

waterfront district plan

east brunswick, n.j.



ERRATA

Page No.

- 18 "IX" Historical Anaysis" should be spelled "Analysis"
- 23 "B. Marina Morrings" should be spelled "Moorings"
- 51 "picnicing" should be spelled "picnicking"
- 69 Under "VII Environmental Permits, Permit Name, Tidelands (Riparian) Grant, Lease or License", is not considered a permit.
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**waterfront
district plan
east brunswick, n.j.**

preface

This document was prepared to analyze East Brunswick's waterfront district, an area identified by the State of New Jersey as a part of the state's coastal management zone. The report is divided into three sections: Part 1, Analysis, Part 2, Alternatives and Part 3, Plans.

part 1
analysis

1981

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WATERFRONT DISTRICT PLAN

TOWNSHIP OF EDISON

CITY OF NEW BRUNSWICK

**RARITAN
RIVER**

**LAWRENCE
BROOK**

SCHOOLHOUSE LANE

EDGEBORO ROAD

N.J. TURNPIKE

SUBJECT AREA

**BOROUGH OF
SAYREVILLE**

**SOUTH
RIVER**

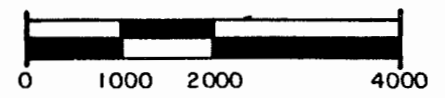
**TOWNSHIP OF
NORTH BRUNSWICK**

TOWNSHIP OF EAST BRUNSWICK

**BOROUGH OF
SOUTH RIVER**



KEY MAP



1" = 2,000'

I. Delineation of Study Area

The study area is located in the Township of East Brunswick, Middlesex County, New Jersey (longitude 74°23' - latitude 40°28'). This area composes the extreme northeast portion of the municipality and is bound by:

1. The Lawrence Brook and the City of New Brunswick to the northwest;
2. The Raritan River and Edison Township to the northeast;
3. The South River and the Borough of Sayreville to the east;
4. The Borough of South River to the south; and
5. A residentially developed portion of East Brunswick Township to the west.

The majority of land in the Township which falls within the "coastal zone" designation is included within the study area.

The primary means of vehicular access to the study area is via Edgeboro Road which traverses the northwest portion of the study area, and intersects N.J. Route 18 approximately 1/2 mile to the west. This roadway is the principle means of access to the industrial lands along Edgeboro Road, and in all probability any future major industrial development within the study area. A second means of access is via Schoolhouse Lane located to the northwest of the study area. This route is restricted to use by light traffic due to its location within residential areas, and numerous right angle turns and grade changes which inhibit use by truck traffic. This road is, however, the principle means of access to the existing marina area.

An additional means of access to the study area is being examined, and if constructed as planned, will intersect with Route 18 south of Edgeboro Road. A separated grade intersection is being proposed which will facilitate direct access from both Route 18 north (west) and south (east). The proposed road will parallel Edgeboro Road approximately 1,000 ft. to the east. This additional means of access is considered essential in order to:

1. Encourage the continued industrial development of the industrial zoned land in the Edgeboro Road area;
2. Handle additional heavy truck traffic which will be generated if the proposed solid waste resource recovery facility is built and possible related ancillary uses which may develop when that facility is completed; and
3. Handle increases in traffic resulting from the development of a waterfront park, the expanded use of the marina, and other waterfront recreational activities.

The delineated study area contains 930.1+ acres, with approximately 50% or 460+ acres located within the "coastal zone boundary". Land located within the waterfront area, and also all adjacent undeveloped lands within East Brunswick were included in order to comprehensively plan for the development of the waterfront area. Delineation of the "coastal zone boundary" was accomplished by the use of standards set forth in N.J.A.C. 7:7-2.4 which places in the waterfront area "all tidal waterways and lands adjacent thereto up to the first property line, public road or railroad right-of-way generally parallel to the waterway provided that the boundary is between 100 and 500 feet from the waterway".¹

The study area is contained within the Raritan River Region of the "coastal zone". The portion of this region which is located within East Brunswick is characterized in the N.J. Coastal Management Program, August 1980 as "an extensive river wetland area extending along the Raritan and up its tributary, the South River".² The New Jersey Department of Environmental Protection encourages this wetland to be "preserved as an open space resource for surrounding residential neighborhoods, as well as for a source of nourishment for the Raritan estuary system."³

The Edgeboro Landfill, one of the largest solid waste disposal facilities in the state, is located east of Edgeboro Road on approximately 290+ acres. Landfill operations are conducted on 233+ acres with an additional 55+ acres composed of leachate detention and treatment ponds. The Edgeboro landfill has been in operation for 28 years, and is controlled by the major land owner of all lands east of Edgeboro Road.

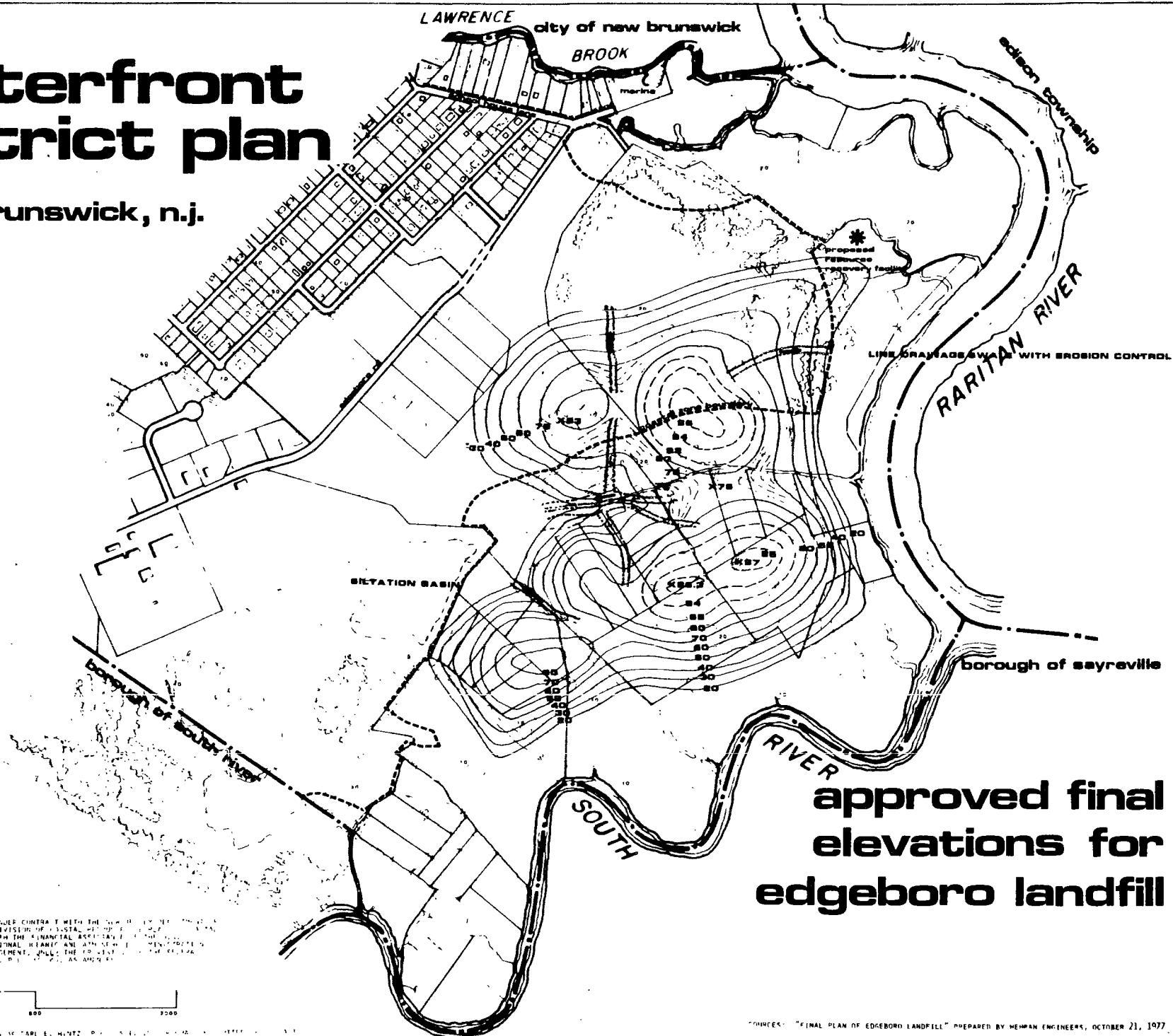
The Edgeboro Landfill has received approval from the New Jersey Department of Environmental Protection, Office of Solid Waste Management for continued landfilling operations in accordance with elevations indicated on the map titled Approved Final Elevations for Edgeboro Landfill. Elevations of 80'+ will be the average maximum finished grade. It is estimated that, at current projected useage, the landfill will be operational until the mid 1990's.

A solid waste resource recovery facility is currently being planned for construction in the study area. Wheelabrator-Frye, an experienced owner and operator of such facilities, has proposed the construction of a plant capable of handling 400,000 tons of solid waste per year to be located on a 6+ acre site at the north edge of the study area within the "coastal zone boundary". The New Jersey Coastal Management Program specifies that solid waste is a valuable resource to be recovered and maintained on a district-wide basis, and mandates that "coastal development recover material and energy from solid waste, to the maximum extent practicable."⁶ As a by-product of the incineration of the refuse, the proposed facility would generate approximately 200 million kilowatt hours of electricity from turbine quality steam generated from the incineration process.⁷ In addition, extensive recycling of ferrous metals and other salvagable materials would be conducted at the facility.

The resource recovery plant would work in conjunction with the existing Edgeboro Landfill operation, and thereby extend its life beyond the period now anticipated.

waterfront district plan

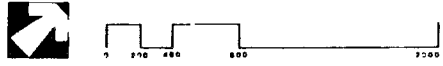
east brunswick, n.j.



approved final elevations for edgeboro landfill

1981

THIS REPORT WAS PREPARED UNDER CONTRACT WITH THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF COASTAL ZONE MANAGEMENT, FOR PLANNING AND DEVELOPMENT WITH THE FINANCIAL ASSISTANCE OF THE FEDERAL DEPARTMENT OF COMMERCE, NATIONAL MARINE AND AQUACULTURE CENTER, OFFICE OF COASTAL ZONE MANAGEMENT, UNDER THE PROVISIONS OF THE FEDERAL COASTAL ZONE MANAGEMENT ACT, P.L. 85-624, AS AMENDED.



SOURCES: "FINAL PLAN OF EDGEBORO LANDFILL" PREPARED BY HEWMAN ENGINEERS, OCTOBER 21, 1977.

II. Land Use and Zoning

Existing land uses within the study area vary considerably in intensity, ranging from single family residential to heavy industrial and sanitary landfill activities. Single family residential development forms the westerly boundary of the study area. This residential area known as "Pine Ridge", is primarily composed of homes on 1/4 to 1/3 acre parcels which are developed in accordance with current zoning standards. This area is isolated from the remainder of the study area because of topographic differences, and the lack of accessibility. Pine Ridge is accessible via small residential roads intersecting Route 18 north of the Edgeboro Road intersection.

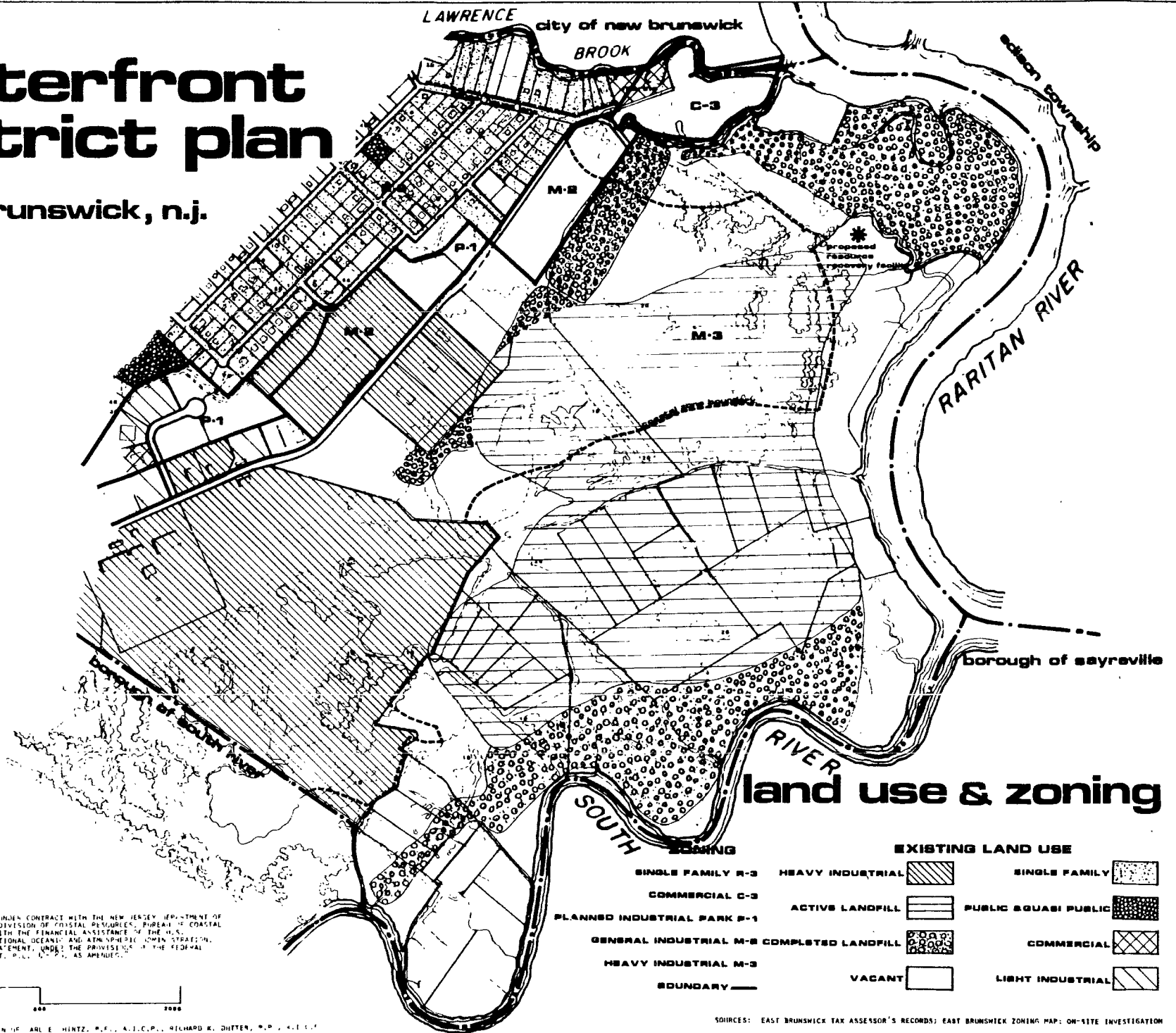
The principal means of access to the non-residential sections of the study area is via Edgeboro Road. Along this road, the majority of the remaining developed land parcels is located. Land uses essentially follow the existing zoning in the area with light industrial uses limited to areas west of Edgeboro Road in the M-2 (general manufacturing), and P-1 (planned industrial park) districts. The areas east of Edgeboro Road, used for heavy industrial purposes, predominated by sand and gravel mining, sanitary landfill or vacant land, fall in the M-3 zoning district.

Located at the easterly terminus of Schoolhouse Lane is the Tower Marina. The New Jersey Department of Environmental Protection, Bureau of Coastal Planning & Development, identifies existing marinas as "a key element in New Jersey's coastal resort economy. The maintenance of existing marina areas, and the protection of these areas from competing uses which would detract from the recreational service they provide is, therefore, a high priority."⁴

The New Jersey Coastal Management Program, "Resort/Recreational Use Policies", permits the expansion of existing marinas which provide for an appropriate mix of dry storage areas, public launching facilities, and berthing spaces. Boating facilities which permit public access to the waterfront, and particularly emphasize recreational sail and oar boating, are specifically encouraged.⁵

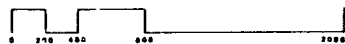
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PREPARED UNDER THE DIRECTION OF ARL E. HINTZ, P.E., A.I.C.P., RICHARD K. DUEYER, P.P., A.I.C.P.

ZONING		EXISTING LAND USE	
SINGLE FAMILY R-3	HEAVY INDUSTRIAL		SINGLE FAMILY
COMMERCIAL C-3	ACTIVE LANDFILL		PUBLIC SQUASH PUBLIC
PLANNED INDUSTRIAL PARK P-1	COMPLETED LANDFILL		COMMERCIAL
GENERAL INDUSTRIAL M-2	HEAVY INDUSTRIAL M-3		LIGHT INDUSTRIAL
BOUNDARY	VACANT		

SOURCES: EAST BRUNSWICK TAX ASSESSOR'S RECORDS; EAST BRUNSWICK ZONING MAP; ON-SITE INVESTIGATION

III. Land Ownership

The Land Ownership Table identifies all non-residential lands within the study area by lot, block, ownership, acreage, and equalized assessed valuation. The ownership map lists block, lot and acreage of all major parcels.

Lands located east of Edgeboro Road total approximately 765+ acres. Of those 765+ acres, 460+ acres are located within the coastal zone boundary.

