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SUPERFUND SITE	
Site	New Bedford
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Other	Hot Spot

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New Bedford Harbor Superfund Site

Hot Spot Operable Unit

Draft

Explanation of Significant Differences

for Continued Storage of Hot Spot Sediments

March 28, 1995

Prepared by EPA-New England

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I. Introduction

A. Site Name and Location

Site Name: New Bedford Harbor Site/Hot Spot Operable Unit

Site Location: Bristol County, Massachusetts

B. Lead and Support Agencies

Lead Agency: U.S. Environmental Protection Agency (EPA)

Support Agency: Massachusetts Department of Environmental Protection (DEP)

C. Summary of Significant Difference

The April 6, 1990 Record of Decision (ROD) for the hot spot operable unit called for the dredging of sediments from the Acushnet River with polychlorinated biphenyl (PCB) concentrations greater than 4,000 parts per million (ppm), and treatment of the dredged sediments using on-site incineration. These highly contaminated sediments, approximately 10,000 cubic yards in volume, are currently being dredged and stored in a lined and covered holding pond (i.e., a confined disposal facility, or CDF) located at 103 Sawyer Street in New Bedford (see Figures 1 and 2). However, at the request of community groups and elected officials at the local, state, and federal levels, rather than proceeding with the incineration component of the selected remedy, EPA has decided to identify and test alternative methods of treating the sediments. Thus, during this treatability testing, and until the sediments are ultimately treated, the dredged sediments will continue to be stored in the CDF. The total time period required for treatability studies and design and implementation of a final treatment method could be four to five years.

The use of the CDF to store these sediments over this long a period was not envisioned in the 1990 ROD. In that ROD, the sediments would remain in the CDF for a short period of time before being incinerated. This document explains this significant difference, including the site-related modifications which have been and will continue to be made at the CDF to accommodate this new development. This document also identifies, describes compliance with and in some cases waives the "applicable or relevant and appropriate environmental requirements" (i.e., ARARs) concerning storage of hazardous PCB wastes.

This lengthened storage in the CDF is an interim measure until a final treatment method for the dredged sediment is

selected. EPA will issue a subsequent decision document when that final treatment method is selected.

EPA believes that the use of the CDF for storage of these sediments does not present an unacceptable risk to human health or the environment, and furthermore, that this use significantly advances the clean-up of New Bedford Harbor by allowing the removal of the most highly PCB-contaminated sediments to take place. The selected remedy, as revised by this ESD, remains protective and cost-effective.

D. Request for Public Comment

The EPA is soliciting public comment on this draft ESD. A thirty (30) day comment period for submittal of written comments to EPA will be held from March 29, 1995 to May 1, 1995. Comments should be submitted in writing to:

David J. Dickerson, Remedial Project Manager
U.S. EPA - New England
J.F.K. Federal Building (HRS)
Boston, MA 02203-2211

As part of this public comment process, EPA will hold a public informational meeting on Tuesday March 28, 1995 at 7:00 pm at the Greater New Bedford Vocational Technical High School cafeteria (this meeting is being merged with the Community Forum meeting of the same date, which starts at 6:00 pm). The purpose of the public informational meeting to provide a presentation to the general public on the issues involved with this ESD, and to answer any questions the public may have. Also, a summary of this draft ESD is being published in The Standard Times to announce both the public meeting and the 30 day comment period.

E. Legal Authority

Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requires that, if any remedial or enforcement action is taken under Section 106 of CERCLA after adoption of a final remedial action plan, and if such action differs in any significant respects from the final plan, the EPA shall publish an explanation of the significant differences and the reasons such changes were made.

On April 6, 1990 EPA issued an interim remedial action plan in the form of a Record of Decision (ROD) for the hot spot operable unit of the New Bedford Harbor site. On April 27, 1992 EPA issued the first ESD for this ROD which set out the Agency's decision to permanently dispose of incinerator ash in the on-site CDF. Since that time, EPA has reconsidered the community acceptance of the incineration portion of the 1990 ROD, and has decided to suspend the implementation of the incineration

component of the remedy described in that ROD. Since this suspension requires that contaminated sediment be stored for an extended period of time which was not anticipated in the ROD, EPA is issuing this second ESD.

A draft of this ESD is being published in accordance with Section 117(c) of CERCLA. In addition, in accordance with Section 117(d) of CERCLA, the ESD will become part of the Administrative Record which is available for public review at both the EPA Region I Record Center in Boston, Massachusetts and the New Bedford Wilkes Branch Library in New Bedford, Massachusetts (see section VI for addresses and phone numbers).

II. Summary of Site History, Contamination, and Selected Remedy

A. Site History and Contamination

In 1976, EPA conducted a New England-wide survey for PCBs. During this survey, high levels of PCB contamination were discovered in the marine sediment over a widespread area of New Bedford Harbor. In addition to PCBs, contamination by heavy metals (notably cadmium, chromium, copper, and lead) was found in the sediment. This survey and subsequent field studies also determined that marine biota from the area was contaminated with PCBs and that harvested seafood had PCB levels in edible tissue greater than the Food and Drug Administration tolerance limit.

As a result of the accumulation of PCBs in seafood, the Massachusetts Department of Public Health established three fishing closure areas in New Bedford Harbor in September, 1979 (see Figure 3). These closures remain in effect. The sediment and foodchain contamination and subsequent fishing closures have resulted in the loss of approximately 17,000 acres of productive lobstering ground.

As a result of these initial investigations, the site was proposed for the National Priorities List (NPL) by the Commonwealth of Massachusetts. The site was added to the NPL in 1983. In the course of developing its remedial strategy, EPA decided to address the most highly PCB-contaminated sediments (i.e., the hot spots) first. EPA has defined these hot spots as those areas where the sediment PCB concentration is 4,000 ppm or greater. These areas total approximately five acres, and are located in the Acushnet River near the Aerovox manufacturing facility (see Figure 1).

PCB concentrations in the hot spot areas average approximately 20,000 - 30,000 ppm, with some locations exceeding 200,000 ppm. Levels of 4,000 ppm and greater are found at sediment depths of up to four feet, but generally are within the top two feet or less. The hot spot sediments are also contaminated with heavy metals (notably cadmium, chromium,

copper, and lead). The volume of sediment in the hot spots is approximately 10,000 cubic yards, and the PCBs contained therein account for approximately 45 percent of the total mass of PCBs in the site sediment.

B. Summary of the Selected Hot Spot Remedy

The main objectives of the April 1990 hot spot ROD were to a) significantly reduce PCB migration from the hot spot sediments to the rest of the harbor ecosystem, b) significantly reduce the amount of remaining PCB mass requiring clean-up, and c) protect human health and marine life by preventing direct contact with the sediments. To accomplish these objectives, the major components of the hot spot remedy, as described in the April 1990 ROD, included:

Dredging - approximately 10,000 cubic yards of highly contaminated sediments to be removed from the Acushnet River using a cutterhead dredge;

Transportation and Dewatering - the dredged sediments were to be pumped from the dredge through a floating pipeline to the CDF for dewatering. Effluent produced by the dewatering process was required to be treated by best available control technology to reduce PCBs and heavy metals before discharge back to the Acushnet River.

