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INTRODUCTION

The Town of South Hampton is a unique community in many ways. Although it borders Massachusetts and is located only 45 miles from Boston, the Town remains for the most part, sparsely developed. South Hampton is the fifth smallest town in area in the State of New Hampshire, and third smallest in Rockingham County with a total of 4992 acres. Rye and Newfields are the smallest in Rockingham County with 512 and 4224 acres respectively.

Historically, South Hampton's population actually decreased from slightly less than 500 people in 1767, to a low of 230 in 1920. Since the post World War II period, the population has more than doubled--from 314 in 1950 to close to 800 in 1988. However, South Hampton still has the smallest population of any community in Rockingham County. The New Hampshire Office of State Planning projects that the population will be 1149 by the year 2000. Given the limited land developable land area and resources available, and because of South Hampton's proximity to Boston, Portsmouth, and Manchester, future growth has the potential for seriously altering many aspects of the community's character.

In order to maintain an orderly balance between developed land, agricultural land, woodland, wetland and open space, and to examine other needs for the Town in the future, in 1979 the Board of Selectmen appointed a Master Plan Committee to assist the Planning Board in developing a Master Plan for the Town. The Selectmen also conducted a public opinion survey of the Town's citizens to determine thoughts on the Town's future. The Master Plan Committee, together with the Planning Board, completed and adopted the South Hampton Master Plan in 1981.

Because RSA 674:1 states that "It shall be the duty of every planning board established under RSA 673:1 to prepare and amend from time to time a master plan to guide development of the municipality," and since the 1981 Master Plan was prepared prior to the 1983 revision of RSA 674:2, which required a more detailed master plan, the Planning Board realized the need to update the existing plan.

There have also been a number of decisions which the New Hampshire courts have handed down that demonstrate the legal importance of developing and updating a master plan. In Beck v. Town of Raymond (1978), the court said:

> Towns must develop plans to insure the municipal services, which normal growth will require, will be provided in an orderly and rational manner.

The court made it clear in Patenaude v. Town of Meredith (1978), that planning is essential for land use regulation. The court stated:

> Comprehensive planning with a solid scientific, statistical basis is the key element in land use regulation in New Hampshire.

The statutes charge the Planning Board with the responsibility for preparing and maintaining the Master Plan. The Planning Board appointed a Master Plan Committee composed of citizens

representing various town boards and the general public in order to obtain broader input to the process. In addition, the Planning Board decided they required outside technical expertise in collecting, analyzing, and synthesizing the information necessary to update the existing plan and chose to contract with the Rockingham Planning Commission to prepare the plan.

The Planning Board proposed a warrant article to the 1988 Town meeting to appropriate the necessary money for outside assistance and the article passed. Soon after, the Rockingham Planning Commission began working with the Planning Board and the Master Plan Committee to update the South Hampton Master Plan. Monthly meetings were held to develop and review each chapter of the Master Plan. The plan is the product of many months of hard work by all parties involved.

South Hampton's Master Plan can be implemented by the Planning Board recommending specific ordinance and regulation changes. It is important that proposals for ordinance changes or new ordinances be compatible with the intent of the Master Plan. The Master Plan should remain a flexible and changeable document. As the conditions or values change in the community, the Master Plan should be reviewed and updated.

GOALS AND OBJECTIVES

A master plan's major goal is to serve as the foundation upon which development policies are formulated to guide actions undertaken by the community. South Hampton has set forth the following goal and supporting objectives based upon South Hampton's values and objectives. That goal is:

"To ensure that coordinated and harmonious development will, in accordance with existing and probable future needs, promote health, safety, order, convenience, prosperity, or the general welfare as well as efficiency and economy in the process of development."

The following are a set of objectives which support this goal and are derived in part, from South Hampton's first comprehensive Town Plan (1981) and have been revised to reflect information collected from a Citizen Survey conducted in the summer of 1988.

1) **Preserve and protect the rural character of the Town.**

Based upon the results of the 1988 Citizen Survey, 94% of the respondents who chose to live in South Hampton did so because of its rural atmosphere. A recurring theme throughout the survey was the importance of South Hampton's rural character.

2) **Encourage the maintenance of agriculture and forestry.**

Support for maintaining forests and agriculture is reflected in the results of the survey. The majority of the respondents (71%) felt that the loss of woods and open space is a very serious or serious problem. The Master Plan and its recommendations will be aimed at maintaining the natural resources of South Hampton, including the maintenance of agriculture and forestry.

3) **Encourage the protection and provision of open space and recreational facilities.**

When asked what South Hampton needs, 87% of the respondents felt that it was important or very important to preserve wetlands. Ninety percent (90%) of the people responded that it is important or very important for South Hampton to have more protected open space. Forty-three (43%) indicated that it was necessary for the community to provide more recreational facilities.

4) **Protect areas of environmental importance, including ponds, wetlands, woodlands, prime agricultural land and fragile areas.**

As indicated in the first three goals, the vast majority indicated that their strong desire is to protect the open space, the wetlands, woodlands, and conservation land. Specifically, the results of the 1988 Citizen Survey indicate that 87% of the respondents felt that it is important or very important to preserve wetlands.

The central theme throughout the responses to the survey was that South Hampton is a rural community with many environmentally desirable characteristics which should be protected.

5) **Encourage the preservation and restoration of important historic and cultural sites.**

Presently, South Hampton's zoning ordinance has four historic districts: Hilltop, Highland Road Area, Jewell Town, and Currierville. As noted in the 1981 Master Plan, the Towns intent is to "preserve for generations to come the unique collections of historically, architecturally, and culturally significant buildings and structures which characterize the Town of South Hampton." In addition, a cultural resources survey inventory, was completed in 1980 by the Strafford Rockingham Regional Council. The report contains information which can be used to preserve South Hampton's natural and cultural resources for its future generations.

Support for historic resources was reflected in the Citizen Survey with 60% of the respondents desiring improvements to the Town Hall.

6) **Strive to manage growth so as to avoid the necessity for untimely development of municipal services.**

The lack of an obvious source for municipal water supply as well as the prohibitive costs associated with building a water supply system suggests that South Hampton must be particularly protective of its groundwater in considering all types of development and building.

