ATTACHMENT 3

GRAIN SIZE DATA FOR MAINTENANCE AND NEW WORK PROJECTS FOR THE PORT OF OAKLAND

Maintenance

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TABLE 2

SUMMARY OF SEDIMENT CHARACTERIZATION Port of Oakland Berth 32-33

Berth (1)	32	33	Reference	Control	Detection	Limit
					Achieved (2)	Reqd (3)
Grain size (%)						
Gravel	1.8	0.1	3.7	0.3		
Sand	1.1	19.2	92.5	15.2		
Silt	(25.2)	(30.3)	1.8	43.3		
Clay	30.8	60.3	2.0	41.2		
Solids (%) (Dry WL)	45.4	45.1	82.9	38.8		0.1
Total Organic Carbon (mg/kg)	1.08	1.12	1.18	1.37		0.1
Suifides (mg/kg)	770	460	14			0.5
Water Soluble	7	6	ND	ND		0.1
Organotins (ug/kg)						
Tributvitin	15	27	ND	ND	1.0	1.0
Dibatyltin	12	13	ND	ND	1.0	1.0
Monobutyitin	17	15	ND	ND	1.0	1.0
TRPH (mg/kg)	240	194	ND	105		0.1
Metals (mg/kg)						
Arsenic (As)	7.9	8.3	5.0	9.5	0.2	0.1
Cadmium (Cd)	0.18	0.18	0.03	0.17	0.01	0.1
Chromium (Cr)	59.3	69.0	19.5	59.0	2	0.1
Copper (Cu)	37.7	41.5	4.8	40.1	1	0.1
Lead (Pb)	35.9	31.3	9.3	23.3	0.01	0.1
Mercury (Hg)	0.35	0.36	0.07	0.30	0.02	0.2
Nickel (Ni)	60.1	67.8	24.3	66.4	5	0.1
Selenium (Se)	0.8	1.0	ND	0.9	0.5	0.1
Silver (Ag) Zinc (Zn)	0.31 87.7	0.31 89.9	0.03 20.1	0.23 83.6	0.01	0.1
Proticides and PCPs (market)						
Pesicides and PCBs (mg/kg)	NTD	NTO	MTD	NTD	0.000	0.000
aipna-BHC	ND	ND	DN	ND	0.002	0.002
gamma-BHC	ND	ND	ND ND	ND	0.002	0.002
Deta BriC	ND	ND	ND	ND	0.006	0.002
Heptactior	ND	ND	ND	ND	0.002	0.002
den bic	ND	ND	ND	ND	0.002	0.002
Aldrin	ND	ND	ND	ND	0.002	0.002
Heptachior Epoxide	DA	ND	ND	DN	0.002	0.010
Endosullan 1	ND	ND	ND	ND	0.002	0.010
4.4 - DDE	<0.004	ND	ND	DN	0.002	0.002
Dielaria	ND	ND	ND	ND	0.002	0.002
Endrin	ND	ND	ND	-D COOR	0.002	0.002
4,4" - DDD	<0.007	<0.004	ND	<0.003	0.002	0.002
Endoquifan II	ND	ND	ND	ND	0.002	0.002
4,4' - DDT	<0.006	<0.003	ND	ND	0.002	0.002
Endrin Aldehyde	ND	ND	ND	ND	0.002	0.010
Endosulfan Sulfate	ND	ND	ND	ND	0.002	0.025
Methorychlor	ND	ND	ND	ND	0.004	0.025
Tomphene	ND	ND	ND	ND	0.03	0.025
Chiorodane	ND	ND	ND	ND	0.01	0.025
PCB 1016	ND	ND	ND	ND	0.01	0.020
PCB 1221	ND	ND	ND	ND	0.01	0.020
PCB 1232	ND	ND	ND	ND	0.01	0.020
PCB 1242	ND	ND	ND	ND	0.01	0.020
PCB 1248	ND	ND	ND	ND	0.01	0.020
PCB 1254	0.01	ND	ND	ND	0.01	0.020
PCB 1260	0.02	0.03	ND	0.02	0.01	0.020

(1) All chemical analyses are given as dry weight basis unless noted.

(2) Detection limits are given as wet weight basis since the dry weight values are arithmetically derived.

(3) Detection limits required by ACOE.

SUMMARY OF TIER II SEDIMENT CHARACTERIZATION (1)

	Berth 82	Berth 82	Berth	Berth 8.1	Alcatraz	Detection	Limit
	Area	Area			Sediment	Actorved	Tier II (2)
Grain size (%)	1	2					
Gravel	0.2	23	0.3	0.6	14.4		
Sand	10.1	4.2	95	20.2	14.4		
Silt	(29.2")	33.0	(321)	31.3	36.9		
Clay	60.5	60.5	58.1	47.9	48.8		
Solids (%) (Dry WL)	39.0	43.1	43.1	44	50.9		0.1
Total Organic Carbon (%)	1.599	1.778	1.209	1.292	1.245		0.1
Sulfides (me/ke)							
Total	2617	1356	790	161	530		0.5
Water Soluble	0.077	0.093	0.070	0.09	0.039		0.1
Oregnotins (ug/Kg)							
Tributyltin (/deplicate)	< 25.7	< 23.2	< 23.2	< 22.7	< 19.6	10	1.0
Dibutyitin (/duplicate)	< 25.7	< 23.2	< 23.2	< 22.7	< 19.6	10	1.0
Monobutyltin (/duplicate)	< 25.7	< 23.2	< 23.2	< 22.7	< 19.6	10	1.0
Oil & Grease (mg/kg)	155	191	200	179	65.6		
TRPH (mg/Kg)	111	165	156	154	46.9		
Cyanide	0.292	9.67	16.9	17.4	29.8		
Metals (me/Ke)							
Arsenic (As)	0.595	1.09	0.457	0.548	1.206		0.1
Mercury (Hg)	0.544	1.11	0.735	0.721	0.228		0.02
Selenium (Se)	< 0.100	< 0.230	< 0.229	< 0.225	< 0.194	0.099	0.1
Cadmium (Cd)	0.232	1.25	0.533	0.816	0.126	0.048	0.1
Chromiam (Cr)	222	371	155	121	230		0.1
Copper (Cs)	42.3	110	80.9	81.4	59.7		0.1
Lead (Pb)	53.6	94.1	79.3	625	24.5		0.1
Nickel (Ni)	30.8	83.5	70.2	61.4	58.9		0.1
Silver (Ag)	0.276	0.909	1.67	0.700	0.418		0.1
Zinc (Zn)	60.1	195	105	116	45.2		20

All chemical analyses are given as dry weight basis.
 Ther II detection limits are given as wet weight basis.
 Achieved detection limits are in wet weight.

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966				Percent Dry	Weight			1	na/ka Dry Weiah	t
Deepenin	Sediment Treatment	Gravel >2000 μm	Sand 62.5- 2000 μm	Silt 3.9- 62.5 μm	Člay <3.9 μm	TOC	TVS	TRPH	Total Sulfide	Water Soluble Sulfide
Q	Alcatraz Environs PN 93-2 Values	0-17	81-98	0-3	0-6	0.03-0.19	1.32-2.60	0.6 U(a)-8.0	NA(b)	NA
	Screening Criteria Values	not es	tablished for	conventiona	al parameters	3				
	<u>Disturbed /YBM</u> Berth 22, 22-6 D Berth 23 D Berth 24 D Berth 26 D	0 0 0(c)	24 29 47 37(c)	29 26 20 26(c)	47 45 33 37(c)	1.4 1.3 1.3(c) 1.3	6.2 5.4 3.8(c) 4.8	94(c) 57(c) 41 130	no sample(d) 920 230 310	no sample 0.54 U 0.46 U 0.50 U
3.3	Undisturbed/OBM Berth 22 U Berth 23 U Berth 24 U Berth 25 U Berth 25, 25-3 U Berth 26 U	0 0 0 0 0	73 92 97 98 97 98	14 31 11 1 1	13 5 2 1 2 1	0.12 0.054 0.060 0.032 0.035 0.021	1.3 0.75 0.67(c) 0.63 0.65 0.68	12 U 12 U 12 U 12 U 12 U 12 U 16	0.93 U 0.65 U 0.66 U 0.68 U 0.70 U 0.64 U	0.31 U 0.31 U 0.31 U 0.30 U 0.31 U 0.31 U 0.30 U

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(a) U Analyte undetected above given concentration.
(b) NA Not applicable, data not published.
(c) Mean of replicate samples.
(d) Berth 22, 22-6D sample volume was insufficient to measure all analytes.

