

Operations & Engineering Workgroup

July 12, 2022



Agenda

Action Items from the Previous Meeting

1.1 - Contract Strategy Recommendation

1.2 - TRR Siting Recommendation

2 – Engineering and Construction Manager's Report

- Amendment 3 Geotechnical Program Updates
- Future Topics

Material Change Categories for Today's Topics (Bylaws)

Contract Strategy

- ✓ Construction Schedule
- ✓ Risk Transfer

TRR Siting

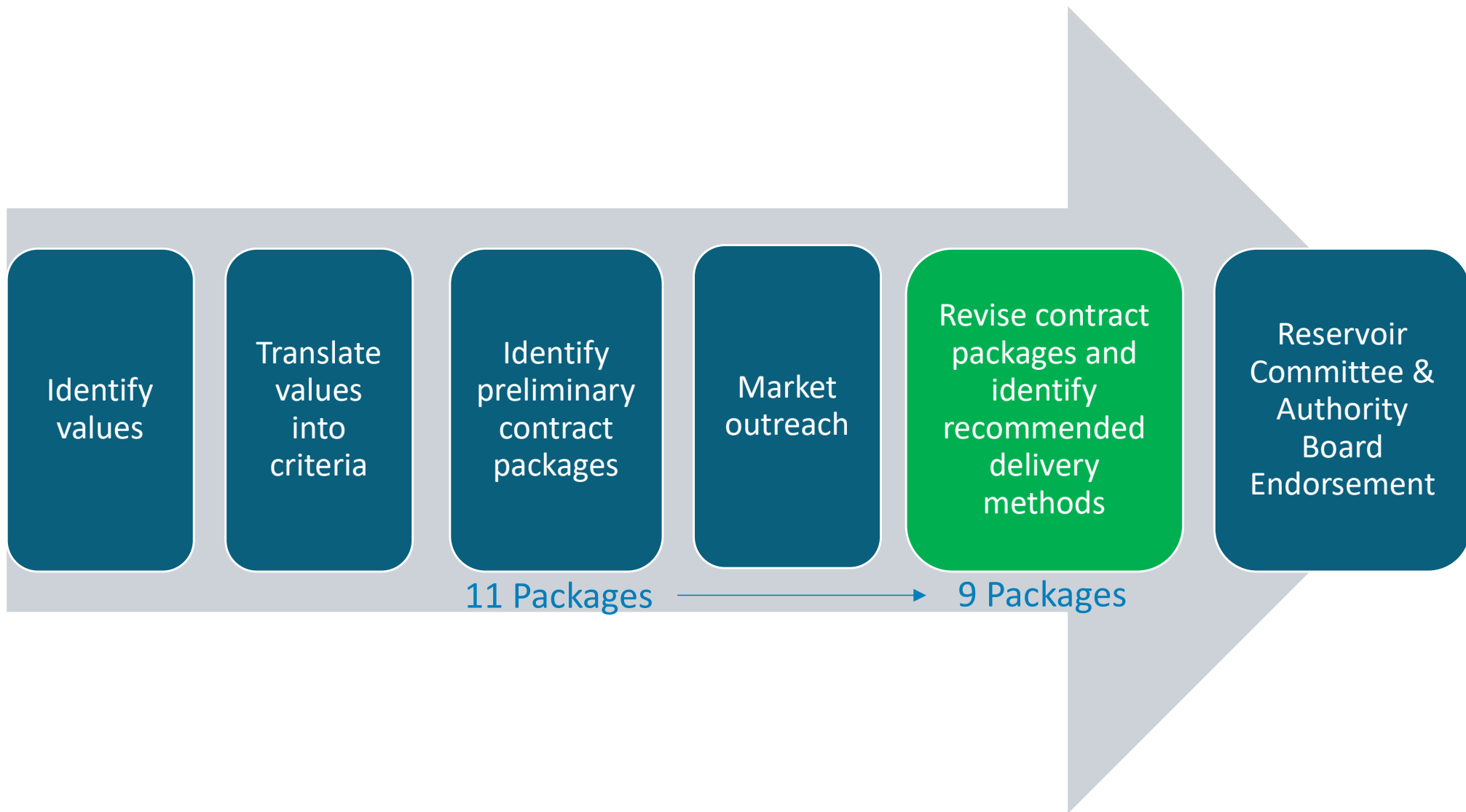
- ✓ Direct Construction Cost
- ✓ Land Acquisition

Agenda Item 1.1

Contract Strategy Recommendation

JP Robinette

Process for Developing the Contract Strategy Recommendation



Contract Strategy Values



Oversight: Given the 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.