The Township of East Brunswick owns a 25.86 acre parcel in the extreme southern portion of the coastal zone as it abuts the Borough of South River. This parcel is adjacent to the South River and the Edgeboro landfill operation to the northwest. The New Jersey Coastal Management Program encourages the protection and expansion of publically owned lands dedicated to conservation of natural resources, public recreation or wildlife protection or management.⁸ At the extreme northern edge of the "coastal zone boundary" in East Brunswick is located the Tower Marina on a 16.29 acre site. The majority of land located between the marina and the land owned by the township owned by Edgeboro, Inc. or an associated owner, is used as active sanitary landfill, completed landfill, or is composed of tidal marsh land.

IV. Topography

The topography map delineates all lands within the study area categorizing each by a 10' change in elevation. The total topographic variation in the study area ranges from sea level to 80' +. This variation represents 50% of the total change in elevation of all land within East Brunswick. All parcels lying within the "coastal zone boundary" range from sea level to 10'. The remainder of the lands between the Raritan River and the residential upland areas are less than 30' in elevation. Much of this land area was substantially higher in elevation prior to extensive sand and gravel mining operations which preceded the sanitary landfill operation. The developed residential upland portion ranges in elevation from 30' to 80' above sea level. All major vacant parcels, industrial uses, landfill uses, and the "coastal zone" area lies within the 0 - 30' range.

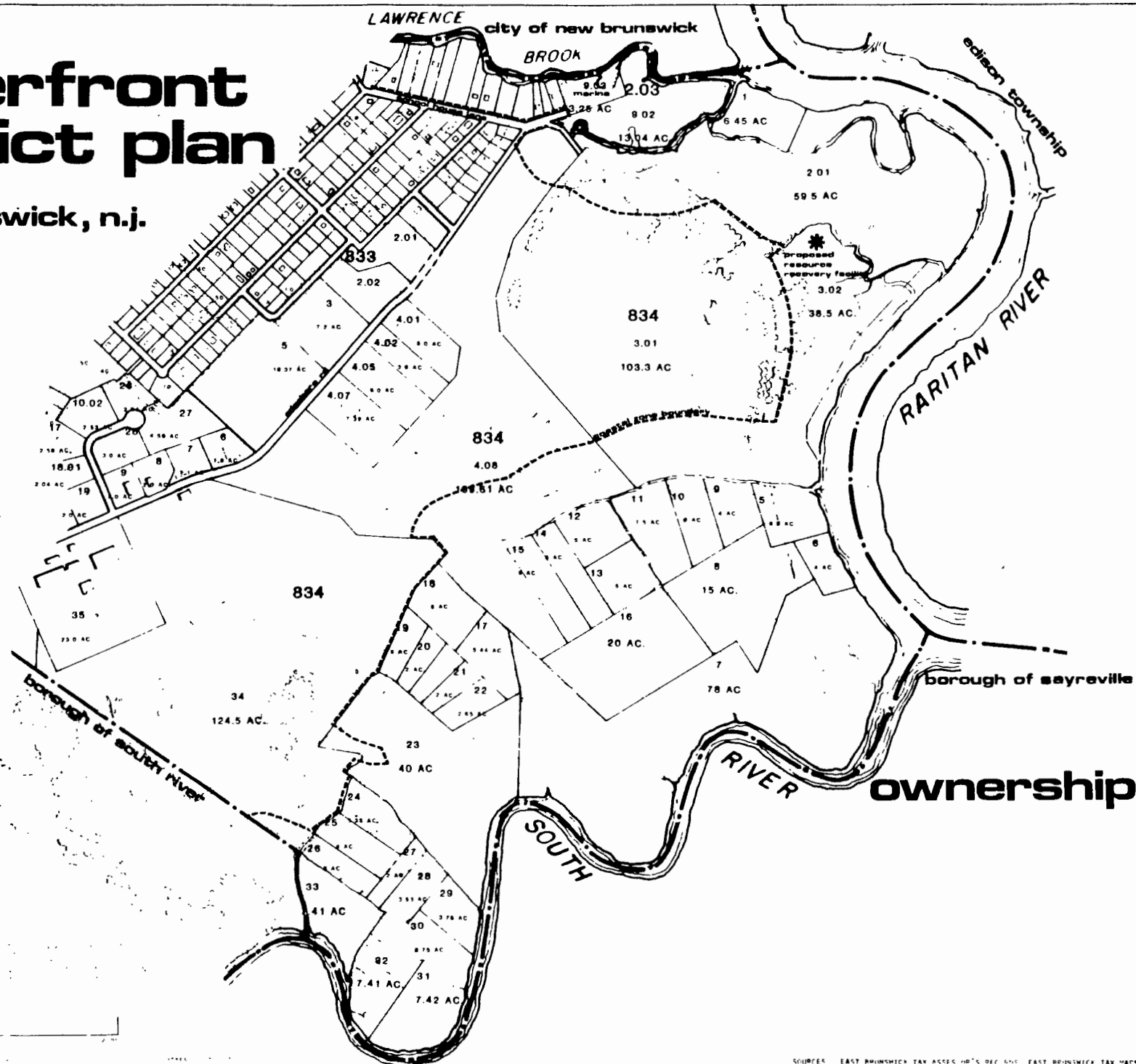
BLOCK	LOT	OWNER	ACRE	EQUALIZED ASSESSED VALUATION		
				LAND	IMPROVEMENT	TOTAL
833	3	Roadway Express, Inc.	7.2	193,722	322,870	516,592
	5	Yellow Equip. & Term., Inc.	16.37	352,287	907,623	1,259,910
	6	Garatti	1.9	53,812	579,731	633,543
	7	Edgeboro Inc.&Herbert Sand	2.1	56,502		56,502
	8	Mazzu	2.0	53,812	157,848	211,660
	9	Jersey Sanitation	2.0	53,812	175,964	229,775
	10.02	Belcaro	2.53	90,762	216,143	306,905
	17	Greater Jersey Press, Inc.	2.58	92,556	274,260	366,816
	18.01	Arbeiter c/o Rutgers Express	2.04	73,184	306,906	380,090
	19	E.B.N. Realty Assoc. NB Newsdealer	2.0	53,812	326,099	379,911
	26	Kass and Levine	2.84	76,592		76,592
	27-28	C.B. Industrial Park	7.98	214,887		214,887
834	1	Bancilardi	6.45	23,139		23,139
	2.01	Edgeboro, Inc.	59.5	266,906		266,906
	3.01-	Herbert Aggregate, Inc.	141.8	636,053		636,053
	3.02					
	4.01	Krajack	5.00	107,623		107,623
	4.02	Con-Ov Air Freight	3.6	96,861	261,883	358,744
	4.05	International Terminal Co.	6.0	161,435	616,143	777,578
	4.07	C & D Estes	7.39	198,924	143,498	342,422
	4.08	Edgeboro, Inc.	109.61	589,776		589,776
	5-8	H. Herbert, D. Herbert & Chaldor, Inc.	103.50	278,565		278,565
	9-11	Edgeboro, Inc.	16.50	44,484		44,484
	12-15	Herbert Sand Co., Inc.	20.00	53,812		53,812
	16	Herbert and Chaldor	20.00	53,812		53,812
	17-24	Edgeboro, Inc.	65.02	175,068		175,068
	25	A. Bartugy	4.0	10,762		10,762
	26-27	Edgeboro, Inc.	5.0	13,453		13,453
	28-32	East Brunswick	25.86			
	33-34	Herbert Land Co.	131.91	559,820	140,628	700,448
	35	D.J. Williams, Inc.	23.0	526,099	944,753	1,470,852
2.03	9.02-	Tower Marine, Inc.	16.29	166,400	8,800	175,200
	9.03					

ownership

SOURCES: EAST BRUNSWICK TAX ASSESSOR'S RECORDS, 1981

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east brunswick, n.j.

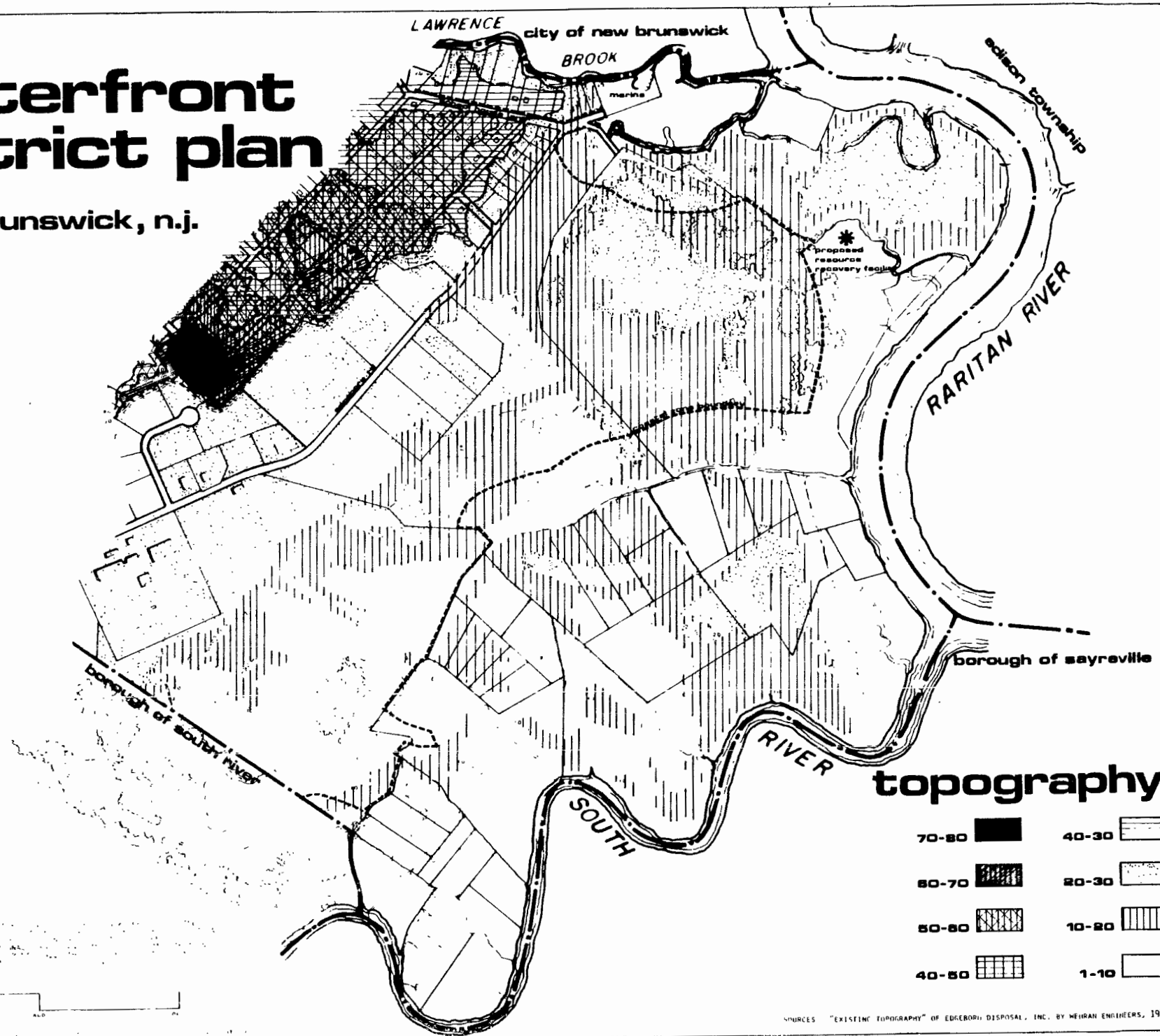


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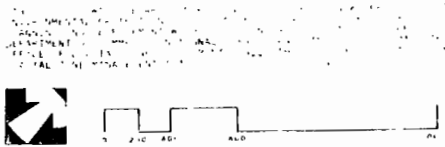


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SOURCES "EXISTING TOPOGRAPHY" OF EDGEBORO DISPOSAL, INC. BY NEIRAN ENGINEERS, 1977

Data for the topography map was produced in 1979, and does not reflect current topographic modifications due to landfilling operations. (See notation on topography map for areas of extensive regrading due to current landfilling.

The marina, tidal marsh areas adjacent to the marina, and areas adjacent to the Raritan River at the junction of the South River are the only apparent virgin land form areas within the coastal zone boundary.

Prominent views from the study area are extensive in an easterly direction along the Raritan basin. To the north, a view of Edison Township, and the completed Kinbuc Sanitary Landfill, which towers to a height of 80'+ is clearly visible. In an easterly direction the principal visual element is the Jersey Central Power & Light generating facility located in Sayreville.

V. Hydrology

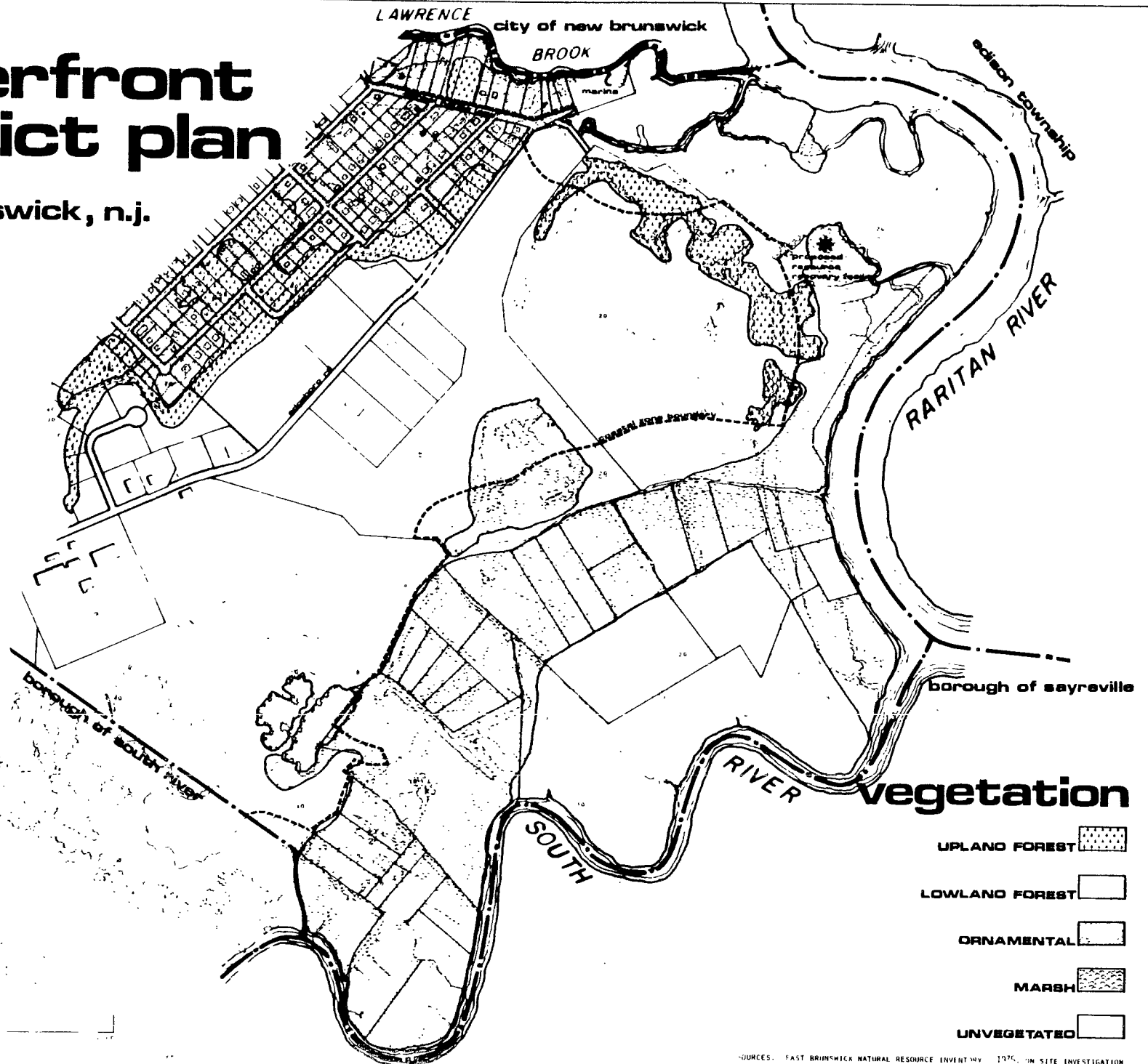
The study area is contained within three separate sub-drainage basins all feeding the regional Raritan drainage basin in which all East Brunswick lands lie.

The upland residentially developed areas to the northwest drains into the Lawrence Brook either directly or via Whitney's Brook. The Lawrence Brook flows directly into the Raritan River, and intersects the Raritan at the marina location. Tidal influences from the Raritan Bay penetrate Lawrence Brook from its mouth at the Raritan upstream to Weston's Mill Dam.

