PUBLIC WORKS
VENTURA COUNTY

WATERSHED PROTECTION

MEMORANDUM

DATE: March 5, 2021

TO: Kim Loeb, Groundwater Manager, Groundwater Section

FROM: James Maxwell, PG, CEG, Groundwater Specialist

SUBJECT: Review of *Fillmore and Piru Basins Land Subsidence Evaluation Technical Memorandum*

The Ventura County Public Works Agency, Water Resources Division (VCWRD) reviewed the *Fillmore and Piru Basins Land Subsidence Evaluation Technical Memorandum*, prepared by Daniel B. Stephens & Associates, Inc. (a Geo-Logic Company) and dated February 4, 2021.

The following comments are provided:

Background

- The memo states subsidence related to oil and gas withdrawal in the subbasins has not been historically observed or determined. How are conclusions drawn regarding hydrocarbon extraction without quantifiable or known hydrocarbon extraction data? It appears that there are plugged oil and gas wells within both subbasins which could have historically had an impact on subsidence.
- There is no discussion regarding hydrogeological continuity with the Santa Clara River Valley East Subbasin, groundwater extraction from this subbasin and the effect of recharge on the Piru/Fillmore subbasins, and surficial deposition and sedimentation from tributaries and the upper reaches of the Santa Clara River.

Geodetic Surveys

- Overall, the historical survey data is not very representative of groundwater extraction-related subsidence. It shows a good case for a need for more survey locations overlying the subbasins. It currently does not provide enough data to support any trends.

InSAR Data

- The memo states that general land surface movement trends can be seen in the InSAR data. Agreed, the data and data collection locations are representative of minor subsidence occurring in the Fillmore Subbasin and indicative of potential elastic rebound via groundwater replenishment in the central Piru Subbasin.

Future Potential Subsidence

- There is no discussion of the potential for future planned development to impede surface water infiltration and percolation (elastic subsidence) or the effect of increased pumping due to development.