RESPONSE TO COMMENTS ON
NON-TIME CRITICAL REMOVAL ACTION
90% PHASE I (ONLY) CAUSEWAY DESIGN
STRATFORD ARMY ENGINE PLANT
STRATFORD, CONNECTICUT

U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
CONCORD, MASSACHUSETTS

by

HARDING ESE, INC.
A MACTEC COMPANY
PORTLAND, MAINE

August 13, 2001

RESPONSE TO COMMENTS ON
NON-TIME CRITICAL REMOVAL ACTION
PHASE I 90% CAUSEWAY DESIGN
STRATFORD ARMY ENGINE PLANT
STRATFORD, CONNECTICUT

Comment # **Comment/Response**

USEPA Comments Date July 24, 2001 on the NTCRA 90% Phases I Basis of Design – Causeway.

Comment: -Section 2.5.1 Heave Platforms, page 2-6 (last paragraph) to page 2-7 (first paragraph) Locations of the proposed five heave platforms: It is stated that five locations for five heave platforms are proposed based on the results of the slope stability analysis, but it is not clear that one heave platform at each location can actually observe a potential heave. To observe a potential heave near and away from the causeway during construction (e.g., a bearing capacity failure or a rotational failure), suggest two heave platforms at each potential location: one platform at a distance of about 15-20 feet outward from the toe and another one about 30-40 feet outward from the toe of the Causeway.

Response: The text in the Basis of Design and the appropriate specifications will be revised to indicate the following changes, based on the comment. Temporary poles (12-foot long 2x4) shall be placed 15 to 20 feet outward from the limit of work, in the tidal sediments. These temporary poles shall be installed to a depth of 5 to 7 feet into the tidal sediment. Stakes shall be spaced at 50-foot intervals and shall be provided with a target to facilitate monitoring of heave from the causeway during construction activities. Stakes shall be monitored such that two locations are monitored when active work on side slopes (i.e., below the rip-rap transition) is being performed. Install poles a minimum of 1 day prior to initial measurements. Remove poles as the work progresses, except for the five adjacent to the heave platforms. The elevation of the stakes shall be surveyed at the commencement and the completion of construction activities each day, at a minimum. Changes in stake elevation shall be reported to the engineer in accordance with the requirements for heave platforms.

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Comment # Comment/Response

CTDEP Comments Dated August 2, 2001 on the NTCRA 90% Phases I & II Basis of Design – Causeway.

SOIL REMOVAL

1. Comment: Provide for contingent further evaluation of any gross pollution that is encountered, as it may be evidence of a previously undocumented release.

   Response: Several previous investigations completed for the EE/CA, as approved by the CTDEP have characterized the extent of contamination on the Causeway, consequently it is not probable that gross pollution will be discovered during construction activities outside of the areas already identified to require excavation.

   However, a contingency for the removal of soil containing gross visual or olfactory contamination from the Causeway was included in the design. The following modification will be made to Section 02111 EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL:

   1.8 Additional Gross Pollution
   A potential for the identification of additional gross contamination exists during excavation activities. During excavation, the Contractor shall make a conscious effort to identify such gross contamination based on visual and olfactory evidence, and notify the Contracting Officer. Should contamination be identified, all work shall be performed as described in this section.

2 Comment: In addition to the "gross pollution" trigger, further evaluate any areas that appear anomalous in comparison to the existing characterization record for the causeway soils.

   Response: See response to comment 1. In addition, due to the nature of the causeway fill materials (uncontrolled fill), anomalies are expected, and are not indicative of contamination requiring removal to meet the objectives of this NTCRA.

