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FINAL
ENVIRONMENTAL STATEMENT

GRAND ISLE AND VICINITY, LOUISIANA

OFFICE OF THE CHIEF OF ENGINEERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC 20314

September 1974

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SUMMARY

GRAND ISLE AND VICINITY, LOUISIANA

() Draft

(X) Final Environmental Statement

Responsible Office: US Army Engineer District, New Orleans
Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160
(504 865-1121)

1. Name of Action: () Administrative (X) Legislative

2. Description of Action: The recommended plan of improvement consists of a 2,600-foot stone jetty at Caminada Pass to stabilize the western end of Grand Isle and a sandfill dune and berm extending approximately 7.5 miles along the island's gulf shore to provide protection from beach erosion and hurricane waves. Sandfill for the dune and berm would be dredged from offshore bottoms. The recommended jetty, an integral part of the recommended plan, has already been constructed by local interests. The recommended project is located entirely in Jefferson Parish, Louisiana.

3. a. Environmental Impacts: The jetty protects the west end of Grand Isle from beach erosion. In this section of the island are located many homes, business establishments, Louisiana Highway 1, and the main utility lines which service the island. The dune and berm are designed to provide hurricane wave protection from hurricanes of an intensity that occur with a frequency of approximately once in 50 years.

b. Adverse Environmental Effects: The adverse environmental impacts associated with the proposed action are not considered to be of major significance. Construction of the project features will produce minor adverse esthetic impacts including some increase in obstruction of the ocean view from inland sites and intrusion of the jetty and artificial dune upon a natural beach. A temporary increase in turbidity adjacent to the area of deposition of fill material and in the area from which it will be dredged along with the accompanying burial or removal of some of the natural organisms of these areas, will be experienced.

4. Alternatives: Alternatives to the recommended plan considered in planning studies include:

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- a. Beach fill to widen the beach to the extent required to provide protection against beach erosion.
- b. Beach fill with groins to resist erosion and trap littoral materials.
- c. Levees and bulkheads to prevent tidal inundation.
- d. Breakwater to prevent hurricane surges from overtopping the island.
- e. Extension of an existing jetty at the east end of the island to intercept more littoral sand.

Alternative "a" was studied in detail (plan A in report) and was found to be economically feasible. However, it did not provide the hurricane protection that plan B, the recommended plan, did. Alternative "b" has already been tried with only temporary success and high cost of frequent nourishment. Alternatives "c" and "d" would entail prohibitively high cost. Alternative "e" would not protect the center or western end of the island and would accelerate erosion of Grand Terre Island to the east. The alternative of "no action" would leave existing improvements on Grand Isle subject to massive damage from erosion and hurricane-driven gulf waves and retard the residential, commercial, and recreational use of the island.

5. a. Comments Received (District Review):

Federal agencies

US Department of the Interior
 National Park Service
 Bureau of Mines
 Geological Survey
 Fish and Wildlife Service
 US Department of Transportation, United States Coast Guard
 US Department of Agriculture, Soil Conservation Service
 US Department of Commerce
 Environmental Protection Agency

State of Louisiana

State Land Office
 Department of Conservation
 Louisiana Wild Life and Fisheries Commission
 Department of Public Works

Citizen groups

Louisiana Wildlife Federation, Inc.

5. b. Comments Received (Departmental Review):

Federal agencies

US Department of the Interior, Office of the Secretary
US Department of Commerce, Assistant Secretary of
Science and Technology
US Department of Health, Education, and Welfare
US Department of Transportation, US Coast Guard
Environmental Protection Agency

State of Louisiana

Department of Public Works
Louisiana Wild Life and Fisheries Commission

6. Revised draft statement to CEQ 19 December 1973.

Final statement to CEQ OCT 8 1976.

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GRAND ISLE AND VICINITY, LOUISIANA

ENVIRONMENTAL STATEMENT

SECTION I--PROJECT DESCRIPTION

Erosion of the gulf shore is a serious problem on Grand Isle. It is causing a general recession of the beach along the center of the island and, prior to the construction of the recommended jetty, was causing a more rapid deterioration at the west end of the island. The areas affected are the most used and are particularly attractive for recreation purposes. These areas contain many homes, business establishments, Louisiana Highway 1, and underground main utility lines which service the island. Unchecked erosion will result in total loss of any vehicular connection with the mainland and the need for relocation of many structures and utilities.

Grand Isle is subject to severe damage from hurricanes. Its gulf beach lies fully exposed. Advancing tropical cyclones push water inland, inundating the entire island. Large waves driven by hurricane winds strike the flooded improvements wreaking widespread devastation. The force of these waves is the most significant cause of damage on the island.

The recommended improvements for Grand Isle and Vicinity, Louisiana, are located along the gulf shore and tidal passes of Grand Isle in Jefferson Parish, Louisiana. (See plate 1.) The improvements are designed to provide protection from beach erosion and gulf waves driven by hurricanes with an average frequency of recurrence of once every 50 years. These 50-year hurricanes bring 100-m.p.h. winds along the Louisiana coast.

The study which led to the recommendation outlined herein was authorized by two resolutions adopted 26 September 1963 and 5 May 1966 by the Committee on Public Works of the United States House of Representatives. This statement is prepared to accompany the survey report during review by higher authority. The selected plan has an estimated first cost of \$9,100,000 of which \$5,960,000 is Federal and \$3,140,000 is non-Federal. The benefit-cost ratio is 1.7 to 1. The accompanying maps shows the proposed project features and locations.

The recommended improvements consist of a sandfill dune with gulfside berms, and a stone jetty. (See plate 2.) The dune and berm would extend approximately 7.5 miles along Grand Isle's gulf shore. The dune would have a 10-foot-wide crown at an elevation of 11.5 feet m.s.l. (mean sea level), 1 on 5 side slopes. It would be protected from erosion by appropriate indigenous vegetation.

The berm would slope from an elevation of 8.5 feet m.s.l. at the toe of the dune, 180 feet gulfward to an elevation of 3 feet m.s.l., and thence assume its natural slope of repose to the offshore bottom. The stone jetty, already completed by the Louisiana Department of Public Works, extends approximately 2,600 feet along Caminada Pass and serves to stabilize the western end of the island. The dune and berm will greatly reduce damages from hurricane waves but will not prevent tidal flooding.

Material for construction of the west jetty was imported. Sandfill placed on the landside of the jetty by local interests was dredged from Caminada Pass. Sandfill for construction of the recommended dune and berm will be dredged from borrow area located approximately 2,000 feet offshore of each end of the island. (See plate 2.)

SECTION II--ENVIRONMENTAL SETTING WITHOUT THE PROJECT

1. PHYSIOGRAPHY.

Grand Isle is one of the many low, irregular barrier islands separated by bays, lagoons, and bayous which form a part of the gulf shoreline of Louisiana. The island extends about 7.5 miles in a generally northeast to southwest direction and is about .75 miles wide at its widest point. Grand Terre Islands lie to the northeast and Cheniere Caminada, the mainland, is to the west of Grand Isle.

The topography is typical of that found in other areas of coastal Louisiana where well-developed marsh and beach ridge complexes have formed. Dunes along the gulf shore are the principal features of relief with elevations ranging up to about 8 feet m.s.l. The Grand Isle dune was severely eroded in Hurricane Betsy (1965) and subsequently restored. Natural ground elevations in the central section of the island vary from 3 to 5 feet. The north or bayshore, where undeveloped, is low, flat marshland indented by numerous small bays and inlets. The natural drainage is away from the gulf shore. Only the geologic history in the last 4,000 to 5,000 years is of significance for this study. During that time, the rise in sea level ceased, many deltas were formed, and a seaward growth of the land mass began. As the land mass advanced seaward, the course of the Mississippi River, and its associated deltas, shifted many times, depositing a front of fine-grained alluvium over the entire area. After each change in the course of the Mississippi and its corresponding delta, the effects of subsidence and erosion became the dominant process within the abandoned delta. The gulfward edge of the abandoned delta began a landward retreat forming accreted sandy delta margin islands with well-developed beaches consisting primarily of the coarser sediments of the reworked distributary deposits. Grand Isle, which flanks the seaward end of the abandoned Lafourche delta, is one of these delta margin islands.

Generally, the subsurface consists of fine beach sand varying in thickness from about 15 or 20 feet along the modern beach, to approximately 30 feet just northward of the modern beach. The fine sand is underlain by silty sands to a maximum depth of about 60 feet in the eastern half of the island, north of the modern beach. Generally, this sandy material wedge thins to about 20 feet at the western or Caminada Pass end of the island. The extensive depth of the sand at Grand Isle is the result of progressive settlement of the sand as beach deposits accumulated. Underlying the sandy materials are deposits of medium clays. Based on available geologic information, no unusual problems in constructing the proposed dune need be anticipated, but erosion protection will be required. The dune would be constructed of sand obtained locally. No unusual problems relative to constructing the jetty at the western end of the island were encountered.

2. CLIMATOLOGY.

The climate of this area is semitropical in nature. It is influenced by the proximity of the Gulf of Mexico with water temperatures along the Louisiana shore averaging from 64° F. in February to 84° F. in August. Southerly winds produce afternoon thundershowers in summer while winter storms are of the frontal type in which showers generally last the duration of the storm.

The average annual temperature of this area is 67° F., based on records of 13 to 98 years at stations in or adjacent to the study area. Monthly averages range from 83° F. in July and August to 57° F. in January. In the period subsequent to 1949, Grand Isle experienced a maximum of 101° F. on 30 August 1954 and a minimum of 16° F. on 11 January 1962.

Precipitation is generally heavy with the largest accumulations recorded during the summer months due to frequent afternoon thundershowers. The average annual rainfall for the area is 62.8 inches with monthly averages ranging from 3.5 inches in October to 7.5 inches in July. This is based on records of 13 to 98 years at U. S. Weather Bureau stations in or adjacent to the study area. The maximum recorded monthly rainfall of 20.9 inches at Grand Isle occurred in September 1946. Measurable snow occurs infrequently. The last snowfall of consequence produced a maximum depth of 2.8 inches on 12 February 1958 at Grand Isle while other stations in the area reported smaller depths at that time.

3. HYDROLOGY.

The normal tide along the Grand Isle coast is diurnal and has an average range of approximately 1.2 feet, with a maximum range of about 1.9 feet. Storm and hurricane tides reach elevations of up to 10 feet on the coast, and strong northerly winds in the winter depress gulf levels as much as 2.6 feet below m.s.l.

Grand Isle is highly vulnerable to flooding by tropical storms and hurricanes. A sand dune along the beachfront affords some protection against flooding from the Gulf of Mexico, and a few discontinuous low levees afford minor protection from flooding by high tides in Baratavia Bay. No drainage structures of significance exist and the island depends solely upon gravity for drainage. The natural flow on the island is generally from the gulf side to the bay.

Grand Isle is subject to severe damage from hurricanes since it lies fully exposed fronting on the Gulf of Mexico. Hurricanes approaching from the south, southeast, and southwest in the vicinity of the study area can cause widespread flooding and damage to the entire area by penetration of the hurricane surge inland across Grand Isle. Tidal flooding has been experienced from both the

gulf side and the bay side of the island. Hurricanes passing west of Grand Isle produce high stages along the gulf side of the island, causing inundation of the whole island. Hurricanes passing east or south of the island raise water levels in Barataria Bay due to surges entering the bay. Hurricanes have produced stages of up to 10 feet at Grand Isle. Probable maximum hurricanes for the area would produce stages averaging about 17 feet over most of the study area.

Large waves driven by hurricane winds strike the flooded improvements causing widespread devastation. The force of these waves is a very significant cause of damage on the island.

Erosion of the gulf shore is also a serious problem. The sand beach area which is being eroded is particularly attractive to recreationists and is adjacent to the most intensively-developed area on the island. In addition to the loss of the valuable and scenic beachfront, a type highly valued by conservationists--many homes, business establishments, Louisiana Highway 1, and other public improvements are subject to damage resulting from erosion. Louisiana Highway 1 (two-lane asphalt and concrete) follows the west bank of Bayou Lafourche from Donaldsonville to Leesville, crossing Bayou Lafourche at this point, then continuing to the eastern end of Grand Isle. This highway is the only escape route during hurricanes. The elevation of the highway between Grand Isle and Golden Meadow ranges from approximately 2.5 to 5.0 feet. Above Golden Meadow the elevation of the highway crown increases gradually to about 7 feet at Larose.

The predominant direction of littoral transport along the central portion of the island is from west to east. On the west end of the island, the littoral current direction is variable depending upon the prevailing tide, being eastward during ebb flow and westward during floodflow. The tidal current is reinforced or reduced according to the direction of wave approach prevailing at any time.

Along the eastern third of the island, the direction of littoral transport is toward the east under all circumstances. Waves approaching from the east occur less than 3 percent of the time and are interrupted by the jetty; therefore, these waves have little effect on shoreline processes.

The variability of littoral transport along the front of Grand Isle results from two factors: the absence or presence of a trailing sand spit joining the western lip of Caminada Pass and extending into Caminada Bay; and the absence or presence of an onshore bar east of Caminada Pass extending eastward parallel to the shoreline for several thousand feet. During each hurricane or tropical storm, some material is lost to abnormal flow through the pass. Following the storm, littoral material is trapped in the trailing spit until its deficiencies are satisfied.

The Grand Isle area has experienced many severe hurricanes but only a limited history of storms can be constructed because records and factual documentation are lacking. Prior to 1871, there were no official meteorological records. The primary source of historical data before that time is newspaper accounts, and because the area was sparsely developed, these accounts cover only dramatic instances of damage and loss of life. Hurricane damage has been recorded as often as twice in a single year and as infrequently as once in 10 years. Hurricane Betsy, with winds of 105 miles per hour crossed the Louisiana coast just west of Grand Isle on the night of 9 September 1965. Gusts as high as 160 m.p.h. were reported on the island and the maximum stage reached 8.8 feet m.s.l. The central pressure was 27.79 inches of mercury. The entire island was inundated and most of the buildings were either swept away, demolished, or severely damaged by the surge and waves. The entire beach and adjacent sand dunes were swept back over the island by the high surge. The coastal highway was covered by 3 feet of sand in some places and severely eroded elsewhere.