The southern 407+ acre portion of the study area drains directly to the South River either overland through surface swales or first into leachate ponds within the Edgeboro Landfill then into the South River. The South River is classified by the New Jersey Coastal Management Program as a "tidally influenced medium river". Tidal influences extend along the South River from its outlet at the Raritan upstream beyond the study area. Salty or brackish water is carried upstream by each flood tide, and downstream by each ebb tide. Infiltration of the Farrington Sands fresh water aquifer through recharge by brackish surface water has caused considerable concern. Plans for the construction of tidal dams along the Raritan and South Rivers, which would have inundated much of the study area and all lands within the coastal zone boundary, have been abandoned.

waterfront district plan

east brunswick, n.j.



1981



SOURCES: EAST BRUNSWICK NATURAL RESOURCE INVENTORY 1976; ON-SITE INVESTIGATION

"Upland forest" designations, east of Edgeboro Road, are limited to the Clancy's Island area which prior to mining operations was completely vegetated and elevated above the remainder of the surrounding tidal lands. All that remains of the heavily wooded Clancy's Island is the northern edge of the "island" where significant remnants of the "mixed oak", "upland forest" remains. Several specimen size "ornamental" species, probably introduced by past inhabitants, still remain and should be preserved for both their aesthetic and possible historic significance.

VII. Surface Geology

East Brunswick is located within the physiographic province known as the inner coastal plain. Sediments within the coastal plain may be characterized as unconsolidated lying in alternating strata (layers) composed of clay and sand.

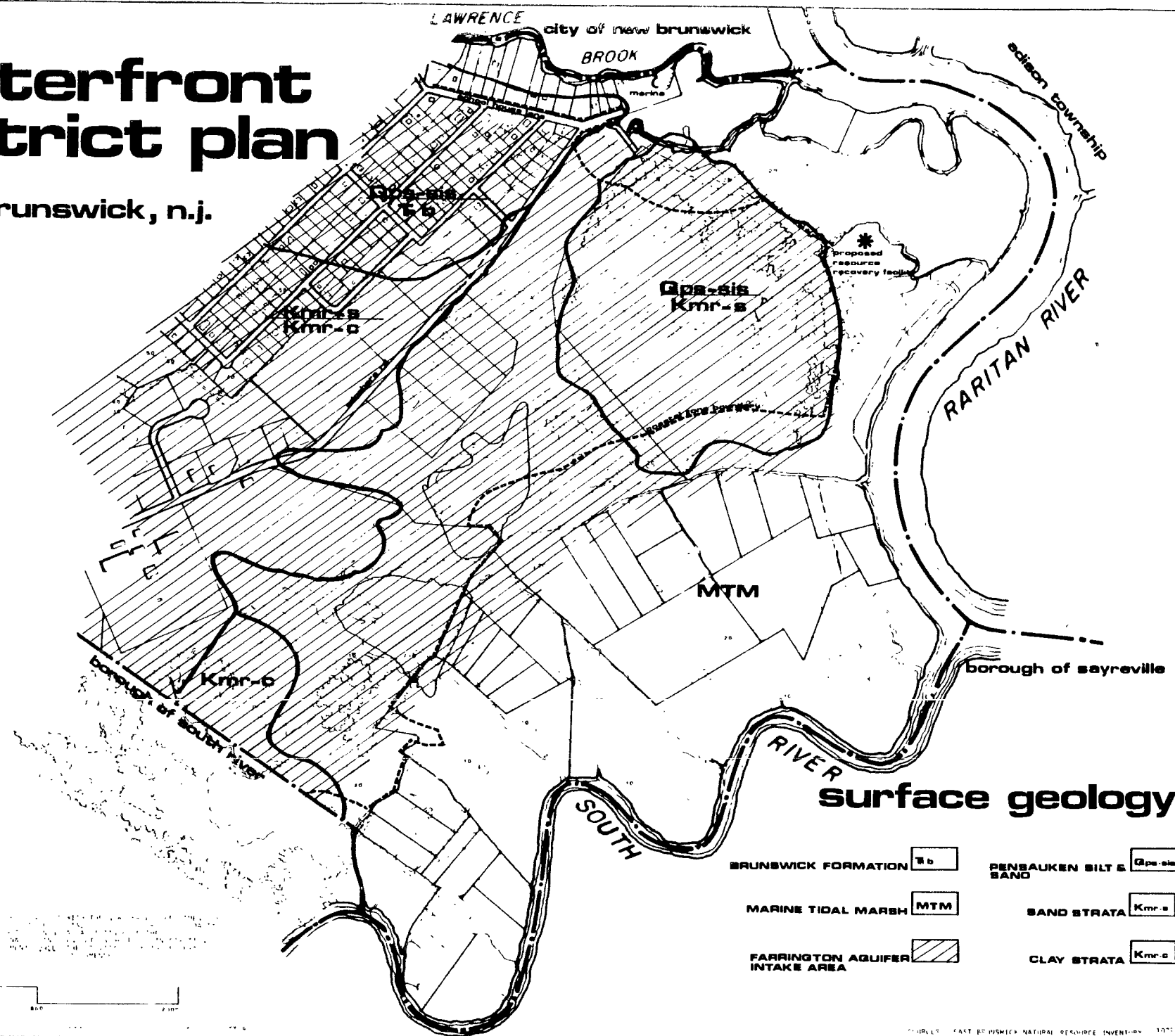
The majority of the study area east of Edgeboro Road except for the Clancy's Island area, is classified as "Marine Tidal Marsh". These areas consist of a decomposed mat of marine organic deposits, of two to five feet in thickness, over highly organic sand, silt, clayey silt, and clay extending down to older underlying formations.

Clancy's Island is classified geology as belonging to the "silt and sand phase" of the "Pensauken formation" overlying "sand strata". The "silt and sand phase" consists of roughly assorted homogeneous material with intermixed gravel.

In addition to geologic information, the surface geology map delineates those areas, due to their geological composition and location, which serve as aquifer intake areas for the Farrington Sands Aquifer. Aquifers are rock or soil strata which store and transmit ground water. Aquifer intake areas are located at points where permeable geologic strata outcrop at the surface permitting water to enter these strata and travel into the water bearing strata. Essentially, all non-tidal locations within the study area are classified as an active aquifer intake area, and are to be developed with consideration for minimizing impervious cover which could restrict the intake of surface water needed to replenish the aquifer.

waterfront district plan

east brunswick, n.j.









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surface geology

BRUNSWICK FORMATION		PENSAUKEN SILT & SAND	
MARINE TIDAL MARSH		SAND STRATA	
FARRINGTON AQUIFER INTAKE AREA		CLAY STRATA	

VIII. Soils

The soils map delineates all soil series types, designated by the U.S. Soil Conservation Service, found in the study area. The soils limitations matrix outlines major land use related soil limitations, and evaluates the development constraints of certain recreational activities and components on soil series types found in the study area.

Much of the disturbed land such as that used previously for sand, gravel or clay mining, and those lands used for sanitary landfill purposes are too heterogeneous for evaluation. The vegetated northern edges of Clancy's Island, classified as hammonton loamy sand, and the "tidal marsh" areas to the north and east are the only remaining native soils which can be evaluated without the need for on-site exploration.

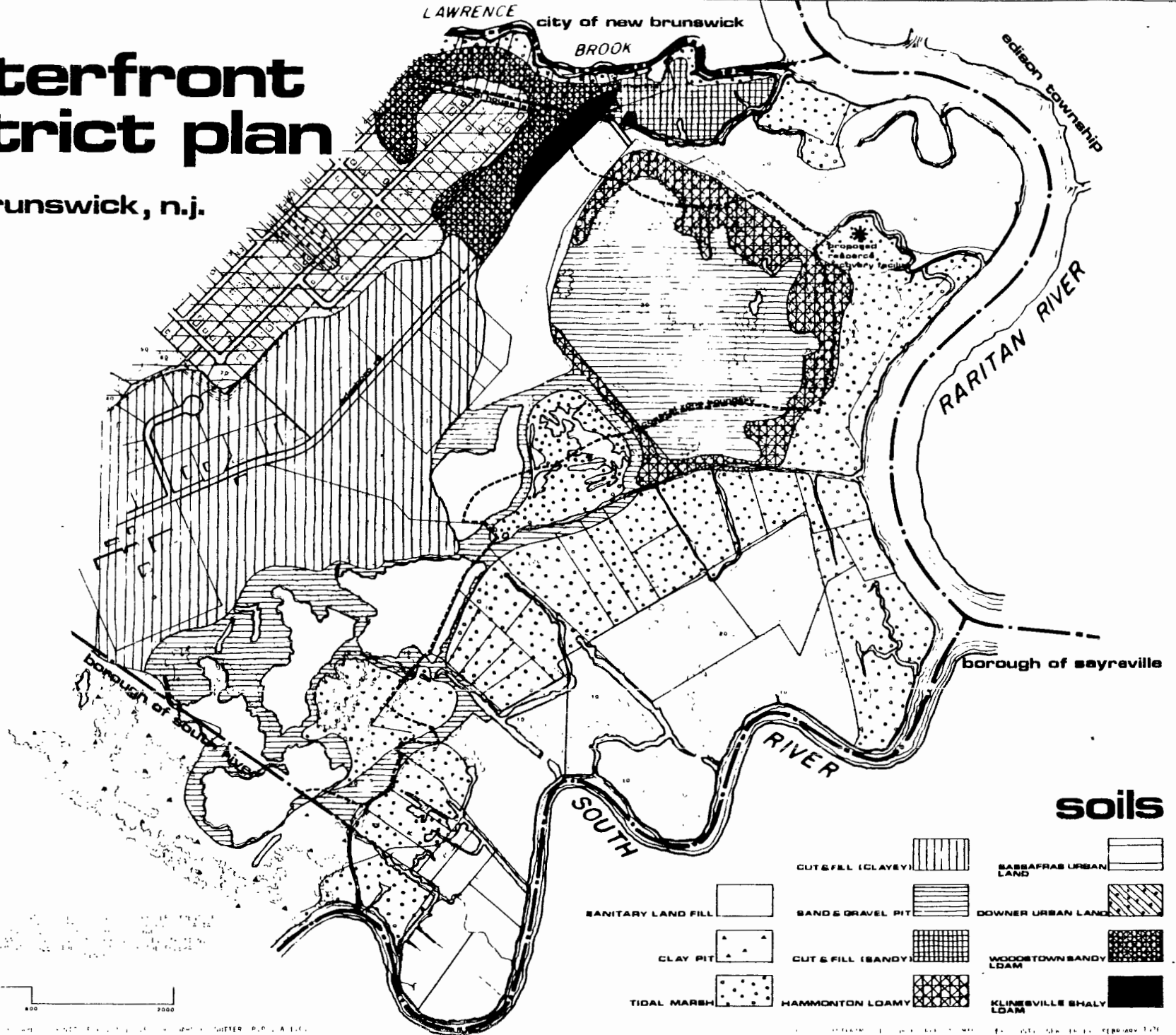
IX. Historical Analysis¹¹

The New Jersey Coastal Management Program specifies that the public interest "requires the preservation of both representative and unique examples of historic and archaeological (cultural) resources of the coastal zone, in order to provide present and future generations with a sense of the people who lived, worked, and used the coast in the past".¹²

The study area contains Bennet's Island, also known as Lawrence's Island and Clancy's Island. This island has played a significant role in New Jersey history.

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east brunswick, n.j.



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PREPARED BY THE PLANNING DEPARTMENT OF THE TOWNSHIP OF EAST BRUNSWICK, NEW JERSEY, IN COOPERATION WITH THE PLANNING DEPARTMENT OF THE BOROUGH OF SOUTH PLAINFIELD, NEW JERSEY.














































soils

<p>Sanitary Land Fill</p>	<p>Cut & Fill (Clayey)</p>	<p>Sassafras Urban Land</p>
<p>Clay Pit</p>	<p>Sand & Gravel Pit</p>	<p>Downer Urban Land</p>
<p>Tidal Marsh</p>	<p>Cut & Fill (Sandy)</p>	<p>Woodstown Sandy Loam</p>
<p>Hammonton Loamy</p>	<p>Klinerville Shaly Loam</p>	

limitations:

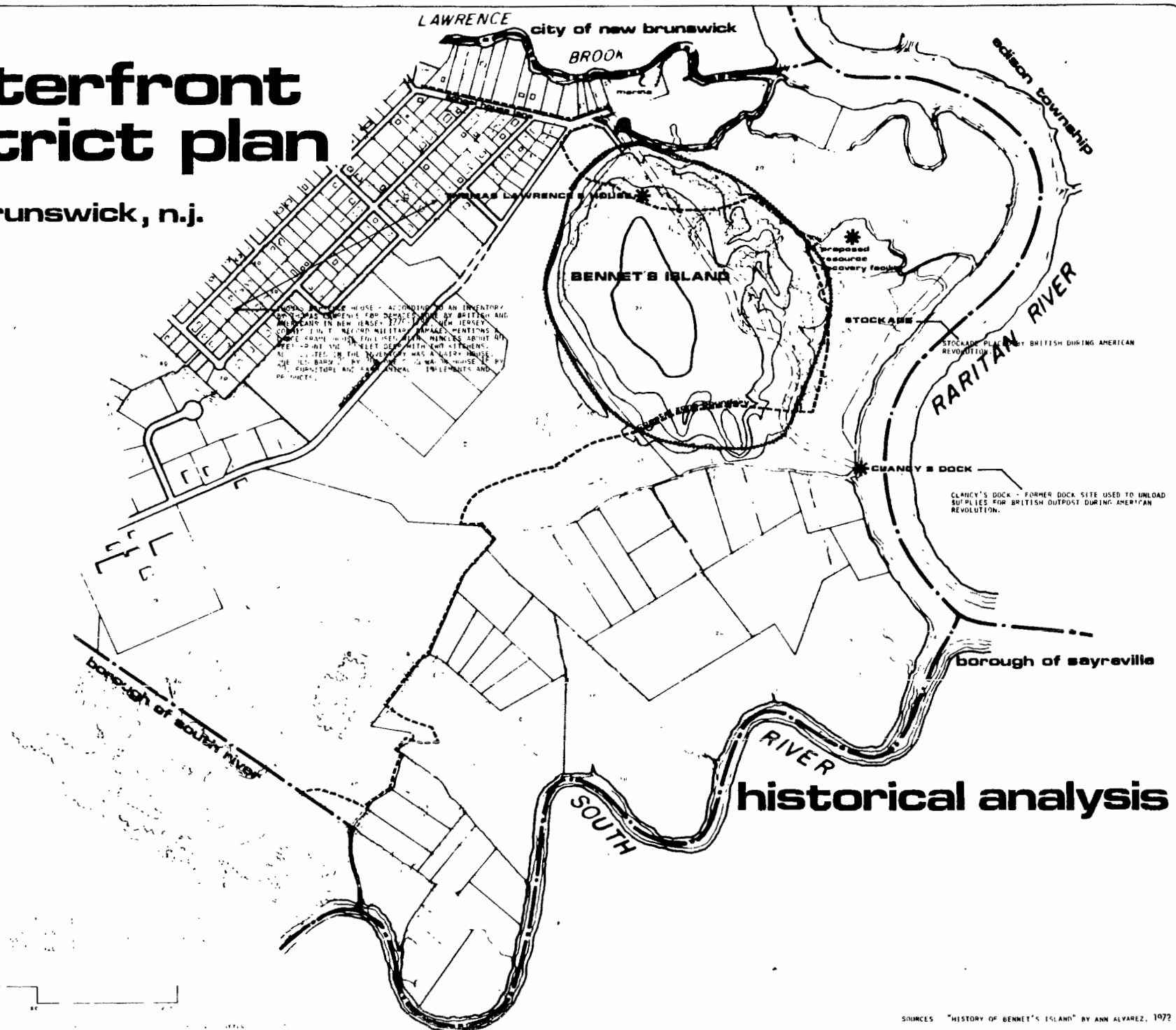
-  none
-  moderate
-  slight
-  severe

soil limitations

soil name and number	depth to bedrock	depth to water table	foundations with basements	local roads	parking lots	camp sites	play areas	picnic areas	paths and trails
tidal marsh c85+									
cut & fill clayey cfc	on-site investigation needed								
sand & gravel pit gp	on-site investigation needed								
cut & fill sandy cfs	on-site investigation needed								
hammorton loamy sand 9j25-b	10+	1-1/4							
sassafras urban land 941u-b	10+	5+							
downer urban land 9j1u-d	10+	5+							
woodstown sandy loam 9423-b	10+	1 1/2-4							
klinesville 5214-c	1-1 1/4	3-5+							

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east brunswick, n.j.



THOMAS LAWRENCE HOUSE - ACCORDING TO AN INVENTORY OF THE HOUSE MADE FOR DESTRUCTION BY BRITISH AND AMERICANS IN NEW JERSEY 1777. NEW JERSEY SOCIETY IN THE RECORDS OF THE HOUSE MENTIONS THE HOUSE WAS BUILT BY THOMAS LAWRENCE ABOUT 1750. THE HOUSE WAS BURNED BY THE BRITISH IN 1777. THE HOUSE WAS REBUILT BY THE LAWRENCE FAMILY IN 1780. THE HOUSE WAS BURNED BY THE BRITISH IN 1777. THE HOUSE WAS REBUILT BY THE LAWRENCE FAMILY IN 1780.

