INTERIM REPORT OF THE
JOINT SUBCOMMITTEE STUDYING

The Commonwealth's Tidal Shoreline Erosion Policy

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

House Document No. 41

COMMONWEALTH OF VIRGINIA
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Report of the
Joint Subcommittee Studying
the Commonwealth's Shoreline Erosion Policy (HJR 46)
To the Governor and the General Assembly of Virginia
Richmond, Virginia
March 1987

Honorable Gerald L. Baliles, Governor
and
The General Assembly of Virginia

I. INTRODUCTION

The joint subcommittee was established pursuant to House Joint Resolution No. 46. The General Assembly requested that the subcommittee study whether the Commonwealth's shoreline erosion policy reflects an appropriate balance between the rights of individual property owners and the Commonwealth's responsibility to protect the environment. Specifically, the study is to seek answers to such questions as:

1. Does Virginia have an effective and comprehensive erosion control program?

2. What are the roles and responsibilities of the Commonwealth and the individual property owner in mitigating the effects of shoreline erosion?

3. Assuming Virginia's tidal shoreline is a natural resource, does the Commonwealth have an obligation to prevent or control the threat of erosion to private property?

4. What is the Commonwealth's role when protection of private property results in benefits through increased tax revenues to state government?

The subcommittee devoted a substantial amount of time during its first year to receiving testimony regarding the current shoreline erosion control policies and program of Virginia and other coastal states. While this interim report recommends no substantive change in existing state policy, the subcommittee, having familiarized itself with many of the issues, anticipates responding to the following fundamental policy questions as part of its future deliberations:

- What is the appropriate balance between the rights of property owners and the stewardship responsibilities of the state?

- Should Virginia's shoreline erosion policy reflect more uniformity in land use controls in coastal areas?

- What funding alternatives should be available to individuals and local governments for the control of shoreline erosion (i.e., cost sharing, trust funds, special taxing districts, land use incentives)?

II. Problem

The Commonwealth has a tidal shoreline which exceeds 5,000 miles, with a wide variety of shore types. Only thirty miles of Virginia's coastline is classified as public beach. Previous studies have documented the magnitude of erosion along the shoreline. Such studies have found that in excess of 30,000 acres of land have been lost due to shoreline erosion during the period 1850-1950. Nearly 50% of the easily accessible beaches are experiencing significant rates of erosion. Virginia Institute of Marine Science (VIMS) studies indicate that approximately 240-250 miles of the Chesapeake Bay shoreline are eroding at a rate greater than two feet per year.

While the major causes of erosion are natural forces such as tropical and nontropical storms and the long term changes in the level of the sea, the situation is complicated by such factors as (a) the risks associated with development, (b) a public lacking information regarding the appropriate methods of erosion control, (c) the costs of structural controls for shoreline stabilization and who should assume these costs, and (d) limited availability of shoreline technical advisory services.

III. CURRENT POLICIES AND PROGRAM

A. STATE POLICY

The General Assembly recognized the significance of protecting Virginia's shoreline when in 1972 it declared the following to be the policy of the Commonwealth:

> § 21-11.16. The shores of the Commonwealth of Virginia are a most valuable resource that should be protected from erosion which reduces the tax base, decreases recreational opportunities, decreases the amount of open space and agricultural lands, damages or destroys roads and produces sediment that damages marine resources, fills navigational channels, degrades water quality and, in general adversely affects the environmental quality; therefore, the General Assembly hereby recognizes shore erosion as a problem which directly or indirectly affects all of the citizens of this State and declares it the policy of the State to bring to bear the State's resources in effectuating effective practical solutions thereto.

This policy was to be implemented through a variety of legislatively mandated programs. These initiatives generally fall into two categories: (1) programs aimed at mitigating the effects of shoreline erosion by providing either technical assistance to private property owners or awarding state funds to protect public beaches; and (2) a regulatory program for management of fragile shoreline habitat areas.

Responsibility for coordination of shoreline erosion control programs "other than those affecting public beaches" has been vested in the Division of Soil and Water Conservation (§ 21-11.18). The Division is to evaluate the effectiveness and practicability of current programs, explore solutions and secure assistance from the federal government for the protection of private waterfront property. In 1980, the General Assembly authorized the establishment of the Shoreline Erosion Advisory Service (SEAS) to provide technical assistance to owners or prospective buyers of shorefront property which is experiencing erosion problems. The SEAS, with offices in Tidewater, has an annual budget of $150,880 and is currently staffed by three engineers and a secretary. With the support of scientists from VIMS, the SEAS has offered more than 1,780 advisories since September 1980.

In response to the recommendation of the Coastal Erosion Abatement Commission, which studied the role of state government in controlling public beach erosion, the General Assembly, in 1980, passed the Public Beach Conservation and Development Act. This Act created the Commission on Conservation and Development of Public Beaches, which is empowered "to provide a program by which localities can apply for funding of conservation, protection, improvement, maintenance and development of public beaches" (§ 10-216). The grant program provides monies to those localities most in need of relief but requires a 50% local match. In addition to the administration of the grants program, the Commission's staff of two researchers and a secretary has responsibility for making information available on the causes and effects of erosion, encouraging research and development of new erosion control techniques and locating new sources of sand for beach nourishment. The Commission's annual budget is approximately $630,000, of which approximately $95,000 goes for personnel/adminstrative costs and $535,000 is allocated for grants to localities.

At the local level, the General Assembly has authorized the creation of the Virginia Beach Erosion Council "to stop, impede, or correct erosion along the Atlantic Coast in the City of Virginia Beach." The Council is empowered to "erect, construct and maintain jetties, groins, seawalls, to pump or otherwise place sand or any kind of material upon the beach for the purpose of correcting or controlling erosion; . . . " (§ 62.1-154). With an operating budget of approximately $1,756,000 its primary activity has been to supply sand to the city's public beach areas.

While the Shore Erosion Control statute and the Public Beach Conservation Act provide funds and technical assistance for erosion mitigation activities, the General Assembly has also adopted legislation which seeks to stabilize highly erodible shoreline areas. In 1972, the legislature recognized as public policy the unique character of the wetlands, noting their value "as a protective barrier against floods, tidal storms and erosion of the shores and soil within the Commonwealth; . . ." It declared that any destruction of the wetlands "will accelerate erosion and the loss of lands productive to the economy and well-being of our citizens." (§ 62.1-13.1) The legislation established the following general standards for use and development of the wetlands:

1. Wetlands shall not be altered so that the ecological systems are unreasonably disturbed;

2. Development in Tidewater Virginia to the extent practical shall be concentrated in those wetland areas which have been already irreversibly disturbed or areas apart from wetlands.

Local governments are authorized to guide development if they adopt a legislatively prescribed wetlands zoning ordinance. The ordinance contemplates the regulation of any encroachment through a permit system administered by a local wetlands board. In the absence of local action, the Virginia Marine Resources Commission (VMRC) assumes authority for management of the wetlands and administering the permit system.

To ensure that local decisions conform to the policies and standards established in the wetlands statutes the Director of the Marine Resources Commission reviews all decisions of local wetlands boards and notifies the Commission of any decision which should be further reviewed.

The Commission is empowered to modify, remand or reverse decisions of the Wetlands Board under certain situations. It must review a decision of a local board when (a) an appeal is filed by an applicant or locality where the board is located, (b) 25 or more property owners within the locality petition for an appeal, or (c) a commissioner requests a review. The Commission's decision may be appealed to the court.

Mr. William Pruitt, Commission of the VMRC, informed the subcommittee that his agency is processing 1600-1700 permit applications annually for projects in bottomlands or tidal wetlands. The number of applications has doubled over the last five years and it is anticipated that at the current rate this figure will double again by 1990.

B. FEDERAL ROLE

Under the Coastal Zone Management Act (CZMA) of 1972, the federal government has affirmed a national interest in the protection and development of the coastal zone by providing assistance and encouragement to coastal states to voluntarily develop management programs for their coastal areas. The Act allows states to select the management approach which suits their specific needs. Virginia's program, which has been approved and will receive in excess of $1,000,000 in federal funds, proposes no new laws, organizations, regulations or programs; rather, the state will "network" or link existing programs, agencies and law into a system which will meet federal requirements for an effective state coastal management program. This program, which will be coordinated by the Administrator of the Council on the Environment, has established a series of goals and objectives which constitute a coastal resources policy (Appendix A). A number of these policy objectives, such as "to conserve [the] coastal sand dune system" and "to reduce or prevent losses of property, tax base and public facilities caused by shorefront erosion" indicate a recognition by the Commonwealth of the importance of stabilizing shoreline areas.

IV. VMRC PERMITTING PROCESS

An important tool in Virginia's program to manage its shoreline is the requirement that individuals who intend to make alterations in wetlands or

coastal primary sand dune areas receive approval from VMRC or a local wetlands board. The subcommittee received testimony from state officials and interested parties regarding the Commonwealth's current permitting policies and how these were applied in the case of Cedar Island. Cedar Island is one of the Eastern Shore barrier islands. Scientists from VIMS characterized the island as "uncommonly low and wide" and "very sand deficient." There is a landward migration of the entire island caused by sand washover which drives the sand from the shoreline area into the back marshes where it remains in reserve. This allows the island to sustain itself despite an erosion rate of 18-21 feet per year. The subcommittee was informed by Dr. Don Wright, senior scientist with VIMS, that 90% of the island is inundated at least once every ten years.

Dr. Wright voiced concern regarding the cumulative effects that could result from the granting of permits by VMRC for construction/development on the island. He emphasized that if the dynamics of washover are inhibited due to increased development, the result could be a net loss of sand in the system and the possible formation of inlets. In its analysis "Assessment of the Development of Cedar Island," (Appendix B) VIMS notes "as more houses are built there, increased density will begin to alter, to an increasing extent, the wind patterns which transport sand across the island." The assessment concludes that "the long term cumulative adverse impacts of building on the island will be a continued narrowing of the active sand strip and an accelerated erosion rate due to the greater loss of sand offshore."

The VMRC under its "Barrier Island Policy and Supplemental Guidelines," adopted June 24, 1986, asserted its authority to require permits "for construction or other activity which has the potential for encroaching on or otherwise damaging coastal primary sand dune or state-owned beaches." (Appendix C) As of now, six permits have been approved for construction of "cottages" on Cedar Island, with the prospect of a total of 69 residences being built on the island. In an effort to determine the environmental impact of this residential construction, the VMRC has requested that the owners of the island submit a development plan for the island.

In the case of Cedar Island, a permit applicant must also obtain approval from the State Health Department for the installation of a septic system. According to Department officials, the regulations governing such systems are designed to ensure that there is sufficient standoff distance from shellfish waters and marshlands. Approval has been given for the installation of septic systems on the condition that sewage fields are located at least 100 feet from the dune line.

Questions were raised by members of the subcommittee whether current septic tank regulations reflect the dynamics of a barrier island and its changing topography (i.e., washover areas and receding shoreline). Representatives of the Health Department acknowledged that current regulations do not take such characteristics into account in the consideration of a permit application. The Department, at a subsequent meeting, informed the subcommittee that they will propose new regulations to specifically cover the issuing of septic permits in coastal zones (Appendix D). The proposed changes will include:

1. The denial of a permit for a septic system when erosion rates will cause failure within two years.

2. The issuance of conditional permits for systems projected to fail within fifteen years due to erosion.

3. The issuance of a standard permit if the system will not fail within fifteen years.

V. COASTAL DEVELOPMENT AND EROSION CONTROL POLICIES OF COASTAL STATES

Officials from the states of Florida, North Carolina and Maryland appeared before the subcommittee to discuss their state's coastal development and shoreline erosion control policies. All three states have enacted specific land use statutes and developed management programs for coastal areas. These states have designated "areas of environmental concern" in which land use/development is to be regulated. In North Carolina under the Coastal Area Management Act (CAMA), a comprehensive resource management program was established for the state's twenty-county coastal area. The CAMA requires all coastal counties to adopt a comprehensive plan in accordance with standards promulgated by the citizen-appointed Coastal Resources Commission. While these standards set a general policy direction, local governments are given the authority to adopt their own specific plans. Among the types of areas to be regulated are areas subject to erosion, storm flooding and inlet movement, and coastal wetlands. Any development in these areas requires a permit and must conform to the standards adopted by the Commission and those provisions in the approved land use plan.

One of the principal elements of North Carolina's program is the ocean setback provision for new development in "ocean hazard areas." Generally, development along the oceanfront must be located landward of an erosion setback line. The line is defined as thirty times the long term annual erosion rate, with the seaward limit being the first line of stable vegetation. Because of the increasing demand for high density development, the Coastal Resources Commission established a second setback line for larger immovable structures of more than four units or 5,000 square feet. This setback line is twice the distance required for smaller single family dwellings with a minimum being 120 feet from the vegetation line. Both of these setback lines take precedence over local zoning ordinances. In addition, North Carolina does not allow hardening along the shoreline, but encourages such measures as beach nourishment, moving of threatened structures and the use of effective devices or materials for mitigating erosion.

In Florida, a state agency, the Division of Beaches and Shores, is responsible for shoreline and public beach management, including the regulation of all coastal construction and beach restoration programs. The Division has established a line of jurisdiction (coastal construction control line) which delineates a zone of severe fluctuation for a 100-year storm event. This line typically extends 300-400 feet landward. If a property owner wants to build a single family dwelling in this area, a permit is required. A second more restrictive setback line has been established based on the North Carolina "thirty times the erosion rate"

standard. Within this area, there is a prohibition on the construction of all multifamily residences, with single family dwellings being permitted if they meet certain restrictive criteria.

Apart from these restrictive criteria, the decision whether to issue a permit is based on three factors: (1) protection of the beach dune system; (2) whether the structure has been designed to withstand a 100-year storm surge; and (3) the impact on adjacent property from the proposed construction.

Florida has recently undertaken several new beach management initiatives. One such initiative is an assessment of those areas needing beach nourishment. In deciding which areas should be restored, the Division will, among other factors, consider the extent of local interest in such a project and whether the locality would be willing to share the cost of restoring the beach area. Such beach restoration efforts are bolstered by the fact that Florida law requires maintenance dredging materials to be placed on the beach. There was an effort in 1985 to prohibit all protective structures (bulkheads) but the proposal failed in the legislature.