3. Comment: The Army should include spot removal of soil where PCBs greater than 1 ppm have been identified.

   Response: There are six locations on the Causeway where PCB concentrations in soil

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exceed 1 ppm: TP-DEP-11, TP-99-06, TP-99-10, TP-99-22, TP-99-23, and CB-99-02 (see Figure 1, attached). Total PCB concentrations in soils at these locations range from 1.6 to 11 ppm. Two of the locations (TP-DEP-11 and TP-99-10) where PCBs in soil exceed 1 ppm, are co-located with proposed excavation areas (EA-3 and EA-5) previously identified in the Causeway Design. The remaining four locations where PCB concentrations exceed 1 ppm will be added to areas requiring excavation in the Design, and will be designated as follows:

EA-7, centered on TP-99-06 (minimum excavation depth 8 feet)
EA-8, centered on TP-99-22 (minimum excavation depth 3 feet)
EA-9, centered on TP-99-23 (minimum excavation depth 3 feet)
EA-10, centered on CB-99-02 (minimum excavation depth 2 feet)

4. Comment: Provide for removal as necessary of grossly polluted soil at the plant-side staging areas if such soil is encountered during site preparation.

Response: Subsurface penetration during site preparation activities, including stockpile and decontamination area construction, is not anticipated. Therefore, grossly polluted soil beneath the existing pavement will not be encountered. No change will be made to the design as a result of this comment. In the other areas (i.e., B-34 and B-5 demolition), the potential does exist, as noted. The modification to 02111 indicated in response to comment 1 is believed to also address the potential identified in the comment.

GEOTECHNICAL

5. Comment: Describe how erosion/piping of material at the side joints between marine mattresses will be limited.

Response: Erosion/piping of material between the marine mattresses is not anticipated to occur because construction of the system is such that the space between the mattresses will not be a preferential flow path. The open/porous nature of the individual mattresses will allow the infiltration/flow of water throughout the entire area of the mattresses. In addition, the mattresses are tied together to limit the potential for separation, and the underlying geotextile will be overlapped and will be placed perpendicular to the mattresses. Therefore, no change will be made to the design as a result of this comment.

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6. Comment: Discuss effectiveness of the self-sealing aspect of the toe area of the polymeric marine mattresses system in the presence of the proposed underlying geogrid/rock systems of type 1 and type 2 toe details.

   Response: The mattress has a self-seating (not sealing) aspect, where in typical installations, the mattress is lain on the surface and eventually over time, it settles into the sediments. However, due to project constraints on encroachment, the mattresses will be placed such that the top matches existing grade. Because this excavation will be performed, the mattresses will not be required to sink into the tidal mud to "self-seat"; however, a limited amount of sinking is still possible as a result of the underlying soft sediments. Any such settlement will ultimately result in a minor decrease in the aerial extent of the causeway near the toe. Therefore, no change will be made to the design as a result of this comment.

7. Comment: Use of recycled/processed concrete material in rock fill (marine mattresses) should not be authorized without evaluation of its resistance to the marine environment of proposed placement.

   Response: Section 02380 – POLYMERIC MARINE MATTRESS, Paragraph 2.2.4 Rock Fill, sub-part b, states, "Broken concrete and rounded stone are not acceptable."

8. Comment: State regulations may require a licensed monitor well contractor be used to abandon and reconstruct monitoring wells.

   Response: The following text will be added to Section 02522 MONITORING WELLS, as follows:
   1.5 License Requirements
   All work related to monitoring wells is to be performed by a contractor licensed by the State of Connecticut to perform the work required under this contract.

9. Comment: Retained groundwater monitoring well actual condition, including casing elevation and depth, should be documented prior to construction. Also, wells should be monitored for settlement effects.

   Response: The existing condition of the existing monitoring wells will be recorded prior to construction of the cover system and lengthening of the wells. To account for settlement effects, future requirements for monitoring of these wells will include elevation surveys, as

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deemed appropriate. The text in the Basis of Design, the appropriate specifications, and the drawings will be revised to reflect this change.

10. Comments: Provide for appropriate outer well casing drainage and well seals to limit potential for storm-tide waters to enter monitoring wells or be trapped between casings.

Response: The monitoring well detail drawing will be revised to indicate that sand shall be installed in the annular space between the protective outer casing and the monitoring well to a minimum depth of 2 inches below the outer casing, to provide for drainage. In addition, the drawing will indicate that a watertight cap shall be used to seal the PVC well risers.

