

Quality and Productivity Commission  
**27<sup>th</sup> Annual Productivity and Quality Awards Program**  
*"Saluting County Excellence"*

**40.0**

**2013 APPLICATION**

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

**NAME OF PROJECT: MDR MAINTENANCE DREDGING AND BEACH NOURISHMENT**

**DATE OF IMPLEMENTATION/ADOPTION:** APRIL 2, 2012  
 (Must have been implemented at least one year - on or before June 30, 2012)

**PROJECT STATUS:**  Ongoing  One-time only

**HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT?**  Yes  No

**EXECUTIVE SUMMARY:** Describe the project in 15 lines or less using Arial 12 point font. Summarize the problem, solution, and benefits of the project in a clear and direct manner

1 By Fall 2011, severe shoaling had blocked both Marina del Rey (MDR) harbor  
 2 entrances by 50% to 55%, drastically hindering vessels from safely navigating MDR and  
 3 threatening the ability of first responders (Coast Guard, Sheriff's Harbor Patrol and  
 4 Fire's Lifeguards) to perform their homeland security and emergency response duties.  
 5 Contaminated sediment had not been dredged since March 2000, due to the cost of  
 6 placement in a hazardous waste landfill estimated at \$70 to \$94 million. In October  
 7 2009, the Department of Beaches and Harbors and the U.S. Army Corps of Engineers  
 8 began developing a Maintenance Dredging Project that eventually cleared the  
 9 entrances of 777,000 total cubic yards (CY), with 471,000 CY of MDR contaminated  
 10 sediment encapsulated in a pier construction project at the Port of Long Beach and  
 11 306,000 CY of clean sediment placed at both Redondo and Dockweiler beaches, as  
 12 well as offshore at Redondo Beach for use in a future nourishment project. After three  
 13 years of inter-agency cooperative efforts and advocacy, MDR was dredged and our  
 14 beaches renourished at a cost of \$10.7 million, thereby avoiding the otherwise immense  
 15 cost of depositing contaminated material in a landfill.

(1) ESTIMATED/ACTUAL ANNUAL COST AVOIDANCE	(2) ESTIMATED/ACTUAL ANNUAL COST SAVINGS	(3) ESTIMATED/ACTUAL ANNUAL REVENUE	(1) + (2) + (3) TOTAL ESTIMATED/ACTUAL BENEFIT	SERVICE ENHANCEMENT PROJECT
\$ 65,445,000 (one time)	\$ 4,690,000 (one time)	\$	\$ 70,135,000	
SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS County of Los Angeles Department of Beaches and Harbors 13837 Fiji Way Marina del Rey, CA 90292			TELEPHONE NUMBER 310 305-9523	
PROGRAM MANAGER'S NAME Cesar Espinosa			TELEPHONE NUMBER 310 305-9530  EMAIL <a href="mailto:Cespinosa@bh.lacounty.gov">Cespinosa@bh.lacounty.gov</a>	
PRODUCTIVITY MANAGER'S NAME AND SIGNATURE (PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME) Walter Popoff <b>SIGNATURE ON FILE</b>		DATE 7/2/13	TELEPHONE NUMBER 310 305-9579  EMAIL <a href="mailto:wpopoff@bh.lacounty.gov">wpopoff@bh.lacounty.gov</a>	
DEPARTMENT HEAD'S NAME AND SIGNATURE Kerry Silverstrom <b>SIGNATURE ON FILE</b>		DATE 7/2/13	TELEPHONE NUMBER 310 305-9527	

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**FACT SHEET – LIMITED TO 3 PAGES ONLY:** Describe the **Challenge, Solution, and Benefits** of the project, written in plain language. Include a discussion of the technology and linkage to the County Strategic Plan. The description should identify Performance Measures.

**CHALLENGE**

In Fall 2011, Marina del Rey (MDR) Harbor was suffering from severe shoaling in its main channels, due to many years of sediment buildup. This created a considerable navigational impediment for recreational boaters and first responders housed in MDR, such as the United States Coast Guard, the Sheriff’s Department Harbor Patrol, and the Fire Department’s Lifeguard Baywatch, which relied on the channel being kept clear to perform homeland security, search and rescue, law enforcement and medical response duties.

