



# Suitability of a Sediment Bypass System at Oceanside Harbor

## ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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### Response Summary:

The Los Angeles District (SPL) submitted a Dredging Operations Technical Support (DOTS) request for a preliminary suitability analysis of a sediment bypass system at Oceanside California. Located in Oceanside, CA the Oceanside Harbor dredges an average of 271,375 cubic yards (CY) of sediment annually, which necessitates around \$120 MY USD in dredging costs each year resulting in a significant financial burden and operational challenge. The existing infrastructure from Oceanside Harbor impedes the strong southbound Pacific Ocean winter currents from naturally replenishing the sediment on the nearby southern beaches, resulting in miles of sediment starved land. In the 1980's, a fixed sediment bypass system was installed the navigation channel but proved ineffective, as it frequently became clogged, failing to adequately bypass sediment.

### Period of Performance:

November 2024

### Benefits of the Response to the USACE Dredging/Navigation Program:

The goal of this request was to assess the suitability of installing a bypass system intake at the updrift beach and discharge at the downdrift beach. Within this response were three tasks:

1. cursory literature review of physical, hydrodynamic, and sediment transport conditions.
2. An analysis of the sediment bypass system requirements to significantly reduce the dredging requirements, i.e., size, power, component locations, etc.
3. Create a conceptual design with rough order a magnitude cost estimate to build, operate, maintain.

### Deliverable:

Guidance paper: Suitability of a Sediment Bypass System at Oceanside Harbor.



Providing environmental and engineering technical support to the U.S. Army Corps of Engineers  
Operations and Maintenance navigation and dredging missions

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