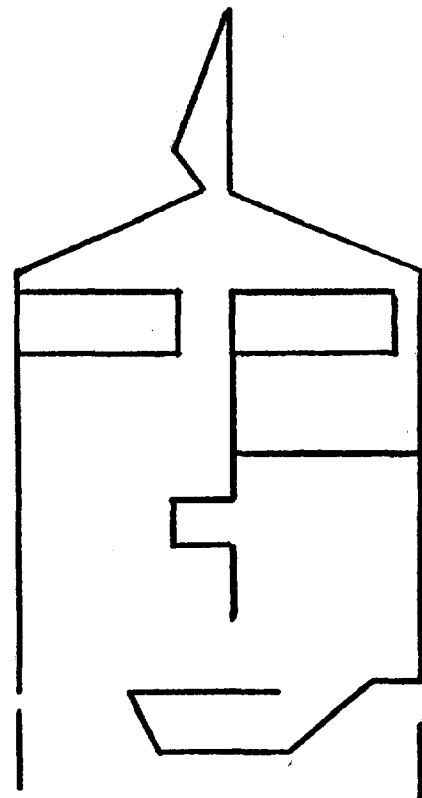


North Carolina Coastal Zone Management Program

Indian Beach Land Use Plan

1988 Update

COASTAL ZONE
INFORMATION CENTER



**INDIAN BEACH
NORTH CAROLINA**

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INDIAN BEACH

1988 LAND USE PLAN UPDATE

Adopted by the Mayor and Town Board of Commissioners

on

January 13, 1988

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Approved by
N C Coastal Resources Commission
March 25, 1988

Technical Assistance

provided by

PLANNING SOUTH, INC.

Pittsboro

TOWN OF INDIAN BEACH
NORTH CAROLINA

OFFICIALS

1987

THE TOWN BOARD OF COMMISSIONERS

Robert Proctor, Mayor

William L. Fugate, Mayor Pro Tem

Sam Adams
Mike Addertion
David Barefield

1988

THE TOWN BOARD OF COMMISSIONERS

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Art Drewyor, Chair, Town Planning Board

Wayland P. Seagraves, Town Clerk

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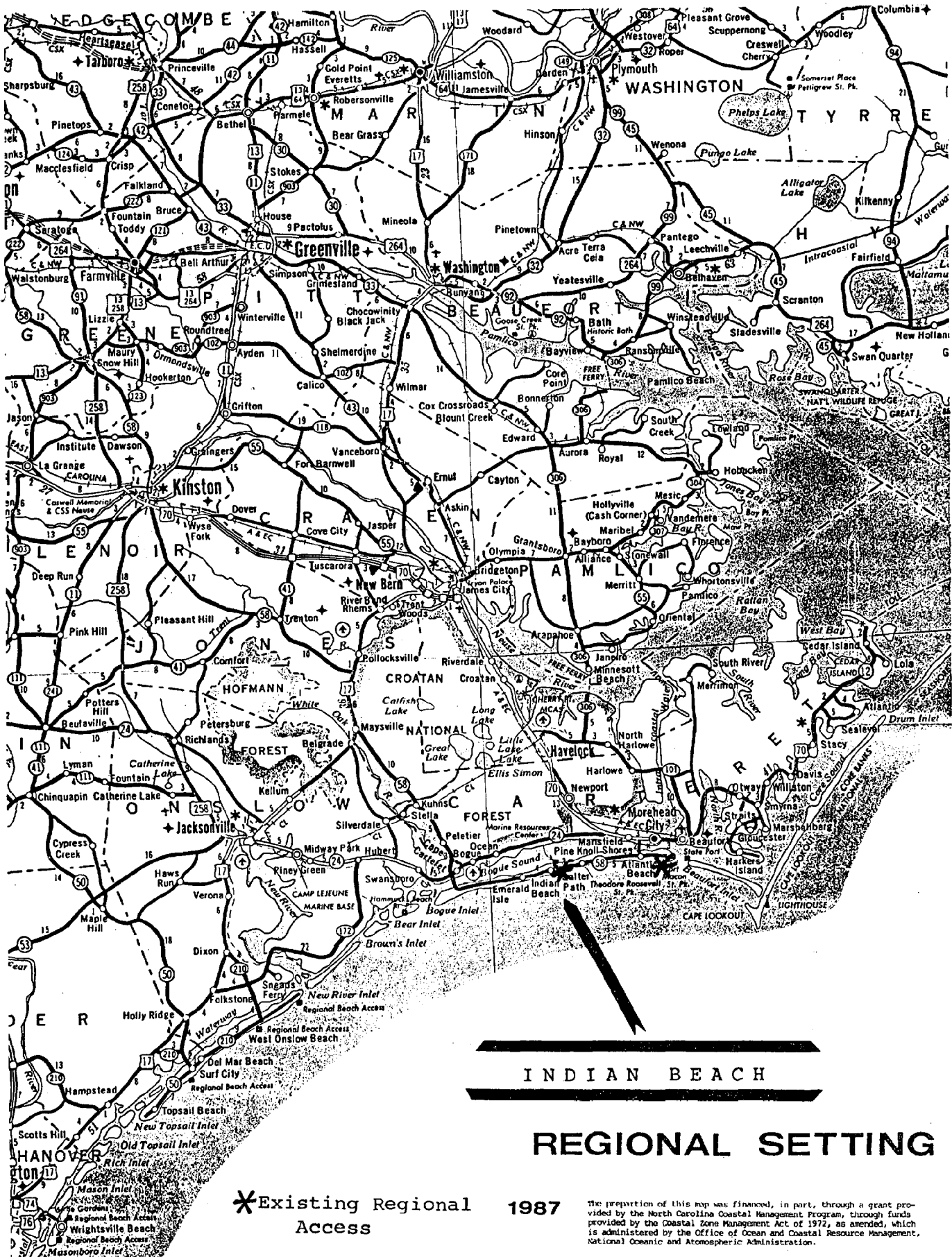
INTRODUCTION

The Indian Beach Planning Area consists of a linear community of about 2.5 miles in length at approximately mid-point on Bogue Banks in Carteret County. Bogue Banks is a barrier island on the east-west coast of North Carolina just off the mainland, across Bogue Sound from the Towns of Morehead City and Beaufort on its east end and the Town of Cape Carteret on its west end. Access to Indian Beach is provided by NC 58 which terminates on the east end of Bogue Banks and which runs northwest via a high bridge to Kinston and Wilson on the mainland. Another high bridge gives access at Atlantic Beach to the east. Please refer to the regional map on page 2.

There are three municipalities on Bogue Banks in addition to Indian Beach: Atlantic Beach and Pine Knoll Shores to the east and Emerald Isle to the west. Both Pine Knoll Shores and Emerald Isle abut Indian Beach.

The Town of Indian Beach lies in two sections with the unincorporated communities of Salter Path and Hoffman Beach situated in between. The West Section of Indian Beach was incorporated in 1973 to provide for lands on Bogue Banks that could be made available for commercial purposes and mobile home parks. At that time, these types of uses were generally excluded in abutting communities. Salter Path and Hoffman Beach, however, to the east were not included in the creation of the new municipality because the people living there were not interested in incorporation. But in 1975, Indian Beach annexed lands to the east of Salter Path in "satellite" incorporation proceedings approved by the N.C. General Assembly. Now referred to as the East Section, action to incorporate these lands was taken to protect the general area from being annexed by the Town of Pine Knoll Shores, believing that under the name of Indian Beach there would be a better chance of controlling the community's own destiny and a better chance of keeping taxes down.

This 1987 Land Use Plan Update for the Town of Indian Beach was prepared in accordance with the guidelines of the Coastal Area Management Act of North Carolina. Work on the Plan began in December 1986 and was completed in June 1987. The Draft Plan was forwarded by the Town to the State of North Carolina for comments on June 30, 1987, and the Final Draft was adopted by the Town Board of Commissioners on January 13, 1988.



INDIAN BEACH

REGIONAL SETTING

*Existing Regional Access 1987

The preparation of this map was financed, in part, through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

PLANNING PROGRESS SINCE 1982

The first Land Use Plan for Indian Beach was completed in 1976, and a Land Use Plan Update was adopted in 1982. These Plans have been used as working guides by the Mayors, Commissioners, and Town Clerk.

This 1987 Land Use Plan Update is more extensive than the 1982 document in a number of respects. Noteworthy are: (1) the more detailed analysis of existing land use which includes both the West and East Sections of the Town and the areas of Salter Path and Hoffman Beach, which lie between the West and East incorporated Sections; (2) the policy statements which are accompanied by objectives and strategies for implementation; and (3) the Hurricane/Storm Plan which includes elements on hazard mitigation, recovery and cleanup, and evacuation. Also, two new classes have been added to the Land Classification Plan for the Town. These are Transition/Residential and Transition/Mixed Use, which replace the original one-element Transition Class.

MEASURING 1982 LAND USE PLAN IMPLEMENTATION

Indian Beach, having been incorporated only since 1973, adopted its last Land Use Plan Update in 1982. That Plan contained policy statements relating to resource protection, resource production, economic and community development, and public participation.

The following text contains an assessment of the application of those policies and the subsequent actions taken since 1982.

ASSESSMENT OF 1982 RESOURCE PROTECTION POLICIES AND ACTIONS

Estuarine System Policies

The Town has given high priority to the protection of the estuarine area, by working closely with the Carteret County CAMA Officer and the State to adhere to local and State policies. Through building inspection agreements with the County, the local building code is enforced in accordance with construction guidelines in AECs and in accordance with the guidelines of the Federal Flood Insurance program. All new construction must be located at least seven feet above the mean high water level. Additionally, all principal buildings and most others have been set back 25 feet or more from estuarine shorelines.

Constraints to Development

The Town ensures that all new dwellings are properly sited and constructed, and have functioning septic systems. Town Officials have worked closely with the County Health Department. The Town has requested that the County thoroughly consider soil limitations when issuing permits. Three condominium complexes have been constructed since the 1982 Plan was adopted. Density requirements have been maintained and code requirement conformance insured.

Other Hazardous or Fragile Land Areas

Administration of policies of the Town and State, particularly those of the Federal Flood Insurance Program, is the responsibility of the County Building Inspector, as delegated by the Town. Indian Beach has enrolled in the Federal Flood Insurance Program and has been diligent in monitoring development to ensure that regulations are enforced.

Indian Beach has recognized the importance and value of the surrounding maritime forest. To the extent practical, the Town has minimized the loss of maritime forest by encouraging private property owners to disturb only those areas required for buildings, access, parking, and waste disposal, in accordance with Article I-A (Environmental Protection) of the Zoning Ordinance, and more specifically Section 3, titled Vegetation Requirements and Section 4, titled Re-vegetation of Previously Disturbed Areas.

Hurricane and Flood Evacuation Policies

There were no provisions or plans for hurricane and storm mitigation, recovery and cleanup, and evacuation in the 1982 Land Use Plan. The prime responsibility in these areas has been the County's and remains so today. But it has been determined that it would be to the Town's best advantage and well-being to have a local plan to follow in case of an emergency. So an added feature of the 1987 Land Use Plan Update is the inclusion of a plan for Hurricane/Storm mitigation, emergencies, and disasters, developed within the context of the Carteret County Plan and fully supportive of it.

ASSESSMENT OF 1982 RESOURCE PRODUCTION POLICIES AND ACTIONS

Recreational Resources

The prime recreational resources of Indian Beach are the beaches and ocean and Bogue Sound. The Town adopted a policy relative to access to the beaches and ocean in 1982. This stated that the Town "...shall support and continue to cooperate with Carteret County officials in 'policing' and administering the one vehicle access point." The Town has adhered to this policy by maintaining an attractive access point with parking at the end of the State Access Road next to the Squatters Restaurant on Salter Path Road (NC 58).

Fishing Resources

Fishing resources were addressed in the 1982 Land Use Plan in an indirect manner. The policy stated that "...the Town will solicit the programs offered to the community by various institutions and agencies in Carteret County to keep them informed on the value of these resources." It is estimated that Indian Beach has not realized the full potential of commercial and recreational fisheries resources. The Town lacks direct public access to Bogue Sound. There is one commercial marina.

Off-Road Vehicles

Off-road vehicle control was not addressed directly in the 1982 Land Use Plan Update. The Town does, however, regulate the access to the beaches through a contractual agreement with the Town of Emerald Isle. By ordinance, vehicles are allowed on the beaches of Indian Beach between September and May. The Mayor may close the beach to vehicles from time-to-time during that period for the safety of bathers and pedestrians.

Agriculture, Forestry, and Mining

Forestry was addressed in the 1982 Land Use Plan Update in the form of protecting the maritime forest, but not for economic production purposes. See the comments above in the section titled Other Hazardous and Fragile Land Areas on the preceding page.

ASSESSMENT OF 1982 ECONOMIC AND COMMUNITY DEVELOPMENT POLICIES AND ACTIONS

Town land use regulations and CAMA permitting procedures have been used to prevent development that would have a high probability of injuring the estuarine system.

As noted in the above assessment of policy implementation, the Town has adopted an Environmental Protection Ordinance. This was incorporated into the Zoning Ordinance in 1982, as mentioned on the preceding page.

Commercial Development Policy

Indian Beach stated in 1982 that it was its policy "...to encourage and permit only those commercial activities which compliment a family vacation resort community." This policy has been carried out to the letter.

Services Policy

The 1982 Land Use Plan Update recorded Town policy with respect to a water or sewer system as follows: "Until such time that public wastewater treatment and disposal are available, Indian Beach shall vigorously enforce planning and development standards required of local, state and federal agencies." Although the Indian Beach has water supplied to it by the Bogue Banks Water and Sewer Corporation, a private company, the Town has been unable to develop a sewage system. In February 1987, a countywide referendum turned down county-financed water and sewer systems, although the electorate of Indian Beach supported the issue.

Police protection has been expanded since the adoption of the 1982 Land Use Plan Update with the addition of police officers and vehicles.

The Salter Path Volunteer Fire and Rescue Squad has added additional apparatus.

Solid waste collection services are provided by private firms.

Policy statements of 1982 recognized mobile homes "...as an interim type land use activity and that future plans which involve the Town will take this into account." Since the 1982 Plan was adopted some 147 mobile homes have been moved away, and condominium development has replaced them.

In accordance with 1982 policy statements, a variety of permanent and commercial structures have been encouraged to locate within the Town Limits.

Channel Maintenance Policy

The Corps of Engineers maintains the inland waterway which passes through Bogue Sound to the north of Indian Beach. Access and finger canals and channels are maintained by private entities benefiting from them.

Energy Facility Siting and Development Policies

There have been no energy facilities sited in the Town since the adoption of the 1982 Use Plan Update.

Beach and Waterfront Access Policy

The Town has maintained its public beach access point, at the end of the State Access Road in the eastern portion of the West Section, keeping its ramp and parking lot in safe, usable condition. Vehicles are allowed on the beach between Labor Day and Memorial Day.

Finger Canal Development

The Town adopted a policy not to allow the construction of any new finger canals on Bogue Sound. This policy has been followed.

Commitment to Federal and State Programs Policy

The Town has supported all applicable policies.

CONTINUING PUBLIC PARTICIPATION POLICIES

Citizens are encouraged to attend meetings of the Town Commissioners, Planning Board, and Board of Adjustment. There has been increased participation in the past five years. The Town has sponsored meetings (other than regularly scheduled sessions), with advance notice, to solicit citizens' opinions on issues. Two of the most recent major issues have been the potential annexation of the Salter Path and Hoffman Beach communities and the preparation of the 1987 Land Use Plan Update. A survey was conducted in 1987 to gather views and recommendations on a wide variety of issues concerning the future of Indian Beach. Draft copies of plans, policies, and proposed ordinance changes are available at Town Hall for review.

COMMUNITY PROFILE

It is important to take stock of a community before setting out to update its land use plan. This is the purpose of the Community Profile. The population, economy, and physical settings are all considered to determine the bases for making projections into the future. All this is accomplished with consideration given to historic information, existing conditions, and future prospects.

POPULATION

The Town was incorporated in 1973 with an estimated permanent population of 48. This figure was supplied by the N.C. Department of Administration. It is a "separation count" derived by the U.S. Bureau of the Census shortly after incorporation and, therefore, could not be published in the 1970 Census Reports. The 1980 Census showed a slight increase to 54, and the State estimated the population to be 63 in July 1984, showing a 16.7 per cent increase since 1980.

POPULATION GROWTH

<u>Year</u>	<u>Permanent Inhabitants</u>	<u>Seasonal Week</u>	<u>Seasonal Weekend</u>	<u>Seasonal Holiday</u>	<u>Percent Increase</u>
1973	48*	---	---	---	---
1980	54**	---	---	---	12.5%
1984	63***	---	---	---	16.7
1987	70****	1,500#	2,500#	3,000#	11.1

*N.C. Department of Administration

#1987 Estimates of the Town

**U.S. Census

***N.C. Department of Administration

****Planning South extrapolation derived from calculations based on returns from A Survey on the Town of Indian Beach. See page 45.

Growth in Indian Beach has not been dramatic as it has been in other communities on Bogue Banks. The reason for this is that until recently there has been a markedly different type of permanent and seasonal residency offered here. Mobile homes have made up the vast majority of dwelling units for over 20 years. Except in a very few cases the mobile home owners rent the land upon which their units are located, and all units are located in mobile home parks. Further, the community has three large campgrounds, which can accommodate both large RVs (recreational vehicles) and tent campers, and a fishing pier.

These offerings of generally different accommodations for permanent and seasonal residents has tended to moderate the growth of population. Since there are only 20 'non-condo' land owners in Indian Beach -- a majority of whom are mobile home park, campground, and commercial property owners, it appears that there is little chance of a movement toward the building of a significant number of conventional single-family homes. Most recent large investments have been in condominium development, but currently it apparently is not economically feasible to continue in this direction.

The slow population growth trend may be in the process of changing, however, because the growth that is taking place in the community is preponderantly in the form of condominium construction. In the case of the Summer Winds project, for instance, some 147 mobile homes in rental slots were removed to make way for 211 condo units. Since initial construction seven penthouses were added. It is surmised that residency in the condominiums will tend to increase the permanent population of Indian Beach.

ECONOMY

Indian Beach is a resort community. The economy of the area is heavily dependent upon the natural attractiveness of the ocean, beach, and sound. These valuable natural attributes serve as the prime resources upon which the economy is based. Also the alternative offerings of affordable vacation accommodations and retirement residency for moderate- to middle-income individuals and families are an attraction of economic value. This special feature of Indian Beach and Salter Path is unique on Bogue Banks. Its importance is not only that it provides income for local entrepreneurs, but the feature is that it provides moderately priced recreation and vacation outlets for many North Carolinians.

The standard of living is dependent upon development in surrounding areas. The local economy only provides minimum essential services. Although recent activities in Atlantic Beach and Cape Carteret serve to bring a larger variety of commercial establishments to the area. Locally there are a super market, hardware store, several restaurants and fish stores, a service station, bank, and post office. Some of these newer facilities have brought added conveniences to the immediate area residents, but their patronage also relies heavily upon tourists and seasonal residents. During fiscal year 1986-87, there were 19 licensed businesses in Indian Beach. Major shopping and service facilities can be found in the surrounding communities of Morehead City, Jacksonville, New Bern, and Kinston.

Information gleaned from A Survey on the Town of Indian Beach, conducted in March 1987 (See page 52) shows that of 118 responding to question #12, 83 or 70% of the participants want more and improved shopping facilities. This is an indication of the feelings of permanent, seasonal, and non-resident respondents. There was a very high 53 percent return of questionnaires.

Of those who returned their questionnaires, 14 percent were permanent residents, and 60 percent were seasonal residents. The remaining 26 percent were non-residents. Nine of the permanent resident respondents, or 36 percent, said that they were working full-time, and 13, or 52 percent, said that they were retired. For more specific information about this, please refer to page 49.

Because of its location in the middle of Bogue Banks, between the communities of the older and more established Atlantic Beach and the much larger Emerald Isle, the Indian Beach Planning Area does not have much more than those commercial uses that are designed to provide necessary services and entertainment for the seasonal population. The facilities of abutting communities and of larger towns in the region provide well the services not found locally.

Carteret County leads the state fisheries in total pounds of fish caught and total commercial vessels licensed. The revenues generated and spent on commercial and sport fishing including vessel and boat construction, operation, and maintenance along with supporting shore facilities, piers, marinas, and seafood restaurant operations prove to be a general year-round mainstay.

The fishing industry figures very prominently into the local economic picture. The industry centered in Salter Path with its shipping, sales, and eating facilities has been the supporting income generator for the residents of the area for many years.

The key to the success of the businesses in the Planning Area will be their continuing attractiveness, variety of goods and level of services, and provision of quality food, service, and ambiance.

TOWN ADMINISTRATION

The chief employee of Indian Beach is the part-time Town Clerk whose office is housed in the Town Hall, behind the Salter Path Volunteer Fire and Rescue Squad station building on NC 58 in the eastern portion of the West Section of the Town. The total 1986-87 budget for the Town was \$121,450, with \$33,596 designated for administration and finance. The estimated ad valorem tax income @ \$.10 was \$44,000 for the fiscal year.

MUNICIPAL PHYSICAL PLANT

The Town Hall is situated on property owned by the Salter Path Volunteer Fire Department and Rescue Squad which abuts the eastern Town Limit of the West Section of Indian Beach. The manufactured structure houses the Town Clerk, Police Chief, and Town Commissioners' Chambers. Discussions about renovating an existing structure to house Town administrative operations are in progress. Rent is paid to the Fire and Rescue Squad.

The Town Hall fronts on a private gravel-topped street -- the easternmost street of Paradise Bay Mobilehome Park. This street also provides access, with permission of the owner, to the community ballpark, several privately-owned conventional homes and two mobile homes. The ballpark is maintained by the County.

Although there is need for more spacious office facilities for the Clerk, and more storage space, 71 percent of the respondents to A Survey on the Town of Indian Beach thought that the Town Hall is adequate. Please refer to page 57.

POLICE PROTECTION

The Town has three police officers, one of whom serves as Chief. The operations center is located in separate quarters in the Town Hall. Police vehicles include: a 1976 Dodge Ramcharger, a 1985 Mercury Marquis, and a 1979 Chevrolet Blazer. The 1986-87 budget was \$87,854.

FIRE AND RESCUE

The Salter Path Volunteer Fire and Rescue Squad is located in a separate structure on land donated by the Roosevelt Family, just inside the eastern Town Limits in the West Section on Salter Path Road (NC 58). Apparatus includes: 1950 (500gpm) and 1968 (1000gpm) Ford pumpers, a 1987 (1000gpm) Emergency One pumper, 1972 and 1980 Ford rescue ambulances, a 1979 Chevrolet Blazer rescue and beach patrol vehicle, and a 1986 Trophy-Bayline 19-foot rescue boat.

RECREATION

There is no formal parks and recreation unit in Town government. Of those 123 people who responded to question #12 in A Survey on the Town of Indian Beach, 103 or 84 percent, said they wanted to see recreation encouraged. (See page 52) Improvements mentioned most were public marina access on the sound and better access to the beach. Residents were concerned about people crossing their properties to the beach. Others said they were uncomfortable and even embarrassed about crossing private property to get to the ocean.

Indian Beach has a large amount of land in campgrounds, which could be considered as private recreation but available to the public for a fee. The Town provides public beach access with parking on the State Access Road next to Squatter's Restaurant. There is also a fishing pier on the ocean and beach on the western Town Limits of the West Section. Memorial Ballpark maintained by the County is situated in the western portion of the unincorporated area. And a small amount of land is used for recreational purposes at two condominiums in the East Section. Church grounds are available for recreational use also.

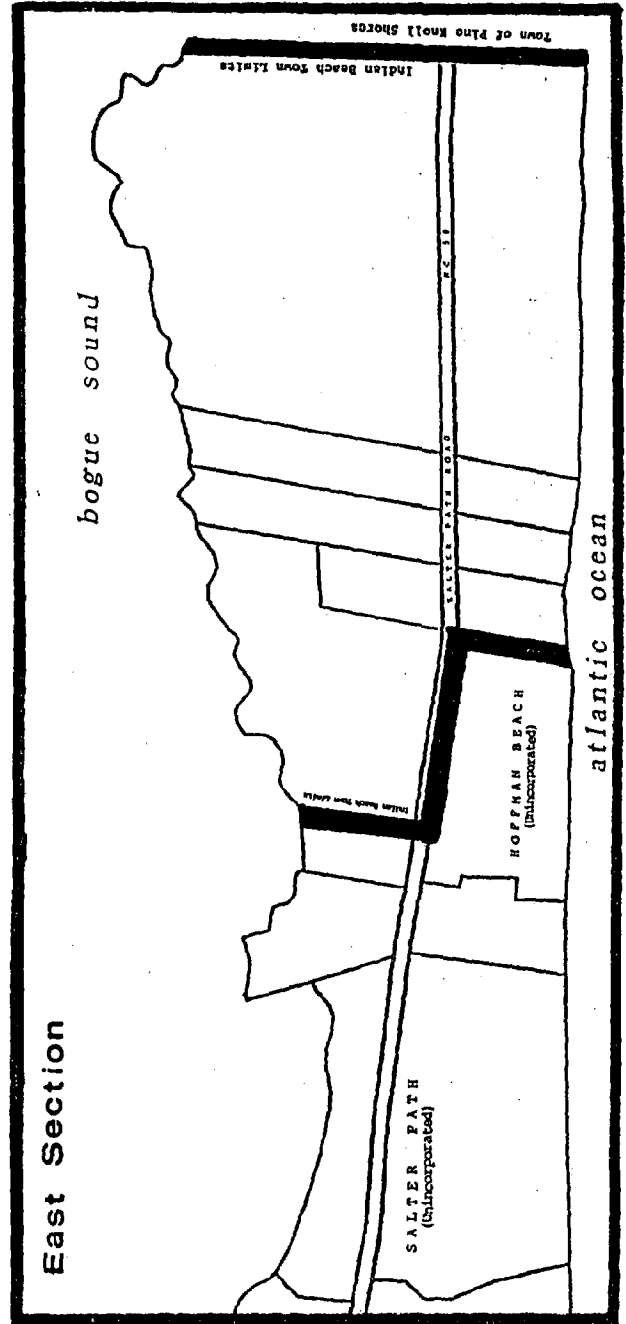
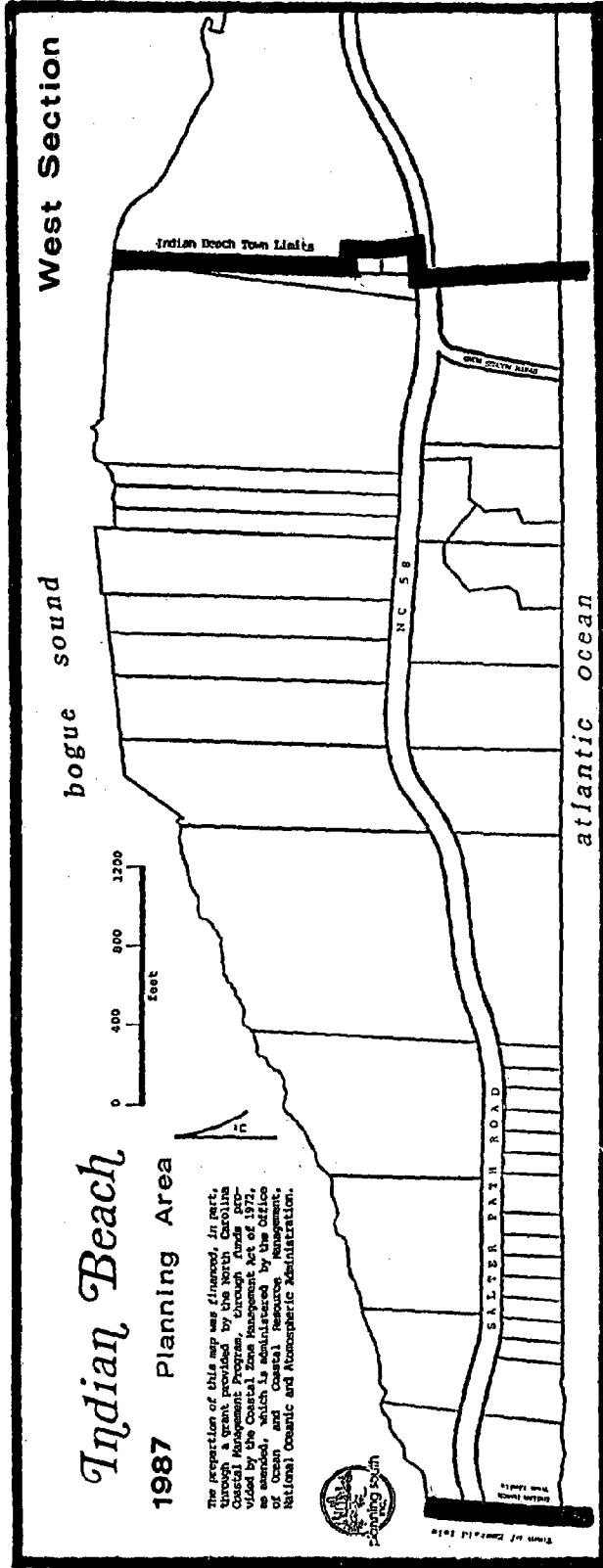
In Salter Path, between the East and West Sections, a very large parcel donated to the State by the Roosevelt Family is listed as a "natural area" by the State. This tract is used as a regional public access point to the beach and ocean. Please see page 15.