MDR is located in the Santa Monica Bay, and is operated by the Department of Beaches and Harbors (DBH). With over 4,700 boat slips and a design depth of 20 feet, it is the largest man-made harbor in the United States. By law, the United States Army Corps of Engineers (Corps) is responsible for keeping the Marina’s entrance and main channels navigable and safe for all users. As such, the Corps dredges sediment from the main channel an average of every three to five years. In 1999-2000, the Corps dredged the Marina to remove clean and contaminated sediment and restore, its design depth (of 20 feet) in many locations and fully opening both entrances.

Although additional dredging occurred in both 2007 and 2009, the Marina had not been fully dredged to eliminate the vast quantity of contaminated sediment. By Fall 2011, both of the Marina’s entrances, as well as a portion of the main channel were suffering from the buildup of approximately 1 million cubic yards (CY) of sediment from the adjacent Ballona Creek and neighboring beaches. Over 760,000 CY of this sediment was contaminated with toxic chemicals, insecticides, chlordane, and heavy metals, such as arsenic and lead, due to waste and runoff from the Ballona Creek flood control channel. Though only 62% of this contaminated sediment was eventually removed, estimates to dispose of even this smaller amount at a hazardous waste landfill varied between \$70.6 and \$94.2 million.

In addition to these challenges, the public beach area in Redondo Beach had suffered severe erosion due to heavy storms in 2004-2005, and DBH had been unable to secure local acceptance to truck in through local neighborhoods a sufficient quantity of beach quality sand to restore the beach. Transporting the sand by truck would have created about 3,900 one-way truck trips.

**SOLUTION**

Through strategic partnerships with the Corps and first responder agencies, as well as extensive advocacy at the State and Federal levels, DBH helped secure approval for dredging MDR and transporting contaminated sediment to the Port of Long Beach

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(POLB), as well as almost \$7.1 million in Federal funding for this purpose. The POLB had commenced its Middle Harbor Redevelopment Project which offered a rare opportunity to permanently entomb the contaminated sediment inside of a new terminal. Over \$3.6 million was contributed toward the overall dredging project by the County, which also included placing clean sediment at Dockweiler State Beach (as had previously happened in other dredging projects) and at Redondo Beach, which was less than the \$5.3 million the County had budgeted for renourishing Redondo Beach alone. After three years of planning and advocacy, the dredging and sand placement occurred April - October 2012 for a total cost of \$10,706,000: \$7,056,000 from the Corps and \$3,649,000 from DBH.

Beginning in October 2009, DBH and the Corps joined forces to develop the comprehensive Marina del Rey Maintenance Dredging Project. DBH conducted a great deal of outreach, including meetings with Senate and Congressional representatives and a boat tour of MDR for the Deputy Commanding General of the Corps' Civil and Emergency Operations. DBH worked closely with the Board of Supervisors' Fourth District Office, lobbyists in Washington D.C., Senators Feinstein and Boxer, and other members of the Los Angeles County Congressional delegation, including Congresswoman Jane Harman, to secure funding appropriations. In addition, DBH received endorsements from the Coast Guard, the Sheriff, and Lifeguards, who advocated dredging for law enforcement, search and rescue, and homeland security purposes.

DBH had determined that the most cost effective way to both use clean MDR sediment for beach nourishment at Redondo Beach and dispose of contaminated MDR sediment was through the rare opportunity offered by the POLB Middle Harbor Project. This project was consolidating two older terminals into one and required a substantial amount of fill material. The POLB was accepting up to 3.2 million CY of fill material in a narrow window between July - December 2012. Cesar Espinosa of our Planning Division worked diligently to ensure that all requirements put forth by the POLB to accept the material were met and that the dredging project could be completed within this timeframe. Between December 2011 and April 2012, the County entered into separate Memorandums of Agreement (MOAs) with the City of Long Beach to accept the contaminated material and with the Corps to carry out the whole project.

**BENEFITS**

The Marina del Rey Maintenance Dredging Project (Project) had numerous benefits: removing sediment that caused hazardous navigational problems; removing environmentally harmful sediment from the marine environment; restoring a portion of the Redondo Beach and Dockweiler State Beach coastlines; and contributing to an economically vital project at the POLB. Furthermore, this project saved DBH millions of dollars otherwise spent disposing of contaminated sediment at an inland hazardous

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waste landfill. One other benefit that set this project apart was that sand was placed just offshore the Redondo Beach coastline for future beach renourishment. Now, DBH will not be required to pay future costs to transport sand into the area but can simply pump it at a much smaller cost onto the shoreline when needed to again nourish Redondo Beach.

