CENWS-OD-TS-DM

MEMORANDUM FOR RECORD 16 January 2003

SUBJECT: DETERMINATION ON THE SUITABILITY OF PROPOSED MAINTENANCE DREDGED MATERIAL FROM THE BRIDGEHAVEN MARINA ENTRANCE CHANNEL, HOOD CANAL (2002-2-00825), FOR DISPOSAL AT THE ELLIOT BAY NONDISPERSIVE SITE.

1. **Introduction**. The following summary reflects the consensus determination of the Agencies that comprise the regional Dredged Material Management Program (DMMP) for the State of Washington. The agencies include the Corps of Engineers, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency. The agencies are charged with determining the suitability of dredged material for in-water disposal and have evaluated the proposed maintenance dredging of up to 4,000 cubic yards of material from the entrance channel with disposal at the Elliott Bay disposal site.

Table 1. Regulatory Tracking Information and Dates

SAP submittal date:	September 23, 2002
SAP Approval date:	October 9, 2002
Sampling date(s):	October 25, 2002
Sediment data characterization report submittal date:	January 14, 2003
DAIS Tracking Number	BRIDG-1-A-F-180
Recency Determination Date: Low-Moderate (5-7 years)	October 2007-2009

2. The project was ranked low-moderate for testing purposes. The sampling and analysis plan was approved on October 9, 2002 by the DMMP agencies for an estimated total dredged material footprint volume of approximately 4,000 cubic yards. Sampling of the proposed dredging footprint (see figure 1) was conducted on October 25, 2002, and consisted of collecting three gravity cores at three stations. All respective cores were collected and composited for analysis as one Dredged Material Management Unit (DMMUs).

3. The Sampling and Analysis Plan approved by the Agencies for testing of the single DMMU was followed, and quality assurance/quality control guidelines specified by the PSDDA Users Manual were generally complied with. The data gathered were deemed sufficient and acceptable for decision-making by the DMMP agencies based on best professional judgment.

4. The results from sediment conventional analysis of the single composited sample are depicted in Table 2. The results of the chemical testing indicated that all chemicals of concern were quantitated well below the screening level for all 58 chemicals of concern tested. Therefore, biological testing was not required to render a suitability determination.

5. The DMMP agencies conclude from these testing results that all 4,000 cubic yards of proposed dredged material are suitable for unconfined open-water disposal at either a DMMP non-dispersive or dispersive disposal site.

6. This memorandum documents the suitability of proposed dredged sediments at the Bridgehaven Marina for disposal at a PSDDA open-water disposal site. This determination of suitability does not preclude the consideration of this material for an appropriate beneficial use. It does not constitute final agency approval of the project. During the public comment period which follows a public notice, the resource agencies will provide input on the overall project. A final decision will be made after full consideration of agency input, and after an alternatives analysis is done under section 404(b)(1) of the Clean Water Act.

Table 2. Grain Size for Entrance Channel Shoal Material.

Parameters	DMMU 1
% Gravel	0.62
% Sand	34.14
% Silt	49.6
% Clay	16.1
% Fines (Silt + Clay)	65.7
Total Solids, %	71.4
Total Volatile Solids, %	3.32
Total Organic Carbon, %	1.24

Concur:

2/18/03 — David Kendall, Ph.D., Seattle District Corps of Engineers
Date

02/19/03 — Sheri Moore., Seattle District Corps of Engineers
Date

2/12/03 — Erika Hoffman, Environmental Protection Agency
Date

2/12/03 — Tom Gries, Washington Department of Ecology
Date

1/27/2003 — Peter Leon, Washington Department of Natural Resources
Date

Copies Furnished:
Regulatory Branch Project Manager / Randel Perry
Erika Hoffman, EPA
Tom Gries, Ecology
Peter Leon, DNR
DMMO File