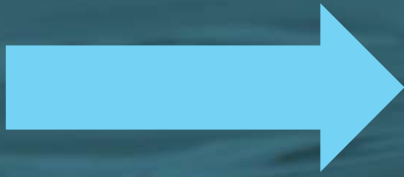


Project Schedule: Look for opportunities to expedite schedule in order to reduce Project costs.

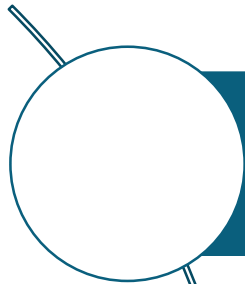


Project Risks: Balance risks with values – *share* risks with partners.

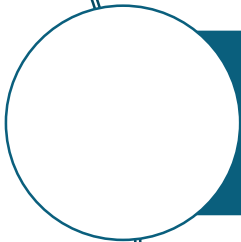
Values



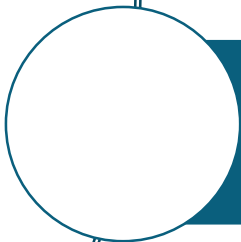
Evaluation Considerations (1 of 2)



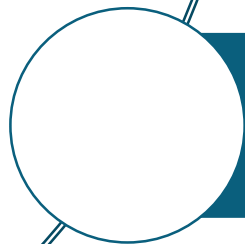
Does the recommended strategy reduce number of contracts for the Authority to manage while retaining flexibility to issue multiple construction packages?



Does the recommended strategy allow for consideration of contractor qualifications and experience where it is most critical?

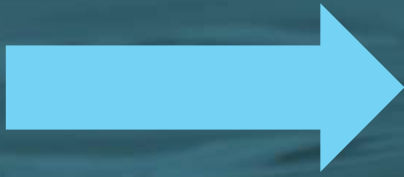


Does the recommended contract strategy enhance early cost certainty for elements that “move the needle” on overall affordability?

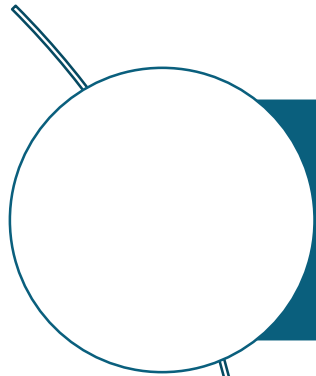


Does the recommended contract strategy reduce potential interface risk between contractors and help the Authority manage other risks?

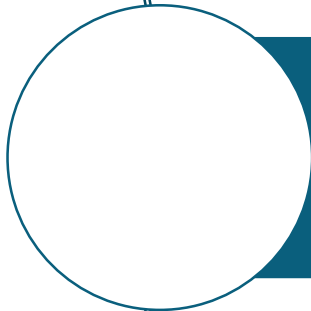
Values



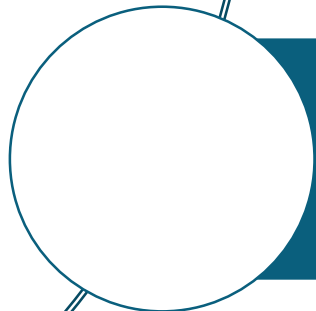
Evaluation Considerations (2 of 2)



Does the recommended contract strategy facilitate system-wide testing and commissioning, and logistical planning?



Does the recommended contract strategy facilitate early engagement of operator and community perspectives?



Does the recommended contract strategy provide opportunities for local contractors?

