



Topic: **Authority Board Agenda Item 2.2**

August 24, 2022

Subject: **Final Terminal Regulating Reservoir Siting**

Requested Action:

Consider acceptance of the Terminal Regulating Reservoir (TRR) West site for advancing TRR design and authorize amendment of the Amendment 3 work plan and task orders to align with advancing TRR design at the TRR West site.

Detailed Description/Background:

The Project feasibility analyses were performed based on the approved recommended Project configurations within the "Sites Project Value Planning Alternatives Appraisal Report" dated April 13, 2020, which assumed the TRR is sited on the East side of the GCID Main Canal – TRR East. In advancing the feasibility design for TRR East it was found that the site has challenging geotechnical conditions that would necessitate extensive ground improvements to construct Project facilities. This finding resulted in the engineering team working with the Reservoir Operations & Engineering Workgroup and the Land Management Committee to evaluate several alternative TRR sites that may be more suitable for the Project.

Five alternative locations were considered and evaluated based on potential real estate impacts, potential environmental impacts, available geotechnical data, and cost implications. The result from the analysis is an alternative TRR site that is on the West side of the GCID Main Canal, identified as TRR West. Comparing TRR West to TRR East there are less real estate impacts, about the same amount of environmental impacts, geotechnical data indicate subsurface conditions appear more favorable at TRR West, and less cost could be incurred developing on the TRR West site. The feasibility cost estimate for TRR East was estimated at \$615M in 2021 dollars and TRR West at \$478M in 2021 dollars; a cost difference of \$137M in 2021 dollars. The accepted total Project cost estimate of \$3.93B (2021 dollars) includes the TRR West site.

The Authority's geotechnical investigations conducted earlier this year (2022) to verify subsurface conditions at the TRR West site validated assumptions that were made as part of the feasibility efforts: the site has more favorable soil conditions that would not necessitate extensive ground improvements to accommodate project facilities, and the observed lower ground water elevations on the West side of the GCID Main Canal would require less dewatering during construction which is a constructability benefit.

Staff presented results from the geotechnical investigation to the Reservoir Operations & Engineering Workgroup on July 12, 2022 and the Land Management Committee on August 4, 2022 – both groups unanimously concurred with the recommendation to move forward assuming the TRR West site for advancing TRR design.

On a general level, adjustments to the Amendment 3 work plan and 2 task orders are required as follows to align with advancing TRR design at the TRR West site:

- Remove all planned geotechnical investigation activities required to inform design of the TRR East site.
- Re-define all design related activities for the TRR to focus on the TRR West site, including value engineering and optimization of facilities.
- Direct all TRR coordination efforts to reflect the TRR West site.

Prior Action:

None.

Fiscal Impact/Funding Source:

The Amendment 3 Work Plan includes a sufficient budget to cover the required resources and activities in support of advancing the TRR design at the TRR West site.

Staff Contact:

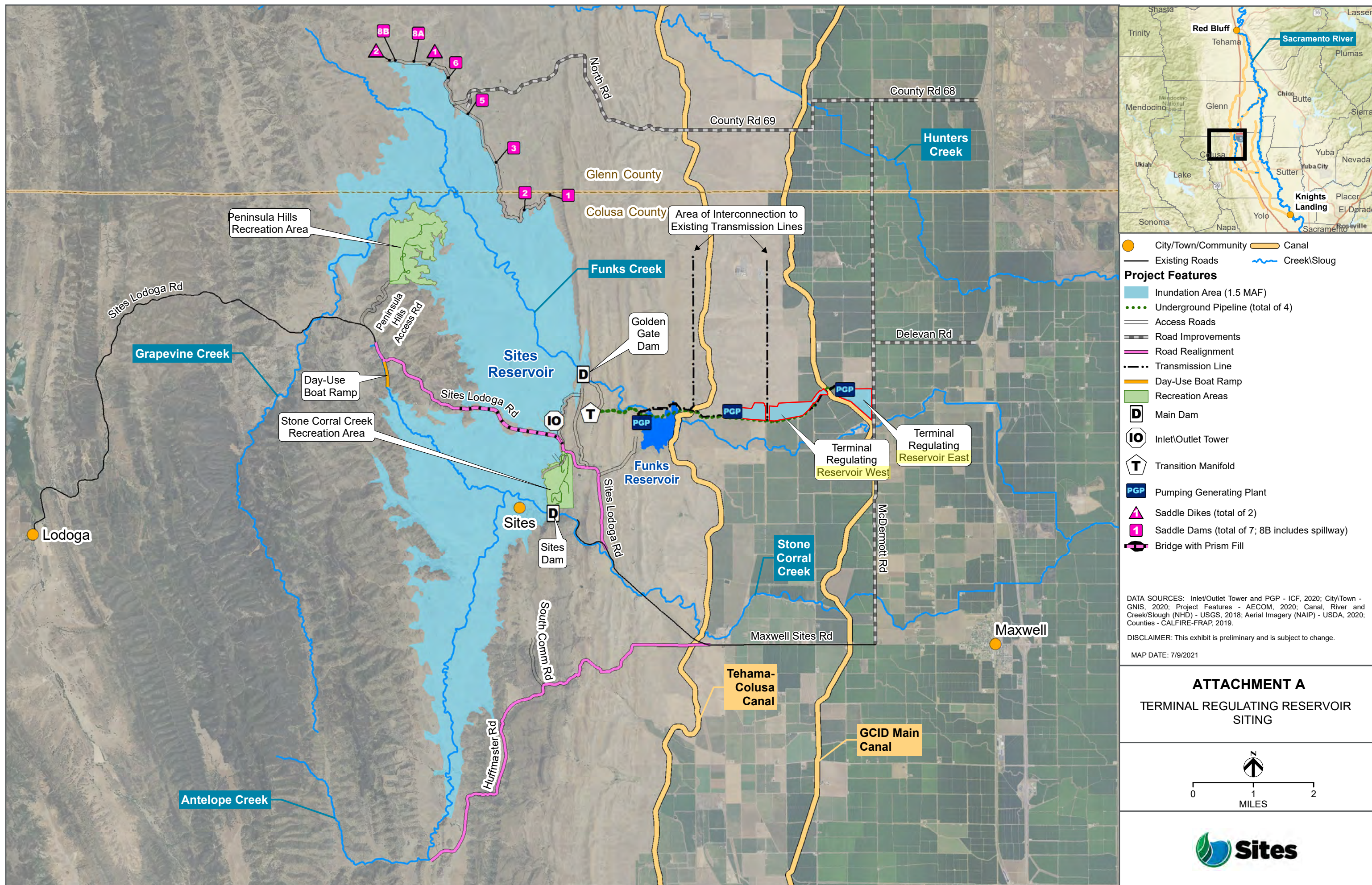
JP Robinette/Henry Luu

Primary Service Provider:

HDR/CH2M/Fugro/ICF

Attachments:

Attachment A – Terminal Regulating Reservoir Siting



- Project Features**
- Inundation Area (1.5 MAF)
 - Underground Pipeline (total of 4)
 - Access Roads
 - Road Improvements
 - Road Realignment
 - Transmission Line
 - Day-Use Boat Ramp
 - Recreation Areas
 - D Main Dam
 - IO Inlet/Outlet Tower
 - T Transition Manifold
 - PGP Pumping Generating Plant
 - ▲ Saddle Dikes (total of 2)
 - 1 Saddle Dams (total of 7; 8B includes spillway)
 - ⌘ Bridge with Prism Fill

DATA SOURCES: Inlet/Outlet Tower and PGP - ICF, 2020; City/Town - GNIS, 2020; Project Features - AECOM, 2020; Canal, River and Creek/Slough (NHD) - USGS, 2018; Aerial Imagery (NAIP) - USDA, 2020; Counties - CALFIRE-FRAP, 2019.

DISCLAIMER: This exhibit is preliminary and is subject to change.

MAP DATE: 7/9/2021

ATTACHMENT A
TERMINAL REGULATING RESERVOIR
SITING

