

MEMORANDUM

To: Ravi Sanga, USEPA
From: Doug Hotchkiss, Port of Seattle, Susan McGroddy, Windward Environmental, LLC
Subject: Proposal for 2008 recontamination monitoring for EWW
Date: January 11, 2007

In 2005, a recontamination monitoring plan (RMP) was developed to assess the quality of the new sediment surface after the placement of 19,131 cy of clean sand cover material within the contingency dredge area in the East Waterway Operable Unit of the Harbor Island Superfund Site (EWW) (Windward 2005). The objectives of the RMP were to evaluate compliance with clean up standards, evaluate the thickness of the sand cover material and to provide data for the EW SRI/FS. The RMP specified the collection of sediment cores to provide a measurement of the thickness of the sand cover material and the collection of grab sample to be analyzed for SMS chemicals.

The results of the recontamination monitoring sampling event in January 2006 (Windward 2006) indicated that the depth of cover material was sufficient at all 21 locations where the depth of the cover material was measured. However, SMS standards were exceeded for PCBs, bis(2-ethyl hexyl)phthalate, phenol and mercury. With the exception of one location (EW-RM-10), all locations with SMS exceedances within the contingency dredge area were associated with accumulation of 2cm or more of new material on top of the cover material.

The results from the recontamination monitoring sampling event in February 2007 (Windward 2007) indicated that the depth of cover material was sufficient at all 18 locations where the depth of cover material was measured. However SMS standards were exceeded for PCBs (16 samples), butyl benzyl phthalate (1 sample), 1,4-dichlorobenzene (14 samples) and mercury (1 sample). With the exception of two samples (EW-RM-43 and EW-RM-44) all locations with SMS exceedances within the contingency dredge area were associated with the accumulation of 2cm or more of new material on top of the cover material.

The 2008 sampling will focus on resampling locations where sand layer was placed and recontamination monitoring samples contained concentrations above the corresponding SMS values as well as sampling locations in the vicinity of the Hanford and Lander CSOs. The reoccupation of 2006 and 2007 sampling locations will enable a comparison of chemical concentrations, sand cover material thickness and overlying material thickness across the sampling events. In addition, the

overlying material that has been deposited on top of the sand layer will be sampled to characterize the recently deposited sediment.

Eleven locations are proposed for the annual recontamination monitoring for January 2008 (Table 1, Figure 1). Core samples will be collected at each location to measure the depth of the sand layer and overlying material. At each location two sediment samples will be collected for analysis:

- ◆ Surface grab samples will be collected and composited in the same manner as the grab samples that were collected in 2006 and 2007
- ◆ Overlying material will be collected and analyzed for SMS chemicals only

In order to collect sufficient material for an overlying material sample, the chemistry samples will be collected using a double Van-Veen sampler. Half the sample will be composited for the surface sediment chemistry sample. The overlying material for the other half of the sample will be collected for analysis. If there is insufficient sample for the analysis of all analytes EPA will be consulted to identify the priority analytes.

The sampling protocols and analytical requirements for this sampling event are provided in the East Waterway Phase 1 Removal Action: Recontamination Monitoring Plan (Windward 2005). Chemistry samples will be collected at all locations. The required chemical analytes, analytical methods and QA requirements are detailed in the East Waterway Phase 1 Removal Action: Recontamination Monitoring Plan (Windward 2005).

The sampling locations were selected in order to provide additional data at locations at which there has previously been an exceedance of the CSL and to provide increased spatial coverage (Table 1). The three locations with CSL exceedances in 2006 and five locations with CSL exceedances in 2007 will be re-occupied in 2008. The proposed 2008 locations and the sampling locations from 2006 and 2007 are shown in Figure 2.

Table 1. Sampling locations for 2008 recontamination monitoring

LOCATION ID	SAMPLE ID	TARGET X	TARGET Y	RATIONALE
EW-RM02	EW-RM08-02	1267726	214222	proximity to Hanford CSO
EW-RM03	EW-RM08-03	1267657	214293	proximity to Hanford CSO
EW-RM10	EW-RM08-10	1267527	214703	CSL exceedance for mercury in 2006
EW-RM15	EW-RM08-15	1267653	214869	CSL exceedances for PCBs, BEHP and mercury in 2006 CSL exceedance for 1,4-dichlorobenzene and SQS exceedance for PCBs in 2007
EW-RM-20	EW-RM08-20	1267308	215161	spatial coverage
EW-RM27	EW-RM08-27	1267654	215744	proximity to Lander CSO
EW-RM30	EW-RM08-30	1267654	215744	CSL exceedance for 1,4-dichlorobenzene and SQS exceedance for PCBs in 2007