PUBLIC WORKS

Other than street lighting, the Town of Indian Beach provides no public works. Water is supplied by the Bogue Banks Water and Sewer Corporation serving the West Section) and Carolina Water Service of Pine Knoll Shores (serving the East Section), private companies. There is no community sewer system, and there are no public streets other than the two State maintained roads.

TOURISM

Vacationers come to Indian Beach because of its proximity to the ocean, beaches and sound. Other attractions are the special types of accommodations that are offered as compared to other areas on Bogue Banks. The Indian Beach area provides affordable mobile home housing facilities and campground accommodations. All have either access to the ocean or sound. Although not entirely unique in these offerings, Indian Beach also has a wide variety of selection and an adequate number of other accommodations, locations, and prices for vacationers. Three condominiums are situated within the Town Limits, and several motels are located in Salter Path.



Indian Beach

Planning Area

1987

EXISTING LAND USE OF THE PLANNING AREA

The area gained its fame for the way its current settlement occurred. The Roosevelt Family owned the land in the vicinity of Indian Beach, but over the years "squatters" moved in. After their becoming established in the area, these new occupants of what is now known as Salter Path were deeded the land by the Roosevelts. Also some 22.5 acres, fronting on about 2750 feet of ocean front, were given for a regional beach and ocean access park. Operated by the County, this new park was opened in 1987. This new facility will serve to alleviate the shortages of access for the public to the beaches and the ocean.

The land use analysis for the Indian Beach Planning Area is treated in four parts: (1 & 2) the incorporated West and East Sections of the Town, (3) the unincorporated Salter Path/Hoffman Beach Section, and (4) Highways.

EXISTING LAND USE OF THE WEST SECTION OF INDIAN BEACH

Many of the land uses in this oldest part of the Town have existed for more than 25 years. Their types have been primarily mobile home parks, campgrounds, and supporting commercial uses. During the past five years, however, a new residential use - Summer Winds Condominiums - has dominated the landscape. These 211 units in three highrise structures have literally remolded the skyline and general nature of Indian Beach. There about 241 acres within the bounds of the West Section. This represents 64 percent of the incorporated land in the Planning Area.

Residential

Single- and Two-family Conventional Residential. There are ten single-family residential buildings and one duplex located inside the Town Limits. Seven front on the ocean and the south side of NC 58. Except for one, all are seasonal residences. These conventional constructed-on-site dwellings are situated on 5 acres using about 2% of the land in the West Section.

Condominiums. Summer Winds Condominiums are situated in three five-story buildings fronting on both the ocean and NC 58. There are 211 units including six penthouses. The three structures are located on land that once had some 155 mobile homes on it.

Mobile Homes. There are 1052 seasonally occupied mobile home units and 29 permanently occupied units in the Town Limits. All are located within five mobile home parks. Although most units are owned by their residents, all the land upon which they are situated is rented from the park owners. There are some 75 acres, or 31 percent of the land in the West Section, used for mobile home parks.

Campgrounds

Three campgrounds provide accommodations for camping vacationers and seasonal residents. About 39 acres are used for this purpose, representing 16 percent of the land in the West Section.

Institutional

Institutional uses of land include: the Baptist Children's Home located on the sound and the ocean, and fronting on the north and south sides of NC 58, in the western portion on about 8 acres, using 3 percent of the land; and the Salter Path Volunteer Fire and Rescue Squad Station and Indian Beach Town Hall located on less than an acre on Salter Path Road.

Commercial

Except for the Indian Beach Fishing Pier and Efficiency Apartments located in the extreme western portion, all commercial development is situated in close proximity to the mobile home parks, campgrounds, and condominiums along NC 58. The uses range from offices of realty and property management firms and gift shops to restaurants, a super market, hardware store, post office, and other service oriented establishments. There are 9 acres in commercial use, representing 4 percent of the land in the Town Limits.

Vacant Land

There are some 71 acres that are vacant in the western half of the West Section. Almost all of these 71 acres are within the bounds of four large tracts. There are six additional vacant parcels subdivided for home construction on the ocean and fronting on the south side of NC 58. All of the remaining unplatted land can be used for residential purposes through special use permit provisions of the Zoning Ordinance.

-- WEST SECTION LAND USE ANALYSIS --

	<u>Acres</u>	<u>Percent</u>		
Single-family	4a	2%	<u>Total Parcels</u>	40
Two-family	<1	<1	Occupied Parcels	29
Condominiums	18	7	Vacant Parcels	11
Mobile Home Parks	75	31	-----	
Campgrounds	39	15	<u>Total Principal Structures</u>	110
Institutional	8	3	Conventional Homes	8
Commercial	9	4	Condominiums (211 units)	2
-----			Mobile Homes	1081
100' State Primary Road	15	6	Commercial	9
60' State Secondary Road	1	<1	Institutional	3
<u>Total State Roads</u>	16a	7%		

Land in Designated Use	170a	69%		
<u>Vacant</u>	71	31		
TOTALS	241 acres			

EXISTING LAND USE OF THE EAST SECTION OF INDIAN BEACH

Nearly all the land in the incorporated East Section of Indian Beach lies vacant with a dense cover of maritime forest growth. The area consists of approximately 136 acres or about 36 percent of the total incorporated land in the Town. All but six acres (zoned for Business) are zoned Residential.

Residential

Condominiums. There are two condominiums in the East Section -- Colony by the Sea (84 units in seven 3-story buildings) and Windward Condominiums (50 units in one ten-story building). These condominiums front on the ocean and the south side of NC 58. These dwelling units use about 7 acres or about 5 percent of the land in the East Section.

Private Recreation

Directly across the highway from both of the two condominiums are two private recreational facilities expressly available for the residents of the respective condominiums. These facilities lie on about 8 acres, using approximately 6 percent of the land in the East Section.

Vacant

There are 116 acres of land unused for urban purposes. This amount represents 85 percent of total 136 acres in the East Section of Indian Beach.

— EAST SECTION LAND USE ANALYSIS —

	<u>Acres</u>	<u>Percent</u>		
Condominiums	7a	5%	<u>Total Parcels</u>	9
Private Recreation	8	6	Occupied Parcels	4
-----			Vacant Parcels	5
60' State Primary Road	5a	4%	-----	
-----			<u>Total Principal Structures</u>	9
Land in Designated Use	20a	15%	Condominiums (134 units)	9
Vacant Land	116	85		
<hr/>				
TOTALS	136 acres			

EXISTING LAND USE OF SALTER PATH AND HOFFMAN BEACH

Because of the mixed nature of the land use in the unincorporated section of the Planning Area, half of the land is designated as "mixed use." Historically, the land was settled by "Squatters" in the Salter Path portion. Since then a campground, restaurant, and other establishments in Indian Beach community have been named "Squatters." There is little semblance of development order in Salter Path, making the demarcation of property especially difficult.

Hoffman Beach, located on a private loop road and high knoll between NC 58 and the ocean in the eastern portion of this unincorporated section of the Planning Area, is a single-family development consisting of 29 permanent and seasonal occupancy homes. Some of these dwellings are in need of maintenance, but most are in good repair. The private road is in very poor condition. This subdivision consists of about 24 acres using 18 percent of the land in the unincorporated area.

Mariners Point is a condominium (36 units in two three-story buildings with boat slip facilities) located to the east of Salter Path proper and fronting on Bogue Sound with access to NC 58. The development covers about 8 acres or 6 percent of the land in the unincorporated area.

The County Regional Access Park and State Natural Area front on the ocean for some 2750 feet. The land consists of beach, high dunes, and maritime forest. There are 22.5 acres within the bounds of this tract, taking up 16 percent of the land in the unincorporated area. This barrier-free facility has lighted parking, restrooms and showers.

Salter Path is the oldest settled community in the Planning Area. Much of the occupancy is permanent year-round. Much of the development is heavily mixed. Along NC 58, the uses are primarily commercial and residential with some institutional (churches) uses. On the sound side, the uses are associated with the fishing industry consisting of docks, processing plants, ice houses, and fish stores. Intermingled with these, however, are a number of conventional dwellings and mobile homes. Access is via a series of sand roadways. To the north of the Town Hall/Fire Station complex is the Memorial Ball Park. This facility is maintained and used by a local softball league. This mixed-use area consists of about 74 acres or 49 percent of the unincorporated section of the Planning Area. Parts of the community give the impression of the lack of care for appearance. Certain sections present an unkempt image. There are places where storm debris, junk, and trash have been lying around for many years.

— SALTER PATH/HOFFMAN BEACH LAND USE ANALYSIS —

	<u>Acres</u>	<u>Percent</u>
Single-family (Hoffman Beach)	24a	18%
Condominiums	8	6
Mixed Uses (Salter Path)	74	54
Commercial	<1	<1
State Natural Area	22	16

60' State Primary Road	5a	4%

Land in Designated Use	134a	98%
Vacant Land	3	2
<hr/>		
TOTALS	137 acres	

HIGHWAYS

There are some 26 acres in state highway right-of-way in the Planning Area. This amounts to 6 percent of the total land. NC 58 (Salter Path Road) is the main thoroughfare. Through the West Section of Indian Beach, the highway's right-of-way is 100 feet wide. In the remaining sections, it is 60 feet wide. Portions of the pavement of the highway (almost totally in Salter Path) is three-laned, with the middle lane designated for turning purposes. One other state right-of-way, named State Access Road, is located in the eastern end of the West Section of Indian Beach. This paved road next to the Squatter's Restaurant intersects with NC 58 and deadends at the beach.

There are no municipal streets in Indian Beach.

PLANNING AREA ROADS

Inside the Town Limits

NC 58 (100'R/W)	6,400 feet	1.2 miles	15 acres
NC 58 (60'R/W)	3,800 feet	.7 miles	5 acres
Access Road (60' R/W)	700 feet	.1 mile	<1 acre

Outside the Town Limits

NC 58 (60' R/W)	3,800 feet	.7 miles	5 acres
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AVERAGE DAILY (24 HOUR) HIGHWAY COUNTS AT SALTER PATH*

NC 58 (Salter Path Road) 9,200

*Source: N.C. Department of Transportation, August 1986

INDIAN BEACH PLANNING AREA

— 1987 LAND USE ANALYSIS —

	Incorporated			Unincorporated	Inc. + Uninc.
	West Indian Beach	East Indian Beach	Total	Salter Path/Hoffman Beach	Total
	ac. %	ac. %	ac. %	ac. %	ac. %
Sing./two Fam. Residential	4a 2%	-- --	4a 1%	24a 18%	28a 5%
Condominiums	18 7	7a 5%	25 7	8 6	33 6
Mobile Home Parks	75 31	-- --	75 20	-- --	75 14
Mixed Uses	-- --	-- --	-- --	74 54	74 14
Campgrounds	39 15	-- --	39 9	-- --	39 7
Private Recreation	-- --	8 6	8 2	-- --	8 2
State Natural Area	-- --	-- --	-- --	22 16	22 4
Institutional	8 3	-- --	8 2	-- --	8 2
Commercial	9 4	-- --	9 2	<1 <1	10 2

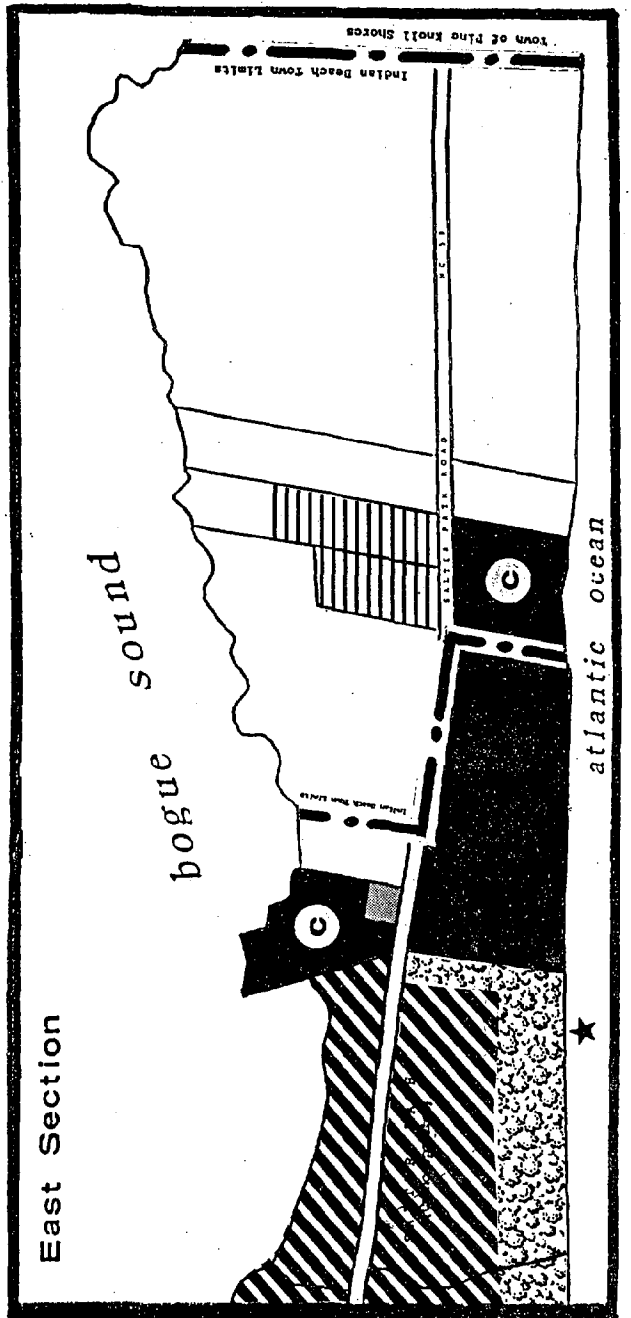
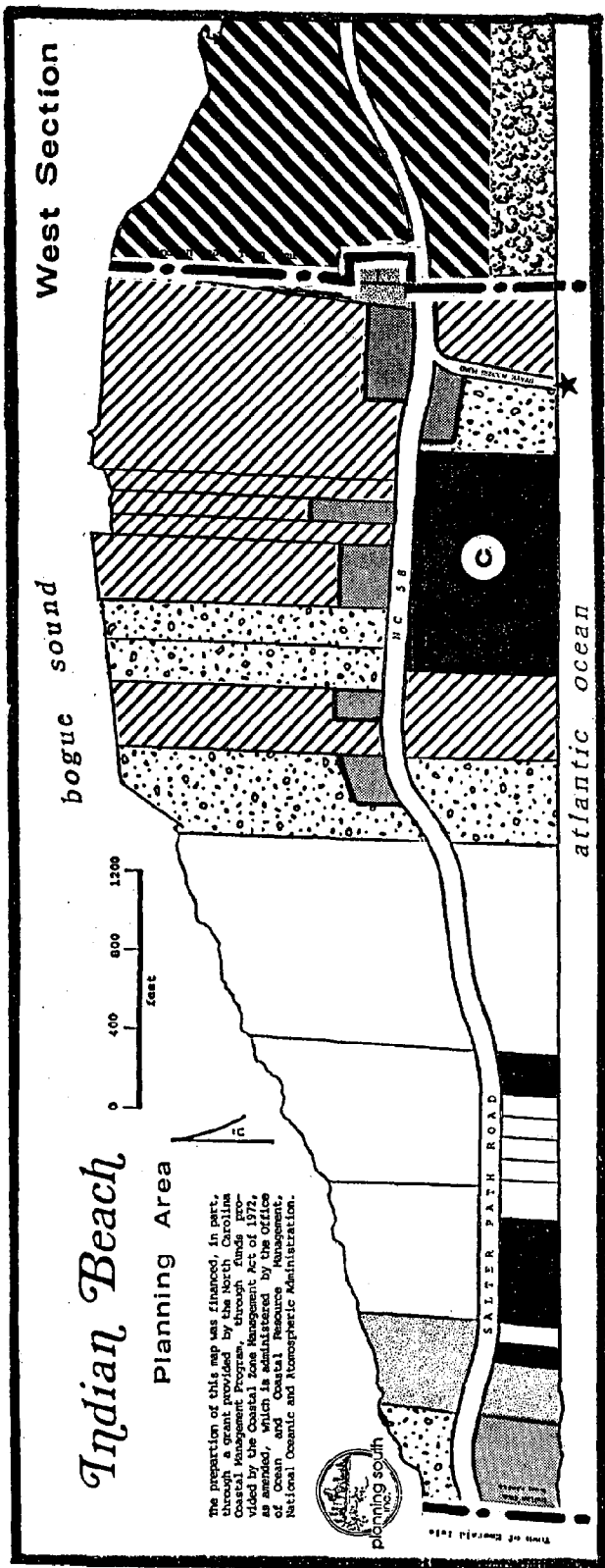
100' State Primary Road	15a 6%	-- --	15a 4%	-- --	15a 3%
60' State Primary Road	-- --	5a 4%	5 1	5a 4%	10 2
60' State Secondary Road	<1 <1	-- --	<1 <1	-- --	<1 <1
Total State Roads	16a 7%	5a 4%	21a 6%	5a 4%	26a 5%

Total Municipal Streets	0 0	0 0	0 0	0 0	0 0

Land in Designated Use	169a 69%	20a 15%	189a 49%	134a 98%	323a 63%
Vacant Land	71 31	116 85	187 51	3 2	190 37
TOTALS	240 acres	136 acres	376 acres	137 acres	513 acres

— 1981 LAND USE ANALYSIS —

	Acres	Percent Developed	Percent of Total
Urban and Built-up	134.6a	100.0%	37.0%
Residential	121.0	89.9	33.0
Commercial	13.5	10.0	3.7
Governmental	.1	.1	.3
Undeveloped	228.8	---	63.0
Total Land Area	363.4a	---	100.0%



EXISTING LAND USE 1987

- single-family residential
- condominium
- mobile home park
- mixed use
- campground
- private recreation
- state natural area
- Institutional
- commercial
- vacant land
- public access

DEVELOPMENT TRENDS AND MAJOR PHYSICAL PROBLEMS

It appears that Indian Beach is in the process of slowly changing its character from a moderate- to middle-income vacation resort to a middle- to upper-income seasonal residency community. This statement is based upon the most recent land use changes and building activities that have occurred, namely: (1) the removal of 147 mobile homes to construct Summer Winds condominiums; (2) the building of Colony by the Sea condominiums; and (3) the development of Windward Condominiums. In Salter Path, Mariners Point condominiums has been built. These major undertakings made up the overwhelming majority of construction activity in the Planning Area during the past five years. Summer Winds has already changed the skyline. This five story facility can be seen for many miles from all directions. Except for these four projects, the community has hardly changed in the past five years.

THREAT TO THE MARITIME FOREST

As development continues, the surrounding maritime forest is placed in jeopardy of being removed to make way for large scale construction. This phenomenon is being experienced in many places where the forests are not owned by the Federal, State, or local governments. Oftentimes single-family home development is more sensitive than other types of development to the vanishing forests and their value to heating, cooling, and wind protection. Most new construction in the area will more than likely be multi-storied and multi-family conventional buildings from this point on. The Town's ability to curb the loss of its maritime forest resource lies in the enforcement of the Town's Environmental Protection Ordinance's Vegetation Requirements which require the saving of forty percent of all natural vegetation "...whose trunks or main stems equal or exceed one (1") inch in diameter." Saving of trees is not impossible. Some of the mobile home parks and campgrounds have been able to do so. Their appearance and shade in the summer attest to their comfort as compared to those parks that have not saved trees. There are re-vegetation requirements (Art. I-A, Sec. 4 of the Zoning Ordinance) that should be applied to restore vegetative cover.

PUBLIC ACCESS TO BEACHES AND THE SOUND

A major problem faced by Indian Beach is that it has but one public access to the ocean. This is at the end of the State Access Road in the eastern portion of the West Section of Indian Beach. The access is hampered by inadequate parking for about 20-30 days, but it appears to be adequate for most of the year. There is no public access to the sound.

There are a large number of private access points via private properties -- at conventional dwellings, mobile home parks, campgrounds, condominiums, and at the Indian Beach Pier. Because of this situation, one-day visitors, some campers, and even mobile home park residents are unable to attain easy access with automobile parking to the public beaches and sound. A convenient public or commercial marina and launching ramp in the Indian Beach Planning Area presents itself as a potential business opportunity.

Because of the dearth of access points for the general public, conflict arises. This is in the form of parking in incorrect places and of trespassing on private property. A Survey on Indian Beach, as described on pages 44-60, shows that this is a concern of many respondents -- permanent, seasonal, and non-resident.

BEACH EROSION AND NOURISHMENT

The Town is very interested in finding ways of protecting beach areas from excessive storm erosion. Since the beaches and ocean are the Town's main attractions, it wishes, with the assistance of the State and Federal Governments: (1) to protect beaches, frontal dunes, and related vegetation from being destroyed by erosion; (2) to renourish beaches, dunes, and vegetation where found to be a need; and (3) thereby, to protect human life and real property.

PARKS AND RECREATION

The quantity of land set aside for parks and recreation in the planning area, according to the people in their responses in A Survey on the Town of Indian Beach, is insufficient. The 123 people answering Question 12 said that recreational facilities should be encouraged by a 103 (84%) to 20 (16%) vote margin. In Question 14, however, of those answering the question, 71 (48%) said facilities should be developed while 77 (52%) said they should not. Planning standards, depending on the community, suggest that 10 percent of community land be set aside for public recreation purposes.

A way to accumulate public recreational land is to adopt subdivision regulations that require developers to set aside a percentage of their properties, or an equivalent of land and/or money to assist the Town. This method also serves to meet the need for easements to the ocean and sound.

The Indian Beach Planning Area has been blessed with the great recreational resources of the ocean, beaches, and sound. These great natural resources go a long way toward meeting the recreational needs of seasonal and non-resident vacationers and at the same time toward providing income for local entrepreneurs. There are no provisions in town ordinances, however, to address the need for public access to these wonderful resources.

PEDESTRIAN WALKWAYS AND BICYCLE TRAILS

The Planning Area is devoid of sidewalks, walkways, and bicycle paths. Residents and visitors must walk on the shoulder of NC 58. The lack of separation of pedestrian and vehicular traffic is dangerous. Resort and vacation communities that have walking and biking facilities show their sensitivity to these two increasingly popular recreational outlets for their permanent and seasonal residents. North Carolina law defines bicycles as vehicles, requiring them to operate on roadways.

VEHICULAR ACCESS -- STREETS

Although it is not realized by some permanent residents and many seasonal residents, the Town of Indian Beach has no public streets. This was brought to mind in A Survey on the Town of Indian Beach where people said that the Town ought to maintain its streets better. Even the privately maintained gravel road to Town Hall was mentioned with expressions concerning pot holes, mud, and dust.

Dwelling densities in the Town range as high as 11 units per acre, and the the summertime population is high. With the possibility of having 2-4 persons per unit at peak season, this could mean that 30-40 people per acre may be in residence. In 75 acres of mobile home parks alone, in theory there might be 2000-3000 people in a given peak period of time. This potential population density is higher than that of most municipalities in North Carolina. Public access to private residences in heavy concentrations then becomes an issue. Although the Town has no plans to acquire land for public streets, private streets should be better maintained by their owners, and where access is shared by other public and private entities the costs of maintenance should be shared.

At present, the road owners willingly provide access to a ball park, several houses, and mobile homes in addition to the Town Hall. The road is maintained at no expense to the Town or residents.

MOBILE HOME PARK DESIGN

The interior street patterns of all but one of the mobile home parks in the area can be described as being "elongated grid systems." In some cases the street patterns are parallel to finger canals that provide water access to mobile home units. Private streets laid out in this configuration promote thru traffic and speeding in residential neighborhoods. For vacationing families with children this can be a concern. Just as mobile homes require the same amount of municipal service as conventional single-family dwellings -- water, sewer, fire and police protection, rescue service -- so do they require good safe access.

The danger of fire is also a concern. Setback requirements should be sufficient enough to discourage "fire-jumping" from dwelling to dwelling. With relatively steady breezes and high winds from time-to-time, fires in mobile home parks must be a serious concern of the Town.

A Mobile Home Ordinance was adopted by the Town Board of Commissioners on October 14, 1987.

TOWN IMAGE AND CLEANLINESS PROGRESS

Owners of Paradise Bay Mobilehome Park are renovating its buildings, improving its streets, and applying for CAMA permits to complete its bulk-heading to fill-in two small canals, and to add marina facilities in the center canal. They are also cleaning-up old metal debris that was left in the old shopyard when it was purchased in December 1986.