In response to concerns of the Environmental Protection Agency regarding the effects of land use on the quality of the state's waters, Maryland recently passed legislation establishing the Chesapeake Bay Critical Area Commission. The Commission's charge is to develop a management structure for determining appropriate land uses. Local governments are directed to develop a program to classify the lands based on the degree of development activity. A central element of this legislation is the establishment of a 100-foot buffer or setback. The buffer was to serve such functions as filtering land runoff; preventing disturbances to wetlands, shoreline and banks; maintaining an area of transitional habitat between aquatic and upland communities; and protecting riparian habitats. Within the buffer, new development activities are generally not permitted.

The Commission also recognized the need to protect those shoreline areas which are experiencing severe erosion. As a first step, local governments are required, with the assistance of state and federal agencies, to map their shoreline in order to identify areas where no significant erosion is occurring (e.g., less than two feet per year) and those areas of significant shore erosion (e.g., two feet or more per year). The identification of such areas, according to the Commission, has three purposes: "(1) maintaining the natural character of the shore and adjacent aquatic habitats; (2) discouraging unneeded shoreline alterations; and (3) alerting property owners or prospective buyers of waterfront land to the relative extent of erosion occurring and the measures generally appropriate for controlling such erosion." (Critical Areas Commission Guide, 1986) While acknowledging that bulkheads and other structural erosion control measures are in some situations, "the only practical and effective means for achieving erosion control" the Commission's policy is that "their use should be limited to those areas where they are needed and where alternative non-structural measures would not be practical or effective."

VI. SAND REPLENISHMENT

Under current state policy, the Board on Conservation and Development of Public Beaches has responsibility for management of the public beaches of the Commonwealth. In the past, the Board's efforts have focused on the administration of a state and local cost-sharing program for beach preservation. Jack Frye, advisor to the Board, informed the subcommittee that his staff is developing a statewide comprehensive public beach replenishment plan. This plan would aid the Board in apportioning the Commonwealth's sand resources. Included in such a plan will be a listing of potential sand sources and a description of the current activities with respect to each source. This effort is extremely timely in light of the proposed Norfolk and Baltimore Harbors and Channels dredging projects (Appendix E). Since there appears to be some disagreement among the local, state and federal representatives as to the amount of suitable beach quality material which might result from the dredging projects and the costs of placement of this material on the beaches of the Commonwealth, the subcommittee feels it is important that Corps of Engineers and representatives of the Commonwealth work together in making such determinations.

VII. RECOMMENDATIONS

1. The work of the joint subcommittee should be continued. The subcommittee devoted much of its time during the first year to a review of the shoreline erosion policies and progams of Virginia and other coastal states. Still to be answered are such significant questions as the relationship between private property rights and state responsibility for protection of the environment, and the state's role in providing financial assistance to those local governments or individual citizens who seek to protect their shorefront property and preserve the shoreline (See HJR 226 continuing the study, Appendix F).

2. In view of the competing interest for the use of dredged material, the joint subcommittee recommends that the General Assembly enact legislation which gives priority to the beaches of the Commonwealth as sites for the disposal of dredged material (Appendix G).

3. While the joint subcommittee recognizes that the U.S. Corps of Engineers has primary responsibility for the management of dredging projects within Virginia's waters, it is requested that the General Assembly adopt a joint resolution encouraging the Corps to seek the assistance of Virginia in assessing the economic feasibility of the placement of dredged material on the beaches of the Commonwealth (Appendix H).

APPENDIX A

COMMONWEALTH of VIRGINIA

Office of the Governor

Richmond 23219

Gerald L. Baliles
Governor

EXECUTIVE ORDER NUMBER THIRTEEN (86)

ESTABLISHMENT OF VIRGINIA COASTAL RESOURCES MANAGEMENT PROGRAM

By virtue of the authority vested in me by the Constitution of Virginia and Sections 2.1-39.1 and 2.1-41.1 of the Code of Virginia, and subject to my continuing and ultimate authority and responsibility to act in such matters, I hereby establish the Virginia Coastal Resources Management Program. I hereby direct all state agencies to carry out their legally established duties consistently with this program and in a manner which promotes coordination among those agencies in achieving its goals and objectives.

COASTAL RESOURCES POLICY

State agencies having responsibility for the Commonwealth's coastal resources shall promote the Program consistently with the following goals and objectives:

Prevention of Environmental Pollution and Protection of Public Health

1. To maintain, protect and improve the quality of coastal waters suitable for the propagation of aquatic life and recreation involving body contact.

2. To reduce non-point pollution, caused by inappropriate land uses and inadequate land management practices, in tidal streams, estuaries, embayments and coastal waters.

3. To reduce the potential for damage to coastal resources from toxic and other hazardous materials through effective site selection and planning as well as improved containment and cleanup programs.

4. To prevent significant deterioration of air quality.

5. To protect the public health from contaminated seafood.

Prevention of Damage to Natural Resource Base

6. To protect ecologically significant tidal marshes from despoliatio or destruction.

7. To minimize damage to the productivity and diversity of the marine environment resulting from alteration of subaqueous lands and aqua vegetation.

8. To minimize damage to the productivity and diversity of the marine environment resulting from the disruption of finfish and shellfish population balances.

9. To reduce the adverse effects of sedimentation on productive marin systems.

10. To maintain areas of wildlife habitat and to preserve endangered species of fish and wildlife.

Protection of Public and Private Investment

11. To conserve coastal sand dune systems.

12. To reduce or prevent losses of property, tax base and public facilities caused by shorefront erosion.

13. To minimize dangers to life and property from coastal flooding and storms.

Promotion of Resources Development

14. To promote the wise use of coastal resources for the economic bene and employment of the citizens of the Commonwealth.

15. To protect and maintain existing uses of estuarine waters for shellfish propagation and marketing.

16. To encourage provision of commercial and industrial access to coas waters where essential to desired economic activities.

17. To coordinate the Commonwealth's planning processes for major projects so as to facilitate consideration of alternative location for such facilities within the context of long-term development patterns and implications.

18. To improve or maintain productive fisheries.

19. To encourage exploration and production of outer continental shelf energy reserves.

20. To provide for the extraction of mineral resources in a manner consistent with proper environmental practices.

Promotion of Public Recreation Opportunities

21. To provide and increase public recreational access to coastal waters and shorefront lands.

Promotion of Efficient Government Operation

22. To provide a shoreline permitting procedure, administered at the local level wherever possible, which assures both adequate review and mitigation of probable impacts as well as timely response to applicants.

Provision of Technical Assistance and Information

23. To provide state and local governing officials and private citizens with technical advice necessary to make wise decisions regarding uses of and impacts on coastal resources.

24. To conduct continuing educational programs in Coastal Resources Management for local and state officials.

25. To maintain and improve base data, maps and photoimagery supportive of decision-makers' needs.

ENFORCEMENT

The following agencies shall have primary responsibility for implementing the enforceable policies of the program:

Marine Resources Commission
Commission of Game and Inland Fisheries
Department of Conservation and Historic Resources
State Water Control Board
Department of Health
State Air Pollution Control Board
Council on the Environment

In addition, other agencies that conduct activities which may affect coastal resources shall conduct such activities in a manner consistent wit and supportive of Virginia's Coastal Resources Management Program. For purposes of this Program, the Coastal Area shall mean Tidewater Virginia a defined in Section 62.1-13.2(d) of the Code of Virginia.

The Administrator of the Council on the Environment (COE) shall monito all state actions which affect coastal resources. When, in the judgment o the COE Administrator, a state agency or regulatory board or commission is ready to act in a manner that appears to be inconsistent with the Program has established a pattern of actions that appears to be inconsistent with Program, the Administrator shall discuss the situation with the agency hea determine if a consistency problem in fact exists.

If, after discussion, the agency head and the Administrator are in disagreement about the existence of a consistency problem, the Administrat will inform the Secretary of Natural Resources of the disagreement. The Secretary shall then determine if a state consistency problem exists.

If the agency head and the Administrator agree that a consistency prob exists, the agency head shall attempt its resolution. If the agency head cannot resolve the problem, the Administrator shall advise the Secretary t a state consistency problem exists.

Upon notification of the existence of a consistency problem, the Secre shall review the problem, determine how it would best be resolved, and eff such resolution within the Secretariat of Natural Resources or consult wit other Cabinet offices to resolve consistency problems with agencies not wi that Secretariat. If the Secretary is unable to resolve the problem, he sl report the problem to the Governor with recommendations for appropriate action. The Governor shall have ultimate responsibility for resolving any consistency problem which cannot be resolved by the agency head or by the Secretary.

Any person having authority to resolve consistency problems under the terms of this Executive Order shall resolve those problems in a manner whi furthers the goals and objectives of the Program as set forth above and in accordance with existing state law, regulations and administrative procedu

EFFECTIVE DATE

This Executive Order will become effective upon federal approval of the Program and will remain in full force and effect until June 30, 1990, unles superseded or rescinded by further executive order.

Given under my hand and under the Seal of the Commonwealth of Virginia on this 23d day of June, 1986.

Governor

Attested:

Secretary of the Commonwealth

APPENDIX B

ASSESSMENT OF THE DEVELOPMENT OF CEDAR ISLAND, VIRGINIA

Virginia Institute of Marine Science

The College of William and Mary

November 10, 1986

Introduction

Barrier islands are a type of coastal landform composed of sand and other sedimentary materials constantly being reworked and moved around by the forces of wind, waves and tidal currents. Most of these unique geological features were formed five to six thousand years ago. Barrier islands, in contrast to other barrier types, such as bay barriers or barri spits, are typically flanked by tidal inlets. Although relatively low in elevation, they usually support a narrow line of dunes and terrestrial vegetation tolerant of salt spray and periodic flooding. Extensive marshe and lagoons are generally found between the islands and the mainland. Because the barrier island is offshore and encloses this marsh-estuary complex, it provides a degree of protection to the mainland coast and adjacent estuarine resources. On the Gulf and Atlantic coasts these estuarine zones are highly productive migratory and nursery areas for numerous marine species of ecological significance and commercial and spor fishing interest. In Virginia specifically, these species include the summer flounder and large populations of clams and oysters. The summer flounder is the most important recreational species landed at Wachapreague and the number one species in Virginia's trawl landings.

The Eastern Shore barrier islands, inlets and channels also support several threatened or endangered species which are listed by the U.S. Fish

and Wildlife Service. The inlets and channels are important nursery habitats for juvenile loggerhead and Atlantic ridley sea turtles. In addition, the threatened piping plover nests on several of the island beaches, including Cedar Island.

The basic geomorphology of barrier islands is controlled by the available sediment supply, littoral drift and wave energy. These three factors combine in very complex meteorologically mediated interactions which give each island unique form and movement.

Movement of barrier islands in general is controlled by wind-generated waves acting within a background of sea level rise. On the Atlantic coast sea level rise helps to promote long-term landward movement of coastal barriers. If sediment supply were large enough, it would be possible for the effects of rising sea level to be offset. This is generally not the case along the Gulf and Atlantic coasts of the U.S. Each island is, however, affected by differing sand supply, prevailing winds and wave energies and therefore may be slightly different in the short term from islands in the same chain. Cedar Island is an uncommonly sand deficient barrier as demonstrated by its narrow beach, low profile dunes, and numerous washovers. The limit of washover is advancing landward more slowly than the erosion rate implying a loss of sand from the system and resulting in a progressive decrease in the width of the active veneer of sand on the seaward side of the island (Figure 1). Over the long term the trend for all barrier islands on the Atlantic coast has been a steady retreat as sea level has risen. According to Hicks et al. (1983), along the Virginia coast the vertical rate of sea level rise has been somewhere between 15 inches per century (Atlantic City) and 17 inches per century (Hampton Roads). When these vertical rates of rise are translated into horizontal transgression

of water over the fastland, the rate of submergence can be quite signific depending on the slope of the shoreline. In the case of a low barrier landform such as Cedar Island, this transgression would amount to several feet per decade over and above the rate of erosion.

The significance for development of these coastal barriers is summarized in the short term by storms and in the long term by the unrelenting landward movement of the islands in response to sea level ris One need not look far back into history to find large coastal property losses due to hurricanes and "nor easters." Evidence of islands migratin out from under existing development, forcing abandonment of structures, o temporary though extremely expensive attempts at controlling island behavior, is well documented.

Cedar Island Physiography

Cedar Island may be described as a washover or receded barrier. It characterized by low dune zones which include numerous overwash fans. Th washovers are activated during frequent storm tides which exceed the Island's normal elevations. Marsh peat outcrops extensively in the foreshore and subtidal zone on the seaward side of the Island. Tidal hei exceedence data from the VIMS tide station at Wachapreague (Figures 2 and indicate that much of the island can expect to be inundated at least on a annual cycle and that even the higher portions of the island (i.e. elevations on the order of 5 feet mean sea level) can be expected to be submerged at least once every ten years. These higher than normal water levels will occur during storms and will be accompanied by wind generated waves adding additional water height above that of the 5 foot storm surge. Because of the sand deficient character of the landform and therefore the

low elevations and washover areas, Cedar Island is not a "normal" barrier island. Barrier islands generally have a relatively large sand supply along their ocean shorelines. This sand is most often stored in the offshore bar, beach and dune zones of the island. The existence of a large sand store permits equilibrium to be achieved, even during high energy events. The absence of such a sand store on Cedar Island does not permit an equilibrium condition to be established. For the most part, Cedar Island might more accurately be termed, an eroding marsh with a veneer of sand along its ocean edge.

Cedar Island, like most of Virginia's barrier islands is "rolling over" on itself and all of the above characteristics indicate rapid landward transgression. Our estimates (Figure 4) place the average erosion rate at the northern end of the Island (Profile A, Fig. 4) at approximately 17 feet per year averaged over the 134 year interval since 1852. This corresponds to a total shoreline change of 2,238 feet. However, the rate at this location has at least doubled since 1967. The rest of the Island shoreline has an average erosion rate in excess of 15 feet per year. Several independent sets of analyses support the general order of these estimates. Rice et al. (1976) give an overall estimate for the Island as a whole of 16.8 feet per year. The data of Dolan et al. (1979) indicate a rate of 18 feet per year plus or minus 6 1/2 feet per year; Dolan's unpublished data for the north end of the Island indicate a shoreline recession rate of 42 feet per year plus or minus 21.3 feet per year (i.e. the rate is somewhere between 21 feet per year and 63 feet per year). Regardless of which estimate is used, these erosion rates mean that a building, septic field, or other "hard" structure placed in the dune could be in the surf zone in a few years. Since, in reality, the erosion is episodic rather than progressive,

a single storm or succession of storms could attack structures or exhume septic systems much sooner. Provided shoreline recession continues at the average rate of the past 19 years a house built at the northern end of the Island, 200 feet from mean high water may have waves breaking under it within four to five years.