Contract Procurement: Surface Storage Projects receiving State funding

- Traditionally, Design-Bid-Build (DBB) has been the general approach for surface storage projects.
- **AB 2551** Chapter 760 authorizes the Sites Project to implement alternative delivery:
 - Construction manager at-risk (CMAR)
 - Design-build (DB: conventional, progressive, or target price)
 - Design-build-operate

Market Outreach Takeaways



Substantial local, regional, national and international market interest in the Project

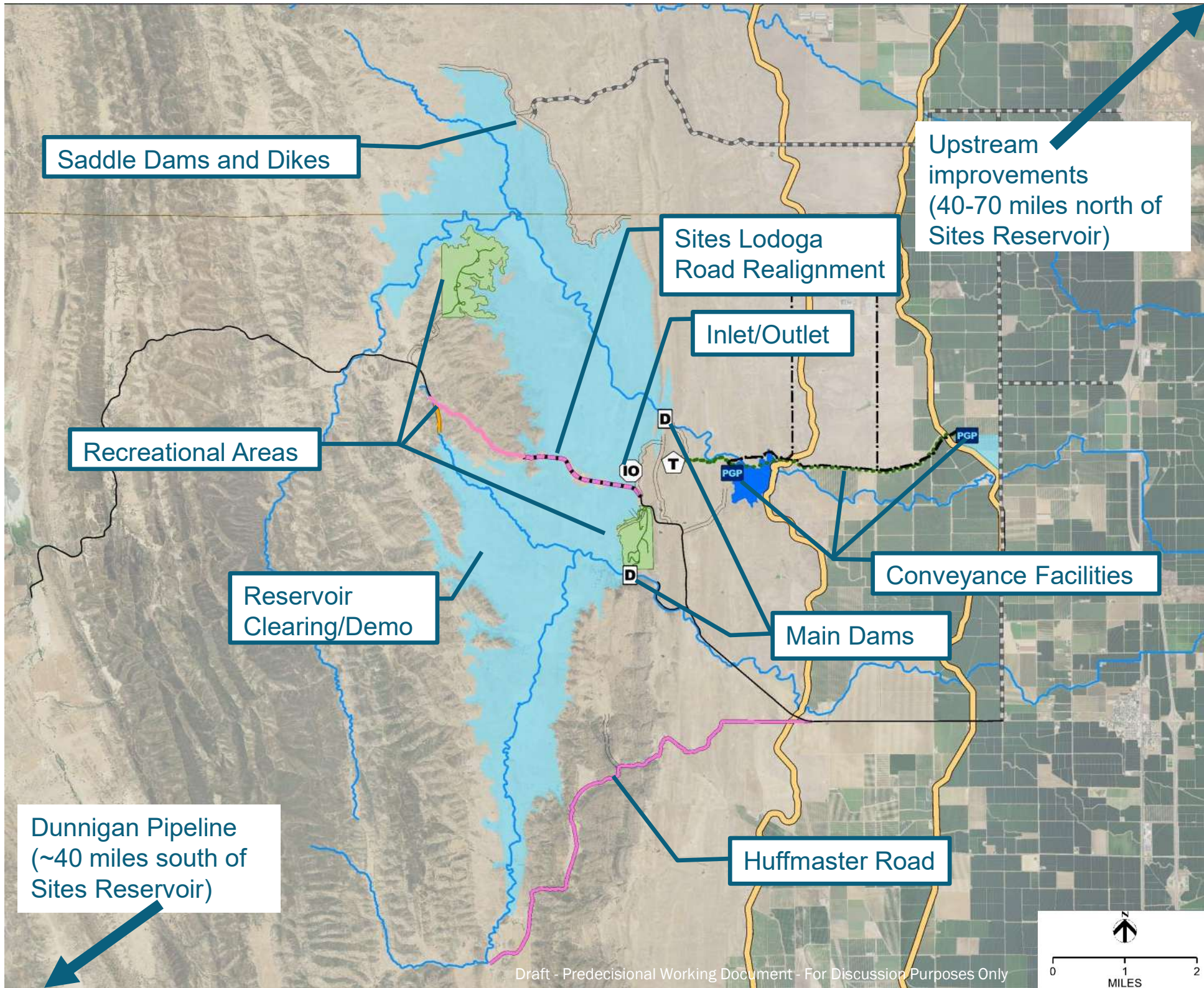
Multiple qualified and interested contractors for all recommended packages, including local constructors