Proposed resource recovery facility

STOCKADE

STOCKADE PLACED BY BRITISH DURING AMERICAN REVOLUTION

CLANCY'S DOCK

CLANCY'S DOCK - FORMER DOCK SITE USED TO UNLOAD SUPPLIES FOR BRITISH OUTPOST DURING AMERICAN REVOLUTION.

historical analysis

1981

City of East Brunswick
Planning Department
100 East Brunswick Avenue
East Brunswick, N.J. 08816
Tel. 732-839-1000



SOURCES "HISTORY OF BENNET'S ISLAND" BY ANN ALVAREZ, 1972

It is believed that Bennet's Island was first occupied by the Indians who chose to settle there because of its location on high ground, and an abundant water supply. Indian artifacts and pottery (now in the Trenton Museum) have been excavated to document this.

Early settlers first arrived via the Raritan River, and began home construction along the river's banks, and only later began moving further inland to begin populating New Brunswick and East Brunswick. Archeological studies have uncovered the home of a Mr. Thomas Lawrence (see historical analysis map) dating from approximately 1745. Thomas Lawrence and his step-son, Cornelius Longfield were once wealthy landowners who owned a large part of what is now East Brunswick.

During the American Revolution General Washington utilized Bennet's Island as a defensive position, in his attempt to prevent the British from overrunning the Middle Atlantic States. The natural defenses created by the river were employed in attempting to slow the advancing British. However, due to the fordability of the river, Washington was soon forced to withdraw.

Bennet's Island fell to the British on December 1, 1776. This British outpost, with its advantageous lookout point, was used by New Jersey Loyalists commanded by Col. Skinner to warn British troops in the event of attack. The Loyalists erected a stockade around the Island, and occupied Lawrence's home.

On February 18, 1777 a secret expedition led by Col. James Neilson attempted to reclaim the Island from the British. The Americans were able to capture several prisoners and supplies but were not able to re-capture the Island. It is recorded that this expedition was responsible for raising the low morale of local residents sympathetic to the American Patriots cause.

The Island was finally evacuated by the British on June 20, 1777, two days before the evacuation of New Brunswick. All the construction that was previously standing was burned.

Archeological excavations were conducted in the late 1930's by Mrs. Dorothy Cross and her Rutgers Archeological class. Further excavations were conducted in the 1970's, and it is believed that additional excavation could yield new information and artifacts clarifying the history of the site.

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X. Special Areas

The special areas map indicates those areas designated "special" in the New Jersey Coastal Management Program, August 1980. The "special areas" in the coastal zone area of East Brunswick include: navigation channels, marina moorings, submerged infrastructure routes, wet burrow pits, filled waters edge, natural water's edge-floodplains, wetlands, historic and archaeological resources, public open space and dry borrow pits.

A. Navigation Channel

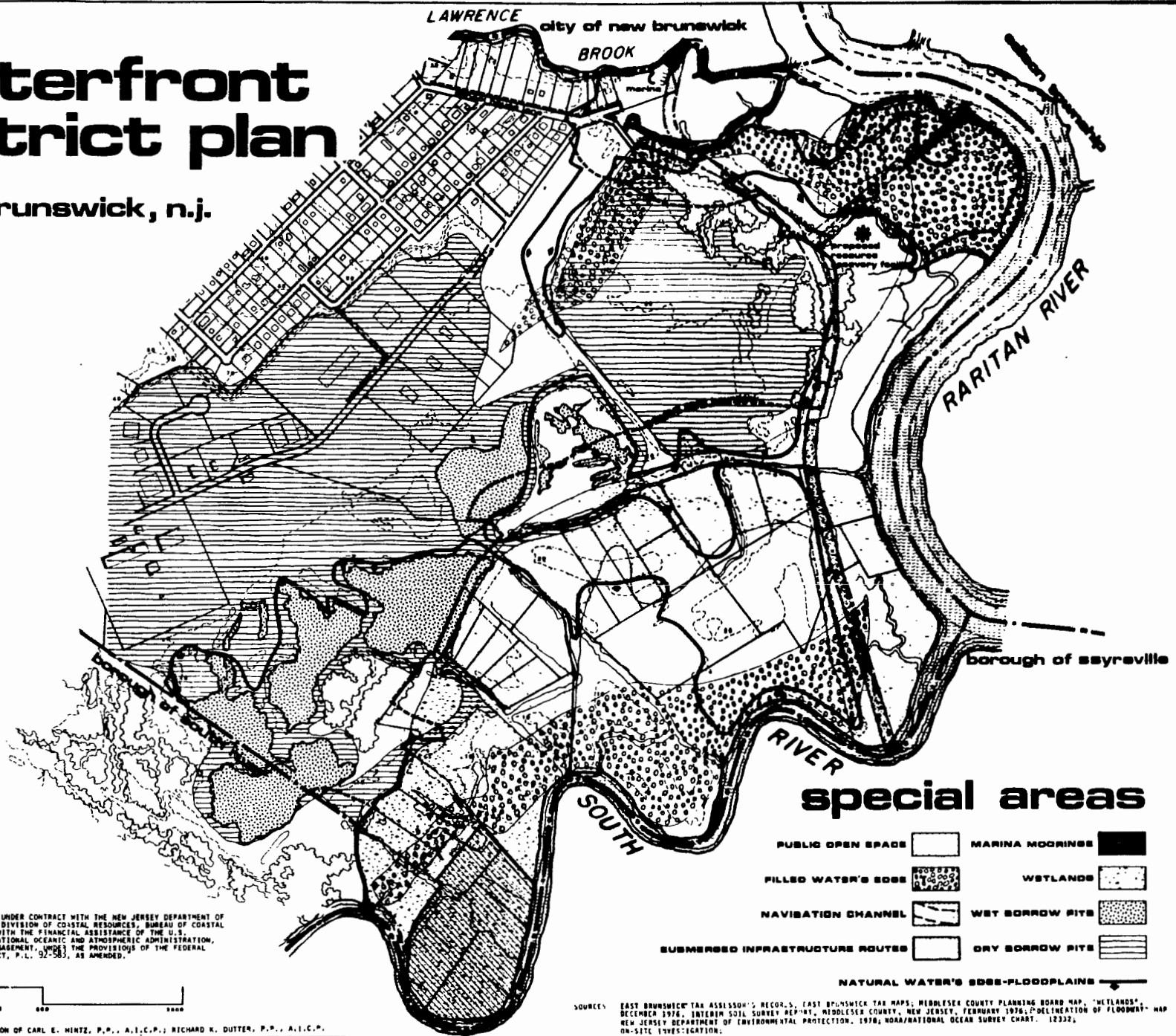
The section of the Raritan River along East Brunswick's border is a navigation channel. The South River bordering this area of East Brunswick is not a navigation channel.

B. Marina Moorings

There is an existing marina on the Lawrence Brook near the confluence with the Raritan River. This marina requires dredging and other work to provide the necessary facilities for recreational boating.

waterfront district plan

east brunswick, n.j.



1981

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special areas

PUBLIC OPEN SPACE		MARINA MOORINGS	
FILLED WATER'S EDGE		WETLANDS	
NAVIGATION CHANNEL		WET BORROW PITS	
SUBMERGED INFRASTRUCTURE ROUTES		DRY BORROW PITS	
NATURAL WATER'S EDGE-FLOODPLAINS			

SOURCES: EAST BRUNSWICK TAX ASSESSOR'S RECORDS; EAST BRUNSWICK TAX MAPS; MIDDLESEX COUNTY PLANNING BOARD MAP, "WETLANDS", DECEMBER 1976; INTERIM SOIL SURVEY REPORT, MIDDLESEX COUNTY, NEW JERSEY, FEBRUARY 1976; "DELINEATION OF FLOODWAY" MAP NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, 1978; NOAA/NATIONAL OCEAN SURVEY CHART, 12332; ON-SITE INVESTIGATION.

C. Submerged Infrastructure Routes

The Middlesex County Utilities Authority (MCUA) has a trunk sewer line running from the Lawrence Brook to the South River. A pipe branches off from this line to the Raritan River.

D. Wet Borrow Pits

The wet borrow pits are a result of previous mining operations, and most are part of the Edgeboro Landfill. Some of these pits are being used as leachate ponds for the landfill.

E. Filled Water's Edge

The filled waters edge areas are the result of completed landfill. This area is mostly along the South River and a section of the Raritan River.

F. Natural Water's Edge - Floodplains

The map delineates the Flood Hazard areas in the coastal zone as delineated by DEP.

G. Wetlands

East Brunswick's Wetlands are in the Raritan Basin and subject to the Wetlands Act of 1970. The lands classified as Wetlands are along the Raritan River, and then cut a swathe through the coastal zone area to the South River.

H. Historic and Archaeological Resources

See Section IX. Historical Analysis

I. Public Open Space

The Public Open Space in the Coastal Zone is land owned by the Township of East Brunswick. The parcel contains 25.86 acres adjacent to the South River left in its natural state.

J. Dry Borrow Pits

The dry borrow pits were caused by sand, gravel, clay and stone mining activity. Some of the dry borrow pits are being used as part of the landfill operation.

notes and sources

- 1 N.J. Department of Environmental Protection, Division of Coastal Resources, Final Environmental Impact Statement, New Jersey Coastal Management Program, August 1980, page 311.
- 2 New Jersey Coastal Management Program, page 323.
- 3 New Jersey Coastal Management Program, page 323.
- 4 New Jersey Coastal Management Program, page 88.
- 5 New Jersey Coastal Management Program, page 183.
- 6 New Jersey Coastal Management Program, page 231.
- 7 Wheelabrator-Frye, Inc., Edgeboro Resco, Resource Recovery for Middlesex County, Executive Summary, 1981, page 1.
- 8 New Jersey Coastal Management Program, page 121.
- 9 New Jersey Coastal Management Program, page 140.
- 10 Bennett, Margaret and Associates, Natural and Historic Resource Association, Natural Resources Inventory of East Brunswick Township, 1975, page 101.
- 11 Alvarez, Ann, "History of Bennet's Island", 1972.
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East Brunswick Tax Maps

East Brunswick Zoning Map

New Jersey Department of Environmental Protection, "Delineation of Floodway" Map, 1978

Wehran Engineers, "Existing Topography of Edgeboro Disposal Inc.", 1977

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part 2
alternatives

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I. Introduction

The analysis done for Part I revealed the following constraints to the further development of the Coastal Zone:

- a. existence of landfills
- b. environmental impact of landfills on surrounding uses
- c. existence of natural areas
- d. impact of existing uses
- e. availability of access to Coastal Zone by water and road

The following explains these constraints in detail.

a. Existence of Landfills

The former and existing landfill areas are almost entirely precluded from development for the next twenty (20) years while the deposited refuse material settles and decays. This is a time period that is recognized for the maturation of landfills, and it is generally recommended that no development occur on landfills until they have had proper time to settle and age. Therefore, to suggest a land use for these areas in the next 20 years is not appropriate. In the interim, these areas should be revegetated and reforested in accordance with research done for these purposes at landfill sites (see Section II, A2).

b. Environmental Impact of Landfills on Surrounding Areas

- Air quality is affected by the offensive smells which emanate from the Edgeboro Landfill as well as from the Kin Buc and Global Landfills which are located across the river. Smells fluctuate with wind movement in the area, but were very noticeable each time the area was visited.

- Visual quality is not the best. While vegetated cover on the landfills is provided, evidence of debris can be seen. The vegetation itself is low, mostly sedges and grasses.

c. Existence of Natural Areas

Good planning dictates that areas with steep slopes and marshlands should be preserved in their natural state.

d. Impact of Existing Uses

The presence of homes in close proximity to the vacant land affects how that land should be developed. Likewise, the existing industrial uses will be a factor in the development of the vacant land.

e. Availability of Access to Coastal Zone by Road and Water

There is only one access point to the Marina which is located in East Brunswick's Coastal Zone. This access is Schoolhouse Lane. Presently, Schoolhouse Lane, which is a two lane road, can only be reached by travel through a residential area. A direct outlet from Schoolhouse Lane to Route 18 avoiding the residential area was cutoff by an expansion of the New Jersey Turnpike in the 1970's. Edgeboro Road also comes close to the marina, but does not service it directly, except by a dirt road which is full of chuck holes.

The tidal marsh, landfill and steep slopes along the northern edge of the Coastal Zone makes the area inaccessible by water. Only the marina can be reached by water.

II. Waterfront District Plans

A. Introduction

While two alternate plans have been developed for the Coastal Zone, several components are common to both. The components, as discussed below, are:

1. treatment of landfill (reforestation and revegetation)
2. buffering
3. public access

1. Treatment of Landfill (Reforestation and Revegetation)

In a study entitled "Critical Factors Controlling Vegetation Growth on Completed Sanitary Landfills" by Edward Gilman, Ida Leone and Franklin Flower, the authors recommend that landfills should be reforested with plants meeting the following criteria:

- Species recommended for planting are Black Gum (*Nyssa sylvatica*), Japanese Black Pine (*Pinus thunbergi*) and Ginkgo (*Ginkgo biloba*).
- These species should be planted, balled and burlaped for better life expectancy.
- Trees should be approximately 30-60 centimeters (15-30 inches) tall when planted.
- Methane should be collected in accordance with state recommendations and regulations to allow for minimum disturbance to the trees.

2. Buffering

Residential uses must be protected from the other uses in the coastal zone.

The edge of the area bordering the existing landfill should have increased vegetation in order to buffer the residential area, which is approximately three quarters to one mile away, from the landfill as well as from other future uses in the Edgeboro Road area. The area should be additionally vegetated with species consistent with the area, namely:

Red Maple (*Acer rubrum*)
Red Oak (*Quercus rubra*)
Pin Oak (*Quercus palustris*)
Hemlock (*Tsuga canadensis*)
Austrian Pine (*Pinus nigra*)

3. Public Access

-An improved roadway into the marina area must be provided in either Alternate Plan. Without this improvement, public use of the marina will be severely limited. Due to the residential development, Schoolhouse Lane cannot be considered for this access.

-An improved marina must be developed to provide public access to the waterfront. Given the topography in the area, this is the only logical location for waterfront activities.

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III. Alternate 1

For the most part, the entire waterfront district area is either a current landfill or a former landfill area. There are some areas that have been untouched by man and remain natural marsh. The most developable portion of the waterfront area is the existing marina and the adjacent acreage.

Alternate 1 provides for Edgeboro Road to be extended to connect directly to the marina and thus provide better access to the Coastal Zone. If this extension were to be made, one of the issues involved would be to prevent commercial traffic from Edgeboro Road from entering the residential streets via Schoolhouse Lane. Ways of preventing such an occurrence are as follows:

1. Using Schoolhouse as an emergency exit only for the marina and having Edgeboro Road the major access to the marina.
2. Providing for an overhead barrier which would limit the height of any vehicle to twelve (12') feet. This was done recently in Princeton Township in order to prevent heavy vehicles from using a local bridge.

Vacant land adjacent to the marina makes it possible for the marina to expand or for other uses to develop. A new usage could be a park, in conjunction with dockage at the marina.

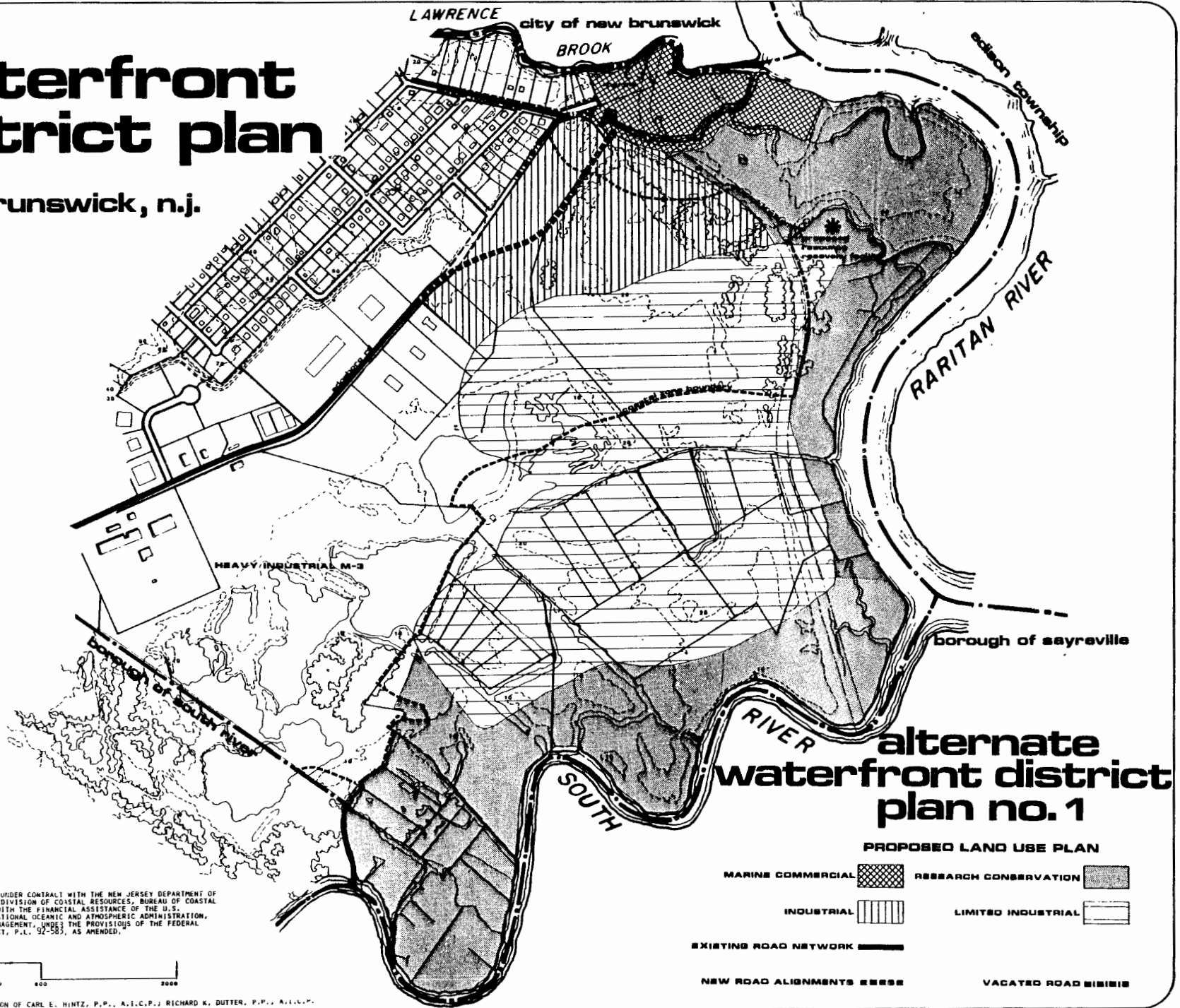
Some of the reasons for a park in this area are:

1. It provides accessibility by water to other parks along the Raritan River (Johnson Park, Edison Boat Slip, Donaldson Park and Open Space, etc.)
2. It is the only area in East Brunswick Township which could provide for boat access to the Raritan Bay and thus to the Atlantic Ocean without driving to shore areas or to other marinas further away.