Incineration - the dewatered sediments were selected to be incinerated in a transportable incinerator that was to be sited at 103 Sawyer Street.

Stabilization - the Toxicity Characteristic Leaching Procedure (TCLP) test was to be performed on the residual ash from the incineration process to determine if the ash would be considered a hazardous waste. If the TCLP test revealed that the ash was a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA), the ash was to be solidified. That ash was to be stored temporarily on-site, with the ultimate disposition of the ash to be addressed in the estuary, lower harbor and bay operable unit for the Site.

C. Summary of the 1992 ESD

As mentioned above, EPA issued the first ESD for the 1990 ROD in April 1992. That ESD determined that the ash from the incinerator would be permanently disposed in the CDF at 103 Sawyer Street. To ensure protectiveness, the 1992 ESD required the CDF to be closed in accordance with the RCRA Hazardous Waste Regulations for landfills (in this case, 310 CMR 30.620 and 310 CMR 30.633). The closure was to consist of a bottom liner, a

multi-layer cover including an impermeable membrane, and a leachate monitoring/collection system.

III. Description of Significant Differences

A. New Use of the Confined Disposal Facility

As described above, EPA has elected to identify, test and ultimately implement alternative, non-incineration methods of treating the hot spot sediments, a process which could take four to five years. Since the sediments are currently being dredged from the river, they will need to be stored during this process until they are ultimately treated. Although the EPA believes the CDF cell #1 to be a safe option for this sediment storage, use of the CDF for storage of untreated sediment for five years instead of a much shorter period of time was not envisioned in the 1990 Hot Spot ROD. This lengthened period of storage in cell #1 is the "significant difference" requiring this ESD.

In the 1990 ROD, the CDF was to be used as part of a sediment pretreatment process - to hold and partially dewater the dredged sediments for a short period of time before they were more fully dewatered and incinerated. Per that ROD, the CDF was also to be used for temporary storage of the treated sediments (i.e., the incinerator ash) until a final disposal method was determined and implemented. Since the ROD did not foresee the CDF as being used for untreated sediment storage, the environmental regulations concerning PCB storage were not specifically addressed in it.

Similarly, the 1992 ESD did not address PCB storage regulations either, since this was not the subject of that ESD. Again, the 1992 ESD called for permanent rather than temporary disposal of incinerator ash in the CDF (see section II.C above). Thus the present ESD is required to identify and detail compliance with ARARs that now apply given the four to five year period of untreated sediment storage that will take place.

B. New ARARs

In accordance with Section 121(d) of CERCLA, Superfund remedies must comply with or waive all legally applicable or relevant and appropriate environmental standards, requirements, criteria, or limitations (ARARs). Since neither the 1990 ROD nor the 1992 ESD addressed the use of the CDF for long-term storage of untreated hot spot sediments, new ARARs for storage of this material are described in this ESD.

Three groups of ARARs have been identified for this new situation: 1) the Massachusetts hazardous waste surface impoundment regulations under 310 CMR (Code of Massachusetts Regulations) 30.610, and 2) the federal TSCA (Toxic Substance

Control Act) PCB storage regulations under 40 CFR (Code of Federal Regulations) 761.65 and federal RCRA (Resource Conservation Recovery Act) Land Disposal Restrictions, 40 CFR Part 268. These ARARs apply since the average PCB concentration of the hot spot sediments is expected to be well above the 50 ppm regulatory thresholds set in both the federal and state regulations. The sediments are considered hazardous waste under the state's regulatory criteria since concentration levels exceed the 50 ppm threshold set in 310 CMR 30.131. The sediments are also a restricted waste for the purposes of the Land Disposal Restrictions. Again, the average PCB concentration levels of the hot spot sediments is estimated to be between 20,000 and 30,000 ppm.

Table 1 of this ESD provides a summary description of these state and federal regulations, and lists whether they are applicable ("App."), relevant and appropriate ("R&A") or "to be considered" ("TBC") for this activity. Table 1 also summarizes the site specific actions that are necessary, or that have already been taken to comply with these ARARs. Finally, as will be discussed more fully in the following section, Table 1 lists whether a waiver from any of these requirements is necessary.

C. ARARs Waivers

Section 121(d)(4) of CERCLA provides for six types of waivers when a remedial action does not meet ARARs. Three of those waivers are invoked for the action described in this ESD. First, §121(d)(4)(A) allows the Agency to waive an ARAR when an interim measure that does not comply with all ARARs is expected to be followed by a complete measure that will attain all ARARs. This is called the interim measure waiver. Second, §121(d)(4)(B) allows the Agency to waive an ARAR when compliance with the ARAR will result in greater risk to human health and the environment than alternative options. This is called the greater risk to health and the environment (or protectiveness) waiver. Finally, §121(d)(4)(D) allows the Agency to waive an ARAR when the action to be taken does not comply with the strict terms of the ARAR, but which achieves an equivalent standard of performance as that ARAR. This is called the equivalency waiver.

The CDF was originally designed and constructed for short-term storage of the untreated dredged sediment. However, several modifications have been made to the CDF which ensures its safety for even the long-term storage. As a result of these modifications, which are explained below in Section III.D, the CDF complies with the vast majority of the TSCA storage ARARs and the State surface impoundment ARARs. There are, however, some regulations which are being waived.

The only two State Surface Impoundment regulations affected by waivers are numbers 2 and 5 in Table 1. Number 2 requires a

leak detection, collection and removal system between the two impermeable bottom liners of the storage facility. Because there is already a large volume of dredged material in the CDF, it is not possible to install such a system without a sequence of transfers of the dredged material. Air monitoring during dredging operations has demonstrated that disturbing or transferring of the dredged material will cause increased PCB air contamination. EPA believes that the less additional handling of these sediments the better, since additional handling would bring additional PCB releases and risk of spills. The site's groundwater monitoring program provides an added measure of protection should any unexpected leakage of PCBs from the CDF occur. Given the above factors, EPA is invoking the protectiveness waiver under §121(d)(4)(B). In addition, because this storage is estimated to last only four to five years until an ultimate treatment technology is selected, EPA is also invoking the interim measure waiver under §121(d)(4)(A).

