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SUMMARY

of the

AURORA LAND USE PLAN

Prepared by the

BOARD OF COMMISSIONERS
and
CITIZENS

of the Town of Aurora, North Carolina

With Assistance from

The School of Design
North Carolina State University

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a. Castle Hayne Aquifer

All of Beaufort County, as well as a good portion of eastern North Carolina, is underlain by the Castle Hayne rock formation. This formation is a major source of ground water; many domestic and municpal wells tap into the Castle Hayne. All studies indicate that the Castle Hayne is a very strong aquifer. However, one mining company is drawing out 67 million gallons a day and another company will be drawing out an additional 35 millions gallons a day. Even though this aquifer is monitored continuously by the N.C. Board of Water Resources, none of the experts can predict how or when salt water intrusion will contaminate the fresh water supply. They do know that such a massive withdrawal of water from the aquifer causes a cone of depression in which the water level is lowered in all directions radiating from a center at the mine site where the water level is lowest. This cone of depression will move as the mining pit is moved. Any wells falling within the cone of depression that are not deep enough will have to be redug or have stronger pumps installed.

b. Soils

The soil types present in the Aurora area have severe limitations for dwellings, septic tanks, and drainage. The *best* soil in the area is the Dogue classification which has severe shrink/swell properties for buildings, low permeability for septic tanks, but is moderately well drained. An extensive Soil Conservation Service drainage program has been completed in much of the area to improve agricultural use, but the soils are not adequate for extensive residential development. The soils in this area are excellent, however, for the production of potatoes and other crops such as corn and soybeans. The average yield for these crops is nearly double the county-wide average. In addition to the agricultural fields, a large portion of the land around Aurora is forested with most forested areas devoted to commercial pine production. Other unique soils in this area are the alluvial soils along the streams that provide ideal conditions for the production of hardwoods and are one of the best wildlife habitats in the area.

c. Phosphate Deposit

The Pungo River formation is the phosphate layer of the earth underlying more than 700 square miles of Beaufort County. Its thickness ranges from a featheredge a few miles east of the city of Washington to more than 120 feet thick near the south shore of the Pamlico River in eastern Beaufort County. Its depth below mean sea level ranges from a minimum of about 40 feet near Washington to more than 230 feet deep around the Pungo River. To protect areas of concentrated development and insure the orderly development of the phosphate industry, the county should discourage the use of the phosphate deposit areas as building sites by zoning the better deposits as industrial and prohibiting scattered residential development. The county should also control the phosphate mining to assure that adjacent lands are not undermined or devalued and to prohibit mining in areas where it would cause irreversible environmental damage.

What this means for Aurora

Because any new development in the Aurora area must contend with certain constraints imposed by the aquifer, the soils and the phosphate deposit, town officials have endorsed a growth policy which responds to these conditions. Under this policy, *new development will be encouraged only within the existing town limits for the following reasons:*

1. The necessary services such as water and sewer already exist.
2. The soils are the most favorable for new structures.
3. Uncontrolled development in fragile areas is least likely to occur.
4. Plenty of open space exists for infill development.
5. The municipal water system is much more dependable than individual wells because of the pump down of the ground water by the phosphate industries.
6. Restricting new development to within the existing town limits will allow the mining companies to mine areas adjacent to the one-mile planning boundary with minimal disturbance.

SECTION IV: POPULATION PROJECTIONS

As a minimum, the community services needed to adequately serve the projected population for the year 2025 include roads, educational facilities, and water and sewer services. The estimated population for Aurora and the future population projections are included in the following chart:

Year	Population	Estimated Population	Projected Population
1950	521[1]		
1960	449[1]		
1970	620[2]		
1973		635[3]	
1974		685[4]	
1975		671[5]	
1980			726[6]
1985			786[6]
1990			850[6]
1995			920[6]
2000			995[6]
2025			1476[7]

NOTES:

1. Source: U.S. Census Data.
2. This 38.1% increase from 1960 to 1970 was due to two major factors: first, the annexation of South Village and second, the influx of people with jobs related to Texasgulf, Inc. Source: U.S. Census Data.
3. Source: U.S. Department of the Treasury, Office of Revenue Sharing.
4. Source: State of North Carolina, estimate for Revenue Sharing.
5. Source: Town of Aurora, estimate from water hook-ups.
6. This represents a constant 8.2% increase for the five years. This rate is subject to major change depending upon construction of new phosphate mining facilities, the occupancy of public housing units and other events. In a town of this size, with a major single influence having the magnitude of impact of the phosphate mining, major fluctuations can be expected.
7. This represents a constant 8.2% increase for five-year increments. See note number 6 for additional constraints on this estimate.

SECTION V: THE LAND CLASSIFICATION PLAN

The Land Classification Plan is the most important part of the Aurora Land Use Plan. The Plan consists of five major categories: developed, transition, community, rural and conservation. These five classes provide a framework to be used by Aurora officials in identifying where and to what density they want growth to occur, and where tax money should be spent to provide public services. Because this is a statement of local policy consistent with the county and state needs and goals, the Aurora Land Classification Plan will serve as a basic tool for coordinating numerous policies, standards, regulations, and other governmental activities at all levels.

The Aurora Land Classification Plan will be updated every five years and is designed to be broad enough to accommodate a variety of land uses such as residential, commercial, industrial and recreational. Descriptions of the land classes are as follows:

1. Developed

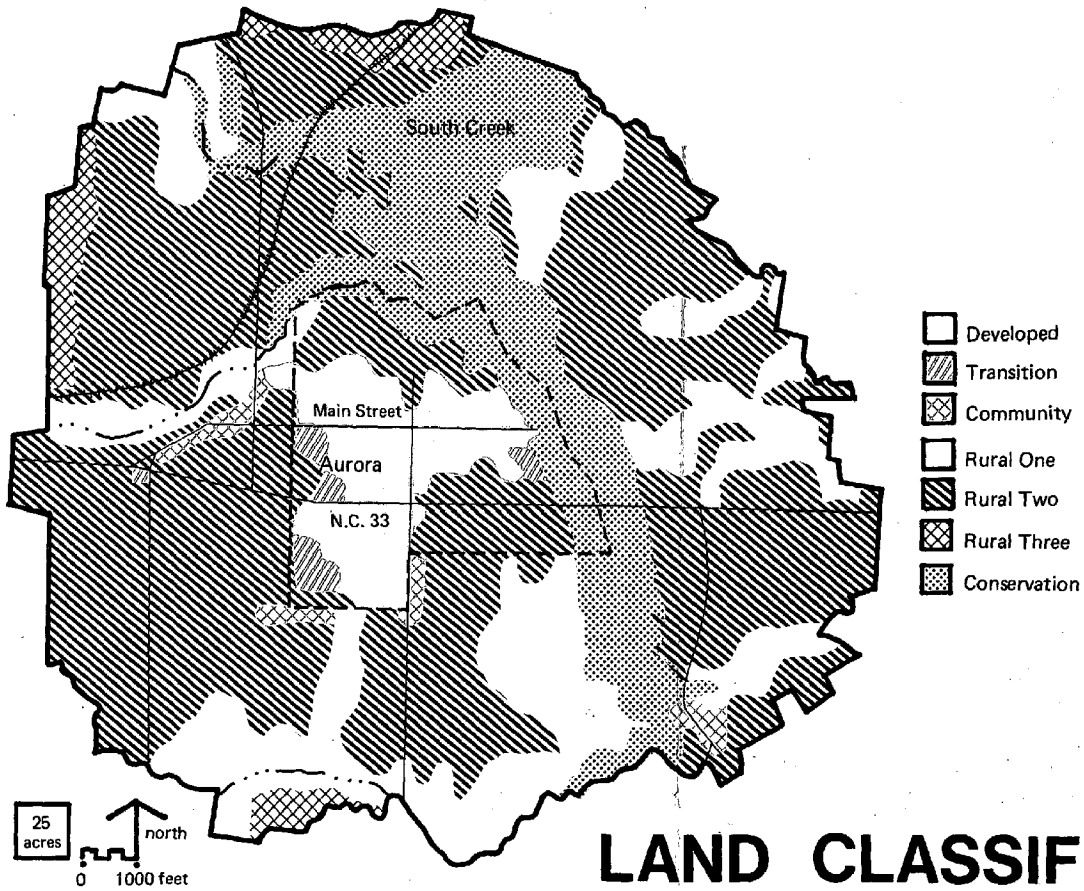
Lands placed in this classification are areas already served by either municipal water or sewer or both and the land uses vary. In Aurora, continued development and redevelopment will be encouraged in land classified as "developed". All the land classified as "developed" with the exception of the sewage lagoon is within the existing town limits.