There are, however, several impediments to this park usage (see I-b).

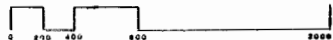
waterfront district plan

east brunswick, n.j.



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alternate waterfront district plan no. 1

PROPOSED LAND USE PLAN

- MARINE COMMERCIAL
- INDUSTRIAL
- EXISTING ROAD NETWORK
- NEW ROAD ALIGNMENTS
- RESEARCH CONSERVATION
- LIMITED INDUSTRIAL
- VACATED ROAD

The proposed Land Use Plan provides for several future uses including: marina commercial, industrial, research/conservation, and limited industrial. The proposed zoning which will follow the Land Use Plan provides for the specifics of each of these future land uses.

A marina/mixed use (MMU) zone is proposed to allow for upgrading and expansion of the marina area and Tower Marina. This will permit a mix of uses including commercial such as restaurants, shops, and boat sales as well as uses normally associated with marinas such as boat rental, boat repair, dockage, and dry docking. The zone area is based upon cleared land that is immediately adjacent to the existing marina as well as the marina itself. Since the land has already been filled, and is essentially devoid of vegetation, the proposed uses will not be in conflict environmentally. The uses proposed assume an optimistic market for such facilities, and increased public demand for small boat facilities, and for boating on the river.

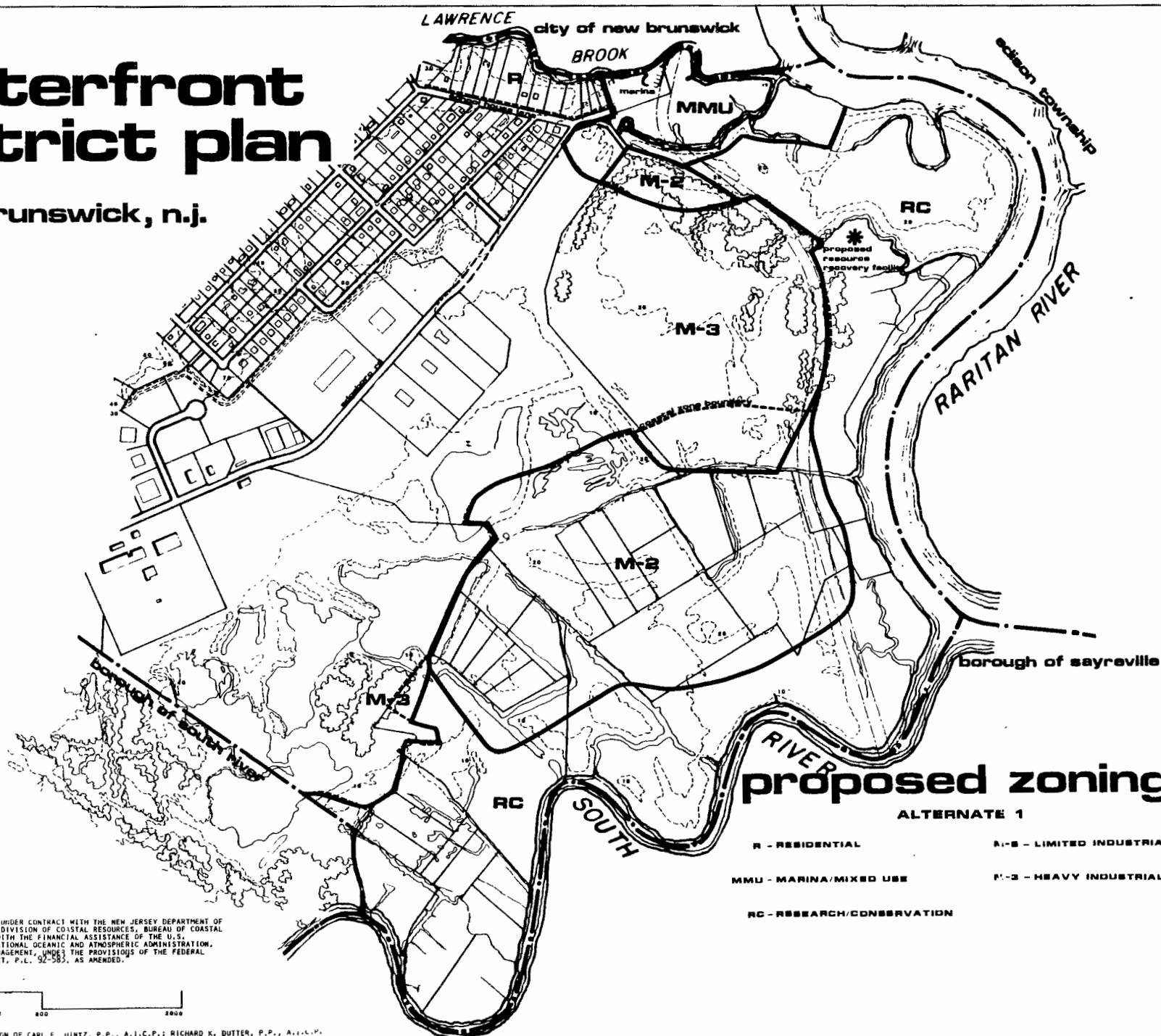
The proposed research/conservation (RC) zone is a zone which recognizes the limited capabilities of the land designated on the Land Use Plan as research/conservation. The area has for the most part been landfilled over time, and must remain undeveloped until such time that the landfill is mature. The zone is designated to allow for low intensity research uses that would take advantage of an assumed low land cost in the future, and yet, would not require major structural foundations to be placed over the former landfill area. Conservation, the other use proposed for this zone, recognizes the tidal wetlands that are found in this area, and would require easements to restrict the use of those lands.

The industrial areas that border the Coastal Zone as well as in the coastal zone itself (which are presently landfilled) are proposed for limited industrial (M-2) use such as light manufacture of various products including pharmaceuticals, toilet supplies and food products. The proposed heavy industrial area (M-3) is the same zoning that is presently in the area. It is projected that these uses will continue or will expand. These include manufacturing as well as some warehouse and trucking operations.

The Land Use Plan also calls for a realignment of Edgeboro Road to access directly to the marina. This road will also serve the industrial uses that will come adjacent, but does not anticipate major trip generating types of uses.

waterfront district plan

east brunswick, n.j.



proposed zoning ALTERNATE 1

- R - RESIDENTIAL
- M-2 - LIMITED INDUSTRIAL
- MMU - MARINA/MIXED USE
- M-3 - HEAVY INDUSTRIAL
- RC - RESEARCH/CONSERVATION

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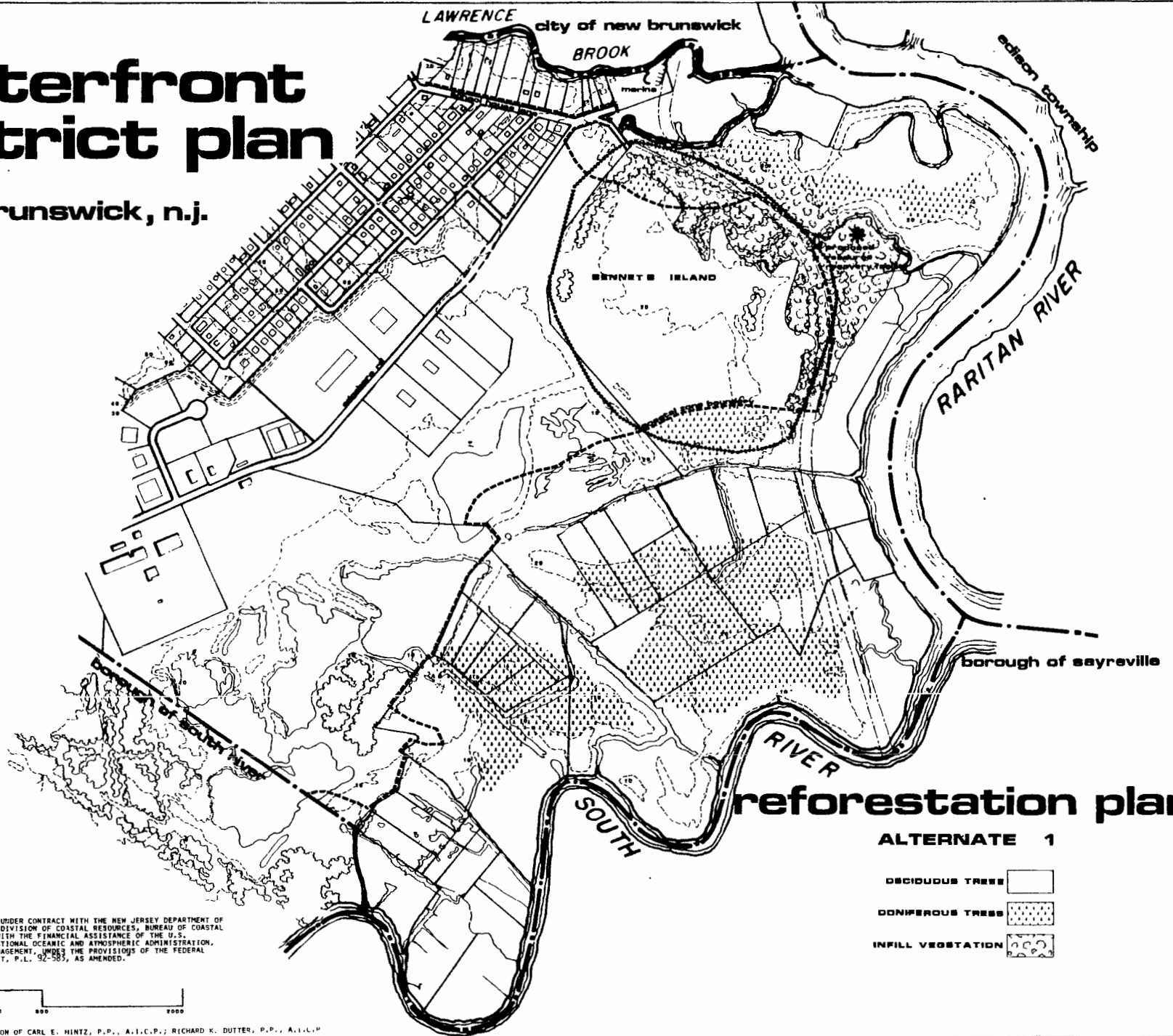
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

waterfront district plan

east brunswick, n.j.



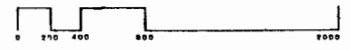
reforestation plan

ALTERNATE 1

- DECIDUOUS TREES 
- CONIFEROUS TREES 
- INFILL VEGETATION 

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Tower Marina is proposed to be revitalized, reconstructed and slightly expanded by Alternate I Plan. As described in the proposed zoning above, the marina will include a variety of uses not presently found. The cost of the new bulkheading is expected to run in the range of \$400,000. In addition, there will be some bulkheading and new dockage needed along the present bulkheaded area of the Tower Marina. No cost estimates have been prepared at this time for that work.

IV. Alternate 2

Alternate No. 2 has been prepared with the assumption that a resource recovery facility, as described in Part I - Analysis, will be constructed within the study area. It is anticipated that the development of such a facility will generate additional industries which will service and use the by-products from this facility, and also will bring about increased industrial development throughout the district. This industrial growth will accentuate the need for a second major point of vehicular access to the area. This new access route will provide a direct full interchange with New Jersey Route 18 (see East Brunswick Master Plan - Economic Health Amendment).

The proposed new roadway is illustrated on the plan as paralleling Edgeboro Road in those areas where additional land is available for general industrial development. This roadway, in addition to providing an alternate means into the industrial area, will also open up this land locked portion of potentially developable industrial land. The proposed roadway will merge with the existing Edgeboro Road as it travels north, and will then extend the existing Edgeboro Road at its northern terminus, eastward to service the proposed resource recovery facility. This roadway extension will also be used to provide access to the marina and all recreational lands planned adjacent to the marina. The existing access to the marina via Schoolhouse Lane will be terminated as proposed in plan Alternate No. 1.

Areas currently in active landfill, as well as those areas of landfill which have been approved in accordance with D.E.P. plans, are proposed for completion in the proposed plan Alternate No. 2. Following the active use of the landfill, this area will be revegetated as described in Alternative No. 1, and ultimately developed some 20+ years following the completion of the landfill for uses to be determined at a future date.

The area immediately north of the easterly extension of Edgeboro Road, and south of the natural vegetative buffer forming the northern edge of Clancy's Island, which is adjacent to the proposed resource recovery facility, is planned for general industrial development. More specifically, this location is ideal, due to its proximity to the proposed resource recovery facility, for allied uses to the facility, such as the processing of recycled ferrous metals and other by-products generated from the facility.

The area located west of the access road to the marina is a completed landfill which is nearing its maturity. This is proposed for office/research uses, such as those currently allowed within the Township's Planned Industrial (P-I). These uses should be strictly regulated, and required to provide substantial buffer areas between the proposed use and any existing residential area. In addition, the office/research use shall be designed to assure architectural compatibility and compatible scale relationships with any surrounding uses.

All existing natural "wetland" special areas shall be preserved and designated "conservation area". These lands shall be protected in perpetuity through the use of restrictive covenants and conservation easements which shall be established at the time of site plan approval for any industrial use which chooses to locate in the area. Increased building floor areas shall be permitted as an incentive for the preservation of these wetland areas. These water edges are critical to the preservation of the few remaining natural wildlife habitats in the Coastal Zone Area located within East Brunswick.

