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April 14, 2006

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS  
ON THE  
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME: Identification and Designation of a Buzzards Bay Disposal Site Suitable for Dredged Material  
PROJECT MUNICIPALITY: Falmouth  
PROJECT WATERSHED: Buzzards Bay  
EOEA NUMBER: 10284  
PROJECT PROPONENT: Massachusetts Office of Coastal Zone Management  
DATE NOTICED IN MONITOR: November 22, 2005

As the Secretary of Environmental Affairs, I hereby determine that the Draft Environmental Impact Report (DEIR) submitted on this project **does not adequately and properly comply** with the Massachusetts Environmental Policy Act (M.G.L. c. 30, ss. 61-62H) and with its implementing regulations (301 CMR 11.00). Therefore, the proponent must submit a Supplemental DEIR in accordance with Section 11.08 (8)(b)(3) of the MEPA regulations.

The DEIR has been a significant undertaking and contains a tremendous amount of technical and detailed information addressing many issues associated with the possible designation of the Buzzards Bay Disposal Site (BBDS) as an alternative for the disposal of Clean Dredged Material (CDM). However, significant issues have been raised that must be addressed in a Supplemental DEIR (SDEIR). Of primary importance is the amount of disposal area needed based on the estimated municipal need for dredging, and the importance of the "no-build" alternative comparative to the "site designation" alternative and potential environmental long-term impact of the use.

I acknowledge the need to maintain and expand access to the waterways of the Commonwealth through dredging projects and the commensurate on-going need for

environmentally responsible disposal options for dredged material that are not cost-prohibitive. At the same time, the Commonwealth has a strong connection and commitment to the ocean and to the protection and preservation of fragile marine ecosystems such as Buzzards Bay. Moreover, significant environmental policy initiatives are currently underway including: pending legislation to provide for more proactive planning and management of the Commonwealth's ocean resources; the Massachusetts Estuaries Program designed to assess the pressures on our estuaries in southeastern Massachusetts (including the 23 estuaries connected to Buzzards Bay); and the Coastal Hazards Management Commission that is evaluating policies surrounding the Commonwealth's exposure and response to coastal hazards. Given the on-going major public policy issues and the potential long-lasting effect of reopening a disposal site in Buzzards Bay, it is appropriate to ensure that all questions and issues are thoroughly addressed, as well as evaluated in light of these many important policies.

### Project Description and MEPA History

The purpose of the project is to designate a disposal site in Buzzards Bay for dredged materials determined to be suitable for open-water disposal (hereinafter referred to as "clean dredged material" or CDM). Designation of the BBDS would not constitute authorization to dispose of clean dredged material at the site. Rather, it would establish the BBDS as one possible solution for disposal of CDM to be considered in addition to other alternatives for the placement of dredged material. Each individually proposed dredging project will continue to be evaluated independently through the existing regulatory framework to determine whether open-water disposal is the least environmentally damaging practicable alternative disposal method.

Pursuant to the advance site disposal identification provisions of the Clean Water Act (CWA) regulations (40 CFR Part 230.80), the Massachusetts Office of Coastal Zone Management (CZM) is the project proponent for the site designation. The Massachusetts Department of Conservation and Recreation (DCR), formerly the Department of Environmental Management, was the original project proponent and would assume responsibility for maintenance and monitoring of the site following its designation.

As proposed in the 1995 Environmental Notification Form (ENF), the project involved the evaluation and designation of a site in Buzzards Bay for the disposal of clean, medium- to coarse-grained dredged material at the formerly used Cleveland Ledge Disposal Site (CLDS). A 500-yard diameter circle in 30 to 40 feet of water located 1.4 nautical miles west of Chappaquoit Point in Buzzards Bay was originally proposed. In 1998, CZM submitted a Notice of Project Change (NPC) that proposed two specific changes: (a) modifying the proposed site use to include disposal of dredged material of all grain sizes, rather than only medium- to coarse-grained materials as originally proposed; and (b) modifying the actual disposal site location to consider two alternative candidate disposal sites near the historically-used BBDS that provide adequate capacity for long-term use. A second NPC submitted in 2005 was filed due to lapse of time and did not entail any significant changes to the project.

### MEPA Jurisdiction and Permitting Requirements

The proposal required the preparation of an EIR because the site designation involves the

potential alteration of more than 10 acres (40.6 acres) of Land Under the Ocean and because the site designation requires the following state agency actions: management and monitoring of the site by the DCR; and issuance of Section 401 Water Quality Certification and approvals pursuant to the Chapter 91 Waterways program by the Department of Environmental Protection (DEP). The proposal is also subject to the jurisdiction of the Falmouth Conservation Commission pursuant to the Massachusetts Wetlands Protection Act. As the project is being pursued by an agency of the Commonwealth, MEPA jurisdiction extends to all aspects of the project that have the potential to cause significant Damage to the Environment. The scope of the required EIR was established in the ENF Certificate issued on May 10, 1995.

### Review of the DEIR

In response to the Certificate on the ENF, the DEIR includes: an estimate of the quantity and type of dredged material suitable for open water disposal in the Buzzards Bay region over the next 20 years; an evaluation of alternative sites that resulted in the selection of the two candidate disposal sites; physical, biological and human use characterizations of the two candidate disposal sites; assessment of potential impacts from disposal at the two sites; and a recommendation of the preferred site for state designation. Also included are a summary of the permitting requirements for open water disposal in the Commonwealth, a draft Site Management and Monitoring Plan (SMMP), draft Section 61 findings, and responses to comments submitted on the ENF and subsequent NPCs.

I acknowledge the tremendous time and effort made by CZM in compiling the DEIR, which provided an extensive overview of the process used to select the preferred site, and the potential impacts of reopening the BBDS. However, the DEIR has not sufficiently addressed several issues critical to understanding the project. In addition, the information presented in the DEIR has raised significant questions and concerns from commenters, which CZM must thoroughly address in the SDEIR.

