APPENDIX E:
Overview of Port of Los Angeles Water and Sediment Quality Improvement Activities

1. Introduction

The City of Los Angeles Harbor Department (LA Harbor Department) has been implementing control measures and BMPs to reduce contaminant loading and improve the water and sediment quality in the harbor. Detailed description of the actions implemented by the LA Harbor Department to improve the water and sediment in the harbor are provided in the letter submitted by the LA Harbor Department to the Los Angeles Water Board on February 25, 2019 (Port of Los Angeles, 2019) and are summarized below.

2. Water Resources Action Plan (WRAP) Measures and NPDES Permit Compliance

The LA Harbor Department addresses control of contaminants from stormwater input through compliance with NPDES permits. Both the LA Harbor Department and its tenants are required to comply with the statewide Construction General Permit for applicable Harbor Department construction projects. Harbor Department tenants, as independent entities, are responsible for obtaining and complying with the appropriate NPDES permit according to their Standard Industrial Classification code. Listed below are key programs that help improve water and sediment quality:

- Tenant outreach program: The Harbor Department's Tenant Outreach Program supports and guides tenants to minimize contaminated runoff through education, evaluation, and application of appropriate BMPs. Tenants are visited by Harbor Department staff on an annual or biannual basis depending on the type of use, potential to pollute, and results of previous site visits. Environmental Management Division (EMD) staff visits a minimum of 60 and up to 100 tenants each year. Visits include support and coordination in complying with the NPDES stormwater regulatory requirements, and review of the Stormwater Pollution Prevention Plans (SWPPP). Staff provide recommendations to improve operational and structural BMPs. The EMD collaborates with other divisions to ensure the correct measures under LA Harbor Department responsibility are implemented. The LA Harbor Department offers updates and training sessions regarding the variety of NPDES permits, permit updates and associated requirements.

- 14001-2015 ISO-certified Environmental Management System: The LA Harbor Department's ISO-certified Environment Management System (EMS) identifies and minimizes the impacts of its activities on the environment and ensures regulatory compliance. The LA Harbor Department complies with MS4 permit implementation by prioritizing, cleaning and stenciling its 994 storm drain inlets, and sweeping and removing litter from all LA Harbor Department operated parking lots. The LA Harbor Department has identified high priority areas and fitted several targeted storm drain inlets with debris screens to prevent sediment and trash from entering Harbor waters.

- Low Impact Development: The City of Los Angeles has enacted a Low Impact Development (LID) Ordinance. The LA Harbor Department and its tenants implement LID in accordance with the City of Los Angeles Bureau of Sanitation requirements to treat and/or reduce the amount of stormwater runoff to reduce the amount of contaminants entering the Harbor. The LA Harbor Department has installed over 500,000 ft^3 of LID structures to date and all future projects greater than 500ft^2 will capture and/or treat the first ¾ inch of stormwater runoff.

- Stormwater/Dust Control for Orphan Sites: The LA Harbor Department staff conducted a survey of all unleased Port property to identify facilities that required further assessment under the Orphan Site program to reduce mobilization of sediment. The evaluation documented site conditions and provided recommendations such as to re-establish vegetation, vegetate the site, gravel or pave the site, install a slop drain, and /or retrofit the area to capture stormwater runoff. In addition to the application of soil stabilizers and hydro-seeding at some of the smaller sites, several larger improvement projects have been implemented. These projects include the street realignment of Harbor Blvd., slope improvements along Via Cabrillo adjacent to Fort MacArthur, and road improvements along Harry Bridges Blvd.

- Public Sweeping/Litter Control: The LA Harbor Department purchased a CNG-powered Regenerative Air System sweeper in 2014 to reduce trash and input of sediment-bound contamination into harbor waters. Sweeping routes are determined by prioritizing storm drain inlets based on percent fullness, MS4 regulatory requirements, and tenant agreements.

- Port Activities under MS4: The LA Harbor Department coordinates with the City of Los Angeles Bureau of Sanitation on MS4 compliance activities, as well as other water and sediment programs. The LA Harbor Department employees actively participate with the California Storm Water Quality Association for the most up-to-date expertise from local and state regulators, and multiple associated working groups. The LA Harbor Department employees are regularly trained on requirements of the MS4 BMPs, Storm Water Pollution Prevention Plans (SWPPP) for construction and maintenance activities, and how to best to implement source control BMPs. The LA Harbor Department participates in the Dominguez Channel Watershed Management Group and the associated Enhanced watershed Management Program and Coordinated Integrated Monitoring Plan.