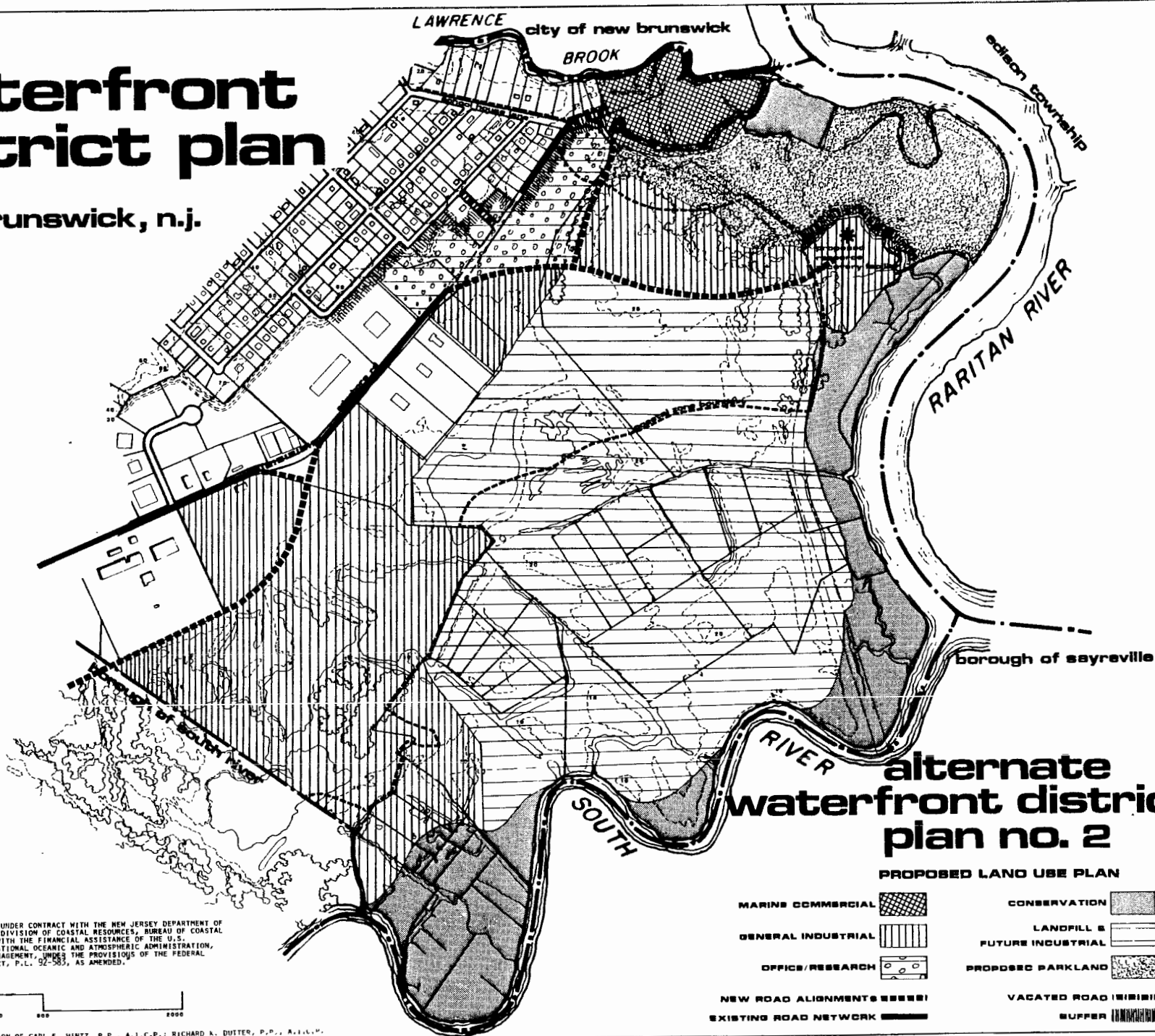
The natural "wetland" areas adjacent to the marina comprising approximately 6.5 acres shall be designated as a limited nature study area. This area should be preserved as is, except for the introduction of an unobtrusive walkway, and other necessary devices to permit pedestrian inspection of the area. This area will permit park visitors to study the aquatic vegetation and wildlife present in the coastal wetland areas of the Raritan River.

The area of completed landfill north of Clancy's Island, as well as the existing vegetative buffer forming the north rim of Clancy's Island, is to be set aside for recreation usage. The area of completed landfill is generally flat, and is conducive to the development of unstructured playfields. It is not proposed that any permanent structure be located within this area, but merely that the area should be seeded to permit open and unstructured use of the fields. Shade trees should be introduced to help delineate space, and provide an environment more compositive to human scale.

Parking for this limited recreational facility shall be provided through a shared parking arrangement with the commercial marina facility. Pedestrian access shall be provided via a bridge from the marina site.

waterfront district plan

east brunswick, n.j.



alternate waterfront district plan no. 2

PROPOSED LAND USE PLAN

- | | | | |
|-----------------------|--|------------------------------|--|
| MARINE COMMERCIAL | | CONSERVATION | |
| GENERAL INDUSTRIAL | | LANDFILL & FUTURE INDUSTRIAL | |
| OFFICE/RESEARCH | | PROPOSED PARKLAND | |
| NEW ROAD ALIGNMENTS | | VACATED ROAD | |
| EXISTING ROAD NETWORK | | SUFFER | |

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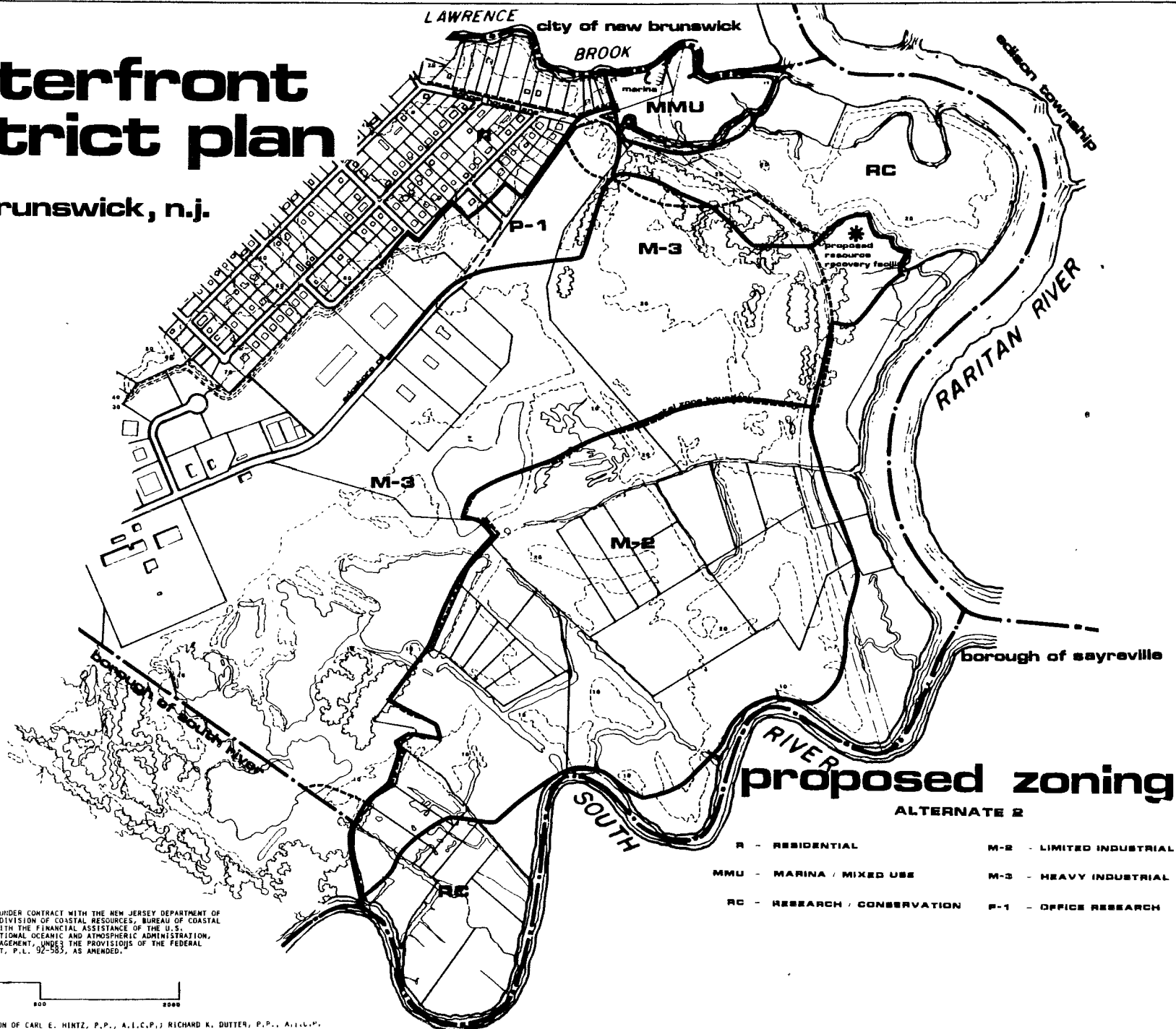
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waterfront district plan

east brunswick, n.j.



proposed zoning ALTERNATE 2

- R - RESIDENTIAL
- M-2 - LIMITED INDUSTRIAL
- MMU - MARINA / MIXED USE
- M-3 - HEAVY INDUSTRIAL
- RC - RESEARCH / CONSERVATION
- P-1 - OFFICE RESEARCH

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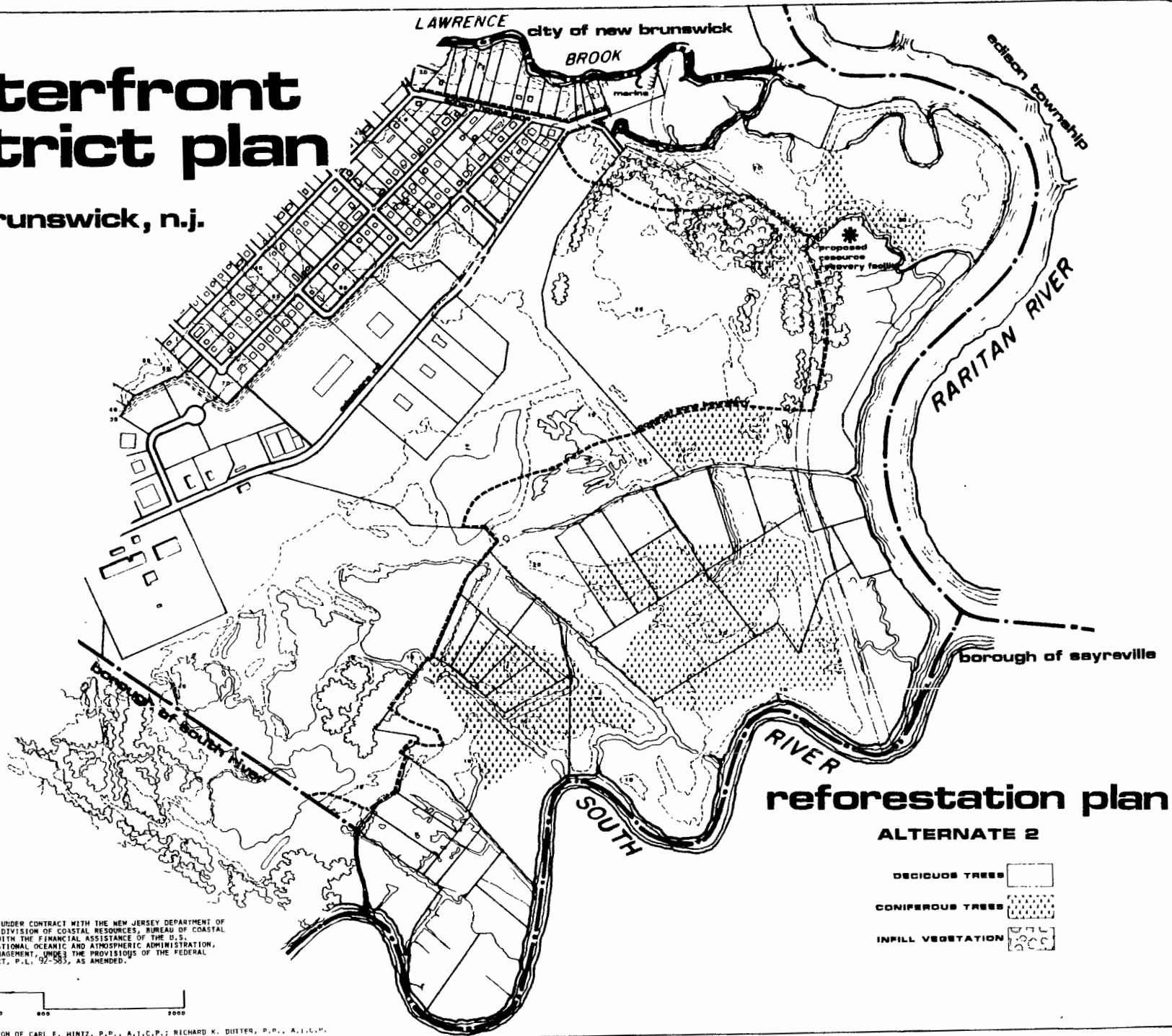
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
waterfront district plan

east brunswick, n.j.



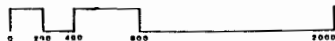
reforestation plan

ALTERNATE 2

- DECIDUOUS TREES 
- CONIFEROUS TREES 
- INFILL VEGETATION 

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The redevelopment of the marina site will be a private venture. This revitalization will be of a low key nature and will primarily provide for the storage and launching of small private boats, a rental facility for small nonpower boats and required accessory uses, such as a snack bar, bait shop, and a small boat repair shop (see detailed description of marina revitalization plan 1"=50').

V. Marina Revitalization

A. Introduction

The marina is proposed to be improved and revitalized. Two alternative design schemes are presented at a scale of 1":50'. Each incorporates an enclosed boat facility with a lift for small boat storage as the demand for small boating is projected to be greater than for larger vessels. Special standards are recommended which are applicable to both alternatives. These are:

1. Setbacks - No building or structure shall be erected or maintained within 100 feet of any residential district boundary line. In all other cases, front, side, and rear setbacks shall not be less than 25 feet.
2. Buffer Strips - Surrounding any use, there shall be a buffer area with a minimum width of 25 feet, planted and landscaped with a mixture of deciduous and coniferous materials at a minimum height of four (4) feet, and maintained at a minimum of six (6) feet. An earth berm of a minimum of three (3) feet may be installed to enhance the buffer.
3. Maximum Height - Principle uses, 35 feet; accessory uses, 30 feet.
4. Maximum Lot Coverage - The area lot coverage by principle and accessory uses shall not exceed 60% of the site.
5. Parking - Restaurant: 1 space/four seats
Shops: 1 space/one hundred square feet
Marina: 1 space/boat slip
Boat Repair: 1 space/six hundred square feet
6. Signs - Each use may have one double faced free-standing or hanging sign, not exceeding four square feet in area.
7. Permitted Uses - Restaurants, boat storage buildings, boat repair, exterior boat storage, retail sales, recreational boat piers.

B. Alternate I Marina Plan

The Alternate I detailed plan (1":50') provides for maximum utilization of the marina and adjacent area. Aside from general physical improvements to the site, such as improving access, and paving the parking areas, the following are key features of the design:

- 400+ small boat enclosed boat house, with a mechanical lift system, for boat storage. This assumes a high demand for such boat slips.
- A small "fishing village" consisting of small scale structures, (one story buildings with 1 to 2,000 square feet), to house such uses that are found in similar waterfront areas e.g. restaurant, fish store, crafts store, gift shop, etc.
- Picnic areas (two) for public use.
- Public walk areas, and public fishing docks, to be accessed by walkways and boardwalks.
- A large restaurant and entertainment facility housed in a ferry boat permanently moored near the center of other activities at the marina.
- A boat repair yard with crane, tool sheds, and equipment areas to service large and small boats.
- A small boat rental facility for row boats and small sailing craft.
- A boat sales office for servicing and retailing small boats, sailboats and outboard motors.
- A winter storage for larger boats on the paved parking areas.
- The walkways, parking lots, and village shop area should be landscaped with vegetation tolerant of microclimatic conditions. Shrubs such as bayberry, juniper, rose, holly, and viburnum, and trees such as Planetree Maple, hemlocks, American Holly, Japanese Black Pine, and Condon Planetree should be used.
- The small stream channel on the easterly side of the existing marina should be bulkheaded for a depth of 30' at a cost of \$400,000+.

waterfront district plan

east brunswick, n.j.

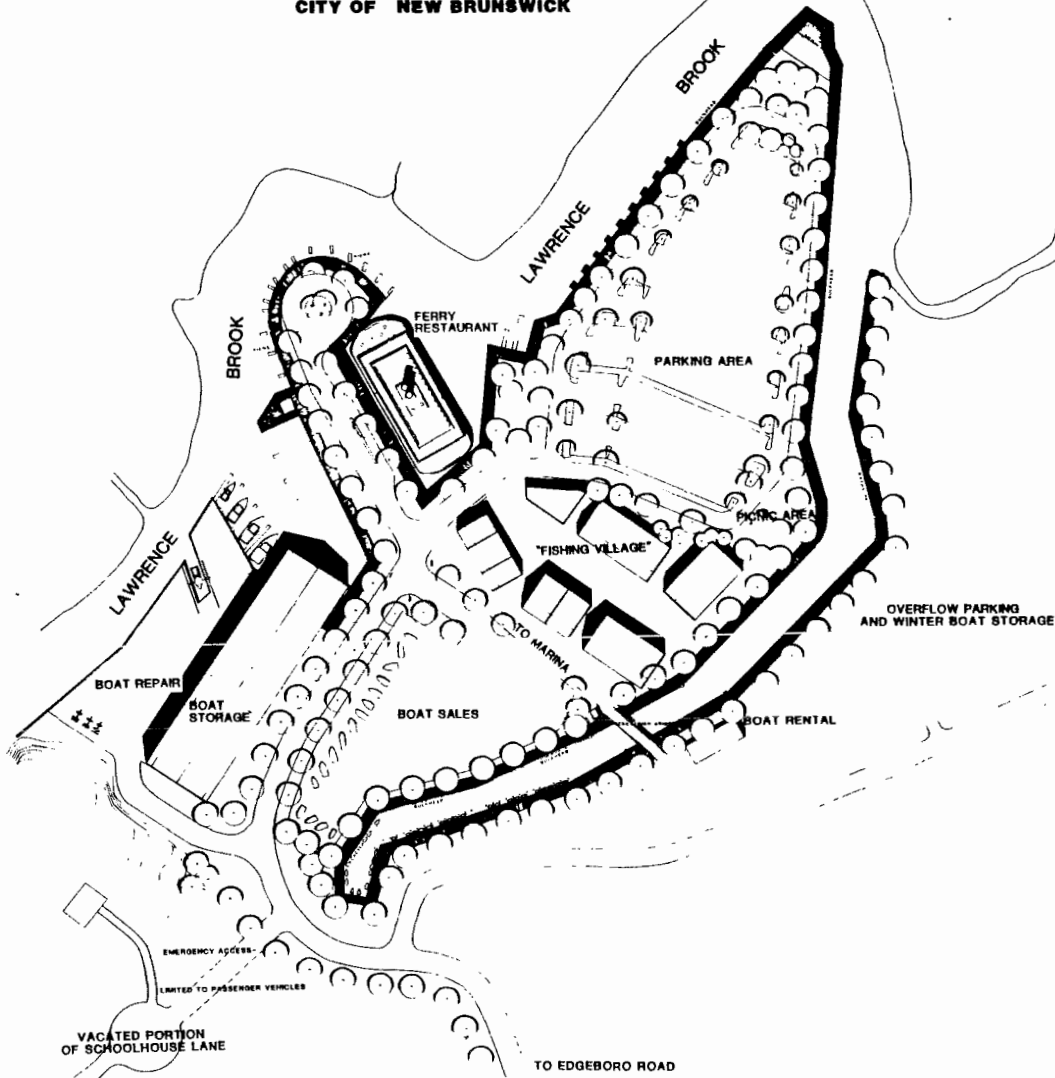
EDISON TOWNSHIP

RARITAN

RIVER

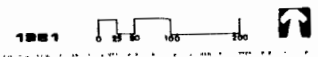
CITY OF NEW BRUNSWICK

CONSERVATION AREA



alternate 1

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C. Alternate 2 Marina Plan

The Alternate 2 detailed plan (1"=50') calls for the limited redevelopment of the existing marina site, and unstructured recreational use of the adjacent lands to the east.