Table 3. DAIS Value Table - Dry Weight Basis

Project: Bridgehaven Community Club (DY03) BRIDG1AF180

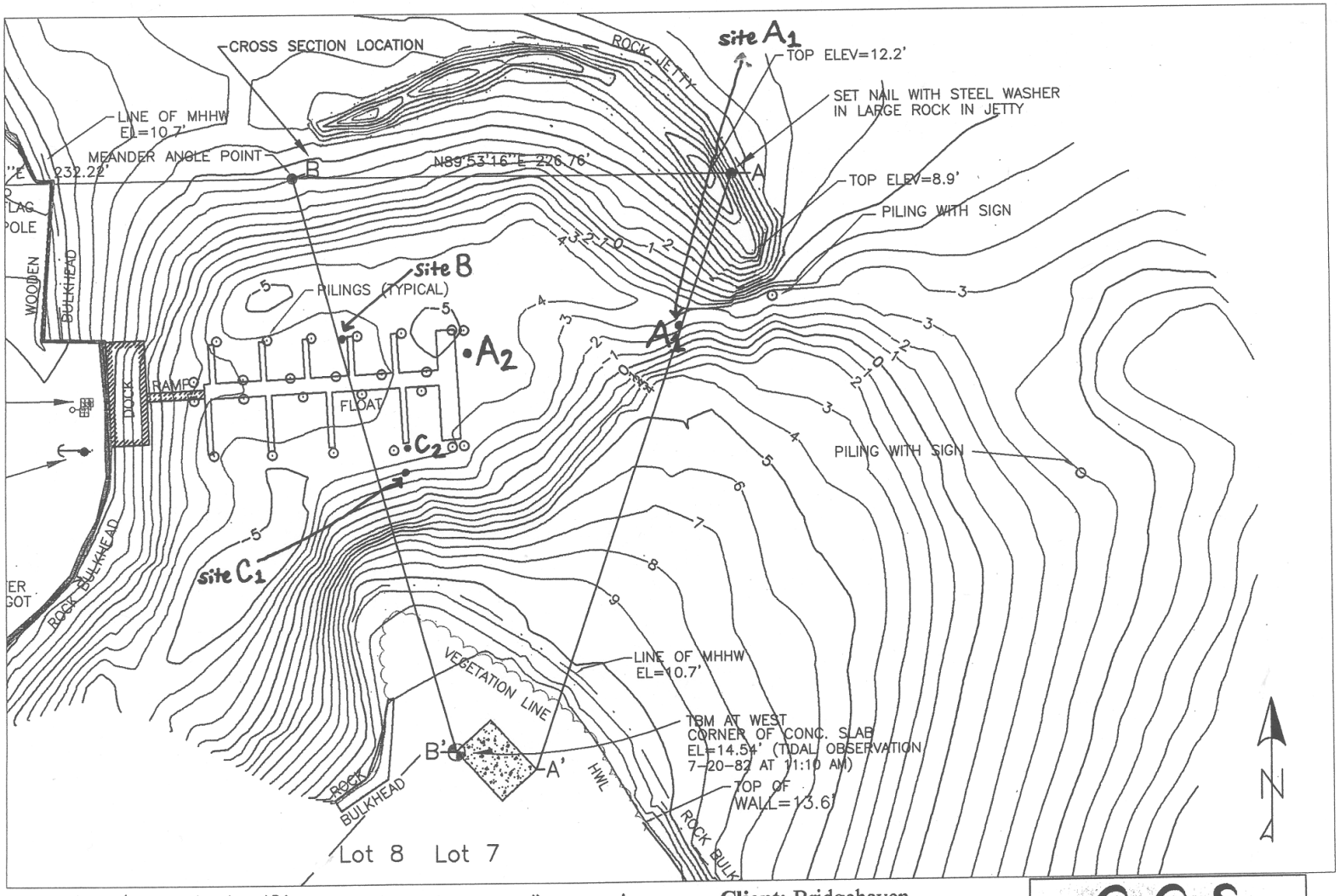
	units		C1	
SEDIMENT CONVENTIONALS				
Total Solids	%		71.4	
Volatile Solids	%		2.87	
Total Organic Carbon	%		1.43	
Ammonia	MG/KG	-		
Total Sulfides	MG/KG	-		
METALS				
Antimony (1)	MG/KG		0.06	n
Arsenic	MG/KG		2.5	
Cadmium	MG/KG		0.31	
Chromium (4)	MG/KG		27.8	
Copper	MG/KG		20.1	
Lead	MG/KG		4.16	
Mercury	MG/KG		0.03	
Nickel	MG/KG		36.8	
Selenium (4)	MG/KG	-		
Silver	MG/KG		0.08	
Zinc	MG/KG		46.2	
LPAH				
2-Methylnaphthalene (1)	UG/KG		4.9	j
Acenaphthene (1)	UG/KG		13	j
Acenaphthylene (1)	UG/KG		9.6	j
Anthracene (1)	UG/KG		31	
Fluorene (1)	UG/KG		16	
Naphthalene (1)	UG/KG		4.8	j
Phenanthrene (1)	UG/KG		57	
Total LPAH (1)	UG/KG	-		
HPAH				
Benzo(a)anthracene (1)	UG/KG		42	
Benzo(a)pyrene (1)	UG/KG		29	
Benzo(g,h,i)perylene (1)	UG/KG		13	j
Benzofluoranthenes (1)	UG/KG		106	
Chrysene (1)	UG/KG		80	
Dibenzo(a,h)anthracene (1)	UG/KG		16	u
Fluoranthene	UG/KG		230	
Indeno(1,2,3-c,d)pyrene (1)	UG/KG		16	j
Pyrene	UG/KG		220	
Total HPAH (1)	UG/KG	-		
CHLORINATED HYDROCARBONS				
1,2,4-Trichlorobenzene (1)	UG/KG		16	u
1,2-Dichlorobenzene (1)	UG/KG		1.1	u
1,3-Dichlorobenzene (3)	UG/KG		7.6	u
1,4-Dichlorobenzene (1)	UG/KG		1.3	u
Hexachlorobenzene	UG/KG		16	u
PHTHALATES				