New Work

Table A-1

Oakland	Harbor	-42	Foot	Project	

		\sim	(page 4 of	f 4)				1
	Gravel	Sana 62 5	Sile 3.0	Ciay			Oil and	
Sediment Treatment	um	2000 um	62.5 um	um	TOC	TVS	Grease	TPH
IB-1(a)	0	87	5	8	0.09	1.51	27.8	22.1
IB-1(b)	ñ	51	17	32	0.64	4 54	203 1	160 2
COMP IR-2	ő	82	6	12	0.12	1 75	109.0	109.2
(Berth 61)	v	04	U	14	0.10	1.15	109.0	100.5
IB-2(a)	0	95	2	3	0.03	0 78	1 211	1 211
IB-2(h)	0	88	5	7	0.10	1 10	52 8	35 7
COMP IR-3	0	94	1	5	0.07	1 03	6.6	1 311
(Berths 62-63)	v	74		5	0.07	1.05	0.0	1.30
IB-3(a)	0	97	1	2	0.03	0.80	1 211	1 211
IB-3(h)	ő	89	5	6	0.04	0.96	1 211	1 211
IB-4(a)	0	96	1	3	0.04*	0.80	1 211	1 211
IB-4(h)	0	97	Ô	3	0.02	0.95	1 211	1 211
IB-4(b) top 11"	õ	14	31	55	1.14	7 31	261 7	233 5
COMP IB-SPP	ő	78	8	14	0.36	2.24	118 3	107 5
(all IBs)	v	10	0	14	0.00	2.27	110.5	107.5
(411 1100)								
REFERENCE SEDIM	ENTS							
R-AM (IIIA)	2.73*	92.41*	1.06*	3.80*	0.03	1.32	3.59	2.
R-AM (IIIA Repeat)	4	94	1	1	0.07	2.13	13	0.6U
R-AM (IIIB)	0	91	3	6	0.19	2.10	0.7U	8
R-AM (Berths)	7	90	1	2	0.11	2.30	1.3U	1.3U
R-AM (Intensive)	3	94	1	2	0.78	0.24	41	12U
R-OS (IIIA)	6.77	48.24	25.67	19.31	0.57	4.93	3.91	10.10
R-OS (IIIA Repeat)	0	32	46	22	1.00	6.99	72	0.9U
R-OS (IIIB)	0	60	27	13	0.63*	4.28*	14*	6.7*
R-OS (Berths)	0	59	25	16	0.74*	4.38*	11.5	1.3U
R-OS (Intensive)	0	45	35	20	0.79	2.34	16U	16U

Conventional Sediment Measurements (Grain Size, TOC and TVS in Percent Dry Weight; Oil and Greas TPH in mg/kg Dry Weight)

Notes: * mean of replicate sample analyses U

concentration is less than given detection limit

(IIIA), (IIIB), III38), (Berths), or (Intensive) refers to the Battelle testing phase for the sediment analysis report.

DREDGING: TO REGULATE OR TO GOVERN? JIM MCGRATH, ENVIRONMENTAL MANAGER PORT OF OAKLAND

PRESENTATION TO NATIONAL RESEARCH COUNCIL COMMISSION ON ENGINEERING AND TECHNICAL SYSTEMS COMMITTEE ON MARINE AREA GOVERNANCE AND MANAGEMENT JUNE 10, 1996

Five years ago, on June 26, I spoke to the Marine Board of the NRC, along with Alan Pendleton, Will Travis' predecessor at BCDC. The title of my talk was "Scapegoats, Sacred Cows and Red Herring: The Biota Affected by Dredged Material Disposal in San Franciso Bay." Under that heading, I argued that dredging was the scapegoat, water diversion was the sacred cow, and concerns over sediment quality were the red herring. The basic thesis of my talk was that concern over the quality of dredged material was being used to leverage beneficial uses of dredged material, i.e. restoration of wetlands, and that there was no nexus between the sediment quality issues and the restoration of wetlands. I'd like to update that conept start with a slightly different theme -- we now have to choose whether or not we are going to try to regulate dredging, where regulation requires a nexus, or try to govern, where we use incentives and disincentives to affect institutional behavior. I'll review what we have and have not accomplished in the last five years, and offer some recommendations.

I'll talk about three processes, two of which I believe were successful, and one of which has not yet been successful. I would like to then draw my conclusions as the reasons for success or failure. The three processes are: 1) approval of the dredging of the Port of Oakland to 42 feet, a highly successful project; 2) update of the Seaport Plan for San Francisco, a substantially more successful plan than the previous plan; and 3) completion of the long term management study (LTMS), an ambitious effort that is not yet successful.

STATEMENT OF THE PROBLEM

Regulation is a "thou shalt not" endeavor. It can be very successful in preventing something, but is not at all predictable as a mechanism to bring about an action. Business and development operate in a "window of opportunity" environment. If we are to be successful in reinventing government, and do things instead of stop things, we need to arrange a marriage between these two endeavors.

DEEPENING OAKLAND HARBOR

The Port of Oakland is about halfway through construction of a project to deepen Oakland's Inner and Outer Harbor Channels to -42 feet. We have completed construction of the Sonoma Baylands

wetland restoration part of the project, which used about 2 million cubic yards of material to restore the elevations of a wheatfield next to San Francisco Bay to near marsh plain levels. In the fall, the dikes will be breached, and natural sedimentation will finish the job, shaving about 40 years off of the timetable if only natural sedimentation had occurred.

We have taken about half of the one million cubic yards of "chemically challenged" material generated in deepening the harbor to an upland disposal site on the top of an old landfill and golf course. We have been able to remove over 99.98% of the material, and meet, on average, our discharge requirements. Disposal of the remaining 3.5 million cubic yards of material at a deep water ocean site has barely begun; problems with construction of a new piece of dredging equipment have delayed that schedule.

This effort has been successful because the array of disposal sites comes close to representing a "stakeholder" consensus. The regulatory agencies operated as satisfied stakeholders, and worked to make the project happen within the window of opportunity that politics created. Most regulatory agencies believed that the disposal solution met their needs. However, complete consensus was not reached. The Fish and Wildlife Service and the Audubon Society objected to restoration of hayfields to tidal wetlands because of their concern over the loss of the seasonal habitat value of those wetlands. Citizens in West Oakland were not happy to lose their golf course to a dredged material disposal site. Identification of all necessary stakeholders, particularly those that may live close to a disposal site, remains the trickiest part of public decisionmaking.

UPDATING THE SEAPORT PLAN

This year, BCDC updated their Seaport Plan, the element of their coastal program that reserves sites for present and future port development. BCDC started the Seaport Plan effort about twenty years ago, when the shipping industry was talking about establishing new deepwater mega-ports for importing crude and refined petroleum on the newest ultra large crude carriers. BCDC reacted to this very real threat of major fill within San Francisco Bay by identifying and preserving areas around the Bay that could support shipping without substantial fill. However, the shipping industry has changed dramatically in the intervening period. Air quality restrictions probably cap the amount of oil that can be refined in the Bay area and the ultra large carriers have not been highly successful economically. So for the past ten years or more, a much larger area has been designated as "port priority use" than seems to be warranted.

During this time, BCDC became concerned about the amount of dredging that was occurring in the Bay, and began planning for dredged material disposal looking for ways to minimize dredging.

Well, it doesn't take a wizard to see that a plan to preserve a lot of the shoreline for port priority use might require some navigational channels to be lengthened, and might conflict with this new effort to minimize dredging. For some period, this conflict in planning goals persisted. Over the past three years, BCDC has been engaged in updating their Seaport Plan. The City of Alameda is still opposed to the designation of a smaller portion of the Alameda Naval Air Station as a priority area. Notwithstanding that controversy, BCDC completed an effort to rationalize these two objectives, minimizing fill and minimizing dredging, and did a very good job. I believe that BCDC was as successful as they were because they took the time to educate themselves about the nature of the shipping business. At least the container shipping element of the Port industry could say that BCDC understood what we needed, and had planned for that. So in the Seaport Plan venue, BCDC did at least one of the things that must be done for a stakeholder effort to work: they listened and understood the needs of the container shippers.

LTMS

In 1990, the regulatory agencies responsible for dredging came together in a unique partnership and initiated a planning effort known as the Long Term Management Study, or LTMS. The draft EIS for that study is now out for comment, and it seems like a good idea to look at that effort as a model. It's safe and even fairly diplomatic for the Port of Oakland to say that this effort is not yet a success. And I think that the reason for the present concerns that the environmental and shipping communities have over this effort stem from the perception that we both have that the effort did not engage us as stakeholders. More fundamentally, we believe that we were not listened to. From the Port's perspective, the apparent intent of the LTMS agencies to try to restrict maintenance dredging represents a threat to our competitive position with the other West Coast ports.