Early contractor involvement/collaborative delivery is preferred where risk mitigation, logistical planning, innovation, cost and schedule are most significant

Geotechnical investigation and property access for environmental surveys are top priorities

2030 milestone is very aggressive

Project Map



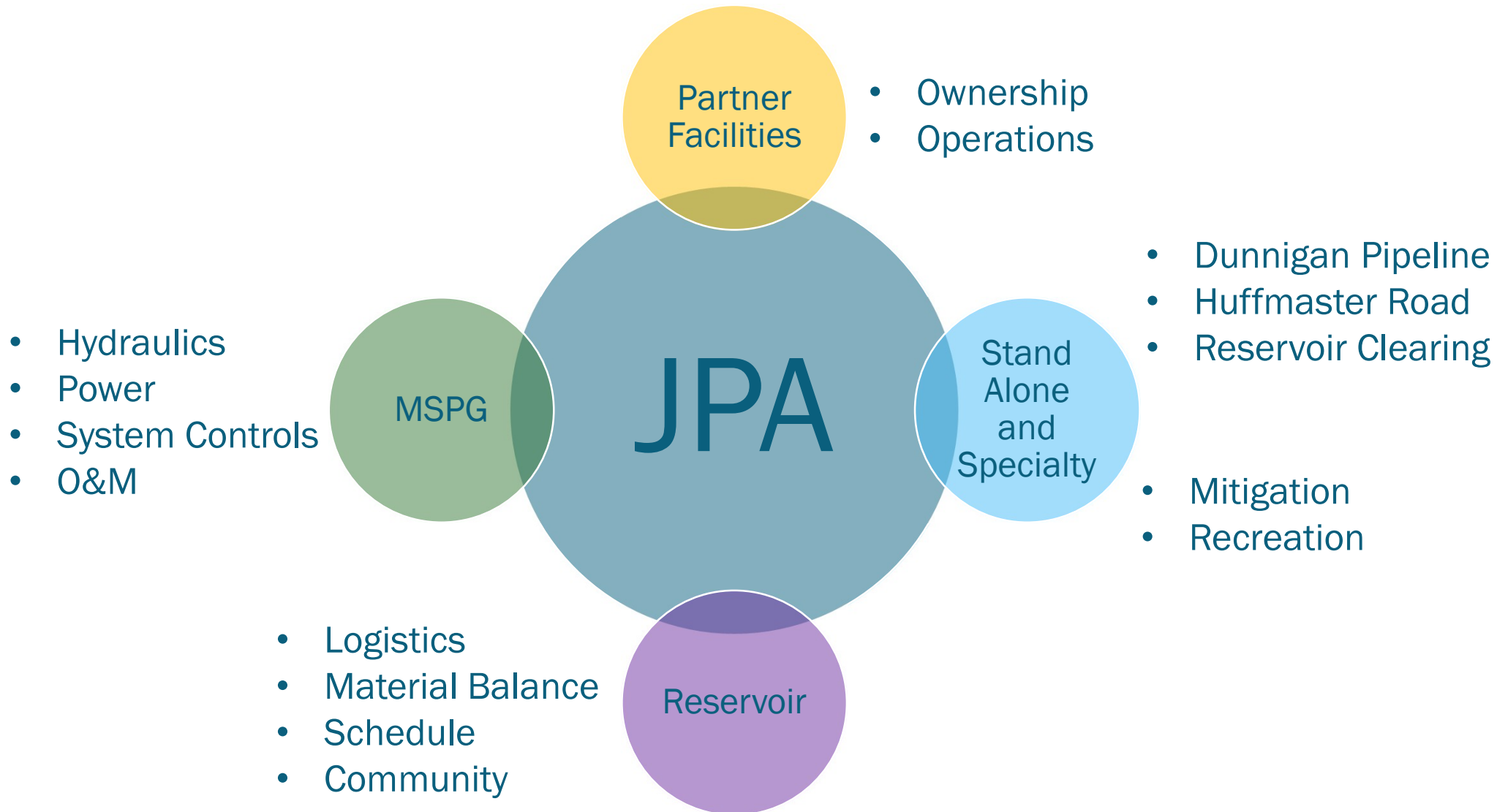
Recommended Packages and Delivery Methods (1 of 2)