The second State Surface Impoundment regulation affected by waivers is number 5 in Table 1. This regulation requires that two feet of freeboard be maintained (freeboard refers to the distance from the top of the dredged sediments or the overlying seawater, if any, to the top of the surrounding cell wall) in order to ensure that at no time will dredged material be allowed to overtop the impoundment. Although EPA certainly will not allow the dredged material to overtop or blow over the cell walls, EPA is invoking both the protectiveness and interim action waiver because the volume of dredged material requiring storage may result in less than two feet of freeboard in portions of or throughout the cell. EPA will ensure that dredged material will not overtop the impoundment by maintaining at least a one foot freeboard, by continued use and maintenance of the cell's floating cover (see section III.D.1 below), and, if necessary, by suspending dredging activities.

To comply with this regulation, there is a possibility that at some future date EPA may be forced to end dredging activities prematurely in order to maintain two feet of freeboard above the dredged material. The protectiveness waiver is invoked because such a premature ending will result in leaving more highly PCB-contaminated sediment in the harbor than if a one foot freeboard is maintained. EPA believes that it is more protective of human health and the environment to remove the maximum volume of dredged material from the harbor than to maintain two feet of freeboard. Removing the maximum amount of sediments as part of the hot spot operable unit decreases, to the greatest extent possible, the migration of PCBs both to the marine food chain and to the atmosphere. Additionally, an overlying level of seawater above the dredged sediments should help minimize PCB volatilization from the dredged sediments, and will allow for more efficient dredging operations. The interim waiver is

invoked since, again, the storage is only expected to last four to five years.

Moving to the federal PCB storage regulations, there are six TSCA ARARs affected by waivers. The first two are numbers 21 and 33 in Table 1 which limit storage of PCBs to a certain time period. Number 21 requires that PCBs must be removed from storage and properly disposed within one year of first being placed in storage. Number 33 requires that after the facility receives the final quantity of PCBs for storage, the PCBs must be removed within 90 days and the facility closed within 180 days of that date.

EPA is invoking both the interim measure and the protectiveness waiver for both number 21 and 33. Dredging of the hot spot sediments is expected to be completed by fall 1995, and the sediment will remain in the CDF until a treatment technology is selected and implemented. The interim measure waiver is invoked because although storage is extended to five years instead of one year and will continue beyond 90 days after dredging is completed, it is still only temporary until the final treatment technology is selected. EPA cannot treat the sediment until various technologies are identified, tested and evaluated per the National Contingency Plan (40 CFR Part 300).

The protectiveness waiver is invoked since EPA believes that leaving the PCB-contaminated sediment in the river results in greater risk to human health and the environment than dredging and storing the untreated sediments in the CDF. EPA believes the CDF as designed and constructed is a safe storage facility and that both air and groundwater monitoring will ensure that safety.

Number 22 on Table 1 requires that rainwater be prevented from reaching the stored PCBs. The specific emphasis in this regulation on roofs and walls to accomplish this prevention is obviously not directly applicable to the CDF since it is not a building, but the overall intent of minimizing stormwater infiltration is applicable. The equivalency waiver is invoked for the wall construction component of this regulation. EPA believes the liner system of the CDF functions as a wall would to prevent rainwater from reaching the stored PCBs.

For the roof portion of this requirement, EPA proposes to modify existing drainage conditions at the CDF so that stormwater runoff (rainwater and snowmelt) from the area will be directed away from the stored PCBs. While the CDF cell #1 does have a floating cover (see section III.D.1 below), total compliance with this ARAR will not be attained since the rain or snow which falls directly on the floating cover of cell #1 will be assumed to have mixed with the stored PCBs. Rather than attempting to prevent this mixing, this stormwater will be periodically treated on site and discharged to the Acushnet River according to the discharge

standards currently in place. EPA believes that the redirected drainage should minimize the frequency and cost of these periodic water treatment episodes. Although the above methods achieves the ultimate goal of the regulation (to prevent the spread of PCB contamination), EPA is invoking the interim waiver because a roof would not add a significant degree of protectiveness, and may not even be feasible given the size and location of cell #1, and because ultimately, once the sediments are treated, storage will not be required.

The ARARs in numbers 23, 25, and 26 on Table 1 further describe construction and location requirements for a storage facility. The equivalency waiver is invoked for all three ARARs. The facility is required to have adequate flooring and curbing to provide volume for controlling spills; these floors and curbs must be made of smooth impervious material to prevent PCB penetration and the facility must not be located below the 100-year floodwater elevation. Again, these regulations do not directly address a surface impoundment but rather a building; however, they still remain applicable. The CDF is constructed with sufficient capacity to fully contain the dredged PCB contaminated sediment. It has two continuous, smooth, impermeable liners made of HDPE (high density polyethylene) plastic and its top-of-berm elevation is two feet higher than the 100-year flood elevation. Additionally, the New Bedford Harbor hurricane barrier is designed to prevent floodwaters from reaching this 100-year floodwater elevation. EPA believes the CDF as constructed provides the equivalent protection required by the regulations.

Finally, EPA is invoking the interim measure waiver for number 34 in Table 1, the Land Disposal Restrictions (LDR) requirement of the Resource Conservation Recovery Act (RCRA). This regulation requires that restricted hazardous waste be treated before land disposal occurs. Land disposal is defined as placement in, among other things, a surface impoundment located outside an area of contamination. In addition, the regulation specifically prohibits storage of PCBs (greater than 50 ppm) for more than 1 year without treatment.

The treatment required by this regulation for the hot spot PCB-contaminated sediment is incineration or an equivalent method approved by the Regional Administrator. Because EPA has agreed to suspend incineration of the dredged sediments and evaluate alternative treatment technologies as equivalent methods of destruction, the untreated dredged sediments will be stored in the CDF for the four to five year time period anticipated for this evaluation. The interim measure waiver is invoked since the dredged sediment will not be treated as required by LDR while it remains in the CDF for the next four to five year period. Once an equivalent method of treatment is selected, the dredged sediment will be treated and LDR will be met.

EPA believes that the use of the CDF for interim storage of the hot spot sediments is safe, and is protective of human health and the environment. More importantly, the removal of the sediments from the estuary and their secure storage in the CDF will benefit human health and the environment by substantially reducing the mass of sediment PCBs available for uncontrolled migration (both to the marine food chain and to the atmosphere).

D. Significant Site Specific Actions to Comply With New, Unwaived ARARs

1. Site Actions Made to Date

During the design, construction and operation of the CDF, a number of changes have been made which significantly increase the safety of the CDF cell #1 for interim storage of the hot spot sediment. These changes demonstrate compliance with the unwaived ARARs listed in Table 1.

First, the construction of cell #1 was modified to include two, rather than one, impermeable liners. Both liners are constructed of high-density polyethylene (HDPE), a standard material used for long-term control of hazardous wastes. The bottom-most liner is 80 mils thick, and the upper liner is 60 mils thick (a mil is one-thousandth of an inch). All liner seams were extensively tested during installation. HDPE liners are typically expected to last for 30 years or more, so they are expected to retain their integrity over the estimated five year period of interim untreated sediment storage. Figure 4 contains two "cross-section" drawings of cell #1 which illustrate the as-built construction of all cell #1 components, including the two bottom HDPE liners. The location of these two cross-sections within cell #1 is shown on Figure 2.