It should be noted that the erosion rates stated above are averages calculated over long periods of time and that in any given year the erosio rate may be substantially greater than or less than the averages quoted here. These averages however, can serve as useful planning tools when considering development in the highly physically dynamic situation being considered here.

Assessment of Likely Physical Impacts of Development

The most acute adverse impacts to Cedar Island or any barrier island developed similarly will occur during construction with increased traffic along the beach and destruction of the natural vegetation. Once construction is completed, the impacts will be limited to occasional vehicular crossing, other pedestrian activities, and the adverse effects d to the existence of the structures themselves. Initially this may not be significant, however as the density of houses and people increases and the beach continues to recede, existing problems may well be exacerbated.

As more houses are built, their increased density will begin to alter to an increasing extent the wind patterns which transport sand across the island. The altered wind patterns can cause sand deposition both seaward and laterally adjacent to the structures instead of allowing it to be deposited on the landward edge of the dune. This will tend to reduce the supply of sand available for the dune to prograde normally over the marsh.

When drainfields become exposed during storm events, sand that would normally be available to maintain the width of the dune and island will have to be bulldozed to seaward, increasing its probability of being lost offshore during subsequent storm events.

Over the long term, the dune crest will continue to move westward as the shoreline recedes. When it begins to approach the houses, the sand trapped by the structures, as well as the dune crest material, will begin to be used to re-cover septic systems. Sand used in this manner will in all probability be lost offshore relatively rapidly and there will be very little sand left to maintain the width of the island.

Thus it is our opinion that the long term cumulative adverse impacts of building on the island will be a continued narrowing of the active sand strip and an accelerated erosion rate due to the greater loss of sand offshore. This sand would, under normal conditions, be available to prograde across the marsh, maintaining a semblance of a natural sand barrier as the island moves westward.

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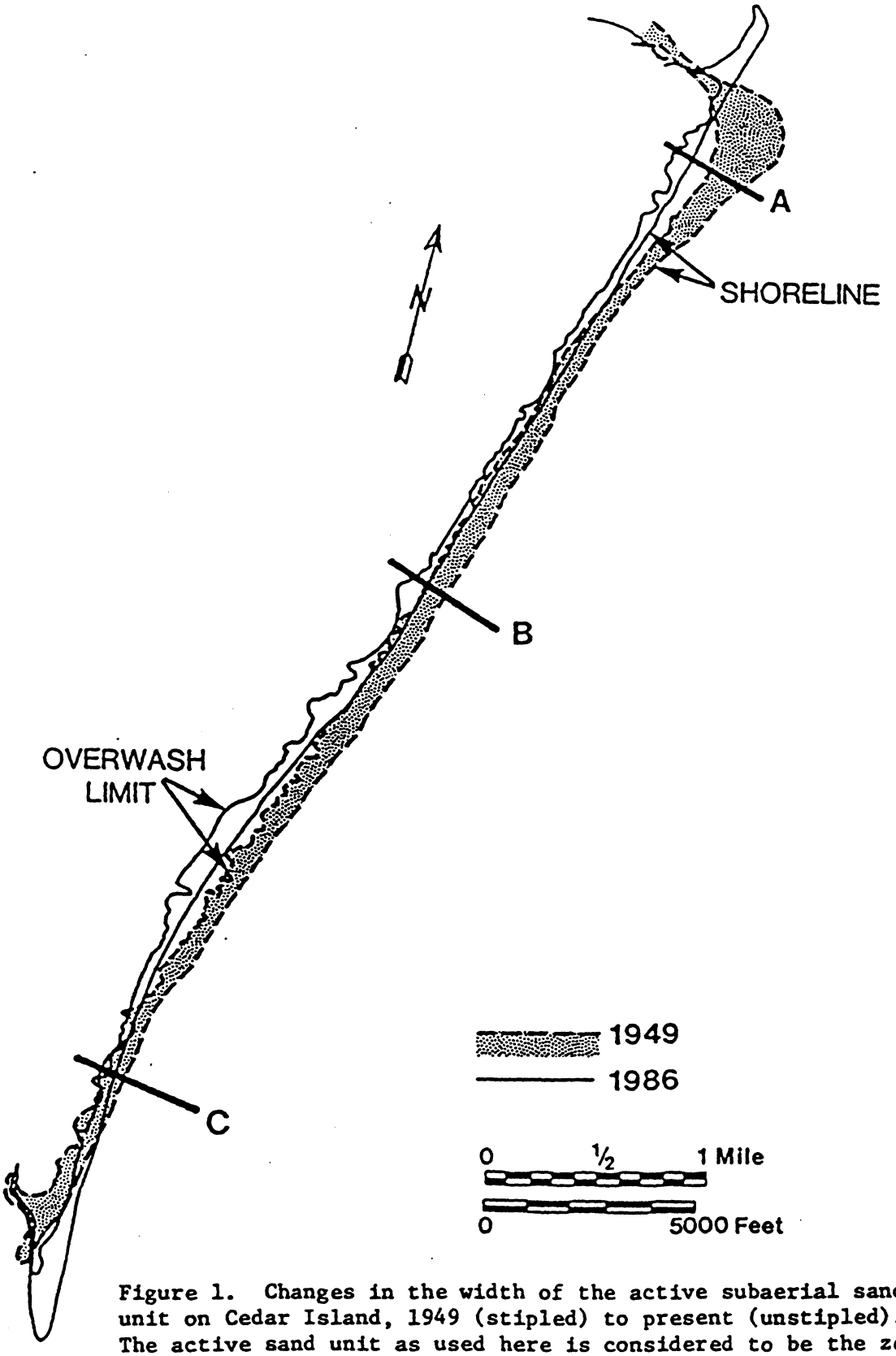

Figure 1. Changes in the width of the active subaerial sand unit on Cedar Island, 1949 (stipled) to present (unstipled). The active sand unit as used here is considered to be the zone between the mean high water shoreline and the landward limit of unvegetated washover. The present conditions are based on vertical aerial photography by VIMS on April 28, 1986.

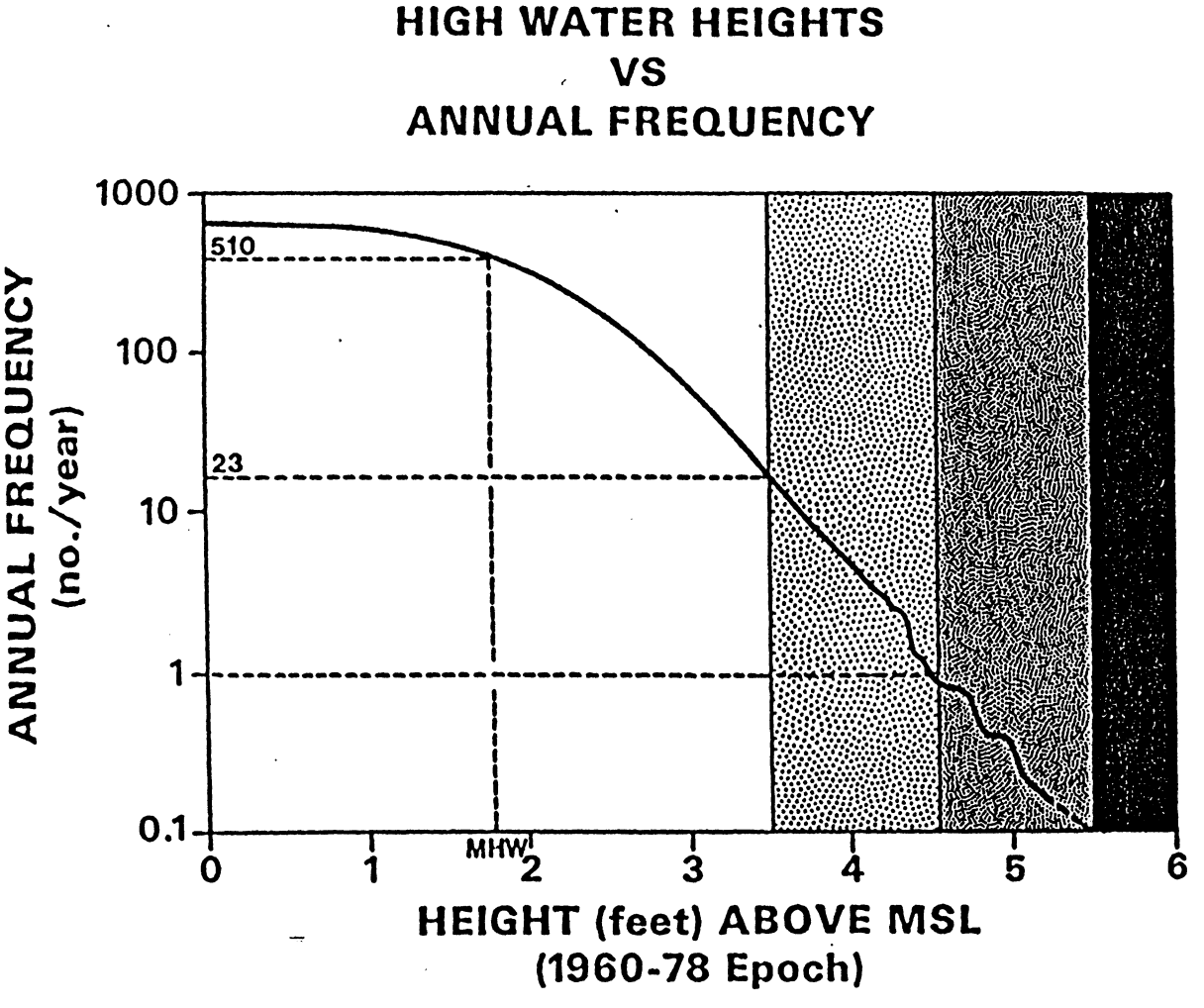

Figure 2. Frequency (vertical axis) with which water levels (horizontal axis)

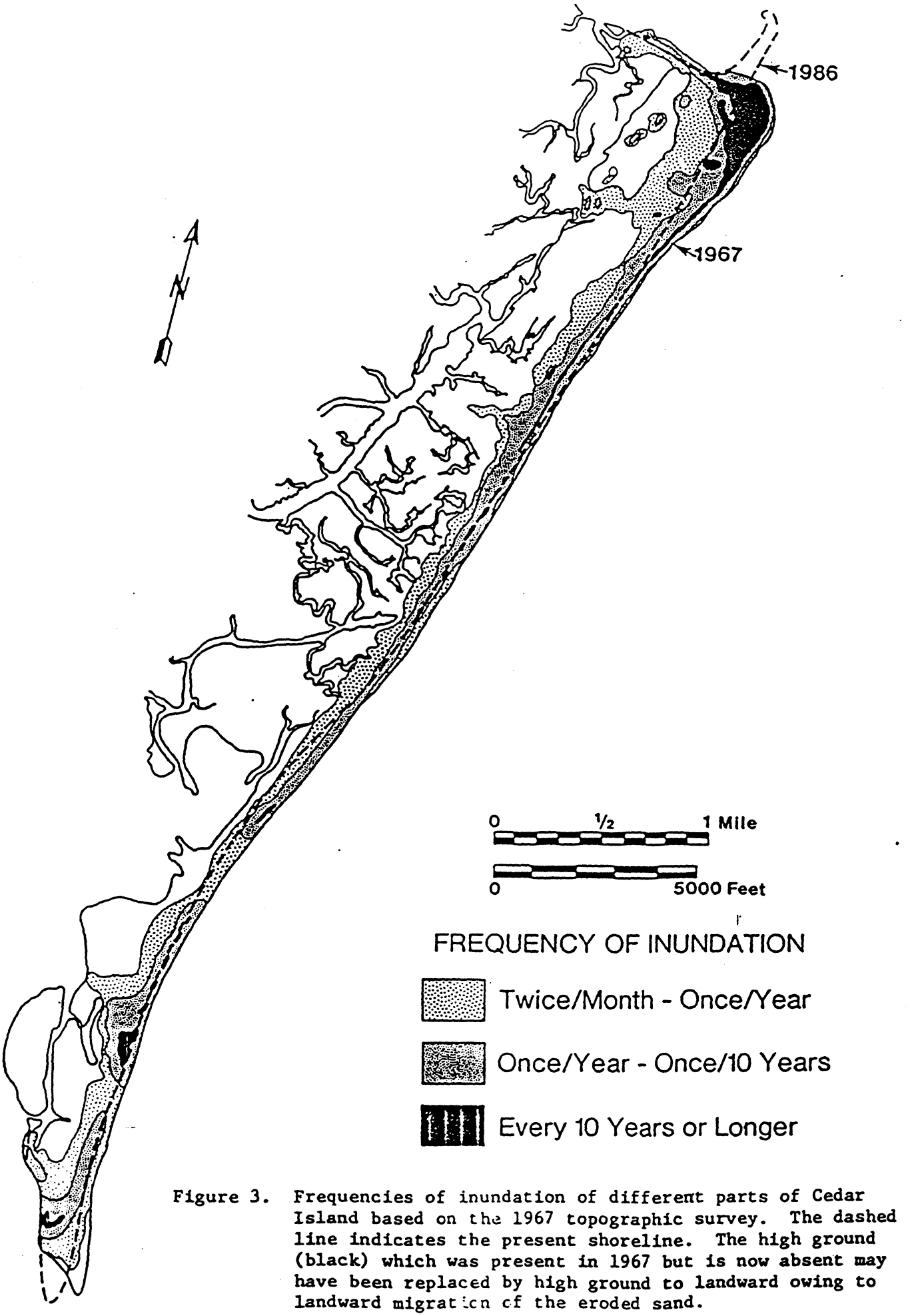

Figure 3. Frequencies of inundation of different parts of Cedar Island based on the 1967 topographic survey. The dashed line indicates the present shoreline. The high ground (black) which was present in 1967 but is now absent may have been replaced by high ground to landward owing to landward migration of the eroded sand.