No.	Package	Estimated Value (2021\$)	Major Facilities	Recommended Delivery Method	Key Risk Areas
1	Reservoir	\$2.0 B	2 Main Dams 7 Saddle Dams 2 Saddle Dikes Sites-Lodoga Road & Bridge Construction/Access/O&M Roads	Construction Manager at Risk (CMAR)	Logistics Material Balance Schedule Community
2	Maxwell-Sites Pumping and Generating (MSPG)	\$1.15 B	Inlet/Outlet Tower Inlet/Outlet Tunnel Pipelines and Manifold 2 Pumping and Generating Plants 2 Power Interconnection Facilities Instrumentation and Controls Forebay/afterbay Improvements	CMAR	Hydraulics Power System Controls Operation & Maintenance
3	Reservoir Clearing and Demolition	\$35 M	Clearing and Demolition within Reservoir Footprint	Design-Bid-Build (DBB)	Community
4	Huffmaster Road	\$50 M	Local Access Road	DBB	Community
5	Dunnigan Pipeline	\$100 M	Canal Turnout Pipeline Colusa Basin Drain Release	DBB	Operational Flexibility

Recommended Packages and Delivery Methods (2 of 2)

No.	Package	Estimated Value (2021\$)	Major Facilities	Recommended Delivery Method	Key Risk Areas
6	Tehama Colusa Canal Authority	\$5 M	Existing Facility Improvements	Owner Agreements	Ownership & Operation
7	Glenn Colusa Irrigation District	\$7 M	Existing Facility Improvements	Owner Agreements	Ownership & Operation
8	Recreation	\$35 M	Peninsula Hills Stone Corral Creek Day-use Boat Ramp	DBB with concessions or Design-Build-Operate	Specialty
9	Mitigation	\$600 M	Implement Environmental Mitigation Commitments	Various	Schedule

Contract Strategy Risk Summary



Contract Strategy Recommendation



Proceed to develop schedules by package and for the overall program

Make adjustments to the Amendment 3 work plans to reflect packaging and overall schedule criticality

If future conditions warrant a change in packages or delivery method, then authorize Authority staff to make modifications consistent with the evaluation considerations identified in today's presentation

Procurement Strategy Considerations (next step)

- **Values** - what are the most important values to consider in selecting a contractor?
- **Timing** - are there required assurances (ROD/NOD, Water Right, financial commitments) before initiating procurement based on the Contract Strategy recommendations?
- **Guidelines** - what is the Authority's preferred target/guideline for the following criteria, and what is required by state and federal funding partners?
 - Self performance vs. subcontracting
 - Local contractor involvement
 - Workforce development and local office requirements (i.e. sales tax)
 - DBE, MBE, WBE, etc.
- **Market outreach** - what is the policy for market outreach and communication with contractors after initiation of the procurement process?
- **Authority representation** - what representation is needed on procurement evaluation committees and/or selection panels?