7) **Maintain a reasonable and functional roadway network and insure the orderly development of the transportation system.**

Sixty-eight percent (68%) of the survey respondents felt that it is important or very important to upgrade Town roads. Of concern to respondents are the excessive speeds and truck traffic.

8) **Encourage the provision of an adequate supply of housing to meet all needs, including those of low income and elderly persons, and provide for South Hampton's fair share of the regional housing demand.**

South Hampton must find innovative ways in which we can provide for the building of what needs to be built while preserving and protecting what needs to be protected.

9) **Continue to support efforts to find a long range solution to the solid waste and septage disposal dilemma.**

Continued participation in the regional search for a solution to the solid waste and septage disposal problem, and the encouragement of recycling efforts.

10) **Encourage the development of compatible industries in a designated area of town.**

Although the survey results clearly indicate the majority of our citizens prefer not to have industry in their town, 31% stated that the need for industry in town is important or very important.

11) **Review the Master Plan every four years.**

With growth and change occurring at a rapid rate, and with increasing legislative and court concern for ensuring that land use regulations are rational, it is more important than ever that the Master Plan be kept up-to-date. An out-dated plan can result in unsupported land use controls, which can be, and often are, looked upon disfavorably by the courts.

HISTORY

"In spite of recent residential development, South Hampton retains the character of the traditional New England town, as exemplified in its fine older houses, its town center and outlying settlements, and attractive vistas of open fields, rolling hills, and a winding river. To a remarkable extent, South Hampton's built and natural environments remain intact -- and combine to lend a sense of continuity to the town's past and present."

These words from a "Cultural Resources Survey, Inventory and Plan" of South Hampton completed in March, 1980 by the Strafford Rockingham Regional Council summarize the nature of the town which has to this point been maintained -- despite rapid growth in the neighboring towns of Amesbury and Seabrook. The Survey contains an excellent summary (an excerpt from which follows) of the town's history and the buildings which survive the years and a major fire which swept the Town center in 1912.

Recognizing its heritage, and in an effort to "preserve for generations to come" as many of its early structures as possible, the town has designated four historic districts whose history is outlined in the following pages:

-- Hilltop (The Town Center is unusual in that it is situated on the top of a hill, with vistas in several directions from the Town Hall and Church.)

-- Highland Road

-- Jewelltown (encompassing part of the Pow Wow River)

-- Currierville

In addition, a non-developed area, Indian Ground Hill, is being investigated to determine its historic and archeological significance.

Pre-Revolutionary Period

Moving west from the Town of Salisbury, Massachusetts, in the mid to late seventeenth century, the early settlers of Amesbury and South Hampton actually settling on land claimed at the time by Salisbury. When the New Hampshire-Massachusetts border was established in 1657 with the drawing up of the Shapley Line, what is today South Hampton fell within the State of Massachusetts. In 1666, the Town of Amesbury was incorporated from land that had been a part of Salisbury.

The settlers of the South Hampton territory found abundant timber resources as well as an important source of water power in the Powwow River that flowed from the Powwow Pond in the north southward to the Merrimack River. The location of the river in the southern part of the territory was a key factor in determining the first area of settlement in what has since been known as Jewelltown.
One of these early settlers was Thomas Jewell, who arrived in what was described by one historian as "the wilds of Amesbury" in 1687. Around 1740, his son Joseph built what is now the oldest

surviving house in Jewell Town (Site 102).

At about the same time, settlements were also being established in the western part of the territory in an area that was to become known as Currierville, in the northeastern part of the territory on present day Highland Road, and at the present day intersection of Main Avenue and Jewell Street, an area that was eventually to become the South Hampton town center.

As roads were cut through the wilderness and lands were cleared for farms, saw mills were set up along the banks of the river, and the agricultural and industrial history of the town began. (These two activities were to remain the cornerstones of South Hampton's economy through the end of the nineteenth century.)

In the early eighteenth century a border dispute developed between New Hampshire and Massachusetts. This dispute was settled in 1741 when a new boundary, the Mitchell Line, was established and the area of present day South Hampton fell completely under the jurisdiction of the State of New Hampshire. South Hampton was incorporated as a town on May 25, 1742, the first town incorporated during Governor Benning Wentworth's term of office. The name given to the town probably derived from the fact that the town at one time included present day Seabrook, to the south of Hampton.

The first town meeting was called by Joseph Jewell, John Flanders, and Henry Currier on June 7, 1742. The town's first meetinghouse was located in what is now the town center, near the present site of the Barnard School (Site 165). The meetinghouse is no longer existent.

There are today some 17 houses representing the Georgian style that were built in South Hampton from its earliest settlement through the time of the Revolution.

Post-Revolutionary (Federal) Period

Regionally and nationally, the period following the Revolution was the time of an upswing in commerce, industry, transportation, and architecture. Starting with a total of 498 inhabitants in 1775, South Hampton's population during this period remained relatively constant, and the majority of its citizens were engaged in farming. The number of mills continued to grow, however, and by 1805 the Jewell Town area alone had a saw mill, a grist mill, a planing mill and a fulling mill for the processing of cloth.

With the advent of the stagecoach, the opening of new roads and a general increase in travel, South Hampton became a way station for stagecoaches criss-crossing the town from all directions. Although some small industries appeared that were supportive of the stagecoach trade, such as blacksmith and wheelwright shops, the town's economy remained basically agricultural.

However, in 1827 Elihu French is said to have produced 100,000 "Bristol Bricks" in a single season from the sand on his property on the banks of the Powwow (Site 199). His method for making bricks was copied from the English method of brick-making and they were advertised as "equal, if not superior to, those made in Bristol, England."

Architecturally, the national pride of the new republic began to be expressed in new construction in the Federal style and in the remodeling of older, pre-Revolutionary houses to fit the new, more sophisticated fashion of the time.
Although the Federal style houses of New England were of both brick and wood frame construction, all those surviving in South Hampton, of which there are only about a half dozen, are of the latter type. The basic house type is the 2 1/2 story, 5-bay, central hall plan house, typically with twin interior chimneys.