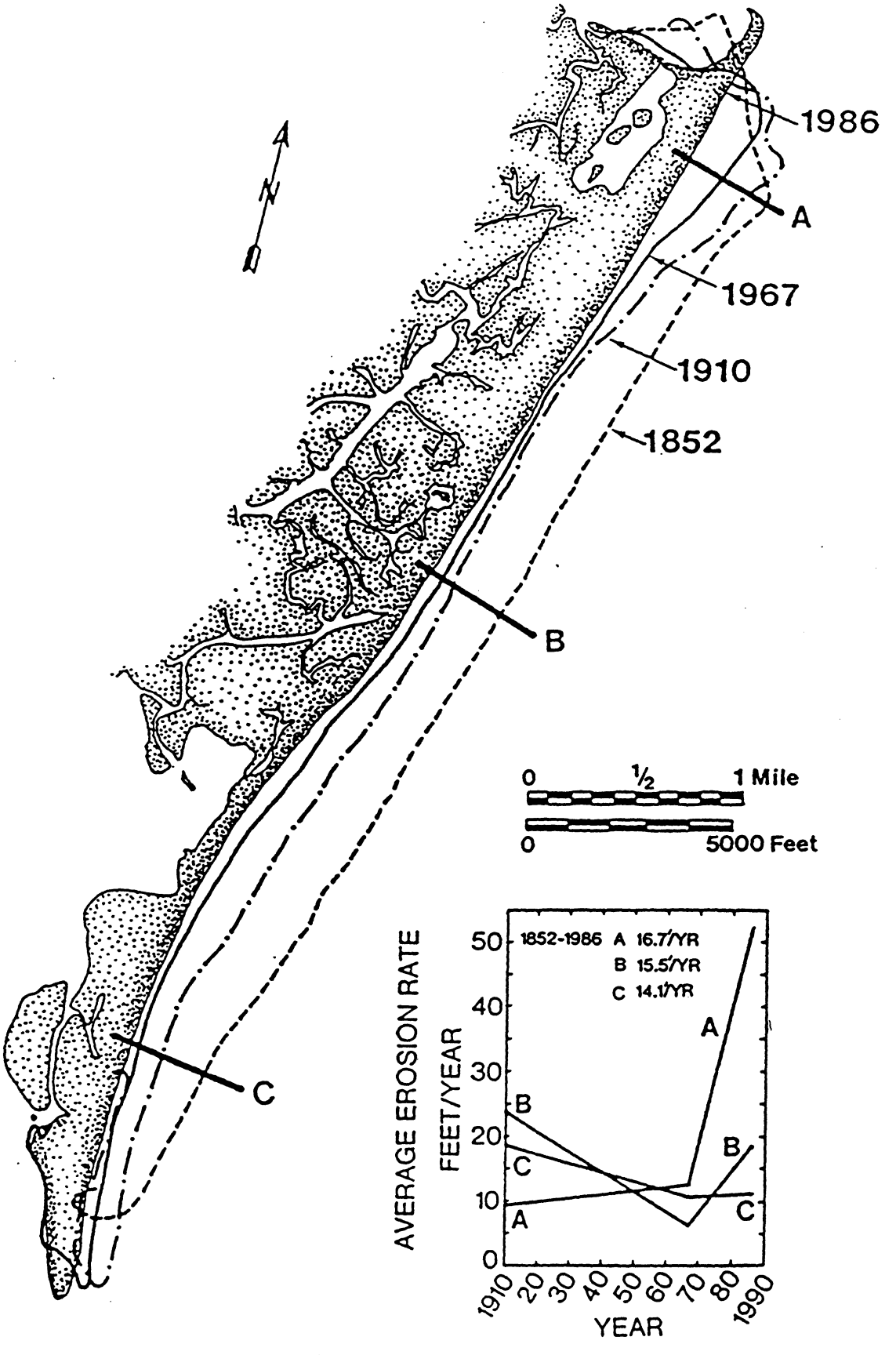

Figure 4. History of net shoreline retreat on Cedar Island, 1852-pres
Inset indicates changing net erosion rates. Note that this
diagram shows only the net, long term shoreline recession.
Short term fluctuations are not indicated.

APPENDIX C

Virginia Marine Resources Commission

BARRIER ISLAND POLICY

and

SUPPLEMENTAL GUIDELINES

(Approved and Adopted on June 24, 1986)

I. INTRODUCTION

Barrier islands are transient landforms. Their dynamic and unstable nature poses significant risk to life and property located there. Scientific evidence placed before the Marine Resources Commission supports a finding that some of Virginia's barrier islands, including Cedar Island, are more dynamic, more unstable and pose even greater risk to life and property than many other coastal barriers due to their sand-deficient character. In addition, barrier islands are themselves significant natural resources and contain a number of specific features (coastal primary sand dunes, wetlands, and vast stretches of state-owned sandy beaches) that are recognized by the General Assembly for their natural value and are protected by law.

Two of the main natural features of barrier islands are natural dunes and washover areas, both of which are included in the statutory definition of a coastal primary sand dune as a "mound of unconsolidated sandy soil which is contiguous to mean high water, whose landward and lateral limits are marked by a change in grade from ten percent or greater to less than ten percent, and upon any part of which is growing" certain designated plants. Given the particular combination of risks to both natural values and life and property posed by development on barrier islands the Commission finds it appropriate to establish this policy and supplemental guidelines to assist landowners and decision makers alike in shaping barrier island uses in a manner that preserves and protects the values of Coastal Primary Sand Dunes as set forth by the General Assembly.

II. PERMITS REQUIRED

A. Applications

1. No construction or any other activity which has the potential for encroaching on or otherwise damaging coastal primary sand dunes or state-owned beaches shall occur without review and approval by the Marine Resources Commission (Commission) and/or a local wetlands board. Consequently, a permit application must be submitted for any such construction or other activity. Each application shall include:

a. A certified survey of the site which is representative of current conditions showing:

(1) One foot contours relative to local mean high water, commencing at that line and proceeding through the site to the first wetlands vegetation,

(2) Specific location for all proposed structures including septic system and drainfields,

(3) Size, configuration and design of access points,

(4) Location of any other activity which may affect coastal primary sand dunes or state-owned shore, and

(5) A crest line, determined in consultation with the Virginia Institute of Marine Science, which identifies the crest of any dune.

b. A copy of both a valid building permit and septic or other wastewater handling or disposal system permit.

2. All lot pins and proposed construction locations, drainfield sites and access points shall be staked and tied to suitable reference points.

3. In its review of the application, the Commission (or a local wetlands board) will determine the correctness of the crest line and will establish a minimum setback necessary to prevent encroachment in or damage to the dune or interference with the natural processes of dune growth.

B. Loss of Structures

When a structure is destroyed or damaged by natural events such that the structure is condemned by health officials or local building officials, reconstruction in that location may not be authorized. Submission of a new application and evaluation as if no structure were present will be required.

III. SUPPLEMENTAL GUIDELINES

A. Structures

1. No permanent structure, other than those already specifically allowed by law or provided for in B below for purposes of permanent access, will be permitted seaward of the crest of the coastal primary sand dune. No permanent alteration of the coastal primary sand dune will be permitted, except in accordance with the standards set forth in the Coastal Primary Sand Dunes Act.

2. Since it is well established that the coastal primary sand dunes and the islands themselves recede continually westward at a fairly predictable rate, and that excessive vehicular and foot use will increase the fragility of coastal primary sand dunes, development must be limited to low density single family use on each platted parcel. Uses other than single family dwellings can clearly be characterized as "unnecessary and inconsistent with the public interest considering all material factors."

B. Access

1. No cuts through the dune will be permitted, except as necessary to reduce the dune slope for equipment access. Temporary vehicular access for purposes of construction will be permitted only by open-pile or "corduroy" ramps. Permits for temporary vehicular access will be limited as necessary to protect coastal

fauna. At expiration of the authorized term all structures except as noted in 2 below, must be removed and the dune restored to its pre-construction contours. All plans for temporary construction access must be specified in the application for any construction permi

2. Permanent vehicular access across the dune will be permitted only by "corduroy" or open-pile vehicular ramps which allow the natural process of dune growth and migration to occur. An open-pile or "corduroy" ramp developed for purposes of construction access may remain in place for permanent access if it meets the above criteria and is specifically approved. All plans for permanent access must be specified in the application for any construction permit.

C. No Roads

No roads or trails will be permitted on or across any coastal primary sand dune or in any wetland.

D. No Sand Movement

No artificial relocation of sand will be permitted, except for the recovering of septic systems in emergency situations utilizing sand from landward of the dune crest.

E. No Shore Hardening

Structures normally associated with or used for shoreline protection or erosion control, including but not limited to bulkheads, riprap, revetments, gabion baskets, groins and jetties, or any other hardening of the shoreline will not be permitted under any circumstances.

F. No Point Sources

No point source discharge pipe, structures or other devices will be permitted.

G. **Bond Requirement**

A reasonable bond or letter of credit will be required prior to granting any permit to assure restoration of any temporary alteration of the coastal primary sand dune.

IV. PUBLIC HEARINGS

The public hearing required by Section 6 of the model ordinance may be held in Newport News, Virginia. Such hearing will not be scheduled until the Commission staff has determined that it is in receipt of a complete application.

V. COMMENTS/ADVISORY NOTES

A. Risks

While future events and their impact on human activity cannot be forecast with any degree of precision, experience in other coastal areas suggests a proclivity to seek public assistance when catastrophic events occur or when services are needed beyond the ability of private resources to provide. The Commission believes that any development on barrier islands should be undertaken only with the full acceptance by the owners of the risks involved. Therefore:

1. No Public Protection of Private Property

Authorization of structures should in no way serve as justification for the future expenditure of public resources to protect such structures.

2. Service

Any services which may be provided by local government to promote public health, safety and general welfare must be installed, maintained and operated in a manner consistent with the policy, standards and guidelines of both the Wetlands and Dunes Protection Acts.

3. Relocation of Structures

Once local mean high water approaches a structure to within 5 times the average recession rate, a plan for its movement/relocation should be submitted for review.

B. Interference With Natural Processes

The serious sand deficiency which currently exists may be exacerbated by any artificial manipulation (including sand fences) which might render the supply more vulnerable to export offshore or interfere with the natural movement onshore in washover areas during storm events. Private property owners have even more at stake than the public-at-large in assuring that natural processes are not interferred with to any discernible degree.

C. Value of Dune Preservation

Special emphasis is placed on the legislative declaration of public policy that coastal primary sand dunes "in their natural state serve as protective barriers from the effects of flooding and erosion caused by coastal storms, thereby protecting life and property."

1. Accordingly, every reasonable precaution to avoid permanent alteration is expected to be exercised by all users in gaining temporary access to private property for construction or for continued access to authorized structures.

2. If possible, all construction including septic systems should be set-back from mean high water a distance at the site to assure some reasonable survival duration.

D. Water Quality

While the Commission believes that properly functioning septic systems in the limited density anticipated will have no measurable effect, failing systems or greater numbers than now forecast could impact important public shellfish growing areas. Therefore, an assessment by the State Water Control Board of the cumulative impact of septic systems authorized by the State Health Department may be requested from time-to-time.

VI. POLICY WITH REGARD TO PRIVATE RESTRICTIVE AGREEMENTS

In addition to the above guidelines and advisory comments and as an additional means to reasonably "preserve and protect coastal primary sand dunes and reaches and to prevent their despoliation and destruction," and to help achieve the other purposes set forth by the General Assembly in the Coastal Primary Sand Dune Protection Act, the Commission endorses and looks favorably upon restrictive private covenants which "accommodate necessary economic development in a manner consistent with the protection of [coastal primary sand dunes]. For example, the Commission encourages restrictive private covenants which:

A. Protect the "natural habitat for coastal fauna," "wildlife habitat," and "vegetation which stabilizes [coastal primary sand dunes]".

B. Prohibit special exemptions or attempts to obtain such exemptions from the application of controlling statutes.

C. Enhance the "scenic and recreational attractiveness of Virginia's coastal area," protect the "important natural habitat for coastal fauna," and protect the "vegetation which stabilizes such features".

D. Require cooperation with the state and federal conservation agencies to protect the ecologically significant natural resources and wildlife, including granting permission to post critical bird nesting sites.

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Revised 01-08-87

3.13.06 Construction permit with conditions

a. Definition: Conditional construction permit means a permit authorizing the installation of a septic tank subsurface soil absorption system which does not fully conform to the criteria in Part D of these regulations pertaining to septic tank size, subsurface soil absorption system size, and certain groundwater table conditions as indicated by soil evaluation, or is located in areas subject to coastal erosion but which, under the conditions to which the permit is subject, can be reasonably expected to function without danger to public health.

b. The purpose of this section is to allow for the issuance of conditional construction permits. Procedures for obtaining a conditional construction permit are the same as those contained in section 3.13 a,b,c and d.

c. Conditional construction permits may be issued for any one or more of the following use conditions when satisfactory substantiation is provided by the applicant.

1. reduced water flow based on permanent water saving plumbing devices;

2. limitations on the number of persons occupying the dwelling or using the facility served by the proposed septic tank system;

3. intermittent or seasonal use of the dwelling or facility served by the septic tank system; and

4. temporary use of the septic tank system for a specified time period not to exceed one year. Such permits may be renewable when the commissioner determines there is a good cause for renewal.

5. the extended use of the septic system for a specified period of time in excess of one year where the site and soil conditions substantially comply with the criteria set forth in section D of these regulations; however, due to the predicted rate of coastal erosion it appears the system will fail in less than fifteen (15) years with or without the use of erosion control devices.

d. General Criteria

1. the septic tank and/or drainfield size may be reduced based on the use conditions contained in c 1, 2, 3 or 4 above.

2. in areas with seasonal fluctuating water table(s), where the seasonally high water table would cause failure if the system were to be used continuously, septic tank systems may be installed when the period of use of the septic tank system coincides with the period when the groundwater table, as

indicated by free water, is at its lowest level. Acceptable separation distances to free standing groundwater shall be as follows:

TABLE OF SEPARATION DISTANCES

3. because of the increased risk of failure, a conditional permit shall not be issued, in an area with a seasonally fluctuating water table if the proposed absorption area is within 200 feet of a shellfish growing area, recreational waters or a public water supply impoundment.

e. Criteria governing conditional permits based on coastal erosion - Where a conditional permit is issued because coastal erosion forces have the potential to cause the system to fail prematurely, the following criteria will apply.

1. All potential drainfield sites will have a minimum life expectancy of two (2) years. In no case will a construction permit be valid for more than the anticipated life expectancy of the operations permit.

2. For the purposes of these Regulations the predicted shoreline erosion rate for any given site will be that determined by the Virginia Institute for Marine Science (VIMS).