This is a unique circumstance where the proposal – whether or not to reopen the BBDS – is the focus of MEPA review. Before I am able to issue a decision on the project, CZM must provide more justification in support of the site designation. CZM should do this by providing a more robust analysis in the SDEIR of the no-action alternative. As outlined further below in the Scope for the SDEIR, CZM must carefully evaluate the environmental and economic impacts of not reopening the site, as compared to opening it. In addition, the SDEIR should provide a more detailed examination of potential alternative disposal options for dredged material, with a specific focus on upland reuse. A more comprehensive alternatives analysis may result in a reduction in the amount of material projected to be disposed of at the BBDS, and this estimated need is a key part of the no-action alternative and/or the site designation process.

Finally, the SDEIR must provide additional information and further analysis in response to the detailed comments submitted on the DEIR regarding potential impacts to natural resources, habitat, navigation, cultural resources and potential user conflicts that may result if the site is reopened. The need to consider alternatives, document impacts, and demonstrate that the project design avoids, minimizes and mitigates Damage to the Environment is necessary to comply with MGL c. 30, §§ 61-62H and the MEPA Regulations (301 CMR 11.00).

The review of this project has raised concerns about public policy issues related to the reuse of dredge disposal material, the potential negative impacts of the lack of disposal options for dredge material from local communities, and the potential long-term negative impacts to the marine environment from reopening the BBDS site. The proponent, CZM, is charged with a mandate to balance the impact of human activities with the protection of coastal and marine resources through planning, public involvement, education, research, and sound resource management. Therefore it is appropriate that the question of whether or not to designate the BBDS be examined in the broadest public policy context possible.

Massachusetts has always been on the forefront of ocean governance. In 2003 and 2004, Governor Romney and Secretary of Environmental Affairs Ellen Roy Herzfelder commissioned an Ocean Management Task Force to develop recommendations for improved stewardship of ocean resources in light of increased demands on ocean resources and growing user conflicts. More recently, Governor Romney and the State Legislature asked the Executive Office of Environmental Affairs (EOEA) to form a Coastal Hazards Management Commission (CHMC), which has been charged with examining existing coastal hazards and developing recommendations for improving coastal hazards management. One of the Commission's tasks is to evaluate management approaches to coastal hazards, with a specific focus on beach erosion and nourishment. Given that the Commission began working in 2006 to develop its recommendations, in the same time frame during which CZM will be developing the SDEIR for the BBDS, I urge CZM and the CHMC to give serious consideration to the role of dredge material use for beach nourishment in reducing coastal hazards and in reducing pressure on marine and upland sources of material for renourishment.

Furthermore, I urge CZM, the Department of Environmental Protection (DEP) and the U.S. Army Corps of Engineers (USACE) to work cooperatively to ensure that dredging and beach nourishment activities are evaluated in tandem at every opportunity statewide. Permitting agencies must ensure that any dredging projects proposing to use any disposal site should first be required to undertake a rigorous alternatives analysis with a strong preference for beach nourishment rather than offshore disposal.

Finally, I note that the Town of Falmouth has raised a concern about the potential for bias in the Commonwealth's review of the DEIR with specific regard to the role of MEPA Director Deerin Babb-Brott. In his former role as Assistant Director of the Office of Coastal Zone Management, Mr. Babb-Brott managed the BBDS project for several years and participated in the development of the DEIR. In a May, 2005 letter to Secretary Ellen Roy Herzfelder, Mr. Babb-Brott formally recused himself from any review of this project and I am satisfied that the Town's concerns have long ago been appropriately addressed.

## **SDEIR SCOPE**

### General

The SDEIR should contain a copy of this Certificate and a copy of each comment letter

received. The SDEIR should respond to each substantive comment, to the extent that the comments are within MEPA subject matter jurisdiction. The SDEIR should present additional narrative and/or technical analysis as necessary to respond to the concerns raised.

The SDEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should be sent to any state agencies from which the proponent will seek permits or approvals, to the list of commenters below, and to Town of Falmouth officials. A copy of the SDEIR should be made available for public review at the Falmouth Public Library.

### Needs Analysis

The Certificate on the ENF directed CZM to evaluate the regional need for the disposal site and the types and quantities of dredged material likely to be disposed of at the site. In the DEIR, justification of the need for an open-water disposal site in Buzzards Bay was drawn from several recent studies of dredging and dredged material disposal in the Commonwealth and the wider surrounding region (evaluations of state-wide Dredged Material Management Plans (DMMP), the Boston Harbor Navigation Improvement Dredging Project (BHNIP), and the Providence River and Harbor Maintenance Dredging Project (PRMP)). According to the DEIR, these studies indicate the lack of availability of a single upland site, or several smaller suitable upland sites, capable of accommodating disposal of a substantial volume of dredged material.

Estimates of future dredging needs in the DEIR were derived from several sources: the dredging needs of individual towns in the Buzzards Bay region as indicated through communication between CZM and local officials; and historical records from DEM and the USACE of dredging projects for the period 1920 to 1993 for Buzzards Bay, the Cape Cod Islands (Cuttyhunk and Nantucket), and the Cape Cod Canal. Based on conversations with CZM following the submission of the DEIR, the most meaningful estimate of projected need is displayed in Table 2-3 on page 2-23 of the DEIR. According to this estimate, the projected volume of dredged material that is expected to be disposed by means of the open water alternative in the Buzzards Bay region over the next 20 years is 1,613,761 cubic meters (2,110,720 cubic yards). On average, this represents an annual projected need of 105,536 cy of material. The potential volume of CDM to create the New Bedford Harbor confined aquatic disposal (CAD) cells was also included in the 20-year projected volume of material. CZM has stated that the inclusion of the Cape Cod Canal and the New Bedford CAD project in this estimate makes it problematic to derive an annual average need, as the Canal is expected to be dredged every 6 years, and the New Bedford project will be complete in 10 years.

The DEIR indicates that historic records of dredging activity and estimates of future need are imprecise, specifically with regard to the Cape Cod Canal and New Bedford, which are by far the largest projects. The SDEIR should address comments from the Coalition for Buzzards Bay and others related to assumptions underlying the historical data used to determine the need for the site, and the final demand based on estimates of dredged material indicated in the DEIR. The Coalition for Buzzards Bay asserts that a realistic estimate of the demand for the Buzzards Bay region is under 30,000 cy per year. The SDEIR should thoroughly address this large discrepancy in estimated need.