Second, the CDF has been improved by the addition of a floating impermeable cover (also constructed from HDPE) which minimizes the volatilization (i.e., evaporation) of PCBs to the atmosphere from the dredged sediment in the CDF. Air monitoring performed to date has documented that the floating cover does contain and minimize volatilization of PCBs. Monitoring results during times when the cover has been lifted or moved have been notably higher than when the cover has been left alone.

Third, the air monitoring program around the CDF and surrounding neighborhoods has been expanded during dredging operations to ensure that airborne PCB levels from site activities do not pose a risk to site workers or to the nearby community. A summary of this air monitoring data base is provided in Table 2, and the locations of the various air monitoring sampling locations are shown in Figure 5. This body of air monitoring data supports the use of the covered cell #1 for interim sediment storage, in that it demonstrates that

airborne PCB levels in the CDF area are typically at very low levels. Finally, overall site security is provided by two separate eight foot high, barbed-wire chain-link fences (one around the CDF itself and one around the the entire Sawyer Street property).

2. Significant Upcoming Actions

In addition to the site drainage modifications discussed above in section III.C, this section briefly describes significant initiatives that will be implemented at the CDF in order to comply with the new PCB storage ARARS. These actions are also summarized in Table 1, as are other requirements that will be met to comply with these new storage ARARS.

Per 310 CMR 30.615(3) (#15 in Table 1), a contingency plan will be developed to prepare for unexpected failures, leakages, emergencies, etc. The U.S. Army Corps of Engineers (USACE), in conjunction with the EPA and the DEP, will implement the contingency plan if ever necessary, through the use of a remedial contractor familiar with the site. Potential leakage from the CDF will be identified by a groundwater monitoring program around the site, and by tracking the liquid level in cell #1 (i.e., to watch for unaccountable drops in the liquid level). The EPA, DEP and USACE will work with the local community in developing this contingency plan.

Per 310 CFR 30.617(4B) (#20 in Table 1), a post-closure plan will be developed to specify the requirements for maintenance and monitoring of the final cover, inspections, and air, surface water and groundwater monitoring after closure. The local community will also be invited to provide input on the development of this plan. Per 40 CFR 761.65(c)(3) (#27 in Table 1), signs will be erected around the CDF to provide warning that PCB storage is taking place.

Finally, per 40 CFR 761.65(d)(2)(vi) (#31 in Table 1), the existing floating cover in cell #1 will be extended to completely overlap the cell walls in order to restrict any trespassers from contacting the untreated contaminated sediments in the unlikely event that they access the cell #1 area. The existing outdoor lights at the CDF will also remain in use to discourage any trespassing.

IV. Support Agency Comments

The DEP supports this proposal because it removes highly contaminated sediment from the Acushnet River-New Bedford Harbor ecosystem, maintains the potential for later use of an innovative treatment technology, and provides for overall risk reduction. See Attachment 1 for the DEP's concurrence letter regarding the draft ESD.

V. Statutory Determinations

This ESD documents the EPA's decision to suspend the incineration component of the hot spot operable unit remedy, and the concurrent need to store the untreated PCB-contaminated sediment in a manner protective of human health and the environment while alternative treatment technologies are explored. Although storage of untreated PCB-contaminated sediment will be extended, this is an interim action. Final treatment and disposal of the dredged material will be documented in a subsequent decision document.

EPA believes that the remedy as modified herein remains protective of human health and the environment, complies with or waives all Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective. In addition, the revised remedy utilizes permanent solutions and allows for alternative treatment technologies to the maximum extent practicable for this site.

VI. Public Record

In accordance with Section 117(d) of CERCLA, this ESD will become part of the site's Administrative Record which is available for public review at both the EPA Region I Record Center at 90 Canal Street in Boston, Massachusetts (617/573-9656) and at the New Bedford Wilkes Branch Library (Reference Department) at 1911 Acushnet Avenue, New Bedford, Massachusetts (508/991-6214).

New Bedford Harbor Superfund Site
PCB Storage ARARs Summary

ARAR	Applicable or Relevant & Appropriate	Summary Description	Site Specific Action	Compliance with ARAR
***** MA DEP Surface Impoundment Regulations, 310 CMR 30.:				
1. 612(1)	R&A	Facility must be underlain by two properly designed and constructed impermeable liners.	Two impermeable bottom liners are already in place in cell #1.	Yes
2. 612(3)	R&A	Leak detection, collection and removal system required between the two liners.	Since over 6000 cubic yards of dredged sediments have been dredged and stored to date, to install such a leak detection system would entail temporary removal of the sediments and disassembly of the bottom liner system. This would involve more short-term risk than keeping the sediments and liner system intact.	Interim measure/protectiveness waiver
3. 612(4)	R&A	Energy dissipation required for direct discharge onto liner.	Energy dissipation already in use.	Yes
4. 612(5)	R&A	Overtopping not allowed.	Operations will be controlled to prevent overtopping.	Yes
5. 612(6)	R&A	2 feet of freeboard required.	Efforts to maintain 2 feet of freeboard will continue, however in some areas of cell #1 the freeboard will need to be <2 feet to maximize the volume of stored sediments, and to allow for protective overall dredging and water treatment operations (e.g., to maintain a layer of seawater above the dredged sediments). At least 1 foot of freeboard will be maintained, and at no time will sediments be allowed to overtop or blow over the CDF walls.	Interim measure/protectiveness waiver
6. 612(7)	R&A	Provisions for immediate flow shut-off required.	Dredge can be immediately shut off.	Yes
7. 612(9)	R&A	Dikes must be structurally sound.	Dikes are constructed to meet all requirements. Minor erosion repair will be periodically performed.	Yes
8. 614(1)	R&A	Liners must be inspected and tested during and immediately after installation.	Testing of liners was performed as required.	Yes
9. 614(3)	R&A	Inspections required weekly and immediately after storms.	Weekly inspections will continue until the sediments are treated. Less frequent	Yes