Let me tell you a little about how the Port of Oakland responded to the dredging crisis precipitated when mounding was discovered at the in-Bay disposal site near Alcatraz Island. First (and before my time), we took the recommendation of EPA and proposed to use an ocean disposal site favored by EPA. Use of that site was blocked by litigation. Then we tried the alternative favored by the environmental community, and sought to use the material to reinforce levees in the Sacramento River delta. Again, we were attacked by litigation. Then we resigned ourselves to waiting for the LTMS, until one of our shippers threatened to leave, so we pursued two successful dredging projects in close consultation with the LTMS agencies.

The substantive efforts of the Port industry are important to note. First, the Navy pioneered and the Port of Oakland cooperated in efforts to designate a deepwater ocean site, the only national dredging disposal site that is off the shelf, as suggested as a goal in the MPRSA. The Port of Oakland was instrumental in overcoming Corps of Engineers resistance to a disposal site any further than 15 miles from the Golden Gate. I will freely acknowledge that EPA's effort in designating this site was probably the highest quality, timely, and most cost-effective effort within Second, we cooperated with environmental interests the LTMS. demands for the most expensive ocean monitoring program in the county, and gave EPA headquarters a clear signal that we could live with the monitoring requirements. Third, we cooperated in an effort to toughen dredged material testing protocols, and lobbied our sister ports that tougher testing was essential to restore the credibility of the institutions involved in dredging. Fourth, the dredging industry as a whole reduced disposal at the Alcatraz site from over 8 million cubic yards in a year to an average of under 2 million cubic yards for the last 5 of 6 years. Fifth, we developed a disposal system for our harbor deepening that disposed of all of the material outside of the Bay. Sixth, we have pursued seven different upland disposal projects, and have developed technical solutions or monitoring programs to deal with the issues raised by upland disposal.

What are our concerns about the LTMS? First, the process has not resulted in a consensus, much less even agreement among agencies with an environmental mission. There is no consensus that the habitat of San Francisco Bay would be improved if hayfields and seasonal wetland areas were restored to tidal action. There is also a continued debate over whether dredged material should be used to accomplish tidal restoration. The Port has twice tried to take the advice of the LTMS agencies, and has been stopped by the unresolved disputes. Unless the conflicts are resolved, the Port doesn't see the LTMS as offering us any clear paths to success. Second, the process has not developed any new sites. The LTMS identifies 22 "potentially feasible" rehandling sites, but none of those sites are any closer to being available than they were 6 years ago, and a number of those sites are clearly impractical. Third, the LTMS concludes that upland disposal of dredged material is preferable to aquatic disposal without either disclosing the impacts of aquatic disposal or the impacts of the alternatives. For example, what are the long-term impacts of continued disposal at Alcatraz as long as disposal rates are low enough to prevent mounding? What are the losses of seasonal wetlands that would be associated with upland disposal, and how significant are they? Is the ocean a more, or less sensitive site than the Bay? Fourth, the LTMS misunderstands the economic implications of the policy options because it relies on an extremely simplistic economic model, and fails to take competition between Ports into account. Finally, the LTMS calls for policies that would phase out aquatic disposal of maintenance material as well as new construction material, without acknowledging the inherent economies of scale that can be obtained in a new work construction project.

The Port of Oakland has accepted the necessity of beneficial reuse of new work projects, and has developed a body of information about the environmental impacts and costs of those projects. I would estimate that the Sonoma Baylands project added less than \$4 million in cost to the Oakland Harbor project -- something less than 5% of the total project cost. Clearly, this approach represented a practicable alternative and we think that we can get even better at it for future harbor deepening. Trying to accomplish wetland restoration with maintenance dredging material is a very different matter. I don't see of any way that this can be done without at least tripling the cost of maintenance dredging. Such cost increases may well threaten the capacity of the Port to compete with the other West Coast ports and raise capital for expansion projects. We do not feel that the LTMS agencies have listened to the Port's concerns about the economic implications of their proposals, and for us, economicly feasible methods of maintaining the existing channels are essential for survival.

Let me talk a little about the economic issues at stake. There is a perception that Port's are a deep pocket that can easily be picked for lots of different purposes. (see cartoon) The EIS concludes that these policies might increase the cost of dredging by \$10 to \$19 million per year, an increase of 38 to 41%. Then the EIS compares these costs to the total value of the maritime industry, and concludes that the 0.5 to 0.9% of total maritime value is not significant. While the shipping industry may be a very large fish, the Port industry is simply bait in the economic struggle. What the regulatory community might see as minor cost increases can easily affect the operational cost that shippers and container lines see, and end up diverting cargo and perhaps even shipping lines away from Oakland. And issues of this importance are certainly worth fighting about.

The national picture is even more grim. The Corps of Engineers maintains the Federal channels in this country, using funds generated by taxes on cargo. Their maintenance budget, to do the approximately 300 million cubic yards of maintenance dredging, is essentially fixed by the funding restrictions that began with the Gramm-Rudman bill. As costs go up, even slightly, the Corps' capacity to maintain Federal channels go down. Presently, the Corps of Engineers is trying to figure out how to reduce their O & M costs by 15% over the next five years. The very stability of the funding base for Corps maintenance is furthered threatened by litigation that has successfully challenged the constitutionality of the cargo taxes that support maintenance dredging. In this environment, the dramatic cost increases proposed by the LTMS only for San Francisco dredging pose a dramatic threat to the long term viability of the shipping industry in the Bay area. Having already lost virtually all military shipping, and APL, one of the Port of Oakland's two largest shippers, I expect a vigorous battle over further erosion of our competitive position.

How did we come to this state? How does progress on the LTMS compare to similar studies in other areas, such as the Beneficial Use Group that is proposing, by consensus, over 4,200 acres of wetland restoration in Galveston Bay. Why is the Port of Oakland so concerned about the nature of an EIS six years into the process? I believe that there are two answers to this question. First, the LTMS does not have any specific proposals like Sonoma Baylands or the Galveston Bay proposals. When a program has specific goals that are supported by wildlife advocates and agencies, the motivation for reaching consensus is clear. In the case of the LTMS, there is no consensus about either the direction of wetland restoration goals for San Francisco Bay, or the appropriate role for dredged material in restoration. Second, the public process for the LTMS left something to be desired, and devolved into a series of task forces involving only agencies rather than stakeholders. The LTMS structure of establishing a management committee and executive committee of agency heads and board members worked well, and the public review committee provided a mechanism for periodic meetings on progress. The structure was set up with working level staff organized around three committees: one for the ocean, one for in-Bay, and one for uplands. Each of those committees was run by an agency person, and most of the work went on in informal agency task forces set up between monthly meetings. Staff from environmental groups and the Ports were not involved in virtually any of those work groups. Monthly meetings ended up as discussions of what had been done by agency staff, rather than real efforts to resolve any of the underlying conflicts. The Port of Oakland felt that our comments were not listened too, either on the scopes of work for studies, for the products developed, or for issues that needed to be resolved. Most of the Port's and many of the environmental groups simply stopped attending the meetings, and now do not have any ownership of the outcome.

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Responses to Oakland - Port of Oakland, letter dated July 17, 1996

1. Statement noted; the LTMS agencies agree.

7.

8.

- 2. The LTMS agencies have selected Alternative 3, and will prepare a draft Management Plan based on this preferred alternative. A discussion describing the initial implementation of Alternative 3 has been added to the Final EIS/EIR. The LTMS agencies fully intend to involve the public in the development of the Management Plan through public workshops and a public comment period before the Management Plan is finalized.
- 3. Upland/wetland reuse is considered a feasible alternative to in-Bay and ocean disposal. Please see the response to NHI comment 19c.
- Please see the responses to Oakland comments 11 and 37.
- 5. Please see the responses to Oakland comments 12, 24, and 26, and GGAS comment 27. Based on the caveats and assumptions provided throughout section 6.2.3, in the footnotes in the tables in that section, and throughout Appendix Q, the LTMS agencies feel that the economic analysis is adequate.

Please see also the responses to NHI comments 19d and 20a.

6. Evaluating the maximum possible dredging and associated disposal volume scenario is appropriate from a planning perspective. The dredged material volume estimates presented in the EIS/EIR are a reduction of approximately 25 percent compared to that presented in the SF-DODS EIS (USEPA 1993a). The LTMS agencies acknowledge that even lower volumes of dredged material are likely to occur. However, for this programmatic-level document, a higher scenario was determined to be more appropriate on which to base policy-level decisions.

In response to the comment that the closure of bases is not considered in the total dredged material volume estimate, please see the response to MAS comment 16b and SSFBA comment 4.