MATERIAL HANDLING

11. Comment: To the extent possible, use dry methods for segregation of fine material from oversize debris. In one place the specifications seem to indicate that a washing area with a discharge to surface water will be established; such discharge would require a permit and is not recommended.

Response: Specification Section 02111 EXCAVATION AND HANDLING OF CONTAMINATED MATERIALS, Paragraph 3.3 states the following (modifications are indicated by underline):

Oversized debris shall be cleaned of excess soil <u>first by</u> using <u>mechanical methods followed by use of</u> high-pressure cleaning equipment, prior to removal from the Causeway. Washing shall be performed in close proximity to the removal area, with water allowed to infiltrate the ground surface. The Contractor shall perform washing in such a manner to minimize the potential for migration of sediments, and shall perform washing only in areas above elevation 6, and above at least one active siltation barrier.

12. Comment: Use of detergents for decontamination should be avoided if the discharge is to the chemical wastewater treatment plant. If detergents are used, consider obtaining sanitary sewer discharge authorization.

Response: The appropriate specification will be revised to indicate that decontamination of equipment and personnel shall be completed with water only to the extent possible. If

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surfactants are used, they shall be segregated. The specification will also state that any discharge to the CWTP shall be free of surfactants, unless otherwise approved by the CWTP.

13. Comment: No location or process detail for oversize debris size reduction is identified. Note that rock crushing may require an air program permit.

Response: Due to the status of the Site, CERCLA, no permits are required. Specification section 01410 ENVIRONMENT PROTECTION, Paragraph 1.7 Air Resources provides requirements for the control of vapors and particulates. The paragraph will be changed as follows (underlined text will be added): ...shall be in accordance with Federal and State emission and performance laws and standards.

14. Comment: Ensure fugitive dust associated with oversize debris size reduction is controlled. Fugitive dust potentially containing metals and air toxics are of regulatory concern to DEP's Air Management Bureau.

Response: See response to comment 13.

15. Comment: Describe the stockpile berm's design function and include in stockpile performance requirements the prevention of runoff of liquids and silt. Identify a regular stockpile inspection protocol.

Response: Materials and construction requirements for the stockpile and decontamination areas are included in SECTION 02111 EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL Paragraph 3.6 Contaminated Materials Storage. Part 3.6.1 will have an additional paragraph, as follows:

e. Inspection of the stockpile areas will be conducted on a weekly basis, or following a significant precipitation event, as necessary to assure continued compliance with contract requirements.

16. Comment: Brush chipped into soil should be diffuse and not concentrated, to limit geochemical and geotechnical effects. Evaluate if the chips will adversely impact the cover and describe how their migration during any construction period flooding will be minimized.

Response: The quantity of vegetation to be chipped is not considered significant enough to

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impact the geochemical or geotechnical conditions on the Causeway. SECTION 02230 CLEARING AND GRUBBING, Part 3.3 Disposal of Materials, shall be revised to indicate that upon completion of chipping the resulting debris shall be spread around the Causeway and worked into the top layer of soil, such that the thickness of chipped materials is less than 6 inches.

17. Comment: Identify specific decision criteria for material characterization for disposal consistent with state requirements.

Characterization criteria will be established in accordance with the accepting disposal facility requirements, which in-turn are based on appropriate local, state and federal regulations. No change will be made to the Design as a result of this comment.

18. Comment: Note that materials handled as state regulated special wastes have specific requirements for transportation.

Response: The appropriate reference will be added to Section 02120 TRANSPORTATION AND OFF-SITE DISPOSAL.

19. Comment: DEP recommends that soil over the block cover system also be evaluated for pollution before acceptance.

Response: SECTION 02300 EARTHWORK will be revised to indicate that all materials brought on site shall be certified as clean fill, as defined by the State of Connecticut Regulation , Section 22a-209-1.

EROSION AND SEDIMENT CONTROL

20. Comment: Include Connecticut's Erosion and Sediment Control Guidelines in the appropriate reference sections.

Response: A reference to the Guidelines for Soil Erosion and Sediment Control may be included in the reference portion of SECTION 02271 EROSION AND SEDIMENT CONTROL. Could the reviewer please respond if these rules have been finalized, we believe they are still draft, and not promulgated. Also, please provide a draft copy and statement that compliance with the draft is acceptable.