The SDEIR should respond to the concerns of the Town of Falmouth that the main impetus for the site designation is to find a convenient way to dispose of dredge spoils from New Bedford Harbor. The Town asserts that the DEIR has not fully evaluated options for the disposal of dredge spoils from the New Bedford Harbor cleanup, which is proposed to consume approximately 50 percent of the capacity of the site. CZM should resolve uncertainty with regard to the type of material in the Canal, and its potential use for beach nourishment, and address potential contamination issues related to dredged material from New Bedford and Fairhaven.

The SDEIR should report on the work of the CHMC on beach nourishment and should discuss whether an enhanced focus on beach nourishment at both a policy and permitting level would reduce or even eliminate the need for an open water disposal site. The SDEIR should explain how it determined the amount of CDM deemed to be unsuitable for upland reuse.

### Alternatives Analysis

As mentioned above, the SDEIR must provide a better analysis of the link between the alternatives considered for dredge material disposal and the projected demand for an open water disposal site in Buzzards Bay. A broader, more comprehensive examination of the environmental and economic impacts of the “no action” alternative – of not reopening the BBDS – should be a focus of the alternatives analysis in the SDEIR.

The “no-action” alternative evaluated in the DEIR assumed that dredging activities involving the removal of sediments that are suitable for open water disposal would not occur. According to CZM, existing sedimentation rates would continue unabated, and the dredging projects that have been identified as needed for continued economic growth in the Buzzards Bay region would not occur. In the SDEIR, CZM should reframe its analysis of the “no-action” alternative so that “no-action” means that the BBDS is not reopened, as opposed to “no-action” meaning that dredging does not occur in the Buzzards Bay region. The BBDS has been closed for over a decade, but conversations with DEP and a review of projects that have undergone MEPA review reveal that dredging *has* been occurring in Buzzards Bay communities. In the face of continued sedimentation and economic need, communities will continue to dredge in Buzzards Bay, and dredged material will be disposed of at appropriate upland locations or at existing offshore disposal sites. Analysis of the “no-action” alternative in the SDEIR should therefore focus on the impacts of not having an offshore disposal site in closer proximity to Buzzards Bay.

In the SDEIR, CZM should provide a discussion of the impacts to the Buzzards Bay marine environment of not opening the site. For example, would a lack of dredging projects in Buzzards Bay communities mean that tidal flushing would be limited in the Bay’s estuaries, and as a result, water quality in the estuaries and Bay would be impaired? Conversely, would removing the sediment and transporting it to a single disposal location in fact cause a greater impact to the Bay than the scenario outlined in the “no action” alternative? For each of the impact areas examined in the DEIR, CZM considered the impact of the “no action” alternative on each of the candidate disposal sites. In the SDEIR, this discussion should be expanded to consider potential adverse impacts to the Buzzards Bay ecosystem from not undertaking the dredging projects identified in the DEIR.

Furthermore, the discussion of the environmental impacts of the “no-action” alternative versus the site designation in the SDEIR should consider the duration of impacts. For instance, much of the discussion in the DEIR states that impacts to natural resources will be “short-term” or of limited duration. Given the 20-year life of the project, CZM should clarify whether it means that natural resources will recover quickly once the site is closed and disposal activity is finished, or whether it means that impacts after each disposal activity will be short-term. The SDEIR should consider that the marine environment at the disposal site will be compromised for twenty years.

### *Upland/Reuse Alternatives*

The DEIR summarized an analysis of upland/reuse alternatives that was prepared for the Buzzards Bay region as part of the EIR for the Dredged Material Management Plan for New Bedford Harbor (EOEA #11699), including dewatering, potential application of treatment technology, and ultimate reuse or disposal in a state-certified landfill. CZM concluded that, based on high costs and other practical constraints, no upland/reuse alternatives should be carried forward in the DEIR. The DEIR states that consideration of the upland/reuse disposal option for dredged material will continue to be required on each proposed dredging project and therefore may emerge as the least environmentally damaging, practicable alternative in the future.

The SDEIR should address concerns related to the validity of using the disposal screening process in Phases I and II of the Dredged Material Management Plan to assess alternatives for the proposed site designation. Furthermore, CZM should justify the use of the alternatives analysis prepared for the New Bedford/Fairhaven EIR as part of the BBDS DEIR, based on comments that the purpose of the New Bedford/Fairhaven project was to examine the disposal and management of unsuitable dredge material (UDM), rather than the impacts of disposing CDM.

With regard to the analysis of treatment technologies and upland/reuse options, the SDEIR should consider how the New Bedford Dewatering Facility and the use of dewatering tubes will affect the demand for the BBDS site. A more thorough analysis of technological solutions for disposing CDM, aside from off-shore disposal is required.

### *Aquatic Disposal Alternatives*

In terms of aquatic alternatives, the DEIR also evaluated placement of CDM in a confined disposal facility (CDF) for land creation or for use in capping unacceptably-contaminated or unsuitable dredged material (UDM), tidal habitat creation (mudflat or marsh), or unconfined open-water disposal. The aquatic disposal alternatives screening includes an evaluation of the feasibility of disposing dredged material at the following sites:

- the historically used BBDS site;
- the Cape Cod Bay Disposal Site (CCDS);
- the Massachusetts Bay Disposal Site (MBDS); and
- the Rhode Island Region Long-Term Dredged Material Disposal Site, Site W.

The historically used BBDS is located in relatively shallow water, and portions of the site

experience active sediment transport as evidenced by observations of sand waves in images of the ocean bottom obtained using side-scan sonar. Additionally, the site is relatively small and does not have adequate capacity for the 20-year time period projected by the Commonwealth through the state-wide DMMP process.

According to CZM, and based on their experience with Buzzards Bay communities, use of the existing CCDS and/or MBDS for open-water disposal is prohibitively expensive based on the transit distances between Buzzards Bay dredging sites and these two disposal locations. In Table 3-11 of the DEIR, CZM evaluated the estimated costs of using existing offshore disposal sites for disposal of material from potential dredging project in Buzzards Bay. In response to comments from the Coalition for Buzzards Bay, the SDEIR should provide a more comprehensive analysis of the comparative cost of disposal at the proposed BBDS as compared to transporting the materials to existing disposal sites and further discussion on why the increased cost to transport material to existing sites is considered cost-prohibitive.