2. Transition

Lands classified as "transition" are those areas where moderate to high density growth is expected to occur and will be encouraged. For Aurora, the land estimated to accommodate new growth at a minimum gross density of 2000 people per square mile is 64 acres. This also includes a site for industrial growth. The minimum services required for these areas will be water and sewer facilities and roads.

3. Community

Lands classified as "community" are those areas where there presently exists a density of 640 people per residential square mile or where this density is expected to occur in the future. It is also characterized by lot sizes of ten acres or less in



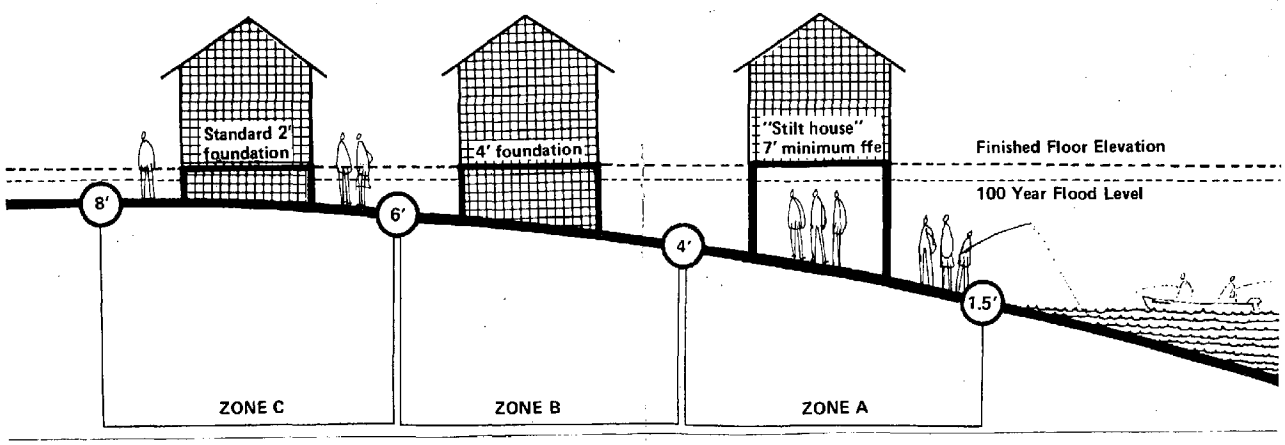
LAND CLASSIFICATION

- *Appropriate land uses: Because two-thirds of the town of Aurora lies in a floodplain, a certain degree of development will be allowed if land uses conform to Federal guidelines. First priority for land uses in a floodway will be given to non-intensive recreational, rural, and conservation uses. Other development already exists in the floodplain and economic and efficient land use criteria can justify a continuation of this development trend. Therefore, the Town will enact the following zonation plan:*
  - Zone A—This is the land area from the mean high water level inland to the four foot contour. The finished floor elevation of all new construction in this zone will have to be elevated a minimum of seven (7) feet. At the present, no homes in Aurora are in violation of this restriction.
  - Zone B—This is the land area from the four foot contour inland to the six foot contour. The finished floor elevation of all new construction in this zone will have to be elevated a minimum of four (4) feet.
  - Zone C—This is the land area from the six foot contour inland to the boundary of the 100-year flood prone area. This boundary coincides approximately with the eight foot contour. The finished floor elevation of all new construction in this zone will have to be elevated a minimum of two (2) feet or else be flood-proofed in some acceptable manner.

f. Coastal Floodplain. These are defined as land areas adjacent to coastal sounds, estuaries or the ocean which are prone to flooding from storms with an annual probability of one percent or greater (100-year storm) as identified by the State Geologist.