About a dozen local builders in the late eighteenth century clung to the tradition of the earlier Georgian style house with central chimneys.

Pre-Civil War (Greek Revival) Period

For South Hampton, the period between 1830 and 1860 was a time of prosperity, as evidenced by a gradual increase in population to 549 by 1860, by an increase in the number of small industries, and by the relatively high incidence of new construction in the Greek Revival style.

Increased regional industrialization was reflected in South Hampton by a growing number of small industries, and by 1840 there were a total of 22 small manufacturers and tradesmen in the Town. In 1836, a cotton and woolen goods operation was set up in Jewelltown by Barnard and Alfred Jewell. The production of Bristol Brick, begun in 1827 by Elihu French, continued on the same property south of Smith's Corner. In addition to blacksmith shops, small shoe shops and different types of mills already existing along the Powwow River, new shops emerged that produced articles such as pails, umbrella handles, matches, and parts for carriage factories in Amesbury, which was becoming a major national and international center for carriage manufacturing.

Agriculture in the area continued to prosper, and by 1850 there were 64 farms producing primarily corn, potatoes, hay, butter and cheese. The average farm contained about 60 acres, and at least half of them had some orchard produce. The growing of fruit crops continued to increase up to about the time of the Civil War.

Having started out as subsistence farmers in the eighteenth century, local farmers began, with the advent of the railroad, to find regional markets for their products. By the middle of the nineteenth century, the New England network of railroads surpassed in density anything to be found elsewhere in the United States, and few farms were more than a half day's drive from a railroad station. (By 1874, South Hampton farmers had only a three-mile drive to the Eastern Railroad station in Amesbury and a four-mile drive to the Boston and Maine station in East Kingston.) The era of the "milk run" began, and they now had the capacity to ship milk, butter and cheese to markets in Boston via Amesbury, and fruit produce to even more distant, in some cases overseas, destinations.
Architecturally, the early 1830's was an especially important time, particularly in the development of the town center. The Greek Revival character of its existing public architecture is largely due to the construction of the Baptist Church, the Town Hall, and the Barnard Academy, all three of which echo each others design elements and remain crucial to the cohesiveness of Barnard Square and the surrounding area.

Domestic architecture in the Greek Revival style sprang up in different parts of the Town, with a particularly heavy concentration of houses appearing at Smith's Corner, which today retains the historic/architectural flavor of the mid-nineteenth century.

There are some 20 Greek Revival structures in South Hampton, including the above-mentioned Town Hall, Baptist Church and Barnard School. The majority are of a 2 or 2 1/2-story house type that features gable front orientation to the road and a sidehall entry in the gable end.

Post-Civil War Period (Late Nineteenth Century)

The period following the Civil War through the turn of the century was one of the most difficult periods that South Hampton had ever faced -- a time when the Town had to adapt to the changing needs of a nation that was moving west.

Ironically, the same railroad system that had created a period of prosperity for the small towns of southeastern New Hampshire was now taking it away by its expansion into the Midwest and West, where agricultural products and livestock were being produced more cheaply. By the time of the 1870 census report, thousands of poorer multi-purpose farms of New England had gone out of production, and the era of the abandoned farm was beginning.

In South Hampton, the decade of 1860-1870 marked the beginning of a decline in population that was to continue through 1920. From a total of 549 inhabitants in 1860, the town diminished to a population of 297 in 1900. In 1876, discussing the economic condition of the area, a historian from nearby Amesbury described "the general stagnation of the ordinary branches of business. The farmers' market, the grocers' business and most trades were greatly depressed, and the outlook was of a gloomy shade." In 1877, the same historian wrote that "the general depression of business was at a stand, and help could be obtained at less than living prices, and many were unable to find employment at any price." By 1880, the writer expressed the hope that "Amesbury will, no doubt, soon become what it was ten years ago: a busy, thriving town with something for all to do."

One effort to improve the sagging economy was undertaken in 1889 by the State of New Hampshire in authorizing the appointment of a Commission on Immigration to bring about the "Re-peopling of rural districts." Statistics published by the Commission listed 1,342 abandoned farms in the state, and an advertising campaign was launched, aimed at attracting two groups of potential buyers. The first group consisted of people interested in farming and the second group of affluent city dwellers interested in buying "a pleasant and beautiful home for the whole or some part of the year." (The program was apparently successful, as indicated by statistics in 1902 that 849 farms in the state were being used as summer homes.)
The first publication of the Commission on Immigration appeared in 1890 and exhorted its readers to "secure a home in New Hampshire, where health, comfort and prosperity abound." That year, three South Hampton farms were listed, ranging from 60 to 168 acres and including numerous barns and outbuildings.

Another effort to improve the economy in South Hampton as in other small towns was an attempt to attract summer tourists, and soon summer boarders were being taken in by property owners who could no longer count on farming as their sole source of income. By 1890, there were an

estimated 2,000 resort hotels and boarding houses state-wide, with a capacity for 40,000 guests. This trend constituted the beginnings of a tourist trade that became increasingly important to South Hampton as it moved into the twentieth century.

Partially as a result of these efforts, the continued use of the Town's older farmhouses, either to accommodate boarders or as seasonal homes for new owners, assured their preservation.

An important secondary effect of the decline of agriculture during this period was ecological. Steadily, as people abandoned the farms, often to seek employment in nearby mills, towns like South Hampton experienced a period of dramatic re-forestation as young forest took over the landscape. This change in ecology is reflected in the high percentage of wooded area in present day South Hampton -- a condition that did not exist in the earlier nineteenth century when a thriving agriculture flourished on the cleared lands of the Town.

Architecturally, the economic decline of the late nineteenth century is reflected in the extremely low incidence of new construction, particularly in comparison with that of the period preceding the Civil War.

None of the major American architectural styles of the late nineteenth century are represented in houses build in South Hampton between 1870 and 1899. The less than half a dozen surviving houses of the period fit into no stylistic category and are unremarkable from a strictly architectural point of view.

Early Twentieth Century

The decline in population that had begun in the decade between 1860 and 1870 continued into the first quarter of the twentieth century, reaching its lowest point in 1920 with 230 residents. The number of farms also diminished as the century progressed, to a point where today the Town has no working farms and is almost completely residential in character.

