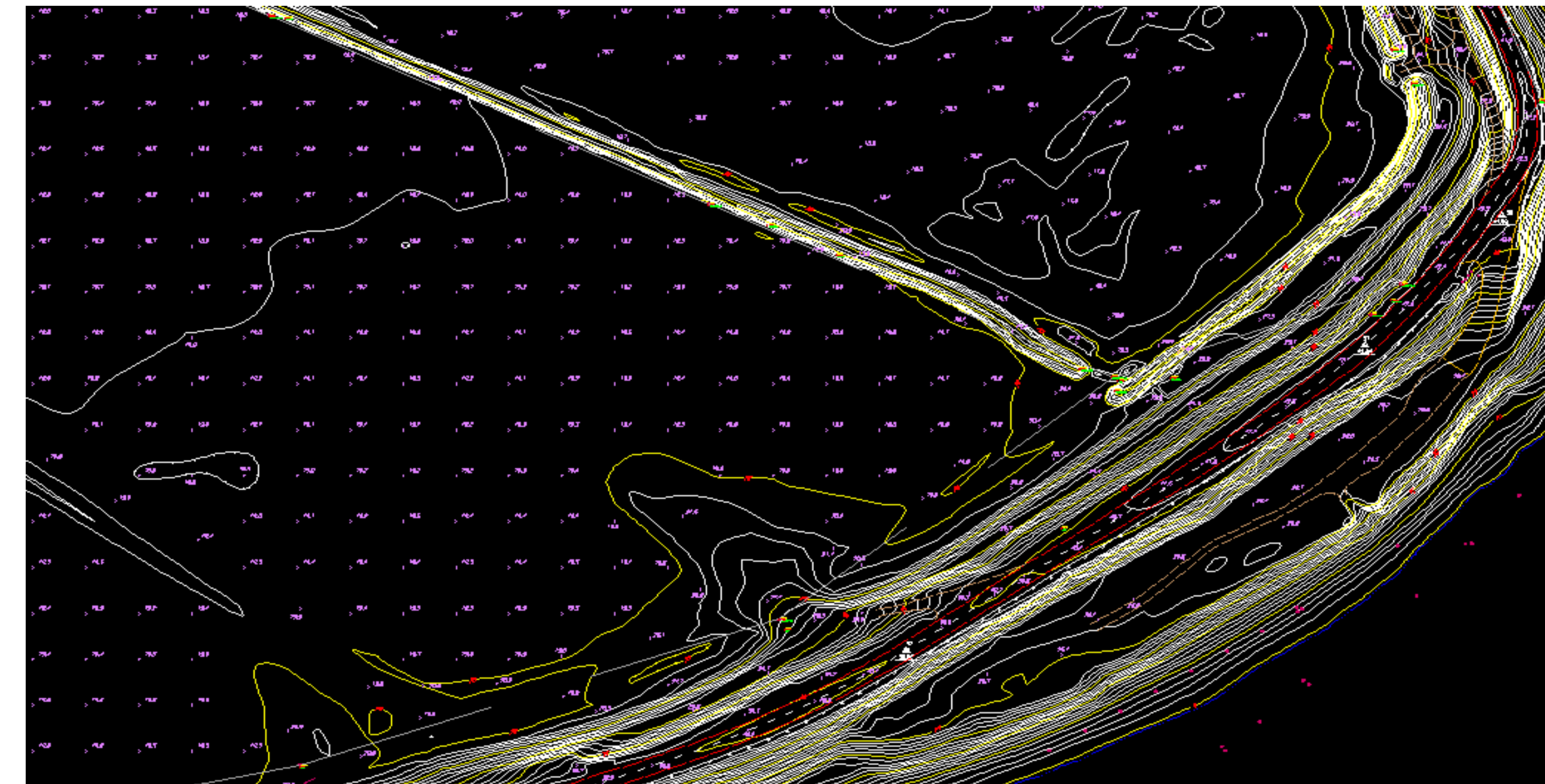


Geomatics Engineering
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Abstract

The determination of water boundaries between upland owners and the State of California can be an ambiguous process. The influence of modern manmade structures to redirect water flow can cause further uncertainties. Using contemporary boundary analysis procedures, with the assistance of Aerial Mapping, Digital Terrain Models, and record maps, these ambiguities can be mitigated.