- *Appropriate land uses. Any land use that occurs must conform with the standards of the Federal Insurance Administration for coastal flood hazard areas and safety during the flood surge from a 100-year storm. (Code of Federal Regulations, Title 24, Chapter 10, Subchapter B). However, this plan will allow no additional development in the coastal floodplain within the one-mile planning area. There is no development trend in these areas, there are very few access points, and the coastal floodplain borders estuarine waters which are excellent wintering areas for several species of ducks, including the Canvasback. Consequently, no economic justification for development in these areas presently exists.*

REQUIREMENTS FOR STRUCTURES IN FLOOD PRONE AREAS



INTRODUCTION

The coastal area of North Carolina is recognized as an important region for food production, industrial expansion, and recreational activities. It is also an area where orderly growth is vital to protect the citizens and the important natural resources of the area. To encourage such growth management, the General Assembly of North Carolina passed the Coastal Area Management Act of 1974. This act requires local officials in twenty coastal counties to work with citizens in establishing goals for their future and in preparing plans for growth and development. Under this directive from the State Legislature, the town of Aurora has prepared a *Land Use Plan which is available at the Town Hall.* This "Synopsis" is a summation of the essential parts of the Aurora Land Use Plan.

SECTION I: AURORA—PAST AND PRESENT

Settled in the mid-eighteen hundreds to supply farmers, foresters and fishermen, Aurora was carved from forest, marsh and water near the Atlantic Ocean. Barges and showboats sometimes enlivened the Aurora docks, but people kept a simple, direct relationship with the water and the land and each other. The town was as rural in character as the countryside surrounding it. Townspeople kept stores, but also farmed, fished and hunted. Their homes were country homes gathered closely together into little communities. The sleepy southern town of Aurora remained much the same until 1965.

It was then that Texas Gulf Sulphur Company—now Texas-

It was then that Texas Gulf Sulphur Company—now Texasgulf, Inc.—began strip-mining eight miles from Aurora for phosphate. The deposit turned out to be one of the richest in the world with estimates that indicate the supply will last over two hundred years. Texasgulf was dubbed the princess of progress by Aurora residents because mining provided over 900 jobs, kept young people from leaving, and made the town grow to its present 671 people. The town has prospered from the phosphate mining and will probably receive even more benefits when a second mining operation, North Carolina Phosphate, begins mining in 1978. But Aurora happens to sit atop 600 acres of the phosphate deposit. And that is the source of major land use conflict.

Aurora still appears to be a loose-knit, rural community, untouched by outsiders and surviving in a faded form on a simple, ebbing economy. Appearances are wrong. It is true that Aurora has not boomed, and probably never will, but outside pressures abound. Aurora is caught in the crossfire, a small town amid giant forces. Agriculture, forestry and nature have always demanded large areas of land, and now tourism adds additional demands for land. But these pressures are insignificant in comparison to the intense pressure for land applied by the two phosphate mining industries, Texasgulf and North Carolina Phosphate. The industries brought good jobs but have taken people's land in exchange.

In spite of these outside pressures to change their traditions, values and lifestyles, the citizens of Aurora retain ample resources and have gained significant advantages from the upheaval. One major advantage is that Aurora is growing when most small towns are dying. It is expected to have a thousand people by the year 2000. Jobs are available. Aurora citizens have choices about their futures and the unique opportunity to plan and control their town's destiny.

SECTION II: GOALS FOR AURORA

The Town of Aurora adopted community goals as a foundation for a community development program. Aurora citizens felt that setting goals would help clarify the problems confronting their town and that goals would represent those things most people agreed should be done. They hoped that setting goals would lead to positive action rather than reaction to unfavorable occurrences. In addition, town officials hoped to involve everyone in a creative problem solving effort based on Aurora's potential as well as its constraints. Finally, the citizens of Aurora wanted a way of evaluating their community development plans by comparing them to the goals and objectives established by the citizens.