New Bedford Harbor Superfund Site
PCB Storage ARARs Summary

ARAR	Applicable or Relevant & Appropriate	Summary Description	Site Specific Action	Compliance with ARAR

			inspections will continue after treatment.	
10. 614(5)	R&A	Cerification must be provided that the impoundment's dikes will withstand the stress of the pressure exerted by the types and amounts of waste to be stored, and that they will not fail due to scouring or piping.	The required certification will be provided.	Yes
11. 614(6)	R&A	Demonstration of liner/waste compatibility required.	Compatibility issues were resolved during design.	Yes
12. 614(8)	R&A	DEP may specify that liner samples be periodically tested.	Liners will be tested to the extent possible upon request.	Yes
13. 615(1)	R&A	Impoundment must be removed from service if liquid level unaccountably drops or if the dike leaks.	Cell #1 will be removed from service as defined in 310 CMR 30.615(2) if such conditions exist.	Yes
14. 615(2)	R&A	When removed from service, flow must be stopped, leakage must be stopped and contained, and impoundment emptied if necessary.	Requirements will be complied with if cell #1 is removed from service.	Yes
15. 615(3)	R&A	Contingency plan required describing procedures for complying with 310 CMR 30.615(2). This plan must also describe methods for repairing leaks without removing unit from service.	Contingency plan will be prepared.	Yes
16. 615(4)(b)(1)	R&A	Provides requirements for restoring an impoundment that has been removed from service back to service.	If for some reason cell#1 is removed from service, this section will be complied with before reuse of the cell.	Yes
17. 615(5)	R&A	If an impoundment has been removed from service and is not being repaired, it must be closed pursuant to 310 CMR 30.617.	Cell #1 will be so closed if this situation arises.	Yes
18. 616(5)	R&A	Approved management plan required for placement of polyhalogenated aromatic hydrocarbons.	The management and placement of the PCB sediments is detailed in the existing engineering plans and specifications for the hot spot operable unit and in associated	Yes

New Bedford Harbor Superfund Site
PCB Storage ARARs Summary

ARAR	Applicable or Relevant & Appropriate	Summary Description	Site Specific Action	Compliance with ARAR

			contract documents. The DEP is involved with and approves of these practices.	
19. 617(1)	R&A	At closure of new surface impoundments, all containment system components which have been contaminated with waste or leachate must be managed as hazardous waste, unless 310 CMR 30.141 ("When a Hazardous Waste Ceases to be a Hazardous Waste") applies.	Once the hot spot sediments are treated, this section will be complied with.	Yes
20. 617(4B)	R&A	Post-closure requirements detailed at 310 CMR 30.590 must be complied with, including maintenance of cover, monitoring, etc., if waste residuals or contaminated material is left in place.	A post-closure plan will be developed which complies with (a)-(d) of this section. Air and groundwater monitoring around the site, both before and after treatment of the sediments, will continue.	Yes
SCA PCB Storage Regulations, 40 CFR 761.65:				
21. (a)	App.	PCBs stored for disposal must be properly disposed within one year of being placed in storage.	Longer term storage required since treatability studies, redesign and implementation of the ultimate treatment technology should take 4 - 5 years to complete.	Interim measure/protectiveness waiver
22. (b)(1)(i)	App.	Storage facilities must have adequate roof and walls to prevent rain water from reaching the stored PCBs.	Site drainage will be modified to prevent stormwater runoff from draining to the CDF. Rainwater that falls directly on cell #1 will be treated on site along with decanted seawater.	Equivalent standard waiver (walls); interim measure waiver (roof)
23. (b)(1)(ii)	App.	Storage facilities must have adequate flooring and curbing to provide volume for controlling spills from storage containers.	The purpose of this regulation is to contain spills occurring inside a building. The PCBs in this case will be fully contained in cell #1.	Equivalent standard waiver
24. (b)(1)(iii)	App.	Storage facilities can not have floor drains or openings that would allow liquids to flow from the storage area.	Cell #1 has two continuous, impermeable bottom liners.	Yes

New Bedford Harbor Superfund Site
PCB Storage ARARs Summary

ARAR	Applicable or Relevant & Appropriate	Summary Description	Site Specific Action	Compliance with ARAR
25. (b)(1)(iv) App.		Storage facilities must have floors and curbs made of smooth impervious material to prevent PCB penetration.	Cell #1 has two liners made of HDPE which is smooth and impermeable.	Equivalent standard waiver
26. (b)(1)(v) App.		Storage facilities must not be located below the 100-year floodwater elevation.	The top-of-berm elevation is 2 feet higher than the 100-year flood elevation.	Equivalent standard waiver
27. (c)(3) App.		Storage facilities must be marked with signs to identify PCBs in storage.	Signs will be erected.	Yes
28. (c)(4) App.		Equipment that is used for handling PCBs must be decontaminated.	Equipment will be decontaminated.	Yes
29. (c)(5) App.		PCB spills must be immediately cleaned up, and resulting PCB-contaminated materials must be properly disposed. Inspections for PCB leaks must take place every 30 days.	Spills will be immediately cleaned up, and materials will be properly disposed. Inspections will occur at least weekly per #9 above.	Yes
30. (d)(2)(ii) R&A		The facility must possess the capacity to handle the maximum quantity of PCB waste that will be handled at any one time.	The CDF has the capacity to contain all of the dredged hot spot sediments.	Yes
31. (d)(2)(vi) R&A		The operation of the storage facility must not pose an unreasonable risk of injury to health or the environment.	The floating cover in cell #1 will be extended to overlap the cell walls to prevent anyone from falling in. Air, groundwater and surface water monitoring in the vicinity of the CDF will be continued to verify lack of risk.	Yes
32. (e)(1-5,7) R&A		Describes the substantive requirements of closure plans for commercial PCB storage facilities, including groundwater monitoring, run-on and run-off control and facility security. The facility must be closed so as to prevent post-closure releases of PCBs which may present unreasonable risks to human health or the environment.	After treatment of the dredged sediments, the site will be closed consistent with this section. The site closure specifications are detailed in the existing engineering plans and specifications for the hot spot operable unit. Groundwater monitoring is being reactivated and will be performed on a regular basis before and after treatment of the hot spot sediments.	Yes
33. (e)(6) R&A		All PCBs must be removed from the facility within 90 days after receiving the final quantity of PCBs, and closure	As explained in #20 above, 4-5 years of storage will be required to pursue alternative technologies. Once the hot spot sediments	Interim measure waiver;

New Bedford Harbor Superfund Site
PCB Storage ARARs Summary

ARAR	Applicable or Relevant & Appropriate	Summary Description	Site Specific Action	Compliance with ARAR
		must be completed within 180 days after receiving the final quantity of PCBs.	are ultimately treated, cell#1 will be closed per 310 CMR 30.617(1) (Closure of New Surface Impoundments).	protectiveness waiver

Other federal ARARs:

34. RCRA Land Disposal Restrictions (LDR) (40 CFR Part 268)	App.	Establishes treatment standards for all listed and characteristic hazardous wastes destined for land disposal.	Since incineration has been suspended, an evaluation of equivalent treatment technologies has begun. During the interim 4-5 year period until final treatment is completed, untreated dredged sediment will be stored outside of the area of contamination. Once treatment is selected and approved, sediment will be treated in accordance with LDR.	Interim measure waiver
35. PCB Spill Cleanup Policy (40 CFR Part 761, Subpart G)	TBC	Establishes criteria EPA uses to determine the adequacy of the cleanup of spills resulting from the release of materials containing PCBs greater than 50 ppm occurring after May 4, 1987.	While this policy is directed at typical, electrical equipment-type spills, it will be considered should EPA need to address any PCB leakage or spillage from the CDF.	
36. Guidance on Remedial Actions for Superfund Sites with PCB Contamination (OSWER Directive	TBC	Describes the recommended approach for evaluating and remediating Superfund sites with PCB contamination.	This guidance will be considered when identifying, testing and implementing treatment technologies for the dredged sediment.	