THE SATELLITE ANNEXATION

Nearly 2/5ths of the Town (East Section) lies in a separate location about 3/4 mile from the original section. Access between the East and West Sections is through the community of Salter Path which in summertime is congested during normal conditions. Just to meet the very minimum requirements of servicing, the logistics of the situation must be dealt with, namely: spreading the protection of a limited police force in an efficient manner to taxpaying citizens in a remote location.

EXTRATERRITORIAL JURISDICTION OPTIONS

All of Salter Path and Hoffman Beach are located within one mile of both sections of Indian Beach, making these unincorporated communities, under North Carolina's general enabling legislation for municipalities (G.S. 160A), eligible for extraterritorial jurisdictional application including: zoning, subdivision, building and housing regulation. Currently, Indian Beach is not exercising this legislative right.

"Merger" of the communities in the Planning Area has been a point of discussion for a number of years. The issue heightened again as Indian Beach began updating its Land Use Plan in the early part of 1987. A public meeting was held on Wednesday, January 28, 1987, to air the question again. Petitions on the subject were circulated throughout the area, and the Town Board of Commissioners later voted unanimously to kill the issue question at its April 8, 1987 meeting.

PUBLIC SEWER

In February, Carteret County held a bond referendum on the provision of countywide water and sewer. The issue failed, although it did receive a "yes" vote in Indian Beach and in a few other "beach towns." As growth continues, a logical major capital improvement will be the development of a public sewage collection and treatment system. This must be considered to be a definite item in Indian Beach's future. Now that the area has community water, the case for public sewerage can be argued very strongly. Economic development will be enhanced by having a public sewage removal and treatment system. Development would have fewer hurdles to get over, and most importantly the environmental attributes that attract people to the area would not only be better protected but they would be enhanced. The fishing industry, so important to the Planning Area, would also be enhanced because the surrounding waters would be better protected. A gradual improvement of the waters for shellfishing would be seen.

After approval by the citizenry, sewerage could be financed by a countywide or more locally oriented bond referendum. The sale of bonds would supply the construction capital, and subscribers would be billed in amounts sufficient to service the bond debt and to operate and maintain the system. Ad valorem taxes would not be used to finance improvements to the system.

SEPARATION OF CONFLICTING USES

Only a few nonconforming land uses have been pointed up by the people in A Survey on the Town of Indian Beach. Those conflicting uses that have been identified, however, are serious in the eyes of the respondents. Most complaints had to do with the dumping and accumulation of debris, trash, and junk. There are inordinate accumulations of materials that ought to be hauled to the county landfill both within the Town Limits and in the unincorporated area.

In a number of cases, residential uses occur side-by-side with commercial uses. This is the case particularly in Salter Path where there has been little apparent effort to guard against conflicts. No visual buffers or transitional uses are being utilized to any degree to separate residential and business uses.

What seemingly is an acceptable condition for residents of the Salter Path community is not acceptable in other parts of the Planning Area. The land use mixtures that would be expected to be offensive to neighbors elsewhere, however, might well be perfectly acceptable in Salter Path.

CLEANLINESS OF FINGER CANALS

Cleanliness of finger canals is always an important concern. Under ideal conditions, canals should have a constant flow of water running through them to help keep them clean. Recognizing there could be potential problems, however, the Town adopted a policy in 1972 not to allow further construction of finger canals. In Indian Beach, the canals are washed by tidal action daily. Leaching of effluent from septic tanks has neither been a problem, because there is none located in the vicinity of the canals, nor have mosquitoes been a problem.

AREAS OF ENVIRONMENTAL CONCERN (AECs)

AECs are special areas identified and set aside for rigorous protection because of their natural, physical, and commercial value to the state and its communities. AECs are defined for these purposes in terms of the estuarine system which includes coastal wetlands, estuarine waters, public trust areas and estuarine shorelines. These are described in the following sections.

In the Indian Beach Planning Area there are two major areas of environmental concern. These are the estuarine waters and shorelines of Bogue Sound to the north and the ocean front area to the south. These serve as natural constraints to growth and development and have been designated as AECs by the Coastal Resources Commission. The Town Board of Commissioners protects these designated areas within the municipality's jurisdiction through zoning to insure that development will not present any endangerment to the preservation of natural resources.

The Estuarine System

The estuarine system in the Indian Beach Planning Area consists of four types of categories including wetlands, waters, public trust areas, and shorelines.

Estuarine Waters. These are defined as all the waters of the Atlantic Ocean and the bays, sounds, rivers, and tributaries thereto, seaward of the dividing line between coastal fishing waters and inland fishing waters. In the Indian Beach Planning Area, estuarine waters are Bogue Sound on the north and the Atlantic Ocean on the south.

The significance of estuarine waters is that they are a dominant component and bonding element of the entire estuarine system, integrating aquatic influences from both the land and the sea. Estuaries are among the most productive natural environments in North Carolina. They support the valuable commercial and sports fisheries of the coastal area which are composed of estuarine dependent species such as menhaden, flounder, shrimp, crabs and oysters. These species must spend all or some part of their life cycle within the estuarine waters to mature and reproduce. Of the ten leading species in the commercial catch, all but one are dependent on the estuary.

This high productivity associated with the estuary results from its unique circulation patterns caused by tidal energy, fresh water flow, and shallow depth; nutrient trapping mechanisms; and protection to the many organisms. The circulation of estuarine waters transports nutrients, propels plankton, spreads seed stages of fish and shellfish, flushes wastes from animal and plant life, cleanses the system of pollutants, controls salinity, shifts sediments, and mixes the water to create a multitude of habitats. Some important features of the estuary include mud and sand flats, eel grass beds, salt marshes, submerged vegetation flats, clam and oyster beds, and important nursery areas.

Secondary benefits include the stimulation of the coastal economy from spin-off operations required to service commercial and sports fisheries, waterfowl hunting, marinas, boatyards, repairs and supplies, processing operations, and tourist-related industries. In addition, there is considerable non-monetary value associated with aesthetics, recreation and education.

Coastal Wetlands. These are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), but not including hurricane or tropical storm tides. In the Planning Area coastal wetlands occur on the north along Bogue Sound.

These wetlands may contain some but not necessarily all of the following marsh plant species:

Cord Grass (<i>Spartina alterniflora</i>)	Bulrush (<i>Scirpus</i> spp.)
Black Needlerush (<i>Juncus roemerianus</i>)	Saw Grass (<i>Cladium jamaicense</i>)
Glasswort (<i>Salicornia</i> spp.)	Cat-tail (<i>Typha</i> spp.)
Salt Grass (<i>Distichlis spicata</i>)	Salt Meadow Grass (<i>Spartina patens</i>)
Sea Lavender (<i>Limonium</i> spp.)	Salt Reed Grass (<i>Spartina cynosuroides</i>)

The significance of coastal wetlands is that they are unique in productivity. Supporting this production of the estuarine system is the presence of detritus (decayed plant material) and nutrients that are exported from the coastal marshlands. The amount of exportation and the degree of importance appears to be variable from marsh to marsh, depending primarily upon its frequency of inundation and the inherent characteristics of the various plant species. Without the marsh, the high productivity levels and complex food chains typically found in the estuaries could not be maintained.

Coastal wetlands are sometimes called "the nursery of the deep." Estuarine dependent species of fish and shellfish such as menhaden, shrimp, flounder, oysters, and crabs currently make up about 90 percent of the total value of North Carolina's commercial catch. The marshlands, therefore, support an enormous amount of commercial and recreational businesses along the coast.

The roots, rhizomes, stems, and seeds found in coastal wetlands act as good quality waterfowl and wildlife feeding and nesting materials. In addition, wetlands serve as the first line of defense in retarding estuarine shoreline erosion. The plant stems and leaves tend to dissipate wave action, while the vast wetlands serve as barriers against flood damage and control erosion between the estuary and the uplands.

Marshlands also act as nutrient and sediment traps by slowing the water which flows over them and causing suspended organic and inorganic particles to settle out. In this manner, the nutrient storehouse is maintained, and sediment harmful to marine organisms is removed. Also, pollutants and excessive nutrients are absorbed by the marsh plants, thus acting as an inexpensive water treatment system.

Public Trust Areas. These are described as: (1) all the waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of state jurisdiction; (2) all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high water mark; (3) all navigable natural bodies of water and land thereunder to the mean high water level or mean water level as the case may be, except privately-owned lakes to which the public has no right of access; (4) all water in artificially created bodies of water containing significant public fishing resources or other public resources which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; and (5) all waters in artificially created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication, or any other means. In determining whether the public has acquired rights in artificially created bodies of water, the following factors shall be considered:

- (1) the use of the body of water by the public,
- (2) the length of time the public has used the area,
- (3) the value of public resources in the body of water,
- (4) whether the public resources in the body of water are mobile to the extent that they can move into natural bodies of water,
- (5) whether the creation of the artificial body of water required permission from the state, and
- (6) the value of the body of water to the public for navigation from one public area to another public area.

Public Trust Areas within the Indian Beach Planning Area are Bogue Sound to the north and the Atlantic Ocean to the south. The significance of the trust areas is that the public has rights to them, including navigation and recreation. In addition, these public areas support valuable commercial and sports fisheries have aesthetic value, and are important resources for economic development.

An issue at hand in the Planning Area is the right of public access to the ocean and sound. The County Regional Park at Salter Path donated by the Roosevelt Family has been activated, but it has not been advertised heavily to the public. This piece of land, with some 2750 feet of beach frontage with access to NC 58, may well spell success in rectifying the need for public access to the ocean.

Estuarine Shorelines. As AECs, estuarine shorelines, although characterized as dry land, are considered a component of the estuarine system because of their close association with the adjacent estuarine waters. Estuarine shorelines are those non-ocean shorelines which are especially vulnerable to erosion, flooding, or other adverse effects of wind and water and are intimately connected to the estuary. The northern shores of Indian Beach and Salter Path are designated as estuarine shorelines.

The extent of the estuarine shoreline area extends from the mean high water level or normal water level along the estuaries, sounds, bays, and brackish waters as adopted by the Wildlife Resources Commission of the N.C. Department of Natural Resources and Community Development, for a distance of 75 feet landward.

Any development that occurs within estuarine shoreline areas influences the quality of estuarine life and is subject to the damaging processes of shorefront erosion and flooding.

The Ocean System

The Ocean System is another type of area of environmental concern. Indian Beach's entire southern limits is bordered by the Atlantic Ocean. There is one type of category present, namely: Ocean Hazards.

Ocean Hazards. The ocean front area extending for some 2.6 miles from Emerald Isle to Pine Knoll Shores is the most important recreational attraction for the Planning Area. This ribbon of fragile land is protected from development by CAMA setback regulations requiring the avoidance of important frontal dunes and vegetation vital to the preservation of the dunes. Public access is provided to this attractive resource at the end of the State Access Road in the eastern portion of the West Section of Indian Beach. Eventual marked access with parking is expected to be made available in the future at the State Natural Area in Salter Path.

Ocean hazard areas are especially vulnerable to erosion and other adverse effects: sand, wind, and water. These areas include beaches, inlet lands, and frontal dunes and other areas where excessive erosion is possible. Please refer to the text on page 35 and 36.

CURRENT PLANS AND REGULATIONS

LOCAL CONTROLS

Building Inspection

Three elements of the State Building Code are enforced in Indian Beach by the county inspections department. The county is responsible for issuing permits, collecting fees, and inspecting construction to ensure strict compliance with all code requirements.

Zoning

Zoning was adopted in 1982, some 8 years after incorporation of the Town. The Zoning Ordinance was amended as late as 1985, but it may no longer be adequate to guide growth because of the changing needs of the community. A number of major issues need to be resolved as Indian Beach faces the future. The first relates to the General Business District (B-1) which encompasses much of the Town. There is an all inclusive use list in this one business district which includes campgrounds, mobile home parks, and condominiums -- the largest existing groups of residences in the community. Another issue has to do with the guidance of growth and development in the unincorporated area between the West and East Sections. Here there are no local and few county regulations for land use.

The Zoning Ordinance should also be amended to accommodate PUD (Planned Unit Development) design and to require that developers set aside a percentage of their land for community recreational use including public access easements or right-of-way dedications to the ocean and sound.

Subdivision Regulations

The Town has no subdivision regulations, and it appears that it really does not need a "full-blown" set of regulations. Much of what is normally found in municipal subdivision regulations would not be applicable to the Indian Beach Planning Area. Suffice it to say that that design standards for PUD design and development would be most applicable for the Town and its Extra-territorial Area. If not handled in other ordinances of the Town, requiring subdividers and developers to set aside a percentage of their land for recreation use in the form of public access easements to the ocean and sound should be a feature of the subdivision regulations.

Health Regulations

The Carteret County Health Department enforces State regulations on the installation of septic systems. The County administers inspections and code enforcement.

Flood Insurance

A Flood Insurance Ordinance was adopted for the Town of Indian Beach on March 4, 1985. Enforcement is the responsibility of the County Building Inspector, as delegated by the Town.

CAMA

An ordinance controlling development of Areas of Environmental Concern (AECs) is a part of the Zoning Ordinance as adopted in 1982, as amended. Enforcement is the responsibility of the CAMA Officer, an employee of Carteret County.

Land Use Plan

Indian Beach is currently using its Land Use Plan of 1982 as a guide to the future. Upon adoption of this 1987 Land Use Plan Update, the policies, goals, objectives, and strategies contained herein will be used as the official guide for developing proper supporting Town ordinances and amending applicable existing regulations, as needed.

Water and Sewer

The water system that serves the West Section is owned and operated by the Bogue Banks Water and Sewer Corporation, and that which serves the East Section is owned by Carolina Water Service. Both are private companies that do not have franchises with Indian Beach. Bogue Banks Water and Sewer Corporation supplied water to the area before the Town was incorporated in 1973. Subscribers are billed by the corporations. There is no public sewer system in the Planning Area.

Transportation

The Town has no public streets. The only thoroughfare is Salter Path Road (NC 58) which is a part of the North Carolina State Primary Road System. In addition, there is a State maintained secondary road (State Access Road) which leads to the Town's public beach access. It connects with Salter Path Road at the Squatter's Restaurant in the eastern portion of the West Section of Indian Beach.

STATE AND FEDERAL REGULATIONS

The listing that follows provides short statements about regulations of licensing and permitting procedures by agency or by license or permit reference source. The reader should refer to the North Carolina Environmental Permit Directory, published in 1985 by the Division of Planning and Assessment of the Department of Natural Resources and Community Development, for more specific descriptions of state and federal regulations which are applicable to Indian Beach. The respective agencies should be consulted for more detailed information and direction.

State Licenses and Permits:

Department of Natural Resources and Community Development (NRCD),
Division of Environmental Management:

- o Permits to discharge to surface waters or operate waste water treatment plants or discharge permits; NPDES Permits (G.S. 143-215).
- o Permits for septic tanks with a capacity over 3,000 gallons/day (G.S. 143-215.3).
- o Permits for withdrawal of surface or ground waters in capacity use areas (G.S. 143-215.15).
- o Permits for air pollution abatement facilities and sources (G.S. 143-215.108).
- o Permits for construction of complex sources; e.g., parking lots, subdivisions, stadiums, etc. (G.S. 143-215.109).
- o Permits for construction of a well over 100,000 gallons/day (G.S. 87-88).

Department of Natural Resources and Community Development, Division of Coastal Management:

- o Permits to dredge and/or fill in estuarine waters, tidelands, etc. (G.S. 113-299, Dredge and Fill Law).
- o Permits to undertake development in Areas of Environmental Concern (G.S. 113A-100, Coastal Management Act of 1974). Note: Minor development permits are issued by the local government.

Department of Natural Resources and Community Development, Division of Land Resources:

- o Permits to alter or construct a dam (G.S. 143-215.66).
- o Permits to mine (G.S. 74-51).
- o Permits to drill an exploratory oil or gas well (G.S. 113-381).
- o Permits to conduct geographical exploration (G.S. 113-321).
- o Sedimentation erosion control plans for any land disturbing activity of over one contiguous acre (G.S. 113A-54).

Department of Natural Resources and Community Development, Secretary of NRCD:

- o Permits to construct an oil refinery.

Department of Administration:

- o Easements to fill where lands are proposed to be raised above the normal high water mark of navigable waters by filling (G.S. 146.6(c)).

Department of Human Resources:

- o Approval to operate a solid waste disposal site or facility (G.S. 130-166.16).
- o Approval for construction of any public water supply facility that furnishes water to 15 or more year-round residences or 25 or more year-round residents (G.S. 130-160.1).

Federal Licenses and Permits:

Army Corps of Engineers, Department of Defense:

- o Permits required under Sections 9 and 10 of the Rivers and Harbors Act of 1899; permits to construct in navigable waters.
- o Permits required under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972.
- o Permits required under Section 404 of the Federal Water Pollution Control Act of 1972; permits to undertake dredging and/or filling activities.

Coast Guard, Department of Transportation:

- o Permits for bridges, causeways, pipelines over navigable waters; required under the General Bridge Act of 1946 and the Rivers and Harbors Act of 1899.
- o Deep water port permits.

Geological Survey, Bureau of Land Management; Department of Interior:

- o Permits required for offshore drilling.
- o Approvals of OCS pipeline corridor rights-of-way.

Nuclear Regulatory Commission:

- o Licenses for siting, construction and operation of nuclear power plants; required under the Atomic Energy Act of 1954 and Title II of the Energy Reorganization Act of 1974.

Federal Energy Regulatory Commission:

- o Permits for construction, operation and maintenance of interstate pipeline facilities; required under the Natural Gas Act of 1938.
- o Orders of interconnection of electric transmission facilities under Section 202(b) of the Federal Power Act.
- o Permission required for abandonment of natural gas pipeline and associated facilities; required under Section 7c(b) of the Natural Gas Act of 1938.
- o Licenses for nonfederal hydroelectric projects and associated transmission lines; required under Sections 4 and 15 of the Federal Power Act.

RESOURCE POTENTIAL

Public beach and sound access are two issues that depend heavily upon the resources with which the community has been blessed. There is one public beach access, but no public access to the sound. Next to the Town at Hoffman Beach is the new County Park which serves a regional access point to the ocean. These facilities relate directly to the Town's economic wellbeing.

Commercial and recreational fisheries do not figure into the Town's future greatly, but next door in Salter Path commercial fishing flourishes. There are access points to the sound through mobile home parks and campgrounds.

There are no agricultural and forestry lands, and no known cultural and historical resources. In Salter Path, however, there is the potential for historical enterprises that tell the story of the squatters and the Roosevelt Family.

CONSTRAINTS TO DEVELOPMENT/LAND SUITABILITY

Land development in the Indian Beach Planning Area must take into consideration the possible constraints that arise from land use potential, fragile areas, and areas with resource value. Development in these areas could cause undesirable consequences and prove to be very costly.

PHYSICAL LIMITATIONS TO DEVELOPMENT

Hazard Areas

Development occurring where there are physical limitations can bring about some extremely expensive consequences. In some cases, they can be almost impossible to overcome and cause irreversible damage. Hazard areas must be honored with serious care and precautions to prevent serious damage to construction.

Excessive Erosion Areas

These include sections along Bogue Sound that have a high probability of excessive erosion. These areas are delineated by a 30-year recession line, showing the extent of expected erosion. Excessive erosion areas are designated as Areas of Environmental Concern, as described on page 23. See the map on page 37.

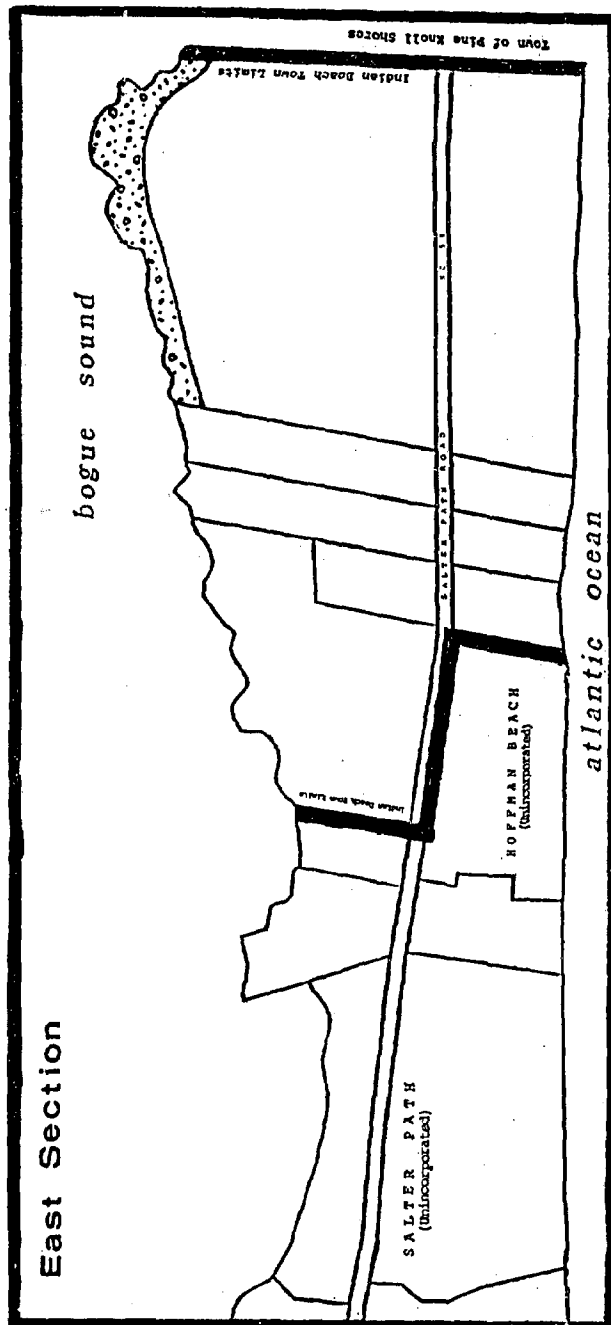
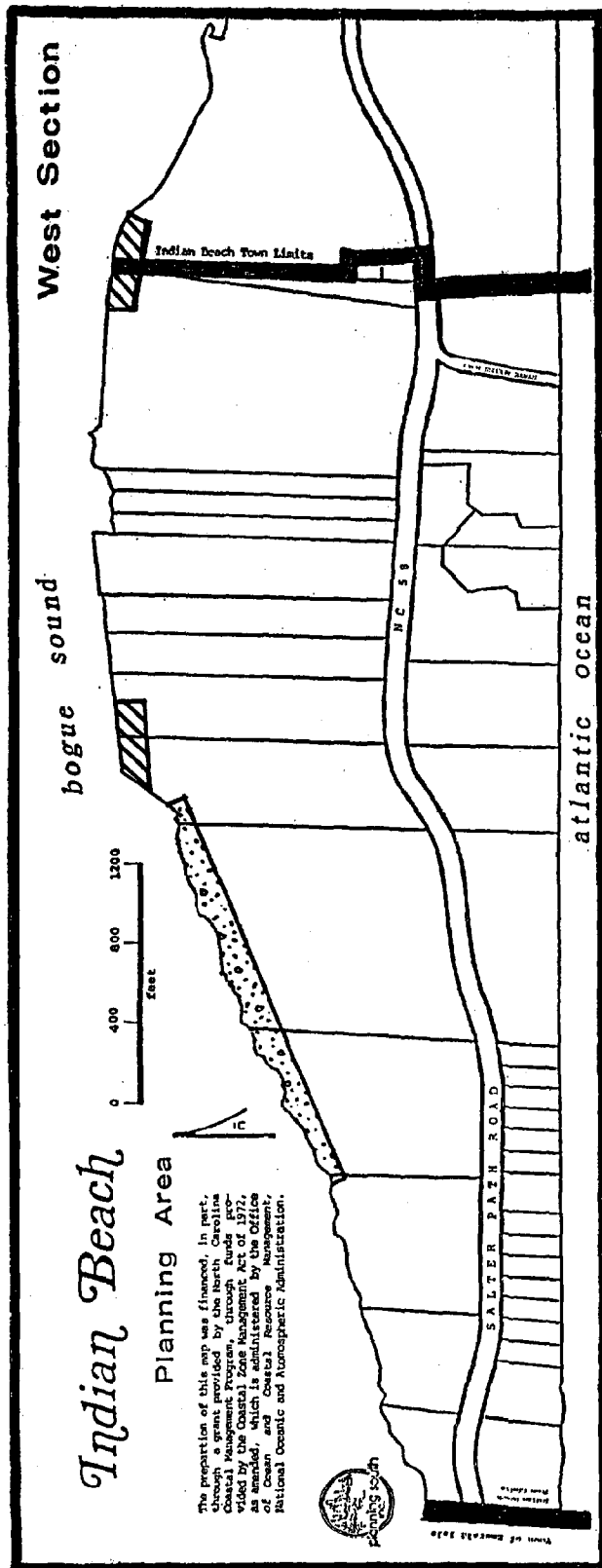
Flood Hazard Areas

These are situated adjacent to Bogue Sound within the 100-year flood line. Improper development in these areas may imprudently endanger life and property. The Flood Insurance Rate Map as prepared by the Federal Emergency Management Agency is on file in the Indian Beach Town Hall. Maps have not been prepared for the unincorporated areas.

Archaeologically Sensitive Areas

There are two prehistoric archaeological sites within the Town Limits of Indian Beach. These are shown on the map on page 33. Both apparently have been destroyed by earlier or existing development. Other archaeologically sensitive sites can be expected, however, particularly along Bogue Sound. There are no structures of archaeological or historical significance that have been identified in Indian Beach.

Poorly planned development could destroy artifacts. As a precaution the Carteret County Building Inspector should consult with the N.C. Division of Archives and History prior to issuing permits in the general vicinity of archaeological sites identified on the map.



ARCHAEOLOGICAL

SITES 1987



known sites
destroyed

sensitive areas

Soil Limitations

The Town is bordered on the north by Bogue Sound and on the south by the Atlantic Ocean, posing natural limitations to development. Although the Town could continue to develop without sewerage, it is desirable to have a central system to prevent the unnecessary effects that septic tank and package treatment plant pollution could eventually have on estuarine waters and the beaches. The desirability of Indian Beach as a good place in which to live and vacation is directly linked to estuarine water quality and cleanliness of beaches. The following soil units are found to be with some limitations for on-lot sewage disposal systems.

Beach-Foredune Association. These soils are found mainly on the ocean side of Bogue Banks and at inlets. The association is found in long strips, and includes the beach and the frontal dune. Much of the foredune is covered with American beachgrass, sea oats, coastal panicgrass, and bitter panicum.

The beaches are flooded daily by tidal action. The sands are fine to very course in size but are chiefly fine. Shell fragments content ranges widely. The back portion of the beach or the berm is slightly higher and is less affected by normal tidal action. This area contains various sand sizes and shell fragments. The berms are subject to severe blowing and wind erosion. The beach is invariably devoid of vegetation. The foredune serves as a protection for more landward areas during storm attack.

