



CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

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February 22, 2011

Ms. Thanhloan Nguyen
Los Angeles Regional Quality Control Board
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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

Re: City of Long Beach Comments on the Draft Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Draft Total Maximum Daily Load and Related Documents and Concurrence with Comments Submitted by the Port of Long Beach

Dear Ms. Nguyen:

The City of Long Beach appreciates the opportunity to review and comment on the above reference Draft TMDL. We look forward to continuing to work with the Regional Water Quality Control Board (Board), the United States Environmental Protection Agency, Region 9 (EPA) and other stakeholders on the development of the draft TMDL for removing the impairments not only to the Dominguez Channel, the Greater Los Angeles and Long Beach Harbor Waters, but also the Los Angeles River Estuary and San Pedro Bay. The City Request that you give due consideration to these comments and that they be included as part of the Administrative Record for this item and associated Tentative Resolutions.

The City shares the same concerns as the POLB regarding the basis of the TMDL and supports the POLB in its comment letter dated February 22, 2011. As a downstream receiver, receiving pollution from a significant portion of the Los Angeles Basin, the City of Long Beach has been working closely with the Board to address significant and real concerns that affects our beaches and residents. The City is greatly concern that the TMDL's identification of targets, as discussed in the POLB comments letter, are not based on sound science that will result in the unwarranted diversion of our limited resources away from solving the very real water quality problems that affect our community in order to comply with the TMDL.

The comments we wish to present for the subject TMDL are as follows:

1. **Air deposition is not fully or appropriately addressed.** The draft TMDL recognizes that the estimates of metals deposited on land are much higher than estimates of loadings to the river system. However, it is indicated that "loadings of metals associated with

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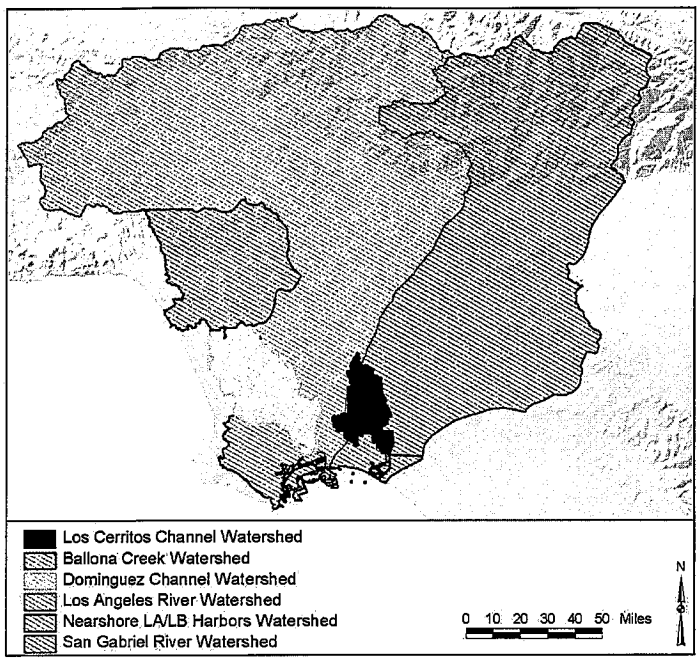
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loadings.” If this is accurate, one would expect concentrations and masses of these metals to be steadily increasing somewhere within the watershed. Years of monitoring suggests that this is not occurring. Given the apparent importance of airborne sources and the current inability of the listed permittees to control these sources, it is critical that the sources of airborne contaminants be identified and incorporated as permittees in the TMDL.

2. **It is inappropriate to apply chronic toxicity loads to stormwater.** The staff report recognizes that loading capacities for metals must be based upon acute criteria due to the limited duration of storm events. In the case of toxicity, the staff report suggests that both chronic and acute criteria apply regardless of season or flow conditions.
3. **Table 6-3, p. 84. The TMDL suggests that wet weather load reductions are a moving target.** Although existing lead loads are less than 50% of the allowed load, the footnote indicates that a small percentage of the measured loads still exceed the limit and therefore a small percent reduction is required. This suggested that reducing copper loads by 73.2% and zinc loads by 77% would also still be deemed to be inadequate. Please clarify that the lead limitation is solely due to antidegradation requirements. As noted for lead in the subsequent paragraphs, it would also be helpful to reiterate that the targets are averages and thus will continue to have loads that are both higher and lower.
4. **The Alamitos Bay watershed is incorrectly grouped into the Nearshore subwatersheds.** (See Figure III-2, Appendix III). The Draft TMDL states that “These Nearshore areas refer to freshwater inputs that discharge directly into the saline receiving waters without passing through the Channel or Rivers.” The freshwater portion of the nearly 18,000 acre Los Cerritos Channel watershed (shown in the figure below) comprises a large portion of this watershed. The Bouton Creek watershed consisting of 2,260 acres is located adjacent to the Los Cerritos Channel watershed and discharges into the estuarine portion of the Los Cerritos Channel.