An analysis of the impacts to dredging demand associated with increased costs seems unwarranted for a programmatic document. While increase costs associated with the implementation of the preferred alternative may facilitate a reduction in the volume of material dredged, dredging that is necessary for safe navigation and harbor operations will continue. The LTMS agencies needed to develop a Dredging Management Plan for the overall dredging and dredged material disposal that occurs in San Francisco Bay. The use of the dredging volume estimate that is presented in the document achieves this goal.

The EIS/EIR concludes that a more balanced approach to dredged material disposal, one that combines placement in upland/wetland reuse environments with ocean and in-Bay disposal, would allow greater regulatory certainty and lower the potential ecological impacts by not overemphasizing disposal in one environment.

Individual environmental impact analyses will need to be conducted on a project-specific basis as mandated by both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). During that project-specific review, potential significant impacts that were not addressed in this EIS/EIR would be examined. Also see the responses to GGAS comment 1 and Chevron comment 5b.

New or replacement in-Bay disposal sites could potentially be considered in the future, and nondispersive sites should reduce some of the risks associated with disposal at the existing dispersive sites. However, by definition, a non-dispersive site has finite disposal capacity and, from the information described in Chapter 3, there may be few non-dispersive areas of the Bay that could provide significant, long-term multi-user disposal capacity. However, non-dispersive or confined in-Bay sites can be considered on a project-specific basis, as is the case currently regarding several of the disposal options for the Port of Oakland's proposed 50-foot deepening project. Please also see the response to Oakland comment 15.

We believe the analysis is adequate for the policy/programmatic decisions being made. The EIS/EIR also incorporates other more detailed analyses by reference including those conducted for and contained in the Final EIS for designation of the San Francisco Deep Ocean Disposal Site (EPA 1993a). The analysis of aquatic disposal is also discussed in the responses to CDWR comment 3b, BayKeeper comment 3, and MAS comment 18ee.

10. Please see the responses to BDAC comment 2 and BPC comments 1, 2, and 3.

9.

The LTMS agencies agree that all of these approaches can be considered. Although a mitigation bank for dredging projects is generally not seen as critical at this point, dredged material reuse can be part of habitat creation or restoration to create mitigation banks for other projects.

The LTMS agencies believe the Final EIS/EIR is appropriate for selecting the overall policy/programmatic approach that will generally guide dredged material management for the region in the future. It will not be possible to fully implement the selected alternative immediately, but as it phases in over time there will be periodic opportunities for public review, and for amendment of the plan as necessary. This will allow the plan to reflect other efforts to increase the practicability of new disposal alternatives over time.

However, the LTMS agencies believe it is also necessary to place a regulatory "ceiling" on in-Bay disposal volume limits that will decrease slowly toward the long-term goal over time, in order to provide the public with certainty that progress toward Alternative 3 will occur and that potential in-Bay disposal impacts will continue to lessen over time (see section 6.5). Also, please see the response to GGAS comment 27.

11. The document fully complies with both CEQA and NEPA. The document presents an adequate analysis at a programmatic level for the decisions being made. As explained in section 2.9 of the Draft EIS/EIR, this policy/programmatic document follows a somewhat "non-standard" format compared to more typical EIS/EIR documents. The document was prepared in a manner that advances through the analysis of environmental setting, impacts, mitigation, and presentation of the alternatives in a progressive fashion. A discussion regarding the affected environments for all dredged material disposal and beneficial reuse environments and the anticipated impacts (or risk of impacts) is presented in Chapter 4. This discussion is followed by a presentation of the proposed impact avoidance measures and required mitigation practices, referred to as policy-level mitigation measures, in Chapter 5. The development and initial screen of the proposed LTMS alternatives are also presented in Chapter 5. Chapter 6 analyzes the impacts of dredged material disposal within the three disposal environments after the policy-level mitigation measures, presented in Chapter 5, have been applied. This analysis is referred to as the "generic analysis." Additional policy-level mitigation measures, designed to address the remaining impacts determined through the generic analysis, are addressed at the end of Chapter 6.

The document details the environmental risks of dredged material disposal at the volumes and environments prescribed by the project alternatives. The document also analyzes the potential benefits of alternative dredged material disposal options, such as ocean disposal and beneficial reuse. It was determined through such analysis that the environmental benefits derived from beneficial reuse of dredged material in the UWR environment far outweigh the environmental risks/impacts from continued use of in-Bay disposal sites or, for that matter, ocean disposal. Such environmental benefits will need to be evaluated on a case-by-case basis. However, it remains that the use of dredged material in the UWR environment represents a gain in environmental benefits compared to simply discarding dredged material as a waste. This analysis is clearly presented in the Draft EIS/EIR in full compliance with federal NEPA and state CEQA regulations. Please see also the response to Oakland comment 14.

12. The authorities of the LTMS agencies are described in the EIS/EIR and are updated based on recent changes to WRDA. In addition, the EIS/EIR repeatedly states that practicability must still be determined for individual projects.

The EIS/EIR presents the statutory framework under which the LTMS agencies derive and implement their authority to regulate dredging and disposal activities pursuant to federal and state law. It also presents an impact analysis that is adequate for a policy EIS/programmatic EIR. We believe that the analysis in the document adequately links both the legal authorities of the agencies and the impacts of the alternatives. In this regard, the preferred alternative is intended to both meet and reconcile the requirements of the member agencies' laws and policies, including the Clean Water Act and the MPRSA.

13. Statement noted; please see the response above to Oakland comment 11.

The LTMS agencies disagree. Programmatically, reuse is superior to disposal overall, all else being equal. Whether true and practicable in each case depends on project-specific analysis of the details. But it is appropriate, with these caveats, to identify increased reuse as the long-term goal.

- 14. Please see the response to Oakland comment 11. As discussed in Chapter 4, the 404(b)(1) Guidelines [40 CFR Part 230] are primary regulations addressing in-Bay disposal. These Guidelines provide that no permit for the discharge of dredged or fill material may be issued if an alternative exists that is practicable, and that would result in less adverse impact on the aquatic ecosystem. The LTMS agencies have determined that, in general, in-Bay disposal at the existing multi-user sites carries with it a higher risk of adverse aquatic impacts than does ocean disposal at the SF-DODS. Similarly, in general, beneficial reuse of dredged material at properly designed and constructed reuse sites is less environmentally damaging to the aquatic ecosystem than in-Bay disposal at the existing multi-user sites. Therefore, these alternatives to in-Bay disposal must be used where practicable, based on case-by-case evaluation. The 404(b)(1) Guidelines place the burden on the applicant — not the agencies — to clearly establish that an alternative is not practicable. However, the LTMS agencies have also determined that, in general, alternatives to in-Bay disposal may be less practicable for "small dredgers," compared to "medium dredgers" and the COE. Nevertheless, all project proponents must show that ocean disposal or beneficial reuse are not practicable, before in-Bay disposal may be permitted.
- 15. It was decided early during the LTMS scoping process that no new in-Bay disposal sites would be analyzed or proposed by the LTMS. While this determination is consistent with BCDC's laws and policies regarding Bay fill, BCDC is only one of the five federal and state agencies involved in the LTMS. The scoping determination not to include the analysis of new in-Bay dredged material disposal sites was supported by all member agencies and public and private entities at the time the scoping process occurred. Further, the need to ensure appropriate environmental protection through the reduction of risks associated with the present practice of in-Bay disposal was established as a goal of the LTMS through this public process. Specifically it was determined that the LTMS would analyze the reuse of dredged material as a resource as long as the placement could be done in an environmentally acceptable manner. Creating alternative in-Bay disposal sites would not further this goal. Please also see the response to Oakland comment 8.
 - 16. Please see the response to Oakland comment 19.
 - 17. Please see the response to Oakland comment 19.
 - 18. Ogden Beeman & Associates developed these figures which first appeared in the LTMS study Investigation of Dredged Material Disposal Alternatives in the Sacramento/San Joaquin Delta for Sediments Dredged from San Francisco Bay (LTMS 1990a). The Association of Bay Area Governments (ABAG) keeps up-to-date and accurate statistics on jobs in the Bay Area. Also, the Department of Labor's Bureau of Labor Statistics compiles job figures by industry and by county each

month. The consultant, Ogden Beeman & Associates, also interviewed the Ports in the area as well as various state agencies in determining the totals.

19. More detailed determination of the economic practicability of specific projects should and will be completed on a project-by-project basis. The BCDC/MTC Seaport planning process generated a good overview of port competition on the west coast. Preparation of a more detailed, quantitative economic analysis would be difficult as many of the factors driving competition between ports involves proprietary information that is not available for analysis and the results of such an analysis would likely soon be out of date.