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21. Comment: Erosion mulch is unlikely to be required to control silt release for closed depressions resulting from spot remediation and grubbing.

    Response: Comment noted.

22. Comment: Describe how the use of straw mulch will be effective in a potential tidal flooding situation, and how its migration will be limited.

    Response: It is recognized that debris may migrate from the Causeway during remedy construction in a potential tidal flooding situation, or during a storm event.

23. Comment: Provide contingent plans to ensure erosion and release of sediment from the site are minimized in the event of a hurricane or major winter storm during the construction period.

    Response: The text in SECTION 02111 EXCAVATION AND HANDLING OF MATERIAL, shall be revised to indicate that a plan for extreme weather conditions, including hurricanes and major winter storms, shall be included in the Construction Contractor's Work Plan. The plan shall include removal of equipment and loose materials and adequate storage of these items.

24. Comment: EA 5 should have a supplemental silt fence installed as necessary between it and the tidal flat.

    Response: A note will be added to the drawing to indicate that the primary silt fence will be supplemented by additional silt fence to encompass all areas on the Causeway where construction activities are being conducted from the start of construction until October 1. In addition, text will be added to SECTION 02271 EROSION AND SEDIMENT CONTROL.

25. Comment: Identify how any exposed soil surfaces will be stabilized during winter shutdown and between the end of construction and when spring seeding is possible.

    Response: A temporary erosion control blanket (i.e., straw or jute in a degradable netting) will be used. Specifications and drawings will be modified.

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Part 3 of SECTION 02271 EROSION AND SEDIMENT CONTROL identifies that any disturbed area shall be mulched above elevation 6 in areas where work is not to be performed for two weeks or longer.

The text in this section will be revised to indicate that the areas shall be mulched, or temporary erosion control blanket placed, as appropriate and as approved by the Contracting Officer. It is the intent of the Army that the end of construction will occur with the placement of the articulated concrete block and interstitial gravel, provided construction is completed before seeding is possible. Spreading of topsoil and subsequent seeding will be completed in the spring season. Revisions will be made to the design, as appropriate to clarify this point.

26. Comment: The seeding specification identifies April 1 to May 30 as the preferred seeding time yet the project timeline indicates seeding will occur in mid-November. Adjust the project schedule to ensure topsoil will be spread and seeded at an appropriate time to allow establishment of a vegetative cover.

Response: The project schedule will be adjusted to indicate that spreading of topsoil and seeding shall occur from April 1 to May 30, as identified in the specifications.

27. Comment: Describe acceptance criteria and inspection and repair measures to ensure an effective final grass cover is established. Ensure that inspection of vegetative cover integrity is conducted after every significant rainfall event until grass growth is sufficient to provide an interlocking root mat.

Response: Part 3 of SECTION 02921 SEEDING describes installation and maintenance procedures for the vegetative cover. The paragraph "Satisfactory Stand of Grass Plants" in this section will be revised as follows: "To be acceptable, a stand of grass shall show a reasonably thick, uniform stand, free from sizable areas of thin or bare spots, with a uniform count of at least 1000 blades of grass per square foot".

EDITORIAL

28. Comment: Attachments D, E and F to Appendix C are not included; opportunity for review comments is reserved.

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Response: These attachments have previously been sent to the CTDEP under separate cover for review.

29. Comment: Ensure that the contractor's air monitoring plan includes evaluation of potential for impact on off-site receptors.

Response: Comment noted. The Design will be modified to indicate that the Contractor will be required to include evaluation of potential for impact on off-site receptors in their Environment Protection Plan.

30. Comment: The specifications seem inconsistent in stating clearly the requirement to characterize all material leaving the site for disposal. DEP expects that any excess material, even that defined as "uncontaminated", will be appropriately characterized and handled. Note that "uncontaminated" in the specifications is not identical to the state regulatory definition of "clean fill".