Active marina uses are planned for frontage areas on the Lawrence Brook where views to the west and southwest are of a pleasant character. Views to the west, and toward the property owned by the City of New Brunswick is of a natural wetland area extending to a hillside of deciduous vegetation. Views to the southwest, upstream the Lawrence Brook are quite pleasant and provide the best setting for the redevelopment of the marina facilities. This area presently contains the existing boat slips which can be refurbished through minimal repair of the existing bulkhead facilities.

Access to the marina, and to the adjacent field areas, will be via the extension planned off of Edgeboro Road (see overall Plan Alternate II). This roadway will lead to a 430 car landscaped parking area, which will service both the marina and adjacent unstructured recreational park area. The parking lot is to be bisected by a pedestrian walkway and bikeway to permit access to the marina facilities, and to the unstructured recreational fields via a pedestrian bridge over the water inlet to the east of the marina.

On the Lawrence Brook, the existing boat slip area is to be revitalized by reinforcing the existing bulkhead, and by installing a boardwalk along the edge to permit better pedestrian access to the boat slips. This boardwalk is to extend along the entire Lawrence Brook waterfrontage, and will provide a pleasant pedestrian environment, and will facilitate small boat access. In addition, this boardwalk will be used by the public as a fishing dock.

At the southwest corner of the marina site the existing structures are to be converted to house a marina office and boat repair shop. This area will accommodate winter dry dock storage facilities which shall extend into portions of the proposed parking lot if needed. A small nonpower boat rental facility will also be provided in this area.

waterfront district plan

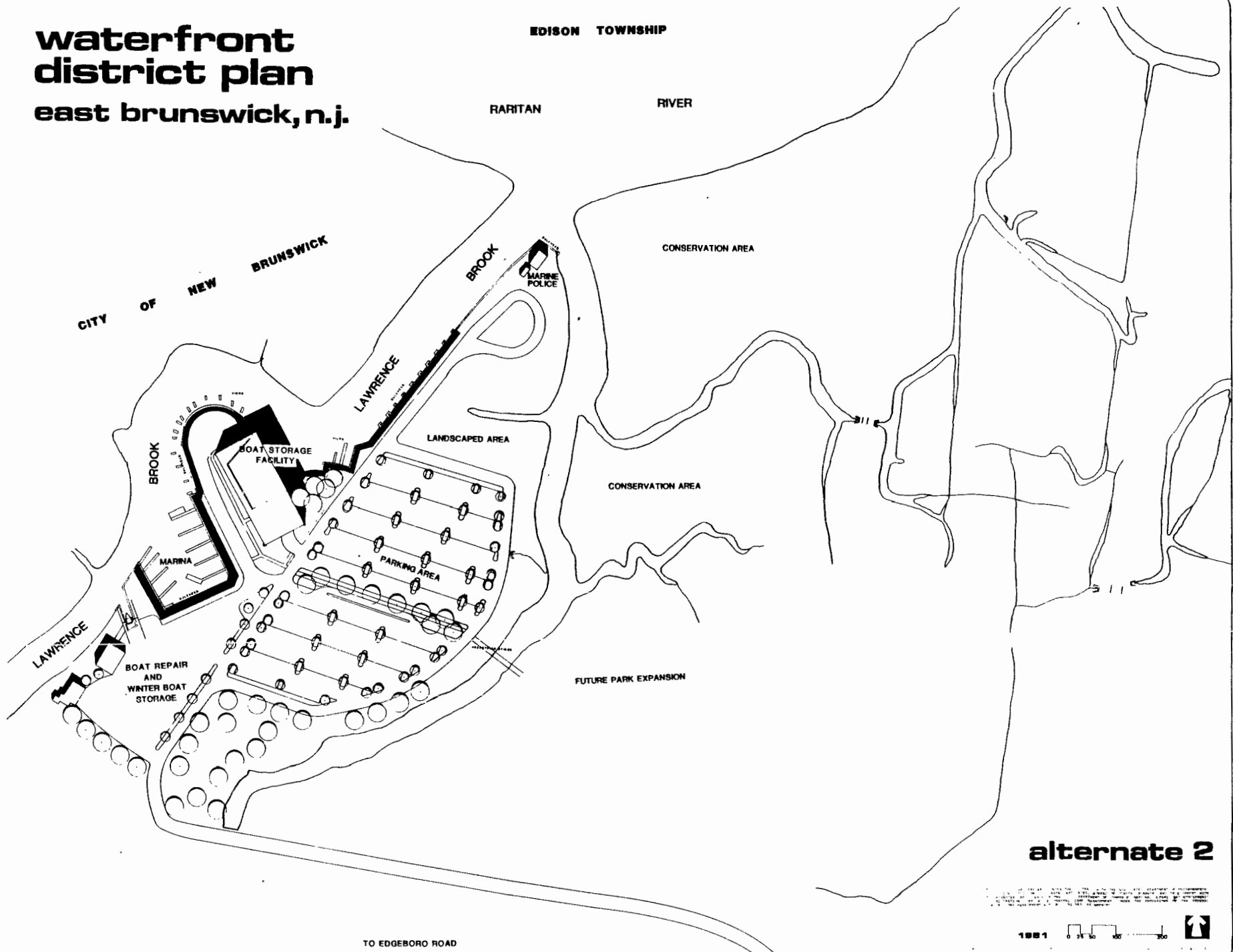
east brunswick, n.j.

EDISON TOWNSHIP

RARITAN

RIVER

CITY OF NEW BRUNSWICK



alternate 2

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TO EDGEBORO ROAD

The major new building improvement will be the addition of an enclosed boat house to house up to 225 small boats. These boats will be accessed by an internal lift system which will be incorporated within the building design.

The bulk of the remaining lands are to be landscaped with the use of salt water tolerant vegetation to block views and create areas for picnicing and other passive recreation purposes.

VI. Plans Consistency With State Policy

The Waterfront District Plan addresses the coastal resource and development policies of the state as set forth in N.J.A.C. 7:7E-1.1 et. seq.

Marina moorings are encouraged by the Coastal Management Program. The existing Tower Marina is to be expanded in both Alternate plans. As it is an existing marina, minimal dredging will be needed. The landfill area provides a place for the dredge spoils that may be involved with the dredging of the channels required by any bulkheading for expansion of the marina.

The policy of the State program, with respect to filled water's edges, is to encourage water dependent uses, and other uses that would not prevent public access to the waterfront. The area proposed for expansion of the marina under Alternates 1 and 2 is an existing area of filled marshland. The topography has been established as a result of the sewer easement work done by the Middlesex County Sewerage Authority. It has already been disturbed, and contains dredge spoils as well as other fill. The proposed plan will revegetate and buffer the edges of the area.

The State's policy on marinas is also followed by the proposed plans. The policy of the State is to upgrade or to expand existing marinas wherever possible, rather than to establish new marinas. It is also suggested that the expansion of existing marinas be encouraged by limiting non-water dependent land uses that preclude support facilities for boating. The Tower Marina is an existing marina which will be expanded for recreational boating. Proposed parking to support the facilities for boating will also function as dry dock boat storage areas for wintertime use.

The development of a park site near the marina will provide one waterfront park within the boundaries of East Brunswick as recommended by State policy.

The next policy to be addressed by the study is the transportation use policy for bicycle and footpaths, and parking facilities. The detailed 1":50' schemes show a network of walkways and sidewalks to provide direct access to the waterfront, as well as to connect areas contiguous to the waterfront. At this point, it is not feasible to construct or install any kind of a walkway or a bicycle path through the landfill areas, and to the tidal marsh areas of the waterfront district. For obvious reasons, the landfill area should not be trespassed with walkways, and the tidal marsh area is too sensitive for such construction.

Parking facilities are proposed at the existing and expanded marina. These will also provide for access to the waterfront area and provide for boat storage (dry dock) during the winter months and/or off season.

The State policy calls for protecting all existing vegetation wherever possible, as well as planting new vegetation appropriate to the area. This policy is met by both plans. No vegetation is being removed by either plan and reforestation will occur with indigenous plants for the non-landfill areas and with plants which are capable of surviving the landfill areas. These will permit climax vegetation in years to come.

The plan also meets another policy goal of the State Coastal Management Program, which is to provide maximum accessibility to waterfront areas. The proposed development schemes under both I & II maximize the linear waterfront area accessible to the public. Specifically the 1":50' scale of drawings illustrate how the walkway connections and bulk heading will provide for direct public access to the waterfront which is presently not available. Hopefully, the bulk heading will be eligible for Shore Protection Bonding.

Finally, the State policy recommends that there be maximum buffers for any uses that may have a negative impact on residential or recreational uses. Buffering recommendations are shown in both large scale alternates, as well as the detailed Marina Revitalization Plans.

VII. Environmental Permits

<u>Permit Name</u>	<u>Contact Agency</u>
Site Plan Review	Municipal Planning Board
Soil Erosion and Sediment Control Certification	Regional Soil Conservation District
Stream Encroachment Permit	Division of Water Resources NJDEP
Waterfront Development Permit and Grant, Lease of License	Division of Coastal Resources NJDEP
Municipal Sewer Tie-in Approval	Municipal Sewerage Authority
County Sewer Tie-in Approval	County Sewerage Authority
Public Water Use Approval	Municipal Water Utilities
Building/Construction Permit	Municipal Building Inspector
Certificate of Occupancy	Municipal Building Inspector
Dredge and Fill Permits (Section 404, Section 10)	US Army Corps of Engineers

VIII. Shuttle Bus Feasibility

Funds from UMTA to conduct a study to determine the feasibility of providing a shuttle bus service between existing and/or future commuter parking lots and the waterfront were not made available to East Brunswick. However, the Alternate Plans, as proposed in this report, call for limited development of public parklands. It is reasonable to assume that the parking areas provided for in the Alternates will be adequate. If, however, the private sector will wish to increase patronage, perhaps it will find it profitable to provide a shuttle/jitney service from commuter parking lots located on Route 18 to the marina and other businesses.

IX. Feasibility of Commercial Fishery Development

Research on the feasibility of the development of a commercial fishery/seafood industrial park within East Brunswick's coastal zone area indicates that such development would not be practical or viable. Several important factors have led to this conclusion.

1. The investment capital necessary for the development of a commercial fishery/seafood industrial park is tremendous. Investment in docks, processing plants, utilities, support facilities (e.g. boat repair), and supplies (e.g. gasoline, refrigeration, new ships, and the retrofitting of older vessels) must be made. With the cutbacks in federal aid, and the increase in the cost of money, this business venture has become almost prohibitive.
2. An ideal site must be selected to minimize the element of risk. The following crucial site selection criteria are missing from East Brunswick's potential site making its selection for investment by the private sector highly improbable:
 - The distance from the site to the marine life, which is the product needed by the fish processing industry, is too great. The price of fuel is so dear that the mileage to unloading docks from fishing waters must be given serious consideration.
 - The Raritan/South River are not always free from ice in the vicinity of East Brunswick's Coastal Zone. This situation would prevent fishing vessels from reaching the docks all year round.
 - Fishing vessels cannot navigate the channel at present because the average depth near East Brunswick is only 6 to 12 feet. Typical fishing vessels require 12 to 15 feet, and large ones 25 feet. The channel would have to be dredged, at a tremendous cost. There are several locations in New Jersey which do not present the above mentioned obstacles. These areas will be more competitive for development.

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part 3
plans

1982

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PLAN FOR THE WATERFRONT DISTRICT

PART III

I. Introduction

This document represents the third and final stage of the planning for the Waterfront District.

Part I consisted of an Inventory and Analysis of the District. In Part II, two alternative plans for the development of the whole Coastal Zone area, and two alternative plans for revitalization of the marina were written. Comments were solicited from the public, Planning Board, and staff of the Division of Coastal Resources in the New Jersey Department of Environmental Protection.

As a result of this input, the plans were revised, consolidating the best ideas from all sources. That consolidation is reflected in this document, Part III, which proposes one plan for the overall development of the Coastal Zone, and one plan in two phases for the revitalization of the marina. The plan for overall development incorporates the land use proposals of Alternative I, and the roadway system of Alternative II.

II. Influences on Development

There are several factors which have an effect on the proposed overall plan and the detailed marina development scheme.

The existence of the Edgeboro Landfill severely limits use options since the landfill must mature before being used for any development. Therefore, the plan emphasizes the development of the Tower Marina, which is outside of the landfilled area. There is an existing treed area between the landfill and the marina. This must be preserved to provide a buffer between the current landfill activity and the marina and is, therefore, not recommended for any use.

Secondly, the Kin Buc Landfill, now closed, has a negative visual impact on the area. It also poses an environmental/health threat, most of which is yet unknown. To address this concern, the orientation for development at the marina emphasizes the view to the southwest away from Kin Buc.

The existing marina is in a state of disrepair. Its owners must have the fiscal capability to turn it around. This, obviously, is outside the control of this report. An extended Edgeboro Road connector is proposed to deal with the access problem. (See below).

Finally, the general limited access to the area through Schoolhouse Lane and the dirt road from Edgeboro Road, makes the area extremely inaccessible.

III. Roadway Access Recommendations

The following is proposed for roadway access to the district:

1. Schoolhouse Lane access to the marina will be terminated. This will reinforce the residential character of the Pine Ridge area. All traffic to the marina will then go down one of the two alternative industrial roads from Route 18. This is intended to be built by the developers of the marina, and eventually turned over to the Township as a public street with a terminus at the end of the dock.
2. A new roadway is proposed to parallel Edgeboro Road, merging with Edgeboro Road at its northern terminus. This dual roadway system will be able to accommodate the traffic which formerly used Schoolhouse Lane. The roadway extension will increase options for development and provide access to the marina and adjacent recreational and open space land.

IV. Land Use Recommendations

A. Research Conservation Zone

The proposed Research Conservation Zone is a zone which recognizes the limited capabilities of the land designated in the Land Use Plan as RC. Areas designated inactive and active landfill, which have been approved as such in accordance with the Division of Solid Waste Management of the Department of Environmental Protection's plans, are scheduled for completion and closure in the proposed plan.

Low intensity research uses would be accommodated within the RC Zone, but would have to be situated in areas that have not been former landfill. Any development would have to take place in those areas that are proven by environmental analysis to be structurally capable of supporting buildings. Development would result in conservation of some areas while allowing low intensity, non-residential development on other portions of the land. Since the land pattern in the area is in one ownership, restricting development to suitable areas is feasible.

After the landfill use is terminated, this area will be vegetated as described below:

Species recommended for planting are Black gum, Japanese Black Pine and Ginkgo.

These species must be planted, balled and burlapped.

Trees should be approximately 30-60 centimeters high when planted (15-30 inches).