Information on the economics of dredging can provide a context for decision-making as one of the many factors to be evaluated in choosing a preferred alternative. However, additional economic analysis is not needed for a programmatic document, and decision-making in the NEPA/CEQA process is not driven primarily by economics (see the response to NHI comment 19a).

The LTMS EIS/EIR is a programmatic document designed to guide the agencies regulating dredging and dredged material disposal in the San Francisco Bay Area in an environmentally and economically feasible manner over the next 50 years. However, this document was not developed to help any port facility strengthen its competitive edge over another. The LTMS agencies clearly understand the importance of both the maritime industry in the Bay area and the dredging needs required to maintain that industry. The economic analyses contained in this document demonstrate that the transition towards full implementation of Alternative 3 is economically feasible. Methods to assist the Port of Oakland in the transition and implementation phases will be detailed in the LTMS Management Plan, but are not necessary at this programmatic level.

21. Statement noted.

20.

- 22. Suggestion noted, however, berth-side maintenance dredging at the Port of Oakland is not considered by the LTMS agencies to be a small dredging operation. Not including the maintenance of the federally authorized navigational channels, the Port of Oakland is one of the largest dredgers in the Bay. The definition of what constitutes the category of "small dredgers" is detailed in section 4.6.2.1 of this document.
- 23. Section 3.1.2 has been revised to explain that the LTMS agencies and their contractors did, in fact, consider the closure of military bases in the San Francisco Bay area when developing the total dredging volume estimate. Also see the responses to MAS comment 16b and SSFBA comment 4.
- 24. Statement noted. The economic data used for the analyses and preparation of this document were what was available to the LTMS agencies at the time the analyses and preparation of the document were done. The LTMS agencies maintain that the data used for the economic analyses is adequate for use at a programmatic level and for the decisions being made as a result of this document.
- 25. Statement noted. Section 4.6.2.2 of the document was not intended to address a comparison of the West Coast containerized trade volume. The intent of this section and Figure 4.6-1 is to illustrate the contributions of the dredging-related industry to the regional economy.
- 26. The discussion of cost information for the alternatives in section 6.2.3.2 has been checked for accuracy. The numbers in the text can be verified using Table 6.2-7 and simple math. There were some typographical and rounding errors. The majority are from rounding. All errors have been corrected.

Please note that although we have made some corrections, the overall conclusion of the economic evaluation does not change and does not impact the selection of the preferred alternative. In addition, Table 6.2-8 shows that the economic analysis is a worst-case analysis.

- 27. While it is difficult to find the basic assumptions and approach used to calculate the local sponsor share of costs, they can be found in the notes to Table 6.2-7 and Appendix P.
- 28. Statement noted. This correction has been made.
- 29. The LTMS agencies agree that funding UWR is a problem. However, as the Port of Oakland is aware, mechanisms are being developed to deal with the issue of UWR funding. An example of this would be the legislative changes reflected in the 1996 Water Resources Development Act amendments which included provisions for UWR funding. The Draft EIS/EIR does analyze the economics of the proposed implementation of the LTMS. In addition, cost sharing appears to be possible through the California Department of Water Resources for dredged material reuse for levee repair and stabilization in the Delta region. Such UWR funding mechanisms demonstrate that this issue is understood and resolutions to the problem are being developed and implemented. Practicality is to be determined on a case-bycase basis. The analysis contained in this document demonstrates that it is appropriate for the LTMS agencies to select the reuse of dredged materials in the UWR environment as an aspect of our overall placement goals. UWR funding considerations will also be addressed in the LTMS Management Plan. As explained in the Final EIS/EIR, the transition period between the present dependence on in-Bay disposal and the implementation of the preferred alternative will include the development of UWR funding mechanisms.
- 30. Please see the responses to Oakland comments 6 and 23.
- 31. Please see the responses above to Oakland comments 6 and 23. In addition, it should be noted that dredged material disposal volumes from the San Francisco Bar Channel were not included within the total volume estimates developed by the LTMS and its contractors.
- 32. Statement noted. Please see the responses above to Oakland comments 6 and 23.
- 33a. The assumptions involved in the LTMS estimate of long-term dredging demand are discussed in section 3.1.2, and Appendix E. For planning purposes, the high-end estimates were purposefully used. It is therefore likely that actual dredging will be less than the long-term estimate, independent of any assumptions about relative changes in the cost of dredging and disposal. At the same time, the agencies acknowledge it is possible that some economically very marginal projects may not be economically beneficial to pursue even if only dredging and disposal costs increase in the future, and even if only moderately. This possibility is addressed, in part, by adoption of the "small dredger" policy (see section 5.1, Policy-Level Mitigation Measures) which reserves a portion of the most affordable in-Bay disposal volume capacity for the class of projects least likely to have other alternatives economically available to them. In addition, implementation of the preferred alternative includes periodic (every 6 years) review of the overall program. At these times, the long-term dredging volume estimates can be re-evaluated, and any significant effect of price elasticity can be considered. Finally, the existing requirement that alternatives must be practicable on a project-by-project basis is established in regulation [the 404(b)(1) Guidelines, 40 CFR Part 230.10(a)]. This regulatory standard is not changed by selection of a preferred long-term policy alternative in this EIS/EIR.
- 33b. Recent reductions in in-Bay disposal volume reflect, in part, the closure of numerous military bases in the Bay area. The decisions to close these bases were made several years ago, and were not primarily based on dredging costs. There has been no change in the number of in-Bay disposal sites, or the hauling distance to them, in many years. To date, only two projects have realized increased costs for hauling to a different aquatic disposal site: these are the Port of Oakland and Port of Richmond deepening projects, which disposed much of their dredged material at the offshore SF-DODS. In both cases, this was found to be practicable (the projects were still constructed the "increased" costs did not render them economically not viable). Similarly, the Phase III J.F. Baldwin Ship Channel project has not been canceled; rather, evaluation to date indicates that an alternative involving less dredging, and a pipeline to the refineries, may be less environmentally damaging and more cost-effective that the

original proposal to dredge and deepen the entire ship channel. Such an alternative would already be preferred under the existing regulations, even without the existence of the LTMS.

Future uses of the former military facilities at Mare Island and the Alameda Naval Air Station were evaluated by the appropriate "reuse" committees. Such committees take into account overall community plans and desires for reuse of the facilities. Dredging and other maintenance costs would factor into their planning as appropriate, likely as a second-order consideration rather than a first-order one. Regarding the Oakland Naval Supply Station (renamed the Fleet Industrial Supply Center, Oakland — FISCO), we note that the Port of Oakland's own 50-Foot Deepening Project Draft EIS/EIR proposes the Middle Harbor area for habitat restoration, rather than continued maintenance of the Berths for navigation.

- 33c. As discussed in the response above to Oakland comment 33a, the potential overall cost increases identified in the EIS/EIR are worst-case estimates; the practicability of alternatives must still be determined on a project-by-project basis; and the periodic review built into the implementation of the preferred alternative ensures that the program assumptions can be revisited and program changes made if necessary. In consideration of such factors, the LTMS agencies believe that a more detailed economic evaluation is not necessary for the programmatic decisions being made at this time, and further that a 50-year planning horizon is appropriate for the purposes of this EIS/EIR.
- 34. Statement noted. However, The LTMS agencies maintain that the data used for the economic analyses concerning the transition and implementation of the preferred alternative are adequate for use at a programmatic level and for the decisions being made by the LTMS agencies and in this document.
- 35. Statement noted. All dredged material whether designated for ocean or in-Bay disposal or reuse in the UWR environment will need to be evaluated on a case-by-case basis to determine its suitability for the intended disposal/placement option.
- 36. Statement noted. Please see the responses below to Oakland comments 37 through 41f.
- 37. The Draft EIS/EIR is a programmatic document. As such, the use of a non-standard format and nomenclature was determined by the LTMS agencies to be necessary for the evaluation of the proposed LTMS alternatives. It was also determined during the scoping and technical studies phases of the LTMS that extensive analysis of the impacts to the stressed Bay system associated with in-Bay disposal particularly in light of the difficulty in distinguishing these impacts from other stresses in the complex and dynamic Bay system would not likely resolve the controversies surrounding in-Bay disposal. Rather, a programmatic course which reduced the overall dependence on in-Bay disposal through the implementation of increased ocean disposal and beneficial reuse in the UWR environment would be analyzed. The draft document achieves this mandate. The term "risk" is not synonymous with "significant impact." The evaluation of risk associated with in-Bay disposal of dredged material does, however, include the analysis of the potential for the occurrence of significant environmental impacts. The risk of significant impacts and the actual occurrence of such impacts are not the same thing.