Suspended sediments from stormwater water discharges into Alamitos Bay rarely pass entirely through the Bay and into San Pedro Bay. Stormwater plumes from these watersheds were monitored during a number of early season storm events that occurred from 2002 through 2006. The vertical and horizontal extent of the plumes were mapped with GPS-tracking and a series of water quality profiles. The plume was sampled at four different dilutions (based upon salinity) and sampled to measure dissolved and total metals concentration and toxicity. The plume was typically found to be contained within Alamitos Bay except during extremely large events. Even during large events, the plume becomes difficult to delineate in between the breakwater at the entrance to the Bay. Details of these plume studies are included in the City’s Annual Stormwater Monitoring reports.

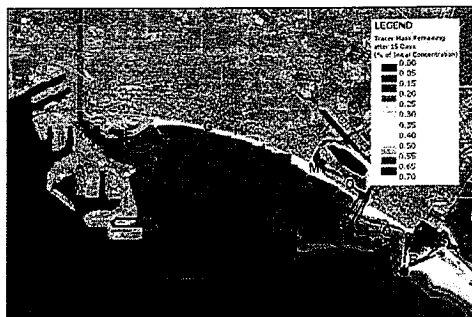
The appropriate area of the City of Long Beach to be included with the “Nearshore Group” would be the San Pedro Bay subwatershed that is identified on page 44 of Appendix II (Figure 23. Waterbodies and Bight 03 Stations Assigned to Model Subwatersheds).



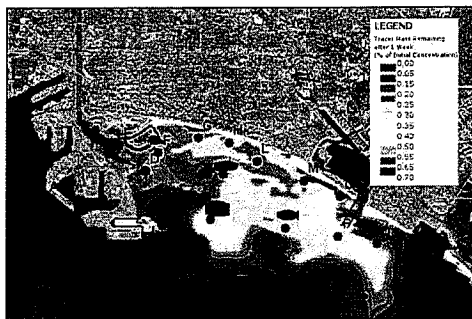
Location of Los Cerritos Channel Watershed (*Freshwater*)

(Figure 1 of Appendix A of the Los Cerritos Channel Freshwater Metals TMDL, March 2010)

- 5. Contributions from the San Gabriel River and Nearshore Seal Beach appear to overestimate land-based contributions to San Pedro Bay.** The draft TMDL did not appear to examine export of contaminants from the southeast edge of area. The dominant winds are out of the southwest and tend to drive currents in a southeasterly direction along the shoreline. Although tidal currents will temporarily cause water from the San Gabriel River to flow into San Pedro Bay, the long term transport is to the southwest out of San Pedro Bay. The two figures below show the modeled results of a unit release at the mouth of the Los Angeles River after 15 days of normal wind conditions but with different wave directions. In both cases, the “dye” release is directed predominantly to the southwest out of San Pedro Bay.



Existing Conditions - Concentrations 15 Days following Unit Initial Contamination - West Waves



Existing Conditions - Concentrations 15 Days following Unit Initial Contamination - South Waves

(From Moffatt & Nichol 2009 Long Beach Breakwater Presentation)

Over the last 10 years, SCCWRP, NOAA, USGS and others (Ahn et al. 2005; Nezlin and DiGiacomo, 2005; Nezlin et al. 2005, Nezlin et al. 2008; and Warrick et al. 2007) have used a variety of satellite imagery and ship-based sampling to examine stormwater plumes from Southern California rivers. With large storms, the initial offshore velocity of the stormwater plumes was approximately 50 cm/s. In the case of the San Gabriel River, this initial momentum would typically cause the plume to move out of the San Pedro Bay. The initial momentum often causes the river plumes to move up to 10 kilometers off the coast before being directed largely in an alongshore direction and dominated by local winds. Warrick et al. (2007) noted that wind conditions after a storm event typically cause the plumes to flow down-coast from their respective river mouths at rates of 20 to 40 km/day.

