TWO UNDERGROUND UTILITY PIPELINES ASSUMED ALONG THE TRANSMISSION RIGHT-OF-WAY.
5. RESERVOIR AREAS MAY BE USED FOR STOCKPILING, COMPATIBLE WITH THE SEQUENCING OF RESERVOIR EXCAVATION ACTIVITIES.
NORTH
0 400' 800'
GCID CANAL (EXISTING)
TRANSMISSION LINES (EXISTING) (NOTE 4)
CANAL LATERAL (EXISTING)
CANAL LATERAL (EXISTING)
INLET/OUTLET CANAL (NOTE 3)
TEHAMA COLUSA CANAL (EXISTING)
ACCESS ROAD
STOCKPILE AREA #3 (20.3 ACRES)
TUNNEL CORRIDOR
MAIN RESERVOIR (NOTE 2)
GCID CANAL (EXISTING)
SUBSTATION
PIPELINES
SURGE TANKS
PGP
RESERVOIR EXTENSION (NOTE 2)
SEE DRAWING NO. TRW-020-C-2005 FOR CONTINUATION OF ACCESS ROAD
STOCKPILE AREA #2 (51.0 ACRES) (NOTE 5)
ACCESS ROAD
STOCKPILE/LAYDOWN/STAGING AREA #1 (96.6 ACRES) (NOTE 5)
FUNKS CREEK (EXISTING)
FUNKS CREEK (EXISTING)
PLAN
SCALE: 1" = 400'
PROJECT FEASIBILITY STUDY - NOT FOR CONSTRUCTION
DESIGNED BY: D MORLEY
DRAWN BY: S KHALAMEYZER
CHECKED BY: B MARTINEZ
IN CHARGE: P RUDE
DATE: 03-12-2021
JACOBS 2525 AIRPARK DR REDDING CA, 96001 PHONE: (530) 243-5831
Geosyntec consultants
Sites
SITES RESERVOIR TO 2
TERMINAL REGULATING RESERVOIR WEST
RESERVOIR SITE
PLAN
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALE FOR REDUCED PLOTS
DRAWING NO.
TRW-120-C-2101
SHEET 148
2 03/12/2021 SK DM PR REVISED AS NOTED
I/R DATE BY CHK APPR DESCRIPTION

TRR West Geotechnical Investigations

TRR West Design Progression

- Analyzed GCID Main Canal hydraulics based on Project daily operations model
- Landowner engagement
- Potential for optimizing TRR West as a single-cell reservoir
  - Maintain 600 AF design capacity by increasing excavation depth within the main reservoir
  - Avoid potential long-term OM&R complications with a siphon structure
- Proposed capacity will accommodate future considerations for pump-storage operations

TRR West Single Reservoir Concept



Next Steps

- Proceed with advancing optimized TRR West concept to 30% level of design
- Monitor groundwater elevations within the TRR West main reservoir footprint to confirm viability of a deeper reservoir
  - Next update anticipated in October
- Continue value engineering/risk assessment of TRR design
  - Return to this Workgroup with an update if future data results in a nonviable single-cell TRR West configuration
- Complete assessment of the optional construction access road and present findings at a future meeting

Questions?

Engineering and Construction Manager's Report

JP Robinette

Sites

CAISO Application Status

- Interconnection Application submitted and deemed complete April 11, 2023
- Due to the massive increase in interconnection requests, the ISO is looking to redesign and optimize its process starting with this year's Cluster 15
  - Stakeholder outreach to consider 2023 Interconnection Process Enhancements (IPE) initiative began on June 7, 2023
    - Staff is monitoring and intend to engage ISO managers to emphasize the uniqueness and importance of the Sites Project
  - ISO intends to present IPE to its Board of Governors December 2023
- Scoping meeting and studies are anticipated to begin in 2024

DSOD Engagement

- TRR West deemed non-jurisdiction
- Concurred Preliminary Engineering Geotechnical Investigation Workplan (activities through 2024)
  - Monitoring geotechnical investigation progress
- Collaborating with DSOD staff on design considerations and criteria
  - Emergency drawdown duration and flow allocation
  - Seismic source model characterization
  - PMF study and spillway design
- Ongoing monthly meetings with DSOD leadership

Future Topics

- Project Schedule considerations
- Potential reprioritization of A3 Engineering activities
- Dunnigan Pipeline design and CBD considerations
- Emergency drawdown duration and flow allocation
- Construction access road options

Thank you!

Next Meeting (off-sequence): Wednesday, September 13, 2023
(1:30 pm – 3:30 pm)