The LTMS was developed primarily because of the documented filling and capacity problems at the main Bay disposal sites and what was perceived to be significant environmental impacts from disposing of dredged material only in the Bay. These problems led to the "mudlock" situation that occurred in the late 1980s. Since the LTMS was intended to resolve the problems associated with sole dependence on in-Bay disposal, the Draft EIS/EIR evaluates the potential occurrence of in-Bay dredged material disposal impacts based on existing information, rather than engaging in original research on such impacts. This same approach was not used for the UWR analysis since the potential impacts in that environment were highly dependent on the specific project site and the existing habitats located there. Beneficial reuse of dredged material in the UWR environment as well as at the SF-DODS were considered new activities and required a more complete analysis of the potential impacts associated with their use. The Draft EIS/EIR does not analyze a reduction in the placement of dredged material in the

UWR or ocean environments, which is the issue at hand in regard to in-Bay disposal. Please see also the response to Oakland comment 14.

- 38. Please see the responses to Oakland comments 11, 37, 39g, 40d, and 41.
- 39. Please see the responses to Oakland comments 39a through 39g.
- 39a. Please refer to the response to BPC comment 14 (BPC letter dated 7/19/96) and Oakland comment 8.

The Final EIS for the San Francisco Deep Ocean Disposal Site (EPA 1993a) determined that no significant impacts would occur from use of the site for either new or maintenance dredged material. In addition, it was determined early in the scoping phase of the LTMS that no new in-Bay disposal sites would be proposed or analyzed. Rather, it was determined that the beneficial reuse of dredged material and the increased use of the ocean site would be a principal goal of the LTMS insofar as it could be achieved in an economical and environmentally sensitive manner.

- 39b. As explained in the Draft EIS/EIR (Chapter 2, section 2.1.4.1), the designation of the San Francisco Deep Ocean Disposal Site (SF-DODS) was conducted by the U.S. EPA in accordance with federal regulation and reviewed for consistency with state law in accordance with the Coastal Zone Management Act. Also a separate EIS (EPA 1993a) was prepared for the designation of that site in accordance with NEPA guidelines. This process determined that no significant impacts are anticipated from use of the SF-DODS.
- 39c. Statement noted. The increase in truck traffic associated with rehandling facilities is discussed in section 4.4.4.3. The Draft EIS/EIR estimated that under the "high reuse scenario," up to 780,000 cy per year would be processed through rehandling facilities, equating to 64 to 170 truck round-trips per day, depending on the size of the trucks. Truck traffic would drop to nearly half under the "medium reuse scenario." As the draft document explains, the potential traffic-related impacts would depend greatly on the location of constructed rehandling facilities and would need to be considered under separate and project-specific CEQA/NEPA review. Truck traffic impacts were not addressed as an aspect of reusing dredged material for construction fill because it was determined that such material would likely first need to be processed through a rehandling facility. In addition, this section of the document was prepared with the assumption that a portion of the NUAD material off-loaded at rehandling facilities would remain on site in created upland confined disposal facilities located at or adjacent to individual rehandling facilities.
- 39d. Statement noted. The LTMS document was prepared with certain assumptions in mind. Assumptions concerning the beneficial reuse of dredged material in the Delta include: (1) only SUAD material would be used for levee repair and stabilization; (2) the majority of dredged material used in the Delta for levee repair and stabilization would be off-loaded directly at individual project sites, thereby reducing the need for material rehandling; (3) truck transport of dredged material for levee repair and stabilization would be considerably less that the truck traffic generated by the use of material derived from upland sources; and (4) the air pollution emissions associated with barge and tug operations to move dredged material would be mobile and spread over a large enough area so that their impacts would not exceed any ambient air quality standard in a localized area.

The LTMS agencies do not believe that truck traffic will be primarily centered in the North Bay region. The construction of rehandling facilities and the reuse of dredged material for daily cover and capping at landfills can occur in many locations through the San Francisco Bay region. As the Port of Oakland is aware, studies are underway to best locate such facilities. Many of the sites presently under study for the location of a rehandling facility are outside of the North Bay.

39e. Statement noted. The Final EIS/EIR discusses the expected traffic-related impacts from the transport of processed dredged material from constructed rehandling facilities to end use sites (see "Traffic Impacts" in section 4.4.5.3).

- 39f. The potential water quality impacts associated with UWR placement of dredged material are discussed in section 4.4.5.1 of the Draft EIS/EIR. A full analysis of such potential impacts on a site-by-site basis could not be conducted without the availability of project-specific information. Further, such analysis was determined to be unwarranted for a programmatic document of this type. The concern that significant water quality impacts could occur due to the release of salts and pollutants contained in dredged material is well founded. For this reason, policy-level mitigation measures were developed by the LTMS agencies to require full analysis of these potential impacts and development of avoidance measures or mitigation practices to deal with this issue on a project-specific basis. These policy-level mitigation measures are presented in Tables 5.1-3 and 5.1-5.
- 39g. Contrary to the statements in this comment, the Draft EIS/EIR presents a means towards achieving regulatory certainty in regard to dredged material disposal. The means by which contaminated dredged material is disposed of are closely regulated by existing federal and state laws and policies. However, through the implementation of the LTMS and the construction of rehandling facilities, new options for dealing with material determined to be unsuitable for unconfined aquatic disposal are being developed. The document already contains a discussion regarding polluted sediment (see section 3.2). The LTMS agencies estimate that up to 20 percent of the material dredged from the Bay is unsuitable for unconfined aquatic disposal. The document suggests that this unsuitable material could be processed through regionally located rehandling facilities and possibly reused for beneficial purposes such as daily cover at landfills or construction fill. While it may well be true that the present cost of confined upland disposal of such polluted dredged material may be high, these costs are expected to significantly decrease with the implementation of regional dredged material rehandling facilities and formalized end users.
- 40. Please see the responses to Oakland comments 40a through 40g.
- 40a. While several citations used in the TSS discussion date to the 1980s, the basis and rationale in this section are sound. Newer data from the U.S. Geological Survey (USGS) confirm and validate early TSS measurements made in the Estuary. Sensors deployed by the USGS measure all suspended "solids" (using optical backscatter); however, the sensors are then calibrated for sediment particles. In 1995, the USGS collected nearly continuous TSS concentration data from sensors at seven locations, ranging from Mallard Island in Suisun Bay to Channel Marker 17 in the extreme South Bay (Buchanan and Schoellhamer 1995). These stations are located in relatively deep areas of the Bay (greater than about 3 meters); there are fewer data sets from very shallow areas (less than about 3 meters) due, in part, to access problems. The purpose of the USGS sensor deployment is to supply researchers with data necessary to study sediment dynamics and suspended sediment flux in the San Francisco Bay Estuary.

Measurements were taken at bottom, mid-level and near-surface depths. The sensor data show that there is a general range of TSS concentrations with reoccurring "spikes" or extremes on the order of 10-fold. The cause and nature of TSS spikes are under study by the USGS, but they seem to be a natural phenomenon. The USGS suspended solids work shows that TSS average in the 30 to 90 ppm range for many stations, with some occurring between 120 and 190 ppm. (These levels are similar to the figures quoted in the Draft EIS/EIR.) Spikes of suspended sediment appear to be natural excursions, many of which are short term.

The text referred to on page 4-29 of the Draft EIS/EIR was intended to describe natural and man-made sources of TSS in the various parts of the Estuary. Specifically, dredged material disposal and sand mining were referred to as sources of TSS in the Central Bay. This text is perhaps confusing because natural and man-made sources are lumped together. The text of the Final EIS/EIR has been changed to reflect that the Estuary has naturally high TSS levels and that dredged material disposal and sand mining provide additional material to the water column and may further elevate the level of suspended sediment in the Bay system.

40c.

40b. As discussed in section 2.2 of the EIS/EIR, the Alcatraz disposal site was originally chosen because it was thought to be a dispersive location. However, serious mounding was discovered in 1982, which continued despite ongoing dispersion of dredged material from the mound. At the same time, concerns grew regarding both turbidity (resulting from high-frequency disposal operations and from subsequent dredged material dispersion) and exposure of organisms to contaminants associated with the dispersed material. As discussed in section 3.2.4.2. (Dispersive vs. Non-Dispersive Aquatic Sites), it is very difficult, if not impossible, at a dispersive site to monitor and/or manage, if necessary, dredged material that erodes from the site. For this reason, potential contaminant-related impacts must be minimized by ensuring that dredged material placed at a dispersive site is especially "clean." Prior to adoption of the improved testing guidelines outlined by PN 93-2, questionable quality (i.e., chemically contaminated) sediments were often disposed of at the Alcatraz site. Thus, concerns over contaminantrelated effects, as well as physical effects such as turbidity, are appropriate to consider. Alternative 3 will reduce both risks by reducing the overall volume of dredged material disposed of at Alcatraz, thereby reducing potential mounding, while maintaining and improving the existing sediment quality testing guidelines outlined in PN 93-2 through the implementation of the of the now-adopted Inland Testing Manual.

