

Engineering With Nature Case Examples of Practice

**Larry Smith
Los Angeles District
U.S. Army Corps of Engineers**

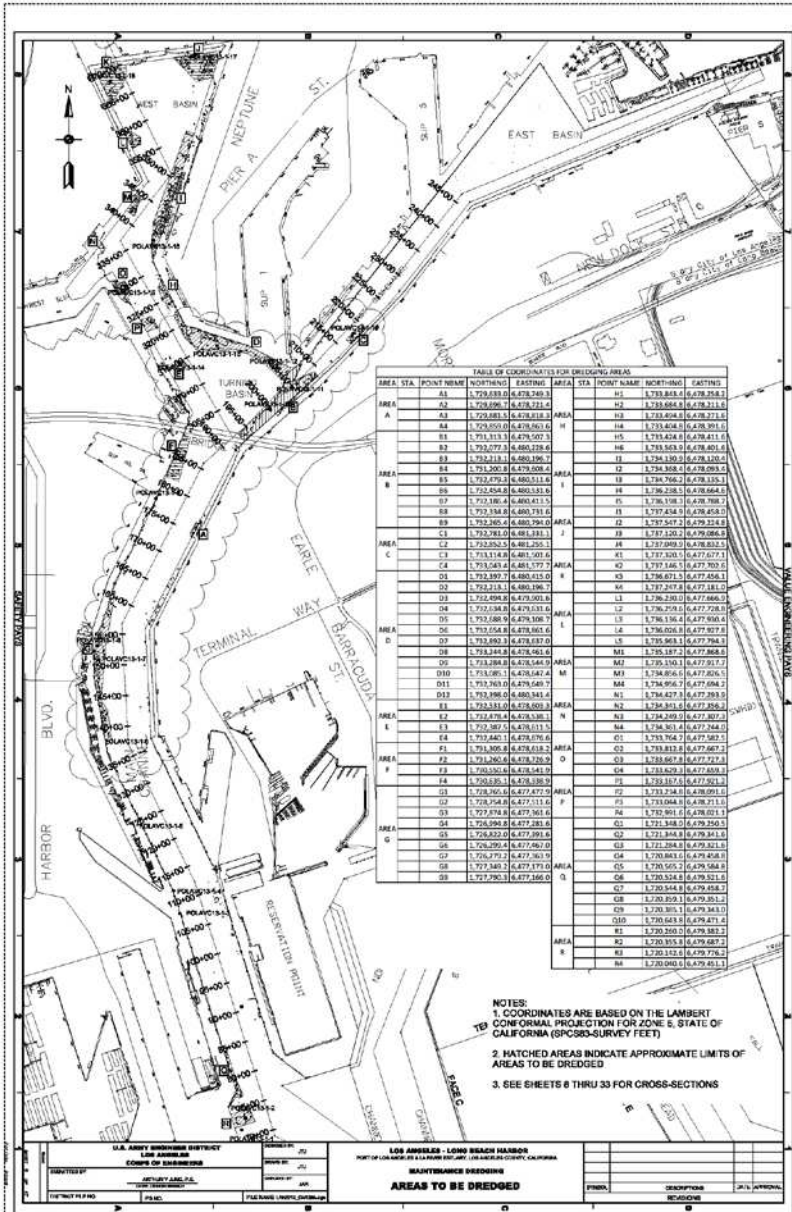
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Current Projects

- Port of Los Angeles Maintenance Dredging
- Malibu Creek Ecosystem Restoration Study
- Port of Long Beach Deep Draft Navigation Study

Port of Los Angeles Maintenance Dredging



Most Significant Contributions

- Beneficial reuse of dredged materials
- Nearshore placement for the purposes of beach nourishment and eelgrass protection/enhancement

Challenges

- Identify nearshore-compatible sediments within the POLA
- Define areas of nearshore-compatible sediments in a dredgeable design
- Avoid impacts to existing eelgrass

Future Opportunities

- Identify protection of eelgrass as a beneficial reuse of dredged materials as purpose under Section 404 of the Clean Water Act

Malibu Creek Ecosystem Restoration Study



Stream Accesible with Dam and Barriers Removed

Sources:
Aerial: ArcGIS Online - World Imagery, WGS 1984
Malibu Creek Watershed Boundary: CalWater 2.21, NAD 1983
Stream Habitat: Heal the Bay, NAD 1927
Barriers to Fish Passage: Heal the Bay, NAD 1927

0 0.5 1 2 3 4 Miles

Created by S. Albers, RCDSMM on 5/20/13



Most Significant Contributions

- Beneficial reuse of sands trapped behind a river dam that would otherwise flow to the sea

Challenges

- Segregating sand
- Transport and storage of sand
- Beach placement during off-season only
- Nearshore placement requires trucking and barging
- Traffic restrictions
- Surf grass concerns

Future Opportunities

- Allows use of inland source of sand for either beach placement or nearshore placement for purposes of nourishing beaches, removing built up sands from behind a large dam, and returning sands that, but for the dam, would have flowed to the placement area naturally.

Port of Long Beach Deep Draft Navigation Study



Most Significant Contributions

- Use of dredged material for benefits other than beach nourishment; in this case environmental restoration
- Use of dredged materials to refill historic (North and South Energy Island Borrow Pits) and recent (Surfside Borrow Pit) borrow pits

Challenges

- Obtain state and local approvals to use borrow pits, e.g. Coastal Commission
- USEPA review and concurrence for use and suitability of sediments

Future Opportunities

- Use of dredged materials for beneficial uses other than beach nourishment
- Add new dimensions to the term “beneficial reuse”
- Reduce “disposal” but still allow where appropriate

Questions?