The DEIR presented a bay-wide analysis of potential new disposal site locations leading to an evaluation of the potential impacts associated with designation of either of the two candidate disposal sites located in close proximity to the historical BBDS and Cleveland Ledge Disposal Site (CLDS). Candidate site 1 is 1,600 meters by 1,600 meters (one square mile) and is located approximately 500 meters southwest of the historically used BBDS. Approximately 300 meters of the northern section of candidate site 1 is contained within the historic CLDS boundary. Candidate site 2 is a rectangular area that is 1,000 meters by 1,700 meters (0.66 square mile) in size and centered immediately east of the BBDS (and slightly overlapping the BBDS boundary). Candidate site 2 is contained entirely within the boundary of the historic CLDS. Most of the area encompassed by each site has a water depth of 12 meters (39 feet) or greater, thereby providing significantly greater capacity to accommodate the anticipated volume of dredged material than the former BBDS. CZM states that both sites have more than adequate capacity to accommodate projected 20-year estimates of the amount of material that may require open water disposal.

#### Evaluation of Candidate Sites 1 and 2

The DEIR provided a summary of the suitability of candidate sites 1 and 2, based on a wide range of site evaluation factors. Based on the physical, chemical, biological, human use characteristics, and impacts from proposed disposal activities data, CZM states that both candidate sites provide suitable conditions for dredged material disposal. However, according to a conservative recommendation set forth in the DEIR, candidate site 1 is preferred over candidate site 2. The following sections of this Certificate address issues that CZM must clarify regarding candidate site evaluation.

#### *Sediment Grain Size and Chemistry*

The deeper water areas of both candidate disposal sites consist of predominantly fine-grained silt and clay, while shallower areas have a greater component of fine to medium sand. According to the DEIR, the existing sediments of all grain sizes at candidate sites 1 and 2 have non-detectable and/or negligible detected levels of contaminants. There is no evidence of



increased contaminant concentrations related to historical disposal activities at each site. According to CZM, this indicates that historical disposal of clean dredged material has not resulted in any evidence of degraded sediment quality. Because the alternative sites will be used for disposal of CDM, the DEIR asserts that there is no reason to suspect that sediment chemistry will be degraded by future disposal activities.

While the DEIR states that only clean sediments will be disposed of at the site, commenters have raised concerns that the testing procedures may not be sufficiently rigorous and contaminated sediments may slip through that review and be disposed of at the site. Several reviewers have stated that the DEIR does not adequately address the issue of contaminants that may be present in dredged fine-grained sediment and organic-rich sediments proposed for disposal at the candidate sites. The SDEIR should respond to comments about methodology used to measure sediment contamination levels and to concerns about potential negative impacts from the dispersal of fine-grained sediments and contaminated organic matter. In response to comments from Mass Audubon, I encourage CZM, DEP and the ACOE to continually review potential contamination issues associated with offshore disposal of dredged materials at this site, and make adjustments to permitting and testing procedures as necessary.

#### *Water Quality and Nitrogen*

The Town of Falmouth has stated that the DEIR does not adequately address the issue of nutrients, particularly nitrogen that may be present in dredged materials proposed for disposal. In addition, DEP has provided comments on the potential water quality impacts of the proposed BBDS as it relates to the potential release of nitrogen from dredged material and the effects of nitrogen on embayments being evaluated by the Massachusetts Estuaries Program (MEP). The MEP is in the process of developing site-specific nitrogen thresholds for most of the embayments on Cape Cod, the Islands and Buzzards Bay. The thresholds are based on specific observations and certain assumptions as to the water quality in the open water (also called a boundary condition).

Although the MEP has yet to develop thresholds for most of Buzzards Bay the MEP has already collected water quality data and conducted hydrodynamic modeling for West Falmouth Harbor, the closest embayment to the proposed BBDS. Based on three years of data collection the data indicate that the average boundary concentration of total nitrogen entering the harbor is 0.346 mg/l. Given the above, the goal should be to ensure that any dredged material disposed of at the BBDS would not change this boundary condition over the long-term because field observations indicate that this concentration is necessary to maintain important habitat.

DEP recommends in its comments that the SDEIR evaluate and develop a plan for monitoring potential nitrogen release impacts of the BBDS on water quality in the affected waters, including West Falmouth Harbor. For example, open water modeling with actual sampling might be appropriate, along with a proposed plan for administering longer term sampling during the term of the project. DEP is willing to discuss the development of a modeling and sampling strategy with the project proponent to address these concerns. The SDEIR should also address the predicted period of time that the nitrogen might be released, and how to

determine whether any increase at the sampling location was related to the disposal of sediment or to other sources.

#### *Hydrodynamics and Sediment Resuspension Potential*

According to CZM, the preferred alternative site should consist of a depositional environment that will provide long-term stability of the substrate so that dredged material mounds will not experience appreciable erosion. Based on an analysis and models of tidal currents, wind conditions and fetch at the two proposed alternatives, the DEIR asserts that the substrate in water depths of greater than 11 meters will not be impacted. Disposal activities at either site will be managed to maximize mound stability and minimize potential erosion. The Coalition for Buzzards Bay has raised questions about the assumptions used in the modeling of wind, wave and current data at the two candidate sites. The SDEIR should address these comments and discuss impacts on sediment transportation from extreme wind, wave and current events.

#### *Water Column Chemistry*

Based on the results of modeling conducted by CZM, increases in total suspended solids (TSS) from disposal events will exceed pre-disposal background concentrations by very minor amounts. The outside boundary of the horizontal extent of silt and clay particles originating from a typical disposal event would extend approximately one-half mile from the landward boundary of disposal site 1 and nearly 0.75 mile landward of the boundary of disposal site 2. Results of modeling also show no sediment movement would occur inside the boundaries of either site under simulated storm waves and currents.