In total, the Corps dredged approximately 777,000 CY of material from the Marina. About 471,000 CY of contaminated material was taken by barge and placed in the new terminal at the POLB. Along with other project costs, this portion of the project cost approximately \$8.45 million (Corps contributed \$7.06 million and County contributed \$1.39 million). The Corps and DBH saved at least \$62.2 million in costs related to the contaminated sediment, as \$70.65 million would otherwise have been required to deposit that material in a hazardous waste landfill. Such an effort would have required 47,100 truck trips from local highways and streets; thus, barging the material drastically reduced the project’s carbon footprint.

A combined 306,000 CY of clean sediment was transported by barge to both Redondo Beach and Dockweiler State Beach. At Redondo, 156,000 CY was placed: 75,000 CY directly onshore and 81,000 CY just offshore. This is more than twice as much sand as could be moved through DBH’s own Redondo Beach nourishment project, for which DBH had initially budgeted up to \$5.4 million. The eventual cost was \$2.26 million. DBH also avoided \$3.04 million in future nourishment costs to transport this material by land to Redondo Beach. The immediate onshore sand placement at Redondo dramatically increased the total width of its driest parts between 60-100 feet. At Dockweiler, 150,000 CY was placed nearshore and, eventually, through natural processes, this sand will make its way onshore, thereby expanding the width of that popular beach.

The County had originally contributed \$5.3 million to the Corps, \$1.65 million which was unspent and returned in May 2013. These returned monies can now be redirected toward other capital improvement projects on the coastline.

This project is consistent with the County’s Strategic Plan Goal #1 “Operational Effectiveness”, because it vastly improved navigation in MDR for both the recreational boating community and first responders that require the channel to be kept clear to effectively perform their patrol and security duties. It also conforms to the County’s Goal #2 “Fiscal Sustainability” by sustaining County services through proactive and prudent fiscal policies and stewardship. By partnering with the Corps and identifying complementary projects, DBH was able to dredge the Marina of contaminated sediment and also beneficially reuse clean material at a fraction of the cost of individually completing those projects.

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\$ 65,445,000	\$ 4,690,000	\$0	\$ 70,135,000	<input type="checkbox"/>

**ANNUAL = 12 MONTHS ONLY**

<b>Cost Avoidance for Marina del Rey Maintenance Dredging and Redondo Beach Nourishment Project</b>			
Project	Potential Cost	Actual Cost	Cost Savings Achieved
Marina del Rey Maintenance Dredging Project	\$70,650,000 (to dredge and dispose of 471,000 CY in a landfill at \$150 per CY)	\$8,445,000 (Corps and DBH combined)	\$62,205,000
Future Redondo Beach Nourishment	\$3,240,000 (to obtain 81,000 CY of clean sand by land at \$40 per CY)	N/A (sand will already be on sight)	\$3,240,000
Total			<b>\$65,445,000</b>

<b>Cost Savings for Marina del Rey Dredging and Redondo Beach Nourishment Project</b>			
Project	Potential Cost	Actual Cost	Cost Savings Achieved
Marina del Rey Maintenance Dredging Project	\$5,300,000 (the initial DBH' contribution to the project)	\$3,650,000 (what the Corps used from the DBH contribution).	\$1,650,000 (reimbursed by the Corps in May 2013)
Redondo Beach Nourishment	\$5,300,000	\$2,260,000	\$3,040,000
Total			<b>\$4,690,000</b>

The cost avoidance figure for contaminated sediment comes from subtracting the actual amount spent by the Corps and DBH from the (lower estimated) potential cost of dredging and transporting that material to an inland disposal site. The cost avoidance amount for “future” Redondo Beach renourishment comes from multiplying the estimated future transportation rate for bringing clean sediment from an outside source by land into Redondo Beach (81,000 CY x \$40 per CY). The small future cost of moving the sand from the nearshore site to directly onshore is yet to be estimated.

The cost savings come from subtracting DBH’s original budget for nourishing Redondo Beach (by any method) of \$5.3 million from the \$2.26 million that DBH paid the Corps.

Finally, although DBH initially contributed \$5.3 million to the project, the Corps reimbursed \$1.65 million of unspent funds to DBH in May 2013. This money can now be reallocated toward other capital projects along the beaches.