Efforts to attract summer boarders and tourists in the early twentieth century were ongoing. In 1902 Frank F. Perry opened "The Hilltop", which was to become one of the region's most popular resort hotels. By 1911, the Hilltop operation had grown to the point where 100 guests were being accommodated at one time. Located on Jewell Street in the town center, the main house contained 24 guest rooms, two kitchens and several dining rooms. As business increased, Perry also used two smaller houses as sleeping quarters for his guests.

In 1912, at the height of its success, "The Hilltop" burned in a fire that also destroyed the church parsonage, a school house and most of the private dwellings surrounding the Common. The town center would never again look the same, but at least in one case a concern for the architectural character of the center was evidenced. Shortly after the fire, the parsonage was rebuilt as a reproduction of the original Greek Revival house.

In South Hampton, as in the rest of the nation, the twentieth century brought with it technological advancements that would eventually change the character of the Town and the life style of its inhabitants. This new technology included electricity, telephones and the automobile, all of which appeared in the first quarter of the century.

With the advent of the automobile, crushed stone surfaces began to take the place of mud and gravel on local roads, and these new roads were the precursors of a network of interstate highways that make the Town today easily accessible to Boston and other regional centers.

In spite of these advancements, for South Hampton this was a time of economic stagnation, and as a result the town's architectural development remained virtually static.

Of the less than a dozen houses built between 1900 and 1925, the majority are simple, vernacular dwellings that represent no major architectural style.

Mid-Twentieth Century

After 1950, South Hampton entered a new phase in its development -- a phase that was marked by tremendous growth in population (it had doubled by 1978). Increased mobility afforded by new highways created a situation in which by 1978 almost half of the Town's work force was employed in Massachusetts, with only twenty percent employed in the Town itself.

This dramatic increase in population led to a new era of residential construction, with the addition to the Town's building stock of well over a hundred types and styles such as ranches, split levels, colonial reproductions and other popular forms of the present day.

Co-existing with these contemporary houses are some 75 structures that are older than 50 years. They include some 30 eighteenth century houses and about the same number dating from the nineteenth century, all of which illustrate important aspects of the Town's history and contribute greatly to its individuality.

Footnotes to History

1) The incorporation of South Hampton was prefaced by an interesting series of events which should be expounded on. The two primary sources for this footnote is a book entitled, History of the Town of Hampton, NH, by Joseph Dow, and an Exeter Newsletter article (February 1914), entitled, "South Hampton Never a Part of Hampton," written by Fred B. French.
The Town of South Hampton, as noted in an earlier section of this history, was incorporated on the 25th of May, 1742. South Hampton is defined in the original charter as follows:

> "All the territory between the Shapley and Mitchell Lines, from the sea westward, to a south line from a white pine stump on the Shapley Line, excepting the lands, estates and poles of the the twenty-eight petitioners above mentioned, who are hereby annexed to the Parish of Hampton Falls and in all aspects incorporated into the Parish of Hampton Falls." The total length of the town at that time was about fifteen miles long, and an area of over 12,000 acres."

The twenty-eight petitioners mentioned above were the original habitants of the eastern

portion of what was formerly Salisbury and Amesbury, MA, (now Seabrook), and were responsible for signing an address which was sent to the governor and council requesting that, because they lived more than six miles away from the meetinghouse being set up as a parish in the westerly part (now South Hampton), and it was too far to travel to attend services, that they be annexed to Hampton Falls. This type of request was quite common then and is otherwise referred to as the "polling off" act which allowed persons to live in one town and belong to another town. However, this "polling off" act led to many contentions and lawsuits and was repealed in 1791. But in this case, the petition for a township was granted in the incorporation of South Hampton in 1742.

Likewise, those persons living in the easterly part of what was formerly Salisbury and Amesbury, MA, petitioned to be made into a township or Parish by themselves. Therefore, in November, 1742, the line between Hampton Falls and Kensington was extended to the province line and all those living east of this extension were annexed to Hampton Falls, for all purposes, except for repairing highways and paying the province tax. Then, in 1768, the southern part of Hampton Falls became the Town of Seabrook. And finally, in 1822, an Act was passed which cut off from South Hampton all of the land east of the Kensington Line and added them to Seabrook, and by this Seabrook and South Hampton acquired their present limits.

In Map 1 below, it is possible to see, by removing the boundary line between the two communities, how South Hampton basically appeared between 1742 and 1768 when the two communities received their charters. In addition, there are two westerly boundaries of South Hampton denoted on the map. One is the original boundary line set in 1749 between Newton and South Hampton, and the present boundary set in 1773 after a portion of South Hampton was granted to Newton.

Map 1 Map of South Hampton, Original ……

2) A minor correction should be made to the above written history. In the description of the Early Twentieth Century it is stated that the number of farms in South Hampton has diminished to a point where today the town has no working farms and is almost completely residential in character.

Presently in South Hampton, there are several working farms. Therefore, the statement that there are no working farms was erroneous.

COMMUNITY PROFILE

Introduction

The community profile is a collection of statistical information pertaining to the general characteristics of population, housing, income and employment of the Town.

In the context of the Master Plan, a statistical profile of the community is useful in two respects. First, it places or defines the community in relation to other communities in the region. Second, important trends which may affect the future growth and development of the community can be identified and analyzed.

The information contained in the following tables is presented in three forms. First, there are tables containing information for South Hampton and 5 other communities in the surrounding area, as well as totals for the region and Rockingham County. Secondly, there are tables showing data for South Hampton covering a period of years, allowing for identification of important trends. Finally, there are graphs showing the information contained in the tables as well as various information not presented in tabular form.

Information used to produce this profile comes from a number of sources including the Town of South Hampton records, the South Hampton School Board, the New Hampshire Office of State Planning, and the 1970 and the 1980 U. S. Census of Population and Housing. Although some of the data is over five years old, much of the data still serves as useful information for making comparisons among towns and for the region and county. References to the latest information made available by the Town of South Hampton is also included. However, for purposes of comparison, it is not feasible to mix various sources.