The SDEIR should respond to concerns about the potential for resuspension and mobilization of dredge mound sediments; the role of bioturbation in altering the stability of the sediments; and the mobile nature of the seabed at each site. The SDEIR should address concerns related to the potential of transported sediments from disposal activity to be transported to West Falmouth Harbor. Commenters have indicated that the harbor channel in West Falmouth is already at a critical stage concerning its depth and width from silting that occurs naturally.

#### *Impacts on the Benthic Community*

CZM states in the DEIR that candidate sites 1 and 2 currently support comparable benthic communities, dominated by opportunistic species that are expected to quickly recolonize the added clean dredged material resulting from disposal activities. Based on the similarity in the existing benthic community at both sites, there are no distinguishing factors that favor one candidate site over the other in terms of benthic community impacts. The assertion that impacts to the benthic community will be limited is challenged by several commenters; the SDEIR should address these concerns and should provide further information on whether meaningful recolonization can occur after each disposal activity, or only after the site is closed. The SDEIR should also respond to comments from the Town of Falmouth regarding sampling used to determine current biological populations at the two candidate sites and to determine potential impacts to benthic communities.

The SDEIR should address comments about the potential for dredged material disposal to create conditions favorable for a toxic red tide bloom. The dinoflagellates responsible for causing red tide blooms are already present in Buzzards Bay.

### *Potential Impacts on Fishery Resources*

#### Finfish

Trawl surveys conducted by CZM at the candidate sites showed that they support essentially the same finfish populations, however, there are habitat features in proximity to candidate site 2 that may be more valuable to finfish resources in the bay. Both candidate sites appear to provide suitable habitat for a variety of juvenile finfish. Because juveniles are less mobile than adults, they may not easily move to avoid barge activity and the short-term turbidity associated with disposal events. Therefore, CZM has committed to avoiding direct impact to juvenile finfish via implementation of an open dredged window from November through March, the seasonal period when total juvenile finfish species richness, abundance and biomass is the lowest. In addition, limiting disposal activities to mid-fall through the onset of winter flounder spawning in mid-January or February will protect most of the prevalent species in the northern bay.

The SDEIR should respond to comments regarding the historical decline in indigenous finfish species that utilize the Bay for spawning, breeding, foraging and habitat. The SDEIR should also address suggestions that a narrower dredging dumping window be established to avoid impacts to finfish spawning. Potential disposal impacts to fisheries and marine habitat were modeled on the presumption that all dumping will occur at the center point of the site. The MA Division of Marine Fisheries (DMF) has noted in its comments that it is not uncommon for dumping to occur at the edges of a disposal site or even outside the designated border. The SDEIR should respond to this issue.

#### Shellfish

Shellfish harvesting activities in the vicinity of the candidate disposal sites include conch pot activity in deeper waters of the bay and scallop harvesting concentrated in deeper-water areas around Cleveland Ledge. Some interference with conch harvests, which occur through mid-December, may result from disposal activities. The fine-grained substrate in the basin areas of candidate sites 1 and 2 provides less suitable scallop habitat, and according to CZM, the addition of clean dredged material to similar substrate at the candidate sites from disposal activities will not result in an appreciable long-term impact on scallop fisheries. Potential short-term impacts from disposal activities consist of the impacts from turbidity and setting of the finest grain materials within and slightly beyond the disposal sites. CZM asserts that while potential impacts to shellfish resources from disposal activities at each of the candidate sites is comparable, and secondary effects to nearby resources will be negligible, a conservative recommendation favors candidate site 1 over site 2 to locate disposal activities further from possible scallop harvest areas.

The SDEIR should clarify how it defines potential "short-term" impacts to shellfish resources. The SDEIR should respond to comments from the Coalition for Buzzards Bay that claim that the sampling method used to determine shellfish species and abundance at the candidate sites was inadequate to allow CZM to reach a definitive conclusion about the impacts of disposal activities. The SDEIR should also respond to concerns raised by the Town of Falmouth regarding the impact of contaminated sediment disposal on aquaculture and shellfish habitat in West Falmouth Harbor.

#### Lobster

Based on site-specific information, the DEIR states that the lobster habitat within the candidate disposal sites is considered sub-optimal. However, the soft-bottom substrate at both sites likely provides burrowing sites for juveniles and is likely to be inhabited by adult lobsters as well. The DEIR states that the overall habitat value to lobster at either site is not anticipated to change and lobsters are expected to recolonize either site following disposal activities. The SDEIR should respond to comments from DMF that potential lobster mortality resulting from disposal activities may be underestimated.

#### *Potential Impacts on Commercial and Recreational Harvest of Finfish, Shellfish and Lobster*

Mapped areas indicating commercial and recreational finfishing activities suggest that most recreational fishing efforts are concentrated further north of the candidate sites, between Cleveland Ledge and the Cape Cod Canal. The area encompassing the CLDS and candidate sites 1 and 2 are utilized for scup and tautog, and some user conflicts may occur in the fall if the charter season overlaps with the start of the disposal season. Indirect impacts to finfish harvesting activities may also result from disposal activities. CZM asserts that these impacts would be confined within a relatively small area of the disposal sites, in comparison to the extensive area of Buzzards Bay. Commercial finfishing activities generally occur in the summer months when disposal activities would not. However, in an effort to avoid potentially valuable habitat areas associated with Gifford Ledge, CZM states that the selection of candidate site 1 over candidate site 2 would be favored.

Potential impacts to commercial shellfish harvests include possible conflicts with the placement of conch pots, which would not be avoidable at either site and may be slightly more of an issue at candidate site 1, which is part of a broad, contiguous, deep-water area of the bay that may be suitable for this activity. In contrast, avoidance of potential scallop sets will be best accomplished through designation of site 1, which is located slightly further away from the northern limits of Cleveland Ledge where scallop sets are known to occur. In addition, candidate site 1 is further away from the near shore shellfish resources and habitat such as quahog, soft-shelled clam, blue mussel, oyster and eelgrass beds that provide attachment nurseries for juvenile shellfish.