The goal setting process in Aurora has involved a cross-section of citizens: townspeople of all ages and from all walks of life with various backgrounds and values. In the fall of 1974, students from Aurora High School surveyed the community about recreational preferences. Several classes of students from Snowden Elementary School and Aurora High School were asked what kind of town they would like, and selected classes wrote wish poems about their town and school. In-depth interviews were conducted with employees of Texasgulf to determine the life styles, values and preferences of future residents of Aurora. Then in March of 1975, the Junior Women's Club surveyed a third of the households in Aurora seeking information about the values of the citizens.

All of this information was tabulated and presented to the Aurora Planning Board for their consideration in developing goals. At a Planning Board meeting on June 11, 1975, goals and objectives were developed. On June 16, 1975, the goals proposed by the Planning Board were brought before the Town Board for their consideration. After lengthy discussion, revisions and additions were made and Goals for Aurora (published as Technical Report Three) were approved. Two of the seven goals deal specifically with land use:

- **Goal: Integrate new and existing land uses efficiently.**
  - —Objective 1: Develop a comprehensive plan that allows people to stay one step ahead of development pressures.
  - —Objective 2: Establish buffer areas to prevent incompatible land uses.
  - —Objective 3: Encourage development of new housing so local workers can live in Aurora.
  - —Objective 4: Utilize and develop commercial areas with compatible and symbiotic uses.

- **Goal: Use existing community facilities efficiently.**
  - —Objective 1: Make use of existing buildings and utilities when feasible.
  - —Objective 2: Improve and expand the existing boat ramp and dock and acquire new land if possible.
  - —Objective 3: Improve existing roads.
  - —Objective 4: Minimize travel distances from homes to community services and facilities.
  - —Objective 5: Expand or build new health care facilities.
  - —Objective 6: Improve downtown parking.
  - —Objective 7: Encourage downtown merchants to remain there.
  - —Objective 8: Encourage a flood prevention and drainage plan with the least cost to Aurora citizens.

- **Implementation of Aurora's goals and objectives**
  Aurora has adopted a land use plan that covers not only the land within its town limits but also the land within its one-mile extraterritorial planning jurisdiction. Most of the land in this one-mile area will be restricted from mining use categories (see Land Classsification Discussion and Map) form buffer areas around Aurora to prevent land uses that would cause a disintegration in the quality of life of Aurora residents. There is still disagreement between Aurora officials and Texasgulf over just how close mining could be allowed while still not disrupting life styles. At the present time, Aurora is developing a zoning ordinance based on the establishment of performance criteria for various land uses.