Population and Population Projections

According to the latest N.H. Office of State Planning Population Estimates, South Hampton's 1988 population was 706 persons. This is equivalent to 81.02 persons per square mile, or 7.3 acres per person. Compared with the rest of the Rockingham Planning Commission region, South Hampton has the lowest density, followed by the Town of Newington which has 93.88 persons per square mile.
Based on Town Records, the population of South Hampton as of April, 1988 was approximately 790. This is equivalent to 105 persons per square mile, or 6.08 acres per person.

Historically, between the years 1790 and 1880 the density remained fairly consistent ranging from a low of 8.7 to a high of 12.5 (See Table 1). However, between the years 1890 and 1950, South Hampton's population and corresponding density dropped, with the lowest population density occurring in 1920 (See Figure 1). After 1950, the population of South Hampton grew and has been higher every year since. (See Table 2). Presently, South Hampton's population density is the highest it has ever been.

Table 1 Town of South Hampton, Population History and Density

Figure 1 Population History, 1790-1980, Town of South Hampton

Table 2 Population History, 1960-1988

Figure 2 shows the 1960, 1970, and 1980 population of South Hampton and the surrounding towns. Most noticeable is the significant increase in population between 1970 and 1980 in Amesbury, MA, and Seabrook, NH. Despite South Hampton's proximity to both of these communities, the population has remained fairly stable. East Kingston, Kensington, and Brentwood have similar patterns of population growth. Of neighboring Towns of similar character, Newton had a higher increase in population between 1970 and 1980 than South Hampton, East Kingston, Newfields, Brentwood and Kensington, but lower than that of Amesbury, MA and Seabrook. Newfields experienced a decrease in population between 1970 and 1980.

South Hampton's average annual percent growth rates between 1960-70, 1970-80, and 1980-88 according to the U.S. Census and Town Records are shown in Figure 3. According to South Hampton's Town Records, between the years 1980 and 1988, the average annual percent growth rate was 2.27%. South Hampton's average annual percent growth rate decreased from 2.33% in the 1960's to 1.69% in the 1970's. Figure 4 shows that between 1960 - 1970, South Hampton's average annual percent growth rate was higher than Newfields and Amesbury, MA.

Table 3 shows that between 1988 - 2010 it is projected the Town will grow by 3.26% per year which is lower than the County growth rate (3.36%). However, since the Town Records show that the 1988 population is approximately 790, it is conceivable that the estimated annual growth rate between 1980 - 1988 is low, and that the projected annual growth rate of 3.26% per year is high.

Figure 5 shows the Office of State Planning population projections for the Town of South Hampton and surrounding towns for the years 1980 through 2010. The populations are projected to increase in every town at a fairly constant rate. However, Figure 4 shows that although the populations will continue to grow, the average annual percent growth rates will in most cases decline between 1990 and 2010. South Hampton and Amesbury, Ma. are the exceptions, with South Hampton projected to increase between 1990 and 2000, but decrease between 2000 and 2010, and Amesbury's average annual percent growth rate decrease between 1980-1990, but increase between 2000 and 2010.

Age Distribution

Figure 6 graphically compares age groups in South Hampton according to the U.S. Census and the Estimates of the Population by Age, Bureau of Vital Records and Health Statistics, October 1986. The Town of South Hampton's age distributions are, for the most part, characteristic of state and national trends. Most noticeable are two categories - 1-14 years old, and 55-64 years old. While there has been a significant decrease in the number of people between the age of 1 and 14 between 1970 and 1985, there has been corresponding increase in the number of people 55 to 64. Again, this is characteristic of the state and national trend of a declining birth rate and a rising number of older persons. Figure 7 presents similar information but is based upon data obtained from a variety of Town records.

Figure 2 Population History, Town of South Hampton and Surrounding Towns

Figure 3 Average Annual Percent Growth Rates, 1960-1988, Town of South Hampton

Figure 4 Average Annual Percent Change, 1960-2010, Historical and Projected, Town of South Hampton and Surrounding Towns

Table 3 OSP Population Projections, 1988-2010

Figure 5 Population Projections, Town of South Hampton and Surrounding Towns

Figure 6 Town of South Hampton, Age Distribution, 1970: Age Distribution, 1985

Figure 7 Town of South Hampton, Town Records, Age Distribution, 1988

HOUSING

Overview

The following section addresses housing, an issue which, due to recent legislation, has become important for all communities to confront. In South Hampton, as in most communities in the region and the state, the issue of housing is very controversial. Based on the Citizen Survey, most people would prefer that the town remain a single family home community. However, recent interpretations provided by the Courts are suggesting that towns are not only responsible for accepting a fair share of population growth, but also for providing a variety of housing types and costs.

In Carol Soares + A. And Lewis Builders Inc. V. Town of Atkinson, the Town of Atkinson was challenged by a developer on the grounds that the Towns ordinances were unconstitutionally exclusionary to low income individuals seeking affordable shelter, and resulted in Atkinson having to amend their zoning ordinances so they were less restrictive. This court case is an indication that the Courts are no longer tolerating communities policies of exclusionary zoning.

In addition, RSA 674:2, III amended the housing section of a Master Plan to require that it "address current and future housing needs of residents of all levels of income of the municipality and of the region in which it is located." Likewise, RSA 674:32 requires that towns afford reasonable opportunities for the siting of manufactured housing.

Over the next few years, the Rockingham Planning Commission will be completing a Regional Housing needs analysis. As a part of this study, South Hampton's fair share housing apportionment figure will be calculated, and the town will then have an idea of how it should be performing in terms of affordable housing. When available, this information will be included in this portion of the Master Plan.

To provide a statistical overview of not only past, present and future housing conditions in South Hampton, but also its performance with respect to providing a variety of housing opportunities, the following housing section includes a comparison of South Hampton's housing types, an analysis of population versus housing growth, and an examination of two economic factors which affect peoples ability to live in a community - housing values and household incomes.

Population Versus Housing Growth

Based on information contained in the community profile, between 1980 and 1987, the average annual percent growth rate of .84%, was lower than Rockingham County (2.64%), or the state (2.00%). Over this same period, South Hampton's housing has grown by 2.19% as shown in Table 4. This indicates that the town has increased its housing stock at a greater rate than its population.