Prior to 1951-1952, erosion protection had been attempted by landowners installing vertical bulkheads extending across the back lines of individual lots. The results were generally ineffective and accelerated the erosion gulfward of the bulkheads causing them to fail.

The first major effort to control erosion on Grand Isle was made in 1951-1952 by the Louisiana Department of Highways. They constructed groin fields at two locations where erosion threatened the public highway along the gulf coast. The Department of Highways constructed 14 groins at a cost of \$480,000 but no maintenance has been performed on them since initial construction, and a study made in 1954 demonstrated that they were ineffective. During 1954 and 1955, the Louisiana Department of Public Works placed 1,150,000 cubic yards of sand to nourish the beach between the groins but a survey in 1955 indicated that more than a third of this was lost to erosion before a year had passed and Hurricane Flossy in 1956 removed much of what then remained.

In 1956, Humble Oil and Refining Company constructed a groin on the east side of the island. Prior to having its effectiveness destroyed by the jetty built in 1958 and 1959 on the east end of the island, it had trapped material on both sides, benefiting the shoreline for several hundred feet. No maintenance has ever been performed on this groin but it remains in good condition. In 1958 and 1959 the Louisiana Department of Public Works constructed a jetty, 935 feet long, approximately 1,000 feet west of the eastern end of the island. Within a period of 4 years, it had trapped more than 1 million cubic yards along the beach to the west. However, the jetty had drastically depleted the area to the east, where 30 acres of the island were completely eroded. Serious erosion also occurred on Grand Terre Islands east of Barataria Pass as a result of the existence of the jetty.

The enactment of an ordinance by the town of Grand Isle requiring that all residential buildings constructed within corporate limits of the town of Grand Isle be built on piling with the first floor 8 feet above the existing ground elevation and having adequate bracing will significantly reduce those hurricane damages resulting from structural inadequacies. Even with the new structures being built at this height, there is a continuous need to provide protection against the hurricane damages which result from wave action.

Other water resource development projects located in the vicinity of the proposed Grand Isle project include the Bayou Rigaud section of the Barataria Bay Waterway and the Bayou Lafourche and Lafourche-Jump Waterway. The Barataria Bay Waterway consists of a 12- by 125-foot channel from the Gulf Intracoastal Waterway via Bayous Barataria and Dupont, Dupre Cut, and Bayous Cutler and St. Denis to the 12-foot contour in the gulf. This channel connects a 12- by 125-foot channel in Bayou Rigaud to the US Coast Guard Station on Grand Isle. The authorized Bayou Lafourche and Lafourche-Jump Waterway is intended to connect Bayou Lafourche below Leeville with the Bayou Rigaud section of the Barataria Waterway at Grand Isle. No action is currently being taken to implement the Lafourche-Jump waterway.

In 1961 and 1962, the Louisiana Department of Public Works placed 350,000 cubic yards of sand for nourishment in the groin field near the center of the island. In 1964, the State of Louisiana, Bonding and Building Commission, together with the Louisiana Department of Public Works, extended the gulfward end of the original jetty on the east end of the island, using the same procedure as had been used in constructing the original jetty, except for a 400-foot segment which had to be founded on a shell bedding when the contractor ran out of lumber mattresses. By 1965 the accretion caused by the jetty extended 9,000 feet to the west along the shore and amounted to 1,250,000 cubic yards. The jetty has been maintained by the Louisiana Department of Public Works and is currently in good condition.

In 1965, Hurricane Betsy caused considerable damage to the entire island, destroying most of the then existing dune line and causing the 400-foot segment of the east jetty founded on shell bedding to fail. Following Hurricane Betsy, 550,000 cubic yards of sand were borrowed from the accreted area west of the jetty to restore the dune to a crest elevation of 8 feet and top width of 10 feet. Generally the dune has been stable wherever the beach has been stable. However, the dune has, since being repaired, been severely breached for several hundred feet of shoreline in several locations along the front of the island as the shoreline retreated. At other locations along the front of the island where the beach is relatively stable, breaches have been created artificially wherever the dune has been degraded for new construction of beach homes. Erosion on the east and north of the jetty threatened the continued existence of the new United States Coast Guard Loran

Station on the east end of the island in 1967. The Coast Guard attempted to halt the erosion by construction of a revetment of a material known commercially as "Fabriform" along 1,000 feet of existing shoreline in August 1967. Inspection of the revetment in December 1968 revealed that approximately 900 feet had failed as a result of overtopping, uplift pressure, and leaching of the foundation leaving an unsupported shell which cracked and broke up under wave action. A rubble-mound revetment tying into the existing jetty was constructed to replace the destroyed Fabriform material and has performed satisfactorily to date.

The shoreline on the eastern 2 miles of the island has experienced accretion and is relatively stable. The rapid recession of the shoreline along the western 4,000 feet of the island that occurred as a result of storms during August, September, and October 1970 caused rapid surge inflow into Caminada Bay through Caminada Pass. The unusually high alongshore currents caused by the surge rapidly eroded the unstable lip of Caminada Pass. Some 15 acres were lost in 4 months and several camps were stranded in the gulf. Continued erosion would have soon endangered the alongshore highway. Had the occurrence of a severe hurricane such as Betsy coincided with the deterioration of the eastern lip of Caminada Pass, total erosion of the western 2,500 feet of the island and total loss of any vehicular connection with the mainland would have occurred.

The stone jetty at the western end of the island, completed by the Louisiana Department of Public works with emergency funds appropriated by the 1971 Session of the Louisiana Legislature, extends approximately 2,600 feet, has a crown elevation of 4 feet m.s.l., a crown width of 6 feet, side slopes of 1 on 2 with fill placed on its Grand Isle side. It stabilizes the western end of Grand Isle along Caminada Pass.

4. BOTANY.

Plant communities on Grand Isle are similar to those found in other areas of coastal Louisiana where well developed marsh and beach ridge complexes have formed. The communities may be subdivided into three types which are closely related to physiographic differences. Beach communities are located adjacent to the gulf or other large water bodies. Consequently, they are frequently subjected to high energy wave action. Common species encountered on the existing beach berm are glasswort, salt grass, sea-oxeye, and cordgrasses. Beach vegetation comprises sparse stands of a variety of species; many are annuals which occur only for brief periods during their growing season.

Ridge communities are located on old well-developed beaches, no longer subject to normal wave action. Such areas support a diversity of plant types including large trees and shrubs. The most common species is live oak, often stunted and mis-shapen as a result of wind and salt spray. Other woody species include wax myrtle, marsh elder, groundselbush, prickly-ash, and rattle box. Many grasses and forbs are associated with the woody plants as understory species.

Marsh communities are comprised primarily of salt tolerant grasses and sedges. Oystergrass, wiregrass, black rush, and salt grass are the most frequently encountered marsh plants. Black mangrove once was a common shrub in the marshes, but severe freezes in the early 1960s practically eliminated this species. It is presently recovering in much of its former range.

5. ZOOLOGY.

The limited land area and rather extensive development of the island restricts the number and species of mammals. The marshlands contain some muskrat, nutria, and swamp rabbits, but not in sufficient quantity to support sport or commercial hunting. The limited undeveloped area also restricts bird populations; however, some egrets, blue herons, mourning doves, mottled ducks, and rails populate the marsh areas. Excellent deep-sea fishing in the Gulf of Mexico, surf fishing, and fishing in the numerous bays and bayous are the principal attractions on the island. Species taken include spotted and sand seatrouts, red and black drum, flounder, Atlantic croaker, pompano, Spanish and king mackerel, cobia, bluefish, amberjack, snappers, and groupers. The area is also the base for big game fishing for sailfish, blue and white marlin, bonita, dolphin, bluefin tuna, tarpon, and wahoo. The harvest of estuarine-dependent menhaden, brown and white shrimp, blue crabs, and oysters constitutes an important commercial fishery in the Grand Isle-Barataria Bay vicinity. Many species of invertebrates such as bivalves, crustaceans, snails, echinoderms, and worms inhabit the beaches, marshes, and the offshore bottoms. There are two animals in the area that are found on the "List of Endangered Native Fish and Wildlife" as published in the Federal Register by the US Department of the Interior. The American alligator is on this list, but in Louisiana, its numbers are increasing. The only breeding colony of brown pelicans in Louisiana is found adjacent to Grand Isle on Grand Terre Island. The resident population of these birds died out in the early 1960's and in 1968 the Louisiana Wild Life and Fisheries Commission introduced a small colony from Florida.

6. ARCHEOLOGY/HISTORY/CULTURE.

The most recent listing of the National Register of Historic Places has been consulted (19 February 1974 and monthly supplements through 3 September 1974) and there are no National Register

properties on Grand Isle. A comprehensive interdisciplinary study has been made to determine if there are any archeological, historical, architectural, or cultural resources existing in the proposed project area and none were found. The Louisiana State Department of Art, Historical and Cultural Preservation, formerly the Louisiana Historical Preservation and Cultural Commission, has been contacted and no comments were received from that agency.

7. ECONOMICS.

Grand Isle is a base of operations for large offshore petroleum and sulphur industries and is a commercial fishing and sportfishing center. It is also an important recreational area for residents of Louisiana and nearby states. Of the 2,340 acres of the island, there are 640 acres in residential development, 210 acres in industrial development, and 213 acres in commercial, government, and public establishments. This latter acreage includes about 126 acres of state-owned and maintained public beach designated as state parks-- 23 acres on the west end and 103 acres on the east end (1968 survey). Grand Isle has one of the few viable, accessible beach areas in Louisiana and continued demand for its use is indicated. The total value of public and private improvements on Grand Isle was estimated at about \$42 million in 1970.

The corporate population of Grand Isle, including the eastern end of Cheniere Caminada, has increased from 1,190 in 1950 to 2,074 in 1960, and to 2,236 in 1970. The reduction in the growth rate between 1960 and 1970 was due to the widespread damage incident to the passage of Hurricane Betsy in 1965. Immediately following Betsy, it was estimated that the population had been reduced to about 500 people due to the partial or total destruction of most of the homes on the island.

Industries within the areas include a shipyard for repair of shrimp- and oyster-fishing vessels and other work boats, an ice plant, seafood-unloading facilities, and oil storage and barge-loading facilities. Extensive facilities for oilfield servicing and for operation of an offshore sulphur mine are located on the eastern end of Grand Isle. Several deep-sea charter boats operate out of Grand Isle.

Natural gas, electric power, and telephone service are available in the area. Water supply is provided by the Bayou Lafourche Water District No. 1.

Extensive oil and gas fields exist in the offshore areas. In terms of value of annual production, petroleum, natural gas, and natural gas liquids are dominant. Representatives of the oil companies indicate that the sizes of oil company installations on the island will remain about the same in the future.

SECTION III--THE ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

1. BENEFICIAL AND ADVERSE ASPECTS OF IMPACTS.

The proposed plan for the Grand Isle project involves construction of a dune and berm running the length of the island, and a jetty to stabilize the west end of the island at Caminada Pass. The purpose of this improvement is to protect the existing shoreline from damages of beach erosion and greatly lessen the damage to the island attendant to hurricanes. The plan would provide a beach with a berm elevation sufficient for prevention of destruction by erosion, and a dune with crest above the limits of the wave uprush. The design is based on the tidal and wave characteristics produced by Hurricane Betsy at Grand Isle.

The dune elevation of 11.5 feet would obscure the beach and gulf view of a few of the buildings built gulfward of the highway. In most instances, these buildings are constructed in accordance with current building codes, i.e., first floor elevation 8 feet above existing ground, and would not have their beach and gulf view obscured.

The alinement of the recommended dune and berm would be generally along that of the existing dune except near the east and west end state parks. No relocations would be required.

The highly-developed nature of the area militates against consideration of a plan providing a lower degree of protection. A lower dune and berm elevation and width would involve material risk of breaching, which would result in extensive wave damage to improvements on the island and major destruction of the beach section itself.

The recommended jetty, constructed prior to authorization by the Louisiana Department of Public Works as an emergency measure, has halted the severe erosion of the western end of the island. Work under this contract, which also included placement of sandfill on the Grand Isle side of the jetty, was completed in mid-July 1972.

The proposed improvements will yield benefits in the form of prevention of primary physical damage to property caused by high intensity waves associated with hurricanes: enhanced recreational uses; land enhancements; and indirect economic benefits.

The social well-being of the residents and the many recreationists will be benefited as the fear of flooding abates. Added recreational use will result in greater economic stability for residents, higher standards of living, orderly development, and desirable community growth.

Implementation of the recommended plan will insure the integrity of the existing land area. Constructing the jetty on the west end of the island has resulted in a widened beach which will afford protection against further beach erosion.

Grand Isle forms a part of the gulf shoreside barrier protecting the interior bays and marshes from attacks of gulf waters. Since the Caminada-Barataria Bays area is vitally important to marine species that inhabit inland waters and marshes during certain phases of their life cycle, the secondary impact of preserving the island and thus continuing protection to the inland areas is far-reaching and incalculable.

Building the dune will have three adverse environmental effects: disruption of water bottoms, creation of a plume of temporary turbidity, and covering of the beach. Dredging the material will physically disrupt 565 acres of water bottoms. Typical benthic invertebrates inhabiting the area to be dredged include sand dollars, brittle stars, starfish, worms and several species of bivalves and snails. Dredging will destroy most of these organisms because they move too slowly to escape the action of the dredge. Fish and faster moving aquatic organisms will be able to escape the direct action of the dredge. Bottom-feeding organisms will be secondarily affected because their food supply will be decreased. A plume of temporary turbidity will be created by the dredge. It will have little effect on fish and other fast moving aquatic organisms which can escape it. Some small fish and crustaceans occasionally use the plume for concealment, and larger fish lurk at the edges to hunt them. Benthic organisms are not affected by the plume, but larvae of molluscs appear to stop growing in it. Zooplankton are not greatly affected by the plume because they are a different density than plume particles, and currents carry them through the plume. Turbidity decreases light penetration which, in turn, decreases phytoplankton production. Some phytoplankton can be carried to the bottom as particles of the plume aggregate. Nutrients that have been trapped in bottom sediments are released by dredging and can cause an increase in productivity or if a massive phytoplankton bloom occurs, the ensuing die-off can cause oxygen depletion. Covering the beach to form the dune will affect mole crabs, mud shrimp, beach hoppers, sea roaches, five species of worms, three species of bivalves, three species of snails, and three species of crabs. Most of these organisms inhabit burrows and will not be able to escape the dune building. Natural replenishment of the beach and littoral organisms should occur in 1 to 4 years. Maintenance of the dune will occur at 5-year intervals which will again destroy the organisms on the beach and in the borrow area.