Carteret Series. Carteret soils are on nearly level tidal marshes bordering the Outer Banks. Elevations are about 1 foot below to 3 feet above mean sea level. These soils are flooded frequently by daily high tide. The water is at or near the surface most of the time. The soils are very poorly drained and permeability is rapid to very rapid. Hazard rating for septic tanks--severe due to flooding, ponding, and poor filtering capacity, with potential for polluting groundwater.

Duckston Fine Sand. These are poorly drained soils, occupying the nearly level to slightly depressed flats that extend inland from the frontal dunes. The vegetation is dependent on the proximity to the ocean, including dense stands of saltmeadow cordgrass and scattered waxmyrtle. Further inland as the salt spray from the ocean decreases, the less salt tolerant grasses and sedges occur along with greenbrier, eastern baccharis, black willow, redbay, three-square, scattered cattails, blueberry, wild olive, and Virginia creeper.

Water is near the surface during the wet season and about 2-5 feet deep during the dry season. Water will stand on the surface in some low-lying areas after heavy rains. Where there are breaches in the foredunes salt water flooding will take place during storms. Areas are flooded by high wind tides on the sound side.

Madeland. These soils are normally found on the sound side of the Banks. This material has been pumped up from dredging operations to be used as building sites. Essentially, all the material has been deposited over marsh, with an average thickness of 3 to 6 feet. The water fluctuates with the tide level. Generally the water table is from 2 to 4 feet below the surface during high tide. The material consists primarily of sand with up

to 10 percent shell content. The material generally has a poor filtering capacity for septic tank effluent, and the potential hazard for groundwater pollution is high. The areas are used primarily for mobile home parks and campgrounds. Revegetation is a natural process, with smooth cordgrass, largeleaf pennywort, and other grasses and sedges -- the most common unless lawns have been planted.

Newhan Group. Newhan Soils occupy more than half of the Planning Area. The Corolla and Urban land complexes occur on long and low dunes that generally parallel the ocean. They are well-drained to excessively drained with more than 50 percent plant cover. Percolation is very rapid consisting of stratified sandy deposits with coarse sand and shell fragments. The water table is generally 7 feet below the surface, but the Corolla soils typically have water as close as 15 to 20 inches during the winter months in irregularly shaped basins. Vegetation ranges widely including American beachgrass, seacoast bluestem, coastal panicgrass, bitter panicum, largeleaf pennywort, ragweed, saltmeadow cordgrass, live oak, waxmyrtle, seashore elder, searocket, and evening primrose.

Urban Complex Soils These are covered by buildings, driveways, roads and streets, and parking lots. Some areas have been disturbed drastically with cutting, filling, or both, but others are relatively undisturbed.

Water Supply

As in all other areas of Carteret County, the Castle Hayne Aquifer is the main supply of water for Indian Beach through the Bogue Banks Water and Sewer Corporation. The use of land throughout Eastern North Carolina and the amount of use of the Castle Hayne Aquifer is important. The water supply has to be managed jointly by all areas of Eastern North Carolina to maintain its reliability and to protect its quality.

FRAGILE AREAS - AREAS OF ENVIRONMENTAL CONCERN (AECs)

Fragile areas may be damaged or destroyed by inappropriate or poorly planned development. There are four areas listed as fragile in Indian Beach. Please refer to the section titled Development Trends and Major Physical Problems and the subsection headed as "Areas of Environmental Concern" (AEC's) on pages 23-26 for further information on these important sections of Indian Beach.

Estuarine System

Estuarine Waters are all North Carolina waters of the Atlantic Ocean and of bays, sounds, rivers, and tributaries seaward of the dividing line between coastal fishing waters and inland fishing waters identified by the N.C. Wildlife Resources Commission and the N.C. Department of Natural Resources and Community Development. Estuarine waters serve as a protective habitat for young fish.

Coastal Wetlands are any marsh (fresh, brackish, or salt) subject to regular or occasional flooding from tidal action, including wind tides, whether

or not the tide waters reach marshland or artificial watercourses, but not including hurricane or tropical storm tides. Coastal wetlands are nutrient rich; they serve as nurseries for young fish and as habitats for shellfish. The tidal flushing generally associated with these areas serves as a cleanser of the water which enters fresh from upstream and becomes brackish from regular and occasional tidal flushing closer to the ocean.

Estuarine Shorelines are along all estuarine waters. These are delineated with a 75-foot setback from the water line. Since this designated area is linked to the water of the estuarine system, it too is fragile.

Ocean System

Ocean Hazard Areas are considered to be natural hazard areas along the Atlantic Ocean shoreline where, because of their special vulnerability to erosion or other adverse effects of sand, wind, and water, uncontrolled or incompatible development could unreasonably endanger life and property. Ocean hazard areas include the beaches, frontal dunes, inlet lands, and other areas in which geologic, vegetative and soil conditions indicate a substantial possibility of excessive erosion or flood damage. The ocean hazard system of AEC's contain all of the following areas:

Ocean Erodible Area. This is the area in which there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The seaward boundary of this area is the mean low water line, and the landward extent of this area is determined as follows:

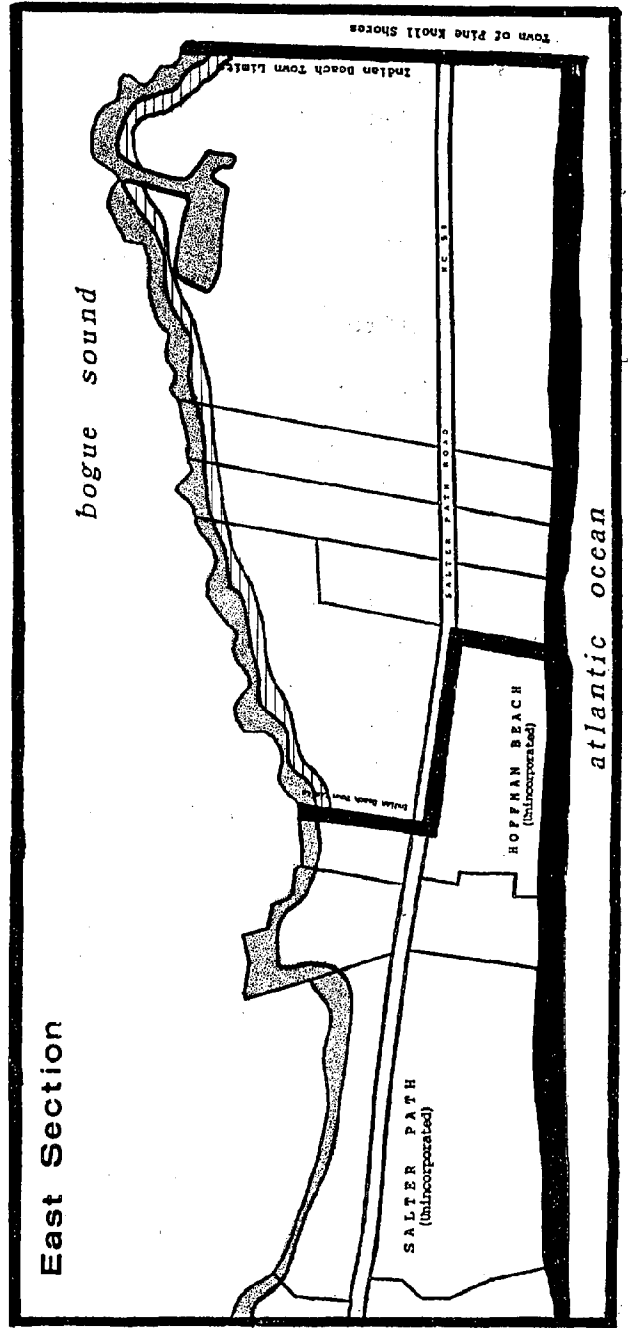
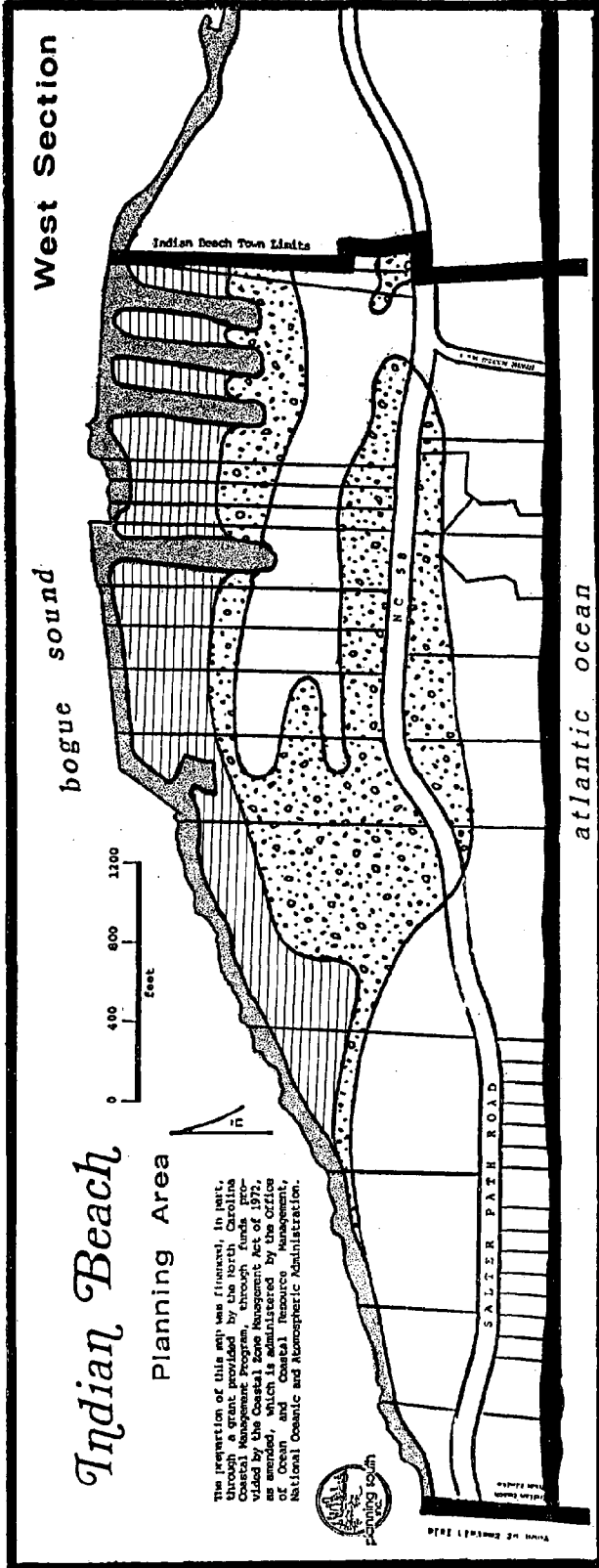
- a. A distance landward from the first line of stable natural vegetation to the recession line that would be established by multiplying the long-term annual erosion rate, as most recently determined by the Coastal Resources Commission, times 60, provided that where there has been no long-term erosion or the rate is less than two feet per year, this distance shall be set landward from the first line of stable natural vegetation; and
- b. A distance landward from the recession line established in paragraph a. above to the recession line that would be generated by storms having a one-percent chance of being equaled or exceeded in any given year.

Maritime Forests

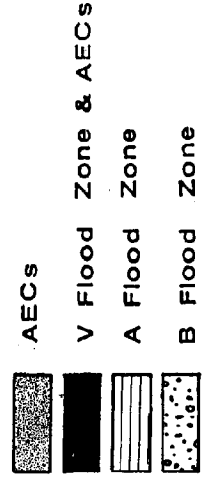
These are an important part of the island ecosystem. See Resource Protection Policy Implementation on page 65. The Town must be especially diligent here because there is little to no State or Federal protection.

AREAS SUBJECT TO PUBLIC RIGHTS

Public Rights Areas considered to be AECs are waterways and lands under water or flooded by tidal or navigable waters to which the public may have rights of access or public trust rights, and which the State has or may be authorized to preserve, conserve, or protect.



COMPOSITE HAZARDS 1987



COMMUNITY CAPACITY

Growth, development, redevelopment and maintaining the quality of life, as well as the public health and safety of the seasonal and permanent residents of Indian Beach, are circumscribed by the physical and financial resources the Town has at its disposal. Many communities permit growth to outstrip their capacities to serve the citizenry and protect valuable and vital natural resources that make them desirable places in which to live. Indian Beach must guard against this risk to sustain its liveability and reputation as a desirable and attractive coastal community.

SEWER

The absence of a public sewer system is a constraint to accommodating growth and new development. With a sewer system, Bogue Banks would be served with greater assurance that clean water will continue to be available and that the environment will be protected. But public sewerage is not the only answer. Density control is paramount in the process, and it must be recognized that storm water runoff is a major pollutant. Carteret County has studied the need for both water and sewer systems, and bond referenda were put before the people in February 1987. See the discussion on these subjects on pages 10 and 22.

PRIMARY ROADS

There is one state primary road in Indian Beach -- Highway 58. This facility is modified from time-to-time to handle traffic volumes. NC 58 has been three-laned to accommodate turning traffic in the eastern portion of the West Section and through Salter Path. Please refer to the traffic count provided on page 16.

POLICE, FIRE, AND RESCUE SERVICES

Police, fire, and rescue services are essential to the people of Indian Beach and neighboring areas. Police protection is limited to areas within the Town Limits, both West and East Sections, while fire and rescue services provided by the Salter Path Volunteer Fire and Rescue Squad are also provided to surrounding areas. Currently these services are deemed adequate to protect the people and their property.

In order to continue to render adequate services, the Indian Beach Town Government must continually evaluate needs and plan for expansion and improvements, according to demand. The most recent purchase in 1987 of an Emergency One 1000 gpm pumper represents typical action being taken to assure the most affordable protection available. Please refer to the analyses of police protection and fire and rescue services on pages 9 and 10.

The Fire Underwriters Bureau has given Indian Beach a rating of 9, indicating that the Town is served by a volunteer fire department which is able to serve not only the town but surrounding areas. As growth occurs, modifications to the service area and apparatus additions will be needed.

The Volunteer Fire and Rescue Squad attempts to keep abreast of projected needs and has a perpetual equipment replacement program. Since the preparation of the 1982 Land Use Plan Update, two pieces of apparatus have been added -- the aforementioned Emergency One pumper and a 1986 Trophy-Bayline 19-foot rescue boat. State, county, and municipal police authorities on Bogue Banks cooperate with the Indian Beach Fire and Rescue Squad.

POPULATION PROJECTIONS

Growth and development in Indian Beach most recent years has slowed. Please refer to the Sections on Population and Economy on pages 7 and 8.

Decisions, in the areas of annexation, extraterritorial jurisdiction extension, multi-family condominium construction, and commercial development are interrelated and have a profound affect on the future of Indian Beach. Each decision shapes the community and gives it direction. Therefore, it is important that the Town move forward within the context of the 1987 Land Use Plan Update to maintain a semblance of orderliness in growth and to preserve the community character desired by the citizenry and seasonal residents. Please refer to the Policy Statements sections on pages 65-75.

In accordance with findings and trends expressed in Sections of this Plan titled: Community Profile, Existing Land Use of the Planning Area, and Development Trends and Major Physical Problems, the following permanent population projections have been estimated to the year 2000.*

<u>1973</u>	<u>1980</u>	<u>1984</u>	<u>1987</u>	<u>1990*</u>	<u>1995*</u>	<u>2000*</u>
48	54	63	70	77	89	101

*Population projections were made by simple straight-line percent-of-increase methods, with the 1970 and 1980 U.S. Census and the N.C. Department of Administration counts and estimates (1985) serving as bases.

NOTE: The Town estimates its 1987 seasonal population on holidays to be 3,000, on normal weekends 2,500, and on a normal weekday 1,500. Almost all vacant land is held by one owner. The Town feels unjustified in projecting seasonal population. The County projects a 3,987 seasonal population by 1980 and 7,920 by 1990. See pp. 7-8 and 12-18.

LAND USE PROJECTIONS AND THE WISHES OF THE PEOPLE

Results of A Survey on the Town of Indian Beach show that the Town should continue to develop as a resort community. (See pages 53ff.) Citizens have also expressed this desire at public meetings, and subsequent policy statements of the Town Board of Commissioners reflect their wishes.

Expectations of growth are based on the fact that there is much undeveloped land in both the West (71 acres) and East (116 acres) Sections of the Town. About 51 percent of the land, held almost entirely by one owner, lies unused for urban purposes. Please refer to the Table titled "Indian Beach Planning Area -- 1987 Land Use Analysis" on page 17.

CAPABILITIES OF THE LAND TO SUPPORT PROJECTED GROWTH

The capabilities of the land to support projected growth was a major consideration in the determination of the projected growth patterns. This consideration is especially important because of Indian Beach's adjacent productive wetlands and estuarine waters.

Field surveys and analyses indicate that much of the land within the Town Limits, except for that which is designated on the Composite Hazards Map on page 37, is developable without severe consequences. Lower lying lands in the western portion of the West Section may prove to be a problem. A portion of the property here is already in use by the Baptist Children's Home, along with eight platted residential parcels on the ocean side of NC 58. The rest, amounting to about 70 acres, is vacant. Of this amount, about 25 acres lie within the bounds of Zone B, designated by the Federal Emergency Management Agency as the 100-year Flood Plain. Experience here has been that during very heavy rains, winter storms, and hurricanes this land floods temporarily, and there are historical accounts of inlet cutting in the extreme western portion of the West Section.

Anticipated Demands for Land

Because of the nature of the Town of Indian Beach and a fluctuating economy, it is very difficult to estimate the need for land for future development. For instance, six years ago 155 mobile homes were removed from one site alone to accommodate the construction of condominiums (Summer Winds). Other large acreage mobile home parks and campgrounds within the Town Limits could well be subject to comparable changes, as the economy permits. All sites in mobile home parks are rented to individuals -- 1052 mobile homes are occupied seasonably, and 29 are occupied permanently.

Outright ownership of vacant subdivided residential land is limited to no more than six individuals. The remainder of the town lies in nine large tracts owned almost entirely by one individual. Because of this situation, it would be to the Town's advantage to write into its proposed Subdivision Regulations and existing Zoning Ordinance provisions for Planned Unit Developments (PUDs). This would enable the Town to become a part of the development process as partners with the private sector. Destiny of the Town would then become more of a community-wide interest.

Since the Summer Winds event, another condominium complex has been completed in the East Section on vacant land.

ECONOMY

Additional demands for business or commercial land should prove to be moderately low. It should be noted, however, that in Question 12 of the survey, the respondents indicated that shopping facilities should be encouraged. Convenience is a factor that lies behind this expression of desire. It is questionable, however, as to whether Indian Beach could support shopping facilities to compete with those already established on Bogue Banks and those that are now under construction particularly in the western section of Atlantic Beach. The desire that Indian Beach should remain, as much as possible, a family oriented resort beach figures into

the economic development picture also. There were expressions of concern that the community not become as some of the others on Bogue Banks.

There are approximately 9 acres of commercial land in use in the Town. Use will increase proportionately with population growth. Therefore, in ten years about 2-3 additional acres of commercial development may be needed. This projected use is not expected to place significant demands on the land and water of the area. This assumption is supported by the belief that during the ten-year period, new commercial uses are expected to use only a very small portion of the land already zoned for business. It should be noted that nearly all of the land in the West Section of the Town Limits is zoned to accommodate business. The lands currently being used for mobile home parks and campgrounds, and the vacant in the western portion of the West Section, are zoned for business.

The projected development of land in Indian Beach, in part, will be contingent upon the overall economic stability of Carteret County. One of the most important elements of the economy of the county is the availability of significant civil service job opportunities at Cherry Point Marine Air Station at Havelock and Camp Lejeune at Jacksonville. Although these military installations are of significance to Indian Beach in that they house large populations of personnel and their families who frequent the beaches, these are not the preponderant sources of the economic sustenance for the Town or its chief employment opportunities. Retirement and the fishing industry will continue to be the prime "occupations" of the residents.

In addition, the future of the tourist industry throughout the county, and particularly on Bogue Banks, is important to business development in Indian Beach. Moreover, the proper and sensible development of the county and region as a tourist attraction will enhance the desirability of Indian Beach as a place to live and spend vacations.

COMMUNITY FACILITIES DEMAND

A permanent population forecast for 79 people by 1990 does not indicate that additional demands of significance will be placed on the Town for increased facilities and services, but increased potential seasonal and vacationing populations brought by condominium living is another story. It is very difficult to forecast the growth of Indian Beach because almost all lies in the hands of one owner. See population projections on page 39.

Estuarine Access and Recreation Areas

A major shortcoming in community facilities provisions in Indian Beach is the lack of public places where people can have access to Bogue Sound. There is a need for public boating and fishing access with accommodating facilities including: boat ramps, marinas, children's play equipment, picnic tables and benches, etc. Currently, access to the sound must be gained through campgrounds and mobile home parks. Although these are public in that they are run by commercial establishments that cater to the public, entry is by fee for the service that is rendered -- camping facilities and mobile home unit and site rental.

The State of North Carolina and in some cases the Federal Government provide funding for the acquisition and improvements for access to the ocean and sound. Since all lands on the soundfront are owned by the private sector, the Town should consider making arrangements with proprietors to provide public access for a fee other than through mobile home parks and campgrounds. The Town welcomes the possibility of the County's building and maintaining public access facilities within its corporate limits.

As the Town faces the future, it will need to confront the inadequate access issue if it is to remain a growing, improving, and competitive resort community for family vacationers, retirees, and other permanent residents. Indian Beach will need to acquire facilities through land acquisition, lease, or by licensing concessions to provide suitable facilities and access with the assistance of the County, State and Federal Governments. For proposed actions in this area, please refer to policy statements on pages 65-66.

Public Water and Sewer Service

A number of studies on water and sewer needs have been conducted recently in the County. The Town Commissioners have been staying abreast of these. Currently the West Section of Town is supplied water by the Bogue Banks Water and Sewer Corporation, and the East Section is provided water by Carolina Water Service. Both are private non-franchised corporations. During peak weeks during the summer, however, there are pressure and supply problems that will need to be rectified in the future. Other communities on Bogue Banks experience these problems also. Indian Beach did support the bond issue for water and sewer services in February 1987, but the referendum was turned down countywide.

Public Streets

All means of vehicular access other than NC 58 and the State Access Road are via private road. Because the seasonal population is bound to increase (See page 39), demand for access will increase. If this continues to lie in the hands of the private sector, the Town may find itself in the position of not being able to improve its capability of providing access to private property.

COMMUNITY SERVICES DEMAND

By 1990 an increase of only 7 people in the permanent population is expected. This growth will not require an expanded police force or fire and rescue services. Please note how these services currently stand in the Sections titled: Police Protection on page 9 and Fire and Rescue on page 10. There are no specific plans for updating these services at this time, other than that of adding personnel to the police force.

Waste disposal services are paid for by individual subscribers. Just as there are no public works services offered by the Town at this point, parks and recreation programs are not provided. The Town does maintain a beach access point with parking facilities at the end of the State Access Road. Please note the respective Sections on these subjects in the Community Profile on page 10.

PUBLIC PARTICIPATION

Public participation is a most important ingredient in the land use planning process. The thoughts and ideas of the Indian Beach Planning Area permanent and seasonal residents, and non-resident property owners, are invaluable. After all the plan is for the people who use the land. Therefore, several means have been utilized to seek out their feelings. The Planning Area is defined as those sections located within the Indian Beach Municipal Limits and in the unincorporated communities of Salter Path and Hoffman Beach.

PUBLIC MEETINGS — THOUGHTS OF THE PEOPLE

The planning process in Indian Beach began in December 1986, with two public meetings. One was held on Thursday, December 18, when twenty-two people participated. The other was held on Wednesday, January 21, 1987, when ten people attended. At these sessions participants were asked to talk about the needs of the community and about what the community should be like in the future. The following list represents the comments and suggestions of the attending participants from the Planning Area.

1. Indian Beach needs a Mobile Home Ordinance, and an awareness needs to be developed among the existing park owners to improve operations.
2. There is a need for more public beach access with local improvements including a bath house and parking.
3. The property that abuts the existing town hall (about 3/4 acres contiguous to the town limits) should be purchased to accommodate a new town hall.
4. The town needs a sidewalk/bikeway system.
5. The town needs more street lighting.
6. There is a need for the improvement of existing public beach access.
7. There should be a beach access permit system developed for vehicles on a limited season basis.
8. The Town needs to know what Federal and State funding availability there is to help it do the things that need to be done.
9. The Zoning Ordinance needs to be revamped with the fact in mind that one person owns most of the developable land in the community.
10. The beach erosion problem needs to be dealt with (beach loss in early December was 20 feet), and there needs to be a plan for the south side of NC 58 with a concerted effort for saving structures and rebuilding.
11. Education on PUD ideas needs to be developed for the B-1 zoning district.

12. The consequences of high density needs to be studied.
13. Work for the merger of Salter Path and Indian Beach should begin.
14. The Salter Path name uniqueness should be retained in a merged town.
15. The name of a merged town should be Indian Beach.
16. There is a need for public sewer.
17. There is need for countywide water and sewer.
18. Beautification of the area is a need.
19. Zoning and CAMA regulations could hurt development in Salter Path.

THOUGHTS OF TOWN LEADERS

On Thursday, January 8, 1987, the planner met with the Mayor to talk about town needs and the future. He indicated that his thoughts were very much in line with those of the people, stating that street lighting, sidewalks, planning with mixed-use applications, erosion problems, beach access, beach erosion, and beautification were among the most pressing issues in the area. He said that Indian Beach is a resort community with the Salter Path community housing most of the area's permanent population.

The Mayor's and several Town Commissioners' concerns for solving public access issues that would necessarily encroach upon the private sector were discussed at length. They indicated that pre-existing conditions will make the acquisition of public access facilities quite difficult. They believe that high priority should be given to the development of the State Natural Area in Salter Path (given by the Roosevelt Family) to alleviate the need for public access in the Planning Area.

A TOWN SURVEY

In late February 1987, the Mayor appointed a Special Planning Committee to oversee the Land Use Plan Update process. The first task of the Committee was to develop a A Survey on the Town of Indian Beach. It was sent out on March 4 to all condominium owners, all permanent mobile home occupants, all business owners, all real property owners, and 10 percent of all non-permanent mobile home renter-occupants. In all, there were 380 questionnaires sent out. The deadline for return was Wednesday, March 18, 1987. A return amounting to 201 questionnaires was recorded, showing a very high response of 53 percent. A copy of the questionnaire is given on the following two pages.

It is noted here that a survey was not taken for the 1982 Land Use Plan. At that time it was felt that a questionnaire conducted sometime earlier provided sufficient information. With a small 1980 permanent population of 54 residents and a 1979 Town budget of only \$16,617, it was determined that a public hearing method of gathering citizens' thoughts and ideas would be the most feasible approach to use.