Table 4 Housing Distribution, 1970, 1980, 1988, Town of South Hampton and Surrounding Towns (two pages)

An explanation for this phenomena could be due to two trends. One is that family size is decreasing, and the other is that more retirees are moving into the area. However, as previously Noted, an analysis of the 1988 Census Inventory and other Town Records indicates that the actual population of the town is close to 800. This corresponds to an average annual percent growth rate of 2.27% and a 2.90 occupancy rate. These figures suggest that the Town is actually increasing its housing stock at a rate similar to its population growth.

Table 4 also shows the average annual percent change in total housing units and reflect the slow growth which South Hampton has experienced in comparison with surrounding communities. Between 1970 and 1980, only Newfields had a lower average annual percent change in housing units than South Hampton, with 2.68% and 2.81% respectively.

Between 1980-1988 only Newton had a lower average annual percent change in housing than South Hampton, with 1.96% and 1.99% respectively (See Table 4). With 3.96% and 3.45%, the County and State average between 1980-1988 was well above South Hampton. The average annual percent change in total housing units between 1980-1987 in Newton decreased from 6.06% between 1970-1980 to 1.96% between 1980-1987. Much less extreme than Newton, the change in housing units in South Hampton has been relatively consistent.

The Citizen Survey shows that the majority (61%) of the respondents feel that residential development should take place along existing roads on large lots. An examination of South Hampton's projected demand for housing indicates that by the year 1995, South Hampton can expect to gain an additional 131 units representing an increase of 52% over 9 years. This figure is based upon the New Hampshire Office of State Planning's population projection of 1011 for the year 1995, and the persons per household (pph) projection of 2.72.

Distribution by Type

In addition to examining South Hampton's housing stock, it is also important to evaluate types of housing which exist and whether a variety of housing types is being provided by the town.

As depicted in Table 4, and Figures 8 and 9, South Hampton has a higher percentage of single family homes, and a lower percentage of mobile homes than any of the surrounding communities, the county, or the state. South Hampton's percentage of multi-family homes falls in the middle of the six surrounding communities. In 1980, and 1988, single family homes represented between 91% and 93% of the total housing units in South Hampton. While the number of single family homes continue to rise fairly constantly, the number of multi-family and mobile homes have remained constant since 1980. According to the "Current Estimates and Trends in N.H. Housing Supply," (N.H. Office of State Planning, 1989), the Town of South Hampton contained 92.6% single family homes, 6.6% multi-family homes, and 0.8% mobile homes in 1988 (See Figure 1). The low increase in the number of mobile homes in South Hampton can most likely be attributed to the high cost of land.

Figure 8 Housing Distribution, 1960-1970, 1970-1980, 1980-1988, Town of South Hampton and Surrounding Towns

Figure 9 Housing Distribution, 1998, South Hampton, County and State

Figure 10 Town of South Hampton, Town Records, Housing Distribution, 1988

Current town records reveal that South Hampton has provided considerably more multi-family units (32) and one more mobile home than is reflected in the NHOSP estimates for 1988. Figure 10 shows the housing distribution in South Hampton according to the April, 1988, Inventory Census Data. This inventory shows the Town as having 241 (87%) single-family units, 32 (12%) multi-family units and 3 (1%) mobile homes, for a total of 276 units in South Hampton. These figures represent an 18% increase in single-family homes, an 99% increase in the number of multi-family home, and a 66% increase in mobile homes since the 1980 census.

These figures are higher than the increase which occurred between 1970 and 1980. Over that ten year period, there was a 31% increase in single-family homes, a 55% increase in multi-family homes and there was no increase in mobile homes.

While this information cannot be directly compared to NHOSP figures due to the difference in data collection methods, the information does suggest that South Hampton supports a somewhat higher percentage of multi-family housing units than the 1988 NHOSP estimates are showing, although most of them are in the form of attached accessory dwelling units.

The low percent of multi-family units in South Hampton could be directly attributed to the lack of residential multi-family zoning. The Planning Board is currently addressing the need to provide for the addition of multi-family housing.

Income

According to the 1980 census, South Hampton's household median income of $21,062, was comparable to households in surrounding communities (See Table 5). South Hampton households also had a slightly lower median income than the County, and a slightly higher median income than the State. Per capita income figures from 1983, 1979 and 1969 indicate that South Hampton has had the highest income of the surrounding communities on a per person basis for each of the three time periods.

The Citizen Survey results, which were broken out according to category, revealed the median income as between $45,000 to $59,000. As with the housing type information, the data collection methods differ and the information should not be directly compared. However, these figures suggest that the 1990 Census should reflect a significant increase in not only South Hampton but the region as a whole. This is due to the fast growing economy over the past ten years.

Housing Costs

Based on the most current information made available by the NH Housing Finance Authority, the average unit in South Hampton sold for $166,250 in 1987, with no reported newly - constructed homes. The limited number of samples in South Hampton, however, makes it difficult to statistically compare the town with its neighbors. However, a review of the figures which are available show that the surrounding communities had an overall average housing price of $138,031, considerably lower than South Hampton. Table 6 shows similar housing cost figures for the County and State.

In an attempt to obtain more solid information on housing costs in South Hampton and surrounding communities, Table 7 shows real estate sales and land cost comparisons for the years 1981 and 1988. This information was obtained from a realtor in South Hampton and shows the average cost since 1981 when a housing unit was $62,418 and by 1988 was $160,031 per unit - a 156.39% appreciation. Likewise, land costs appreciated since 1981 when the average cost of a lot in 1981 was $18,822 and by 1988 were at an average of $61,980 for a building lot - a 229.30% appreciation.

In the 18 towns in the Rockingham Multiple Listing Service Area (MLSA), single family homes have appreciated from an average of $66,327 in 1981 to an average of $154,505 in 1988, or a 132.94% increase in seven years. In the 9 towns (plus southern Maine), in the Seacoast MLSA, single-family homes have appreciated from an average of $84,320 in 1983 to an average of $185,800 in 1988, a 120.35% increase in five years. For the same five year period in the Rockingham MLSA, the average price went from $67,674 in 1983 to an average of $154,505 in 1988, a 128.31% increase. (These numbers were not available for lot numbers in these areas).