Response: The text of the Basis of Design and the appropriate specifications will be revised to consistently indicate that all material leaving the site for disposal shall be adequately characterized in accordance with the accepting disposal facility requirements. In addition, a revision will be made to SECTION 02120 TRANSPORTATION AND OFF-SITE DISPOSAL to include reference to the special waste definitions from the CTDEP regulations.

31. Comment: Table 2.1 describing ARARs was not included. DEP requires all state regulations be followed; a list has previously been provided. In all areas where federal regulations are cited there should also be citation of applicable state regulations, or, at a minimum, a general reference to applicable state regulations. State spill response requirements and contact information should explicitly be identified.

Response: Comment noted. Table 2.1 has been sent to the CTDEP under separate cover for review. Revisions to this table will be made to include general reference to applicable state regulations. The Contractor's Site Safety and Health Plan (SSHP) shall contain State spill response requirements and contact information.

32. Comment: DEP reserves the right to review the contractor-prepared list of state regulations.

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Response: Comment noted. The list of regulations will be made available to CTDEP for review.

33. Comment: Details of the long-term care and monitoring program are not included in this submittal. DEP reserves the right to comment on both this and the specific Environmental Land Use Restriction language when these documents are developed.

Response: Details on the long-term care and monitoring program will be included in the Contractor-prepared Operation and Maintenance Manual. This manual will be made available to CTDEP for review in a draft form.

34. Comment: It is DEP's understanding that modifications to the site plan will result from town input and negotiations regarding improvements needed to support the post-closure use. When such details are available, please forward them for review.

Response: The addendum to the Causeway Design, prepared by the Town of Stratford, will be made available to CTDEP for review.

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Comment # Comment/Response

CTDEP-OLISP Comments Dated July 26, 2001 on the NTCRA 90% Phases I Basis of Design – Causeway.

It is now my understanding that Phase I of the project has been designed with several of our concerns in mind. Specific Phase I project components of note from a coastal management perspective include:

1. Comment: The installation and maintenance of effective temporary erosion control measures at ±6' NGVD. These measures are intended to control any sediment that might be generated during demolition and removal of items on the upland portion of the causeway. The portion of the erosion controls that is depicted as passing through Excavation Area EA-5, will be relocated outward such that it Is placed between this excavation area and the mean high water line;

   Response: A note will be added to the drawing to indicate that the primary silt fence will be moved toward the tidal flats to encompass all areas on the Causeway where construction activities are being conducted from the start of construction until October 1. In addition, text will be added to SECTION 02271 EROSION AND SEDIMENT CONTROL.

2. Comment: All activities proposed waterward (outside of) the erosion controls noted above will be postponed until after October 1, 2001 and will be completed no later than March 31, 2002.

   As we discussed on the phone, this Office is concerned that the proposed floating slit curtain with be both ineffective in the control of siltation as it is not designed to fully contain or capture silt coming off the site, and has the potential to harm the intertidal flat in the vicinity of its installation. Although the intent behind the use of this item is appreciated, it appears that it will actually do more harm than good. Moreover, it does not appear that any siltation control beyond the "upland" erosion control measures, described in the first numbered paragraph above, will be necessary for the project elements that comprise Phase I. Accordingly, to avoid affecting coastal resources, the proposed floating silt curtain must be eliminated from the project plans.

   If I have properly understood the scope of work that will occur prior to October 1, 2001 and the portions of Phase I work that will occur after October 1, 2001, and if the use of a floating

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silt curtain is eliminated from the project, the Phase I portion of the Causeway non-time critical removal action will not affect coastal resources. Accordingly, we would support a negative determination by the Army in accordance 15 Code of Federal Regulations (CFR) Part 930.35. Such a determination can only be made if the proposed activity will not affect coastal resources and, as a result, will not require a federal consistency determination by the Army nor concurrence from this Department.

If I have misstated or misunderstood the location, extent, character, timing, or other aspect of the activities proposed as Phase I of this project, please advise as soon as possible so we can further evaluate the planned activities.

Response: In accordance with the guidance in this comment letter, the proposed silt boom will be removed from the Causeway remedy.