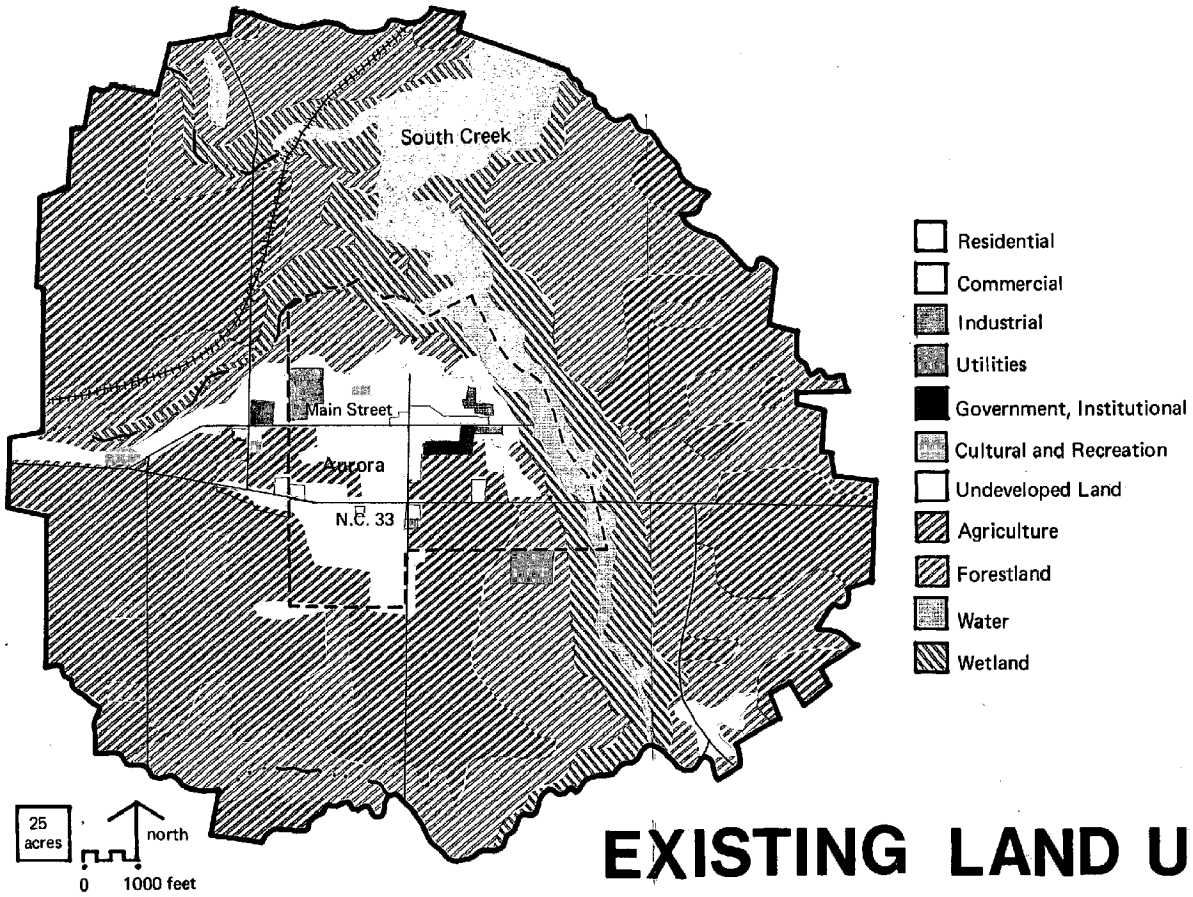
  In addition to the adoption of the land use plan, Aurora has begun a comprehensive revitalization plan. Town officials intend to steer new businesses and industries to Main Street and will utilize existing buildings when feasible. Also, the town has applied for and received grants enabling them to rehabilitate an old home for community rooms and municipal offices, to pave additional streets, and to build a new medical complex. Further, the town is now in compliance with the federal flood insurance program and will regulate the height of new structures so that flood damage will not occur to new buildings located in the 100-year flood prone area.

- **Relationship With Beaufort County Plan:**
  The Town of Aurora began its planning process in September of 1974 and completed the plans in August of 1975. Throughout this time the Beaufort County planning process was also underway. Both the county planner and Aurora's planners realize the importance of coordination of the two plans and have worked to resolve any inconsistencies between the two plans. At the present time the only significant difference is the rural land classification system. Aurora's plan recognizes three types of rural land, while the county's plan has one general classification. Because Aurora's planners were working with a smaller land area, they were able to make a more detailed analysis of the land. Since Beaufort County is large in land area, its plan is of necessity more general in nature.

SECTION III: ENVIRONMENTAL GUIDES TO BETTER DEVELOPMENT

Land use planning has taken on added importance in Aurora by the increased public concern about, and understanding of, environmental systems. "Site suitability," "land capability," "carrying capacity," and other planning terms are frequently used in reference to Aurora's land use planning approach. Aurora's citizens, elected officials, and planning team have made a determination of the "intrinsic suitability," or the best use of the land, given certain circumstances.

The basic guides for determining development suitability for an area are water supply, drainage, geology, soils, plant types, etc. The most important guides for land use planning and development in the Aurora area include farm land, estuarine waters, wetlands, and prime wildlife habitats. The most important *constraints* for future development are the ground water aquifer, soils and the phosphate deposit.