LOCATION ID	SAMPLE ID	TARGET X	TARGET Y	RATIONALE
EW-RM32	EW-RM08-32	1267709	214692	CSL exceedance for 1,4-dichlorobenzene and SQS exceedance for PCBs in 2007
EW-RM34	EW-RM08-34	1267601	214841	CSL exceedance for PCBs and SQS exceedance for mercury in 2007
EW-RM38	EW-RM08-38	1267717	215174	CSL exceedance for 1,4-dichlorobenzene
EW-RM42	EW-RM08-42	1267484	215661	spatial coverage

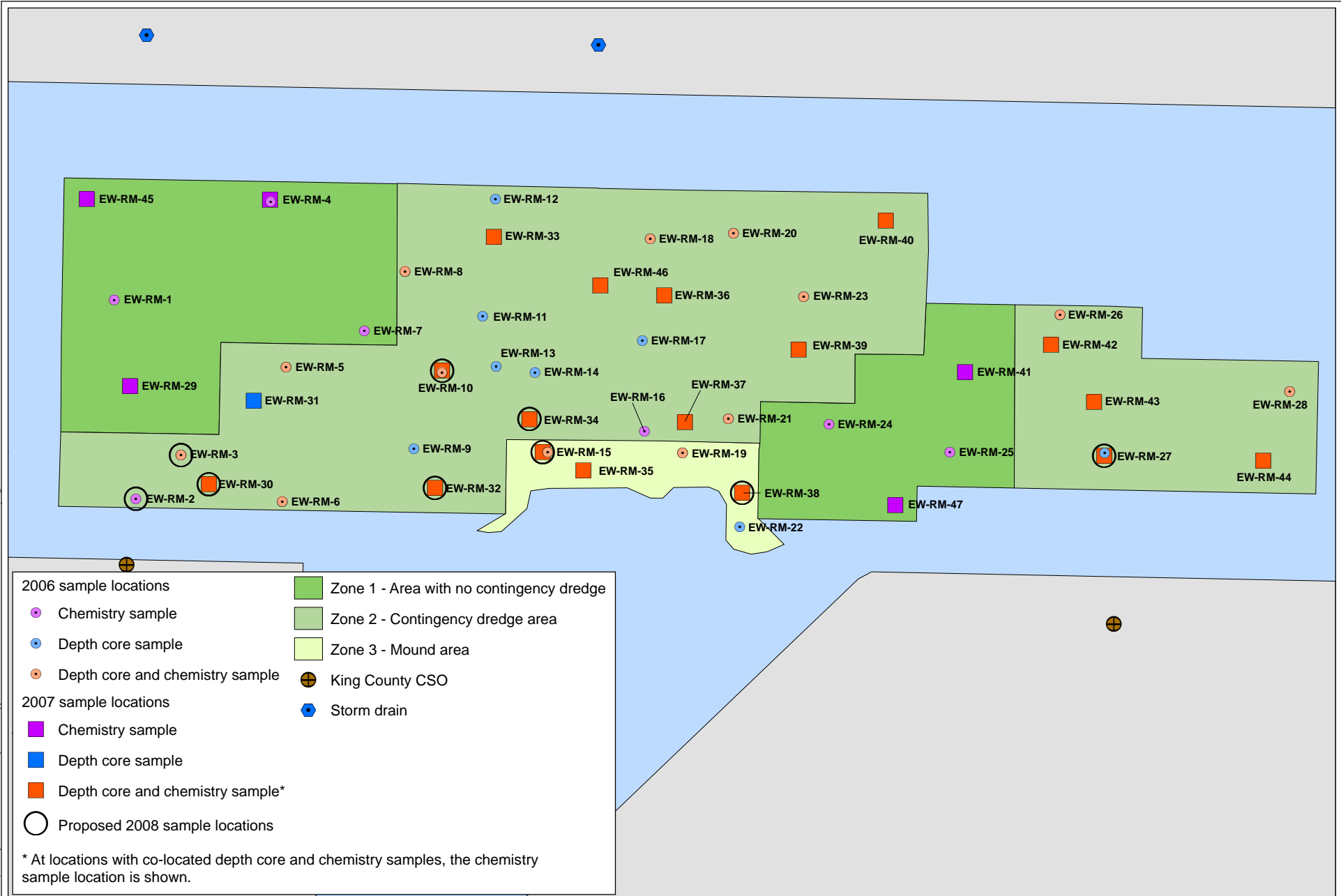
Reference

Windward. 2005. East Waterway Phase 1 removal action: Recontamination Monitoring Plan. Windward Environmental LLC, Seattle, WA.

Windward. 2006. East Waterway Phase 1 removal action: Recontamination Monitoring 2006 Data Report. Windward Environmental LLC, Seattle WA.

Windward. 2007 (draft). East Waterway Phase 1 removal action: Recontamination Monitoring 2007 Data Report. Windward Environmental LLC, Seattle WA.