3. Periodic site reviews will be conducted by the Department to determine the continued adequacy of the system. These reviews will be conducted one year prior to the expiration of the permit, or as required as part of a sanitary survey conducted after storm events which may reasonably be expected to have altered the site conditions which allowed the permit to be issued. Such permits may subsequently have their expiration dates adjusted (either extended or reduced) to correspond with the observed rates of coastal erosion.

4. Any permit issued conditional upon the use of erosion control devices shall be a Type II system. The erosion control devices will be considered an integral part of the sewage system, necessary for the successful operation of the system and will require formal plans and specifications as described in sections 3.13.03 and 3.13.04. Installation of the erosion control devices must be supervised and approved by a licensed professional engineer.

5. All shoreline erosion control devices must be designed to have a useful service life equal to or greater than the life expectancy of the proposed sewage disposal system.

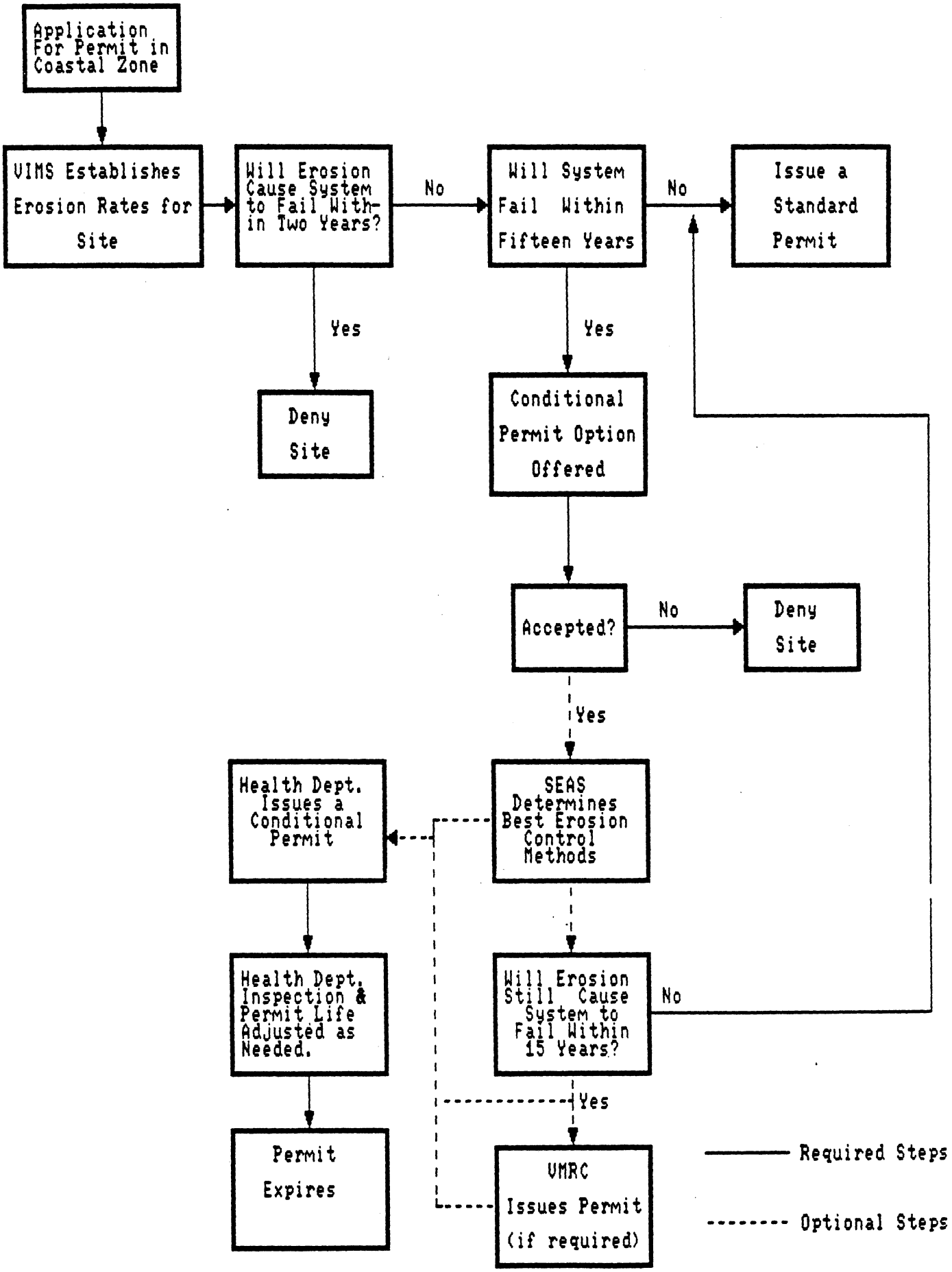
6. All erosion control devices shall meet or exceed the minim structural guidelines set forth in Shoreline Erosion Adviso Service (SEAS) advisory letter. Nothing in this section shal preclude, alter, or otherwise affect the need to apply for an obtain permits to construct erosion control devices from the Virginia Marine Resources Commission (VMRC), a local wetlands board, or other agency as required.

7. The minimum set back distances established in table 12.1 shall be maintained for the duration of the system. These minimum distances will be measured from mean high water.

~~e.~~ f. The district or local health department shall affix to the conditional construction permit a clear and concise statement relating the conditions and circumstances which formed the basis for issuing the conditional permit as well as the owners obligations under the permit.

~~f.~~ g. The holder of any conditional construction permit shall have the permit recorded and indexed in the grantee index under the holder's name in the land records of the clerk of the circuit court having jurisdiction over the site of the septic tank system. District or local health departments shall be provided with certification that the conditional septic tank system permit has been recorded in the land records of the circuit court. The conditional permit shall become effective one day after the district or local health department receives notification of recordation. The district or local health department shall advise the local building official that conditional septic tank system permits are not valid without certification that the permits have been properly recorded as required and shall forthwith notify the local building official when the conditional permit becomes effective. Final approval of the construction of the septic tank subsurface soil absorption system shall not be given until or unless the system is constructed in accordance with the conditions of the permit. The operation permit will be issued in accordance with subsection 3.22.

g. As per 32.1-164.1 of the Code of Virginia, the holder of the permit and any subsequent holders of the permit shall be bound by the conditions stated in the permit unless the holder or subsequent holder obtains an additional permit for modification or alteration of the septic tank system to meet any new use conditions.


Application For Permit in Coastal Zone
VIMS Establishes Erosion Rates for Site
Will Erosion Cause System to Fail Within Two Years?
No
Will System Fail Within Fifteen Years
No
Issue a Standard Permit
Yes
Deny Site
Yes
Conditional Permit Option Offered
Accepted?
No
Deny Site
Yes
Health Dept. Issues a Conditional Permit
SEAS Determines Best Erosion Control Methods
Health Dept. Inspection & Permit Life Adjusted as Needed.
Will Erosion Still Cause System to Fail Within 15 Years?
No
Yes
Permit Expires
VMRC Issues Permit (if required)
Required Steps
Optional Steps

Report on the Norfolk Harbor and Channels Project

The Norfolk Harbor and Channels project involves channel dredging to provide greater access and capacities for shipping from Norfolk and Newport News. The Secretary of Transportation and Public Safety, Vivian E. Watts, has designated the Virginia Port Authority as the coordinating agency for the project. The project has been subdivided into 2 elements or phases.

The 50' Outbound Element referred to as Phase I will require the deepening of Norfolk Harbor Channel, Channel to Newport News and Thimble Shoal Channel to the 50 foot depth. No beach quality material is present in the Norfolk Harbor Channel or Channel to Newport News and any construction quality material will probably be used for dike improvements at the Craney Island disposal area. The 50' Outbound element of Thimble Shoal Channel has a limited quantity of beach quality sand. According to the Norfolk Corps of Engineers (C.O.E.) the material is widely dispersed and too limited in volume to allow economical recovery and beach placement. Typically, much of the beach quality sand is intermixed with finer silts and clays. Therefore, the material removed from Thimble Shoal during Phase I is to be deposited at the Dam Neck ocean disposal site.

Phase II, the 55' Outbound Element has significant quantities of potentially usable material. Neither Norfolk Harbor Channel or Channel to Newport News will yield beach quality materials. However, there appear to be quantities of material suitable for construction in these two (2) channels. Construction quality materials beyond that needed for dike construction at Craney Island could be sold for truck haul removal. Phase II includes deepening Thimble Shoal Channel to 55 feet over the 650 foot outbound width and the outbound element of the Atlantic Ocean Channel to 60 feet over a width of 650 feet. Both channels will yield significant quantities of suitable beach quality materials. At present material dredged from these channels is planned for disposal at Dam Neck ocean disposal site. If sand use has not been finalized prior to dredging, the beach quality material will be stockpiled at Dam Neck disposal site in such a way as to allow future recovery.

Beach quality material from Phase II can be made available provided the various engineering, environmental, legal, real estate and cost-sharing requirements are met. On November 10, 1986 Stanley Payne of the Virginia Port Authority sent a letter to Colonel Claude D. Boyd of the Norfolk District, C.O.E. requesting assistance in developing the guidelines necessary to allow for utilization of dredged materials. A better understanding of the required sequence of events will assist the localities and/or state interests in providing timely responses.

Within Phase II, the 55' Outbound Element, Thimble Shoal Channel appears to contain between 1.0 and 2.5 million cubic yards (mcy) of beach quality sand. The Atlantic Ocean Channel contains between 1.5 and 2.5 mcy. These quantities have been determined as preliminary information to be used for planning purposes in beach replenishment projects. Copies of these reports have been provided to the Virginia Port Authority and the Board on Conservation and Development of Public Beaches. Until site specific sand use concepts are

developed and conveyed to the Corps of Engineers, an intensive evaluation of volume and quality of beach materials is not justified.

The Virginia Department of Highways and Transportation has a permit to remove up to 2.25 mcy of construction quality sand from the eastern end of the Thimble Shoal Channel. This material is specifically designated for construction of the I-664 project. To date 600,000 cy have been dredged. This material, as it is removed, diminishes the volume of beach quality sand remaining for use in beach nourishment from Thimble Shoal Channel.

The 50' Outbound Element - Phase I is out to bid and construction is expected to commence March 1987. The project should be completed by June 1988.

The 55' Outbound Element - Phase II is unscheduled at this time. Construction seemingly could begin by 1989, but probably not earlier.

Phase I Controversies

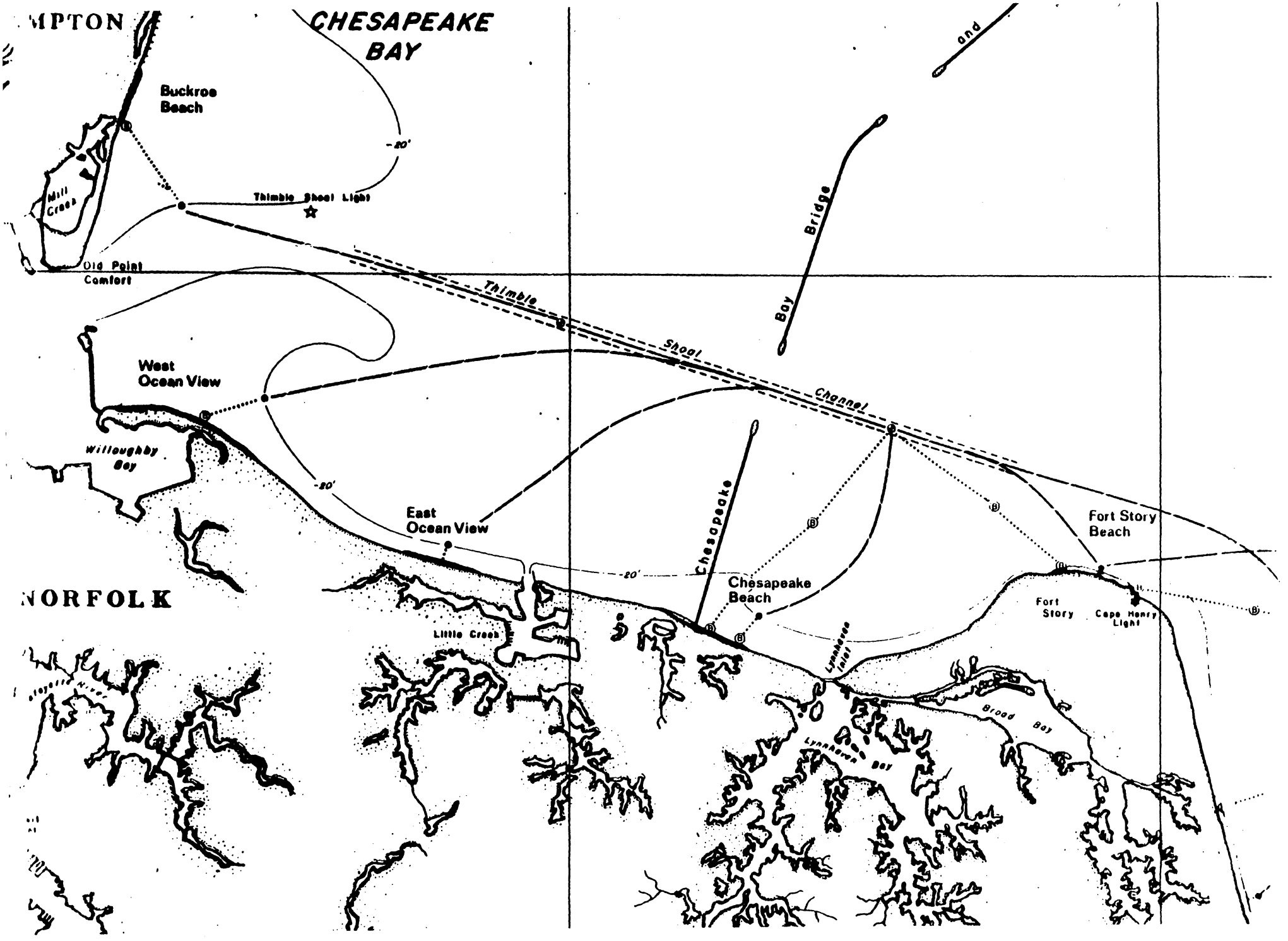
Questions and concerns have arisen over the availability of beach quality sand from Phase I - 50' Outbound Element. This confusion appears to have resulted from Corps of Engineer studies that make no distinction between Phase I and II. Rather, these reports are general and intended to be an overview of the entire project.