6. **Watershed load estimates for solids, metals, DDT, PCBs and chlordane.** There is substantial uncertainty in the calibration and validation process which leads to a general lack of confidence in the model results. The calibration and validation of the LSPF model was based upon data from a single event monitored at three small watersheds and was based upon visual comparisons. The Maritime Museum subwatershed, one of the two sites used for model validation, had measured flow that was extremely inconsistent

with the model but it was concluded that data was not sufficient to recalibrate and validate flow. Similarly modeled TSS concentrations for the Forest Subwatershed (the calibration site) and the Pier A Subwatershed were far higher than measured values yet the discrepancies were viewed to be "well within acceptable modeling ranges". It is clear that TSS modeled loads would be far higher than the measured loads but we could not find evidence that these values were checked.

Although the staff report indicates that the information was provided by the Port, there was no reference to an actual report study could be critically reviewed by others. Information provided in the staff report is not sufficient to evaluate if the data should be considered suitable for this purpose. There is no information as to drainage characteristics, rainfall, methods for flow measurements, sampling procedures, analytical methods or QAQC.

For DDT, PCBs and chlordane the model used sediment concentrations from Bight 03 monitoring sites. Data were aggregated based upon Nearshore Subwatersheds. The sediment concentrations calculated for these organic compounds were then used with the TSS loads estimated for each subwatersheds by use of the LSPC model to generate in-stream concentrations of these toxics.

There are a number of problems with this approach. Maintenance and deepening dredging has taken place within the Port of Los Angeles (POLA) and as part of the Channel Deepening and POLA improvement projects. Total dredge volumes of approximately 81 million cubic yards were removed by deepening down to virgin sediments removing extensive contamination from the majority of the Port. These virgin sediments would have non-detect levels of DDT. Although it is recognized that recontamination of the virgin material can occur through suspension during the dredging process and advection from the Dominguez Channel and Consolidated Slip, it is clear that conditions have radically changed (see attached Plates showing pre 1990 and post 2007 conditions). Another problem with this approach was the use of the Bight 03 data to represent sediment concentrations associated with subwatersheds draining to Consolidated Slip. The values used in Table 12 of Appendix II (page 46) were among the lowest of all three organic contaminants. In reality, they are known to be among the highest concentrations found in the region. The geometric mean of total DDT concentrations measured in 5 sediment samples from Consolidated Slip sediments in 2002 (Karen and Byron, 2003) was 475 $\mu\text{g}/\text{kg-dry}$. The LSPC model used a mean value of 1.3 $\mu\text{g}/\text{kg-dry}$. While this may be a relatively small subwatershed, it suggests that similar problems may exist elsewhere especially in areas subject to periodic intense flows that modify and transport bedded sediments.

In addition to the comments above we wish to point out that the Draft TMDL indicates that "The sediment load allocations for the contaminated bed sediments are assigned to the Cities of Long

Beach and Los Angeles and State Lands Commission, which have responsibility for cleanup of the contaminated sediments.” However, the City along with numerous other cities in Los Angeles County, has entered into a federal Consent Decree with the United States and the State of California (including the Regional Board), which federal Consent Decree was first approved by the U.S. District Court in 1993, and was thereafter amended in 1999. This Consent Decree required the payment of \$45.7 million in funds and in-kind services from the settling local governmental agencies, which consideration was to be used, in part, to address the contaminated sediment within the Long Beach and Los Angeles Harbor areas. **The City views this to be an improper attempt to further require the cities yet again pay to address these contaminated sediments.**

The staff report points out that copper is the controlling factor in meeting sediment quality objectives in most parts of the Harbor but DDT and PCBs (addressed in the 1999 consent decree) were considered the primary issue in the Consolidated Slip area. The Montrose Chemical Company is known to be the primary source of DDT in this region. Sediments are highly contaminated with DDT along the entire stormwater pathway from the Montrose DDT contamination to Consolidated Slip and beyond. The stormwater pathway is still considered a part of the Montrose NPL superfund site and is designated as OU-2. As a superfund site, EPA should clearly state the responsibility for cleanup or remediation of these sediments lies with the responsible parties for the CERCLA site.