2. REMEDIAL AND PROTECTIVE MEASURES.

Remedial and protective measures for reducing adverse environmental impacts are included in the plan. The dune would be vegetated to retard erosion. Indigenous plants, such as glasswort, saltgrass,

sea rocket, and sea-oxeye would be utilized. Based on the historical natural revegetation of the present east end dune, these plants should become established in a good stand without difficulties.

Project contractors would be required to exercise care in the handling and storage of hazardous materials to prevent accidental spillage or usage that would result in water pollution. They would not be allowed to pollute lakes, ditches, rivers, bayous, canals, waterways, or reservoirs with fuels, oils, bitumens, calcium, chloride, insecticides, herbicides, or other similar materials harmful to fish, shellfish, or wildlife, or materials which may be detrimental to outdoor recreation. It would be the responsibility of the contractor to investigate and comply with all applicable Federal, state, county, and municipal laws concerning pollution of rivers and streams, public health, and protection of shellfish, fish, and domestic animals.

Sanitary facilities would be provided to adequately dispose of domestic wastes in conformity with existing regulations. The methods and locations of disposal of materials, wastes, effluents, trash, garbage, oil, grease, chemicals, etc., within the rights-of-way limits would be such that harmful debris will not enter lakes, ditches, rivers, bayous, canals, waterways, or reservoirs by erosion. The contractor would be required to submit for approval his planned method for disposal of debris harmful to the environment.

SECTION IV--ANY ADVERSE ENVIRONMENTAL EFFECTS WHICH
CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

Immediately following its construction, the dune would be subject to erosion until a protective cover of plants suitable to the Grand Isle area is established.

The dune would also obscure the view of the gulf from some of the lower structures on the bay side of the highway and from motorists on the highway along most of the gulf shore. It would obscure the view of a few of the houses built gulfward of the highway. In most instances, existing houses have been built in accordance with current building codes and would not have their view of the beach and gulf obscured. Both the dune and the stone jetty are man-made structures which would alter the natural vista.

A temporary increase in turbidity would occur both adjacent to the beach where the fill material would be deposited and in the area from which it would be dredged. Some of the natural living organisms would, as a result, be buried and others would be moved from their natural habitat. This condition would correct itself through natural processes after a short period of time.

SECTION V--ALTERNATIVES TO THE PROPOSED ACTION

1. STRUCTURAL ALTERNATIVES.

Several structural alternatives to the proposed plan were considered as follows:

a. Beach fill.

The beach at Grand Isle could be widened by artificial placement of fill material to the extent required to afford the desired protection against further destructive erosion. A wider beach would move the wave-breaking point seaward for a given design and tidal elevation. The widened beach could be stabilized by periodic artificial beach nourishment. Such a widened and stabilized beach would provide increased opportunity for recreational use as well as some protection to onshore installations against wave attack. This alternative would be economically justified; however, it would leave the area under a serious hurricane threat.

b. Beach fill with groins.

During preliminary studies, use of a groin system was investigated. In order for a groin system to provide an adequate degree of shoreline stability, groins would have to be constructed approximately 250 feet apart beginning at Caminada Pass and extending eastward along 6 miles of beachfront. These groins would have to be about 600 feet long to be effective. The first cost for this system would be in excess of \$13 million as compared with \$9,100,000 for the recommended plan. This alternative is not economically feasible and also would leave the area under a severe threat of continuing hurricane damage.

c. Levees and bulkheads.

To provide complete protection from hurricane flooding for the island would require the construction of a levee system along the bay side, with concrete bulkheads at the various docking facilities. In addition, the sand dune and berm of the recommended plan would have to be constructed also, and tied in with the bay side levee system to present an unbroken barrier to water action from the gulf, passes, and bays. Culverts and a highway floodgate would also be needed to provide for drainage. This system would have to be designed to protect the island from the most intense storm which could reasonably be anticipated. Any lower degree of protection against flooding would involve unacceptable risk of loss of life and major disaster in the event that a more severe hurricane occurred. Should this happen the island would flood with the only available escape route inundated and impassible. This alternative would have a first cost over \$30 million and is not economically feasible.

d. Breakwater.

An offshore breakwater to intercept significant hurricane-driven surface waves would have to be at least 13 feet above m.s.l. A breakwater at an elevation of 8 or 9 feet above m.s.l. would not cause the significant surface waves to break offshore and hence would be largely ineffective in preventing erosion or inundation of the island unless the beach were widened and periodically nourished. Because of high first cost and the requirements for periodic nourishment, the lower breakwater is not economically justified. Furthermore, any breakwater would function as a complete littoral barrier, possibly having detrimental effects upon Grand Terre Islands.

e. Extension of jetty at east end of the island.

Extension of this jetty would not appreciably reduce erosion of the central sections of the island, and in the early years after its extension, would exert a detrimental effect on Grand Terre Island by interrupting the west to east littoral transport. It would only be effective at the east end of the island which is not a significant problem area.

2. NONSTRUCTURAL.

The residents of Grand Isle have, through experience, become aware of the hurricane threat. The majority of the houses are built with first-floor elevations at or above 12 feet. The town of Grand Isle has an ordinance that requires that all residential buildings in the corporate limits be constructed on piles with no less than 8 feet of penetration to provide a clear distance of at least 8 feet between the existing ground and first-floor of the building. The town officials have an evacuation plan for the Grand Isle area. The grade of Louisiana Highway 1 from Grand Isle to Golden Meadow varies between elevations 2.5 and 5. Because of this, evacuation must be ordered well in advance of tidal flooding. Local officials have in the past ordered evacuation of the area before the Weather Service issued evacuation advisories. None of the measures discussed previously will prevent stillwater flooding, and an adequate warning system as well as plans and routes for rapid evacuation are essential supplements to any of these plans in order to prevent loss of life and damage to movable property. Nonstructural measures do not comprise a viable independent alternative to protective works since they would leave existing development subject to continuing damage.

3. NO ACTION.

Failure to construct the recommended project would leave existing improvements on Grand Isle subject to damage from erosion and hurricane-driven gulf waves. It would retard the residential, commercial, and recreational development of the island.

SECTION VI--THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM
USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT
OF LONG-TERM PRODUCTIVITY

Present and past generations have effectively dedicated Grand Isle to a long-term role as a combined recreation, residential, and commercial area. No measurable effects on the renewable natural resources would result from the recommended plan. Implementation of the recommended plan would not narrow the range of beneficial uses of the environment but would, rather, enhance the present use and long-term productivity by protecting existing and future developments and preventing the loss of valuable acreage through erosion. Temporary turbidity from beach nourishment and jetty construction activities may disrupt short-term uses temporarily but natural replenishment would repair the damage incurred in a short time. The area dredged for nourishment materials would also experience temporary turbidity as well as loss of bottom material but again natural replacement would quickly ameliorate the adverse environmental effects.

SECTION VII--ANY IRREVERSIBLE OR IRRETRIEVABLE
COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN
THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Anticipated future recreation, residential, and commercial development and the changed land use associated therewith, due to improved beaches and greater protection against hurricane damage, would in all probability be an irreversible commitment. Protection against flood hazards and erosion is an obvious incentive for developers and residents who would not be willing to locate in the project area under "without project" conditions when erosion and considerable flood damage take place. Widening and stabilizing the beach would result in attracting a larger number of people to the area for beach recreation. This, in turn, would induce development of facilities to supply their needs as well as affect the environment of the beach ecosystem into which they intrude.

Irretrievable commitments of a minor nature would be experienced in the water quality and aquatic life in the area adjacent to the construction site, as a result of temporarily increased turbidity from the dredging and filling activities. The labor resources associated with the planned construction would be both an irretrievable and irreversible commitment.

SECTION VIII--COORDINATION WITH OTHERS

1. PUBLIC PARTICIPATION.

Three public meetings were held on this study in Grand Isle, Louisiana. The first was held on 8 December 1966 to determine the nature and extent of improvements desired by local interests, and to obtain the views of other interested parties. Approximately 120 persons representing local residents, business and civic organizations, and Federal, state, and local agencies attended.

A second public meeting was held in Grand Isle on 10 June 1971 to obtain the views of local interests on the plans of improvement that were being considered. Approximately 170 persons attended including many permanent and summer residents and representatives of business and civic organizations and local, state, and Federal agencies. Local interests generally favored the plan described herein as the recommended plan. Others in attendance expressed no preference, favoring any method of providing beach erosion and hurricane protection. A few beachfront property owners objected to any plan that would deprive them of any of their beachfront rights. The final public meeting was held 28 June 1972 to present the tentative plan of improvement as recommended. Approximately 200 persons, consisting of permanent and summer residents and representatives of business and civic organizations, local, state, and Federal agencies, were in attendance. Local interests, including the Louisiana Department of Public Works, the Mayor and Board of Aldermen of the town of Grand Isle, and the Grand Isle Civic Improvement Association, generally reaffirmed their support of the recommended plan. A few individuals requested any form of beach erosion and hurricane protection. Approximately 60 beachfront property owners, representing about 20 percent of the private beachfront property owners and a very small percentage of all property owners on Grand Isle, expressed opposition to the recommended plan or any plan that would deprive them of their beachfront rights.

The notices of these public hearings were given wide distribution among Federal, state, and local agencies and individuals.

2. GOVERNMENT AGENCIES AND CITIZEN GROUPS --DRAFT.

The District Engineer coordinated the draft environmental statement with the following agencies and groups requesting their views and comments:

US Department of the Interior, Bureau of Sport Fisheries and Wildlife, Southeast Region

US Department of the Interior, Bureau of Outdoor Recreation, Southeast Region

US Department of the Interior, National Park Service,
 Southeast Region
 US Department of the Interior, Bureau of Mines, Field
 Operations Center
 US Department of the Interior, Geological Survey, Water
 Resources Division
 Environmental Protection Agency, Water Hygiene Representative
 Environmental Protection Agency, Office of Planning, Water
 Quality Office
 US Department of Agriculture, Soil Conservation Service
 US Coast and Geodetic Survey
 US Department of Commerce, National Marine Fisheries Service
 US Department of Transportation, Coast Guard
 Louisiana Department of Public Works
 Louisiana Wild Life and Fisheries Commission
 Louisiana State Parks and Recreation Commission
 Louisiana Highway Department
 Louisiana State Board of Health
 Louisiana Commission on Intergovernmental Relations
 Louisiana Stream Control Commission
 Louisiana Planning Commission
 Louisiana Coastal Commission
 Louisiana Land Office
 Louisiana Public Service Commission
 Louisiana Wild Life Federation
 Louisiana Department of Conservation
 Louisiana State University, Department of Geography and
 Anthropology
 Louisiana Historical Preservation and Cultural Commission
 Louisiana Advisory Council on Historic Preservation
 Orleans Audubon Society
 Ecology Center of Louisiana, Inc.
 National Sierra Club
 National Wildlife Federation
 Gulf States Marine Fisheries Commission
 Wildlife Management Institute
 Grand Isle Civic Improvement Association
 Jefferson Parish Council
 Mayor, Grand Isle, Louisiana

Summarized comments and the responses are listed below, and copies of the reply letters are in Appendix A of this statement.

a. US DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE.

Comment: The draft statement is inadequate in its treatment of archeological-historical resources. Archeological sites and materials are nonrenewable resources and any adverse impact constitutes an irretrievable and irreversible commitment of these resources. It is not sufficient to state that no known archeological sites are involved. A qualified professional archeologist must survey the area of the project and the draft statement should cite the resulting report and these should be available for review. If

archeological resources are found in the project area, the draft statement must include an evaluation of the significance of the resources and contain cost estimates to mitigate any adverse effects on archeological resources.

A copy of the comments of the Louisiana Historical Preservation and Cultural Commission concerning the effect of the undertaking upon historical and archeological resources should be included in the draft statement.

Response: A comprehensive interdisciplinary study has been made to determine if there are any archeological, historical, architectural, or cultural resources existing in the proposed project area and none was found. To insure the adequacy of this study of these resources, the Louisiana State Department of Art, Historical and Cultural Preservation, formerly the Louisiana Historical Preservation and Cultural Commission, has been contacted and no comments were received from that agency. This information is included in the statement.

Comment: In the case of properties under the control or jurisdiction of the United States Government, the draft statement should show evidence of contact with the official appointed by your agency to act as liaison for purposes of Executive Order 11593 of May 13, 1971, and include a discussion of steps taken to comply with Section 2(b) of the Executive Order.

Response: There are no qualified properties on Grand Isle under the control or jurisdiction of the United States Government.

b. US DEPARTMENT OF THE INTERIOR, BUREAU OF MINES.

Comment: A review of available data indicates that no mineral resource or facility would be adversely affected by the project. Inasmuch as Grand Isle is a base of operations for large offshore petroleum and sulfur enterprises, the mineral industry should benefit from additional protection to the island.

Response: Noted.

Comment: The Intermountain Field Operation Center has no objection to the proposed improvements.

Response: Noted.

c. US DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY.

Comment: We agree that the jetty will protect the western end of the island and that the dune and berm will provide protection from hurricane waves. However, from reading previous reports,

it appears that a substantial amount of the beach erosion is caused by littoral currents and we fail to see how the dune and berm will protect the beach from these currents.

Response: The dune and berm will not eliminate beach erosion resulting from littoral currents. It will prevent hurricane surges from flowing over the island. When such occurrences happen, the surge erodes the beach and carries beach sand over the island into the back bay where the sand is permanently lost. To compensate for anticipated littoral erosion, the dune and berm would be built sufficiently wide and of such height as to provide what is commonly referred to as advance maintenance. The berm would contain a sufficient volume of sand to withstand the ravages of winter storms and littoral currents for a period of approximately 5 years. At the end of this period, additional maintenance in the form of artificial nourishment would be performed. This periodic nourishment is the mechanism most commonly used to combat forces which erode beaches.

Comment: Although it is obvious to most that offshore dredging for sandfill will in no way trigger additional beach erosion, we believe the environmental statement should contain some statement as to the distance and depth you are dealing with when you say offshore bottom.