Table 2

SUMMARY OF PCB SAMPLING RESULTS AT THE NEW BEDFORD HARBOR SUPERFUND SITE

SAMPLE LOCATION	TOTAL # OF SAMPLES COLLECTED	AVERAGE CONC. (ng/m3)	ACTION LEVEL EXCEEDENCES		
			>50 ng/m3	>500 ng/m3	>1000ng/m3

ON - SITE

1	148	25.06	15	0	0
2	147	32.02	26	0	0
3	144	157.72	64	8	4
3D	14	24.79	2	0	0
4	101	13.48	3	0	0
5	102	14.20	5	0	0
6	147	42.16	37	0	0

NEAR SITE

7	63	9.18	0	0	0
8	61	6.65	0	0	0
9	62	27.12	11	0	0

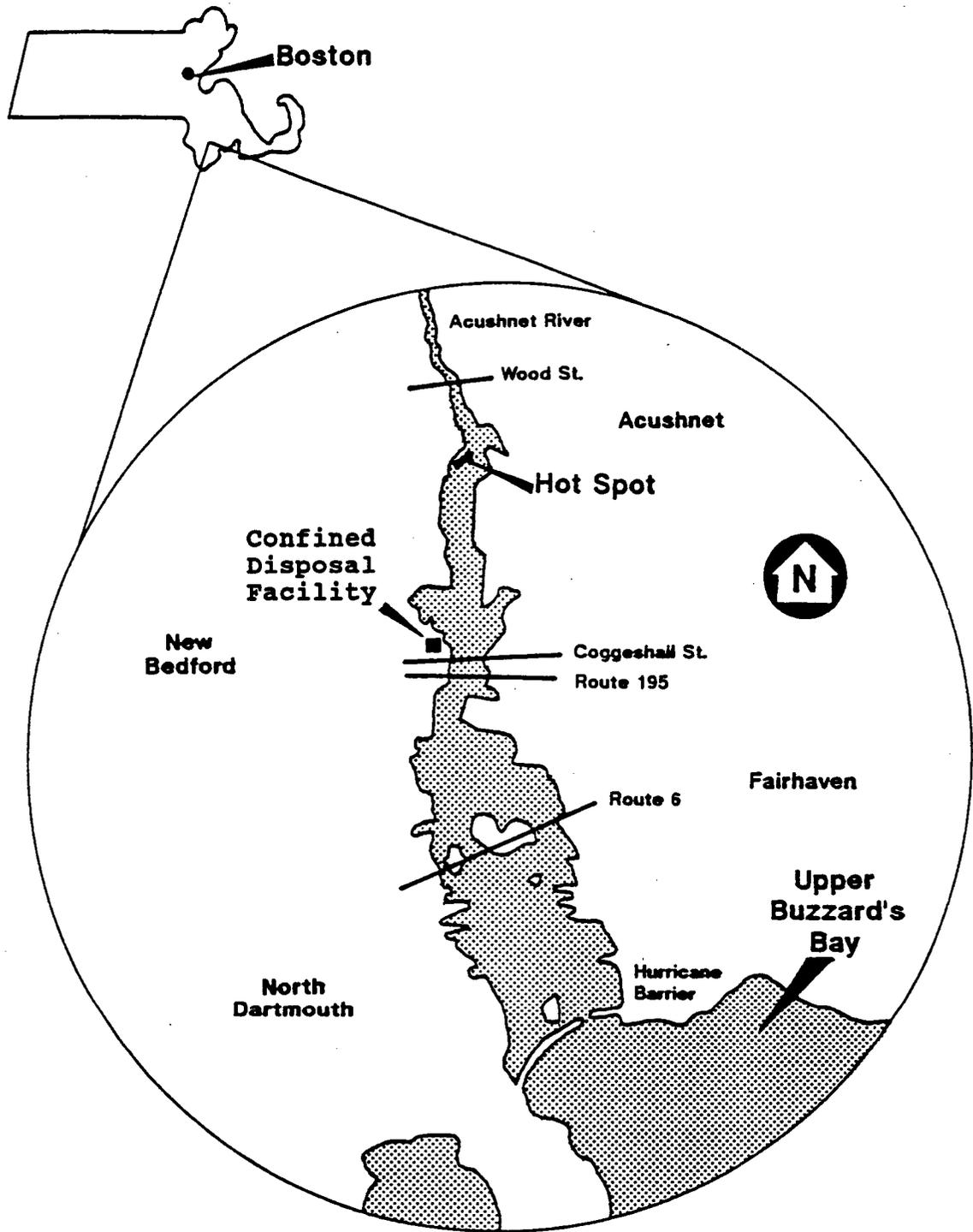
DREDGE

10	165	28.88	24	0	0
11	166	141.59	116	4	0
12	166	26.50	25	0	0
13	167	70.29	70	3	0
13D	41	24.38	6	0	0
14	167	9.98	5	0	0
15	167	21.81	14	0	0
16	167	9.48	2	0	0