Based upon sediment surveys conducted by Kinnetic Laboratories, Inc. and Fugro, Inc. (2007) for the Port of Los Angeles it is estimated that approximately 66 pounds of DDT has been deposited in the top 20 feet of Consolidated Slip and substantially more is expected in the upstream sediments within the Dominguez Channel. The DDT presently trapped in Consolidated Slip would be capable of contaminating sediments throughout the Port of Los Angeles/Long Beach complex to a depth of 5 centimeters at a concentration of roughly 18 ug/Kg- dry, about 60 times the estimated screening levels developed in Oregon (0.3 ug/kg) for marine sediments by use of bioaccumulative risk analyses methods (human fish consumption) and more than 10 times the ERL.

Finally, it is not sufficiently clear from the TMDL documents, and from subsequent comments made by Regional Board staff (RWQCB meeting related to TMDL, held 2/7/2011), which entities will ultimately be responsible for the implementation of remediation activities to achieve compliance in the harbor sediments and East San Pedro Bay. The impairments are the result of historic inputs into the harbor sediments from activities in the harbor and from activities

upstream, throughout the watershed, that have resulted in contaminants being transported to the harbor and deposited in the sediments. Therefore, the ports and the City of Long Beach are not solely responsible for the impairments, and therefore should not be held solely responsible for remediating the sediments to address those impairments. The TMDL should clearly identify that all parties that have contributed to historical inputs into the watershed are responsible for their fair share of the compliance actions.

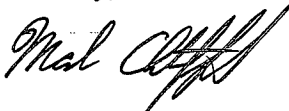
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The City respectfully requests that the Board postpone incorporating the TMDL into the Basin Plan until such time as the Board and affected stakeholders can conduct a thorough scientific study on the effectiveness of the Board's plan with respect to toxic pollutants in the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters and East San Pedro Bay. Requiring stakeholders to go forward with this plan without conducting further study would be an inefficient and unproductive use of public resources.

The City is committed to dedicating the resources required to properly address and mitigate legitimate issues associated with toxic pollutants in the waters in question. Prior to dedicating the significant amount of resources required for this undertaking, however, the City asks that the Board take the time to ensure that the prescribed cure is scientifically proven to achieve results. The City does not believe that the TMDL as it is presently written is sufficient to adequately address any alleged problems associated with toxic pollutants. In contrast, implementing the TMDL as written may result in greater environmental harm than exists under current conditions.

We look forward to your response to these comments, as well as comments submitted by the other stakeholders.

Sincerely,



Mark Christoffels, P.E., Deputy Director of Public Works/City Engineer

cc: Pat West, City Manager
Mike Conway, Director of Public Works
Anthony Arevalo, Acting Storm Water/Environmental Compliance Officer
Heather Tomley, Port of Long Beach
Matthew Arms, Port of Long Beach
James Vernon, Port of Long Beach

- Kinnetic Laboratories, Inc. and Fugro, Inc. 2007. Environmental Evaluation of Sediments, Port of Los Angeles 2006 Marine Exploration Program.
- Ahn, J.H., S.B. Grant, C.Q. Surbeck, P.M. DiGiacomo, N.P. Nezlin and S. Jiang. 2005. Coastal water quality impact of stormwater runoff from an urban watershed in southern California. *Environmental Science & Technology* 39:5940-5953.
- Karen, D. and E. Byron. 2003. Technical Memorandum - Results of Fall 2002 Supplemental Sediment Sampling and Comparison of 1994 and 2002 Sediment Data. CH2MHill memorandum to EPA
- Nezlin, N.P. and P.M. DiGiacomo. 2005. Satellite ocean color observations of stormwater runoff plumes along the San Pedro Shelf (southern California) during 1997 to 2003. *Continental Shelf Research* 25:1692-1711.
- Nezlin, N.P., P.M. DiGiacomo, D.W. Diehl, B.H. Jones, S.C. Johnson, M.J. Mengel, K.M. Reifel, J.A. Warrick and M. Wang. 2008. Stormwater plume detection by MODIS imagery in the southern California coastal ocean. *Estuarine, Coastal and Shelf Science* 80:141-152.
- Nezlin, N.P., P.M. DiGiacomo, E.D. Stein and D. Ackerman. 2005. Stormwater runoff plumes observed by SeaWiFS radiometer in the Southern California Bight. *Remote Sensing of Environment* 98:494-510.
- Warrick, J.A. , P.M. DiGiacomo, S.B. Weisberg, N.P. Nezlin, M. Mengel, B.H. Jones, J.C. Ohlmann, L. Washburn, E.J. Terrill, and K.L. Farnsworth. 2007. River plume patterns and dynamics within the Southern California Bight. *Continental Shelf Research* 27:2427-2448

