



## Legislation Text

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**File #:** 23-0240, **Version:** 1

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Recommendation to receive and file the attached report, "Elevation Changes in the City of Long Beach, November 2021 through November 2022." (Citywide)

The City of Long Beach (City), through the Energy Resources Department (ER), supervises oil production and subsidence control operations in the Wilmington Oil Field. ER conducts surface elevation surveys every six months to monitor surface elevation changes in the oil fields and adjacent city areas. This report focuses on surface elevation changes that have occurred from November 2021 through November 2022. The ER survey includes the following areas: Civic Center, Central City, Alamitos Bay, Naples, Harbor District, and the offshore area encompassing the four oil islands.

The results of the last two six-month surveys indicate that surface elevations were stable in the Civic Center, Central City, Alamitos Bay, Naples, and the offshore islands. During the first six-month period rises were observed in the Harbor District and Shoreline Village area of up to 0.067 foot (0.80 inch) and 0.055 foot (0.66 inch), respectively. These surface elevation changes are considered minor and are likely due to changes in injection volumes within the Wilmington Oil Field. Surface elevation rises of up to 0.069 foot (0.83 inch) were observed in the Port of Los Angeles and near Recreation Park. These changes are considered minor and are possibly due to normal tectonic movement along the active Palos Verdes and Newport-Inglewood fault zones.

The rising trend observed in the Harbor District during the first six-month period reversed in the second six-month period, resulting in a surface elevation loss of as much as 0.074 foot (0.88 inch). This surface elevation loss was expected due to controlled changes in fluid injection volumes. Additional surface elevation changes of up 0.061 foot (0.73 inch) were observed outside of the Wilmington Oil Field operated areas, specifically near Recreation Park, the southwest corner of Pier J and north of 7<sup>th</sup> Street. An annual surface elevation loss of as much as 0.093 foot (1.1 inches) was observed in the Harbor District and along the shoreline of Alamitos Beach. All semi-annual and annual surface elevation changes are considered minor and are being closely monitored.

The ER survey uses a series of benchmarks to determine surface elevation changes. Studies by ER's engineers and geologists show the benchmarks may rise and fall in such a manner as to make a survey either optimistic (slightly up in elevation) or pessimistic (slightly down in elevation). These changes in surface elevations may be associated with tidal cycles, drought, temperature changes, deep earth tectonic changes, dewatering activities, and/or repressuring operations in the oil field. Surface elevations over the active Wilmington Oil Field can be expected to fluctuate under changing waterflood conditions.

This matter was reviewed by Deputy City Attorney Richard F. Anthony on February 27, 2023 and by Revenue Management Officer Geraldine Alejo on March 6, 2023.

City Council action on this matter is not time critical.

This recommendation has no staffing impact beyond the normal budgeted scope of duties and is consistent with existing City Council priorities. There is no fiscal or local job impact associated with this recommendation.

Approve recommendation.

ROBERT M. DOWELL  
DIRECTOR OF ENERGY RESOURCES

APPROVED:

THOMAS B. MODICA  
CITY MANAGER