Zoning

So far, South Hampton is accommodating its fair share of housing in terms of numbers, but not in terms of housing types. Although a few theories have been alluded to already in this section, another problem the Town needs to address is their zoning ordinance, specifically the absence of provisions for duplexes and multi-family housing. The ordinance does provide for manufactured housing on individual lots anywhere in Town, making the Town in compliance with the state law regarding mobile homes. Therefore, the Town should focus primarily on the inclusion of duplexes and multi family housing in amending their present zoning.

Residents indicated in the Citizen Survey their desire to maintain and manage growth in a way which would not require rapid expansion of school and municipal services. Although the Town presently has no sewer or water and will probably not be able to finance them for many years, innovative land use control methods could address the need for the Town to provide a variety of housing types without sacrificing public health or safety.

One possible method the Town should consider pursuing to provide for a variety of housing types is the creation of two more residential districts. For example, a district could be designed to accommodate higher densities, and another district would be for lower densities.

A cluster ordinance would allow the Town to use its remaining prime developable land more efficiently while at the same time preserving more land as open space. In addition, cluster development would allow for greater opportunities to provide lower cost housing with no serious impact on the community's character. Cluster development is similar to a planned subdivision except that buildings are permitted to be closer together in exchange for an equal amount of permanent open space. This would prevent endangering the residents' public health or safety, and preserve the rural character of the town, while at the same time allowing for a variety of housing needs.

Another way in which the town could accommodate growth without the development of new structures would be by allowing accessory apartments. Legislation defines "accessory dwelling unit" as a second dwelling unit, attached or detached, which is permitted by a land use control regulation to be located on the same lot, plat, site or other division of land as the permitted principal dwelling unit.

These techniques can achieve the Town's desire to maintain the rural qualities, while at the same time provide for a variety of housing types. An aggressive educational program should be pursued to inform the residents of the various zoning techniques and all the various aspects associated with them.

Table 5 Income Statistics, Town of South Hampton and Surrounding Towns

Table 6 Area Housing Costs, 1987, Town of South Hampton and Surrounding Towns

Table 7

Average Appreciation Rates
Representative Housing Unit and House Lot Costs
1981 and 1988

HOMES

	UNITS		AVERAGE DOLLARS		
TOWN	1981	1988	1981	1988	APPRECIATION
Brentwood	20	18	$79,560	$183,414	+227.59%
East Kingston	10	9	$54,235	$194,544	+258.11%
Kensington	10	23	$82,160	$209,348	+154.81%
Newfields	6	8	$48,483	$202,204	+317.06%
Newton	27	38	$51,428	$129,471	+151.75%
Seabrook	13	33	$56,408	$128,458	+127.73%
South Hampton	0	4	-0-	$161,875	n/a
TOTAL	86	129	$62,418	$160,031	+156.39%

LOTS

Brentwood	6	1	$22,000	$22,500	+ 2.27%
East Kingston	3	1	$16,667	$55,000	+229.99%
Kensington	2	2	$17,250	$66,250	+284.06%
Newfields	0	4	$ -0-	$54,975	n/a
Newton	3	3	$15,667	$57,133	+264.67
Seabrook	0	4	$ -0-	$82,100	n/a
South Hampton	0	0	$ -0-	$ -0-	n/a
TOTAL	14	15	$18,822	$61,980	+229.30

RECOMMENDATIONS

The following recommendations are designed to ensure that South Hampton provides a variety of housing opportunities, promotes community goals, improves local housing land use and building codes, and ensures their compliance with relevant state and federal legislation.

1) South Hampton should review and carefully redraft its zoning ordinance so that suitable opportunities exist for the development of duplexes and multi-family housing. The development of two or more residential districts is one technique for providing opportunities. To identify areas suitable for higher density zoning, a hydrogeologic study should be undertaken to determine the suitability of groundwater conditions.

2) In order to preserve the rural character of the Town, South Hampton should implement innovative zoning techniques such as a cluster ordinance.

3) To accommodate anticipated growth, South Hampton should allow accessory apartments.

4) To ensure the construction of quality homes, the Building Officials and Code Administrators (BOCA) National Building Code should be strictly enforced. These codes address the improvement of construction regulations, and the effective administration, organization, and methods of enforcement of these regulations by the local entity.

EXISTING LAND USE

In the summer of 1988, a land use survey was conducted by a master plan subcommittee. The purpose of this survey was to obtain information on how the land is used in South Hampton. The following section provides information on specific land uses as well as overall patterns of land uses in South Hampton.

In general, South Hampton is a rural community which, based on the high number of Citizen Survey respondents who stated they work in Massachusetts, is a bedroom community in one of the fastest growing regions in the State. South Hampton's easy access to Route 150, Route 107A, and Route 108, as well as its close proximity to Routes 95 and 495 suggest that the development pressures will continue.

Looking at Map 2, located on the following page, most obvious is the large amount of open space which still remains in South Hampton. South Hampton's basic transportation network consists of ten roads. State Routes 150 and 107A are the predominant north/south roads in South Hampton, with secondary roads branching off these main routes. There are no major east/west roads which run through South Hampton. Along the existing roads, housing is distributed somewhat evenly, with recent development taking place along portions of Woodman Road, Hilldale Avenue, and South Road.

South Hampton's land use pattern is much the same as it was in 1887. Although South Hampton has no one population center, the intersection of Main Avenue, Hilldale Avenue, and Jewell Street still serves as South Hampton's town center. The cemetery, school, church, Town Hall, and library are all in the same general location. All of the commercial activity in South Hampton is located along Route 150, with the exception of one commercial use in the western part of the Town and numerous home occupations which are dispersed throughout South Hampton. The basic land uses in South Hampton are typical of many other towns. In addition to the agricultural, residential, and commercial uses, South Hampton has approximately 50 acres of State Forest, 98 acres of private recreational facilities including the Audubon Society and Tuxbury Campground properties; about 1,000 acres of wetlands, and approximately 2,400 acres of open space. The approximately 21 acres of Town property are the location of such uses as the Town Hall and Common, the Barnard School and playground, four cemeteries, a ball park and tennis courts, and approximately 2 acres of other recreational land located in the Hilldale Avenue/Pow Wow River area.