Response: The approximate location of the dredge material borrow areas is included in section I of the statement.

Comment: Other than the above, we believe the statement adequately describes the project's effect on the environment.

Response: Noted.

d. US DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE,
BUREAU OF SPORT FISHERIES AND WILDLIFE.

Comment: In general, we feel that the statement adequately describes the impact that the project will have upon fish, wildlife, and related resource values.

Response: Noted.

Comment: Our reports of March 27, 1969 and June 2, 1972 on this project recommended that the feasibility of providing a safe fishing walkway on the jetty at the east end of Grand Isle be investigated. We note that no mention is made whether this feature was given consideration or not; however, such a walkway would greatly improve sport fishing opportunities. If this feature is part of the project, it should be included in the project description.

Response: A walkway on the end of the jetty at the eastern end of Grand Isle is not a feature of the recommended plan of improvement. General development plans dated September 1968 for Grand Isle State Park, which were furnished us by the Louisiana State Parks and Recreation Commission, provide for a fishing and viewing facility along this jetty.

e. US DEPARTMENT OF TRANSPORTATION, COAST GUARD.

Comment: The Commander, Eighth Coast Guard District, does not have any objections to the draft environmental statement.

Response: Noted.

f. US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE.

Comment: We have reviewed the draft statement thoroughly and have no adverse comments to offer concerning this project. Projects to conserve our coastal lands, we feel, are very beneficial.

Response: Noted.

g. US DEPARTMENT OF COMMERCE.

Comment: Although land subsidence and secular sea level rise are mentioned briefly, we feel that much more emphasis should be placed on this important factor. Even though the rise in sea level is very small, it is an important factor because:

(1) The U. S. Army Corps of Engineers is thinking, we feel, in terms of construction lasting at least twenty years, and

(2) The land in the delta region of Louisiana is extremely flat.

According to the latest National Ocean Survey measurements and calculations, the sea is rising relative to the land at an average (least squares on annual means) rate of 0.0302 foot per year (standard error of ± 0.0024 ft/yr) from 1940 through 1971 at Eugene Island, Louisiana (the closest station). This is the maximum rise in sea level observed by the National Ocean Survey for the coasts of the United States.

Response: The rise of sea level relative to the land was not considered. The factor is not a controlling one insofar as project formulation and justification is concerned. It will, however, be considered during detailed planning and design for the project, should it be authorized for Federal implementation.

Comment: It might be well to indicate in the project description that hurricanes with an average frequency of recurrence of once every 50 years are those that bring 100 m.p.h. winds along the Louisiana coast.

Response: This information has been incorporated into the statement.

Comment: We suggest substitution of the word cyclones for storms in the phrase "advancing tropical storms" in the project description. Cyclones would cover both tropical storms and hurricanes.

Response: This suggested substitution has been incorporated into the statement.

Comment: Weather Bureau tropical cyclone tracks go back to 1871 as illustrated in Weather Bureau Technical Paper No. 55 instead of 1893 as indicated in the statement.

Response: This correction has been incorporated into the statement.

Comment: Maximum sustained winds in Hurricane Betsy as she crossed the Louisiana coast were closer to 140 m.p.h. At Grand Isle winds were estimated at 105 m.p.h. Tide was 8.8 feet above m.s.l. Storms of Betsy's intensity have a mean recurrence interval of more than 100 years at any one point on the Louisiana coast.

Response: It is reported in the History of Hurricane Occurrences Along Coastal Louisiana, authored by the US Army Corps of Engineers, New Orleans District, that Hurricane Betsy entered the Louisiana coast at Grand Isle on 9 September 1965 and that winds at Grand Isle were reported at 105 m.p.h. with gusts to 160 m.p.h. The maximum stage resulting from Hurricane Betsy at Grand Isle was 8.8 feet above m.s.l.

h. ENVIRONMENTAL PROTECTION AGENCY.

Comment 1: Clarification is desired as to why the Corps is seeking authorization of the jetty which has been constructed by local interests.

Response: This feature of the recommended plan was constructed as an emergency measure by the Louisiana Department of Public Works prior to the authorization of a Federal project. The jetty was included as an integral part of each of the plans presented at the formulation stage meeting and is an essential feature of the overall plan for the protection of Grand Isle.

Comment 2: A map showing the dredge material borrow areas is desired.

Response: The approximate location of the dredge material borrow areas are given in section I. Definite locations of these areas will be determined during the detailed design of the project should it be authorized for Federal implementation.

Comment 3: The method of retaining dredge material and the time schedule for getting the dune to grade and establishing protective vegetation is desired.

Response: This information will be determined during the detailed design of the project should it be authorized for Federal implementation.

Comment 4: Will construction of the dune require any relocations?

Response: No.

Comment 5: Implementation of the proposed action should trigger additional industrial and residential growth on the island. This growth could produce numerous secondary effects, such as increased volume of solid waste, increased municipal and industrial waste, and numerous other impacts - both beneficial and adverse - to the environment. We believe a detailed discussion of the secondary effects of the proposed action would strengthen the statement.

Response: It is likely that the proposed actions will promote economic development within its region of influence and that certain environmental effects concomitant will be associated therewith. The extent and nature of additional development are matters for conjecture rather than precise prognostication. To an even greater extent, the concomitant effects are likewise conjectural, since they will depend not only upon the nature and extent of development, but also upon a changing network of regulatory constraints which increasingly reflect reordered priorities in connection with activities having potential for degrading the environment. Hence, it is possible to speak with some degree of confidence on the kinds of development and the nature of the stresses that such development could impose upon the natural environment. It is not possible, however, to quantify either the extent of development, or the significance of the concomitant environmental stresses; without becoming unacceptably conclusionary and subjective. We have therefore limited the coverage of these aspects in the final statement to a general discussion of the types of additional development likely to be realized and the nature of the environmental stresses that such development would induce. It must be borne in mind that the stresses, referred to above and discussed in section III of this statement, are, in fact, regional transfers. Hence, these secondary impacts will be reflected in reverse in the regions of origin. For example, increased economic development in the Grand Isle region, while it will impose environmental stresses on the natural environment in that region, will relieve stresses in other locations. Implementation of the proposed action may be expected to generate increased economic activity within the area of project influence. Such activity may result in changes in land-use patterns and the further commitment of lands to urban-type use. The additional development will be accompanied by increases in the production of solid and liquid wastes, and the

environmental stresses incident to their disposition. Some displacement will be experienced as more land is devoted to pursuits yielding a higher rate of economic return.

Comment 6: The statement discusses other projects previously implemented which attempted to control the beach erosion, as programmed for the proposed project. Why did these projects fail to meet their designed goal? Was it the lack of needed maintenance which resulted in their failure? If this is the case, who will maintain this project and what procedures have been taken to guarantee implementation?

Response: This information has been included in section II of this statement.

i. LOUISIANA STATE LAND OFFICE.

Comment: The Louisiana State Land Office would like to go on record as endorsing the project and urging its completion. It is our belief that any attempt in eliminating (and hopefully reversing) the erosion of Grand Isle is necessary in order that one of the most valued recreational sites in Louisiana can be saved.

Response: Noted.

Comment: Construction of jetties and filling in of portions of the former bed of the Gulf of Mexico will greatly increase the amount of state-owned properties for use in recreational activities. It will certainly be the desire of the state to develop these areas for use and enjoyment of all our citizens.

Response: Noted.

j. LOUISIANA DEPARTMENT OF CONSERVATION.

Comment: This department is in complete accord with the proposed project for the following reasons; namely (1) protection to the residents of Grand Isle, (2) protection of property, and (3) protection offered onshore oil and gas facilities in this period of energy crisis.

Response: Noted.

k. LOUISIANA WILD LIFE AND FISHERIES COMMISSION.

Comment: Our staff finds that, in general, the statement possesses no serious or ecological problems. We do make the following suggestions since we believe that they would probably prevent local objection to the project.

Comment: Dredging of the offshore bottom should not take place during the spring of the year as excessive turbidities may be damaging to the postlarval and juvenile shrimp.

Comment: Turbidity plumes from a sand-dredging operation are normally not extensive; however, if the nearby oysterbeds are subjected to siltation, dredging should be confined to the hours of ebbing tides.

Comment: Care should be taken so as not to destroy any existing offshore bars during dredging as these bars cause waves to break offshore rather than at the beach. Also, the dredging should not create channels to the beach which would result in severe beach erosion from approaching waves.

Response: The importance of the above consideration is concurred in. These details of construction will be addressed in detailed design of the project should it be authorized for Federal implementation. Design studies, along with the updated environmental impact statement, will be coordinated with the Louisiana Wild Life and Fisheries Commission.

Comment: Since part of the justification for this project involves recreational benefits, in order to fully utilize these benefits it is recommended that the general public have free access to the rock jetty and the beach areas.

Response: The locations of the recommended jetty and sections of the recommended dune and berm near each end of the island are within the boundaries of Grand Isle State Park which is under the jurisdiction of the Louisiana State Parks and Recreation Commission. The section of new beach which would be created gulfward of the existing beach between the state park boundaries would be property of the State of Louisiana and would fall under the jurisdiction of the town of Grand Isle. The conditions of use for these structures would be determined by these controlling entities.

1. LOUISIANA DEPARTMENT OF PUBLIC WORKS.

Comment: The Louisiana Department of Public Works generally concurs with the contents of the statement, however, there are statements which we feel are not factual which we would like to comment on. The statement makes reference to the Humble groin as trapping material on either side. As we previously indicated in our letter of January 3, 1972, the Humble groin, due to its location, has been completely covered as a result of its proximity to the east end rock jetty. This rock jetty location accounts for the amount of material adjacent to the Humble groin and the groin does not trap sand on east side.

Response: Concur with the comment at this point in time. However, before the time when the influence of the east jetty extended to the vicinity of the Humble groin, aerial photographs and ground inspections indicated that this groin was experiencing notable success in stabilizing the adjacent shoreline on either side. However, the groin did subsequently become completely covered when the effects of the east end rock jetty extended beyond the groin toward the west. Now the stability of the shoreline in the vicinity of the Humble groin is provided by the east end rock jetty.

Comment: The statement indicates that the sand dune constructed in 1966 has remained stable since construction except for a limited reach near the west end of Grand Isle. This statement should be modified to indicate that the sand dune restoration work performed in 1966 has been eroded and breached in several locations across the entire front of Grand Isle.

Response: The statement has been so modified.

m. LOUISIANA WILDLIFE FEDERATION, INC.

Comment: The statement is generally complete and we have no basic objection to the project as currently planned.

Response: Noted.

Comment: We believe that benefit-cost ratio information supplied by your agency indicates that local interests are entirely capable of bearing a substantial share of project costs.

Page 17 of the preliminary draft states "The value of this protection (prevention of physical damages caused by high intensity waves) is equal to the cost of repairing the hurricane damage that would occur without the project." Therefore, we can probably assume that property owners who can afford to rebuild following hurricane damage can also afford the price of protection. A statement on page 18 cites the high intensity of rebuilding following past hurricanes.

With hurricane damage occurring as frequently as twice a year and as infrequently as every 10 years, a substantial local contribution to project costs would be a sound business investment which would pay for itself in a short time.

The draft statement indicates that benefits will exceed costs by 1.7 to 1. It is further indicated that a high portion of these benefits will accrue to the owners of residential, commercial, and industrial property, not the general public. It is our opinion that these beneficiaries should bear a portion of project costs correlating directly with these benefits. Conversely, the general public should bear the ratio of costs reflected in project annual public recreation benefits (\$317,000).

We strongly agree with the National Water Commission recommendation that beneficiaries of Federal water projects should bear the cost of such projects, and we believe that Congress should restructure cost allocations of such projects to remove present inequities. In keeping with this idea, the draft statement for this project should detail the portion of project costs that will be borne by local interests.

Response: The recommendation for construction of the project is conditioned on certain participation by local interests. Local interests would bear an estimated \$3.1 million of the total first cost of \$9.1 million and would be required to accomplish all necessary maintenance subsequent to project completion. Over the estimated project life, local interests would bear nearly one-half of all expenses attributable to the project.

Comment: Some degree of contradiction seems to be reflected in the preliminary statement on page 18 that, "The provision for protection against flood hazards and erosion is an obvious incentive for developers and residents who would not locate in the project area under 'without project' conditions..." and the comment on page 22, "Implementation of this plan would not significantly alter the present development trend of the island..."

Response: This contradiction has been resolved.

Comment: The summary of adverse environmental effects on page ii does not include the temporary increase in turbidity or loss of living organisms indicated on page 18 and 19.

Response: These effects have been incorporated into the summary of adverse environmental effects.

Comment: Our main concern, however, is whether the statement adequately describes the environmental changes that will occur. The section on environmental impacts concludes by stating, "This alteration of the natural ecosystem is local and temporary and will correct itself in a short time. However, no substantiating data is provided. We also believe the statement should detail the location from which fill material is dredged and that references to similar projects or other biological data should be provided to substantiate the statement that alteration of the natural ecosystem will be temporary. In lieu of this a concurring statement from the Louisiana Wildlife and Fisheries Commission and Bureau of Sport Fisheries and Wildlife should accompany the final statement.

Response: The approximate locations of the dredge material borrow areas are included in section I. The comments of the Louisiana Wild Life and Fisheries Commission and the Bureau of Sport Fisheries and Wildlife are included in this statement.

Comment: We also believe this project should be part of a total plan of protection, including an early warning system, adequate hurricane evacuation route, etc.

Response: The Grand Isle town officials have an evacuation plan for the Grand Isle area. The grade of Louisiana Highway 1 from Grand Isle to Golden Meadow varies between elevations 2.5 and 5. Because of this, evacuation must be ordered well in advance of tidal flooding. Local officials have, in the past, ordered evacuation of the area before the Weather Service issued evacuation advisories. An adequate warning system as well as plans and routes for rapid evacuation are essential supplements to any hurricane protection plans in order to prevent loss of life and damage to movable property.

3. FEDERAL AND STATE AGENCIES-REVISED DRAFT

The Chief of Engineers coordinated the revised draft environmental statement with appropriate Federal and state agencies. Reply letters to this coordination are in Appendix B. Comments received and their comments are listed below.

a. US DEPARTMENT OF THE INTERIOR, OFFICE OF THE SECRETARY.