EXISTING LAND USE

clusters of one or more land uses. The plan for Aurora includes ten acres of new community development. New community development will be discouraged elsewhere because of the severe limitations for foundations and septic tanks, and land classified as "community" will not be receiving municipal water and sewer services in the near future.

4. Rural

a. Rural One. This is land which is mainly hardwood forests and should remain in its present use for several reasons. This soils in this classification are ideal for the production of hardwoods but ill-suited for most other uses. This land also provides the best wildlife habitats in the area for several species of game animals including deer, racoon and rabbits. Also, land left in this use will provide a visual and partial noise buffer around Aurora. No buildings should be allowed except for those associated directly with maintenance of the land.

b. Rural Two. This is land which is currently in agricultural or forestry use and should remain in one of those two land uses. Conversion from one of these uses to the other should be allowed. However, forested land should only be timbered in units of a maximum of 50 acres, preferably less. In addition, agricultural land in this classification is well drained. Farm residences and farm buildings should be allowed in these areas.

c. Rural Three. This classification is unrestricted as to use within the rural classification, i.e. farming, forestry or mining will be allowed. It is presently land that is under cultivation or in forestry production. These are lands that require less protection because of their location and physical characteristics. Additionally, this is land which is adjacent to areas that will probably experience major land use changes. New farm residences will be discouraged in these areas.

These rural categories distinguish Aurora's plan from other plans developed under the Coastal Area Management Act guidelines. Aurora officials and planners felt there was a critical need for a determination between *types* of rural land because of the importance of rural land in the coastal area and because of the potential for strip-mining in Beaufort County. For this reason a more detailed analysis was made of those lands in the rural category.

5. Conservation

Lands placed in the "conservation" classification are those lands which should be maintained essentially in their natural state with very limited or no public services provided. These areas are composed of five conservation categories known as fragile areas. Many of the fragile areas in the following list are under study by the Coastal Resources Commission for possible designation as Areas of Environmental Concern. Before any fragile area is designated, however, public hearings will be held. It is essential, therefore, that you read this section carefully so that you can discuss the issues at the public hearings regarding Areas of Environmental Concern.

a. Estuarine Waters. These waters are defined as all the water of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters, as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Conservation and Development filed with the Secretary of State entitled "Boundary Lines, North Carolina Commercial Fishing Inland Fishing Waters, revised March 1, 1965," or as it may be subsequently revised by the legislature. Estuarine waters within the Aurora planning area include all of South Creek inland to Deep Hole Point.

- *Appropriate land use: All estuarine waters within the Aurora planning area will be preserved in their natural state. Bulkheading to prevent erosion and the building of piers or wharfs where no other feasible alternative exists may be allowed within estuarine waters provided that such land uses will not be detrimental to the biological and physical estuarine functions and public trust rights. Such proposed projects may not have a negative impact on existing navigation channels, shoreline erosion, water circulation patterns, water quality standards, shellfish waters or deposit spoil below mean high tide. The development channels within the planning area will be prohibited because of the existence of an adequate system unless such system is proved inadequate in the future.*

b. Wetlands. This land is 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 tropical storm tides). Coastal wetlands described as "other coastal marshland" exist on both sides of South Creek and in large areas along Bailey Creek to the north of Aurora. They are composed mainly of black needlerush (*Juncus roemerianus*) and common cat-tail (*Typha latifolia*). This marshland type helps to slow down shoreline erosion and the marshland to the north of Aurora is especially important in absorbing water from storm tides, thus acting as a buffer to the town.

- *Appropriate land use: In the case of the marshlands in the one-mile area surrounding Aurora, all marshlands will be conserved in their present state. Sufficient sites already exist for water access without breaching marshlands. Locating such water-related facilities as boat ramps, piers, docks, and marinas in marshlands may be justified in the future only by changes in land use demands or community development objectives, but in no case shall the allocation exceed the capacity of the marshland system to sustain losses without harm to the estuarine eco-system.*

c. Public Trust Waters. These waters are defined as ocean and estuarine waters plus coastal streams, tributaries and lakes in which the public may have rights of navigation access, recreation or other public trust rights. In addition, these waters support commercial and sports fisheries and have aesthetic value. A large portion of the surface waters within the extraterritorial limits of Aurora provide public rights for navigation, recreation and sports fisheries.