> It is misleading to discuss the effects of "erosive material" that may be placed at the SF-DODS or the Alcatraz disposal site. Rather, the sites themselves either are or are not dispersive for the type of material being discussed. Material that erodes from the Alcatraz disposal site mound, which is in a shallow and very high-energy environment, generally would not be expected to be re-suspended from the bottom at the SF-DODS, where peak current velocities are much slower. The original water column concern at SF-DODS was not that the site would be dispersive, but that much of the fine fraction of the dredged material would never reach the bottom in the first place. Computer modeling and real-time monitoring of disposal operations, as well as follow-up benthic monitoring, have been used to address this concern. EPA has determined that the majority of disposed dredged material is, in fact, reaching the bottom at the SF-DODS as predicted, and that the SF-DODS does not pose significant water column risks. This is very different from the Alcatraz site. The overall risks at the SF-DODS are also less because there are far fewer resources of concern (including endangered, threatened, and other sensitive species) in the vicinity of the SF-DODS, compared to the Alcatraz site. Finally, we agree with the comment that habitat benefits can be achieved through dredged material placement at non-dispersive sites, especially to the extent that continuing benthic disruption does not occur. However, benthic or wetlands habitat enhancement is a separate issue from the comment's other concerns regarding water quality.

40d. It is true that even two disposal events happening at nearly the same time could have "overlapping" water quality effects. However, the degree of agency oversight that would be necessary to eliminate this kind of occurrence by controlling the timing of individual discharges at the in-Bay disposal sites would have serious economic effects on dredging projects, resulting from both project delays and from agency expenditures to conduct the oversight. Instead, the agencies can minimize this risk by setting overall disposal volume limits and by writing permit conditions allowing disposal operations to occur within an overall time-frame (weeks to months), even though some potential for overlapping effects would remain. The LTMS agencies note that occasional occurrences of overlapping disposal would not necessarily constitute unacceptable adverse impacts; however, the higher the overall disposal volume limit, the greater the likelihood that high-frequency disposal events will occur more often. Relative to whether reduced in-Bay disposal would force other environmental impacts at upland locations, the LTMS agencies note that any upland site will have had its potential impacts fully evaluated and mitigated, as appropriate, so that significant adverse impacts should not occur. The LTMS agencies also reiterate that reducing in-Bay disposal and increasing beneficial use of dredged material are separate goals.

40e. The referenced reports were utilized during preparation of the LTMS Draft EIS/EIR, and that report is cited as a reference in Chapter 12 (see AHI 1991).

- 40f. The referenced reports were utilized during preparation of the LTMS Draft EIS/EIR, and that report is cited as a reference in Chapter 12 (see AHI 1991).
- 40g. The LTMS agencies disagree that "the same concerns over discharge and water column effects would be true for any of the proposed disposal/reuse scenarios." For example, please see the response above to Oakland comments 40b and 40c. Also, a different set of potential impacts are of concern for upland sites; section 3.2.4 (Contaminant Exposure Pathways and Potential Risks in Different Placement Environments) discusses these issues in detail. That section also includes a discussion regarding the difference between placement environments in terms of the types of control measures that may be taken in each of them.
- 41. Statement noted. Please see the responses to Oakland comments 41a through 41f.
- 41a. The LTMS process is not a finite program. Rather, it is ongoing and designed to allow for management updates based on the availability of information. This would include data derived from any ongoing or future studies regarding the beneficial reuse of dredged material in the UWR environment. Further the LTMS EIS/EIR does not stand alone; technical studies were conducted in regard to the creation of wetlands and the associated impacts of such restoration projects. Although information from these studies is contained in the Draft EIS/EIR, further information on these subjects can be obtained from the original technical study documents referenced. These studies determined that successful restoration of tidal wetlands using dredged material is quite possible and that the impacts of such restoration efforts could be mitigated. It is not appropriate for a programmatic document to specify site-specific mitigation measures. However, the LTMS agencies did develop policy-level mitigation measures; see section 5.1. The LTMS agencies recognize that these policy-level mitigation measures, as well as the information derived through the LTMS program. For this reason, periodic management updates are proposed.
- 41b. It was not the intent of the Draft EIS/EIR to present UWR beneficial reuse of dredged material as being primarily tidal wetland habitat restoration. The document does expand on other potential UWR uses, including seasonal wetland enhancement and creation, levee repair and maintenance, landfill daily cover, and construction fill. However, many of the concerns regarding the potential impacts from reuse of dredged material in the UWR environment were determined to be associated with wetland restoration. For this reason, the document may contain what appears to be an unbalanced discussion regarding this UWR setting. This is actually not the case. The potential impacts associated with other UWR uses are presented in sufficient detail in section 4.4 and are further discussed in section 5.1.
- 41c. Again as stated above, the LTMS process is not a finite program. Rather, it is ongoing and designed to allow for management updates based on the availability of information. Should a mitigation banking program be initiated in the Bay Area region and it appears appropriate for the LTMS agencies to become involved, then the LTMS program may change to reflect such a change in mitigation policy. A description of the proposed transitional implementation of the preferred alternative has been included in the Final EIS/EIR (see section 6.5). As explained by this discussion, the transition from the current sole reliance on in-Bay disposal to a distributed approach within the three disposal environments will not rely on regulation alone. Incentives to reach distribution goals are also proposed.
- 41d. Practicability within the meaning of the Clean Water Act 404(b)(1) Guidelines (40 CFR Part 230) is related to the individual discharger. The LTMS EIS/EIR programmatically evaluates discharges by class, and reaches the conclusion that alternatives to in-Bay disposal are likely to be much less practicable for "small dredgers" as defined in the document. In addition, the "small dredger" class accounts for an average of only approximately 250,000 cubic yards of dredged material per year, compared to much larger volumes associated with "other dredgers" and the COE. Therefore, from both practicability and environmental impact standpoints, "small dredgers" have appropriately been separated out in terms of implementing Alternative 3 (see "Transition" discussion in Chapter 6).

Finally, as the EIS/EIR points out, even "small dredgers" will be required to use alternative disposal options, including beneficial reuse, if on a case-by-case basis such would be practicable for them.

- 41e. Section 6.1 provides a "generic analysis" that compares the three placement environments. In addition, the policy-level mitigation measures presented in Chapter 5 include many measures to both reduce risks associated with UWR projects, and ensure that their chances of success are maximized. Taken together, the LTMS agencies do not believe that selecting Alternative 3 as the long-term goal would create "a much worse situation than currently exists."
- 41f. The LTMS agencies appreciate the willingness of the Port of Oakland to help work for federal costsharing for habitat creation projects. This support helped to realize the important new changes in the Water Resources Development Act of 1996. It should be noted that the EIS/EIR does separate "newwork" projects from maintenance work. Finally, the EIS/EIR repeatedly points out that individual projects will be viewed in terms of practicability, even while the LTMS agencies work to implement Alternative 3 to the maximum extent possible at any given time.



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PORT OF REDWOOD CITY

July 19, 1996

Ms. Karen Mason LTMS Coordinator U.S. EPA, Region IX 75 Hawthorne Street San Francisco, CA 94105-3901

Dear Ms. Mason:

Enclosed please find the comments of the Port of Redwood City on the LTMS Draft EIS/EIR.

Thank you for the opportunity to comment on this proceeding. We look forward to working with the LTMS agencies to develop an environmentally-sound, economically-feasible management strategy for disposal of dredged material in the Bay Area.

If you have any questions, please contact me at 415-306-4150.

Sincerely,

Mike Giari Executive Director

Enclosure

Comments of

THE PORT OF REDWOOD CITY

Regarding

DRAFT

ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT (EIS/EIR)

LONG TERM MANAGEMENT STRATEGY FOR THE PLACEMENT OF DREDGED MATERIAL IN THE SAN FRANCISCO BAY REGION

(LTMS)

The following comprises the comments of the Port of Redwood City with regard to the LTMS draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). These comments are organized as follows:

- Interest of the Port of Redwood City
- II. Support for Bay Planning Coalition's Comments
- III. Draft EIS/EIR Alternatives and Proposed Transition
- IV. Concerns and Suggestions Regarding Implementation of the Final EIS/EIR
- V. Comments on Chapter 7
- VI. Conclusion

I. Interest of the Port of Redwood City

As a federally authorized and maintained deep-draft port located in the South Bay, the Port of Redwood City, its tenants and customers, will be greatly impacted by the outcome of this LTMS effort.