Comment: Our review of the draft statement did not surface any major deficiencies in those areas affecting our jurisdiction or special expertise.

Response: The comment is acknowledged.

Comment: The types and amounts of marine biota that will be destroyed or injured by dredging and fill operations should be discussed. The length of time necessary for reintroduction or healing of these communities should also be discussed. Subject to the foregoing the draft statement is generally adequate in its description of the project's effect on fish and wildlife resources.

Response: This comment is answered in Section III, paragraph 1 of this statement. No information on the amount of various species affected is available other than estimates such as "common" or "rare."

Comment: The area from which sand will be dredged and the size of the area to be affected has not been specifically identified. Dredging could induce channelization which could influence the rate of erosion and salinity levels within Caminada Bay or Barataria Bay. The potential for such impacts should be assessed.

Response: Pertinent information concerning the borrow areas for sand fill for the construction and subsequent maintenance of the recommended dune and berm is presented on plate 2. Dredging sandfill from these areas is not expected to influence existing

currents, increase flows through Barataria and Caminada Passes, or increase salinities in Barataria and Caminada Bays. Adverse effects will be limited to a temporary increase in turbidities in the vicinity of the dredging operations.

Comment: The final statement would be improved if it addressed the effects of the proposed construction on the western extreme of Grand Terre Island. Fort Livingston, although not on the National Register of Historic Places, is a valuable historic resource located on the Grand Terre Island side of Barataria Pass. While neglected and subjected to erosion effects of the gulf, Fort Livingston provides a resource of unique recreation utility to the visitors of Grand Isle State Park located about 1,000 yards to the southwest of the project.

Response: The erosion of Grand Terre Island would not be deleteriously affected by the construction of the recommended improvements as they would not obstruct any west-to-east littoral drift along the gulf shore in the area. The erosion of Grand Terre Island could be slowed as the construction of the recommended dune and berm would help to eliminate any deficiencies of sandfill to the jetty on the east end of Grand Isle and provide a larger source of littoral materials immediately to the west of Grand Terre Island.

Comment: Although it is stated that "a comprehensive interdisciplinary study has been made to determine if there are any archeological, historical, architectural or cultural resources existing in the proposed project area and none was found," no report is cited and there is no mention of who did the study. The final statement should cite the report and a copy of it should be made available for review.

Response: Kathleen Byrd, a graduate student in archeology employed by the Corps of Engineers, made a reconnaissance prior to the preparation of the draft EIS to determine if there were any archeological, historical, architectural or cultural resources existing in the proposed project area. Miss Byrd, at that time, verbally reported that none were found.

b. US DEPARTMENT OF COMMERCE, ASSISTANT SECRETARY OF SCIENCE AND TECHNOLOGY.

Comment: The subject Revised Draft Environmental Statement includes the reply to the original Draft Environmental Statement by the Department of Commerce. In addition, it contains a response to the National Ocean Survey contribution. In part, this response states, "The factor is not a controlling one insofar as project formulation and justification is concerned." It is our view that an almost one-foot rise in sea level over a thirty-year period is quite significant.

Response: A 1-foot rise in sea level over a 30-year period is not a controlling factor insofar as project formulation and evaluation is concerned. This rise in sea level would have a negligible effect on the project costs and benefits used in the economic analysis for the recommended project. Details concerning this factor would be dealt with in detailed post-authorization studies, should a Federal project be authorized.

Comment: The final statement should indicate on the map for the Plan of Improvement (Plate 2) the precise location and dimensions (including depth) of the borrow pits from which the fill for the dune and the berm will be obtained. Furthermore, the effect these borrow areas may have on the migration of fish and crustaceans to and from the estuary should be thoroughly discussed.

Response: Pertinent information concerning the borrow areas for sandfill for the construction and subsequent maintenance of the recommended dune and berm is presented on plate 2. Dredging sandfill from these areas is not expected to influence existing currents, increase flows through Barataria and Caminada Passes, or increase salinities in Barataria and Caminada Bays. Adverse effects will be limited to a temporary increase in turbidities in the vicinity of the dredging operations.

c. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE.

Comment: We have no objection to the authorization of this project insofar as our interests and responsibilities are concerned.

Response: The comment is acknowledged.

d. DEPARTMENT OF TRANSPORTATION, UNITED STATES COAST GUARD.

Comment: We have no comments to offer on the draft environmental impact statement.

Response: The comment is acknowledged.

Comment: We have no adverse environmental comments on the project, but we do have an operational objection. The alinement of the proposed dune as shown on plate 3 of the Corps of Engineers beach erosion and hurricane protection review report for Grand Isle and Vicinity, Louisiana encroaches on our Grand Isle Station property, covering much of our antenna field, approximately one-third of the antenna ground plane of the loran tower, and partially covering one or two of the anchor points of the loran tower guys. This is not acceptable.

"We suggest the proposed dune be run into our existing stone revetment, which was constructed by the Corps of Engineers, New Orleans District. They may want to elevate the revetment (+6 ft. M.S.L.) to their elevation of +11.5 ft. M.S.L."

Response: The alinement of the recommended dune and berm would be ascertained in detailed post-authorization studies and the plan further coordinated with affected property owners at that time, should a Federal project be authorized.

e. ENVIRONMENTAL PROTECTION AGENCY.

Comment: This project will probably increase the rate of residential and recreational development on the island. In that the project will not eliminate flooding and hurricane damage from the bay side, and will only provide protection for the fifty year event, the statement should discuss the damages that will be caused by a storm of greater severity than the project hurricane. We are concerned that the hurricane protection plan might create a "false sense of security" such that the damages from a one hundred year storm would be more severe with the project than without, due to the increased development on the island.

Response: In order to prevent a false sense of security that may develop on Grand Isle as a result of the recommended project, local interests must, prior to the initiation of construction, furnish assurances that they will, at least annually, inform interests affected that the project will not provide any substantial protection from flooding, from hurricane waves from the bay side, or from hurricane surges higher than that of Hurricane Betsy on 9 September 1965.

Comment: The environmental impacts of this increased development should be more thoroughly explored. Will the increased development of the island destroy the very things that people come to the island to enjoy? Does the sewage system have the capacity to handle additional development? What disposal facilities are available for the additional solid waste that will be generated?

Response: (a) Full development of Grand Isle is not expected to adversely affect the activities that people come to the island to enjoy; primarily, these are fishing, camping, swimming, and the use of private camps.

(b) Grand Isle does not have a "sewage system," as the sewage treatment is in the form of individual septic tanks. It is anticipated that this method of sewage treatment will continue until some point in time when the population growth on the island would necessitate a change to some form of centralized municipal treatment facility with sufficient capacity to handle peak loads resulting from the nonresident influx.

(c) Additional land areas adjacent to the existing landfill can be set aside to handle the additional solid waste that will be generated.

Comment: More information is needed on the borrow areas that will be used for constructing and maintaining the dune. Locations should be specified on a map, and the ecology of these areas described. Any possible effect of the borrow areas on ocean currents should be discussed.

Response : Pertinent information concerning the borrow areas for sandfill for the construction and subsequent maintenance of the recommended dune and berm is presented on plate 2. Dredging sandfill from these areas is not expected to influence existing currents, increase flows through Barataria and Caminada Passes, or increase salinities in Barataria and Caminada Bays. Adverse effects will be limited to a temporary increase in turbidities in the vicinity of the dredging operations.

Comment: The statement would be strengthened by a discussion of the effects of man's activities in interfering with the natural processes of accretion and erosion. In particular, how have efforts to control beach erosion on Grand Isle affected Grand Terre and the other neighboring barrier islands?

Response: This study did not include an evaluation of the effects of previous improvements for the prevention of erosion of Grand Isle's gulf shore except to evaluate their usefulness, or lack thereof, as a possible solution to the problems.

Comment: Specifically, we have no objections to the proposed project. However, we feel that more information is needed on several aspects of this project in order to fully evaluate its environmental impacts.

Response: This comment is acknowledged. Additional information requested is included in the above responses to comments.

f. STATE OF LOUISIANA, DEPARTMENT OF PUBLIC WORKS.

Comment: The environmental impact statement has been reviewed and appears to adequately present the anticipated impact on the environment as a result of the proposed construction.

Response: The comment is acknowledged.

g. LOUISIANA WILD LIFE AND FISHERIES COMMISSION.

Comment: Goatweed is an additional indigenous plant species which should be considered for vegetating the dune.

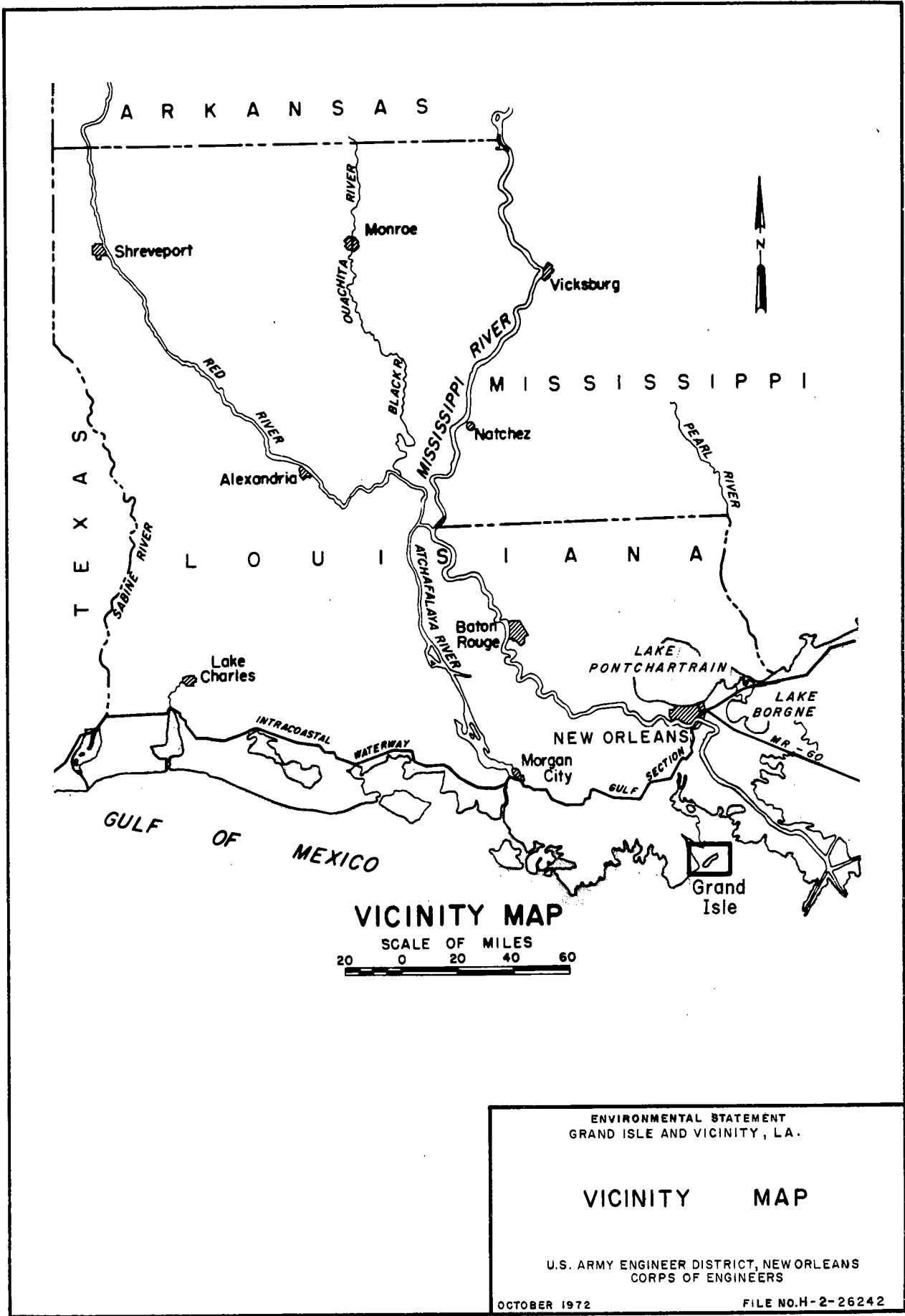
Response: Goatweed [*Croton capitatus*] is a weedy species which could provide food for game and songbirds and could assist in stabilizing the sand dunes. The tolerance of these plants to salt spray along with the availability of seeds are factors which will be considered in determination of the revegetation process.

Comment: The great land crab (Cardiosoma quanhumi) is an elusive, rather rare species of land crab, which, in the United States, is found only in Grand Isle, parts of Florida, and in Port Isabel, Texas.

Response: This crab is common to the Caribbean, but in the United States it has only been reported from parts of Florida and scattered locations along the coast of Louisiana and Texas (Grand Isle, Lake Pelton, Port Isabel, and Padre Island). Section II, paragraph 5 of the final statement has been revised to include the general types of invertebrates that occur in the area.

Comment: No mention is made that the only breeding colony of brown pelicans in Louisiana is located within three miles of the eastern end of Grand Isle. The resident population of these birds died out in the early 1960's and those now present are from a reintroduction of Florida brown pelicans, begun in 1968 by the Louisiana Wild Life and Fisheries Commission.

Response: Response is included in Section II, paragraph 5.



VICINITY MAP

SCALE OF MILES
 20 0 20 40 60

ENVIRONMENTAL STATEMENT
 GRAND ISLE AND VICINITY, LA.

VICINITY MAP

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
 CORPS OF ENGINEERS

OCTOBER 1972 FILE NO.H-2-26242

LETTERS RECEIVED BY THE
DISTRICT ENGINEER ON THE
DRAFT ENVIRONMENTAL STATEMENT

APPENDIX A



United States Department of the Interior

NATIONAL PARK SERVICE

Southwest Region

P.O. Box 728

Santa Fe, New Mexico 87501

IN REPLY REFER TO:

L7619

JAN - 9 1973

Colonel Richard L. Hunt
District Engineer
New Orleans District, Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

The following comments pertain to the preliminary draft environmental statement for the project, "Grand Isle and Vicinity, Louisiana, Associated Water Features." Our comments are offered as technical assistance and do not reflect the position of the Department of the Interior on the project.

