

**APPENDIX N:
COST ESTIMATE FOR LINING EVAPORATION POND WITH
HIGH-DENSITY POLYETHYLENE LINER**

SUMMERS ENGINEERING

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MEMORANDUM

TO: Jacob Westra
Tulare Lake Basin Water Storage District

FROM: Roger L. Reynolds

DATE: February 26, 2016

SUBJECT: Estimated Cost for installation of HDPE Liner at proposed Mid Evaporation Basin

Background: Summers Engineering, Inc. has designed and administered the installation of HDPE liners to minimize seepage losses for several miles of irrigation canals in Central California.

Recent Work: Recent canal lining completed in 2011 which included furnishing and installing an HDPE canal liner along the invert and side slopes of the canal had a cost of \$0.70 per square foot. This work included excavating trenches on each side of the canal, pulling rolled sheets of the lining material across the canal, fusing each sheet together, and then backfilling the edges of the liner into the ground on each side of the canal.

Evaporation Pond Lining: The unit cost to furnish and install similar HDPE liners for an evaporation basin should be less. There will be plenty of open area for contractor construction maneuverability and the current lower oil costs may further reduce the cost. It is assumed a range of construction costs would be \$0.40 to \$0.50 per square foot.

Mid Evaporation Basin Lining Costs: The proposed evaporation basin will have approximately 1,950 acres of open water areas.

Estimated costs to install HDPE lining at the proposed evaporation basin:

(1) @ a unit cost of \$0.40/sq foot

Estimated Cost approximately \$33,975,000 ± (\$17,423/Ac)

(2) @ a unit cost of \$0.50/sq foot

Estimated Cost approximately \$42,470,000 ± (\$21,779/Ac)