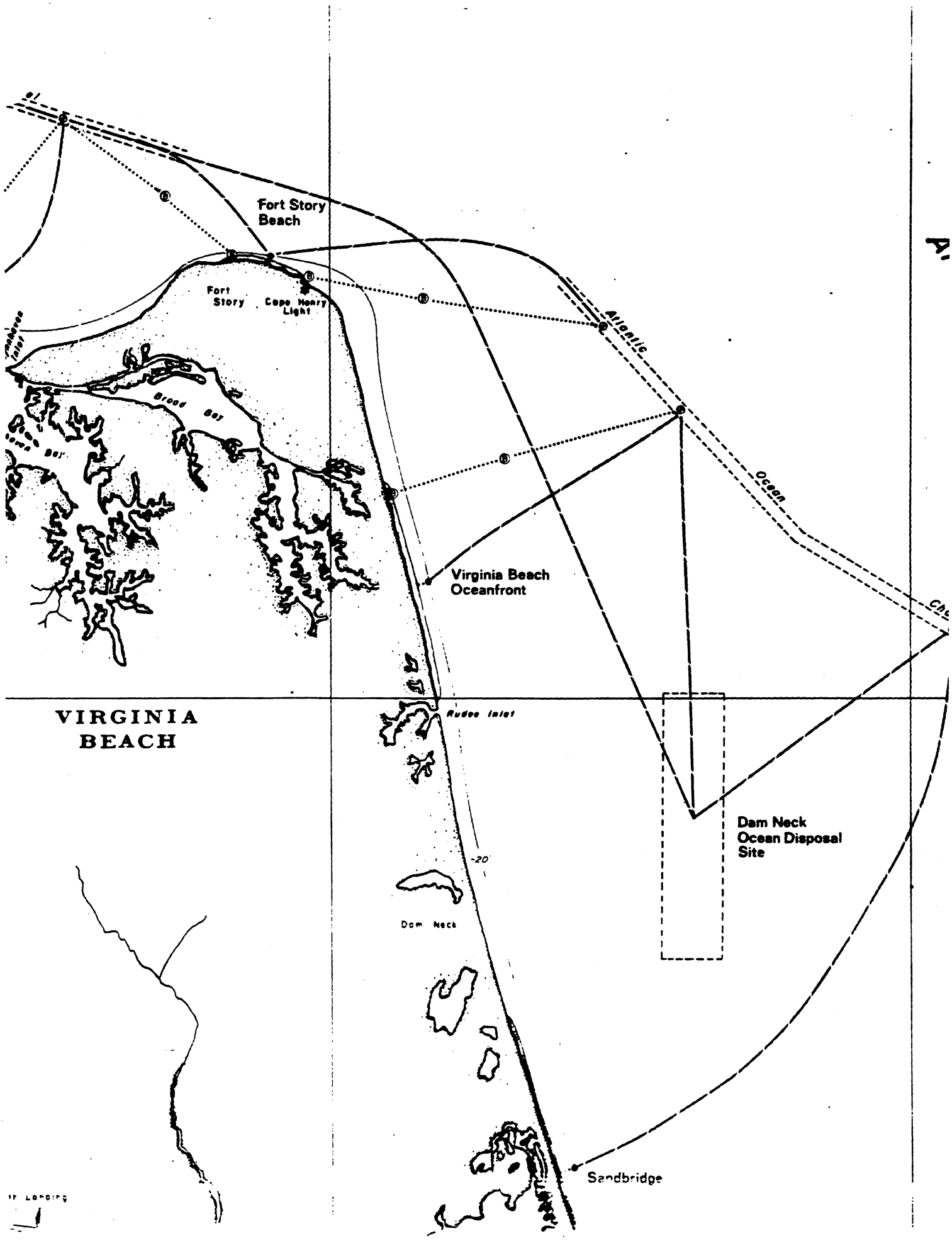
The Corps of Engineers indicated in mid-1986 that Phase I had insufficient quantities of sand to permit economical placement on a beach. Additionally, the presence of silts and clays interbedded with the sand layers further degraded the value of the material for beach nourishment.

According to the Norfolk District C.O.E. the total volume of dredging in Thimble Shoal Channel east of the Bay Bridge-Tunnel is 700,000 cubic yards (cy). Of this, the volume of available beach quality material is about 430,000 cy. Approximately 100,000 cy of this material would include a relatively high percentage of silts and clays. Ultimately, there is only about 330,000 cy of reasonably clean beach quality material.

If this 330,000 cy of sand is placed on a oceanic beach the estimated overfill ratio is 1.3, resulting in an effective nourishment of about 250,000 cy. This combination of a relatively small volume versus the expense of a mooring/pump-out station set up on open coast would require the local sponsor to pay an incremental cost of about $6.44 per cy. The overall effective unit cost of sand that remains on the beach is estimated to range from $10 to $15 per cy.

Therefore, while some beach quality sand does exist within the scope of Phase I, the distribution, composition and volume are not sufficient to allow for economical transportation and placement. Future considerations should focus on Phase II as the best available sand resource from this overall project. The Board on Conservation and Development of Public Beaches in coordination with the Virginia Port Authority will work with the interested localities to develop plans for use of the suitable sand in beach replenishment.


MPTON
CHESAPEAKE BAY
Buckroe Beach
-20'
Thimble Shoal Light
Mill Creek
Old Point Comfort
Thimble Shoal Channel
Bay Bridge
West Ocean View
Willoughby Bay
-20'
East Ocean View
Chesapeake
Chesapeake Beach
Fort Story Beach
NORFOLK
Little Creek
Fort Story
Cape Henry Light
Lynnhaven Inlet
Broad Bay
Lynnhaven Bay


Fort Story Beach
Fort Story
Cape Henry Light
Broad Bay
Atlantic
Ocean
Virginia Beach Oceanfront
VIRGINIA BEACH
Rudee Inlet
Dam Neck Ocean Disposal Site
-20
Dam Neck
Sandbridge

COMMONWEALTH of VIRGINIA

Virginia Port Authority
600 World Trade Center
Norfolk, Virginia 23510
Cable Address Vastports
Telephone (804) 623-8000
Telecopier (804) 623-8500
TWX 710 8811231

November 10, 1986

Colonel Claude D. Boyd
District Engineer
Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Dear Colonel Boyd:

This is a follow-up to my conversations with you on November 7, 1986 and with Ron Vann on November 10, 1986 regarding environmental studies necessary for direct placement of dredged material on Tidewater beaches. Such material, as your studies indicate, will be available from Phase II of the Norfolk 55-foot channel project and from the Cape Henry Channel of the Baltimore 50-foot channel project.

Because of the long lead time always present in the environmental planning process, we feel it is necessary to begin the task of securing necessary permits and approvals for beach nourishment from the above-mentioned projects. The purpose of this letter is to request your guidance in determining the parameters of studies to support this process.

We envision such environmental studies as being site-specific much as were the previous Corps studies on the economics of such beach nourishment projects. It is my understanding that studies must necessarily include a determination by local interests of what quality of dredged material is acceptable, because the nature of the material placed obviously impacts on the environmental acceptability of its placement. It is also my understanding that the quantity of dredged material to be placed at specific sites must be determined by local interests, since, again, the quantity of such material placed impacts the environmental acceptability of its placement. Finally, I would ask that you confirm that local interests will bear the financial responsibility for the cost of such studies.

We are basically asking your assistance in detailing for us what lies ahead in developing environmental studies and what determinations will have to be made by localities and/or state interests as a foundation for such studies.

Please give me a call if you have questions or comments. Thank you for your assistance and cooperation.

Sincerely,

J. Stanley Payne, Jr.

JSP/clm

cc: Mark Smith, Executive Assistant
Office of Secretary of Transportation
and Public Safety
Jack Frye, Shoreline Programs Manager
Public Beach Board

REPORT ON THE BALTIMORE HARBOR AND CHANNELS PROJECT

Project Description

The project involves deepening to 50 feet the main shipping channel to the port of Baltimore, from the Virginia Capes to Fort McHenry, with channel widths of 1,000 feet in Virginia channels and 800 feet in the Maryland channels; deepening of the Curtis Bay Channel to 50 feet for a width of 600 feet; and deepening of the East and West Channels of the Northwest Branch to 49 feet, respectively, for a width of 600 feet.

The project is authorized under Section 101, River and Harbor Act of 1970, Public Law 91-611. The project document is House Document No. 94-181, 94th Congress, 1st Session.

The channel sections located in waters of the Commonwealth require the following modifications:

1. Deepening the Cape Henry Channel from 42 feet to 50 feet and extension to 50-foot depth contours.

2. Deepening the York Spit Channel from 42 feet to 50 feet and extension to 50-foot depth contours.

3. Deepening the Rappahannock Shoal Channel from 42 feet to 50 feet, widening from 800 feet to 1,000 feet and extension to 50-foot depth contours.

The volumes of material to be dredged are as follows:

Cape Henry Channel	3.2 million cubic yards
York Spit Channel	19.5 million cubic yards
Rappahannock Shoal Channel	8.6 million cubic yards
Virginia Channels Total	31.3 million cubic yards

See attached maps for locations of channels.

Virginia-Maryland Agreement (all referenced letters are attached)

By letter of April 24, 1981, the Maryland Department of Transportation and the Commonwealth of Virginia agreed to provide disposal areas for the Virginia portions of the project. In the letter, the Commonwealth agreed to the following:

1. Ocean disposal of dredged material from the initial dredging and subsequent maintenance of the Cape Henry Channel section and stockpiling of acceptable material at the Fort Story or an

acceptable alternative site for future use by the Commonwealth.

2. In the Chesapeake Bay, the use of the Rappahannock Shoal Deep and the Wolf Trap disposal sites for the placement of dredged material from the initial dredging and subsequent maintenance will be permitted only if all conditions in paragraph 1 below are met.

On April 28, 1986, the Secretaries of Commerce and Resources and Transportation and Public Safety sent a letter to Maryland's Secretary of Transportation identifying dredged material disposal sites in Virginia waters. Sites identified have become known as the Rappahannock Shoal alternate and the Wolf Trap alternate. The letter reiterated the Commonwealth's position that:

1.) All aspects of the Baltimore channel navigation project, including stockpiling of beach replenishment materials, will be accomplished without cost to the Commonwealth.

2.) All claims resulting from this construction and the subsequent maintenance will not be borne by the Commonwealth. It is also requested that once the project is under construction that any contestable issue result in immediate contact with the Commonwealth.

The details to provide for stockpiling suitable dredged materials at Fort Story for use by the Commonwealth were yet to be resolved. Maryland was requested to designate a contact for this purpose.

On May 15, 1986, Maryland's Secretary of Transportation responded with a letter designating Frank L. Hammons, Director-Harbor Development for the Maryland Port Administration as their representative and contact.

Additionally, the State of Maryland recognized the Commonwealth's efforts to determine safe disposal areas and dredging schedules for the project. In closing, the letter stated:

> The State of Maryland recognizes and agrees to conditions and terms of agreement as stated in Virginia's April 24, 1981, letter (attached), Maurice B. Rowe, Secretary of Commerce and Resources and George M. Walters, Secretary of Transportation to James J. O'Donnell, Maryland Secretary of Transportation. Among other things that letter states that all conditions will be met without cost to the Commonwealth, and stipulates that suitable dredged material from the Cape Henry channel be stockpiled at Fort Story or a suitable alternative for future use by the Commonwealth.

On September 11, 1986, Mark E. Smith, Executive Assistant, Secretary of Transportation and Public Safety was designated the Virginia contact for the Baltimore project.

On September 29, 1986, a meeting was held with Commonwealth and State of Maryland representatives to resolve the confusion that existed concerning the intent of the April 24, 1981 letter. In attendance were: Barbara Wrenn, Deputy Secretary of Natural Resources; Mark E. Smith, Executive Assistant, Secretary of Transportation & Public Safety; Larry D. Minock, Council on the Environment; Frank L. Hamons, Director - Harbor Development, Maryland Port Administration; and representatives of the Corps of Engineers from Baltimore and Norfolk Districts.

On October 17, 1986, as a follow-up to the September 29th meeting, Frank Hamons sent a letter to Mark Smith reiterating Maryland's position.

On November 18, 1986, the Virginia Attorney General's Office provided a confidential, informal opinion of the 1981 disposal arrangements to the Secretary of Transportation and Public Safety, Vivian E. Watts. This informal opinion has not been distributed to others because of potential litigation on this matter. Generally, it appears that the Commonwealth is entitled to receive 600,000 cubic yards of beach quality sand from the Cape Henry Project. This material is to be stock-piled at Fort Story. If an alternate site is necessary, the Commonwealth may be responsible for the cost differential between placement at Fort Story and the alternate site. Additionally, there remains 2.6 million cubic yards of material to be removed from the Cape Henry Channel. Of this, the quantity of beach quality sand is unknown. The Commonwealth has the option of receiving this material by paying the difference between ocean disposal and on-shore placement.

On November 26, 1986, Secretary Watts sent a letter to John W. Daniel, II, the Secretary of Natural Resources. The letter contained information relating to Maryland's interpretation of the 1981 disposal arrangements as well as the confidential, informal opinion of the Virginia Attorney General's Office.

Additionally, the letter suggested that details pertaining to specific beach replenishment sites and quantities should be handled within the Natural Resources Secretariat; this being accomplished by coordination with Barbara Wrenn as well as the Board on Conservation and Development of Public Beaches (Public Beach Board). Jack E. Frye, Advisor to the Public Beach Board has been included in all pertinent meetings and given copies of appropriate information since November 3, 1986.

On December 1, 1986, a meeting was held in Baltimore to discuss the disposal arrangements. In attendance were: Frank Hamons, Director of Harbor Development, Maryland Port Administration; Jeff McKee, Program Manager for the Balti-

more Corps of Engineers; Mark E. Smith, Executive Assistant to the Secretary of Transportation & Public Safety; Jack E. Frye, Advisor to Board on Conservation and Development of Public Beaches

The meeting resulted in the following:

1. Baltimore Corps of Engineers (C.O.E.) will provide the Commonwealth with an estimate of the quantity of sand greater than .15 mm and greater than .20mm from the Cape Henry Project. This information would be provided within 2 weeks (December 15).

2. The Commonwealth will provide to Baltimore C.O.E. specific information of placement location and quantity by February 2, 1987.