Bis(2-ethylhexyl)phthalate (1)	UG/KG	46	j
Butyl benzyl phthalate (1)	UG/KG	16	u
Di-n-butyl phthalate (1)	UG/KG	16	u
Di-n-octyl phthalate (1)	UG/KG	16	u
Diethyl phthalate (1)	UG/KG	16	u
Dimethyl phthalate (1)	UG/KG	16	u
PHENOLS			
2 Methylphenol (1)	UG/KG	16	u
2,4-Dimethylphenol (1)	UG/KG	79	u
4 Methylphenol (1)	UG/KG	16	u
Pentachlorophenol	UG/KG	79	u
Phenol (1)	UG/KG	48	u
MISCELLANEOUS EXTRACTABLES			
Benzoic acid (1)	UG/KG	320	u
Benzyl alcohol (1)	UG/KG	16	u
Dibenzofuran (1)	UG/KG	7.7	j
Hexachlorobutadiene (1)	UG/KG	16	u
Hexachloroethane (1)	UG/KG	16	u
N-Nitrosodiphenylamine (1)	UG/KG	16	u
VOLATILE ORGANICS			
Ethylbenzene (1)	UG/KG	7.6	u
Tetrachloroethene (1)	UG/KG	7.6	u
Total Xylene (1)	UG/KG	7.6	u
Trichloroethene (1)	UG/KG	7.6	u
PESTICIDES AND PCBs			
Aldrin (3)	UG/KG	1.4	u
Chlordane (2)	UG/KG	1.4	u
Dieldrin (3)	UG/KG	1.4	u
Heptachlor (3)	UG/KG	1.4	u
Lindane (3)	UG/KG	1.4	u
Total DDT	UG/KG	1.4	u
Total PCBs	UG/KG	3.7	j
ORGANOMETALLICS			
Tributyltin (porewater) (2)	UG/L	-	

A dash indicates that no data exists for this analyte in DAIS

(1) = No BT exists (2) = No ML exists (3) = No BT or ML exists (4) = No SL or ML exists

END OF REPORT



Topography/bathymetry by: ADA Engineering LLC. Dredge volume calculations and eelgrass locations drawn by Coastal Geologic Services, Inc. Drawn: 10/24/01; Revision 1: 11/29/01.

Scale: 1" = 70'
Existing conditions

Client: Bridgehaven Community Club Association

Figure 1

COASTAL GEOLOGIC SERVICES
701 Wilson Ave, Bellingham, WA 98225
Phone: (360) 647-1845.

LOCATION OF SAMPLING SITES