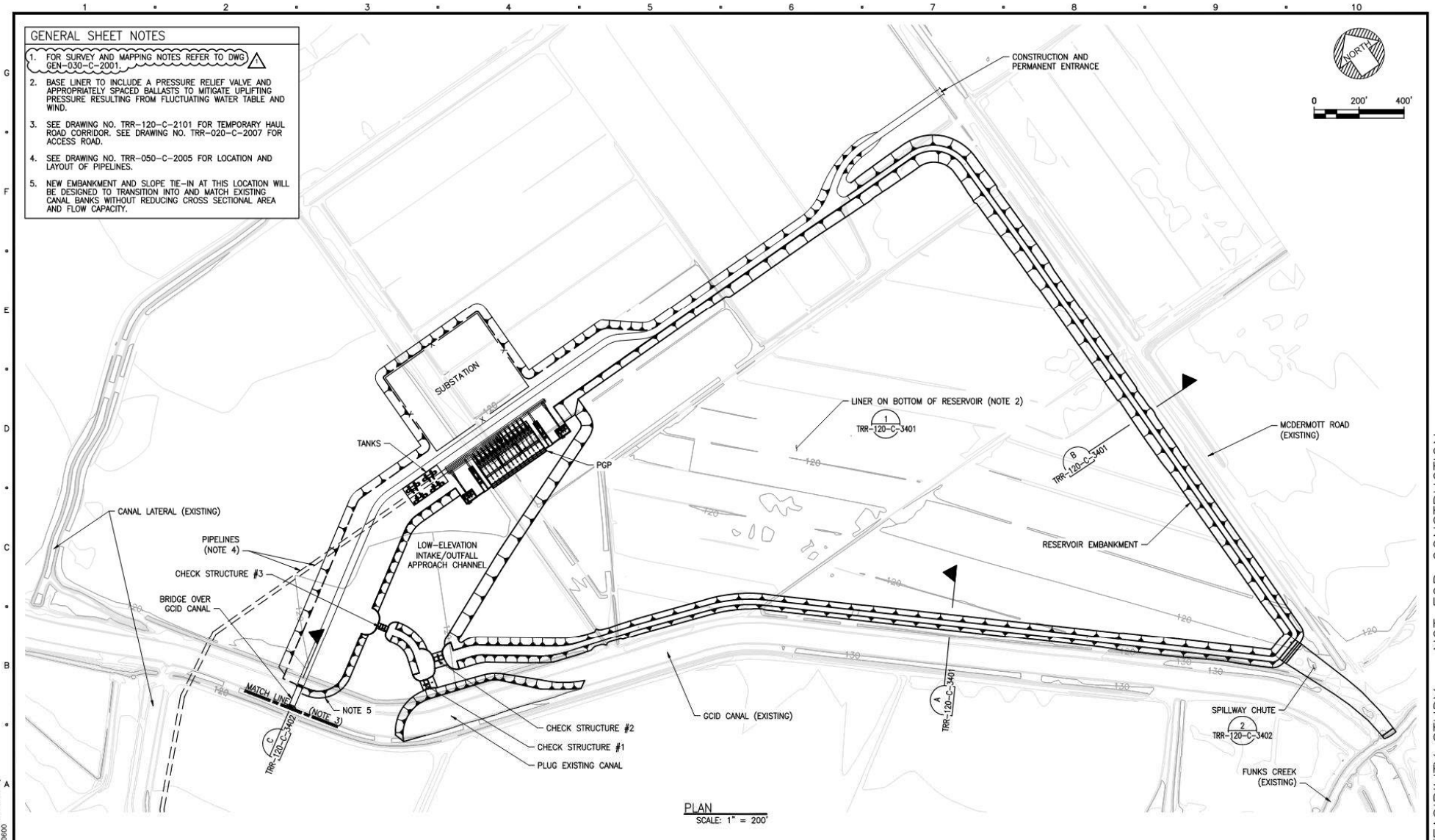
Questions?



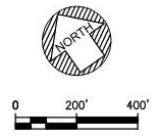
Agenda Item 1.2: TRR Siting Recommendation

Henry Luu

TRR East



- GENERAL SHEET NOTES**
1. FOR SURVEY AND MAPPING NOTES REFER TO DWG. GEN-030-C-2001.
 2. BASE LINER TO INCLUDE A PRESSURE RELIEF VALVE AND APPROPRIATELY SPACED BALLASTS TO MITIGATE UPLIFTING PRESSURE RESULTING FROM FLUCTUATING WATER TABLE AND WIND.
 3. SEE DRAWING NO. TRR-120-C-2101 FOR TEMPORARY HAUL ROAD CORRIDOR. SEE DRAWING NO. TRR-020-C-2007 FOR ACCESS ROAD.
 4. SEE DRAWING NO. TRR-050-C-2005 FOR LOCATION AND LAYOUT OF PIPELINES.
 5. NEW EMBANKMENT AND SLOPE TIE-IN AT THIS LOCATION WILL BE DESIGNED TO TRANSITION INTO AND MATCH EXISTING CANAL BANKS WITHOUT REDUCING CROSS SECTIONAL AREA AND FLOW CAPACITY.