A SURVEY ON THE TOWN OF INDIAN BEACH

We are gathering information to update the Indian Beach Land Use Plan, as required every five years by the N.C. Coastal Area Management Act.

+++ PLEASE GIVE US YOUR HELP +++

Please fill in this questionnaire and return it to Town Hall no later than:

WEDNESDAY, MARCH 18, 1987

NO NAME OR SIGNATURE IS DESIRED. THANK YOU!

1. I live in Indian Beach() or other location _____.
[Please check or fill in the blank.]
2. I am a permanent() or seasonal() resident, or non-resident().
[Please check one. If you are a non-resident, please skip questions 3-7.]
3. I own() or I rent() my place of residence in Indian Beach.
[Please check one.]
4. I live in a single-family home(), mobile home(), duplex(),
apartment(), or condominium(). [Please check one.]
5. Number of adults() and children() living in my home.
6. I work part-time() or full-time(). I do not work outside
the home(). I am retired(). [Please check one or two.]
7. I work in _____. [Please name town or installation.]
8. Please comment on what you like most about the community?

9. Please comment on what you dislike most about the community?

10. What should the Town do to improve the area? _____
11. The pace of growth is too slow(), about right(), too fast(),
or the town has grown enough(). [Please check one.]
12. What type of development should be encouraged or discouraged in the
area?

[Please check one each.]

ENCOURAGE

DISCOURAGE

___	Single Family Dwellings	___
___	Duplexes	___
___	Apartments	___
___	Condominiums	___
___	Mobile Homes	___
___	Shopping Facilities	___
___	Motels	___
___	Industry	___
___	Public Ocean Access	___
___	Public Sound Access	___
___	Recreation Facilities	___

PLEASE TURN THIS FORM OVER AND COMPLETE THE OTHER SIDE.

-- PAGE ONE --

12. Do you think that the unincorporated area (Salter Path/Hoffman Beach), between the main section and the eastern section of Indian Beach, should be annexed? Yes () No () Don't know () Comments: _____

13. Do you want a public sewer system? Yes () No ()

14. Does the area have adequate recreational facilities? Yes () No ()
Comments: _____

15. Do you believe that the Zoning Ordinance is sufficient to protect your property? Yes () No () Don't know ()

16. Would you like to see areas in the community where planned mixtures of compatible land uses such as homes and businesses would be allowed? Yes () No () Don't know () Comments: _____

17. Do you believe that the community is prepared for emergency evacuation? Yes () No () Don't know () Comments: _____

18. Do you [and your family] leave the area when hurricanes approach? Yes () No () Not applicable ()

19. Please rate the following public services and facilities:

Please circle your choice: [1 is good, and 3 is poor.]

Town Management	1 2 3	Pedestrian Walkways	1 2 3
Planning	1 2 3	Recreational Facilities	1 2 3
Zoning Protection	1 2 3	Storm Drainage	1 2 3
Building Inspection	1 2 3	Street Lighting	1 2 3
Fire Protection	1 2 3	Traffic Control	1 2 3
Police Protection	1 2 3	Parking	1 2 3
Rescue Service	1 2 3	Water Quality	1 2 3
Town Hall	1 2 3	Water Quantity	1 2 3
Public Beach Access	1 2 3	Beach Erosion Control	1 2 3
Public Sound Access	1 2 3	Town Cleanliness	1 2 3
Pedestrian Walkways	1 2 3		

20. Do you think that the present Town Hall is adequate? Yes () No ()
Comments: _____

21. Would you be willing to pay higher taxes in support of the suggestions you have made in this questionnaire? Yes () No ()

COMMENTS: _____

PLEASE DO NOT SIGN! NO NAME OR SIGNATURE IS DESIRED.

***** THANK YOU FOR YOUR COOPERATION AND GOOD CITIZENSHIP! *****

PLEASE RETURN OR SEND THIS FORM TO TOWN HALL IN INDIAN BEACH BY:

WEDNESDAY, MARCH 18, 1987

-- PAGE TWO --

INDIAN BEACH 1987 QUESTIONNAIRE RESULTS

Number of questionnaires sent out 380; returned 201; return percent 53.

1. RESPONDENTS' PLACE OF RESIDENCE

Indian Beach	52*	Morehead City	3
Raleigh	23	Rocky Mount	3
Other	18	Wake County	3
Wilson	8	Emerald Isle	2
Durham	5	Greenville	2
Salter Path	5	Jacksonville	2
Cary	4	Louisburg	2
Goldsboro	3	Winston-Salem	2
Greensboro	3		

Places listed below were mentioned only once each.

Asheboro	Knightdale
Atlantic Beach	Lexington, VA
Carteret County	New City, NY
Chapel Hill	Peachtree City, GA
Clayton	St. Louis, MO
Clemmons	Southeastern, NC
Dumfries, Va	South Windsor, CT
Durham County	Southern Pines
Emporia, VA	Sparta, NJ
Farmville	Swansboro
Florida	Virginia
Garner	Virginia Beach, VA
Hillsborough	West Chicago, IL
Kinston	Wilmington
Kenansville	Zebulon

*It should be noted here that only 23 respondents indicated that they were permanent residents of Indian Beach in Question 2., indicating that Question 1. was not asked clearly. There was obvious confusion on the part of respondents here. Hence, the number given (52) should be disregarded.

2. RESPONDENTS' RESIDENCY STATUS

Permanent Residents	23	-	14%
Seasonal Residents	97	-	60%
Non-residents	43	-	26%
<u>TOTAL</u>	<u>163</u>	<u>-</u>	<u>100%</u>

3. TYPE OF OCCUPANCY

Permanent Residents

Own place of residence	19 - 79%
Rent place of residence	5 - 21%
<u>TOTAL</u>	<u>24 - 100%</u>

Seasonal Residents

Own place of residence in Indian Beach	81 - 84%
Rent place of residence in Indian Beach	16 - 16%
<u>TOTAL</u>	<u>97 - 100%</u>

4. DWELLING TYPES

Permanent Residents

Single-family home	2 - 8%
Mobile home	12 - 48%
Duplex	0 - 0%
Apartment	0 - 0%
Condominium	11 - 44%
<u>TOTAL</u>	<u>25 - 100%</u>

Seasonal Residents

Single-family home	5 - 5%
Mobile home	42 - 46%
Duplex	0 - 0%
Apartment	0 - 0%
Condominium	45 - 49%
<u>TOTAL</u>	<u>92 - 100%</u>

5. SIZE OF RESPONDENTS' HOUSEHOLDS

Permanent Residents

Number of adults living in home	37 - 100%
Number of children living in my home	0 - 0%
<u>TOTAL</u>	<u>37 - 100%</u>

Average number of persons per household = 1.6

Seasonal Residents

Number of adults living in my home	190 - 71%
Number of children living in my home	76 - 29%
<u>TOTAL</u>	<u>266 - 100%</u>

Average number of persons per household = 2.7

6. EMPLOYMENT STATUS OF RESPONDENTS

Permanent Residents

Working full-time	9 - 36%
Working part-time	1 - 4%
Not working outside the home	2 - 8%
Retired	13 - 52%
<u>TOTAL</u>	<u>25 - 100%</u>

Retired but:

Working full-time	- - - 1
Working part-time	- - - 1
Working part-time, but not outside the home	- - 2

Seasonal Residents

Working full-time	63 - 63%
Working part-time	8 - 8%
Not working outside the home	2 - 2%
Retired	27 - 27%
<u>TOTAL</u>	<u>100 - 100%</u>

Retired but:

Working full-time	- - - 1
Working part-time	- - - 2

7. RESPONDENTS' PLACE OF WORK

Permanent Residents

Working in:

Indian Beach	6	Morehead City	2
Emerald Isle	1	Salter Path	1
Eastern North Carolina			1

Seasonal Residents

Working in:

Raleigh	18	Indian Beach	2	Atlanta, GA	N.C. Aquarium
Wilson	11	Kinston	2	Dunn	Pittsboro
Goldsboro	5	Louisburg	2	Emporia, VA	Wake County
Durham	3	Research		Harnett County	Washington
Rocky Mount	3	Triangle	2	Havelock	Wilmington
Farmville	2	Winston-		Houston, TX	Bethel
Garner	2	Salem	2	Nanuet, NY	Greensboro

8. THINGS LIKED MOST ABOUT THE COMMUNITY

38 Quiet and peaceful	Slow pace
31 Ocean and beach	Rural setting
29 Friendly	Appearance
17 Small	Church
12 Natural beauty	Maritime forest
9 Fishing	"Frosts"
9 Uncrowded/Uncongested	Privacy
8 Relaxed	Huge Dunes
7 Bogue Sound	New development
6 Not over-commercialized	No condos on soundside
6 Clean	Planning
5 Family beach	
5 Like it	
5 Location	
5 Restaurants/seafood	
4 Clean	
4 Security/safe/police	
3 Affordable	
3 Quaint	
2 Traffic control/speed limit	
2 Climate	
2 "Summer Winds"	

9. THINGS DISLIKED MOST ABOUT THE COMMUNITY

18 Traffic congestion	Sound pollution/no shell fishing
15 Litter/trash/garbage	Taxes
13 Condominiums	Too much drinking
12 Trash on beach	Lack of concern for weekenders in Salter Path
11 Mobile homes and trailers	Condo dominated ocean front
10 Muddy and dusty streets	Inadequate walkways
9 Dump in Paradise Bay	Beach erosion
9 Overbuilding	Lack of concern for the future
8 Rapid growth	Influx of people in the summer
7 Vehicles on beach	No street lights
4 Lack of ocean access	Lot rents are too high
4 Commercial clutter	20-mph speed limit in summer
4 Water problems in summer	Not enough recreation facilities
2 No sidewalks	Better police enforcement
2 Lack of sandy sound access	Lack of unity between Indian Beach and Salter Path
2 Salter Path	Lack of zoning - no class
2 No public sewer	Traffic increase potential from proposed bridge
2 Lack of good restaurants	Break ins
2 Too many jurisdictions	Beach access permits
2 Poor storm evacuation	Lack of recreation
2 Loose dogs	Unattractive areas
2 Skateboarding/biking in middle lane of NC 58	Service at Squatters Restaurant

10. SUGGESTED TOWN IMPROVEMENTS

- | | |
|---|---|
| 26 Clean-up trash/junk/debris | Build recreation facilities |
| 15 Develop carefully/control growth/strict planning | Build a public marina |
| 10 Provide more public beach access | Provide parking at beach access points |
| 8 Improve and black-top streets | Raze Salter Path |
| 7 Upgrade/clean-up MH areas | Provide more restrictions for ocean front properties |
| 6 Clean-up beach | Build a recreation area |
| 6 Clean-up Paradise Bay | Add more police patrols |
| 6 Slow-down building - quality | Conduct a paint-up/fix-up campaign |
| 5 Install sidewalks | Build a new Town Hall |
| 4 Require paving in MH parks | Attract a drug store |
| 4 Remove mobile homes | Sponsor public activities - oyster roasts/clam bakes/fish fries |
| 4 Strictly enforce zoning | Widen NC 58 |
| 3 Provide better sound access | Attract a fast-food restaurant |
| 3 Install street lighting | Promote better postal services |
| 3 Remove old buildings | Convert MH parks to conventional housing |
| 3 Attract more/better restaurants | Disallow vehicles on the beach |
| 3 Attract more shopping stores | Establish MH rent controls |
| 3 Install public sewer | Leave things alone |
| 3 Adopt litter law/fines | Upgrade older areas on the sound |
| 2 Permit no more condominiums | Develop a quaint shopping area |
| 2 Extend corporate limits | Improve beach access for vehicles |
| 2 Enforce the leash law | Attract a doctor to the area |
| 2 Disallow vehicles on beach | Require MH park owners to enforce their regulations |
| | Hire more/better law enforcement |
| | Conduct teenage recreation programs |
| | Attract a bar |
| | Build bridge across the sound |
| | Hold annual clean-up day |
| | Make sure electricity and water are available to MHs |

11. TOWN GROWTH

The town is growing:

too slowly	13 - 8%
about right	63 - 40%
too fast	31 - 20%
<u>It has grown enough</u>	<u>49 - 32%</u>
<u>TOTALS</u>	<u>156 - 100%</u>

12. TYPES OF DEVELOPMENT TO BE ENCOURAGED AND DISCOURAGED

<u>ENCOURAGE</u>		<u>DISCOURAGE</u>
98 - 84%	Single-Family Dwellings	18 - 16%
44 - 41%	Duplexes	63 - 59%
24 - 23%	Apartments	81 - 77%
36 - 30%	Condominiums	84 - 70%
33 - 28%	Mobile Homes	85 - 72%
83 - 70%	Shopping Facilities	35 - 30%
27 - 25%	Motels	80 - 75%
9 - 9%	Industry	99 - 91%
96 - 74%	Public Ocean Access	34 - 26%
97 - 77%	Public Sound Access	29 - 23%
103 - 84%	Recreation Facilities	20 - 16%

12a. ANNEXATION OF SALTER PATH AND INDIAN BEACH

Yes	74 - 48%
No	26 - 17%
Don't know	55 - 35%
<u>TOTAL</u>	<u>155 - 100%</u>

Comments of Permanent Residents

- There should be but one name for such a small place.
- All our fishermen should be allowed to operate as they always have.
- We like the smallness of the area but would not object to annexation.
- Call the entire area Salter Path since historically that is the name of the original settlement out of which Indian Beach grew.
- Make the area all Salter Path.
- As long as people are forced to keep their property clear of dump sites, and that there is no mixed zoning.

Comments of Seasonal Residents

- Salter Path should remain as it is.
- Need more information as to lines and future plans. Don't like trailers.
- We should leave that decision up to the permanent residents.
- But only if the Salter Path people can maintain their identity and independence.
- This would help put Indian Beach on the map and draw more tourist attention.
- I pay high taxes for the time period I use it. Salter Path residents try to exploit outsiders, also make them unwelcome.
- Only if they want to be annexed.
- Entire area should be under one name.
- Don't understand the section between Indian Beach. Would like to know why it was not annexed in the first place.
- Manufactured housing projects and ownership with strong restrictions are doing very well in Myrtle Beach, S.C., and they use our examples.
- Increase tax base and improve distribution of services.
- Should strengthen services, allow better control of development of this entire area.

Comments of Non-residents

- If you can thus get rid of Salter Path.
- If the necessary services can be financed with the taxes from the annexed property owners, i.e., not to raise taxes.
- It is better just as is.
- Indian Beach residents spend money in Salter Path -- Why not benefit by property taxing Salter Path residents and businesses?
- Absolutely no way.

13. DESIRE FOR PUBLIC SEWER

Yes	101	-	68%
No	48	-	32%
<hr/>			
TOTAL	149	-	100%

14. DEVELOP RECREATIONAL FACILITIES

Yes	71	-	48%
No	77	-	52%
<hr/>			
TOTAL	148	-	100%

Comments of Permanent Residents

- Bicycle paths
- Except for children, they need a playground.
- Condominiums cause poor beach recreation.
- We have a problem of the public coming on our property to use our recreational facilities.
- Beach area for families -- Theme park for children.
- No public beach access that I am aware of.

Comments of Seasonal Residents

- For us, but young people probably would feel differently.
- Adults need a quite place to go have a drink. Children need a place to release their energy.
- More facilities will be used by outside public and not residents, but we'll pay for it.
- Would like to see more private facilities.
- Would be nice to have a nice marina.
- What is available for kids is rather costly, especially for families of four or more.
- Need family activities.
- Sound fishing marina.
- For adults: yes.
- Public boat docks with launching ramp is a must. A clearly marked channel on the Intracoastal Waterway would be great.
- Don't know what you have now.
- Need better sound access.
- Not enough entertainment.
- More public parks.

Comments of Non-residents

- Beach and ocean plus the Intracoastal and boat docking facilities, also a golf course. We don't need anything else.
- The beach and sound offer the best recreation facilities.
- Use county park.
- Discourage commercial recreation. Why make it another Atlantic Beach circle?
- Golf courses.
- Need more boat ramp facilities on the sound.
- There is nothing for families to enjoy if they don't fish.
- It needs some more facilities for the young people.
- No need for much more -- fishing and sunning and sailing are already available -- Maybe a place for young people in the category of Jungle Land.
- Could add more, but they are adequate unless we grow.

15. ZONING ORDINANCE ADEQUACY

Yes	29	-	18%
No	32	-	20%
Don't know	102	-	62%
<u>TOTAL</u>	<u>163</u>	-	<u>100%</u>

16. DESIRE FOR PLANNED MIXTURES OF COMPATIBLE USES

Yes	66	-	44%
No	46	-	31%
Don't know	37	-	25%
<u>TOTAL</u>	<u>149</u>	-	<u>100%</u>

Comments of Permanent Residents

- None.

Comments of Seasonal Residents

- The mix seems about right as is.
- I'd sure like a permanent home at Salter Path.
- Homes and businesses are not compatible mixtures -- This question is asked such that either answer could be interpreted differently. It will have no value in your study -- as asked.
- Bogue Banks should be recreational and existing fishing industry should stay as much as possible in natural state + medical emergency (limited access).
- If congestion does not result.
- I don't think that there is sufficient space for additional business.
- Convenient.
- Growth should not be encouraged, but where it is allowed it should be carefully planned.
- I would like to see more businesses.

Comments of Non-residents

- Definitely not. No commerce or industry other than a first class hotel. We should all sell out for that.
- I think that any future residences should be a part of this. The key word here is "planned." So far the whole beach has shown a lack of planning.
- We think that residential and business areas should be kept separated as much as possible to keep land values up.
- If planned.

17. ADEQUATE PREPARATIONS FOR EMERGENCY EVACUATION

Yes	36	-	22%
No	85	-	53%
Don't know	41	-	25%
<u>TOTAL</u>	<u>162</u>	-	<u>100%</u>

Comments of Permanent Residents

- We witnessed how poorly they were prepared during the hurricane threat of 1986.
- People can't get off the island. As you know from the last hurricane, the cars were lined up bumper to bumper, and that was very bad -- certainly not safe.
- Last year it took me 5 1/2 hours to get to Kinston.
- "Fiasco 1986"
- We are prepared, but the people who are not permanent residents are not.

Comments of Seasonal Residents

- Hurricane in August 1986 should tell everyone that something needs to be done.
- With the bridge at Emerald Isle, it certainly is a good feeling for us not to have to go to Atlantic Beach.
- Apparently not after last Spring's "hurricane." This was a horrible mess.
- The hurricane threat of last Fall was a good example of the poor preparedness.
- Could not get off the island during the last hurricane -- not enough warning -- a good reason to limit development.
- We were here the last time, but we left early.
- Last August (1986) evacuation was disaster. I was stuck in the middle of the island for 4 1/2 hours while the hurricane passed over us. Absolutely must improve.
- Need more than two exits off Emerald Isle.
- Not good communication.
- There needs to be better coordination between the traffic controllers. I got on the road during the last hurricane passing for two hours. There is no excuse for this unacceptable procedure.
- I sat in line last summer for two hours, from Salter Path campground and got to Indian Beach Pier and turned around and went back to see if we would be wiped out. Very, very poor on someone's part.
- We tried to leave, but there was traffic blockage.
- Last year's hurricane evacuation was a disaster in itself.
- Not after the last hurricane.

- No concept of evacuation procedure; no plan; no police effort or police appreciation of need to protect and lead people to safety.
- There are only two means to exit.
- Routing of traffic appears to be haphazard.

Comments of Non-residents

- Witness: the evacuation of the island in 1986.
- Bridges, highways, and volume of people are a problem -- lack of coordination.
- Prior problems.
- Highway NC 58 needs widening, and a third bridge is needed.
- You should know after last year's episode.

18. INDIVIDUAL AND FAMILY EVACUATION DURING HURRICANES

Yes	119	-	77%
No	12	-	8%
Not applicable	23	-	15%
<u>TOTAL</u>	<u>154</u>	-	<u>100%</u>

19. RATING PUBLIC SERVICES AND FACILITIES

[1 is good, and 3 is poor.]

	<u>1</u>	<u>2</u>	<u>3</u>
Town Management	51	44	6
Planning	18	48	27
Zoning Protection	23	47	21
Building Inspection	28	48	18
Fire Protection	82	39	4
Police	78	37	7
Rescue	74	37	2
Town Hall	35	57	15
Public Beach Access	27	42	51
Public Sound Access	20	33	71
Pedestrian Walkways	12	28	84
Recreational Facilities	20	46	52
Storm Drainage	19	61	31
Street Lighting	24	63	32
Traffic Control	33	60	34
Parking	19	50	56
Water Quality	32	57	36
Water Quantity	41	59	26
Beach Erosion Control	8	43	71
Town Cleanliness	37	70	29

20. ADEQUACY OF TOWN HALL

Yes	76	-	71%
No	31	-	29%
<u>TOTAL</u>	<u>107</u>	-	<u>100%</u>

Comments of Permanent Residents

- The town clerk's office is too small. It looks awful -- too cluttered. Give him some storage facilities.
- Needs to be run better. Building is adequate.
- I do think that you do as good as you can with what you have to work, but we need stronger and better educated leadership.
- It could be larger if its use were expanded for such things as village social events, but I see no hurry to go to that.
- Too small.
- Road is terrible!!!!!! New Town Hall should be built only if tax base continues to increase.

Comments of Seasonal Residents

- Need better structure to house multi-purpose uses.
- For present needs.
- For a town of our size, the present Town Hall is more than adequate. It is actually larger than needed.
- Would like to see a nice high profile building on the Salter Path Road.
- I've never been to Town Hall. But I'd think that it would be adequate for permanent residents.
- It is for me.
- I think it is adequate for now.
- Should be separate from the fire house.
- Yes, at this time.
- Don't know. (14)

Comments of Non-residents

- Probably.
- Should have one different.
- Should be larger.
- Don't know. (10)

21. WILLINGNESS TO PAY HIGHER TAXES IN SUPPORT OF SUGGESTIONS

Yes	89	-	63%
No	53	-	37%
<u>TOTAL</u>	<u>142</u>	-	<u>100%</u>

GENERAL COMMENTS

Permanent Residents

- Property being used as a garbage dump and the tavern area is a mess.
Approaching from the east to the west, this area looks like a dump.
- Assess citizens rather than raise taxes.
- Believe that Indian Beach and Salter Path should incorporate assuming this would motivate some clean-up in Salter Path.
- With all the criticism, I still love this area.
- This is a good place to live. Why take Salter Path from the map? Annex and clean up, leave the Salter Path!
- With proper planning, an increasing tax base should allow for improved services and amenities for the town.

Seasonal Residents

- We own a condo at Summer Winds so we have not been exposed to lots of your town services. Those we have, have been pleasant situations.
- Something must be done on the whole island as far as evacuation is concerned. It is safer to stay in a building than to sit in a car sitting in the street for hours surrounded by flying objects such as signs, lawn furniture, and mobile homes, etc., capable of being blown into vehicles from nearby areas.
- Have police crack down on speeders in home areas. Speed control humps could be the best things. Some kid is going to get run over by some speeder, and you can bet a law suit will follow.
- Let's upgrade and maintain our area comparable to Pine Knoll Shores and Emerald Isle.
- We have a trailer on a rental lot. I feel that most areas are trying to get rid of trailers. Hope this will not happen in Indian Beach. Wish you could buy a lot that you could put a trailer on, but zoning makes this impossible.
- I hope that raising taxes will not be necessary.
- Would like to see the area retain its character and quality of life for the public good. Who needs condos stacked against one another? We came twenty years ago because of my memories of the area since the thirties. The last ten years of development has been without any reasonable thought or control.
- Community needs 'upgrading' -- cleaning of trash and general neatening-up.
- If you disallow vehicles from using the beach and realize the danger and unnecessary stupidity, I will gladly pay more taxes. To me, this is the single most important absurdity I have seen. Do you also allow vehicles on sidewalks?
- Thank you for this opportunity!
- Higher taxes are not necessary with the increase in the tax base.
- We don't need a big-time city hall bureaucracy for this community. We need to keep the tax rate under control.
- I feel quite safe in Salter Path if there is anyway the police can help any one they seem to be there. I have never had a reason to call the police or rescue squad, but I have seen the work they do and am quite impressed.
- A very small tax increase!

- Long-range planning is necessary. Beautiful area already poorly exploited (including my condo development). Need better security because of increasing public usage and hurricanes.
- Thanks!
- If all my suggestions were to come about -- increased tax revenues from private businesses would take care of a public access to the sound.
- Tax increase is okay if the expenses are justified.
- For beautification.
- Taxes can be raised to a reasonable degree.
- Consider disallowing autos and trucks on the beach. Not much beach left, and we don't need anything to alleviate erosion.
- A tax increase up to a point.
- We came to the area because of the charm and well preserved oceanfront. We chose our condo because it was small and unspoiled. Please do not over build or destroy the natural beauty you have, as Nags Head has done!
- Taxes -- there is always a price -- yes.
- Motor vehicle operation on the beach should absolutely be prohibited at all times.
- I would like to see the Town of Indian Beach purchase an area such as Arrowhead Campground for public use. Contributions would be easily obtained for such a project due to the fact that there is a lack of public boating facilities on sound-side. An area such as this could also support a farmers market and many community functions.
- It would be very appropriate to have a safer means of getting across the street near Squatters Restaurant when the traffic is so heavy. Also the beach area behind Squatters Restaurant should be kept cleaner, more attractive and have a life guard on duty.
- The area needs some type of aggressive action now!
- To some degree -- so as people can get to the God-given beaches, for everyone. Not just the rich and favored.
- Yes, to raising taxes if I could receive an annual report as to money used and recognize benefits.
- I believe that if you bring all areas together you will not have a reason to raise taxes. These areas should be enough to take care of planned projects.
- All land use should be planned and balanced to serve current and future needs. Keep town small, uncrowded, affordable for average people who visit regularly and support the area, not for benefit of rich absentee landlords or transient non-residents. Keep Indian Beach a safe uncrowded affordable beach for current residents and those who have developed and supported it.
- I am a permanent North Carolina resident and an all-seasons visitor to Indian Beach. I am a taxpayer and plan to be a permanent resident. And I don't want it all blacktopped and all access to the beach and sound blocked by unaffordable highrises.
- With the increased building, I think that raising taxes would not be necessary.