Gifford Ledge abutting candidate site 2 provides suitable lobster habitat and commercial harvesting is known to occur around the ledge in July. Commercial harvesting occurs throughout the winter and will overlap the typical disposal season. Potential impacts include conflicts with fixed gear, as well as potential impacts to habitat areas provided by the ledge from disposal

activities in candidate site 2.

The SDEIR should respond to assertions that the information provided to assess the competing uses of the candidate sites is insufficient. The SDEIR should specifically address impacts to fishermen from the City of New Bedford and the interests of the Wampanoag Indian Tribe.

#### *Potential Impacts on Rare or Endangered Species*

After filing the ENF, CZM submitted a Rare Species Information Request to the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP). NHESP responded on February 28, 2002 that it was not aware of any rare plants or animals in the site designation area. However, in 2003, NHESP created a new Priority Habitat (PH 1483) for rare species in Buzzards Bay, based on new occurrence and foraging information. Candidate site 2 is fully within this Priority Habitat, and candidate site 1 is partially within the new Priority Habitat. Both disposal sites appear to be located within the actual habitat of several state-listed birds: the Roseate Tern (*Sterna dougallii*; Endangered), the Common Tern (*Sterna hirundo*; Special Concern) and the Least Tern (*Sterna antillarum*; Special Concern). These species are state-listed pursuant to the Massachusetts Endangered Species Act (MESA, MGL 131A) and its implementing regulations (321 CMR 10.00). The Roseate Tern is also federally listed pursuant to the Endangered Species Act administered by the US Fish and Wildlife Service.

NHESP's comments on the DEIR address concerns about the impacts of the proposed site designation on food availability for terns and impacts to tern health and reproduction due to contaminants. Terns forage up to 30 kilometers from breeding islands, using the waters in and around the site designation area for feeding on juvenile fish and small crustaceans. Restricting dredge disposal activities to the fall and winter will likely protect some fish spawning and nursery habitat, and terns are not present in the Bay during this time. However, as the DEIR notes, several fish species rely on mature benthic communities for spawning or nursery activities. Disruption of juvenile fish habitat and reduced fish dispersal and recruitment may result in lowered abundance of fish in foraging areas. In response to comments from NHESP, CZM should conduct state-listed tern foraging surveys within two miles of the center point of each candidate site between April 1 and September 15. CZM should consult with NHESP regarding survey methodology. The SDEIR should include the results of the tern surveys.

In addition, as high-level predators, terns are very sensitive to accumulations of contaminants from lower trophic levels. Evaluation of the suitability of dredged material for disposal must be based on a sampling design and procedures that have an extremely high probability of detecting contaminants if they occur in dredged sediments. According to NHESP, the DEIR did not provide enough detail on the proposed procedures for contaminants testing to address concerns about the translocation of contaminated sediments. The SDEIR should provide further information on the standards that will be used to determine a safe level of contaminant at the sites, with special regard to potential impacts to rare terns.

NHESP has determined that the reduction in the abundance of juvenile fish and the introduction of pollutants into rare species habitat caused by disposal of dredge material at the

candidate sites could result in a prohibited “take” of rare species pursuant to the MESA. A project resulting in a “take” may only be permitted if it meets the performance standards for a Conservation and Management Permit (321 CRM 10.23). The SDEIR should include the results of all habitat assessments and field surveys, in addition to plans for the long-term management of the habitat on site and any relevant communication with the NHESP.

#### *Potential Impacts on Wetlands or Submerged Aquatic Vegetation*

The DEIR asserts that based on the distance between the nearest shoreline resource areas and the candidate disposal sites, no impacts on wetlands or submerged aquatic vegetation are expected. Candidate site 2 is located at least approximately 1,200 meters from the nearest mapped eelgrass bed, and candidate site 1 is located substantially farther away, approximately 2,800 meters. Disposal activities would most likely be occurring during fall and winter when the vegetation in these resource areas has become dormant for the year, and therefore, effects on these resource areas are not anticipated. As a conservative measure, candidate site 1 is located further from shoreline resource areas and the mapped eelgrass bed to the east, and therefore is favored over candidate site 2. The SDEIR should respond to comments from the Town of Falmouth regarding the adequacy of information presented in the DEIR about submerged aquatic vegetation and eelgrass.

#### *Potential Impacts on Historical and Archaeological Resources*

The DEIR states that surveys conducted at the candidate disposal sites have not indicated the presence of shipwrecks. However, in its comments on the DEIR, the Board of Underwater Archaeological Resources (BUAR) notes the presence of a potentially significant cultural resource, believed to be the property of the U.S. Department of the Navy, close to or within one of the candidate sites. In response to comments from the Massachusetts Historical Commission (MHC), CZM should work with MHC and BUAR to develop an archaeological site avoidance and protection plan for the known historical archaeological site. The plan should describe how disposal activities would be undertaken to ensure that the historic site will be avoided. CZM should work with the U.S. Navy to determine a suitable buffer zone around the submerged historical archaeological site.

In addition, BUAR states in its comments that it cannot conclude that there are no additional historic archaeological resources within candidate sites 1 and 2. BUAR concurs with the DEIR that more detailed investigations, involving magnometer and sub-bottom surveys, are required to confirm the absence of submerged historic cultural resources. In addition, CZM should note comments from BUAR with regard to submerged prehistoric cultural resources. The SDEIR should provide an expanded historical context for the two candidate disposal sites that addresses comments from BUAR. Specifically, the SDEIR should consider maritime activity in northern Buzzards Bay after the onset of the Industrial Revolution, and should provide a more comprehensive and definitive source for all submerged historic cultural resources.

CZM should also consult with the U.S. Coast Guard and the ACOE to evaluate potential effects the site designation may or may not have on the significant historic characteristics of the Cleveland Ledge Light Station, which is listed on the National Register of Historic Places.

*Potential Impacts on Navigation and Shipping*

The DEIR states that the volume of disposal activity related vessel traffic anticipated at the designated disposal site constitutes a very small increase in the substantial volume of commercial and recreational traffic in this portion of the bay. Therefore, the impacts of site designation on navigation and shipping in the bay are expected to be negligible for either candidate disposal site.