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|------------------------------------|--|
| 2006 sample locations | Zone 1 - Area with no contingency dredge |
| ● Chemistry sample | Zone 2 - Contingency dredge area |
| ● Depth core sample | Zone 3 - Mound area |
| ● Depth core and chemistry sample | ⊕ King County CSO |
| 2007 sample locations | ◆ Storm drain |
| ■ Chemistry sample | |
| ■ Depth core sample | |
| ■ Depth core and chemistry sample* | |
| ○ Proposed 2008 sample locations | |
- * At locations with co-located depth core and chemistry samples, the chemistry sample location is shown.

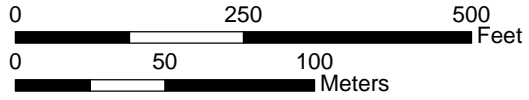
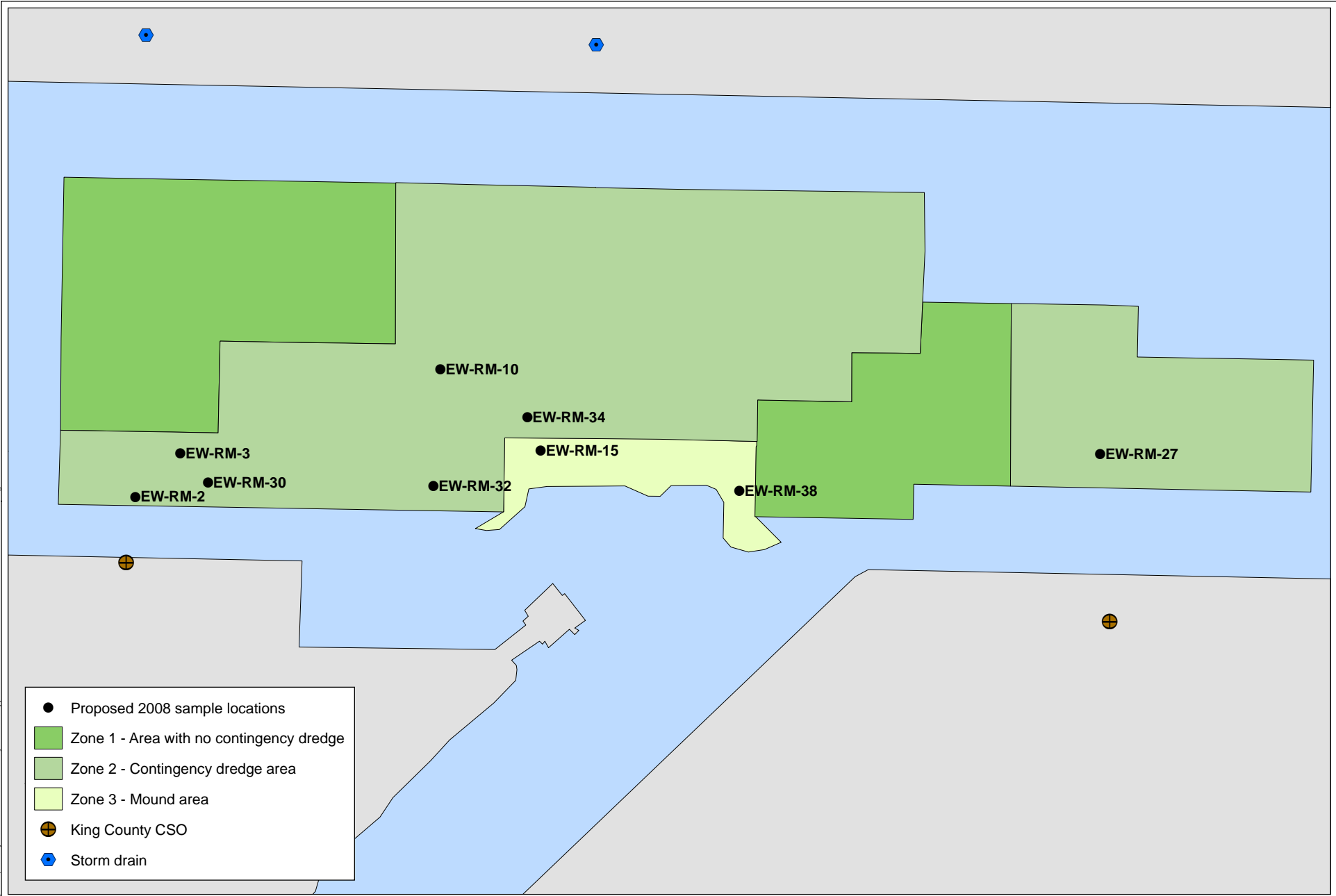


Figure 2. All recontamination monitoring locations

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- Proposed 2008 sample locations
- Zone 1 - Area with no contingency dredge
- Zone 2 - Contingency dredge area
- Zone 3 - Mound area
- ⊕ King County CSO
- ⬡ Storm drain

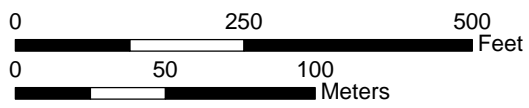


Figure 1. 2008 Sample locations

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