Historically, the Port's maintenance dredging has been performed by the U.S. Army Corps of Engineers and paid for in its entirety by the Federal government under the authority of the Water Resources & Development Act of 1986 (33 USC 2238). Any dredging/disposal costs which may be incurred by the Port as a result of the final EIS/EIR will have an impact on the Port of Redwood City, and may have a significant role in determining the continued viability of the Port of Redwood City over the next 50 years or more. Concern over the potential economic impact of the transition proposed 1 in the draft EIS/EIR, as well as future availability of suitable dredged disposal sites has prompted the Port to submit these comments.

II. Support for Bay Planning Coalition's Comments

As a member of the Bay Planning Coalition ("Coalition"), the Port of Redwood City would like to register its support for the comments submitted by the Coalition in this proceeding. The Port concurs with the Coalition's position that the draft EIS/EIR | ² does not adequately analyze the environmental and economic impacts associated with the proposed alternatives.

The Coalition has been instrumental in developing the concept of a long-term strategy for dealing with Bay Area dredging and dredge disposal, and continues to work on behalf of all whose interests and livelihoods are dependent upon continued and consistent access to the San Francisco Bay and its tributaries. It is the intention 3 of the Port that the comments set forth below will complement and enhance those submitted by the Coalition under separate cover.

4 III. Draft EIS/EIR Alternatives and Proposed Transition

The draft EIS/EIR explores three alternatives to the status quo ("no action"): 1: Emphasize Aquatic Disposal; 2: Balance Upland/Wetland Reuse and In-Bay Disposal; and 3: Balance Upland/Wetland Reuse and Ocean Disposal. The draft EIS/EIR, while not formally identifying a "preferred alternative," requests comments on an "approach that transitions over time from Alternative 1... to Alternative 3." It is implied that Alternative 2 would be serve as a short-term goal between Alternatives 1 and 3.

This proposed transition, while acceptable in theory -- when one can envision that current obstacles impeding the transition will be adequately addressed -- may or may not be workable or acceptable in practice. The success or failure of this (or any) dredge disposal policy will depend upon implementation of that policy as dictated in the Management Plan. For example, if the Management Plan does not address current financial and capacity limitations with regard to existing dredge disposal options, the objectives of the Plan cannot be met. For this reason, the Port does not support or reject any of the proposed alternatives or the proposed transition. However, the Port strongly suggested that any recommendation acknowledge the economic and capacity limitations which currently exist, and require that these limitations be substantially overcome before any recommendation be imposed.

As the Port takes no position on alternatives suggested in the draft EIS/EIR, the remainder of these comments will focus on implementation of the final EIS/EIR.

5 IV. Concerns and Suggestions Regarding Implementation of the Final EIS/EIR

A. Should the Management Plan Precede Final EIS/EIR?

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As implementation of any of the alternatives suggested in the draft EIS/EIR

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would be impossible without significant regulatory and policy changes at the various agencies involved in the LTMS effort, certain interested parties have suggested that at the very least a draft Management Plan be drafted before the EiS/EiR is finalized. While the Port of Redwood City would have no objections to this procedural change, we would suggest that as long as the final EIS/EIR acknowledges that implementation of any recommendation made therein is dependent upon its feasibility (both economic and scientific) -- which can only be determined over time as the implementation plan is developed and implemented. In other words, the final EIS/EIR should not mandate that the recommendation be implemented by a certain date, regardless how far in the future that date may be. First, such a requirement would be unreasonable as it is not possible to foresee all obstacles (or developments) which could arise during the implementation period which could impact the timetable. Second, it could decrease the incentive for certain parties (such as those who support the EIS/EIR recommendation, but whose immediate activities will not be impacted by its implementation) to remain active throughout the implementation process. Instead, the EIS/EIR should acknowledge that the recommendation is an objective to be attained as soon as economically and scientifically possible, and should encourage the continued cooperation of all in order to obtain that objective.

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B. O&M Costs Should Continue to be Fully Funded by Federal Government

Under Section 210 of the Water Resources Development Act (WRDA) of 1986 (33 USC 2238), Harbor Maintenance Trust Fund monies may be used to pay "up to 100 percent of the eligible operations and maintenance costs" of Federally-authorized channels. However, current Corps' policy limits Federal funding of dredge disposal costs to the least costly in-Bay disposal site, notwithstanding any special circumstances. If the Corps elects to support a new policy which restricts disposal at the least costly in-Bay disposal sites, then the Corps should ensure that federally authorized O&M projects continue to be fully funded by the Federal Government. This could be achieved by either reserving in-Bay disposal sites for Federally authorized

5b O&M projects, or by revising Corps policy (or regulation, if necessary) to allow Federal funding for disposal at more costly ocean or upland sites. In order to maintain reliable access to our nation's commercial ports and harbors, which was the intent of WRDA '86, this issue must be resolved before any recommendation is implemented.

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C. Dredging Community Cannot Bear Full Compliance Burden

Regardless of the method set forth in the Management Plan, there must be some mechanism by which to ensure that the obstacles which would impede compliance with the LTMS are addressed before compliance is mandated. Without such a mechanism, the dredging community would be forced to expend inordinate amounts of financial and human resources to "find a way" to meet new disposal requirements. The result would be that the dredging community would bear the entire compliance burden of the LTMS. And since there are obviously many parties interested in revising dredge disposal policy so as to mitigate environmental impacts, there should be an equal number of parties interested in taking responsibility for making the revised policy a reality. The Management Plan must be written in such a way as to encourage all interested parties to work together to address the obstacles which currently hinder the establishment of more environmentally-acceptable disposal options.

D. Any New Policy Must Be Phased in

The Port would strongly suggest that any Management Plan which results from the final EIS/EIR recommendation be broken down into several phases, with a detailed checklist of benchmarks which <u>must</u> be met before the next phase is implemented. This would ensure that no new disposal requirements are imposed before the dredging community has access to the resources necessary to meet those requirements. The plan should also include targeted dates for public review of progress in meeting the benchmarks.

For example, using the transition proposed in the draft EIS/EIR, Alternative 1 might become Phase 1, Alternative 2 might become Phase 2, etc. A set of benchmarks would be established which would lay the groundwork of implementing Phase 1. Such benchmarks might include 1) a fully operational Dredged Material Management Office (DMMO); 2) revised evaluation and sediment testing procedures; 3) guidelines for the development of upland/wetland disposal sites; 4) LTMS policy to determine which projects may have access to in-bay disposal sites; 5) established funding options for local sponsors who utilize more expensive disposal options; and others. The first official review might be scheduled 5 years after adoption of the Management Plan, and, if all of the benchmarks have been met, might allow for implementation of Phase 1 one year later. If <u>all</u> benchmarks have not been met, the Plan would allow for the LTMS to schedule a subsequent review date -- 1, 2, or even 5 years later depending upon progress to that point. Each phase would have its own, distinct benchmarks and time frames, which would not apply until the previous phase had been fully implemented.

Implementing the final EIS/EIR policy recommendation in well defined stages will ensure that no policy is implemented until the groundwork for that policy has been laid.

E. Management Plan Committee

The Port suggests that a Management Plan Committee be established in order to ensure the full participation of all interested parties throughout the process of drafting the Management Plan. The function of this committee would be similar to that of the LTMS Policy Review Committee, providing input and direction throughout the drafting process.

V. Comments on Chapter 7

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The Port agrees that a "dredged material management system that fully achieves the goal of the selected approach requires detailed implementation measures." This point cannot be overemphasized. Some implementation measures are suggested in Chapter 7 of the draft EIS/EIR, and are addressed below. They will be more fully addressed when drafting of the Management Plan gets underway, and public comment on the Management Plan is solicited by the LTMS group.

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5f(2)

A. Improved Sediment Evaluation and Testing Procedures

A clear, consistent set of evaluation and testing procedures must be developed and implemented immediately, as the lack of such consistent procedures hinders current dredging activities. Existing impediments to the dredge permit process should be fully addressed before any action alternative is implemented.

B. Improved Regulatory Coordination

This has begun under the Dredged Material Management Office (DMMO). Although progress has been slow, it is clearly a step in the right direction. As with the sediment evaluation and testing procedures, the DMMO must be fully operational <u>before</u> any action alternative is implemented.

5f(3)

C. Options for Allocation of Allowable In-Bay Disposal

Assuming that there may eventually be some sort of volume limit on in-Bay disposal and that some dredged material will need to be disposed at the ocean site or used at upland/wetland reuse sites, four options for allocating material are suggested in the EIS/EIR:

First-come-first served until limits are reached. This is unacceptable, as there is potential for one or two projects to meet volume limits, leaving other projects to bear the financial burden of compliance with the proposed new policy.

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