

Memo

To: Ken Feathers, DEP-Water Management Bureau
From: Margaret L. Welch, Senior Coastal Planner
Date: 04/05/00
Re: Stratford Army Engine Plant causeway and dike

I have reviewed the Engineering Evaluation/Cost Analysis (EE/CA) for the project noted above. Based on that review and discussion during the briefing meeting held at the Stratford Army Engine Plant (SAEP) on March 2, 2000 I offer the following comments.

The EE/CA includes evaluations of three alternatives; two of which involve capping and the third is removal with off-site disposal. During the briefing meeting, in response to a question I posed, it became clear that the two capping alternatives are essentially composed of an "under barrier" and an "over cap" and that these components may, to some extent, be interchanged from one alternative to the other. In other words, the under barriers considered consist of either a relatively simple hydraulic barrier, depicted in Alternative 1, or a more complex composite barrier, depicted in Alternative 2. The over caps evaluated are a riprap final cover for both the top and side slopes of the causeway, depicted in Alternative 1, or a bulkhead on the sides with riprap on top, depicted in Alternative 2. Either under barrier may be utilized with either over cap.

This apparent flexibility is helpful because the selection of the appropriate under barrier to prevent contact with the contamination is not within OLISP's area of expertise and we defer to others to determine which under barrier is most appropriate. We are, however, concerned about the type of material used for the outermost layer(s), or over cap, placed on the causeway and/or dike and its final configuration.

This concern springs from the causeway's location in an estuarine embayment, the Housatonic River, and the presence of intertidal flats, a protected resource, on either

side of the causeway and along the waterward face of the dike. The Connecticut Coastal Management Act [CCMA, Connecticut General Statutes sections 22a-90 through 22a-112] contains enforceable policies that require the protection of intertidal flats. In order to minimize potential adverse impacts to this resource area, the final cap should be designed with sloped sides (i.e., the riprap slopes shown in Alternative 1). This would allow for wave run-up which dissipates wave energy and reduces the potential for erosion of the intertidal flat. Vertical sides, such as the bulkhead treatment shown in Alternative 2, deflect waves in many directions, including downward, which can erode the intertidal area causing unacceptable adverse impacts.

The use of riprap side slopes will also provide a substantial area of nooks and crannies between the rocks. These interstices provide habitat for fish and other marine life, a beneficial impact that is encouraged by the CCMA. During the briefing meeting, it was suggested that perhaps interlocking concrete blocks could be used instead of riprap to provide a smooth surface. While such blocks may be appropriate on the top of causeway, they should not be used on the side slopes.

The size of the rocks used to construct the riprap side slopes are of concern; the larger the individual stones, the greater the potential for wave-induced erosion of the intertidal flat and the lesser the value of the area as marine habitat. We note that the EE/CA is calling for riprap with an average size of 600 pounds. In order to minimize the potential for erosion of the intertidal flat and to maximize the habitat value, the smallest rock size possible should be used to achieve a stable structure. We respectfully request that this be reviewed and that the size of the rock be reduced if possible.

The plans contained in the EE/CA indicate that the capping work is designed to maintain the "toe of slope." While this is appropriate and commendable as a means to minimize encroachment into the intertidal flat, it is also important to maintain, to the extent practicable, the horizontal location of mean high water (4.1' NGVD), which is the landward extent of the public trust area*. The plans should be reviewed with this in mind and modified if necessary.

It is our understanding that the future use of the causeway area is for public access. As such, it should be an inviting place for the public to spend time. The EE/CA does not explicitly detail the treatment of the top of the causeway. However, the implication is that riprap will entirely cover this area. This final cover is not likely to be very inviting to the public nor is it likely to provide an appropriately safe walking surface. We strongly recommend that the Army work with the Town of Stratford to

* The public trust area comprises submerged lands and waters waterward of the mean high water mark in tidal coastal or navigable waters of the State Of Connecticut. This area is held in trust by the State of Connecticut for the use and enjoyment of its citizens.

identify a reasonable, inviting treatment for the top of the causeway that will maintain an adequate barrier to the contaminants present in this area.

We note that the list of Applicable or Relevant and Appropriate Requirements (ARARs) is incomplete with respect to location-specific ARARs [Table 3-2, page 2 of 2]. Under the "State" heading, this table should include the Tidal Wetlands Act [Title 22a Chapter 440] and the statutes governing the placement of fill, structures and dredging in tidal, coastal and navigable waters [Title 22a Chapter 446i]. I have attached copies of these statutes for forwarding to the Army's consultant for their use.

Finally, during the briefing meeting, we discussed the requirements for public notice of this project. The Army has indicated a willingness to include the federal coastal zone management consistency review notice as part of their general public notice. We appreciate this offer. To publish proper notice of the federal consistency component, the public notice should include language that the Army is requesting "federal coastal consistency concurrence for activities within Connecticut's coastal boundary pursuant to section 307(c)(1) of the Coastal Zone Management Act." This language will serve as both the Army's request for concurrence and public notice of such request. I would appreciate it if the Army could provide to me a copy of the public notice at the time of publication.

If you or representatives of the Army or other interested parties have any questions regarding these comments please do not hesitate to contact me. My internal line is 2773, the external number is 860-424-3034. Thank you.

Enclosures