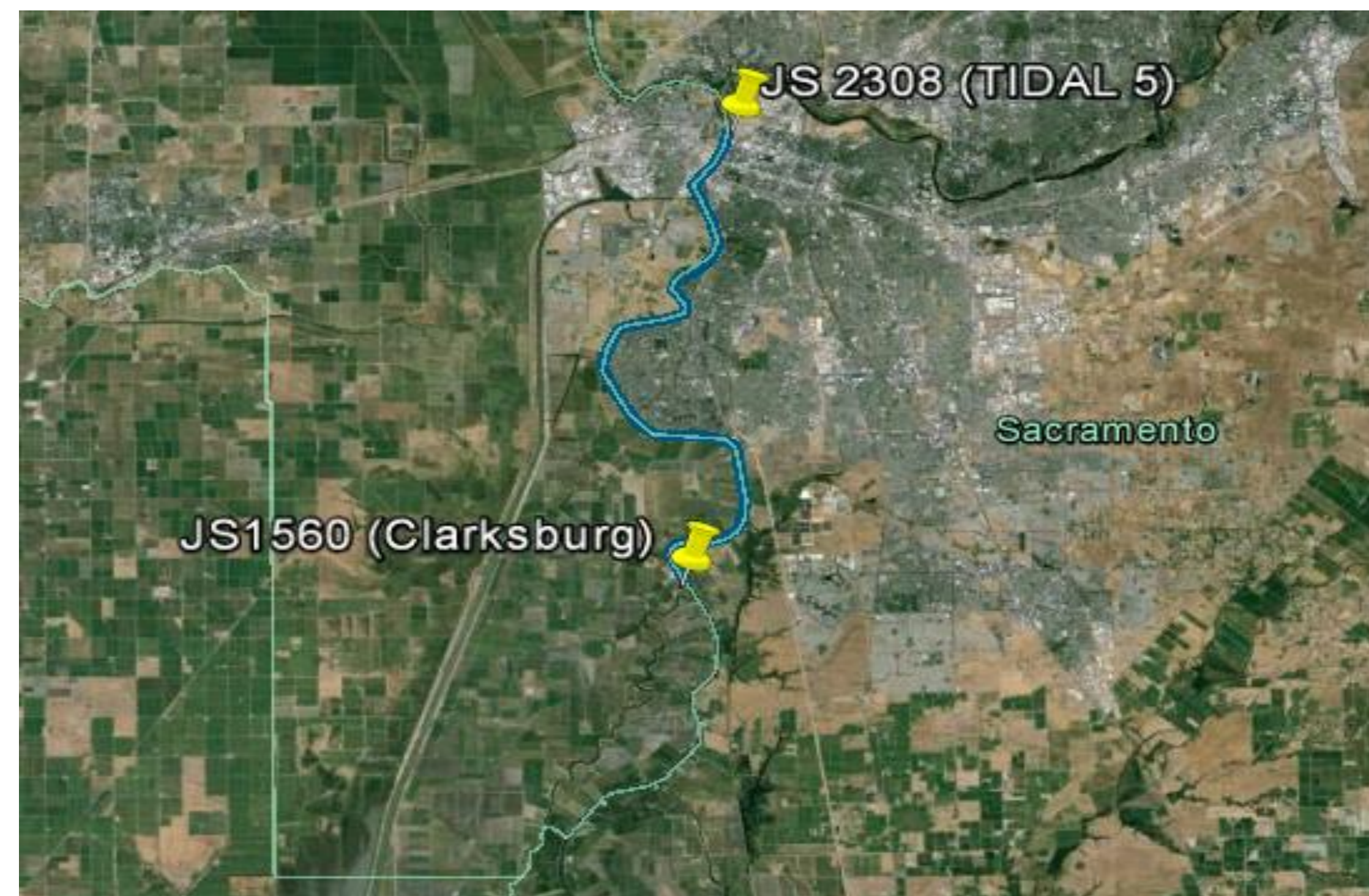
Aerial Mapping & Digital Terrain Model



Using Contours

Contour elevations are determined by locating the elevation of the mean high water line from recorded tidal datums. Once the elevation is determined, that specific elevation can be located from a Digital Terrain Model, which will give a horizontal location of the mean high water line.