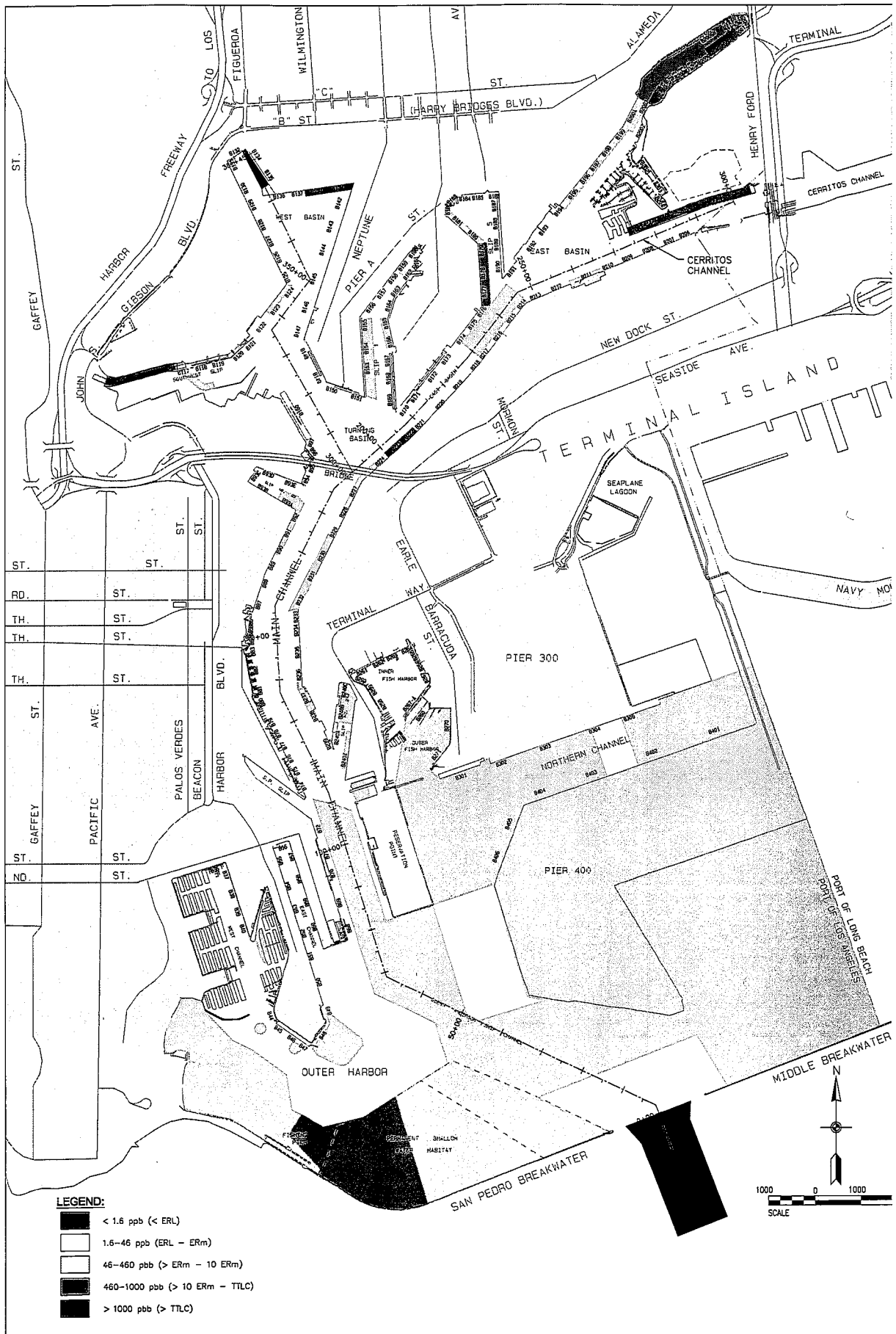


PLATE 1: HISTORICAL SURFACE DDT CONCENTRATIONS IN PORT OF LOS ANGELES (PRE - 1990)