The draft statement is inadequate in its treatment of archeological-historical resources. Archeological sites and materials are non-renewable resources and any adverse impact constitutes an irretrievable and irreversible commitment of these resources. It is not sufficient to state that no known archeological sites are involved. A qualified professional archeologist must survey the area of the project and the draft statement should cite the resulting report and these should be available for review. If archeological resources are found in the project area, the draft statement must include an evaluation of the significance of the resources and contain cost estimates to mitigate any adverse effects on archeological resources.

We note that a copy of the preliminary draft statement has been furnished to the Louisiana Historical Preservation and Cultural Commission. A copy of their comments concerning the effect of the undertaking upon historical and archeological resources should be included in the draft statement.

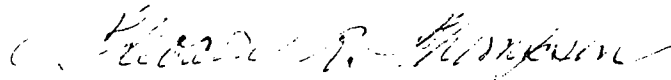
In the case of properties under the control or jurisdiction of the United States Government, the draft statement should show evidence of contact with the official appointed by your agency to act as liaison



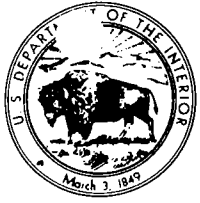
National Parks Centennial 1872-1972

for purposes of Executive Order 11593 of May 13, 1971, and include a discussion of steps taken to comply with Section 2(b) of the Executive Order.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "C. Edward R. Simpson".

Acting Director, Southwest Region



United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
6554 Florida Blvd.
Baton Rouge, Louisiana 70806

December 21, 1972

Colonel Richard L. Hunt
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

We have received and reviewed the preliminary draft environmental statement, "Grand Isle and Vicinity, Louisiana".

Although we are not presently involved in any studies of any kind on the island, we would like to make a couple of comments on this draft.

Under description of action, number 2 on page i, we agree that the jetty will protect the western end of the island and that the dune and berm will provide protection from hurricane waves. However, from reading previous reports, it appears that a substantial amount of the beach erosion is caused by littoral currents and we fail to see how the dune and berm will protect the beach from these currents.

Although it is obvious to most that offshore dredging for sand fill will in no way trigger additional beach erosion, we believe the environmental statement should contain some statement as to the distance and depth you are dealing with when you say offshore bottom.

Other than the above, we believe the statement adequately describes the projects effect on the environment.

The above review is made only to give assistance in determining the projects environmental effect and does not constitute official departmental review.

Sincerely yours,

FOR THE DISTRICT CHIEF

L. A. Martens
Supervisory Hydrologist



Office of
Chief

United States Department of the Interior

BUREAU OF MINES

BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operation Center

January 11, 1973

Your reference:
LMNED-PC

Col. Richard L. Hunt
District Engineer, New Orleans District
U.S. Army Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

Reference is made to your letter of November 29, 1972, requesting comments on the preliminary draft environmental statement for the Grand Isle and Vicinity, Louisiana (Grand Isle), project in Jefferson Parish, Louisiana.

The plan of improvement, as we understand it, provides for the construction of a 7.5-mile sand-fill dune and berm along Grand Isle's gulf shore and a 2,600-foot stone jetty at Caminada Pass west of the island. The purpose of the proposed construction is to provide protection from beach erosion and hurricane waves.

A review of available data, without benefit of field investigation, indicates that no mineral resource or facility would be adversely affected by the project. Inasmuch as Grand Isle is a base of operations for large offshore petroleum and sulfur enterprises, the mineral industry should benefit from additional protection to the island. Accordingly, the Intermountain Field Operation Center has no objection to the proposed improvements.

Our field-level comments are informal and are provided as a service; they do not constitute a formal project review by the Bureau of Mines.

Sincerely yours,

O. M. Bishop, Chief
Intermountain Field Operation Center



United States Department of the Interior

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
PEACHTREE-SEVENTH BUILDING
ATLANTA, GEORGIA 30323

January 19, 1973

District Engineer
U.S. Army, Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana 70160

Dear Sir:

This is in response to your letter LMNED-PC of November 29, 1972, requesting our views, comments, and/or recommendations on the preliminary draft environmental statement for the Grand Isle and Vicinity, Louisiana, project.

In general, we feel that the statement adequately describes the impact that the project will have upon fish, wildlife, and related resource values. Our reports of March 27, 1969, and June 2, 1972, on this project recommended that the feasibility of providing a safe fishing walkway on the jetty at the east end of Grand Isle be investigated. We note that no mention is made whether this feature was given consideration or not; however, such a walkway would greatly improve sport fishing opportunities. If this feature is part of the project, it should be included in the project description.

Thank you for the opportunity to comment on the preliminary draft environmental statement.

Sincerely yours,

Acting Regional Director



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

ADDRESS REPLY TO:
COMMANDER (mep)
EIGHTH COAST GUARD DISTRICT
CUSTOMHOUSE
NEW ORLEANS, LA. 70130

.5900

Colonel R. L. Hunt
District Engineer
Department of the Army
U. S. Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

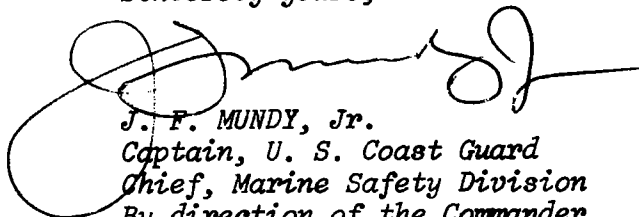
RE: LMNED-PC

Grand Isle Beach
Erosion.

Dear Sir:

The Commander, Eighth Coast Guard District does not have any objections to the referenced draft environmental statement.

Sincerely yours,



J. F. MUNDY, Jr.
Captain, U. S. Coast Guard
Chief, Marine Safety Division
By direction of the Commander
Eighth Coast Guard District

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Post Office Box 1630, Alexandria, Louisiana 71301

December 18, 1972

Colonel Richard L. Hunt
District Engineer
Department of the Army
New Orleans District Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

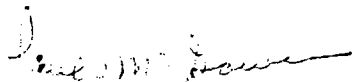
Dear Colonel Hunt:

This is in reply to your letter of November 29k 1972, (LMNED-PC), requesting our comments on the draft statement for Grand Isle and vicinity, Louisiana (Grand Isle).

We have reviewed the draft statement thoroughly and have no adverse comments to offer concerning this project. Projects to conserve our coastal lands, we feel, are very beneficial.

We appreciate the opportunity to review and comment on this proposed project.

Sincerely yours,



Paul McGowen
Acting State Conservationist

cc: T. C. Byerly, Office of the Secretary, USDA, Washington, D. C.
K. E. Grant, SCS - Washington, D. C.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI
1600 PATTERSON, SUITE 1100
DALLAS, TEXAS 75201

January 12, 1973

Colonel Richard L. Hunt
District Engineer
New Orleans District
U.S. Army Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Re: 06-3-35-LA
Your Re: LMNED-PC

Dear Colonel Hunt:

We have reviewed the Preliminary Draft Environmental Impact Statement prepared by your staff for the Grand Isle and Vicinity, Louisiana, project (Grand Isle). The recommended plan of improvement consists of a 2600-foot stone jetty at Caminada Pass to stabilize the western end of the island and a sand-fill dune and berm extending approximately 7.5 miles along the island's gulf shore to provide protection from beach erosion and hurricane waves. The dune will have a 10-foot wide crown at an elevation of 11.5 feet mean sea level, 1 on 5 side slopes, and protective vegetation. The project is located in Jefferson Parish, Louisiana.

In general, the statement covers many of the environmental impacts of the proposed action. The following items are suggested for your consideration in developing the draft statement:

1. Clarification as to why the Corps is seeking authorization of the jetty which has been constructed by local interests.
2. A map showing the dredge material borrow areas.
3. Method of retaining dredge material and the time schedule for getting the dune to grade and establishing protective vegetation.

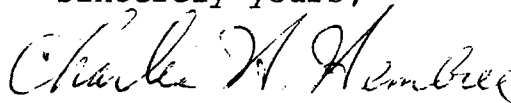
4. Will construction of the dune require any relocations?

5. Implementation of the proposed action should trigger additional industrial and residential growth on the island. This growth could produce numerous secondary effects, such as increased volume of solid waste, increased municipal and industrial waste, and numerous other impacts - both beneficial and adverse - to the environment. We believe a detailed discussion of the secondary effects of the proposed action would strengthen the statement.

6. The statement discusses other projects previously implemented which attempted to control the beach erosion, as programmed for the proposed project. Why did these projects fail to meet their designed goal? Was it the lack of needed maintenance which resulted in their failure? If this is the case, who will maintain this project and what procedures have been taken to guarantee implementation?

We appreciate the opportunity to review the Preliminary Draft Environmental Impact Statement and would appreciate receiving five copies of the draft statement for review.

Sincerely yours,



Charles H. Hembree
Chief

Federal Assistance Branch



THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

January 15, 1973

Colonel Richard L. Hunt
District Engineer
New Orleans District, Corps of
Engineers
P.O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

The draft environmental impact statement for Grand Isle and Vicinity, Louisiana, which accompanied your letter of November 29, 1972, has been received by the Department of Commerce for review and comment.

The Department of Commerce has reviewed the draft environmental statement and has the following comments to offer for your consideration.

Although land subsidence and secular sea level rise are mentioned briefly, we feel that much more emphasis should be placed on this important factor. Even though the rise in sea level is very small, it is an important factor because:

1. The U.S. Army Corps of Engineers is thinking, we feel, in terms of construction lasting at least twenty years, and

2. The land in the delta region of Louisiana is extremely flat.

According to the latest National Ocean Survey measurements and calculations, the sea is rising relative to the land at an average (least squares on annual means) rate of 0.0302 foot per year (standard error of ± 0.0024 ft/yr) from 1940 through 1971 at Eugene Island, Louisiana (the closest station). This is the maximum rise in sea level observed by the National Ocean Survey for the coasts of the United States.

Other minor comments are offered:

1. On Page 1: It might be well to indicate that hurricanes with an average frequency of recurrence of once every 50 years are those that bring 100 mph winds along the Louisiana coast.

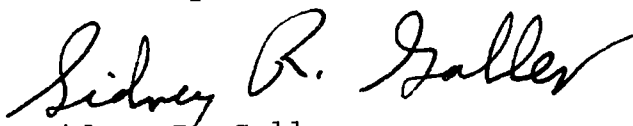
2. Page 2: "Advancing tropical cyclones." Cyclones would cover both tropical storms and hurricanes.

3. Page 11: Weather Bureau tropical cyclone tracks go back to 1871 as illustrated in Weather Bureau Technical Paper No. 55.

4. Page 11: Maximum sustained winds in hurricane Betsy as she crossed the Louisiana coast were closer to 140 mph. At Grand Isle winds were estimated at 105 mph. Tide was 8.8 ft. above mean sea level. Storms of Betsy's intensity have a mean recurrence interval of more than 100 years at any one point on the Louisiana coast.

We hope these comments will be of assistance to you in the preparation of the final statement.

Sincerely,



Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Hanning
11



Ellen Bryan Moore
REGISTER

State of Louisiana

STATE LAND OFFICE

BATON ROUGE

70804

January 12, 1973

Colonel Richard L. Hunt
District Engineer
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

Reference is made to your request of November 29, 1972 for comments on the draft environmental statement "Grand Isle and Vicinity, Louisiana (Grand Isle)," prepared by your office.

After reviewing the statement, I would like to go on record as endorsing the project and urging its completion. It is my belief that any attempt in eliminating (and hopefully reversing) the erosion of Grand Isle is necessary in order that one of the most valued recreational sites in Louisiana can be saved.

Construction of jetties and filling in of portions of the former bed of the Gulf of Mexico will greatly increase the amount of State owned properties for use in recreational activities. It will certainly be the desire of the State to develop these areas for use and enjoyment of all our citizens.

Thank you for the opportunity of commenting on this statement.

Sincerely,

FOR THE REGISTER

ORY G. PORET
DEPUTY REGISTER

OGP:bb

State of Louisiana



R. T. SUTTON
COMMISSIONER

DEPARTMENT OF CONSERVATION
BATON ROUGE 70804

P. O. BOX 44275

December 11, 1972

Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Attention: Colonel Richard L. Hunt

Re: LMED-PC
Beach Improvements
Grand Isle, Louisiana

Dear Sir:

I have reviewed the recommended plan of improvement for the stabilization of the western end of Grand Isle and the proposed sand fill along the gulf shore.

This Department is in complete accord with the proposed project for the following reasons; namely, (1) protection to the residents of Grand Isle, (2) protection of property, and (3) protection offered onshore oil and gas facilities in this period of energy crisis.

Yours very truly,


R. T. Sutton
Commissioner

FLSjr/lwh

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

WILD LIFE AND FISHERIES BUILDING
400 ROYAL STREET
NEW ORLEANS, LOUISIANA 70130

December 18, 1972

U. S. Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

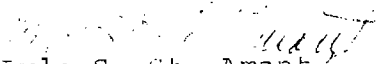
Attention: Colonel Richard L. Hunt
District Engineer

Gentlemen:

Our staff has reviewed the Preliminary Draft Environmental Statement, Grand Isle and Vicinity, Louisiana, and find that in general it possesses no serious or ecological problems. We do make the following suggestions to be included as part of the Impact Statement since we believe that they would probably prevent local objections to the project. These are:

1. Dredging of the offshore bottom should not take place during the spring of the year as excessive turbidities may be damaging to the post-larval and juvenile shrimp.
2. Turbidity plumes from a sand-dredging operation are normally not extensive; however, if the nearby oyster beds are subjected to siltation, dredging should be confined to the hours of ebbing tides.
3. Care should be taken so as not to destroy any existing offshore bars during dredging as these bars cause waves to break offshore rather than at the beach. Also, the dredging should not create channels to the beach which would result in severe beach erosion from approaching waves.
4. Since part of the justification for this project involves recreational benefits, in order to fully utilize these benefits it is recommended that the general public have free access to the rock jetty and the beach areas.

Sincerely yours,


Lyle S. St. Amant
Assistant Director



ROY AGUILLARD
DIRECTOR

STATE OF LOUISIANA
DEPARTMENT OF PUBLIC WORKS
P. O. BOX 44155, CAPITOL STATION
BATON ROUGE, LA. 70804

January 22, 1973

Colonel Richard Hunt
District Engineer
New Orleans District Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana

Re: LMNED-PR, November 29, 1972

Dear Colonel Hunt:

A draft environmental statement for the recommended project "Grand Isle and vicinity, Louisiana (Grand Isle)", Jefferson Parish, was forwarded with the above referenced letter for our review and comments as required by the National Environmental Policy Act of 1969, Public Law 91-190.