3. The site specific placement information will be included in the Baltimore C.O.E. solicitation for bids.

4. Baltimore C.O.E. appear to be able to coordinate with Norfolk C.O.E. to complete necessary environmental assessments within the current Corps' budget.

5. A Memorandum of Understanding will be finalized to clarify the confusion between the Commonwealth and Maryland over the 1981 agreement. In addition, the necessary mechanisms will be developed so Virginia will have an option on beach quality sand available from maintenance dredging over the fifty-year life of the project.

Presently the material in the lower section of the York Spit Channel is under consideration. According to the August 1981 General Design Memorandum compiled by the Baltimore District C.O.E. for the York Spit Channel, the median grain size ranges from 0.04mm to 4.8mm with an average of 0.17mm. If suitable material is present, the Commonwealth will work with Maryland to receive the beach quality material under the present agreements.

Projected Outlook

The division of available sand from the project will be the responsibility of the Secretary of Natural Resources. The Public Beach Board will continue to work with the interested localities, unless otherwise directed, to determine sites and quantities for beach replenishment. In addition, the Virginia Department of Highways and Transportation (VDH&T) may be interested in obtaining construction quality material from the project. Estimates of what quantities VDH&T might require have not been finalized. Questions concerning matching funds or special appropriations to assist with the cost of the beach replenishment remain.

The Board on Conservation and Development of Public Beaches is meeting on December 18, 1986, to discuss the project and hear requests for suitable sand from interested localities.

An additional Board meeting is planned for late January 1987 where the sites and quantities will be finalized and approved. This information will be forwarded to the Baltimore C.O.E. for incorporation into the solicitation for bids. Solicitation for bids will be released the Winter 1987. Actual dredging is expected to begin in late Spring/Summer 1988.

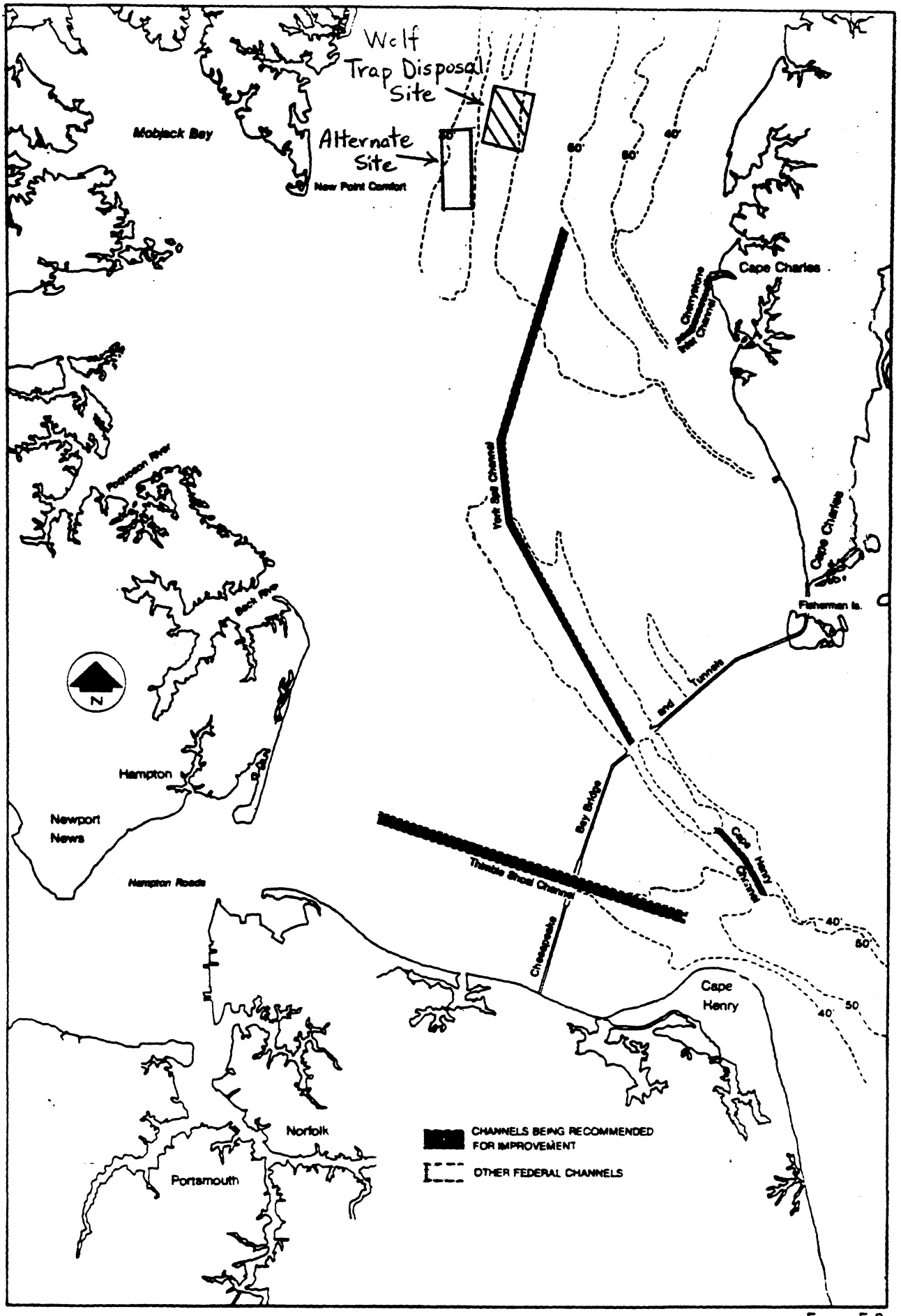

Wolf Trap Disposal Site
Alternate Site
Mobjack Bay
New Point Comfort
Cape Charles
Chesapeake and Cape Charles Ship Channel
York Spit Channel
Cape Charles
Fisherman Is.
Hampton Roads Bridge Tunnels
Hampton
Newport News
Hampton Roads
Thimble Shoal Channel
Chesapeake
Cape Henry Channel
Cape Henry
Norfolk
Portsmouth
CHANNELS BEING RECOMMENDED FOR IMPROVEMENT
OTHER FEDERAL CHANNELS

Figure E-2

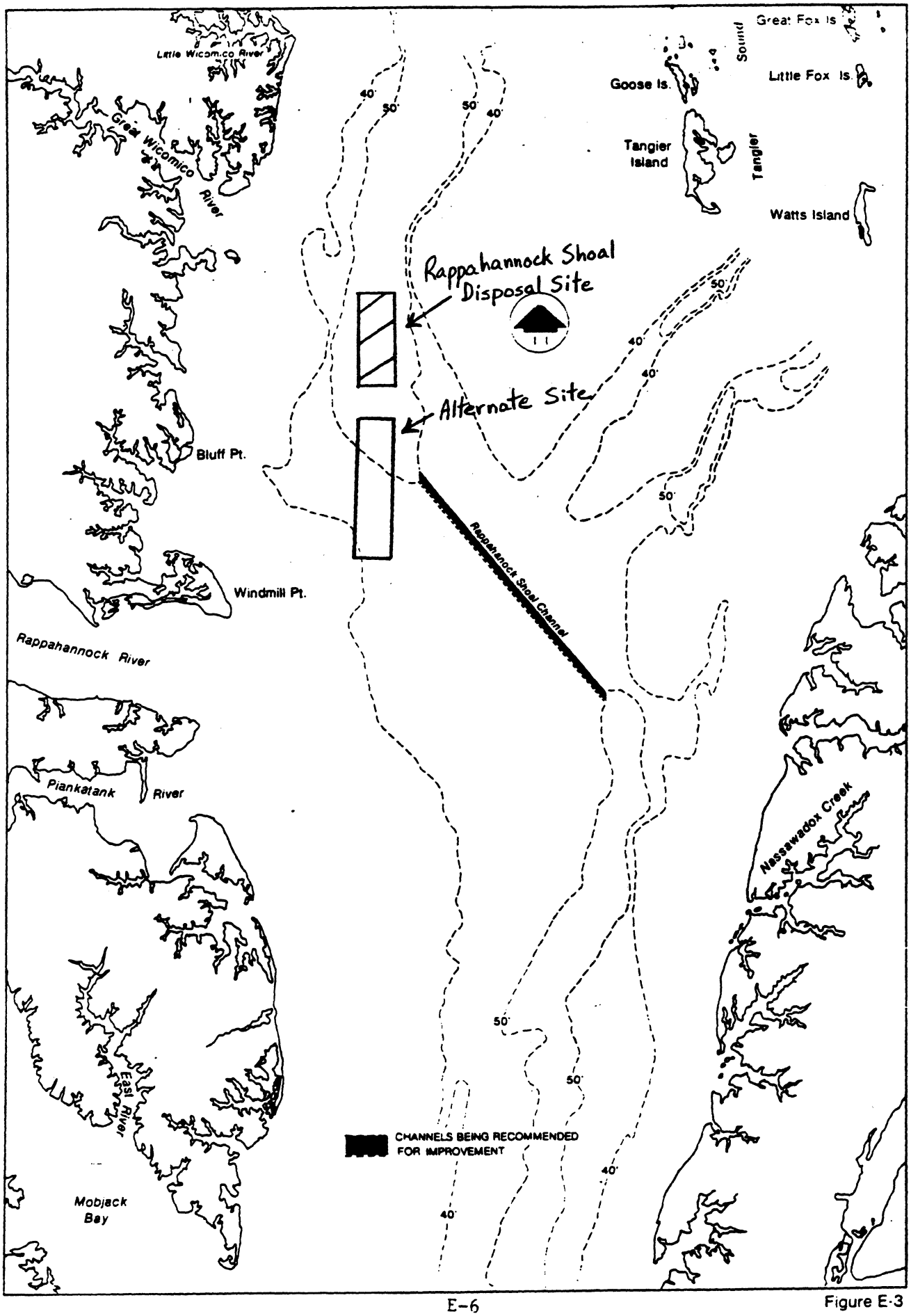

Little Wicomico River
Great Wicomico River
Bluff Pt.
Windmill Pt.
Rappahannock River
Piankatank River
East River
Mobjack Bay
Rappahannock Shoal Disposal Site
Alternate Site
Rappahannock Shoal Channel
Great Fox Is.
Sound
Little Fox Is.
Goose Is.
Tangier Island
Tangier
Watts Island
Nassawadox Creek
CHANNELS BEING RECOMMENDED FOR IMPROVEMENT
40'
50'

Figure E-3

April 24, 1981

The Honorable James J. O'Donnell
Secretary, Maryland Department of
Transportation
Post Office Box 8755
Baltimore Washington International Airport
Maryland 21240

Dear Secretary O'Donnell:

The Commonwealth of Virginia is pleased to submit this letter providing for the designation of disposal sites for that part of Baltimore's 50' Channel project located in Virginia waters.

Section 101 of the River and Harbor Act, December 31, 1970, PL91-611, authorizes construction of the Baltimore 50' Channel project, and requires local assurances from nonfederal interests. Item "a" of those requirements calls for the affected nonfederal interests, in this case the Commonwealth of Virginia, to provide the federal government with suitable sites for placement of dredged material resulting from the initial dredging and subsequent maintenance of the project.

In response to that requirement, the Commonwealth of Virgini agrees to the following:

1. Ocean disposal of dredged material from the initial dredging and subsequent maintenance of the Cape Henry Channel section and stockpiling of acceptable material at the Ft. Story or an acceptable alternate site for future use by the Commonwealth.

2. In the Chesapeake Bay, the use of the Rappahannock Shoal Deep and the Wolf Trap disposal sites for the placement of dredged material from the initial dredging and subsequent maintenance will be permitted only if al conditions in paragraph 1 below are met.

It is understood that the use of the disposal sites in the Chesapeake Bay, as described above, is contingent upon satisfaction of the following conditions:

1. That the Corps of Engineers, in concert with the Commonwealth, will continue to work to develop a satisfactory monitoring program which includes the spoil disposal sites for the Baltimore 50' Channel project that will serve to protect and preserve the interests of the Commonwealth of Virginia and its citizens. This monitoring program will be developed and initiated prior to any actual placement of dredged material, in order to establish an existing baseline condition in the disposal areas. A portion of the monitoring may be application of sediment dispersion modeling developed by Waterways Experiment Station (WES) as appropriate.

2. That the Commonwealth prior to or during the course of construction of the project may designate alternative disposal sites in the Bay of similar costs, capacities and convenience as the agreed sites. The Commonwealth will designate these alternate sites in sufficient time to allow for baseline monitoring and evaluation and not delay the dredging of the project.

The Commonwealth of Virginia agrees to these actions which will be accomplished without cost to the Commonwealth. Any claims resulting from this construction will not be borne by the Commonwealth of Virginia.

It is also requested that once the project is under construction any contestable issue would result in immediate contact with the Commonwealth.

Sincerely,

Maurice B. Rowe
Secretary of Commerce & Resources

George M. Walters
Secretary of Transportation

cc: The Honorable John N. Dalton
Colonel Douglas Haller
Mr. James Moore

COMMONWEALTH of VIRGINIA

Richard M. Bagley
Secretary of Commerce
and Resources

Office of the Governor
Richmond 23219

April 28, 1986

The Honorable William K. Hellmann
Secretary, Maryland Department of Transportation
P. O. Box 8755
Baltimore-Washington International Airport
Maryland 21240

Dear Secretary Hellmann:

Section 101 of the River and Harbor Act of 1970 (PL 91-611) authorized construction of the Baltimore Harbor and Channels 50-foot project, and required assurances from non-federal interests. Item " of those requirements called for the affected non-federal interests t provide the federal government with suitable sites for placement of dredged material resulting from the initial dredging and subsequent maintenance of the project.

Accordingly, in a letter dated 24 April 1981 to Secretary James O'Donnell of the Maryland Department of Transportation, the Commonwealth identified the Rappahannock Shoal Deep and the Wolf Trap disposal sites for the placement of initial and maintenance dredged material resulting from the expansion of the Rappahannock Sh and York Spit channels located in Virginia. Subsequent to that lett the Commonwealth identified two alternate sites for consideration. These sites became known as the Rappahannock Shoal alternate and the Wolf Trap alternate.

In reference to those portions of the project that lie in Virginia waters, the Commonwealth has reached the following conclusions:

1) The Rappahannock Shoal alternate disposal site should be used for construction dredging and for subsequent maintenance dredging rather than the primary site.

2) The ban on winter project dredging for the Cape Henry channel should be removed.

3) At this time we cannot endorse the use of the Wolf Trap alterna disposal site or removal of the ban on winter project dredging in the York Spit channel. However, discussions on both of thes points needs to continue.