Candidate site 1 is located parallel with vessel traffic routes between the mouth of the bay and aligned between the Canal approach channel and the Woods Hole region. However, it will be possible for vessel traffic transiting the Bay in this area during disposal activities to pass to the east or west of candidate site 1 to avoid interference from the disposal scows. While candidate site 2 is located further east, out of alignment with these traffic corridors, there are overriding concerns with maneuvering within candidate site 2 that makes candidate site 1 the preferred site.

In terms of the safety and ease of navigation within and around the candidate disposal sites, candidate site 1 is preferred over candidate site 2. Candidate site 1 has deeper water access from all sides compared to candidate site 2. The boundaries of candidate site 2 abut two prominent, shallow features (Gifford Ledge, a rocky ledge located immediately to the east, and a historical disposal mound located immediately to the west). These features have water depths close to and/or shallower than the draft of a loaded scow or hopper dredge, and present obstacles to maneuvering that would decrease the safety and reliability of disposal operations at candidate site 2. Therefore, candidate site 1 is preferred over candidate site 2 for navigation and safety concerns.

The DEIR states that an onboard inspector will be assigned to ensure that Global Positioning System (GPS) coordinates will be adhered to for positioning vessels at exact spots within the BBDS and that a pre-positioned buoy will be anchored over the site where dredge spoils would be dumped. The SDEIR should respond to concerns raised by the Town of Falmouth with regard to risks caused by misplaced loads. In addition the SDEIR should address concerns raised regarding the projected volume of barge activity and the potential for marine accidents.

*Potential Impacts on Land Use and Special Area Designations*

The DEIR states that no impacts to land use in Falmouth or to designated special areas are anticipated as a result of disposal activities at the proposed candidate disposal sites. The Bourne Back River Estuary was designated an Estuary of National Significance by the U.S. Environmental Protection Agency in 1988. It is part of the Cape and Islands Ocean Sanctuary, which includes all of Buzzards Bay and both proposed candidate disposal sites. The DEIR states that the proposed disposal of suitable dredged material is a permissible activity within a Massachusetts Ocean Sanctuary. According to the Coalition for Buzzards Bay, the bay was designated as an "Area of Special Interest" pursuant to MGL c. 21, § 50B in 2004, and pursuant to the Clean Vessel Act (33 U.S.C. §1322, 16 U.S.C. §777(c)) is a "no discharge zone" for marine waste. The SDEIR should respond to comments that raise concern about conflicting uses in designated special areas. The SDEIR should also discuss how use of the BBDS is compatible

with the above designations.

### Compliance with Regulatory Standards

Disposal of dredged material within the baseline of the Commonwealth's territorial sea is regulated at the local, state, and federal level. The DEIR includes a description of the primary standards and regulations for aquatic disposal as they relate to use of the preferred alternative. While the designation of the site itself does not require a permit, projects proposing to use the site will be subject to the following regulatory requirements:

- Wetlands Protection Act - Order of Conditions from Falmouth Conservation Commission
- Massachusetts Environmental Policy Act – Certificate from the Secretary of Environmental Affairs (if greater than 10,000 cy of material)
- Clean Water Act Section 401 – Water Quality Certification from DEP
- MGL Chapter 91, the Public Waterfront Act – Waterways permit from DEP
- Coastal Zone Management Act – Federal consistency review from CZM
- Rivers and Harbors Act – US Army Corps of Engineers
- Clean Water Act Section 404 – Corps with recommendations from National Marine Fisheries Agency and US Fisheries & Wildlife Service and formal concurrence from US Environmental Protection Agency

Although the Town of Falmouth has a Local Wetlands Bylaw, it is CZM's position that the local bylaw would not apply to the designation of the site as a dredged material disposal site and its use for such purposes. As stated by CZM in the DEIR, such activities are essential government functions on Commonwealth property to which the local bylaw would not apply. However, CZM acknowledges that there would be extensive cooperation on wetlands issues with the Falmouth Conservation Commission through the application of the state Wetlands Protection Act to these activities. CZM has also suggested that the Town of Falmouth Conservation Commission be represented on the Disposal Monitoring and Advisory Committee that is proposed in the DEIR's Management and Monitoring Plan.

The SDEIR should respond to comments from the Town of Falmouth regarding the jurisdiction of the Falmouth Conservation Commission over individual disposal activities at the proposed site. The SDEIR should also discuss the role of the Cape Cod Commission related to the site. In response to comments from the Cape Cod Commission, the SDEIR should include an analysis of the extent to which designation and use of the disposal site is consistent with the 2002 Cape Cod Commission Regional Policy Plan; the Comprehensive Conservation and Management Plan for the Buzzards Bay Project National Estuary Program; and the Town of Falmouth Local Comprehensive Plan.

The SDEIR should also address how the proposal meets the standards of the Ocean Dumping Act regulations at 40 CFR 228.5(e) and specifically address comments from the Coalition for Buzzards Bay related to the historic use of candidate site 1.



### Mitigation

The Certificate on the ENF required that CZM evaluate mitigation opportunities for identified impacts which cannot be avoided; identify the specific measures and strategies to be implemented; and identify the parties responsible for funding and implementation. According to the DEIR, resources subject to potential mitigation are characterized under the Wetlands Protection Regulations as Land Under the Ocean (LUO) and/or Land Containing Shellfish. CZM states that use of the disposal site will not cause permanent or significant adverse impacts to resources identified under 310 CMR 10.25 and 10.34. The unavoidable impacts of disposal site use will be temporary, limited to burial of non-mobile organisms and a temporary, localized increase in turbidity. Because site designation and use does not constitute a permanent loss of wetland functions defined under the Wetlands Protection Regulations, the DEIR does not propose specific mitigation measures pursuant to 310 CMR 10.00.

Appropriate mitigation of potential impacts from disposal activities will be incorporated into the disposal Site Monitoring and Management Plan (SMMP), which was submitted with the DEIR. The plan includes details about the evaluation of the types of material to be disposed of at the designated site, consideration of disposal methods, and recommendations for follow-up monitoring to ensure that short- and long-term impacts to the aquatic environment are negligible. The draft SMMP for the BBDS includes a conservative monitoring schedule, with comprehensive post-disposal monitoring requirements, to provide an early, post-disposal indication of whether adverse impacts are occurring.