In the one-mile planning area, the following creeks have been classified as public trust waters: all of South Creek upstream to an unidentified point out of the planning area, Bailey Creek from the mouth to a point 1½ miles upstream, Whitehurst Creek from the mouth to a point 1½ miles upstream, and Broomfield Swamp Creek from the mouth to a point 1-1/8 miles upstream.

- *Appropriate land uses: Any land use which interferes with the public right of navigation shall not be allowed. The building of piers, wharfs, marinas, or bulkheads to prevent erosion shall be allowed in appropriate locations provided that such uses will not be detrimental to the biological and physical functions and public trust rights. The development of navigation channels in these public trust waters is not essential because of those already existing and will therefore be prohibited. Other projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, cause adverse water circulation patterns, violate water quality standards, or cause degradation of shellfish waters are generally considered incompatible with the management of public trust waters.*

d. Prime Wildlife Habitats. These areas are places that support native plants or animals, rare or endangered, within the coastal area. Such places provide habitat conditions necessary for the survival of existing populations or communities of rare or endangered species within the county. In the one-mile planning area of Aurora, habitat conditions exist and sightings have been made of several endangered species. Two 3-4 foot alligators were sighted in a canal inside the town limits in the spring of 1975 and two osprey nests (one to the south of the town on South Creek and one to the north on Whitehurst Creek) have been identified by the local wildlife protector. In addition, this area provides habitat for Canvasback Ducks and the Red Cockaded Woodpecker, both of which have been sighted in the area.

- *Appropriate land uses: These areas will be strictly preserved in their natural state to protect the habitat conditions responsible for the continued survival of the respective plants or animals. All habitats in this area are adjacent to or located in marshlands which lends even stronger support for conserving these areas.*

e. Flood Prone Area. This area consists of the 100-year flood plain which is the area of shorelines extending inland from the normal yearly maximum storm water level to the highest expected storm water level in a 100-year time period. Development within the floodway may increase the potential of flood damage and unreasonably endanger life and property.

SECTION VI:

Now that you have read this Synopsis of the Aurora Land Use Plan, you must be wondering what is left to do. Well, there is plenty. We all recognize that changes in life style, the environment, and economic pressures can make the most carefully developed plans obsolete at some point. In light of these possible changes, we must continue monitoring the components affecting land use through the Aurora planning staff and planning board. Additionally, a complete review of the plans and a new goal-setting process will be held at least every five years.

We, the citizens of Aurora, are mindful of development pressures in this area and we intend to guide growth rather than react to unguided or undesirable growth. In this regard, the plan is an attempt to define the "public interest" as identified by local citizens and local officials. For Aurora's planning process to continue to be a success and for our town to become a better place to live, each of us must take part in its planning. The success of the Aurora plan to date is due to the extensive and unselfish efforts of Aurora citizens for which the town is extremely grateful. Particularly, we are grateful to the Junior Woman's Club and the Lion's Club for distributing this Synopsis. Hopefully, even more citizens will join in future planning efforts in the town's behalf. This work cannot be left to the elected officials, but must be shared by everyone of Aurora's citizens, young and old, rich and poor, black and white.

Already we are seeing the results of our projects to better our community. An $800,000 addition to the existing high school is nearing completion; a HUD grant will be used for a new community center in Aurora; a new medical facility has been approved which will provide a full time doctor and nurse; a Community Development Block Grant is being used to rehabilitate 30 units of substandard housing and to provide accompanying services like water, sewer and street paving; a local developer is building a drugstore, dentist office and a new restaurant; and a town manager's position has recently been approved for Aurora. These accomplishments are wonderful but continued involvement will be necessary if we expect to steer our own course of orderly and beneficial development.

Your Mayor,

Grace Bonner

Grace H. Bonner

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