Non-residents

- Sewer.
- I would like to see Salter Path, Hoffman Beach, and Indian Beach merge and be one unit (government) with sewage treatment and water plant.
- What really bothers me, and it should the Town Council and permanent residents, is the lack of ability to say no to the big money developers, not as much Town of Indian Beach, as it is the other municipalities between Emerald Isle and Atlantic Beach. Please! Lets not have another Atlantic Beach on our island.
- My complaint is the pier -- appearance, etc., is poor and all trash they throw off washes upon the beach, and they do not care enough to see that our beach is kept presentable.
- Population is growing older, and the community needs to orient improvements towards services and atmosphere of this nature and leave juke box culture to Atlantic Beach.
- Town needs to send information on services provided to all owners at least once a year -- those of us who are seasonal don't know what's going on. I'm never sure about garbage pickup.
- I have never had a complaint about town services and appreciate your being there and providing those services.
- I am for higher taxes if necessary.
- I think that the taxes are high enough for the investment made and the returned amount of money received.
- We have been vacationing on Bogue Banks for nine years. We love the "get away" feeling which is fast changing because of the rapid growth! I think that above all, growth must be curbed.
- The only thing I see wrong is the people that own the lots that trailers are on go up on the rent every year. At this rate the middle class people will have to sell their trailers. They can't afford to pay the rent.
- Higher taxes depend on the efficient use of present taxes -- improvements may be accomplished without higher taxes.
- We are already paying more taxes than what we are receiving. The taxes we have already paid should take care of improvements needed if handled in the correct manner.
- I don't think higher taxes would be necessary.
- Raise taxes if needed (reasonable limit).
- Taxes are rather high now.
- I like the area just as it is. There are few beachy beaches anymore. That is why we bought where we did.
- I would only pay higher taxes if building is stopped. We are already covered with them.
- With all the new condos and houses being built and all the new taxes coming in, I don't think taxes should go up.
- Love the area! I own a condo at Summer Winds. I would like to see a regulated growth and better control of the beach -- cars, RVs, and litter.
- For maximum public use, I would recommend ocean front land be zoned for apartments, condos, or hotels with a maximum density of 70 units per acre for multi-family structures. It is obvious what this would mean to the town's tax base versus single-family use.
- My child at 1 1/2 years of age was underneath a towel on the beach in September. A vehicle almost ran over him -- they saw just a towel. Vehicles are reckless when beach-goers begin to arrive in warmer weather!!

POLICY STATEMENTS

The development of the following policy statements by the Town of Indian Beach is derived from several sources, namely: the 1982 Land Use Plan, A Survey on the Town of Indian Beach, current town policies, and community profile studies on land use, population/economy, resource potential, constraints to development/land suitability, and community capacity and need.

The Board of Commissioners of the Town of Indian Beach adopts the following policies to be applicable for the next ten years unless otherwise repealed. The policies are classified into three areas: Resource Protection, Resource Production and Management, and Economic and Community Development. Where applicable, after each of these policy statements for Indian Beach, implementation recommendations are provided.

Following is a Hurricane/Storm Plan with policy statements and related implementation recommendations.

RESOURCE PROTECTION POLICIES

Indian Beach will support and enforce, through the County CAMA Officer, all policies and regulations in Areas of Environmental Concern (AECs). In accordance with those state policies set forth in Subchapter 7H of CAMA regulations, Indian Beach adopts the following local policies regarding AECs and other sensitive areas and resources within its corporate limits.

Estuarine System

The estuarine system of Bogue Sound consists of brackish waters valuable to marine life production and regeneration. The system is an irreplaceable economic and biological resource. Indian Beach will promote the conservation and management of coastal wetlands, estuarine waters, public trust areas, and shorelines, giving high priority to safeguarding and perpetuating their biological, social, economic and aesthetic values.

The Town will evaluate permitted uses to determine their dependence on water for development. Examples of such uses include docks, boat ramps, bulkheads, and drainage ditches, provided they meet the standards of the town code and the development and licensing stipulations of the Coastal Area Management Act. Uses which depend on water access for development, such as residences, commercial establishments, and roads, are allowed in AECs if standards are met and regulations are followed.

Coastal Wetlands. Land uses in coastal wetlands are restricted to those which will not significantly affect the delicate balance of this natural resource. Highest priority will be given to activities which will guarantee wetlands conservation. The following table shows comparable uses which normally would be allowed or prohibited in wetlands by CAMA. Please refer to pages 23-24 and 35.

Coastal Wetlands

Permitted Uses

Docks Boat Ramps Piers
Utility Easements
Culverts

Prohibited Uses

Residences/Mobile Homes
Apartments/Condominiums
Commercial Establishments
Streets and Roads

Estuarine Waters. Estuarine waters are of prime importance to the fishing industry as well as to recreation. Activities are restricted to those which will not significantly affect the natural function or condition of the estuarine waters.

Indian Beach supports projects which increase the productivity of estuarine waters. Such projects may include oyster reseeded and dredging operations for increasing the flushing action of tidal movements. Please refer to Estuarine Waters on pages 24-25 and 36.

Permitted uses include: piers, docks, and navigation channels.

Public Trust Areas. Where the public has established rights to land and water, Indian Beach will protect them by conservation and management policies. Activities which interfere with the public right to public trust areas are not permitted. See Public Trust Areas on pages 25-26 and 36.

Estuarine Shoreline. The estuarine shoreline is defined as the area 75 feet landward of the estuarine waters. The association of this land and the estuarine waters are of profound importance. Indian Beach recognizes this importance and supports restrictions in this area to ensure that no damage occurs within the shoreline area or the adjacent estuarine waters. Please refer to Estuarine Shorelines on pages 26 and 36.

Residential, commercial, and recreational development will be permitted provided that:

- Natural barriers to erosion will not be weakened or eliminated.
 - Development will not interfere with the present public access.
- Note: Access may change if property changes hands and if it is rezoned at the request of the owner.
- Development will not interfere with natural drainage.
 - Development will not create excessively detrimental pollution.
 - Standards of North Carolina Sedimentation Pollution Act of 1973 will be upheld.

Installation of Septic Tanks. It is the policy of Indian Beach to use the expertise of the Carteret County Environmental Health Division and Central Permit Office to regulate the placement of septic systems. Please refer to Soil Limitations on pages 32-35.

Stormwater Runoff and Sedimentation. It is the policy of Indian Beach to do what it can to assure that excessive runoff of surface water from storms will not be injurious to life and property, beaches, creeks, marshes, and estuarine waters. The Town will explore the need for adoption of the State Sedimentation Code, by reference with local modifications, to increase protection from the reception of excessive sediment from surface runoff.

Constraints to Development

Since Indian Beach does not have a sewer system, estuarine water pollution is a prime concern. Pollution is likely to occur at an increasing rate under existing and projected growth rates, as higher density development pressures are presented. Waters in the area are closed to clamming at times. Indian Beach, with the assistance of the County, will ensure that all dwellings constructed have properly installed and functioning septic systems, and the Town will maintain densities no higher than those that are allowed under the zoning ordinance. Please refer to page 24.

Flood Hazard Areas

Indian Beach's flood hazard areas are situated mainly along the beaches of the Atlantic Ocean. These are delineated as V-zones on Federal Flood Insurance Program maps. See the Composite Hazards map on page 37. It is the policy of Carteret County to require new building construction to conform to Federal standards of the flood line (V zone) as stated in the insurance program. The County and Town enforce this policy. See page 26.

Industrial Impacts of Resources

Although there is industrial-type development in the Salter Path Community in the form of commercial fishing, there is no provision for industrial development within the Corporate Limits. It is the policy of the Town, as set forth in the Zoning Ordinance to prohibit all industrial development.

Package Treatment Plants

Privately-owned package sewage treatment plants process effluent from condominiums. It is the policy of the Town to allow use of package systems where they are deemed necessary to protect the environment, streams and the sound after meeting county and state standards and requirements. It is the policy of the Town to require the use of package treatment plants for all future mobile home, multiple residential and commercial developments.

Protection of Potable Water Supply

All drinking water is purchased through a private supplier.

Marinas and Floating Homes

There is one marina and no floating homes in Indian Beach. It is the policy of the Town to allow for commercial or private marinas as long as they meet the code and licensing requirements of the Town, County, State, and Federal Governments, as applicable. It is the policy of the Town to exclude floating homes from within its Corporate Limits.

Beach Protection and Nourishment

It is the policy of the Town to seek assistance from the State and Federal Governments to protect its beaches from excessive storm erosion and to renourish them so that life and property will be protected.

Development of Sound Islands

There are no sound islands within the Planning Area of Indian Beach.

*** Resource Protection Policy Implementation

Indian Beach will continue to protect and promote the enhancement of those fragile coastal environmental features which are a part of the Town and which provide sustenance for the well-being of the community and state.

Supporting Objectives

- A. Continue to cooperate with the County CAMA officer to ensure the environmental integrity of the Planning Area.
- B. Explore ways to provide adequate access to the sound at strategic locations with adequate parking, by acquiring or leasing areas with the help of the State.
- C. Continue to protect wetlands, estuarine waters, and public trust areas from uses that are not water dependent and from other incompatible uses which would be injurious to the salt marsh and sound.

Strategies

1. Control development, use, and access to Bogue Sound (Intracoastal Waterway) through zoning, subdivision regulation (to be adopted), and CAMA permit administration, using supplemental citizen assistance through "stream-watch" type programs to monitor conditions, change, and activities.
2. Adhere conscientiously to provisions of zoning and CAMA codes to protect these areas.
3. Modify zoning provisions applicable to all lands next to estuarine shorelines and waters to reduce density and increase setback requirements for new development, if found to be necessary.
- D. Seek ways to promote the restoration of shellfishing in Bogue Sound and marshes and to increase productivity.

Strategies

1. Work toward the construction of sewerage and treatment facilities as demand increases in accordance with Countywide plans.

- E. Discourage clear-cutting of lots and preserve the maritime forest.

Strategies

1. Enforce the Vegetation Requirements of the Zoning Ordinance to protect tree cover and other vegetation.
2. Inform land owners about the value of preserving trees, shrubbery, and ground cover.
3. Promote the planting of street trees along Salter Path Road and the landscaping of the shopping area parking lots.

- F. Continue to guard against nonfunctional septic tank systems.

Strategies

1. Strictly administer: (1) septic tank regulations and health code requirements in cooperation with the County; and (2) the Zoning Ordinance, and proposed Subdivision Regulations, to prohibit development in areas where soil is poor, flooding potential is evident, and erosion is prevalent.

- G. Adopt the North Carolina Sedimentation Code by reference, with local modification, as needed, to protect estuarine waters from excessive sedimentation resulting from building construction, surface runoff, and land modification and use.

RESOURCE PRODUCTION AND MANAGEMENT POLICIES

The natural resources of Indian Beach are a vital part of its economy. Protection of these resources is a primary concern. The following policies deal with the production and management of these resources.

Public Beach and Sound Access

It is the policy of Indian Beach to protect and ensure optimum access to and recreational opportunities at beach and launching areas, consistent with public rights, constitutionally protected rights of private property owners, and the need to protect natural resources from overuse.

It is the policy of Indian Beach to seek out and secure the use of other suitable areas with the financial and technical assistance of the State.

It is the policy of Indian Beach to limit access to the beach to emergency vehicles only, except between Labor Day and Memorial Day when four-wheel drive beach vehicles are allowed to provide access for fishermen. The Mayor may close the beach to vehicles at anytime to protect the public. Beaches in Indian Beach are patrolled by Emerald Isle Police under contract.

*** Public Access Policy Implementation

Indian Beach will provide parks facilities and services for residents and visitors to the community within the Town's financial means and with the help of the County, State, and Federal Governments.

Supporting Objectives

- A. After severe storms, identify parcels of land that would be unsuitable for building (unable to meet CAMA, County, and local standards) due to newly identified constraints and potential flooding, and consider their appropriateness for public access.
- B. Establish a system for public access dedication in new subdivisions.

Strategies

1. Prepare and adopt Subdivision Regulations for Indian Beach that require guaranteed easements to either the ocean or the sound to be dedicated to the Town for public use.

Commercial and Recreational Fisheries

It is the policy of Indian Beach to seek out ways to provide public access to the sound and recreational fisheries for residents and vacationers. Commercial and recreational fisheries exist in Bogue Sound. Although some areas are posted to prohibit the taking of shellfish, other fish may be taken for recreation and consumption. Access for commercial fishing enterprises exists outside the Town Limits, in the community of Salter Path. Public access from Indian Beach for recreational fishing on Bogue Sound currently does not exist unless it is through private property for a fee. Please refer to Public Access Policy on the previous page and above.

It is the policy of Indian Beach to protect and manage its fishery resources through good land management practices and code enforcement with the help of the County and State.

Cultural and Historical Resources

It is the policy of the Town to protect significant historical and archaeological resources as they may be identified on the map on page 33. Whenever there is question of protection, the Town will seek assistance and determination of the N.C. Division of Archives and History before proceeding to issue permits.

Productive Agricultural Lands and Commercial Forest Lands

There are no productive agricultural lands and no commercial forest lands in the Indian Beach Planning Area.

Mineral Production Areas

There are no existing and no known potential economic mineral production areas in the Indian Beach Planning Area.

ECONOMIC AND COMMUNITY DEVELOPMENT POLICIES

Protection and management of natural resources are of primary importance, but economic and community development are also important. The following are policy statements regarding current and future issues pertaining to economic and community development. Indian Beach is committed to supporting and enforcing, where applicable, State and Federal programs which pertain to economic and community development.

Growth and Development

Indian Beach will manage and direct its growth to balance development with municipal services and to protect itself from adverse development by:

o Basing population and growth guidance on the following criteria:

- (a) suitability of the land to accommodate use;
- (b) capacity of the environment;
- (c) compatibility with the policies of the Town;
- (d) density;
- (e) location of use; and
- (f) availability of facilities and services.

o Preparing for a population growth that will continue at about the current rate with a permanent resident population of 101 by the year 2000. Please refer page 39.

***** Growth and Development Policy Implementation**

Indian Beach will maintain and enhance a community atmosphere that fosters stability and promotes both permanent and seasonal residency, with population growing to 77 permanent residents by 1990 and 101 by 2000. See p. 39.

Supporting Objectives

- A. Encourage a gradual growth within the limitations of land availability, water availability, septic tank suitability, environmental constraints, and Town financial ability.

Strategies

1. Estimate the Town's permanent and seasonal population annually through the use of property tax statements and determine the ability of the existing infrastructure to meet residents' needs.
2. Monitor closely the Town's ability, relative to population increase, to provide quality services.

3. Consider halting the issuance of building permits if population growth exceeds: (a) the Town's ability to provide services, (b) usable land availability, or (c) community capacity.
4. Consider the institution of impact fee assessment in the proposed Subdivision Regulations for new development that would required community facilities.

Growth Management

As the Town grows, there will be alternative decisions that will not be easy to make. Use of the 1987 Land Use Plan Update should be a good reference document for direction in decision-making. It is the policy of Indian Beach to carefully weigh decisions for the future by:

- o Instituting continuous land use planning and growth direction backed by a modified Zoning Ordinance to include PUD (Planned Unit Development) provisions and newly adopted Subdivision Regulations to include innovative street and access design, developed in accordance with the 1987 Land Use Plan Update, as the key tools for managing population and economic growth.

- o Guiding new development away from areas of environmental concern (AECs), providing protection for unique natural features, sensitive vegetative areas, rookeries, special habitats, and unstable physical forms, such as shorelines.

- o Directing new development in accordance with area soil capacity to accommodate septic needs.

- o Guiding new development away from hazardous areas where there is a tendency toward septic tank problems, flooding, and washover.

- o Approving new development within the Town's jurisdiction only when and where adequate public facilities and services (fire, rescue, and police protection, roads, water and future sewer) to support it are available.

- o Reviewing the Carteret County Emergency Management Hurricane Response Plan and the Indian Beach Hurricane/Storm Plan (See page 76ff.) and their respective policies periodically so as to guide development and new growth in the most appropriate manner in the future and to mitigate future land use conflicts with storm related emergencies. Please see pages 77-81.

Redevelopment of Existing Areas

Indian Beach has no policies pertaining to redevelopment other than those expressed in the Zoning Ordinance. Stipulations in the ordinance refer primarily to the reconstruction of and addition to nonconforming uses. There is no area identified for redevelopment. Indian Beach is a relatively "new" community, having been developed over the past 25-30 years.

Town Character

It is the intent of Indian Beach to promote and preserve the quiet, family-oriented resort atmosphere and reputation of the community by limiting activities that would detract from the Town's present character and distinction, through (1) land classification (See map on page 95), (2) conscientious Zoning Ordinance and newly adopted Subdivision Regulation administration, (3) building permit and CAMA permit administration with the assistance of the County, and (4) promotion of the Town as a family recreation resort and retirement community, upholding that tradition.

Housing

It is the policy of Indian Beach to encourage the development of a variety of housing types to meet the needs and desires of the citizenry and future permanent and seasonal residents within the context of the 1987 Land Use Plan Update and Zoning Ordinance by:

- o Maintaining areas exclusively for conventional dwellings and condominiums primarily for the growing permanent population.
- o Providing areas for mobile homes to accommodate both permanent and seasonal occupancy.

*** Housing Policy Implementation

Indian Beach will promote housing opportunities for individuals, families, and retirees.

Supporting Objectives

- A. Promote the present residential character of Indian Beach, to retain its appeal for both permanent and seasonal residency.
- B. Foster the development of single-family conventional and manufactured housing and condominiums in accordance with the stipulations set forth in the Indian Beach Zoning Ordinance and yet to be developed and adopted Subdivision Regulations.

Strategies

- 1. Through modifications of the Zoning Ordinance in accordance with the policies of the 1987 Land Use Plan Update, provide for single- and two-family, condominium, apartment, and mobile home types of residency in appropriate areas for permanent and seasonal populations.
- C. Promote future development in the most appropriate locations.
 - 1. Show where septic tank use is most suitable.
 - 2. Meet with realtors and developers to encourage residential development in the most appropriate areas in support of sound community planning and development.

Appearance and Cleanliness

It is the policy of Indian Beach to improve and enhance its visual quality and attractiveness, both of which are directly related to liveability and economic viability, by:

- o Celebrating "Indian Beach Spruce-Up Week" in the spring of every year.
- o Strengthening and enforcing Town ordinances relating to vacant and occupied residential and commercial property clean-up, with provisions for the Town to do the job at the owner's expense if not carried out after proper notification.
- o Requiring developers and construction companies to clean up during building activities and after jobs are completed by withholding inspection and occupancy permits until cleaning has been completed satisfactorily.
- o Establishing a continuous cleanliness campaign with posters, signs, and additional trash (pitch-in) receptacles in municipally controlled areas.
- o Controlling erosion of silt, sand, and soil from cleared lots through administration of a sedimentation control ordinance.

*** Appearance and Cleanliness Policies Implementation

Indian Beach will work to improve the appearance and image of the Town.

Supporting Objectives

- A. Conduct a spring "Clean Up Indian Beach" litter clean-up/paint-up/fix-up/landscaping campaign on an annual basis.

Strategies

1. Institute an Annual Mayor's Proclamation for the week.
 2. Associate the week with an Annual Town Hall meeting, festival, Volunteer Fire and Rescue Squad fund-raising, and/or fish fry/barbecue.
- B. Increase the sensitivity of visitors and residents about community cleanliness.

Strategies

1. Encourage businesses to display signs and pitch-in containers to support a community campaign against litter.
2. Increase policing of problem litter areas by using community service assignees.

Commercial Development

Permanent and seasonal residents should have access to basic shopping and service facilities. It is the policy of Indian Beach to enhance and promote quality commercial development by:

- o Encouraging community- and vacationer-oriented business to cluster into groupings of related commercial activities and limiting the unattractive strip-commercial development configuration oftentimes found in some other resort areas of the State.
- o Understanding that major commercial facilities and services are already provided in the general vicinity of Indian Beach.
- o Encouraging the formation of a business association for Indian Beach.
- o Encouraging major tree planting and parking lot/curb cut redesign of commercial areas.

*** Commercial Development Policies Implementation

Indian Beach will provide commercial areas to meet the retail sales and service needs of permanent and seasonal residents, tourists, and vacationers.

Supporting Objectives

- A. Encourage the concentration of all new commercial activities to meet the needs of the permanent and seasonal populations into one area in the West Section, namely: along the north side of Salter Path Road limited by Family Campground on the west and limited by the Fire and Rescue Squad Station on the east.

Strategies

- 1. Amend the Zoning Ordinance, using the Land Classification Map as a guide, to concentrate and compact commercial activities in the proposed business area described above on the north side of Salter Path Road to stem the growth of uncontrolled strip commercial development.
- B. Begin a concerted, continuing effort to improve the appearance and aesthetic quality of commercial areas.

Strategies

- 1. Working closely with business owners and operators to discuss and devise strategies for improving the appearance of their establishments for the mutual benefit of the business and the entire community.

Public Works and Services

It is the policy of Indian Beach to increase its capacity proportionately to provide public works facilities and services to growing permanent and seasonal populations and to existing and developing residential, commercial, and recreational areas by:

- o Maintaining the Town's capabilities to keep it free of litter and trash, particularly during the summer months to uphold the cleanliness and image of the community.
- o Preparing an incremental plan for providing street lighting along public thoroughfares, at public access points to the ocean and sound, and where population concentrations and use demand.
- o Advocating a countywide sewer system.

Traffic and Transportation

It is the policy of Indian Beach to meet the increasing need to move people and goods from place to place conveniently, safely, quickly, and efficiently, particularly during the summer months when traffic congestion is highest by:

- o Facilitating public off-street parking areas in close proximity to public access points to the ocean and sound.
- o Developing a plan and implementation program for constructing walkways and bikeways in strategic locations.
- o Modifying access to existing businesses on NC 58 (Salter Path Road) to establish planned curb-cuts where they do not exist to curtail unbridled access in accordance with amendments to the Zoning Ordinance and/or the preparation and adoption of Subdivision Regulations and with the assistance of the N.C. Department of Transportation. Key ingress/egress opportunities should be established in planning for all new and existing development.
- o Limiting commercial development into one area so as to discourage injurious strip development. (See *** Commercial Development Policies Implementation on page 71.)

*** Traffic and Transportation Policies Implementation

Indian Beach will work to enhance access to employment, shopping, and personal services; to promote an unencumbered flow of traffic; and to accommodate parking in appropriate locations.

Supporting Objectives

- A. Separate thru traffic from parking traffic in business areas.

Strategies

1. Amend the Zoning Ordinance to require all new business development to provide plans for curb-cuts to enhance traffic flow on Salter Path Road.
2. Amend the Zoning Ordinance to require existing businesses to provide curb-cuts where feasible within two years.
3. Develop a means to review and approve interior street patterns of all proposed development so as to facilitate circulation and to improve emergency access through the use of PUD approval processes.
4. Facilitate the access and ingress of traffic to and from private street systems to NC 58 through PUD review processes and general review through continuing analysis by the Town administration.

Public Safety and Security

All citizens, seasonal residents, and visitors to Indian Beach should be able to feel safe and secure on the beaches and streets, at other public and private places, and in their homes or lodgings, and they should not have to worry about the safety of their property and possessions. It is the policy of the Town to provide the highest level of safety possible for humans and property within its financial means by:

- o Exploring alternative means of patrolling the Town.
- o Encouraging neighborhood Community Crime Watch programs.
- o Seeking ways to expand the police force during seasonal fluctuations.
- o Continuing to patrol public roads for speeders.
- o Expanding the police force as population growth occurs in accordance with state and national public safety standards.
- o Supporting fire protection and rescue services, financially and through conscientious liaison.

*** Public Safety and Security Policies Implementation

Indian Beach will provide the best police, fire, and rescue services possible within the Town's financial means.

Supporting Objectives

- A. Continually monitor the needs for additional street lighting in the Town.
- B. Seek more assistance from the State Highway Patrol to control traffic on NC 58.

Assistance to Channel Maintenance

Indian Beach is located on Bogue Sound, through which the Intracoastal Waterway passes. This facility is maintained by the U.S. Army Corps of Engineers. The Town has no jurisdiction in maintenance, dredging, and traffic control. Private entities maintain channels and canals where they are benefited.

Energy and Communications Facilities Sites

There are no regional energy and communications facility sites in the Planning Area.

Culture and Recreation

There is a direct relationship between the availability of cultural, recreational and leisure outlets and activities and the development and maintenance of the local economy. It is the policy of Indian Beach to maintain an environment where cultural and recreational activities can flourish for the benefit of permanent residents, the seasonal population, and vacationing visitors. Please refer to Public Beach and Sound Access Policy statements on pages 65 and 66.

Tourism and Waterfront Access

It is the policy of Indian Beach to work with commercial interests to provide business, retail, and service facilities for permanent and seasonal residents, tourists and vacationers, and to provide public and private waterfront access for its residents and vacationers. Please refer to Public Beach and Sound Access Policy statements on pages 65 and 66.

Citizen Participation

It is the policy of Indian Beach to promote responsible citizen participation in order that decision-makers can be more aware of, and meet more effectively, the needs and desires of the residents and the present and future challenges posed by change and growth by:

- o Publicizing Town Commission and Planning Board meetings.
- o Seeking-out a broad cross section of citizens to serve on town committees and boards and to volunteer their services to the community in other capacities.
- o Conducting periodic questionnaires.
- o Holding Town information meetings.

*** Citizen Participation Policies Implementation

Indian Beach will maintain a permanent, regular means of providing the citizenry with opportunities to express their opinions, ideas, suggestions, compliments, and complaints to the Town Commissioners.

Supporting Objectives

- A. In the spring, hold annual Town Hall meetings in conjunction with spring clean-up/paint-up/landscaping week to hear suggestions from the people and to inform them about the "State of the Town", and to solicit their recommendations for the future improvement of facilities and services.
- B. Publicize Town Commission and Planning Board meetings on a regular basis, encouraging citizens to participate. Post tentative agendas on the bulletin boards at Town Hall and other places in the community.

Town Administration

The Town will carefully monitor development in the community so that the problems and high expense that accompany the dynamics of inevitable growth do not become overwhelming. It is the policy of Indian Beach to manage growth by:

- o Monitoring staff and development service needs in planning, engineering, and inspections so that quality development can be maintained and improved as growth continues.
- o Enforcing diligently the Zoning Ordinance and Subdivision Regulations, when adopted, and all other applicable elements of the Town Code, as well as supporting State and Federal regulations.
- o Exploring the need for more accommodating Town Hall facilities as the need presents itself.

Annexation

Although a number of respondents to the Town Survey (48 percent) indicated that the Town ought to consider the possibilities of annexing Salter Path and Hoffman Beach, the Town Board of Commissioners decided not to take any action in 1987.

Commitment to State and Federal Programs

It is the policy of Indian Beach to carry out, to the best of its ability, the State and Federal stipulations and regulations applicable to resource protection and production and to economic and community development, as required, and as set forth in the 1987 Land Use Plan Update, with the help of the County, State and Federal governments.

HURRICANE/STORM PLAN

There are two new effective tools for implementing the 1987 Land Use Plan Update that were not available in the 1982 Plan. These are storm hazard mitigation and post-disaster recovery planning.