The major elements of the management plan include the following:

- Establish an Oversight Committee to review site use data and advise the Department of Conservation and Recreation on site use and management;
- Develop project-specific site use requirements for incorporation as permit conditions;
- Develop monitoring guidelines for continuing assessment of site conditions and site use impacts;
- Designate the entire site boundary, but restrict disposal to sub-areas that can be expanded within the overall site in response to demonstrated future need;
- Establish three initial sub-areas based on the general northwest/southeast orientation of generally diminishing grain size: one for placement of dredged material comprised mostly of medium sand, one for fine sand dredged material, and one for muddy dredged material;
- Prohibit site use between April 1 and October 31, based on the initial recommendation from the DMF (subject to modification per DMF); and
- Formally reassess overall site capacity based on post-designation site use when 500,000 cubic yards of dredged material (25% of initial designation capacity) has been placed at the site.

In response to comments from the Cape Cod Commission, the SDEIR should propose a mechanism for allocating the capacity of the disposal site. The SDEIR should also address the

issue of the finite capacity of the proposed disposal area, establishing a mechanism to assess remaining capacity and a strategy for dealing with additional material from disposal projects that ensue once the site is closed or decommissioned.

Comments on the DEIR have raised many questions as to how the disposal site might change over the 20-year life of the project, both physically and biologically. The SDEIR should include a commitment to develop a comprehensive monitoring plan for the duration of disposal and for 10 years following. The plan should replicate the baseline environmental, geophysical and biological data collected and be used to measure physical and biological changes to the sites and adjacent bay floor and coast. The SDEIR should also describe how CZM will conduct monitoring of the post-disposal recovery of benthic communities. The SDEIR should also respond to comments from DMF regarding the use of Marine Fishery Resource Assessment Survey Data and National Marine Fisheries Service trawl sampling data for long-term monitoring of impacts to fishery species.

DCR's Office of Waterways has stated that it is capable of participating in the joint management of the site with DEP and CZM. DCR's involvement would center on accomplishing the engineering tasks necessary to monitor the site, and management of the buoys required for the site. CZM should address concerns about the ability of DCR to monitor this site. The SDEIR should also discuss the role of the USACE in project monitoring. The SDEIR should clearly lay out a plan for the management and monitoring of the site and should outline the roles and responsibilities of the various agencies that will be involved in site management and monitoring. In addition, CZM should outline how each element of site management and monitoring will be funded.

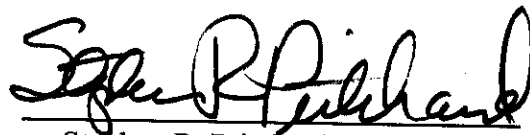
The SDEIR should provide additional information on contingency plans or remediation measures that would be implemented if dumping activity does not follow the management plan, if impacts to biology and natural resources are greater than predicted, or if sediment transport occurs. Furthermore, the SDEIR should outline Best Management Practices (BMPs) and contingency plans to address spills and inadvertent discharges. Such plans should include procedures for clean-up, mitigation, and restoration actions, as well as identify potential funding sources for such actions.

#### Responses to Comments

Unless specifically addressed elsewhere in this Scope, the SDEIR should respond to the comments received on the DEIR, including the detailed and specific comments provided by the U.S. Army Corps of Engineers. Each comment letter should be reprinted in the SDEIR. The Response to Comments section should provide clear answers to questions raised.

March 3, 2006

Date

  
Stephen R. Pritchard, Secretary

## Comments Received:

5/23/2005 Deerin Babb-Brott  
11/28/2005 The Coalition for Buzzards Bay  
11/30/2005 Eric T. Turkington, State Representative, Barnstable, Dukes & Nantucket District  
11/30/2005 George Hampson  
12/2/2005 Robert L. Whritenour, Town Administrator, Town of Falmouth  
12/2/2005 Association to Preserve Cape Cod  
12/6/2005 Falmouth Associations Concerned with Estuaries and Saltponds (FACES)  
12/12/2005 George Hampson, Falmouth Coastal Ponds Management Committee  
12/13/2005 Therese Murray, State Senator, Plymouth & Barnstable District  
12/13/2005 The Coalition for Buzzards Bay  
12/15/2005 John F. Quinn, State Representative, 9<sup>th</sup> Bristol District  
12/19/2005 Oliver W. Egleston, Chapoquoit Associates  
12/20/2005 Massachusetts Marine Trades Association  
12/22/2005 Eric T. Turkington, State Representative, Barnstable, Dukes & Nantucket District  
12/22/2005 Robert E. McLaughlin  
12/22/2005 Rick Armstrong  
12/29/2005 Robin Wheeler, c/o Bowerman's Beach Association  
1/5/2005 The Coalition for Buzzards Bay  
1/5/2006 West Falmouth Boat Club, Inc.  
1/11/2006 The Bourne Shellfish Working Group  
1/24/2006 Department of Conservation and Recreation  
1/30/2006 Michael L. Parola, Town of Wareham Harbormaster  
2/5/2006 Robin Wheeler  
2/5/2006 Richard B. Earle, Town of Westport Harbormaster  
2/10/2006 Joyce L. Gallagher  
2/14/2006 Maryanne Smith, North Falmouth Village Association  
2/17/2006 Falmouth Associations Concerned with Estuaries and Saltponds (FACES)  
2/21/2006 Massachusetts Board of Underwater Archaeological Resources  
2/21/2006 William Faxon  
2/22/2006 Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program  
2/22/2006 Town of Falmouth  
2/23/2006 Massachusetts Historical Commission  
2/23/2006 Falmouth Conservation Commission  
2/23/2006 ESS Group, Inc. on behalf of the City of Fall River  
2/24/2006 Mass Audubon  
2/24/2006 Department of Environmental Protection, Southeast Regional Office  
2/24/2006 The Coalition for Buzzards Bay  
2/24/2006 Cape Cod Commission  
2/27/2006 Division of Marine Fisheries  
2/27/2006 Department of the Army, Corps of Engineers

3/14/2006 Department of Conservation and Recreation  
4/7/2006 Department of Environmental Protection

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