Tidal Datums

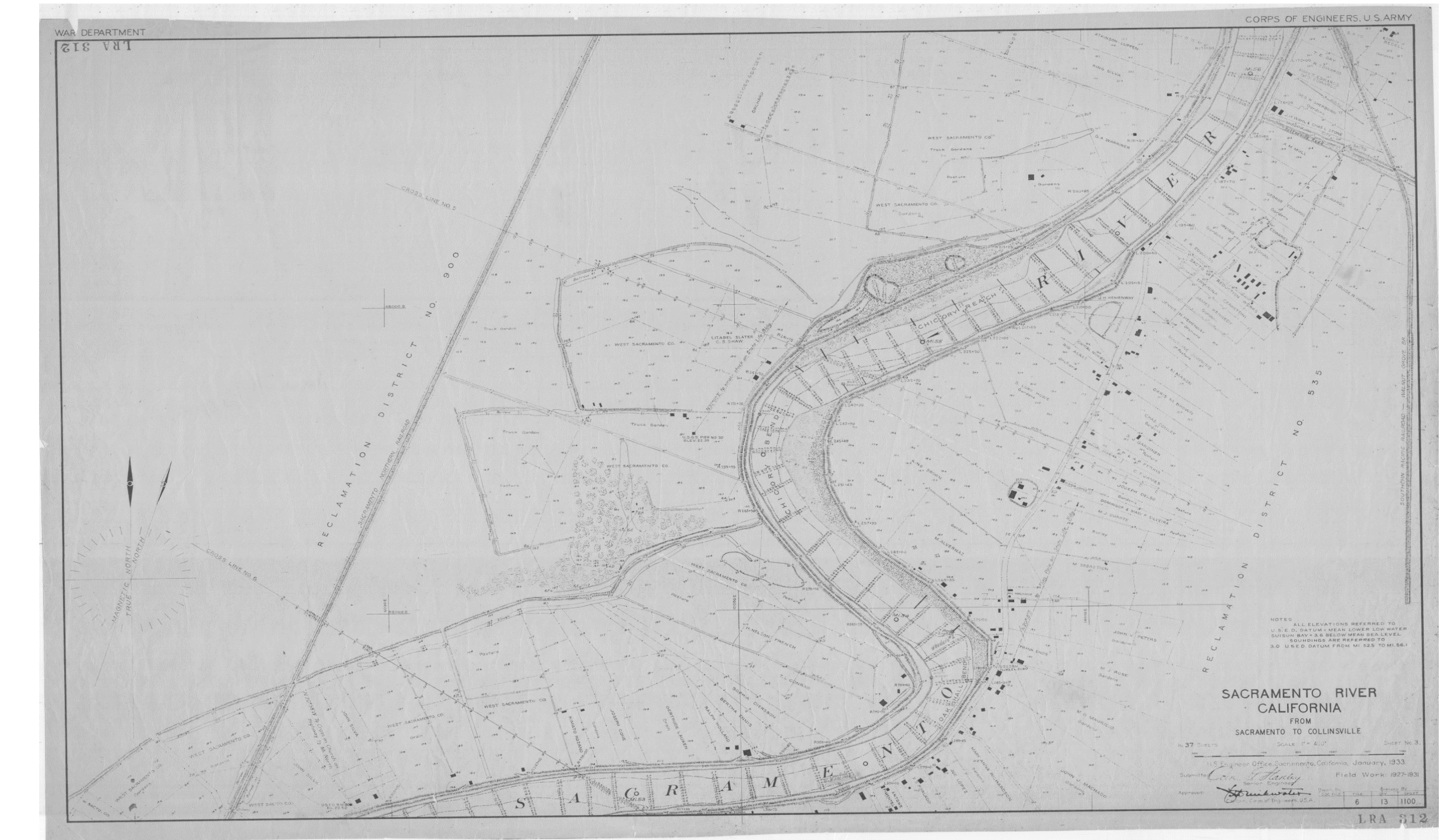


California Civil Code, Section 830

The State's ownership of tidelands, submerged lands and beds of navigable waterways includes lands laying below the mean high water line (MHWL) of tidal waterways and below the mean low water mark of non-tidal waterways.

The Sacramento River is both navigable and a tidal water way.

Army Corp of Engineers Record Map



Boundary

In California, an artificial influence, such as the construction of breakwaters (wing dams), has no effect upon littoral boundaries between the State and upland owner. The boundary will remain as it existed, at the last natural location of the shoreline. Determining the last natural shoreline is dependent upon historical research to locate evidence of the shoreline before the artificial condition was introduced.