Indian Beach is a part of a larger Carteret County network of Emergency Management Hurricane Response Planning. The Town participates fully in Storm Hazard Mitigation, Evacuation Operations and Procedures, Disaster Relief and Assistance, and Post Disaster Reconstruction Planning. The Mayor is a Primary Member of the County Control Group. Others in the community are members of the County Support Group, including the police, fire, and rescue chiefs. The Indian Beach Control and Support Groups contingents are stationed in the Emergency Operating Center (EOC) at the Town Hall which is in direct contact with the County EOC during severe storm conditions.

Although extensive and inclusive planning for operations has been developed by the County, with Indian Beach as an integral part, the Town has need for customized plans of its own to handle local situations. These plans, in particular, have to do with: (1) hurricane/storm hazard mitigation -- doing all that is possible in the long-term before threatening weather occurs, to avoid possibilities for loss of life and severe damage to property, and (2) post disaster reconstruction in accordance with the 1987 Land Use Plan Update -- doing all that is possible in the long-term to insure that recuperative activities meet town policies and objectives stipulations and town code standards, developed in accordance with the plan and adopted to implement the plan.

BASIC PHASES OF STORM PLANNING

Although there are four basic phases -- Mitigation, Preparedness, Response, and Recovery -- in dealing with storm hazards, the Mitigation and Recovery phases relate closest to land use planning for Indian Beach. These two phases present opportunities for lightening the damage of future storms and for "redoing" past land use patterns that may be undesirable.

Mitigation encompasses activities which can reduce the probability of disaster, minimizing the damage in Indian Beach caused by storms. Modification of regulations, such as zoning in accordance with the 1987 Land Use Plan Update, which discourage residential and commercial construction in areas that are easily flooded is an example. Mitigation is not only geared to dealing with a specific disaster but for avoiding damages in the long-term future.

Preparedness activities occur immediately before disaster strikes. Preparedness is a way Indian Beach can cope with the unavoidable aspects and immediate threats to its people and property. It is a way that disaster response operations can be more effective. Preparedness planning needs to be extensive and thorough, including evacuation and emergency operations.

Mitigation as described above, for instance, is longer term in nature, while preparedness is more immediate which includes hurricane warnings, evacuation, and operating shelters. This kind of planning involves cooperating with Carteret County Emergency Management Hurricane Response Planning

(Control and Support Groups) and the State's Division of Emergency Management and operating the Town's Emergency Operating Center.

Response activities follow a disaster. Search and rescue, temporary housing and emergency medical care, temporarily curtailing utility operations, and assessing damages, all are important functions. Assisting the injured and displaced, avoiding secondary damages (broken electrical lines and damaged package sewage treatment plants), and putting Indian Beach back on the road to recovery as soon as possible are functions of the Response element.

Recovery planning for Indian Beach involves a full range of reconstruction and rehabilitation activities. These are geared to return the Town to normal or to better than it was before a storm or disaster. Included are financial assistance, economic recovery planning, reassessment of the town's land development and growth management policies, and the repair, rebuilding, and relocation of utilities and damaged structures.

The above four phases can be grouped into two distinct major functions. One is emergency management which is directly linked to Preparedness and Response, and the other is development management which is associated with Mitigation and Recovery. The skills required for these two contrasting functions are markedly different. Whereas those for emergency operations -- Preparedness and Response -- are more tactical in nature, the skills for development management -- Mitigation and Recovery -- are more strategic, requiring: the setting of specific long-range policies; the designing of responding goals and objectives; and the identifying of implementing strategies to achieve them. The development management function is emphasized in the 1987 Land Use Plan Update for Indian Beach.

STORM HAZARD MITIGATION

Storm Frequency

Indian Beach has experienced hurricane landings and major storms in recent years. Recent storms have taken their toll on the beaches. The average annual beach erosion loss over the past ten years has been from two to five feet, but in November and December of 1986 alone, there was a loss of nearly 30 feet. Experience in recent years has shown that more damage has occurred from winter storms than from hurricanes. There is a six percent chance that a hurricane will strike in any given year. On Bogue Banks, major hurricane landfalls have averaged about once in every 17 years.

Components of Hurricane Damage

A critical factor is storm surge in determining damage effects from hurricanes. This is the most dangerous of hurricane forces. Most recorded damage results from surge effects. Ninety percent of hurricane-related deaths are from drowning. In the case of the worst hurricanes (Classes 4 and 5), much of the Planning Area would be washed over and flooded.

Wind and rain also are important components of a hurricane. Wind force is the prime factor in categorizing a hurricane, but surge and barometric pressure also figure into the scale prominently. See the reference to the Saffir/Simpson Hurricane Scale in the appendix. The speed at which a hurricane is moving determines the rates of rainfall released. Bogue Bank shorelines could be changed significantly by a severe hurricane, characterized possibly by new inlet cutting, as has occurred at Indian Beach in years past.

Hazard Mapping

Indian Beach's vulnerability can be indicated relatively accurately through hazard mapping. This mapping is derived from two sources: the Federal Insurance Administration's Flood Hazard Boundary Map and the Indian Beach Land Classification Plan which takes Flood Zones and Areas of Environmental Concern into consideration. These factors have been combined and expressed on the Composite Hazards Map on page 37. The hazards that can be expected in each of the respective areas on the Composite Map are given below.

HURRICANE FORCES*

	<u>Erosion</u>	<u>Wave Action</u>	<u>Flooding</u>	<u>High Winds</u>
AEC Areas	X	X	X	X
V Flood Zone	X	X	X	X
A Flood Zone			X	X
B Flood Zone			X	X
Remainder of Indian Beach				X

*McElyea, Brower, and Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages, Chapel Hill, 1982.

The table above shows only "rule-of-thumb" information, because hurricane impact is influenced by many factors, including, but not limited to:

- o ocean floor configuration and slope,
- o shoreline and sound floor configuration,
- o tidal pressures and moon phases,
- o the shapes and locations of inlets, and
- o the direction, angle, and force of the storm.

In Class 4 and 5 storms, as indicated earlier, much of Indian Beach would be inundated, and backwash of a storm surge through Bogue Sound would bring high water to almost all of the Planning Area. Areas where this could happen are in the low-lying sections (Zone B) along N.C. 58 in the West Section of the Town and in the Salter Path community.

The Hazards Map on page 37 should eventually be replaced with a computer simulation model to give a more accurate portrayal of expected damages under certain given conditions. Sophisticated computer models have been developed to depict results from a variety of storm levels and approaches. This could be a joint effort for Indian Beach, the County, other municipalities in the county, and the State and Federal Governments.

Magnitude of Risk

The higher the population and the value of property, the higher the risk from the damaging effects of a storm. As Indian Beach grows in population, in new construction, and possibly in physical size, the assessed valuation of the Town will increase, and the risk of human life and property loss will increase.

On the Composite Hazards Map on page 37, it can be seen that a number of properties would be more readily threatened from high waters than others. The frontages of campgrounds, mobile home parks, commercial establishments, and the Summer Winds Condominiums along Salter Path Road (NC 58), and the Volunteer Fire and Rescue Squad building and Town Hall on the highway, would be in jeopardy. These establishments and community facilities lie in Zone B on the Map meaning that it would be subject to 100-year flooding. On the north side of the Town along Bogue Sound, in both the West and East Sections, there are areas where more frequent flooding can be expected. The A Flood Zone where high waters are to be expected more often than every 100 years skirts the shores of Bogue Sound. And the V Flood Zone, where base flood elevations and flood hazard factors have not been determined, is situated along the ocean and beach. This area has experienced a high amount of erosion during the past year.

There are no known potentially hazardous materials stored in the V and A Flood Zones within the Town Limits, but there are petroleum fuels stored in the Salter Path community in association with the fishing industry.

Population growth normally is constrained by the availability of land for residential development. It is estimated, however, that 51 percent, or 191 acres, of the Town's incorporated land lies vacant and is not used for urban purposes. This vacant land lies in ten large tracts. All lie primarily in the B and C Zones where flooding is less hazardous. Land constraints on the growth of population at this point in history are not a serious limiting factor.

There are other factors such as the availability of public sewer that figure into the population growth scenario also. These are discussed on pages 22 and 38.

Total assessed valuation for Indian Beach has risen greatly in recent years to \$55,239,632 in December 1986. Recent economic recoveries nationwide, and resultant increases in building activities in the Town, account for increased valuation. Values will increase even more after reassessment studies are completed by Carteret County in 1988.

Identification of Hazards

Bogue Sound and its Estuarine Shoreline lie on the north side of Indian Beach. Here flooding along the shore and up into the finger canals are distinct hazards. The intrusion of flood waters through the vacant lands in the West Section could be as far south as Salter Path Road (NC 58) in severe storm situations, particularly where those sections lie in Zone B. The chances for new inlet cutting from backwash pressure within the corporate boundaries appear to be the greatest through the vacant lands of the West Section between the western Town Limits and Family Campground.

The Atlantic Ocean and the Beaches lie along the south side of the Planning Area. Lands along this natural hazard area are especially vulnerable to erosion. The beaches and frontal dunes in the Planning Area have been eroded severely during the past year, threatening even some of the new development fronting on the ocean.

There are no public utility structures situated in hazard areas in the Planning Area.

Some private street ends in the mobile home parks along Bogue Sound are susceptible to earliest flooding during hurricanes and severe storms because of their location in the A Flood Zone.

*** Hurricane/Storm Mitigation Implementation Policies

Indian Beach will prepare for storm events in accordance with the 1987 Land Use Plan Update, particularly in accordance with this section, and the Carteret County Emergency Management Hurricane Plan.

Supporting Objectives

- A. Provide more security for people and property in Indian Beach.

Strategies

1. Declare an annual Storm Awareness Week during the early part of the summer season, with instructional meetings and displays.
2. Schedule annual rehearsals for all hired and volunteer participants involved in the mitigation, evacuation, and recovery processes.

- B. Amend the Town Code to bring it in line with the policy section of the 1987 Land Use Plan Update.

Strategies

1. Rewrite applicable sections of the Zoning Ordinance to make it consistent with measures promoted in the 1987 Plan Update to mitigate storm damage.

2. Modify the Zoning Ordinance to ensure that post-disaster reconstruction will conform to provisions, policies, goals, objectives, and strategies of the 1987 Plan Update.
3. Prepare and adopt Subdivision Regulations to ensure that new design and development attitudes and standards set forth in the 1987 Plan Update. These would be applicable in the event the Town should suffer a devastating storm which could require substantial redesign and reconstruction work.

C. Faithfully adhere to the general policies delineated in the 1987 Plan Update.

RECOVERY AND CLEANUP

After a hurricane, Indian Beach could be faced with the difficulties of returning the Town to a livable condition. Residents who wish to return their situations back to normal in a speedy fashion often find themselves in conflict with those who want to avoid the dire consequences of another disaster. The need for reconstruction actually offers a community the rare opportunity to make improvements. But if plans are overly ambitious, require too much study, or take too much time to implement, they may fail to bring about good results because the citizenry might lose interest.

After a storm there will be a great deal of confusion and fear about the future. Delays and uncertainties can occur if the Town is unable to instill confidence. Town policies, goals, objectives, and strategies of the 1987 Plan, where still applicable, should be followed consistently so that the people will know what to expect.

Decisions should be made in a timely manner after a storm. Information should be dispensed quickly, and rules should not be changed without solid, compelling reasoning. A feeling of confidence in Town government will speed recovery and assure compliance with emergency regulations. Frequent changes and not sticking to the plan for recovery will magnify the pre-existing confusion and slow the recovery process.

Immediate Cleanup and Removal Activities

Certain actions need to be taken by the Town to restore basic facilities and services immediately.

Access. Help will be made available from the County to clean-up debris. Assistance will be dispatched from the County Operations Center and directed to most needed areas first. It is important that citizens realize that they should not return to their properties or places of residence until it has been announced that it is safe to do so. This could be a matter of days. The Mayors of the municipalities on Bogue Banks will decide when citizens and other property owners may return after a storm.

The Town will do all within its capacity to open its major thoroughfare, Salter Path Road (NC 58), with the help of the State Transportation Department and County, to provide access to critical locations in the community.

But it must be pointed out that Indian Beach has no Public Works contingent in its operational structure. Much of the initial work prior to the arrival of assistance from the State and County would have to be done with the help of contractors and/or volunteers. First priority for debris removal and cleanup will be Salter Path Road. This thoroughfare will serve as an emergency transportation route for access to the most important areas including: Town Hall, the fire and rescue station, churches, restaurants, stores, and filling stations. Downed wiring cleanup and replacement will be conducted before streets are opened to traffic and concurrently by crews and contractors of the Carteret-Craven Electrical Cooperative.

Second priority for access will be for owners of mobile home parks and managers of condominiums to clear access to Salter Path Road.

Potable Water. Drinking water should be made available at Town Hall or at the Fire and Rescue Station from tank trucks until the public water system is declared safe and becomes operational again.

Communications. Telephone and radio service will be restored first to Town Hall (Emergency Operations Center) and the Fire and Rescue Station, then to business and residential sections.

Relocation of Community Facilities. Currently the Town Hall is situated in a manufactured building, and the Fire and Rescue Station is located in a conventional structure. Both facilities are located in Flood Zone B. This means that severe storm activity could prove to be injurious to these facilities, and need for relocation may become a reality depending on storm damage and flooding. Plans and policies adopted prior to the storm event should be adhered to following the storm. If the Zoning Ordinance and Land Classification Plan are no longer applicable because of severe destruction, careful consideration should be given to relocation of new or replacement facilities within the context of a new or revised planning process customized to the new residual land form.

Damage Assessment

A Town Damage Assessment Team, headed by a designated Commissioner, including the County Building Inspector as well as personnel from the County Tax Office and Health Department, will be formed. The work of the Team will support damage claims and help Indian Beach in seeking State and Federal financial and technical assistance. The Damage Assessment Team should learn about the following procedures and meet at least annually to rehearse its duties.

- o The Team will meet immediately after the storm, take a field survey, and prepare a report of the disaster to request immediate assistance.
- o A detailed field survey then should follow and be completed within ten days at which time the Governor would request the President to declare the county and community as a disaster area.

- o The Team should designate and mark every damaged structure recommending the following action.
 1. To be demolished and/or removed
 2. To require inspection before reconstruction
 3. To be repaired with a permit
 4. To be repaired without a permit
- o Each damaged building will be marked for action on its right hand front corner so that it can be seen readily from the street. Percent of damage, conformity to Town codes, congruence with the Emergency Land Use Plan Overlay (as detailed in the following section), and appraised value will all figure into the damage assessment process.

Land Use

Examples in other storm disaster areas have shown that development trends in progress before a storm are greatly accelerated after a storm. It is assumed that Indian Beach's growth rate will increase after a disastrous storm.

Care must be taken not to underestimate the amount of space that will be required for emergency housing and debris cleanup and collection. Often more than twice the amount of the damaged area is needed for temporary housing, commercial buildings, and debris clearance. The following procedures should be used.

- o The Planning Board and Town Commissioners will prepare an Emergency Land Use Zoning Overlay for the Indian Beach Planning Area before reconstruction begins. The Town should be divided into three mutually exclusive districts. As the emergency subsides the overlay classifications can be gradually phased back into normal zoning standards.

District 1 - Heavily damaged areas requiring complete redevelopment
 -- a 30-45 day moratorium on new construction

District 2 - Inspected areas that may be restored -- repairs to be made as quickly as possible

District 3 - Undamaged areas which may be reinhabited immediately -- zoning density standards to be lifted for up to 12-18 months to allow temporary housing for those displaced by the storm.

- o Reconstruction of buildings that were nonconforming prior to the storm will be prohibited under the provisions of the Indian Beach Zoning Ordinance. Similarly, structures not meeting the standards stipulated in the County Building Code, for flood insurance, and structural and flood proofing standards, will not be allowed to continue. Public facilities provided by the Town likewise will be analyzed as to current location and impact and as to where redevelopment recurs.

- o The adequacy of the Zoning Ordinance will be assessed to direct redevelopment properly away from hazard areas. It has been shown that development after a storm often occurs at much greater density than before. Since results of A Survey on the Town of Indian Beach show that residents of the community are concerned about condominium and mobile home development, the Zoning Ordinance takes on increased importance in the management of redevelopment of uses at densities which are acceptable to the community.
- o All repair and construction contractors shall be registered for privilege licenses.
- o Property owners shall be placed on notice that they may need to obtain building permits for reconstruction based upon findings of the Damage Assessment Team.
- o The Zoning Board of Adjustment shall hear citizen appeals of damage assessments and emergency zoning designations. The Mayor may make appointments to fill Board vacancies. Operating rules shall be the same, but decisions should be made as rapidly as possible.
- o Prior arrangements should be made for having debris cleared away and deposited either at the county landfill or in other locations.

Assistance Coordination

As a result of storms, households can be disrupted by injuries, death, and loss of homes, employment, and personal possessions. These problems require community policy decisions and assistance before reconstruction can begin. A wide variety of public and private sources, including the Red Cross, must be coordinated for an effective assistance effort. The following procedures are identified for implementation.

- o A Disaster Aid Coordinator should be appointed by the Mayor each year before the storm season begins. This person can be the Town Clerk, a Town Commissioner, or private citizen who is familiar with potential sources for family assistance.
- o Volunteers should be dispersed from one site to various work stations.
- o Stations should be established in strategic locations where need is the most, for dispensing food, clothes, pastoral counseling, temporary housing, and financial assistance.
- o Recovered personal belongings should be catalogued and returned to owners where possible.
- o Arrangements should be made prior to the hurricane season with area churches and restaurants for use of their facilities during the longer-term recovery period.
- o The Disaster Aid Coordinator should work closely with the Damage Assessment Team and the County Emergency Management Hurricane Response Control and Support Groups to keep abreast of conditions in the Town and surrounding areas.

It should be noted here that the new Carteret County Disaster Relief and Assistance Plan will be issued to Indian Beach before the Hurricane Season of 1987. This new document outlines assistance programs for the County and Town. Assistance programs would be set-up as quickly as possible within the context of this new plan after a disaster.

Financial Aid

Financing is a major issue following a disaster. Aid to victims may be tied to requirements of the 1987 Land Use Plan Update, new land use and construction policies, zoning non-conformity provisions, and other Town codes and policies.

Individuals having easy access to funds in the predisaster situation will recover most quickly. Some with good financial backing even may profit from a disaster -- improving their homes and businesses through the reconstruction process. Those with limited capital resources, however, will be slow to repair and rebuild.

The following procedures should be adhered to so that difficulties can be averted as much as possible.

- o Federal and State aid program assistance applications should be filed as soon as damage assessments are completed.
- o A disaster contingency fund should be established with the assistance of Carteret County to cover expenditures on municipal facilities that must be made even after tax revenues are greatly reduced.

CAMA Permits

All CAMA (Coastal Area Management Act) regulations should be strictly adhered to so that future storms will not be as devastating to life and property. After a major storm, Indian Beach with the assistance of the County must implement the CAMA minor permits program which involves the siting of structures in relation to required estuarine shoreline front setbacks. The following procedures will apply:

- o CAMA regulations will apply to any new construction. Major CAMA permit administration is handled by the Coastal Management Field Consultants stationed in Morehead City.
- o Buildings damaged over 50 percent of their structural value and located in an AEC (Area of Environmental Concern) will not be given CAMA permits for reconstruction. It should be noted that AECs will more than likely be moved significantly inland after a storm.
- o Coordination in compliance with the Building Code, Zoning Ordinance, and proposed Subdivision Regulations will be assured before CAMA permits are issued.

Federal and State Assistance Sources

Assistance programs normally require a Presidential declaration of an emergency or major disaster. Often the Governor makes the request for this declaration, and the President concurs when it is found that significant damage beyond the capabilities of local and state governments to deal with the situation has occurred. Some assistance programs are available without this declaration, but most all require it.

*** Post Disaster Recovery Implementation Policies

Indian Beach will do all that is within its capacity to restore the community to normalcy after a devastating storm or other emergency, within the context of the 1987 Land Use Plan Update and particularly this section, and in accordance with the County Emergency Management Hurricane Response Plan.

Supporting Objectives

A. To instill confidence in the citizenry.

Strategies

1. Provide information about the recovery planning process, making it widely available throughout the community.
2. Post bulletins at Town Hall and other conspicuous places and prepare standard information for dissemination in both written and oral forms.
3. Establish communications facilities operations (public announcements via vehicles in mobile home parks, campgrounds, and condominium complexes, and via telephone).
4. Implement the strategies that have been set forth in the Hurricane/Storm Plan and the County Emergency Management Hurricane Response Plan wherever possible to avoid confusion.

B. In accordance with the Town's Hurricane/Storm Plan, conduct damage assessment surveys as soon as practicable.

Strategies

1. Appoint a Damage Assessment Team to work with County officials and others to ensure local input.
- C. Establish an emergency local licensing system for qualified contractors to work in the community.

EVACUATION

It is noted that Carteret County has adopted an evacuation operations and procedures plan which is applicable to Indian Beach. Because the 1987 Land Use Plan Update is primarily targeted to the long-range implications of storm mitigation and reconstruction, the lengthy and extensive details of the County's Evacuation Plan are not replicated here. If necessary, reference should be made to that document which is available at the Courthouse in Beaufort. Indian Beach officials -- elected, professional, and volunteer -- are involved in the workings of that plan, making the Town an integral participant in operations and procedures.

Evacuation Time

Determining evacuation time is one of the major objectives of any storm planning effort. By definition, evacuation time represents the minimum amount of time before projected landfall that local decision-makers must allow for safely completing evacuation under storm conditions. An evacuation plan is especially important for Indian Beach because the summer populations in neighboring communities on Bogue Banks have increased at a rapid rate while evacuation routes (NC 58 East and West) have not changed locations or capacities in recent years.

A new high bridge has been completed between Atlantic Beach and Morehead City, but this new access facility may do little for evacuation of people from Indian Beach because the community is situated near the mid-point of Bogue Banks. Residents of the Planning Area may find themselves at the end of the line if they do not get early starts when it comes time to evacuate. Both the Morehead City and Cape Carteret bridges are converged upon when there is a call to leave the island. They both are bottlenecks that slow traffic to a snail's pace and often stop it completely for hours. To head toward the mainland and inland country by land, one must cross one of these bridges. Depending on the potential intensity of an impending storm, more than the evacuation of the communities on Bogue Banks may be required. Cape Carteret and Morehead City may need to evacuate also. This would only compound the traffic problem.

Evacuation planning and implementation are not only the responsible functions of Indian Beach, but they are, out of necessity and common sense, in the interest of other governmental units also. The Town participates with Carteret County and the N.C. Division of Emergency Management in effecting evacuation. There should be critical cooperative evaluation of plans among these units, and with the neighboring municipalities of Pine Knoll Shores and Emerald Isle, to determine adequacy and compatibility and to assure that they are based on sound analyses.

If required evacuation time, for instance, normally exceeds the warning times provided by the National Weather Service, Indian Beach in cooperation with its neighbors and the County should consider new evacuation capacity policies. Ideally, with an overall County plan, evacuation traffic flow from neighboring communities on Bogue Banks should not prove to be a hindrance to that of Indian Beach, but there are never any ideal situations in disaster settings.

In A Survey on the Town of Indian Beach, as described on pages 44-60, there were many comments made about the most recent evacuation experiences of the respondents. Almost all expressed strong concerns about the poor coordination which was apparent between communities, the County, and the State, and the directors of traffic. More cooperative efforts will be needed in the future if lives are to be saved. The new County Plan, due for distribution prior to the 1987 hurricane season, is expected to rectify some of the problems that have been experienced in the latest storms.

Storm Intensity

Storm surge is a critical factor in evacuation planning. The term "storm surge" refers to a dome of water driven by the wind that is up to 50-100 miles wide that moves across a coastline. The National Weather Service's Saffir-Simpson Scale projects a 15-foot storm surge for a Class 5 (worst case) hurricane which would wash over Bogue Banks into the Sound and onto the mainland. Surge heights can be amplified to even higher levels if there are: a gradual sloping ocean floor, tidal pressures, and bays and inlets. Surge can flood low points in highways and cut-off evacuation routes such as NC 58 where it crosses streams and marshes just beyond Cape Carteret. When Hurricane Hazel (Class 4) hit the North Carolina Coast in 1953, a surge of 16 feet was recorded at some locations. Please refer to an explanation of the Saffir-Simpson Scale on pages 2ff. of the Appendix.

In the event of a Class 5 hurricane, Indian Beach would be washed over and flooded in great part. One escape route is essentially the only feasible choice -- NC 58 to the west into Emerald Isle and then north across the bridge to Cape Carteret towards Maysville and Trenton. But there are several low-lying areas such as Pettiford Creek and Marsh which would have to be crossed. Evacuees would have to clear these areas very early. With competing traffic from communities to the east on Bogue Banks including Pine Knoll Shores and Salter Path, and Emerald Isle to the west, and Cedar Point, Cape Carteret, and the area east of the White Oak River bridge on NC 24, Indian Beach residents would need several hours lead time to have relatively unrestricted access to this escape route. Torrential rains associated with a hurricane can flood low-lying areas more than six hours before landfall.

Wind and rain are also components of a hurricane's destructive force. The storm category given a hurricane is based on the intensity of its winds, and the speed at which a hurricane is moving determines how much rainfall is released on a given area. Evacuation from Indian Beach requires travel on NC 58 North. Hurricane force winds and blinding rain can combine to make it nearly impossible to drive on coastal highways. Traffic flows at a snail's pace. Studies in Florida show that gale force winds may precede landfall by six hours. Although the NC 58 bridge to Cape Carteret will be closed to traffic when winds reach 50 miles per hour, this 65-foot high span probably will not be negotiable with strong winds even at a lesser rate.

Shelter

The Carteret County Evacuation Operations and Procedures Plan shows the White Oak School in Cape Carteret as an emergency shelter. It should be noted, however, that the school lies in a relatively low area next to Rocky Run Creek. This means that this structure probably could not be depended upon as a refuge in a severe storm. Parts of the school property lie in the Town's A and B Flood Zones.

Evacuation Travel

In an evacuation situation, all traffic must flow into Salter Path Road (NC 58) from several private residential roads. On peak vacation weekends, nearly all intersections with this only thoroughfare have the potential of being trouble spots.

Evacuation travel is based on the length of the escape route and the assumed uninterrupted speed of the evacuation vehicles. If an evacuee lives in the East Section of the Town, he or she must travel about one mile through the Salter Path community on NC 58. It is another 10 miles to the Cape Carteret bridge, then 18 miles to Maysville. Assuming a very maximum 25 mile per hour speed with severe storm conditions and heavy evacuation traffic, the uninterrupted travel time would be about 2 hours. An ideal of uninterrupted traffic on an evacuation route, however, should never be assumed. It would be safer to estimate travel time to be 3 to 5 hours, and even more, to travel the 28 miles.

Florida studies have shown that about 20 percent of the population leaves before there is a notice to evacuate.* Studies also show that evacuees in coastal areas average about 2.5 people per car. On a fall weekend, Indian Beach may have as high as 1,000 people in residence. With one lane reserved for emergency use and travel slowed due to wind, rain, blowing debris, and highway blockage as expected conditions, the Florida studies show that two-lane road capacity is approximately 400-500 vehicles per hour. Theoretically, it would take about 1-2 hours to clear Indian Beach. Add this time to the scenarios of the other communities using the same escape route and it can be seen that substantially larger amounts of time will be needed for evacuation.