TOTAL

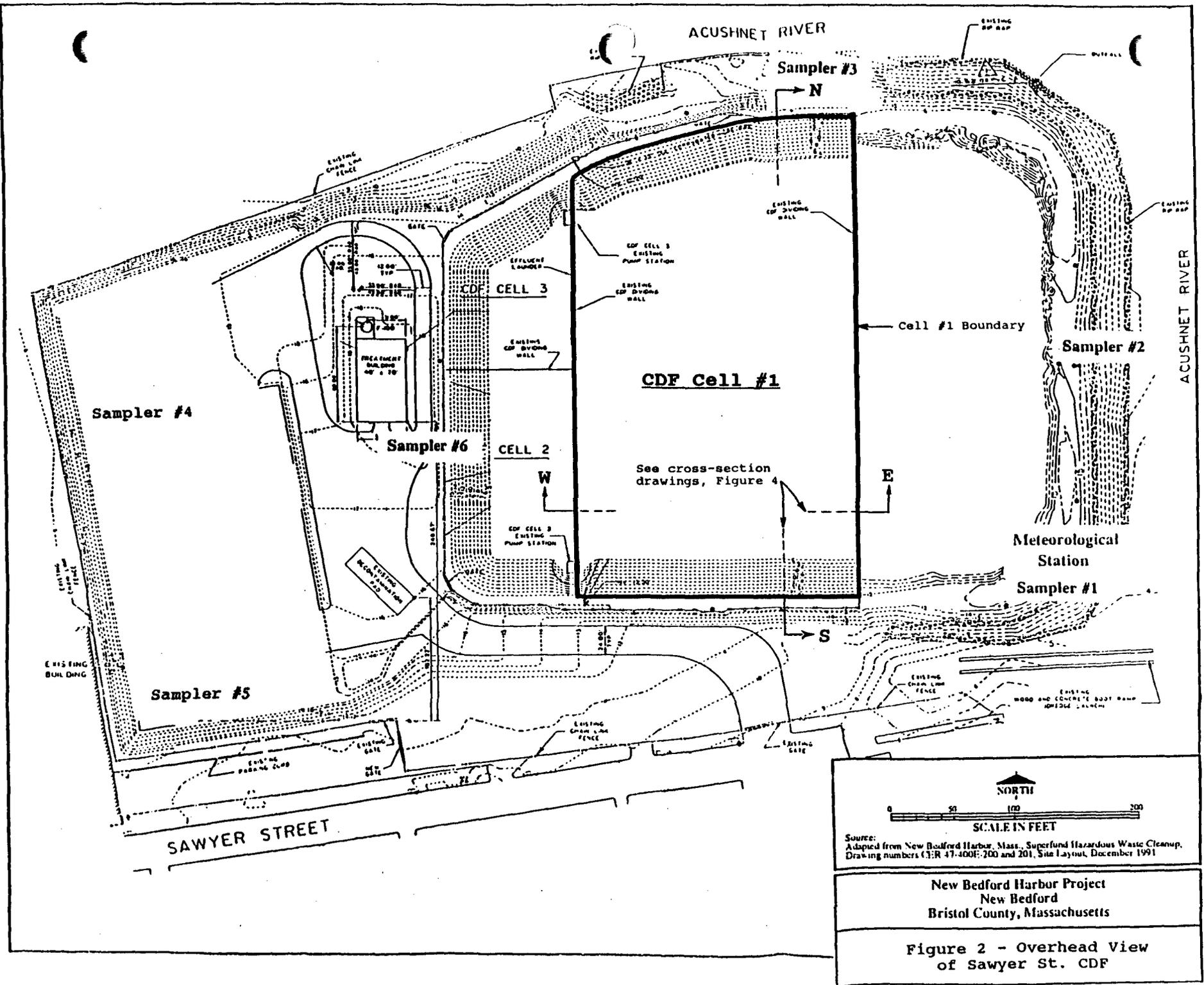
	2195		425	15	4
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NOTE: SUMMARY OF DATA TO 2/23/95



Not To Scale

Figure 1 - New Bedford Harbor and Location of Hot Spots and CDF





<u>AREAS</u>	<u>DESCRIPTION</u>
AREA I	WATERS CLOSED TO ALL FISHING
AREA II	WATERS CLOSED TO THE TAKING OF LOBSTER, EEL, FLOUNDER, SCUP, AND TAUTOG
AREA III	WATERS CLOSED TO LOBSTERING