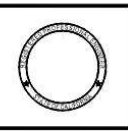
PLAN
SCALE: 1" = 200'

PLOTTED BY: SUSHMA KHALAMEYZER - December 16, 2020 - 3:44:42 PM
 DRAWING: TRR-120-C-2401 - 03/20/2020 - 03/20/2020
 PROJECT: TRR-020-C-2007

DESIGNED BY:	B. MORLEY
DRAWN BY:	S. KHALAMEYZER
CHECKED BY:	B. MARTINEZ
IN CHARGE:	P. RUDE
DATE:	11-09-2020

JACOBS
 2025 AIRPARK DR
 REDWOOD CITY, CA 94061
 PHONE: (650) 243-5831

Geosyntec
 consultants



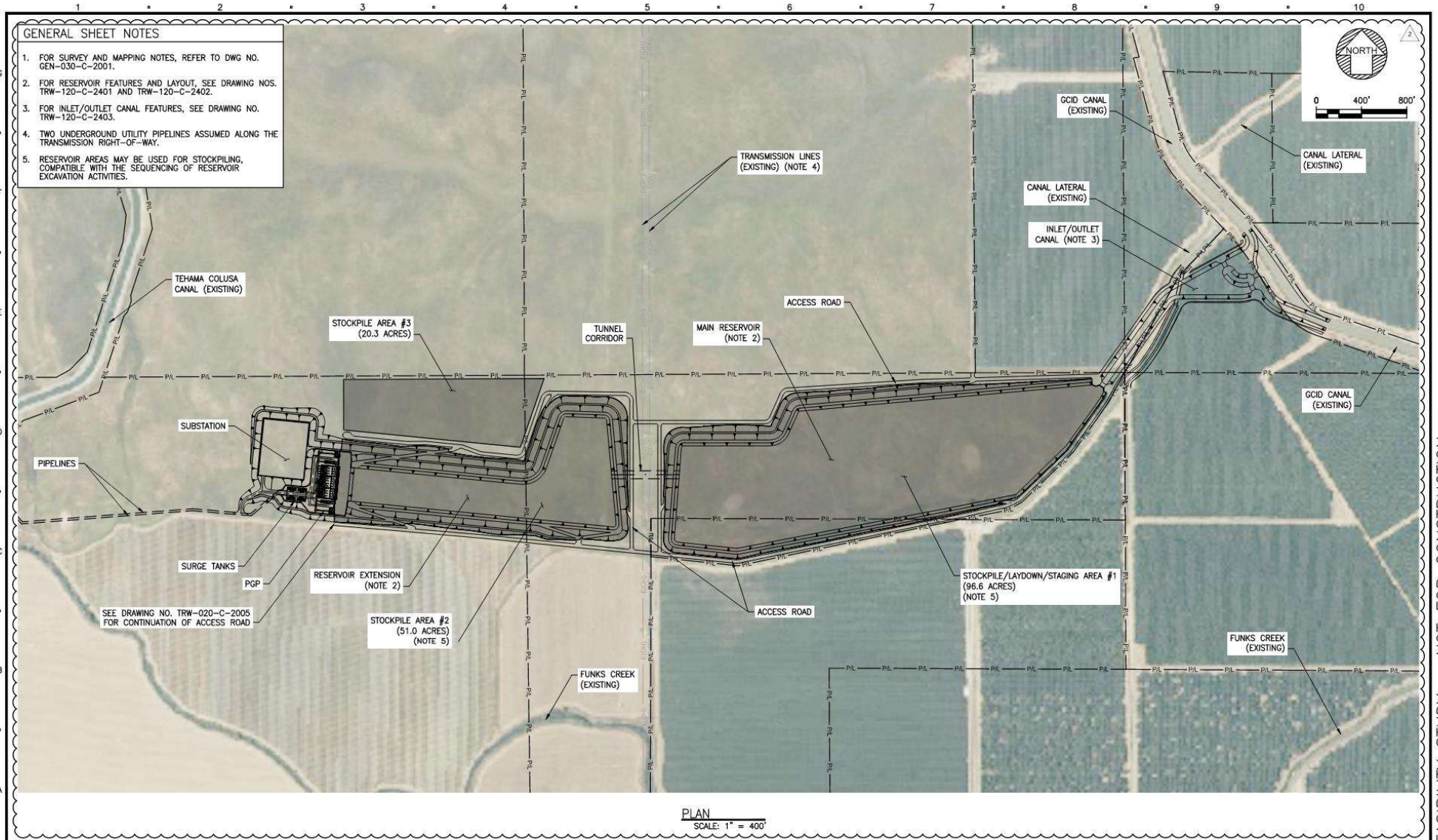
SITES RESERVOIR TO 2
 TERMINAL REGULATING RESERVOIR EAST
 RESERVOIR
 PLAN

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL
 DRAWING. ADJUST SCALE FOR
 REDUCED PLOTS.

DRAWING NO.
 TRR-120-C-2401
 SHEET 123

PROJECT FEASIBILITY STUDY - NOT FOR CONSTRUCTION

TRR West

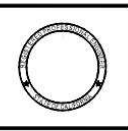


PLOTTED BY: SUSHMA KHALAMEYZER - March 11, 2021 - 3:44:42 PM
 DRAWING: TRW-120-C-2101_03300000.dwg
 PROJECT: TR-03250000

I/R	DATE	BY	CHK	APPR	DESCRIPTION
2	03/12/2021	SK	DM	PR	REVISED AS NOTED

DESIGNED BY: B MORLEY
 DRAWN BY: S KHALAMEYZER
 CHECKED BY: B MARTINEZ
 IN CHARGE: P RUDE
 DATE: 03-12-2021

JACOBS
 2025 AIRPARK DR
 REDDING, CA 96001
 PHONE: (530) 243-5831
Geosyntec
 consultants



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

PROJECT FEASIBILITY STUDY - NOT FOR CONSTRUCTION

TRR West Geotechnical Investigations



TRR West Considerations

- Real Estate
 - Less impacts to existing orchards
- Constructability
 - Favorable soil conditions for foundations
 - Static and seismic stability
 - Likely to require less dewatering
 - Mostly excavation = fewer construction constraints
- Construction Cost
 - Requires shorter length of pipes and power lines
 - Extensive ground improvements is not required
- Avoids DSOD jurisdiction (pending DSOD review and determination)

Cost Comparison of TRR East and TRR West