These conclusions have been based on the following information

1) An intensive array of environmental monitoring and analysis ac ities has been conducted by the Corps of Engineers and its con- tractors. That work looked at the channels in terms of the chemistry of the sediments to be dredged and at the primary an alternate disposal sites in terms of the dispersion of sedimen during disposal, the benthic resources, and the use of those benthic resources by finfish populations.

2) Late-arising concerns about the possible effects of the project on the winter blue crab dredge fishery have led to a study of that resource and the related fishery. That study is nearing its formal completion, and its results must be fully evaluated by the Commonwealth.

The Corps of Engineers, to date, has met its obligation to develop and implement a suitable project monitoring program. The pr construction phase of the monitoring program has been satisfactorily concluded, and the Commonwealth has been fully involved in the development of the construction and post-construction phases of the monitoring program. The Com onwealth will continue to be directly involved in the remaining phases of the monitoring program, and reta the right of review over all remaining aspects of the monitoring program. Particular attention will be given to the reactive monitor process to ensure that dredged materials stay within defined areas a the disposal sites.

The details of stockpiling suitable dredged materials at Port Story for later use by the Commonwealth for beach replenishment remain to be resolved. Please designate a contact for this purpose.

The Commonwealth reiterates its position that:

1) All aspects of the Baltimore channel navigation project, including stockpiling of beach replenishment materials, will be accomplished without cost to the Commonwealth.

2) All claims resulting from this construction and the subsequent maintenance will not be borne by the Commonwealth. It is also requested that once the project is under construction that any contestable issue result in immediate contact with the Common- wealth.

While the Commonwealth receives no benefits from the Baltimore 50-foot navigation project, the environmental and resource impacts of that project make it of continuing interest to us. We are pleased tha concurrence has been reached on most aspects of this project. However we cannot yet agree to use of the Wolf Trap alternate disposal site or to the lifting of the ban on winter project dredging in the York Spit channel.

Sincerely,

Richard M. Bagley
Secretary of Commerce
and Resources

Vivian E. Watts
Secretary of Transportation
and Public Safety

cc: Baltimore District, Corps of Engineers

Maryland Department of Transportation
The Secretary's Office

Harry Hughes
Governor

William K. Hellmc
Secretary

May 15, 1986

Richard M. Bagley
Secretary of Commerce
and Resources
Commonwealth of Virginia
Office of the Governor
Richmond, Virginia 23219

Vivan E. Watts
Secretary of Transportation
and Public Safety
Commonwealth of Virginia
Office of the Governor
Richmond, Virginia 23219

Dear Secretaries Bagley and Watts:

Thank you for your letter of April 28, 1986 regarding the Baltimore Harbor and Channels 50' project.

I am pleased that project monitoring efforts to date have provided a basis for conclusions by Virginia that the Rappahannock Shoal alternate disposal site should be used, and the ban on winter project dredging be removed for the Cape Henry channel. Cooperation and coordination on this project has been excellent to date, and I am confident that continuing efforts will provide a sound scientific basis for decisions about the use of the Wolf Trap alternate disposal site, winter dredging in York Spit channel, and possible effects of the project on the winter blue crab fishery.

The Corps of Engineers, in developing and implementing an extensive project monitoring program, has worked jointly with representatives from the Commonwealth of Virginia and the State of Maryland. Our representative and contact is Frank L. Hamons, Director - Harbor Development for the Maryland Port Administration. Mr. Hamons is the proper contact for discussion of technical matters relating to the 50' project, including the reactive monitoring process and details relating to the stock piling of suitable dredged materials at Port Story for later use for beach replinishment. He may be reached at 301-659-4795, Maryland Port Administration, World Trade Center - Baltimore, Baltimore, Maryland 21202.

Finally, the State of Maryland recognizes and agrees to conditions and terms of agreement as stated in Virginia's April 24, 1981 letter (attached), Maurice B. Rowe, Secretary of Commerce and Resources and George M. Walters, Secretary of Transportation to James J. O'Donnell, Maryland Secretary of Transportation. Among other things that letter states that all conditions will be met without cost to the Commonwealth, and stipulates that suitable dredged material from the Cape Henry channel be stockpiled at Fort Story or a suitable alternative for future use by the Commonwealth. Secretary O'Donnell, by letter of April 28, 1981 to Colonel James W. Peck (attached), passed the April 24, 1981 Virginia letter intact to the Corps of Engineers as part of Maryland's local assurance documentation for that portion of the 50' channel project located in Virginia waters.

I trust this answers your concerns on this matter, and I look forward to continuing our productive relationship on matters relating to the 50'channel project. If you have additional questions or comments, please do not hesitate to contact me.

Sincerely,

William K. Hellmann

William K. Hellmann
Secretary

Attachments
cc: David Wagner
Port Administrator

Maryland Department of Transportation

Maryland Port Administration

William K. He
Secretary
David A. Wagi
Port Administrator

October 17, 1986

Mr. Mark E. Smith
Executive Assistant
Secretary of Transportation and
Public Safety
Commonwealth of Virginia
Ninth Street Office Building
Richmond, Virginia 23219

Dear Mr. Smith:

This is to follow up on our discussion at the meeting with you in Richmond on October 2, 1986 regarding our 50' channel project. I understand the interest of the Commonwealth of Virginia in stockpiling and reusing sand dredged from the Cape Henry channel section during performance of this project. We certainly agree that reuse of good material from dredging projects for beach nourishment or similar productive placement is a most desirable alternative.

As I discussed with you at our meeting, Maryland concluded the original local assurances arrangement with Virginia in 1981 with the understanding that we would stockpile, as part of the 50' channel project cost, about 600,000 cubic yards of sand at Fort Story or a suitable alternative site. The 600,000cy quantity was the approximate capacity of the Fort Story site at the time the agreement was concluded.

We are still prepared to stockpile 600,000cy of sand at Fort Story in accordance with the above cited agreement. However, if Virginia prefers, we are prepared to pay the equivalent of that operation towards placement of Cape Henry channel sand at any location chosen by the Commonwealth. If Virginia would like to use additional sand beyond the agreed upon 600,000cy, we would have no objection provided that any additional costs resulting from change of quantity, location or placement procedure, e.g. 3.2 million cubic yards placed on the beach at Virginia Beach, would be borne by the Commonwealth or other local Virginia entity, and can be accomplished within the scheduled time frame for the project.

My Telephone Number is (301) - 659-4795

The World Trade Center Baltimore, Baltimore, Maryland 21202-3041

Teletypewriter for hearing or speech impaire
Baltimore Metro: 383-75
D.C. Metro (toll free): 565-04
Statewide toll free: 1-800-492-50

I believe this approach should allow Virginia to utilize all of the available sand from the dredging project at a reasonable cost. If you would like to pursue this, I will notify appropriate officials within the Maryland Port Administration and Department of Transportation, and we can proceed to work out the details, involving quantity, placement and location desired. I will also take steps to initiate discussion with the Corps of Engineers to consider any necessary alteration of the project plans and specifications to reflect this understanding.

Since the 50' channel project is ready to proceed once Congress acts and the President signs the cost sharing legislation, we need to know of your interest in further pursuing this as soon as possible. I look forward to hearing from you on this matter.

Sincerely,

Frank L. Hamons

Frank L. Hamons, Director
Harbor Development

FLH/kyj

COMMONWEALTH of VIRGINIA

Office of the Governor

Richmond 23219

Vivian E. Watts
Secretary of Transportation
and Public Safety

November 26, 1986

The Honorable John W. Daniel, II
Secretary of Natural Resources
Post Office Box 1475
Richmond, Virginia 23212

Re: Baltimore 50' Project

Dear John:

As we have discussed previously I have directed Mark Smith to coordinate the efforts concerning the above-referenced matter to assure that Virginia is able to obtain the maximum amount of beach quality sand.

I have enclosed, for your information, a letter from Frank L. Hamons of the Maryland Port Administration regarding Maryland's interpretation of the 1981 disposal arrangements for materials dredged from the Cape Henry Channel of the Baltimore 50' Project. Further, please find a copy of a confidential, informal opinion of the Virginia Attorney General's Office that I requested on this matter. It has been requested that this informal opinion not be distributed to others because of potential litigation on this matter.

It appears, after reviewing our legal position, that the Commonwealth is entitled to receiving 600,000 cubic yards of beach quality sand from the project. Recognizing that initial arrangements specified that the remaining 2.5 million cubic yards of potential beach quality sand would be disposed at an overboard site, I directed Mark of my staff to work with the Maryland authorities and the Baltimore District Corps of Engineers to amend previous plans to permit beach disposal of any beach quality material at minimal cost. Additionally, discussions have included Virginia's interest in having first option on any beach quality sand obtained from subsequent maintenance dredging over the fifty year life of the project.

Although I have asked Mark to finalize the arrangements with Maryland and the Corps with respect to the bid process and the availability of the sand, as we have discussed I believe the details on the quantity and placement of sand is within your Secretariat. Unless otherwise directed, Mark will continue to coordinate with Barbara Wrenn of your Office as well as Jack Frye of the Public Beach Commission. In fact, Jack has been included in all pertinent meetings and given copies of appropriate information over the past month.

I trust this information will assist you in responding to questions on this matter.

Sincerely,

Vivian E. Watts

Enclosures

cc: Mr. Jack E. Frye

1987 SESSION

HP9047460 ENGROSSED

HOUSE JOINT RESOLUTION NO. 226

House Amendments in [ ] - February 8, 1987

Requesting the continuation of the joint subcommittee studying tidal shoreline erosion.

Patrons--Forehand, Glasscock, Purkey, Murphy and Dicks; Senators: Holland, C. A., Gartlan and DuVal

Referred to the Committee on Rules

WHEREAS, House Joint Resolution No. 46, passed during the 1986 Session of the General Assembly, requested a joint subcommittee to study whether the Commonwealth's tidal shoreline erosion control policy reflects an appropriate balance between the rights of individual property owners and the Commonwealth's responsibility to protect the environment; and

WHEREAS, the joint subcommittee has held five meetings during which the review of many issues has taken place, including:

1. Federal and state laws and programs regulating tidal shoreline activities,

2. The permitting policy of the Virginia Marine Resources Commission and how that policy was applied in the Cedar Island case,

3. Shoreline and erosion dynamics on Virginia beaches,

4. The Department of Health's permitting policy pertaining to septic tanks in shoreline areas,

5. The coastal development and shoreline protection practice of other states,

6. The threat to private property at Sandbridge and methods for raising revenue to protect such property,

7. Sand dredging and beach nourishment activities; and

WHEREAS, due to the complexity and far-reaching impact that any proposed changes could have on the Commonwealth's current shoreline policy, the joint subcommittee has agreed that the issues raised during 1986 require further attention and that the future activities of the joint subcommittee should be concentrated on particular matters; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the joint subcommittee studying tidal shoreline erosion is hereby continued. The joint subcommittee shall focus its efforts upon, but not be limited to, the following issues:

1. The feasibility of instituting a comprehensive shoreline erosion policy for the Commonwealth,

2. Statutory definitions of wetlands, dune and barrier island areas,

3. The capability of state agencies to implement the intent of the General Assembly regarding coastal shoreline protection,

4. The responsibility of the Commonwealth to help protect private shoreline property and funding initiatives for public and private beach preservation programs.

The current membership of the joint subcommittee shall continue to serve.

The joint subcommittee shall complete its work by November 15, 1988, and thereafter submit any recommendations to the 1988 Session of the General Assembly.

The indirect costs of this study are estimated to be [~~$13,255. The direct cost of this study shall not exceed $8,300~~ $8,465; the direct costs shall not exceed $5,780].

1987 SESSION
ENGROSSED

HP5999460

HOUSE BILL NO. 967

House Amendments in [ ] - February 7, 1987

A BILL to amend the Code of Virginia by adding a section numbered 21-11.16:1, relating to the use of dredged material.

Patron--Forehand

Referred to the Committee on Conservation and Natural Resources

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding a section numbered 21-11.16:1 as follows:

§ 21-11.16:1. Use of dredged material for beach nourishment; priority.--It is the intent of the General Assembly that the beaches of the Commonwealth be given priority consideration as sites for the disposal of that portion of dredged material determined to be suitable for beach nourishment. The Secretary of Natural Resources shall have the responsibility of determining whether the dredged material is suitable for beach nourishment.

[2. That an emergency exists and this act is in force from its passage.]

Official Use By Clerks	
Passed By The House of Delegates	**Passed By The Senate**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
Clerk of the House of Delegates	Clerk of the Senate

1987 SESSION

LD5998460

HOUSE JOINT RESOLUTION NO. 223

Offered January 20, 1987

Urging the U. S. Army Corps of Engineers to allow the Commonwealth of Virginia to determine the extent to which dredged materials can be used for beach nourishment.

Patrons--Forehand and Dicks

Referred to the Committee on Rules

WHEREAS, the beaches along the tidal shorelines of the Commonwealth are important recreational and economic assets; and

WHEREAS, these beaches are subjects to severe erosion; and

WHEREAS, section 21-11.16 of the Code of Virginia declares as the policy of the Commonwealth that "the shores of the Commonwealth of Virginia are a most valuable resource that should be protected from erosion which reduces the tax base, decreases recreational opportunities,..." and that the Commonwealth should "bring to bear the state's resources effectuating effective practical solutions thereto."; and

WHEREAS, the Norfolk and Baltimore Districts of the U.S. Army Corps of Engineers dredges millions of cubic yards of Virginia's bottomland; and

WHEREAS, much of this dredged material is suitable for beach replenishment and could be used for rebuilding eroding beaches; now, therefore, be it

RESOLVED, by the House of Delegates, the Senate concurring, That the U.S. Army Corps of Engineers allow the Commonwealth to determine whether any portion of the dredged material is of sufficient quality to be placed on Virginia's beaches; and, be it

RESOLVED FURTHER, That after such a determination is made, the U.S. Army Corps of Engineers shall make all reasonable efforts to provide such dredged material to the Commonwealth in lieu of ocean disposal; and, be it

RESOLVED FINALLY, That the Clerk of the House of Delegates transmit copies of this resolution to the commanding officers of the U. S. Army Corps of Engineers, Norfolk and Baltimore District Offices.

Official Use By Clerks	
Agreed to By The House of Delegates	**Agreed to By The Senate**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
Clerk of the House of Delegates	Clerk of the Senate