We have completed our review of the draft environmental statement and generally concur with the contents of your statement. There are, however, statements which I feel are not factual which I would like to comment on. These comments are as follows:

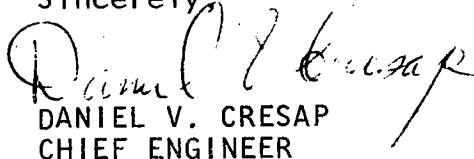
1. Page 12 - The statement makes reference to the Humble groin as trapping material on either side. As we previously indicated in our letter of January 3, 1972 (copy attached), the Humble groin, due to its location, has been completely covered as a result of its proximity to the east end rock jetty. This rock jetty location accounts for the amount of material adjacent to the Humble groin and the groin does not trap sand on east side.
2. Page 13 - The statement indicates that the sand dune constructed in 1966 has remained stable since construction except for a limited reach near the west end of Grand Isle. This statement should be modified to indicate that the sand dune restoration work performed in 1966 has been eroded and breached in several locations across the entire front of Grand Isle.

We appreciate the opportunity to review and comment on this statement and look forward to early authorization for this project.

Colonel Richard Hunt
January 18, 1973
Page 2

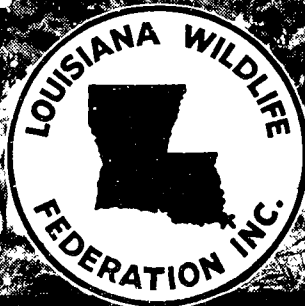
Should you desire to discuss these comments further, please
contact me at your convenience.

Sincerely,


DANIEL V. CRESAP
CHIEF ENGINEER

/mn

Attachment



LOUISIANA WILDLIFE FEDERATION INC

P. O. Box 5552
Alexandria, La. 71301
January 10, 1972

Colonel Richard L. Hunt
District Engineer
Corps of Engineers
P. O. Box 60267
New Orleans, La. 70160

Re: Grand Isle & Vicinity, La. (Grand Isle) preliminary draft
environmental statement

Dear Colonel Hunt:

The above document is generally complete and we have no basic objection to the project as currently planned. However, we do believe that benefit cost ratio information supplied by your agency indicates that local interests are entirely capable of bearing a substantial share of project costs.

Page 17 of the preliminary draft states "The value of this protection (prevention of physical damages caused by high intensity waves) is equal to the cost of repairing the hurricane damage that would occur without the project." Therefore, we can probably assume that property owners who can afford to rebuild following hurricane damage can also afford the price of protection. A statement on page 18 cites the high intensity of rebuilding following past hurricanes.

With hurricane damage occurring as frequently as twice a year and as infrequently as every 10 years a substantial local contribution to project costs would be a sound business investment which should pay for itself in a short time.

The draft statement indicates that benefits will exceed costs by 1.7 to 1. It is further indicated that a high portion of these benefits will accrue to the owners of residential, commercial and industrial property, not the general public. It is our opinion that these beneficiaries should bear a portion of project costs correlating directly with these benefits. Conversely, the general public should bear the ratio of costs reflected in projected annual public recreation benefits (\$317,000).

We strongly agree with the National Water Commission recommendation that beneficiaries of federal water projects should bear the cost of such projects, and we believe that Congress should restructure cost allocations of such projects to remove present inequities. In keeping with this idea, the draft statement for this project should detail the portion of project costs that will be borne by local interests.


Some degree of contradiction seems to be reflected in the statement on page 18 that, "The provision for protection against flood hazards and erosion is an obvious incentive for developers and residents who would not locate in the project area under 'without project' conditions . . ." and the comment on page 22, "Implementation of this plan would not significantly alter the present development trend of the island. . ."

The summary of adverse environmental effects on page 11 does not include the temporary increase in turbidity or loss of living organisms indicated on page 18 and 19.

Our main concern, however, is whether the statement adequately describes the environmental changes that will occur. The section on environmental impacts concludes by stating, "This alteration of the natural ecosystem is local and temporary and will correct itself in a short time. However, no substantiating data is provided. We also believe the statement should detail the location from which fill material is dredged and that references to similiar projects or other biological data should be provided to substantiate the statement that alteration of the natural ecosystem will be temporary. In lieu of this a concurring statement from the Louisiana Wildlife and Fisheries Commission and Bureau of Sport Fisheries and Wildlife should accompany the final statement.

We also believe this project should be part of a total plan of protection, including an early warning system, adequate hurricane evacuation route, etc.

Sincerely,


Richard W. Bryan, Jr., Chairman
Water Control Projects Committee

LETTERS RECEIVED BY
CHIEF OF ENGINEERS AS A RESULT
OF COORDINATION OF THE REVISED
DRAFT ENVIRONMENTAL STATEMENT

APPENDIX B



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In reply refer to:
(ER-74/19)

26 March 1974

Dear General Gribble:

Thank you for the letter of December 19, 1973, requesting our views and comments on the proposed report and draft environmental statement for Grand Isle and Vicinity, Louisiana.

We have completed our review of the subject document and submit the following comments for your consideration and use.

Project Report

Our Bureau of Outdoor Recreation has prepared a recreation study of the area based on the proposed improvements. This study indicated a need for additional recreation facilities in the area. Therefore, we believe the recreation benefits described in the report, resulting from enhancement of the parks with no costs attributed to recreation development, are reasonable with respect to the needs shown in the State Comprehensive Outdoor Recreation Plan and our study. We note, however, that the Board of Engineers for Rivers and Harbors believes that the recreation benefits claimed might be understated and should be reconsidered during post authorization planning. We would be pleased to assist the Corps in this subsequent reevaluation of recreation benefits.



'76

Let's Clean Up America For Our 200th Birthday

The State Park on the eastern end of Grand Isle is currently undergoing development with assistance from our Land and Water Fund program. The report does not clearly show whether any of these park lands will be used for the proposed project. If park lands are to be utilized for project use the consent of the Secretary of the Interior will be required for conversion of land use.

We find that the recommended plan would cause minimal damages to fish and wildlife resources. In a letter dated June 2, 1972, the Bureau of Sport Fisheries and Wildlife recommended that a safe walkway to the jetty at the west end of Grand Isle be provided. This would enhance fisherman use of waters adjacent to the structure. As stated in your proposed report, the recommended jetty was constructed by local interests prior to authorization, and a safe walkway to that structure was provided by landside fill. We know of no further project-based opportunities for the improvement of fish and wildlife resources.

The proposed action will not adversely affect any existing, proposed or known potential unit of the National Park System, or any known historic, natural or environmental education sites eligible for the National Landmark Programs.

The December 29, 1971, comments on the earlier report by our Intermountain Field Operation Center concluded that the project would clearly benefit important mineral producing facilities. However, it was pointed out that such facilities should be identified in the report and that resulting economic benefits needed to be pointed out in its section on economic analysis. The latter has been done, but mineral producing facilities are still not clearly shown.

An examination of library and file data revealed that during 1971, mineral deposits in Jefferson Parish, Louisiana, yielded petroleum, natural gas, sulfur, natural gas liquids, salt, and sand and gravel valued at about \$357.8 million. We again suggest that either a map showing the mineral facilities on the island or a list of the facilities be included in the report. Otherwise, we believe the report covers well our area of concern.



UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

March 19, 1974

Lt. General W. C. Gribble, Jr.
Chief of Engineers
U.S. Department of the Army
Washington, D. C. 20314

Dear General Gribble:

The draft environmental impact statement for the proposed "Grand Isle and Vicinity, Louisiana," which accompanied your letter of December 19, 1973, has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

The subject Revised Draft Environmental Statement includes the reply to the original Draft Environmental Statement by the Department of Commerce. In addition, it contains a response to the National Ocean Survey contribution. In part, this response states, "The factor is not a controlling one insofar as project formulation and justification is concerned." It is our view that an almost one-foot rise in sea level over a thirty-year period is quite significant.

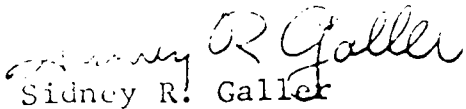
The Department of Commerce believes that although the observed rise in sea level and the accompanying landward displacement of the shoreline does not in itself cause beach erosion, it is one of the most important factors in preventing beaches from reaching equilibrium with the erosional elements of waves, longshore currents, storm surges, etc. This is particularly true along the Gulf Coast of the United States where the slope of the coastal zone (not the slope of any particular beach feature such as the foreshore) is particularly flat. The observed rate of rise in sea level would, if it continued, cause an accompanying landward displacement of the shoreline amounting to many yards.



The final statement should indicate on the map for the Plan of Improvement (Plate 2) the precise location and dimensions (including depth) of the borrow pits from which the fill for the dune and the berm will be obtained. Furthermore, the effect these borrow areas may have on the migration of fish and crustaceans to and from the estuary should be thoroughly discussed.

Thank you for giving us an opportunity to provide these comments which we hope will be of assistance to you. We would appreciate receiving a copy of the final statement.

Sincerely,

Handwritten signature of Sidney R. Galler in cursive script.

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Environmental Statement

Our review of the draft statement did not surface any major deficiencies in those areas affecting our jurisdiction or special expertise. However, we wish to submit the following comments for your consideration and use in developing the final environmental statement.

Fish and Wildlife

The types and amounts of marine biota that will be destroyed or injured by dredging and fill operations should be discussed. The length of time necessary for reintroduction or healing of these communities should also be discussed. Subject to the foregoing the draft statement is generally adequate in its description of the project's effect on fish and wildlife resources.

Water Quality

The area from which sand will be dredged and the size of the area to be affected has not been specifically identified. Dredging could induce channelization which could influence the rate of erosion and salinity levels within Caminada Bay or Barateria Bay. The potential for such impacts should be assessed.

Cultural Resources

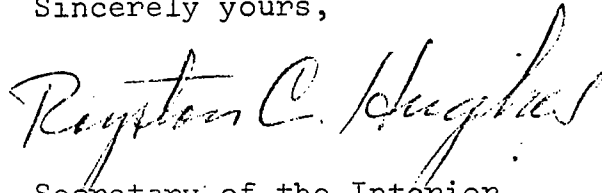
The final statement would be improved if it addressed the effects of the proposed construction on the western extreme of Grand Terre Island. Fort Livingston, although not on the National Register of Historic Places, is a valuable historic resource located on the Grand Terre Island side of Barateria Pass. While neglected and subjected to erosion effects of the Gulf, Fort Livingston provides a resource of unique recreation utility to the visitors of Grand Isle State Park located about 1000 yards to the southwest of the project.

Pages II-8 and VIII-3

Although it is stated that "a comprehensive interdisciplinary study has been made to determine if there are any archeological, historical, architectural or cultural resources existing in the proposed project area and none was found," no report is cited and there is no mention of who did the study. The final statement should cite the report and a copy of it should be made available for review.

We trust the foregoing comments will assist you in processing that report to the Congress.

Sincerely yours,



~~Assistant~~

Secretary of the Interior

Lt. Gen. W. C. Gribble, Jr.,
Chief of Engineers
Department of the Army
Washington, D. C. 20314



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGIONAL OFFICE
1114 COMMERCE STREET
DALLAS, TEXAS 75202

OFFICE OF
THE REGIONAL DIRECTOR

March 5, 1974

Our Reference: EI # 0174-308

W. C. Gribble, Jr.
Lieutenant General, USA
Chief of Engineers
Department of the Army
Washington, D.C. 20314

Re: Grand Isle and Vicinity, Louisiana
DAEN-CWP-A

Dear General Gribble:

Pursuant to your request, we have reviewed the Environmental Impact Statement for the above project proposal in accordance with Section 102(2)(C) of P. L. 91-190, and the Council on Environmental Quality Guidelines of April 23, 1971.

Environmental health program responsibilities and standards of the Department of Health, Education, and Welfare include those vested with the United States Public Health Service and the Facilities Engineering and Construction Agency. The U. S. Public Health Service has those programs of the Federal Food and Drug Administration, which include the National Institute of Occupational Safety and Health and the Bureau of Community Environmental Management (housing, injury control, recreational health and insect and rodent control).

Accordingly, our review of the Draft Environmental Statement for the project discerns no adverse health-effects that might be of significance where our program responsibilities and standards pertain, provided that appropriate guides are followed in concert with State, County, and local environmental health laws and regulations.

We therefore have no objection to the authorization of this project insofar as our interests and responsibilities are concerned.

Very truly yours,

William F. Crawford
Environmental Impact Coordinator

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Reaction Review and Comments on Environmental Impact Statement for Project Proposal:

Draft Environmental Impact Statement Reviewed With Objections

Draft Environmental Impact Statement Reviewed With No Objections

Date: 15 February 1974

EI# 0174-308

Agency/Bureau: DHEW/U.S. Public Health Service

Project Proposal: Grand Isle and Vicinity, Louisiana

Comments:



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (G-WS/73)
400 SEVENTH STREET SW.
WASHINGTON, D.C. 20390
PHONE: 426-2262

6 February 1974

Lieutenant General W. C. Gribble, Jr.
Chief of Engineers
Department of the Army
Washington, D. C. 20314

Dear General Gribble:

This is in response to your letter of 19 December 1973 concerning the draft environmental impact statement, review report, and other pertinent papers on the Grand Isle and Vicinity, Louisiana beach erosion and hurricane protection plan.

The concerned operating administrations and staff of the Department of Transportation have reviewed the material presented. We have no comments to offer on the draft environmental impact statement.

One of the beneficiaries of this project would be the Coast Guard Loran Station on Grand Isle which has suffered severe erosion damage over the past several years. The completed jetty project on the eastern end of the island appears to be adequate for the present, but may require additional surveys when the erosion control project is completed on the western end of the island.

The Department of Transportation concurs in your proposal for beach erosion and hurricane protection for Grand Isle and strongly recommends early implementation of this project.

The opportunity for the Department of Transportation to comment on the draft environmental impact statement, review report, and other pertinent papers for the Grand Isle project is appreciated.

