

Soil Wedge & Geomembrane

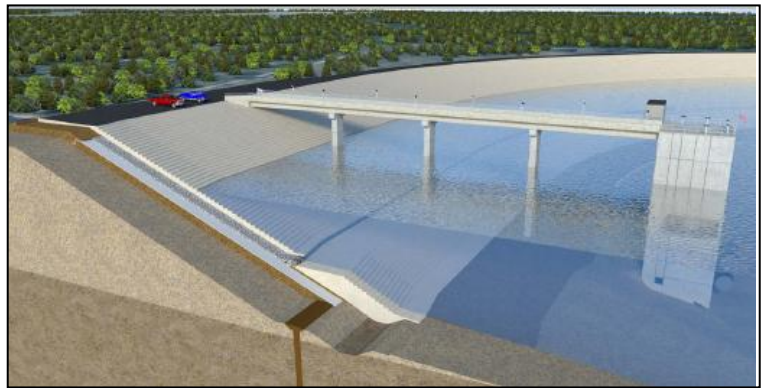
Kiewit Infrastructure Group's proposed fix recommends removing the existing flat-plate soil-cement, removing the geotextile just below the soil-cement and excavating the soil wedge. The existing geomembrane would be removed; the excavated soil would be reworked and replaced as embankment fill; a new geomembrane with geotextiles on both sides would be placed on the fill and would be tied into the existing bentonite cut-off wall.

Drainage System

A drainage system composed of crushed stone would be placed immediately on top of the geomembrane with geotextiles. A separate geotextile would be placed on top of the crushed stone layer, which allows water to continuously drain to the reservoir interior face.

Erosion Control System

Stair-stepped soil-cement would be placed over the entire reservoir interior face. A buttress of soil-cement would be built at the base of the stair-step soil-cement. Kiewit's proposal states that stair-step soil-cement is economical, low maintenance and a widely accepted erosion control method.



Kiewit rendering of its renovation proposal.

Construction Considerations

Kiewit's proposal includes mixing soil-cement onsite using a mixing facility to be located within the reservoir. Soil-cement would be trucked from the mixing facility to locations around the interior of the reservoir for placement. Excavated soil-cement would be used to create haul roads in the interior of the reservoir, used as base rock for the mixing facility staging area, and used for soil-cement created onsite. A conveyor system would be used to transfer drainage material and place the soil-cement on the reservoir's interior face.

Kiewit's Alternate Proposal for Increased Storage

Kiewit's alternate proposal for 3 billion gallons of additional storage recommends the same fix as its 15.5 billion gallon proposal. To add storage, Kiewit would increase the height of the embankment by using a stair-step soil-cement structure on both the sides of the embankment. A concrete wave-wall would be anchored to the stair-step soil-cement erosion control system on the interior side of the crest.

Kiewit's Cost Proposal

The reservoir renovation procurement is not a low bid process. Tampa Bay Water is selecting the best value proposal based on technical criteria as well as lifecycle costs. **Each proposal was scored on lifecycle costs**, which include costs for design and engineering, construction, maintenance and monitoring costs as well as renewal and replacement costs over a 50-year timeframe. Kiewit's base proposal capital cost is approximately \$121 million; Kiewit's proposal for 3 billion gallons of additional storage is approximately \$42 million additional.

Tampa Bay Water has summarized each proposal for public information purposes only. Summaries focus on six topic areas: Soil Wedge & Geomembrane, Drainage System, Erosion Control System, Construction Considerations, Increased Storage, and Proposed Costs. Presented in alphabetical order, the summaries are intended to generally describe the proposals in layman's terms and do not represent the full proposals, each of which contains extensive information regarding design, permitting, construction, maintenance and monitoring and environmental and public impacts. Full proposals with executive summaries are available at Tampa Bay Water's records department.