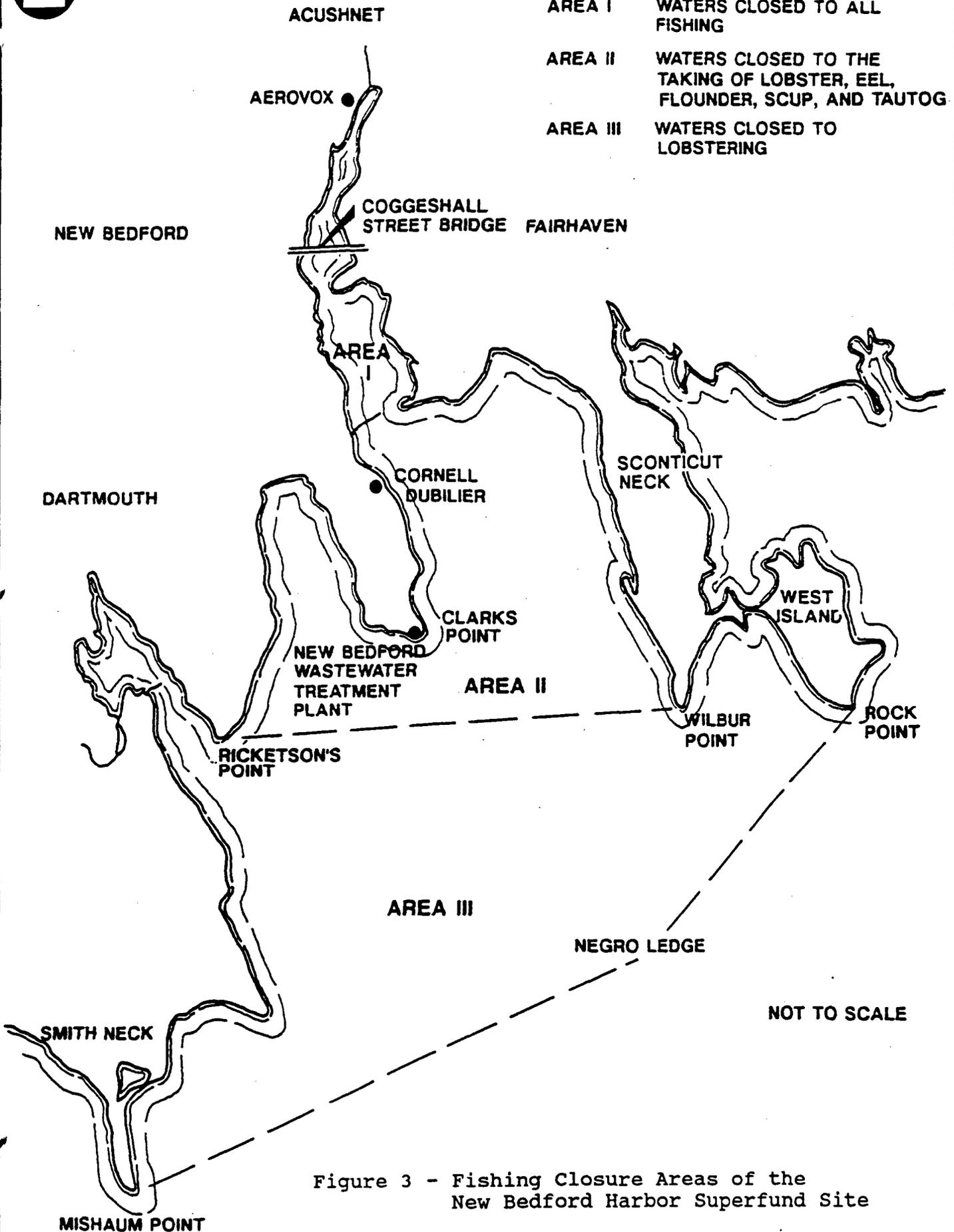
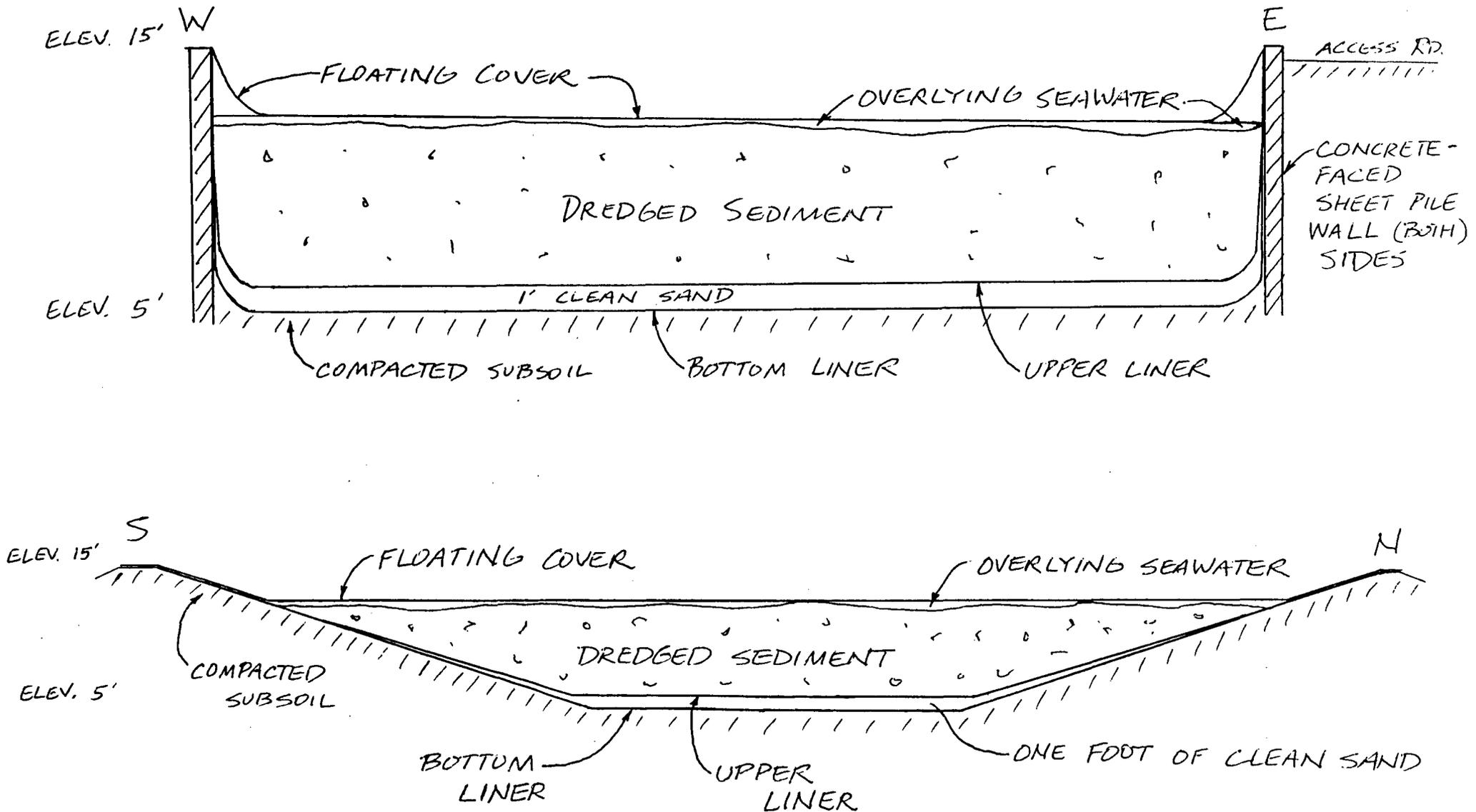


Figure 3 - Fishing Closure Areas of the New Bedford Harbor Superfund Site

FIGURE 4 - CDF CELL #1 CROSS-SECTIONS



(NOT TO SCALE HORIZONTALLY)



SOURCE: Base map adapted from USGS 7.5 min series maps (1:25,000), New Bedford North, MA, quad, dated 1979

Figure 5 - Location of Air Monitoring Sites, New Bedford Harbor Superfund Site



Commonwealth of Massachusetts
Executive Office of Environmental Affairs

Department of Environmental Protection

William F. Weld
Governor

Trudy Coxe
Secretary, EDEA

Thomas B. Powers
Acting Commissioner

March 28, 1995

David Dickerson
U.S. EPA - Region I
J.F. Kennedy Federal Building
Boston, MA 02203-2211

Re: DEP concurrence with proposed second ESD dated March 28, 1995 - New Bedford Harbor Superfund Site/Hot Spot Operable Unit

Dear Mr. Dickerson:

The Department of Environmental Protection ("DEP") has reviewed the proposed Explanation of Significant Differences ("ESD") dated March 28, 1995 for the New Bedford Harbor Superfund Site - Hot Spot Operable Unit. This is the second ESD for the New Bedford Hot Spot Record of Decision ("ROD") dated April 6, 1990, the first ESD being issued in April 1992.

The ROD originally called for the dredging and short term storage of the contaminated Hot Spot sediments in a confined disposal facility ("CDF") prior to on-site incineration. EPA's subsequent decision to suspend the incineration component of the remedy, therefore, requires that the dredged sediments be stored in the CDF for a longer period of time, while alternative treatment methods are evaluated. The ROD originally anticipated storage under one year. It is now estimated that the sediments will be stored up to five years. This ESD documents that requirement.

DEP concurs with this second ESD because it continues the removal of the highly contaminated sediment from the Acushnet River Estuary ecosystem, maintains the potential for the later use of an innovative treatment technology, and provides for overall risk reduction.

DEP's concurrence applies to the ESD as proposed by EPA in its draft dated March 28, 1995, which will then be subject to a public comment period. Because public input is an integral component of DEP's evaluation of ESDs, DEP reserves the right to reevaluate its concurrence based on its appraisal of any public comments on the ESD, or in the event that EPA modifies the ESD in response to public comments.

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DEP Concurrence Letter
March 28, 1995

DEP appreciates the opportunity to provide input on this ESD. If you have any comments on DEP's concurrence, please contact Paul Craffey at (617) 292-5591.

Very truly yours,



Madeline Snow, Director
Division of Response and Remediation

cc: Paul Craffey, BWSC, DEP
Richard Lehan, OGC, DEP
Andrea Papadopoulos, SERO, DEP