- Vessel Guidance: The LA Harbor Department, in conjunction with the Port of Long Beach, completed a Vessel Discharge Rules and Regulations document, a guidance manual summarizing the various regulations pertaining to vessel discharges and maintenance activities. It was distributed to terminals and shipping lines to inform them on the 2008 Vessel General Permit (VGP) regulations. This document was updated and redistributed following the updates to the regulation that became effective in December 2013. The Port of Los Angeles also created and distributed a brochure to inform stakeholders on the requirements of the Small VGP that took effect in December 2014.

- Clean Marina Program: The Clean Marina Program (CMP) is an on-going education and outreach program to address potential sources of pollution from recreational boating activities including periodic assessment of marinas to educate marina managers and boaters on BMPs specific to the boating industry that reduces contribution of copper, hydrocarbons, and other contaminants to harbor waters; acknowledge application of beneficial BMPs; and to identify areas for improvement. The LA Harbor Department has instituted a Vessel Disposal Program that assists marina managers and boaters with proper disposal of old vessels. The LA Harbor Department has sponsored two Clean Boating Expos to further educate boaters on BMPs, green boating products, and other available equipment to help reduce impacts from boating activity.

- Used Oil Recycling Centers: There are 14 used oil recycling centers located at 12 marinas throughout the Port. Constructed and maintained in conjunction with City of Los Angeles Bureau of Sanitation, these oil recycling centers allow boaters to properly recycle used oil, oil filters, and bilge pads, thus reducing the risk to water quality.

- Pile Replacement Process: The LA Harbor Department has established a pile replacement process for timber wharf piles that is being implemented as part of the LA Harbor Department EMS. The goal is to minimize the use and leaching of creosote and other wood preservative chemicals that can harm the environment while meeting structural standards and operation criteria. The current alternative for timber piles is treatment with Ammoniacal Copper Zinc Arsenate (ACZA) and encasement with a polyurea wrap coating to prevent leaching of the preservative, which is less toxic than creosote but still contains listed metals.

- Cathodic Protection: The LA Harbor Department staff assembled available information on the magnitude of the Port's cathodic protection activities as well as the use of impressed current cathodic protection (ICCP) as opposed to sacrificial anodes, to identify alternatives and develop guidance for applying those alternatives to port practices. The Port's review of metal structures in Port waters found that the majority of structures in the Port do not use zinc anodes but instead using aluminum alloy or ICCP. The use of anodes for cathodic protection during new construction is guided by Specification 2605 which dictates the use of aluminum alloy for any sacrificial anodes. A practice has now been established to replace zinc anodes on vessels with aluminum alloy anodes whenever feasible.

- Trash Skimmers: The harbor Department has purchased a total of nine trash skimmers that have been deployed in marinas and other areas of the Port. They have been placed in hard-to reach locations where trash tends to accumulate due to flow of water in wind patterns.

3. Sediment Management Program

The Port of Los Angeles dredging activities contributed to the overall reduction of contaminants in sediment throughout Los Angeles Harbor, through a series of channel deepening programs, habitat improvement projects, terminal redevelopment projects, and routine maintenance dredging. The substantial reduction of contaminants through these dredging programs has resulted in an ongoing improvement to sediment and water quality.

The LA Harbor Department has periodically deepened the Port's channels to allow for the navigation of larger ships. The most recent large-scale channel deepening program was completed in 2012. During the channel deepening effort, over 12.8 million cubic yards of dredged material was removed and disposed of in Port fills, a 200-acre submerged storage site, and a 104-acre extension of the Port's outer harbor shallow water habitat. Of this total, approximately 756,000 cubic yards of the material dredged was deemed to be contaminated. This material was sequestered in the confined disposal facilities (CDFs) within the Port, effectively removing those contaminants from exposure to harbor waters or biological organisms in the harbor. It is estimated by the LA Harbor Department, that 36,000 kg of copper, 31,000 kg of zinc, 4.5 kg of DDTs and 11 kg of PCBs were removed over 756,000 cy of contaminated materials from the marine environment during the channel deepening project.

Since 2012, the LA Harbor Department estimates that approximately 155,000 cubic yards of sediment have been dredged through maintenance and capital improvement projects at various locations throughout the harbor. Using similar methods, it is estimated that these activities have resulted in the additional removal/sequestration of approximately 19,100 kg of copper, 15,000 kg of zinc, 1 kg of DDTs and 2 kg of PCBs.

In summary, the Port's operational activities related to sediment management have removed an estimate of 55,100 kg of copper, 46,000 kg of zinc, 5 kg of DDTs, and 13 kg of PCBs from the marine environment.

References

Port of Los Angeles Overview of Port of Los Angeles Water and Sediment Quality Improvement Activities [Report]. - 2019.