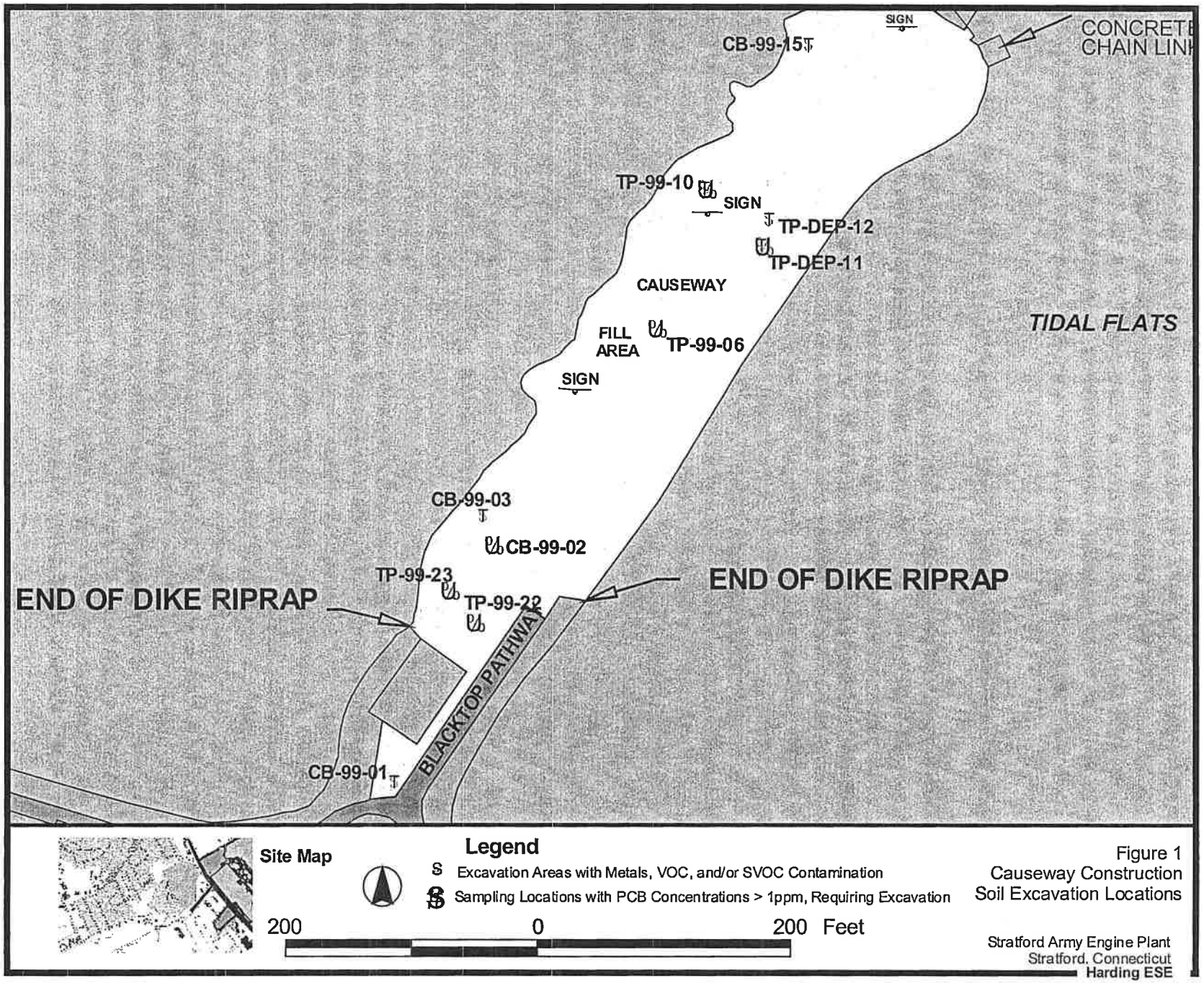

Figure 1
Causeway Construction
Soil Excavation Locations

Stratford Army Engine Plant
Stratford, Connecticut
Harding ESE