Facility	(2019 Cost in Millions)	(2021 Cost in Millions)
TRR East		
TRR East/Funks Pipelines	\$358.5	\$369.6
TRR East Reservoir	\$179.6	\$185.1
TRR East Transmission Power Lines - PG&E Connection	\$58.6	\$60.4
TRR East Subtotal	\$596.7	\$615.1
TRR West		
TRR West/Funks Pipelines	\$220.0	\$226.8
TRR West Reservoir	\$205.6	\$211.9
TRR West Transmission Power Lines – PG&E Connection	\$38.1	\$39.3
TRR West Subtotal	\$463.7	\$478.0
Total Cost Differential Between TRR East and TRR West	\$133.0	\$137.1

TRR Siting and Next Steps

- Recommend adoption of the TRR West configuration, pending final feedback from the Land Management Committee, for advancing project design
- Re-define all work related to TRR East
- Progress value engineering and optimization for the TRR West configuration

Questions?



Agenda Item 2

Engineering and Construction Manager's Report

JP Robinette

Amendment 3 Geotech Update



Geotech: Approach to CEQA/NEPA Permitting

- Permitting strategy to Amendment 3 Geotechnical Program is to avoid impacts
- Approach will allow for initiating geotechnical field investigations as early as next month
- Test pit, fault trench, and dozer line investigation activities are anticipated to be permitted by January 2023
- Eagle Permit for activities encroaching within surveyed eagle nest buffers is anticipated to be completed by January 2023

Geotech: Access Agreements

- Ongoing access discussions with owners
- Initial geotechnical field investigations are anticipated to be predominantly within public right of way
- Execution of access agreements are anticipated to begin this fall

Future Topics

- Program Schedule Development
- Reclamation Participation
- Colusa Basin Drain Engineering Considerations
- Division of Safety of Dams (DSOD) Engagement

Questions?



Thank you!

Next Meeting: Wednesday, August 10, 2022 (1:30 – 3:30pm)