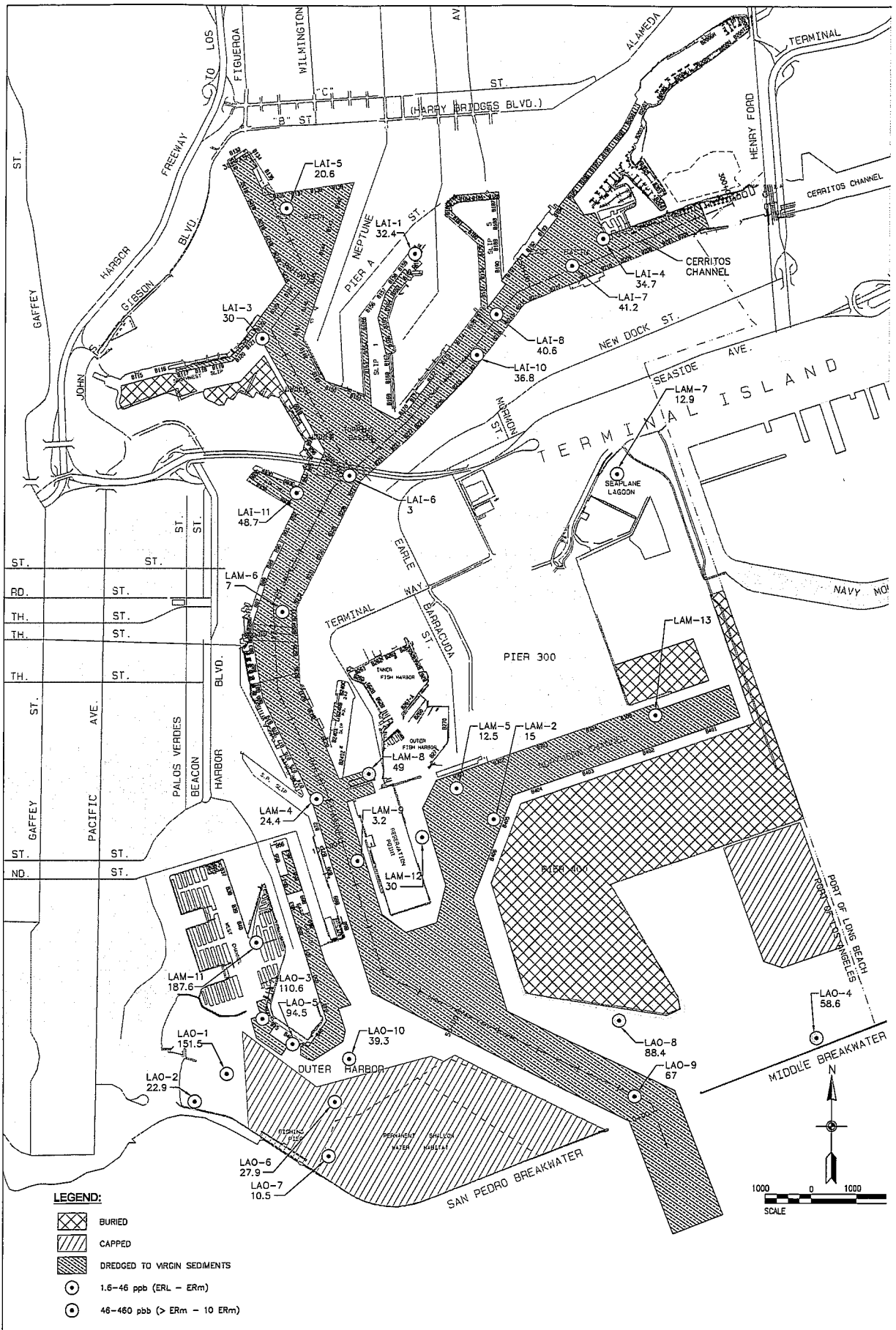


PLATE 2 : RECENT SURFACE DDT CONCENTRATIONS AFTER PORT OF LOS ANGELES IMPROVEMENT PROJECTS, FINISHED OR UNDERWAY.