B. Industrial Zone

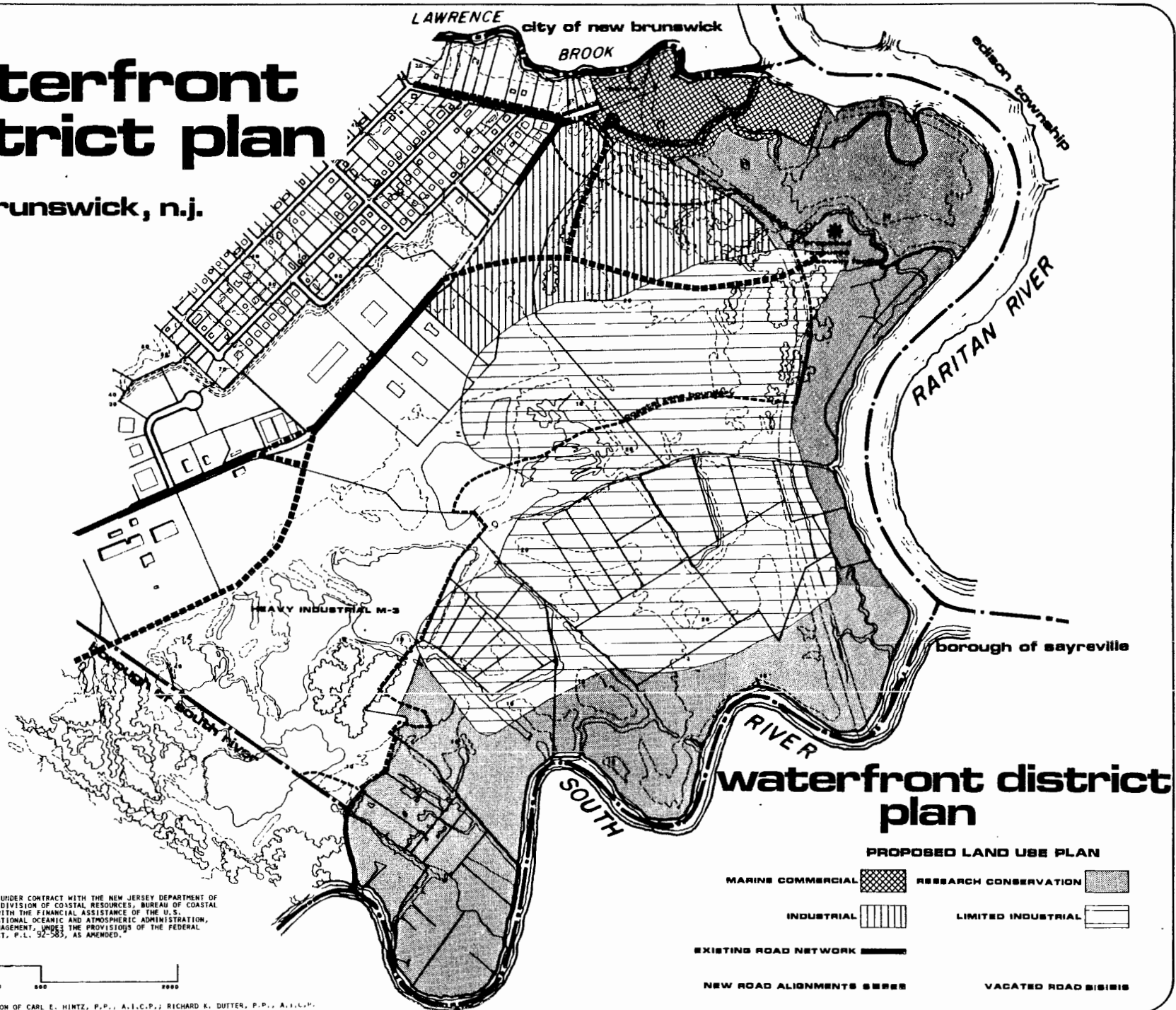
Industrial areas that border the Coastal Zone, as well as in the Coastal Zone itself, are proposed to remain in the current industrial zoning I/M (industrial/manufacturing). Emphasis should be on light manufacturing, including products such as pharmaceuticals, toilet supplies and food products. Also included would be warehousing and trucking. Currently, the area is partially developed with these kinds of uses, while the balance remains vacant.

C. Wetland Area

The natural "wetland" area, adjacent to the marina which comprises approximately 6.5 acres, is proposed as limited nature study area. This area would be preserved with the exception of a walkway for pedestrian access to the area.

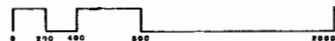
waterfront district plan

east brunswick, n.j.



1981
REV. 5/82

*THIS REPORT WAS PREPARED UNDER CONTRACT WITH THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF COASTAL RESOURCES; BUREAU OF COASTAL PLANNING AND DEVELOPMENT WITH THE FINANCIAL ASSISTANCE OF THE U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, OFFICE OF COASTAL ZONE MANAGEMENT, UNDER THE PROVISIONS OF THE FEDERAL COASTAL ZONE MANAGEMENT ACT, P.L. 92-583, AS AMENDED.



PREPARED UNDER THE DIRECTION OF CARL E. HINTZ, P.P., A.I.C.P.; RICHARD K. DUTTER, P.P., A.I.C.P.

It is suggested that the drier open area adjacent to the marina be left grass area so that it can be utilized for overflow parking and informal ball playing. It is proposed that no permanent structures be located within this area. The area should be reseeded to permit open and unstructured use of the fields. Shade trees should be introduced on the perimeter to delineate the space and provide an environment more conducive to human scale. Recommended are wooden bollards placed along the perimeter as shown on the Marina Development Plan to prevent cars from entering the side when the parking in the paved lot is not filled. Railroad ties would be used to prevent cars from parking too close to the water's edge (see plan).

D. Marina

The marina is suitable for some limited commercial development in the form of retail stores to service the area. The marina mixed use zone is proposed to allow for the upgrading and expansion of the marina area and Tower Marina. This will permit a mix of uses, including commercial, such as restaurants, shops and boat sales, as well as uses normally associated with marinas, such as boat rental, repair, dockage and dry docking.

The zone is located upon cleared land that is immediately adjacent to the existing marina, as well as the marina itself. Since the land has already been filled and is essentially devoid of vegetation, the proposed uses will not be in conflict environmentally.

The uses proposed assume an optimistic market for such facilities and increased public demand for small boat facilities and for boating on the river. Since the project is proposed to be done in phases, market conditions will allow for a gradual expansion of the area to complete the plan. All sites at the marina and adjacent area are to be privately developed with private investment.

V. Marina Revitalization - Development Plan

The project is a sizable one in scope, and while it is broken into two "Phases", the features of Phase II may be split into a Phase III and even IV. The investment of private capital, in concert with a plan that considers those improvements which are income-producing, are key to the phasing.

Phase I

The plan calls for the limited redevelopment of the existing marina site, and unstructured recreational use of the adjacent lands to the east for the immediate future.

Active marina uses are planned for frontage areas on the Lawrence Brook, where views to the west and southwest are of a pleasant character. To the west is a natural wetland area, extending to a hillside of deciduous vegetation. Views to the southwest, upstream of the Lawrence Brook, are quite pleasant, and provide the best setting for the redevelopment of the marina facility. This area presently contains existing boat slips which could be refurbished through minimal repair of the existing facilities.

Access to the marina has already been explained. This roadway will serve a new parking lot area adjacent to the proposed small boat docking area, and the area proposed for indoor storage of boats.

On the Lawrence Brook, the existing boat slip area is to be revitalized by reinforcing the existing bulkheading, and by installing a bulkheaded boardwalk along the edge to permit better pedestrian access to the boat slips. This boardwalk is to extend along the entire Lawrence Brook water frontage, and it will provide a pleasant pedestrian environment, and facilitate small boat access. In addition, this boardwalk will be used by the public as a fishing dock.

At the southwest corner of the marina site, existing structures are to be converted to house a small marina office, and boat repair shop. This area will accommodate winter dry dock storage facilities which can extend into the portions of the proposed parking lot if needed. A nonpower boat rental facility will also be provided in this area.

A new building improvement for the first phase will be the addition of an enclosed boat house to store up to 225 small boats. These boats will be accessible through an internal lift system to be incorporated within the building design, and will also require reconfiguration of the existing marina area by bulkheading.

The balance of the lands are to be landscaped with salt water tolerant vegetation creating an area for picnicing and other passive recreational purposes.

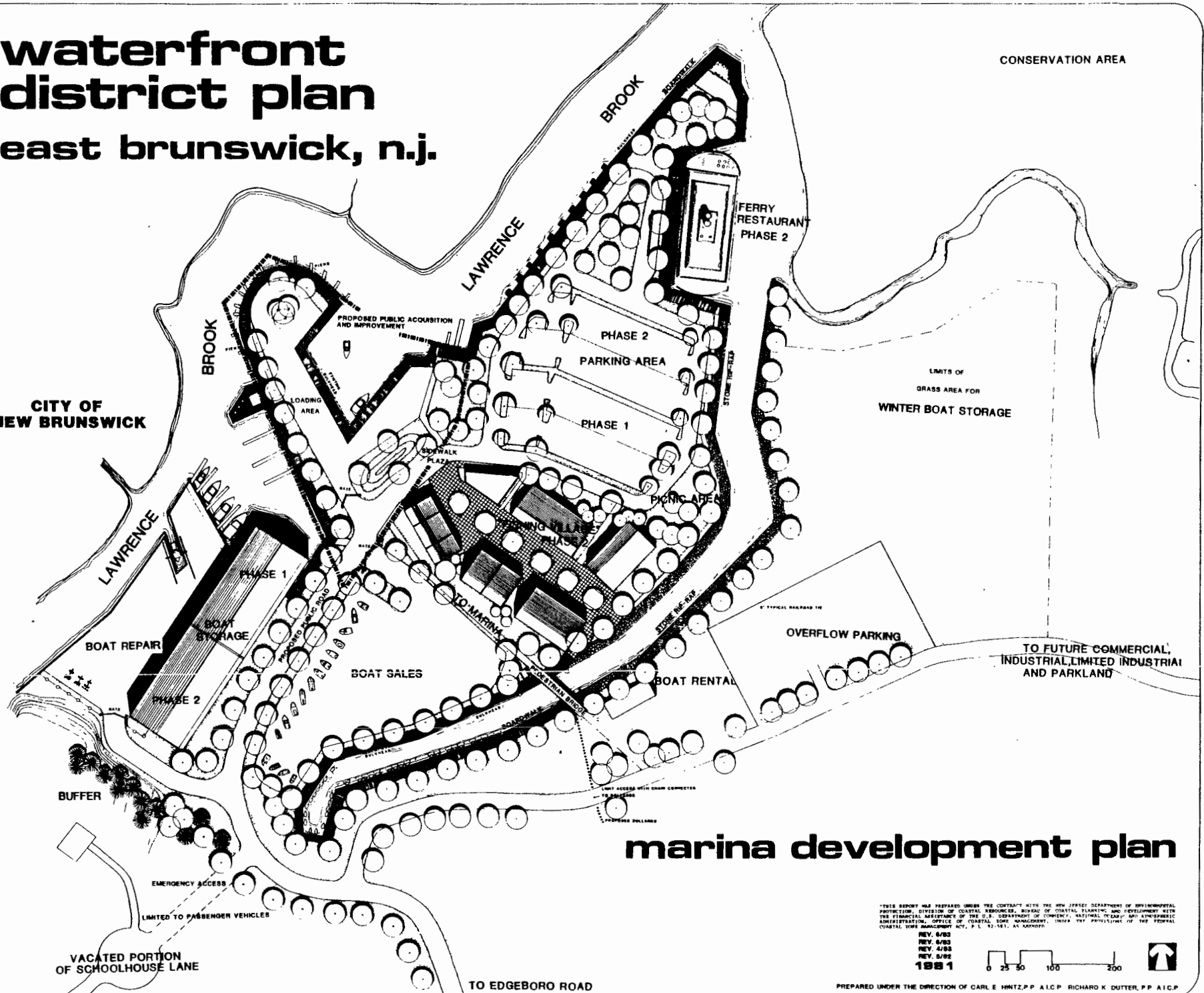
Phase II

The second phase of the plan would provide for maximum utilization of the marina and the adjacent area. The key features of the design are:

- Expanded boat house to provide for the indoor storage of 400 small boats.
- Storage for larger cabin cruisers, and vessels for recreational use.
- Small fishing village consisting of small scale privately owned structures to house uses found in similar waterfront areas (restaurants, fish store, craft store, gift shop, etc.)
- Picnicing areas for public use.
- Public walk areas.
- Fishing docks accessible by walkways and boardwalks.
- A major restaurant and entertainment facility to be housed in a ferry boat which would have to be brought into a new bulkheaded area. This would be similar to the existing ferry that is there, and is presently under restoration.
- Parking to service such a facility.
- Boat repair yard with crane, tool shed, and equipment areas to service large and small boats.
- Small boat rental facility for row boats and small sailing craft.
- A boat sales office for servicing and retailing small boats, sail boats, and outboard motors.
- A winter storage for larger boats on the paved parking areas.
- Riprapping of the small stream channels from the easterly side of the existing marina. Bulkheading would only occur at the area where the rental of boats would occur.

waterfront district plan east brunswick, n.j.

CITY OF
NEW BRUNSWICK



CONSERVATION AREA

marina development plan

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REV. 6/85
REV. 4/85
REV. 5/85
1985



PREPARED UNDER THE DIRECTION OF CARL E. HINTZ, P.P. A.I.C.P. RICHARD K. DUTTER, P.P. A.I.C.P.

VI. Plans Consistency With State Policy

The Waterfront District Plan addresses the coastal resource and development policies of the State as set forth in N.J.A.C. 7:7E-1.1 et. seq.

Marina moorings are encouraged by the Coastal Management Program. The existing Tower Marina is proposed to be expanded in the marina development plan (in phases). As it is an existing marina, minimal dredging will be needed. The landfill area provides a place for the dredge spoils that may be involved with the dredging of the channels required by any bulkheading for expansion of the marina.

The policy of the State program with respect to filled water's edges, is to encourage water dependent uses, and other uses that would not prevent public access to the waterfront. The area proposed for expansion of the marina is an existing area of filled marshland. The topography has been established as a result of the sewer easement work done by the Middlesex County Sewerage Authority. It has already been disturbed, and contains dredge spoils as well as other fill. The proposed plan will revegetate and buffer the edges of the area.

The State's policy on marinas is also followed by the plan. The policy of the State is to upgrade or to expand existing marinas wherever possible, rather than to establish new marinas. It is also suggested that the expansion of existing marinas be encouraged by limiting non-water dependent land uses that preclude support facilities for boating. The Tower Marina is an existing marina which will be expanded for recreational boating. Proposed parking to support the facilities for boating will also function as dry dock boat storage areas for wintertime use. Under site plan review, the East Brunswick Planning Board will insure that adequate pump out stations for wastewater disposal from boats are to be provided in accordance with Federal and State water quality laws and regulations. The revitalization of the marina will not interfere with commercial boating activities since research in Part II of this study concluded that the commercial industry cannot develop in this location.

The development of a park site near the marina will provide one waterfront park within the boundaries of East Brunswick as recommended by State policy.

The next policy to be addressed by the study is the transportation use policy for bicycle and footpaths and parking facilities. The detailed 1":50' scheme shows a network of walkways and sidewalks to provide direct access to the waterfront, as well as to connect areas contiguous to the waterfront. At this point, it is not feasible to construct or install any kind of a walkway or a bicycle path through the landfill areas and to the tidal marsh areas of the waterfront district. For obvious reasons, the landfill area should not be trespassed with walkways and the tidal marsh area is too sensitive for such construction.

Parking facilities are proposed at the existing and expanded marina. These will also provide for access to the waterfront area and provide for boat storage (dry dock) during the winter months and/or off season.

The State policy calls for protecting all existing vegetation wherever possible, as well as planting new vegetation appropriate to the area. This policy is met by the plan. No vegetation is being removed and reforestation will occur with indigenous plants for the non-landfill areas and with plants which are capable of surviving the landfill areas. These will permit climax vegetation in years to come.

The plan also meets another policy goal of the State Coastal Management Program, which is to provide maximum accessibility to waterfront areas. The proposed development scheme maximizes the linear waterfront area accessible to the public. Specifically, the 1":50' scale of drawings illustrates how the walkway connections and bulk heading will provide for direct public access to the waterfront which is presently not available.

Finally, the State policy recommends that there be maximum buffers for any uses that may have a negative impact on residential or recreational uses. Buffering recommendations are shown in the Waterfront District Plan, as well as the detailed Marina Development Plan.

VII. Environmental Permits

Permit Name

Site Plan Review
Soil Erosion and Sediment
Control Certification
Stream Encroachment Permit
Waterfront Development Permit
Tidelands (Riparian) Grant,
Lease or License
Municipal Sewer Tie-in Approval
County Sewer Tie-in Approval
Public Water Use Approval
Building/Construction Permit
Certificate of Occupancy
Dredge and Fill Permits
(Section 404, Section 10)
Wetlands Permit
Fuel Use Permit

Contact Agency

Municipal Planning Board
Regional Soil Conservation District

Division of Water Resources NJDEP
Division of Coastal Resources NJDEP
Division of Coastal Resources NJDEP

Municipal Sewerage Authority
County Sewerage Authority
Municipal Water Utilities
Municipal Building Inspector
Municipal Building Inspector
US Army Corps of Engineers

Division of Coastal Resources NJDEP
U.S. EPA

credits

This report was prepared by the Department of Planning and Community Development, Township of East Brunswick, under the direction of Carl E. Hintz, P.P., A.I.C.P. and Richard K. Dutter, P.P., A.I.C.P.

This report was prepared under contract with the New Jersey Department of Environmental Protection, Division of Coastal Resources, Bureau of Coastal Planning and Development with the financial assistance of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management, under the provisions of the Federal Coastal Management Act, P.L. 583 as amended.