Sincerely,



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (CG-WS/70)
400 SEVENTH STREET SW.
WASHINGTON, D.C. 20590
PHONE: (202) 426-2262

• 20 March 1974

Lieutenant General W. C. Gribble, Jr.
Chief of Engineers
Department of the Army
Washington, D. C. 20314

Dear General Gribble:

This is an additional response to your letter of 19 December 1973 concerning the draft environmental impact statement on Grand Isle and Vicinity, Louisiana beach erosion and hurricane protection plan.

The following comments from the field do not change the concurrence by the Department of Transportation in your proposed project as reported in our letter of 6 February 1974, but they do constitute a request for a change in dune alignment. The Coast Guard commented as follows:

"We have reviewed references concerning the Corps of Engineers proposal for beach erosion and hurricane protection for Grand Isle and vicinity. We have no adverse environmental comments on the project, but we do have an operational objection. The alignment of the proposed dune as shown on plate 3 of the Corps of Engineers beach erosion and hurricane protection review report for Grand Isle and vicinity, Louisiana encroaches on our Grand Isle Station property, covering much of our antenna field, approximately one-third of the antenna ground plane of the loran tower, and partially covering one or two of the anchor points of the loran tower guys. This is not acceptable.

"We suggest the proposed dune be run into our existing stone revetment, which was constructed by the Corps of Engineers, New Orleans District. They may want to elevate the revetment (+6 ft. M.S.L.) to their elevation of +11.5 ft. M.S.L.; however, it should be understood that we are not in a position to provide funds for any work which is to be done on our property."

The Department of Transportation strongly recommends that these late comments be addressed in the final environmental impact statement, if possible. In any event, these comments should be considered in the preparation of plans for this project.

Sincerely,

By _____
Special Agent in Charge
U.S. Coast Guard

ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1600 PATTERSON, SUITE 1100
DALLAS, TEXAS 75201

February 8, 1974

OFFICE OF THE
REGIONAL ADMINISTRATOR

Colonel John V. Parish, Jr.
Executive Director of Civil Works
Department of the Army
Office of the Chief of Engineers
Washington, D.C. 20314

Dear Colonel Parish:

We have reviewed the revised Draft Environmental Impact Statement and Review report for Grand Isle and Vicinity, Louisiana. The proposed project is a beach erosion and hurricane protection plan for Grand Isle, Jefferson Parish. It consists of a 2,600 foot stone jetty at Caminada Pass to stabilize the western end of the island, and a sandfill dune and berm extending for 7.5 miles along the island gulf shore to provide protection from hurricane waves.

The impact statement covers many of the environmental impacts from the proposed action. We have the following comments for your consideration in preparation of the final:

1. This project will probably increase the rate of residential and recreational development on the island. In that the project will not eliminate flooding and hurricane damage from the bay side, and will only provide protection for the fifty year event, the statement should discuss the damages that will be caused by a storm of greater severity than the project hurricane. We are concerned that the hurricane protection plan might create a "false sense of security" such that the damages from a one hundred year storm would be more severe with the project than without, due to the increased development on the island.

2. The environmental impacts of this increased development should be more thoroughly explored. Will the increased development of the island destroy the very things that people come to the island to enjoy? Does the sewage system have the capacity to handle additional development? What disposal facilities are available for the additional solid waste that will be generated?
3. More information is needed on the borrow areas that will be used for constructing and maintaining the dune. Locations should be specified on a map, and the ecology of these areas described. Any possible effect of the borrow areas on ocean currents should be discussed.
4. The statement would be strengthened by a discussion of the effects of man's activities in interfering with the natural processes of accretion and erosion. In particular, how have efforts to control beach erosion on Grand Isle affected Grand Terre and the other neighboring barrier islands?

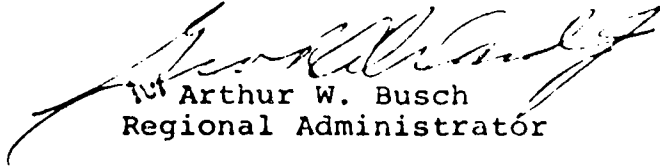
These comments classify your Draft Environmental Impact Statement as LO-2. Specifically we have no objections to the proposed project. However, we feel that more information is needed on several aspects of this project in order to fully evaluate its environmental impacts. The classification and the date of our comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed federal actions under Section 309 of the Clean Air Act.

Definitions of the categories are provided on the attachment. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and on the adequacy of the impact statement at the draft stage, whenever possible.

We appreciate the opportunity to review the Draft Environmental Impact Statement. Please send us two

copies of the Final Environmental Impact Statement at the same time it is sent to the Council on Environmental Quality.

Sincerely yours,



Arthur W. Busch
Regional Administrator

Enclosure

ENVIRONMENTAL IMPACT OF THE ACTION

LO - Lack of Objections

EPA has no objections to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER - Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to re-assess these aspects.

EU - Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

ADEQUACY OF THE IMPACT STATEMENT

Category 1 - Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2 - Insufficient Information

EPA believes the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3 - Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement. If a draft statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.



ROY AGUILLARD
DIRECTOR

State of Louisiana
DEPARTMENT OF PUBLIC WORKS
P. O. BOX 44155, CAPITOL STATION
BATON ROUGE, LOUISIANA 70804

BOARD OF PUBLIC WORKS
GEORGE CHANEY, CHAIRMAN
EMMETT A. EYMARD
P. P. VERRET, SR.
RICHARD P. GIBSON
ROLAND CARTER

April 16, 1974

Lieutenant General W. C. Gribble, Jr.
Chief of Engineers
Department of the Army
Washington, D. C. - 20314

RE: DAEN-CWP-A - December 19, 1973
Grand Isle & Vicinity, Louisiana
Beach Erosion & Hurricane Protection

Dear General Gribble:

Forwarded with your letter of December 19, 1973 was a copy of the draft environmental statement and a copy of your proposed report on the Grand Isle and Vicinity, Louisiana project (Beach Erosion and Hurricane Protection). You have requested our comments and recommendations as required by Public Law 91-190 and Public Law 78-534 pertaining to coordination procedures on water resource reports. Your letter also requested we include the views of the state agency responsible for fish and wildlife.

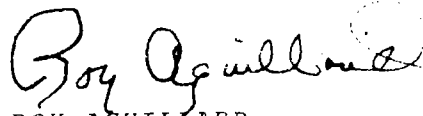
We have completed our review of the report and statement and concur in your proposed project. The environmental impact statement has been reviewed and appears to adequately present the anticipated impact on the environment as a result of the proposed construction. The project report has incorporated the majority of our recommendations contained in our comments to Colonel Hunt, New Orleans District, by letter of January 3, 1972. There is, however, one area not changed, which is of primary interest to the State of Louisiana. This is in reference to credit for the construction of the west jetty and beach fill. Your cover letter recommends credit be limited to \$1,000,000 toward the non-federal share. All previous discussion and correspondence pertained to credit for the actual cost incurred, for which supporting data has been furnished the New Orleans District office by letter of February 20, 1973 (copy attached) in the total amount of \$1,065,474.47. We therefore request that your recommendations be changed to incorporate this amount.

Lieutenant General W. C. Gribble, Jr.
April 17, 1974
Page 2

Also attached please find a copy of a letter dated April 1, 1974 from the Louisiana Wildlife & Fisheries Commission which indicates their comments relative to the documents furnished. We will appreciate your consideration of their views and recommendations.

We appreciate the opportunity to review and comment on your proposed report and environmental statement and look forward to an early accomplishment of this vitally needed project.

Sincerely yours,


ROY AGUILLARD
DIRECTOR

ART:dz
Enclosures

- cc: Honorable Russell B. Long
United States Senator
217 Old Senate Office Building
Washington, D. C. - 20510
- cc: Honorable Lindy Boggs, M. C.
House of Representatives
1507 Longworth Building
Washington, D. C. - 20515
- cc: Honorable Joseph Shepard
Mayor, Town of Grand Isle
Post Office Box 245
Grand Isle, Louisiana - 70358
- cc: Louisiana Wildlife & Fisheries Commission
400 Royal Street
New Orleans, Louisiana - 70130



ROY AGUILLARD
DIRECTOR

*File
Contract
6-325*

STATE OF LOUISIANA
DEPARTMENT OF PUBLIC WORKS
P. O. BOX 44155, CAPITOL STATION
BATON ROUGE, LA. 70804

February 20, 1973

Colonel Richard L. Hunt
District Engineer
U. S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

RE: Grand Isle West Jetty
and Beach Restoration

Dear Colonel Hunt:

We will transmit under separate cover the following items with which you can document the total expenditure of funds spent on the Grand Isle West Jetty and Beach Restoration project for verification of credit for Local Interest Participation. These items will be hand delivered to Mr. Robert Guizerix, Design Branch, U. S. Corps of Engineers, as requested earlier.

1. As-built drawings (1, set)
2. Construction Contract Final Estimate (2)
3. Soil Boring Contract (1)
4. Soil Boring, Contract Final Estimate (2)
5. Telephone bills (1)
6. Invoices for rooms and equipment storage for construct inspectors (1)
7. Mileage reports for engineers and inspectors (1)
8. Payroll reports for engineers and inspectors (1)
9. Expense account report for engineers and inspectors (1)


Colonel Richard L. Hunt
February 20, 1973
Page 2

10. Original and final x-sections
(previously handed to Robert
Guizerix)
11. One sheet titled "Location of
Cross-sections"

Please note that, although no change orders or extra work orders were issued on this job, the jetty quantities overran the contract quantities because of scouring in Caminada Pass during construction. Because of this overrun the quantity of hydraulic sand fill was decreased in order to hold the total contract price within the limits of the monies made available for this project.

If any further information is needed in order to verify the monies to be credited to local interests, please let us know.

Very truly yours,


DANIEL V. CRESAP
CHIEF ENGINEER

:dz

cc: Mr. Earl J. Wagner, Jr.
Mr. Robert Guizerix

SUMMARY OF LOUISIANA DEPARTMENT OF PUBLIC WORKS
EXPENDITURES ON THE GRAND ISLE WEST JETTY
AND BEACH RESTORATION CONTRACT

CONSTRUCTION

Contract \$ 994,149.51

ENGINEERING & DESIGN

Eustis Soil Boring Contract	4,744.85
C. W. Blackwell, salary	369.08
Survey crew & Supervisory personnel (salaries)	7,905.97
1970 Ford (1971 License No. 18722)	278.04
1966 Chevrolet (1971 License No. 19735)	90
Emmett E. Egnew, preliminary survey & site inspection to direct survey party (expenses)	300.
J. W. Guerin, Engineer, preliminary survey Supervision for development of plans and specifications (expenses)	15.85

SUPERVISION & ADMINISTRATION

C. W. Blackwell, salary	74.32
Odell Ott, salary and expenses	171.06
Survey crew, inspectors, supervisors (salaries)	41,072.51
Telephone	232.57
Room & boat storage for inspectors and required equipment	5,850.00
1970 Ford (1972 License No. 18338)	
(1971 License No. 18723)	1,385.44
1970 Ford (1972 License No. 18337)	
(1971 License No. 18722)	1,631.64
1970 Chevrolet (1971 License No. 18655)	
(1972 License No. 18342)	1,859.04
1966 Chevrolet License No. 19735	
1968 Chevrolet License No. 18371	1,149.48
1972 Chevrolet License No. 19744	
John McCarroll, inspector (expense accounts)	837.54
Larry D. Lewis, inspector (expense accounts)	747.50
Charles W. Jackson, inspector (expense accounts)	1,076.94
Emmett E. Egnew, inspector (expense accounts)	423.57
Leroy A. Cardon, inspector (expense accounts)	211.50
J. W. Guerin, Engineer, contract inspection (expense accounts)	310.30

TABULATION OF COSTS

CONSTRUCTION	994,149.51
ENGINEERING & DESIGN	13,788.29
SUPERVISION & ADMINISTRATION	<u>57,536.67</u>

GRAND TOTAL..... \$1,065,474.47

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

WILD LIFE AND FISHERIES BUILDING
400 ROYAL STREET
NEW ORLEANS, LOUISIANA 70130

April 1, 1974

RECEIVED

APR 3 1974

Mr. Daniel V. Cresap, Chief Engineer
Louisiana Department of Public Works
P. O. Box 44155, Capitol Station
Baton Rouge, Louisiana 70804

DEPARTMENT OF PUBLIC WORKS
BATON ROUGE, LA.

Dear Mr. Cresap:

Our staff has examined the Draft Environmental Statement, Grand Isle and Vicinity, Louisiana, as requested in your letter of January 11, 1974, and find that in general it poses no serious or ecological problems.

In addition to previous comments, we would like to add the following:

1. Consideration should be given to construction of some type of wooden walkway for pedestrians to cross the 11.5-foot dune at places of public access to the beach. This would minimize damage to the dune and associated vegetation by pedestrians crossing to and from the beach.

The same type structures should be encouraged for dune crossings on private properties along the beach.

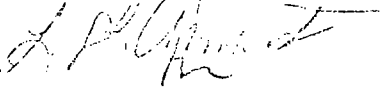
2. Goatweed is an additional indigenous plant species which should be considered for vegetating the dune.
3. The great land crab (Cardiosoma guanhumi) is an elusive, rather rare species of land crab, which, in the United States, is found only in Grand Isle, parts of Florida, and in Port Isabel, Texas.
4. No mention is made that the only breeding colony of brown pelicans in Louisiana is located within three miles of the eastern end of Grand Isle. The resident population of these birds died out in the early 1960's and those now present are from a reintroduction of Florida brown pelicans, begun in 1968 by the Louisiana Wild Life and Fisheries Commission.

Mr. Daniel V. Cresap, Chief Engineer
Louisiana Department of Public Works
April 1, 1974
Page 2

5. As mentioned in our January 13, 1972 letter, we would again like to request that this project include a study of its effects on Grand Terre so that the erosion problem can be solved and not spread to Grand Terre Island. The Louisiana Wild Life and Fisheries Commission's Marine Laboratory is located on this island which is almost a three-million dollar investment. Since we intend to enlarge this research facility, we also consider it a permanent marine research base and would not want the erosion of this island to effect our installation in any way.

Thank you for affording us the opportunity to comment on this project.

Sincerely yours,



J. Burton Angelle
Director

JBA:RES/lm

cc: Mr. Robert Murry, WL&F River Basins Section



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PROPERTY OF
THE UNITED STATES GOVERNMENT
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