Estimates for peak summer weekend populations on Bogue Banks run from 50,000 to 60,000. It stands to reason then that Indian Beach cannot be treated as a single unit. The Town quite obviously has to be considered a part of a larger plan for safe evacuation of residents and visitors. The Florida studies have shown that people leave within 3.5 hours after evacuation notice has been given. Since flooding of some areas on NC 58 could occur some 5-6 hours before a hurricane, notice to evacuate should be made at least 8-9 hours before a storm arrives. This should be done in a timely manner if the Town, located at mid-island, is to be emptied while other Bogue Banks community evacuation is in progress.

*Hurricane Evacuation Study: Technical Data Report, Treasure Coast Regional Planning Council, Stuart, Florida, September 1983.

Available Planning Tools

National Weather Service data have been used by the U.S. Army Corps of Engineers in the production of Sea Lake Overland Surge from Hurricane (SLOSH) maps. Considering the scale of the SLOSH maps, however, they serve better as planning tools at the county and regional levels. Forthcoming evacuation zone maps will be more beneficial for evacuation planning at the local level, according to the Corps of Engineers. The Corps states that SLOSH information could in the future be applied to detailed topographic maps to produce inundation maps at the local land use planning level.

*** Evacuation Implementation Policies

Indian Beach will work to insure that evacuation of people from the community is implemented in a timely and orderly manner, following the guidelines established in the Hurricane/Storm Plan as given in this section, those in the Carteret County Emergency Management Hurricane Response Plan, and those of the State.

Supporting Objectives

- A. Maintain close communications and cooperate with the County, and where appropriate, the N.C. Division of Emergency Management.
- B. Closely monitor the bulletins of the National Weather Service.
- C. Maintain radio and telephone contact with officials of the County, State, and where applicable, promote cooperative efforts.

Strategies

- 1. Review and discuss common evacuation problems and issues with the County and surrounding communities on a regular basis.
- 2. Identify policy measures which would facilitate orderly and expeditious evacuation activities.
- 3. Evaluate required evacuation schedules to establish cooperative and appropriate evacuation policies to assure adequate time to move inland.
- 4. Require that all trailers, boats, and campers be left in Indian Beach after a given period of time expires (to be determined with the cooperation of Carteret County and other municipalities) after the initial warning to evacuate.

LAND CLASSIFICATION

PURPOSE

CAMA guidelines require that Indian Beach develop a Land Classification Map within its jurisdiction which shows up to five classes. The criteria for these classes are set forth in State guidelines, so that a coordinated, consistent expression of local policy on a larger regional scale will be created for Coastal North Carolina.

The Town's Land Classification System is a tool for implementing its policies, goals, and objectives, as expressed on pages 61-90, along with those of the State and Federal Governments. By delineating land classes on a map, Indian Beach has specified areas where certain policies will apply. For the Town, the map is simply a local tool to be used as a guide rather than a strict regulatory mechanism which must be rigidly adhered to. Local ordinances, such as zoning, and the yet to be prepared and adopted Subdivision Regulations, should be geared to the Land Classification Map on page 95 to insure implementation of the Town's policies.

A land classification system provides a framework to identify the future use of all lands in Indian Beach. The classifying of land enables the Town to graphically illustrate its policy decisions as to where, and as to what density, growth may occur, and as to where natural and cultural resources will be protected and preserved. The map also provides the basis for regulations development and capital improvements programming and budgeting.

At the regional and State levels, the Town Land Classification Map becomes an integral component of a larger coastal area plan. Regional plans are valuable tools used by the State and Federal Governments for multi-county organization clearinghouse purposes and for the granting or disapproval of permits for various developments in coastal areas. Local agencies using State and Federal funds must be certain that those funds are expended in consistence with local, State or Federal government policies; conversely, projects undertaken by State and Federal agencies must also be consistent with local plans.

RELATIONSHIP OF THE LAND CLASSIFICATION MAP TO POLICY STATEMENTS

The Indian Beach Land Classification Map on page 95 is a graphic representation of the policy statements formulated and adopted by the Town Board of Commissioners and endorsed by the people of Indian Beach through the citizen participation process.

Land Classification reflects existing development patterns, as well as desired patterns of development, as expressed in the Town's policy statements. For example, residential uses are placed in the Transition/Residential category which only has partially complete facilities and services. Transition/Residential sections are designated in accordance with the Town's policy on maintaining areas exclusively for conventional dwellings and condominiums for both the permanent and seasonal populations, and with the policy on providing areas for manufactured homes to accommodate both the permanent and seasonal populations. Please refer to pages 69-70.

In another example, the Transition/Mixed-Use Classification reflects the Town's policy of guiding commercial development in existing areas zoned primarily for commercial uses. This category does not prohibit, however, residential, institutional or recreational development if otherwise permitted by the Zoning Ordinance or Town policy. Since it is Town policy (as expressed on page 72-73) to guide commercial development to the West Section (namely, along the north side of Salter Path Road from Family Campground on the west to the Fire and Rescue Squad Station on the east), the Transition Mixed-Use Classification is designated for these areas.

Similarly, the mapped Conservation Classification placement corresponds to the Town policy prohibiting development in hazard areas. These areas are shown on the Composite Hazards Map on page 37 to be along the estuarine shorelines and in the marshlands of Bogue Sound and along the beaches of the Atlantic Ocean.

LAND CLASSES

The State Land Classification System includes five broad categories which can be subdivided into more specific land use designations. The five general land classifications suggested in State guidelines are: Developed, Transition, Community, Rural, and Conservation. Three of these Classifications are applicable to Indian Beach; they are: Developed, Transition, and Conservation.

Developed

The purpose of the Developed Classification in Indian Beach is to provide for continued intensive development and redevelopment of the Town. The State definition for "Developed" is: lands currently in use for urban purposes at or approaching a density of 500 dwellings per square mile, with the usual urban facilities and services provided. Through the Town Administration, however, street lighting and the Town Hall are the only public facilities made available, and police protection is the only service provided. Water service is provided through the Bogue Banks Water and Sewer Corporation in the West Section and through Carolina Water Service in the East Section. Both are private companies. Fire protection and rescue services are available through the Salter Path Volunteer Fire and Rescue Squad. There are no public streets (save Salter Path Road/NC 58 and the State Access Road) and no public sewer system in the Town.

Transition

The purpose of the Transition Classification is to provide for future intensive urban development in the Indian Beach Planning Area within the next ten years on lands that are most suitable for, and will eventually be scheduled for, the provision of necessary public utilities, such as, water, sewer, and other essential municipal services as required.

Lands in the Transition Classification are those which are able to accommodate intensive development requiring urban services. Areas within this classification would require detailed land use and public investment planning before development. State and Federal expenditures on projects associated with urban development (water, sewer, streets, etc.) will be dele-

gated to these areas. For the purposes of the 1987 Land Use Plan Update, the Transition Class has been divided into two elements:

- a. Transition/Residential which includes, or will include, those areas with partial municipal facilities and services which are most suited for residential uses.
- b. Transition/Mixed-Use which includes, or will include, those areas with partial municipal facilities and services which are suited for multi-family, commercial, office, and institutional uses because of their location adjacent to Salter Path Road (NC 58).

Community

The purpose of the Community Classification is to allow for a mixture of urban-type uses and continued development of a relatively low density in the Salter Path and Hoffman Beach areas between the West and East Sections of the incorporated areas of the Town of Indian Beach. The land uses in this class may include residential, commercial, institutional, and industrial development. Since Indian Beach does not exercise its right to regulate development outside its corporate limits, activities here are subject to the regulations of Carteret County.

Conservation

The purpose of the Conservation Class is to provide for effective long-term management of significant limited or irreplaceable areas. This management is needed to protect the natural, architectural or cultural, recreational, productive, and scenic values of Indian Beach. These areas should not be identified as transition lands of the future.

The Conservation Class in Indian Beach has been applied to lands that contain: major wetlands -- essentially undeveloped shorelands that are unique, fragile, or hazardous for development or for necessary wildlife habitat, or areas that have a high probability for providing necessary habitat conditions. Specifically, this Class is applied to the ocean beaches and to Bogue Sound with its associated inlets, finger canals, and salt marshes.

INDIAN BEACH LAND CLASSIFICATION PLAN

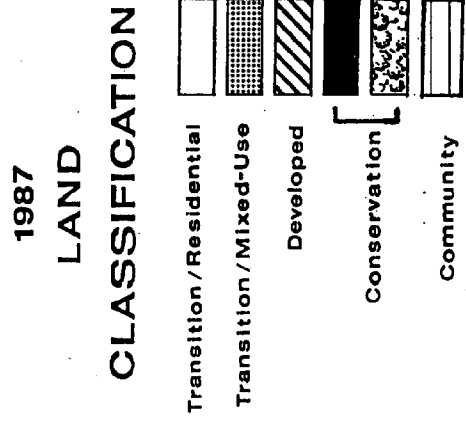
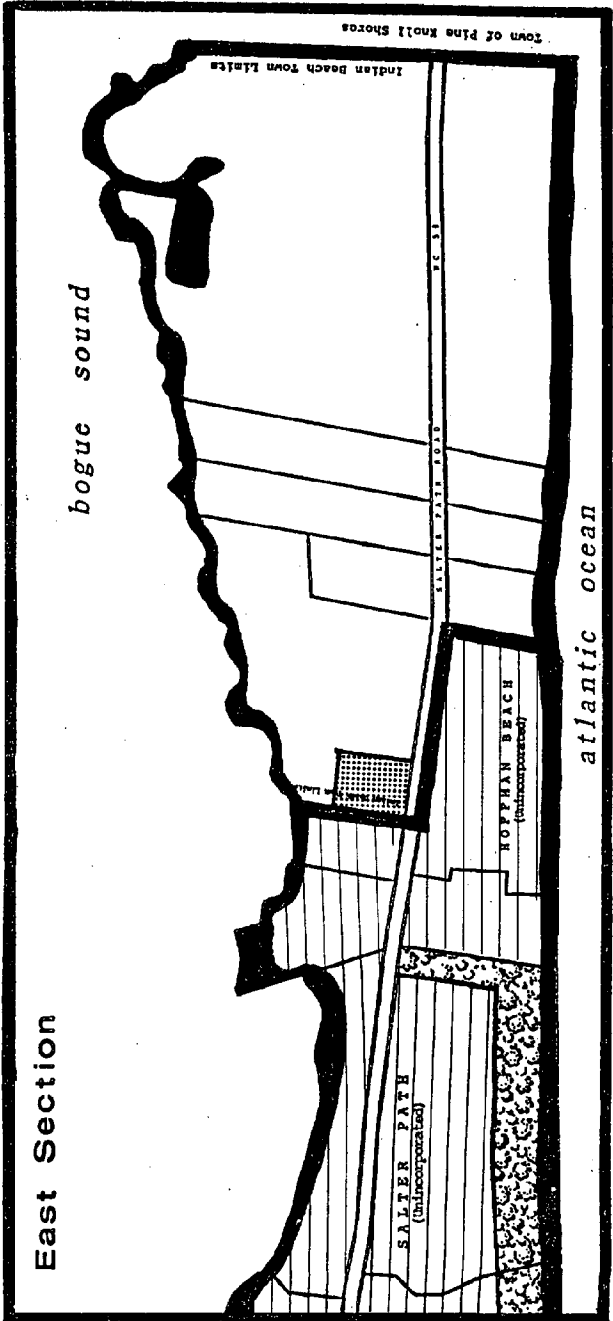
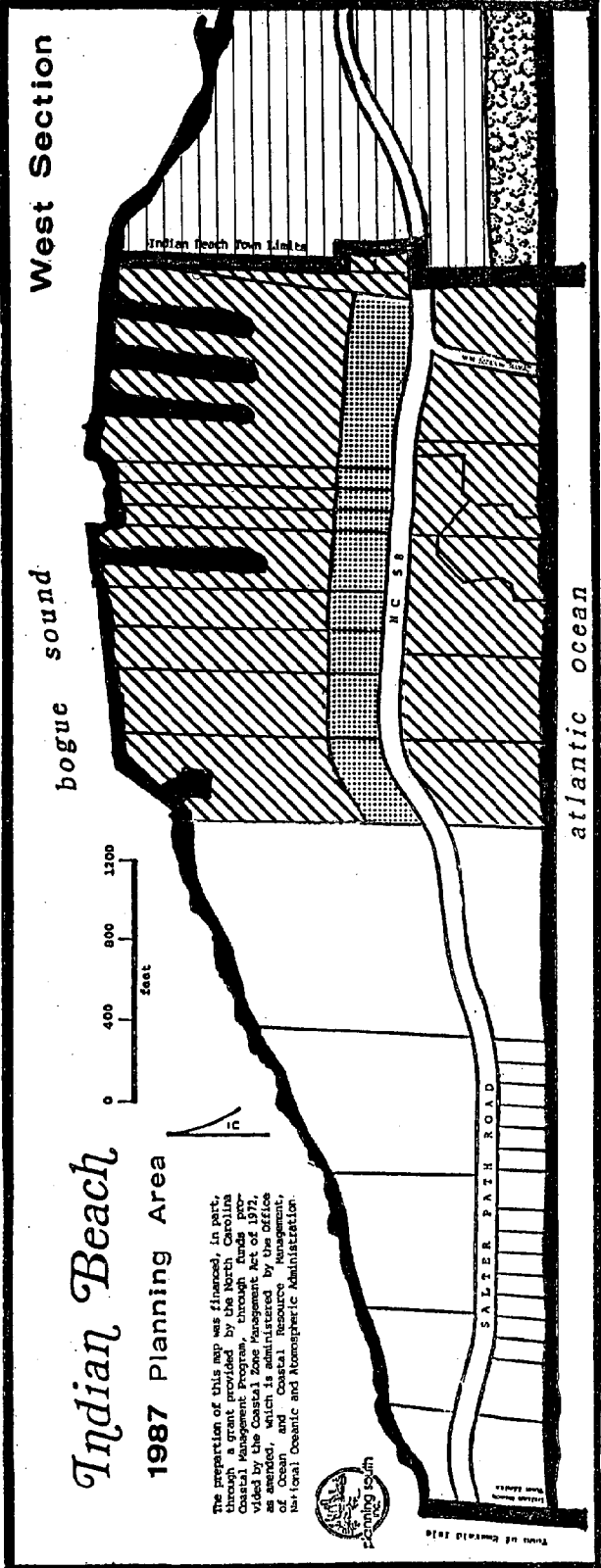
The projected populations for Indian Beach in 1990 and 2000 (See page 39.) were primary inputs used in the preparation of the Land Classification Map on page 95. The Transition Class allocations are all directly related to expected population levels.

In accordance with State guidelines, priorities for allocation of lands to the two Transition sub-categories take into consideration the potential for septic tank problems which could pose pollution threats to estuarine waters. Another priority provides for the inclusion of areas where future development is expected and can be clustered through the provision of services. In Indian Beach, these areas are also where lands are located along proposed sewer service corridors where higher density development could be expected to be accommodated.

The Transition/Mixed-Use category has been allocated to those areas meeting the above criteria, but, more specifically, it permits multi-family, commercial, and institutional land uses. By contrast, the Transition/Residential Category meets these same criteria but permits residential development only.

CHANGES IN CLASSIFICATION FROM 1982

Both the 1982 and 1987 Land Classification Maps include the Developed, Transition, and Conservation categories in their legends. The 1987 Map has a distinct difference, however, in that the Transition Class has been divided into two elements: Transition/Residential and Transition/Mixed Use. These two elements are described in the text above and delineated on the Land Classification Map.



APPENDIX

LITERATURE CITATIONS

Carteret County, Disaster Relief and Assistance Plan: Hurricane Response Plan, Beaufort, July 1, 1985.

Carteret County, Recommended Evacuation Operations and Procedures, Beaufort, June 1984.

Carteret County, Standing Operating Procedure (SOP) for Emergency Operating Center (EOC), Beaufort, January 6, 1986.

Carteret County, Storm Hazard Mitigation Plan & Post Disaster Reconstruction Plan, Beaufort, June 1984.

Federal Emergency Management Agency, Flood Insurance Study: Town of Indian Beach, North Carolina, Washington, April 18, 1983.

Federal Emergency Management Agency, In the Event of a Flood: Suggestions to Help Minimize the Loss of Life and Property, (Pamphlet), Washington, n.d.

Town of Indian Beach, Town Code, as amended, Indian Beach, 1976.

Town of Indian Beach, 1982 Land Use Plan Update, Indian Beach, June 1982.

McElyea, Brower and Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages, Chapel Hill, 1982.

N.C. Department of Natural Resources and Community Development, Division of Coastal Management, A Guide to Protecting Coastal Waters Through Local Planning, Raleigh, May 1986.

N.C. Department of Natural Resources and Community Development, Division of Planning Assistance, North Carolina Environmental Permit Directory, Raleigh, July 1985.

N.C. Marine Science Council, North Carolina and the Sea: Planning Report for the Development of North Carolina's Coastal Area Resources, Raleigh, June 1980.

State of North Carolina, N.C. Administrative Code: Subchapter 7B - Land Use Planning Guidelines, Statutory Authority: G.S. 113A-107 (a); Eff. February 1, 1976, as amended.

THE SAFFIR/SIMPSON HURRICANE SCALE

The Saffir/Simpson Hurricane Scale is used by the National Weather Service to give public safety officials a continuing assessment of the potential for wind and storm surge damage from a hurricane in progress. Scale numbers are made available to public safety officials when a hurricane is within 72 hours of landfall. Scale assessments are revised regularly as new observations are made, and public safety organizations are kept informed of new estimates of the hurricane's disaster potential.

Scale numbers range from 1 to 5. Scale No. 1 begins with hurricanes in which the maximum sustained winds are at least 74 mph, or which will produce a storm surge 4 to 5 feet above normal water level, while Scale No. 5 applies to those in which the maximum sustained winds are 155 mph or more, which have the potential of producing a storm surge more than 18 feet above normal.

The scale was developed by Herbert Saffir, Dade County, Florida, consulting engineer, and Dr. Robert H. Simpson, former National Hurricane Center director, and projects scale assessment categories as follows:

Category No. 1 - Winds of 74 to 95 mph. Damage primarily to shrubbery, trees, foliage, and unanchored mobile homes. No real damage to other structures. Some damage to poorly constructed signs. Storm surge 4 to 5 feet above normal. Low-lying coastal roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.

Category No. 2 - Winds of 96 to 110 mph. Considerable damage to shrubbery and tree foliage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly constructed signs. Some damage to roofing materials of buildings; some window and door damage. No major damage to buildings. Storm surge 6 to 8 feet above normal. Coastal roads and low-lying escape routes inland cut by rising water two to four hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.

Category No. 3 - Winds of 111 to 130 mph. Foliage torn from trees; large trees blown down. Practically all poorly constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed. Storm surge 9 to 12 feet above normal. Serious flooding at coast and

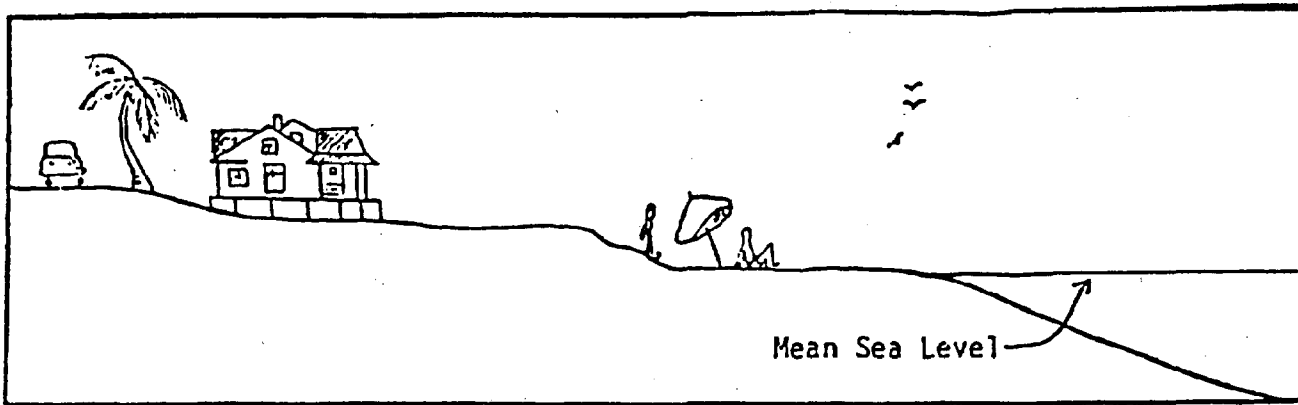
many smaller structures near coast destroyed; large structures near coast damaged by battering waves and floating debris. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Flat terrain 5 feet or less above sea level flooded inland 8 miles or more. Evacuation of low-lying residences within several blocks of shoreline possible required.

Category No. 4 - Winds of 131 to 155 mph. Shrubs and trees blown down; all signs down. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes. Storm surge 13 to 18 feet above normal. Flat terrain 10 feet or less above sea level flooded inland as far as six miles. Major damage to lower floors to structures near shore due to flooding and battering by waves and floating debris. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Major erosion of beaches. Massive evacuation of all residences within 500 yards of shore possibly required, and of single-story residences on low ground within two miles of shore.

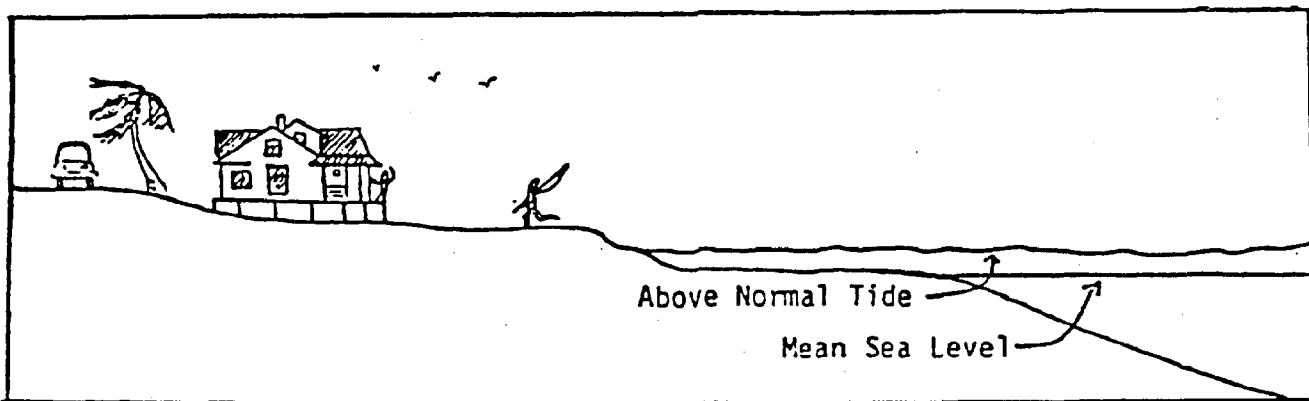
Category No. 5 - Winds greater than 155 mph. Shrubs and trees blown down; considerable damage to roofs of buildings; all signs down. Complete failure of roofs on many residences and industrial buildings. Extensive shattering of glass in windows and doors. Some complete building failures. Small buildings over-turned or blown away. Complete destruction of mobile homes. Storm surge greater than 18 feet above normal. Major damage to lower floors of all structures less than 15 feet above sea level within 500 yards of shore. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Massive evacuation of residential areas on low ground within five to ten miles of shore possibly required.

Dr. Neil Frank, present National Hurricane Center director, has adapted atmospheric pressure ranges to the Saffir/Simpson Scale. These pressure ranges, along with a numerical break-down of wind and storm surge ranges are:

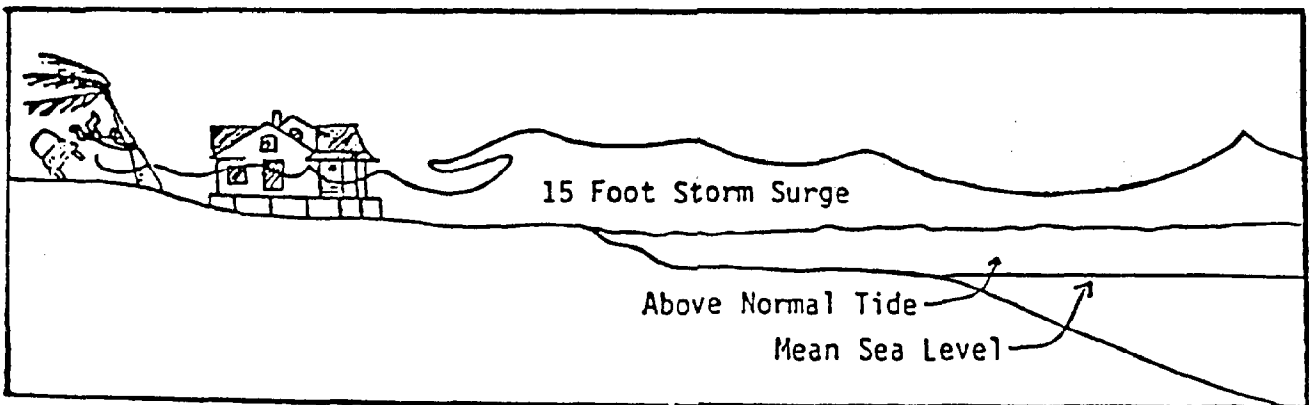
<u>SCALE NUMBER</u>	<u>CENTRAL PRESSURES MILLIBARS</u>	<u>PRESSURES INCHES</u>	<u>WINDS (MPH)</u>	<u>SURGE (FT.)</u>	<u>DAMAGE</u>
1	980	28.94	74- 95	4- 5	Minimal
2	965-979	28.5 -28.91	96-110	6- 8	Moderate
3	945-964	27.91-28.47	111-130	9-12	Extensive
4	920-944	27.17-27.88	131-155	13-18	Extreme
5	920	27.17	155+	18+	Catastrophic



Normal day. The sea rises and falls with astronomical tidal action. There are the usual small waves.



A hurricane is 12 hours away. The tide is a little above normal; the water moves further up the beach. Swells are beginning to move in from the deep ocean. Waves as high as 5 to 8 feet run up the beach.



Hurricane is moving close ashore. A 15-foot surge is added to the normal 2-foot tide creating a 17-foot storm tide. This mound of water is moving ashore along an area of coastline 50 to 100 miles wide.

Development of Storm Surge Along the Coastline*

* _____, "Storm Surge and Hurricane Safety," U.S. Department of Commerce, NOAA, U.S. GPO, 1979.

US Department of Commerce
NOAA Coastal Services Center Library
2234 South Hobson Avenue
Charleston, SC 29405-2413