Figure 11 shows the land use change for 1953, 1974, and 1982. This figure makes it possible to identify some important land use trends in South Hampton. According to a 1982 New Hampshire Agriculture survey the number of acres that changed to developed per year was higher between 1974 and 1982 than between 1953 and 1974, with 27 and 56 acres respectively. This is the dominant trend for the county, where developed land in Rockingham County nearly quadrupled between 1953 and 1982. The trend was much the same in South Hampton, with developed land representing 7.9% of the total area in 1953, and increasing to 27.6% of the total by 1982.

Map 2 Town of South Hampton, Existing Land Use (11 x 17)

Figure 11 Land Uses: 1953, 1974, 1982

In South Hampton, the shifting of land to the developed category was mostly at the expense of forest land, with idle and agriculture being the next highest classes to be converted to developed area. Overall, although South Hampton has visibly escaped some of the development pressures which appear in many other communities in southeastern, New Hampshire, the figures show that it is being developed at a rate comparable to the County.

Existing Land Use and Zoning

One of the major purposes for conducting a land use survey is to compare what land use actually exists within the zoning districts that the Town has adopted. The purpose of zoning is to regulate the location and impact of various types of land use and to attempt to keep incompatible land uses apart. Zoning should represent the community's plan for particular land areas. This plan is often different from actual land use for a few key reasons:

1. Board of Adjustment decisions allowing variance from established zoning.
2. Pre-existing uses which now constitute non-conforming uses.
3. The exploitation of loopholes in the zoning regulations.

The result may be incompatible land uses and growth patterns which are undesirable to the Town.

In South Hampton, there is generally a good match between existing land use and zoning districts.

One land use of serious concern to South Hampton, but not regulated through any zoning district, is that of home occupation. A home occupation is a type of business associated with, but subordinate to, a residential use. There are numerous home occupations in South Hampton, in every part of Town. By regulation, home occupations are supposed to be customary and incidental to residential use. It appears that in South Hampton it may be necessary to strengthen the regulations concerning home occupations and be more consistent in their enforcement.

TRANSPORTATION

Overview

One of the problems typically associated with development in rural communities is the lack of an efficient roadway network. Due to this fact, growth in rural towns may result in the establishment of "mini-community centers" with certain parts of town isolated from others. However, in South Hampton, the intersection of Route 107A, Jewell Street, and Hilldale Avenue is the location of the Town Hall, church, school and library, and represents the only "community center". With a total of 14 roads, the transportation network in South Hampton reflects the slow growth which has occurred. State highway Routes 107A and 150 are the only major arterials and serve traffic traveling north or south. Traffic counts made available by the New Hampshire Department of Transportation (NHDOT) indicate that average daily traffic (ADT) on Route 150 (at the Massachusetts State Line) is increasing. Between 1982 and 1987, ADT increased by 36%, with 2200 and 3000 respectively. Between those years, ADT on Route 150 increased from 2400 in 1983 to 2800 in 1985, a 17% increase.

The balance of South Hampton's roads are collector or feeder roads which provide access to the State highways. Unfortunately, there are not traffic counts available to identify any trends on local roads. There are no major or minor roads which provide continuous east/west access. Overall, South Hampton's road network reflects the slowly developing residential growth that has occurred over the years.

The following transportation section will provide a profile of South Hampton's roadway network including the classification and characteristics of the roads, and additional information regarding commuting characteristics, and public or specialized transportation services which affect the community, and finally some discussion of what funding is available to the Town for roadway improvements.

Also included is an appendix which provides technical data to support the various topics included in the section.

Roadway Classification

New Hampshire has a seven-category road classification system to indicate state versus local function and maintenance responsibility. The following is a description of these seven categories and what roads fall into each.

Class I, Trunk Line Highways, consist of all existing or proposed highways on the primary state highway system, excepting all portions of such highways within the compact sections of towns and cities of 7,500 inhabitants and over. The state assumes full control and pays cost of construction, reconstruction and maintenance of its sections; the portions in compact areas controlled by the towns and cities under Class IV highways.
Class II, State Aid Highways, consist of all existing or proposed highways on the secondary state highway system, excepting portions of such highways within the compact sections of towns and cities of 7,500 inhabitants and over, which are classified as Class IV highways.

All sections improved to the satisfaction of the commissioner are maintained and reconstructed by the State. All unimproved sections, where no state and local funds have been expended, must be maintained by the town or city in which they are located until improved to the satisfaction of the highway commissioner.

All bridges improved to state standards with state aid bridge funds are maintained by the State. All other bridges shall be maintained by the city or town until such improvement is made.

Class III, Recreational Roads, consist of all such roads leading to, and within, State Reservations designated by the Legislature. The State Highway Department assumes full control of reconstruction and maintenance of such roads.

Class IV, Town and City Streets, consist of all highways within the compact sections of towns and cities of 7,500 inhabitants and over. Extensions of Class I and Class II highways through these areas are included in this classification. At present there are 13 cities and 9 towns in this category.

Class V, Rural Highways, consist of all other traveled highways which the town or city has the duty to maintain regularly.

Class VI, Unmaintained Highways, consist of all other existing public ways, including highways discontinued as open highways, highways closed subject to gates and bars, and highways not maintained in suitable condition for travel for five years or more.

Other, consists of U.S. Forest Service roads and state secondary roads maintained by the U.S. Forest Service, also other toll highways not on the state turnpike system, (i.e. private toll road, Mt. Washington toll road, Monadnock toll road).

The New Hampshire Department of Transportation reports that as of January 1, 1988, South Hampton has a total of 15.9 miles of roads with the following breakdown by class.

Table 8
NHDOT Road Classification for the Town of South Hampton

Class I	---
Class II	5.69
Class III	---
Class IV	---
Class V	8.83
Class VI	1.38
Total	**15.90**

FINANCING ROAD IMPROVEMENTS

Federal, State, and Local Assistance

South Hampton's road network is eligible for four forms of financing made available by the Federal and State governments:

a. State Aid Construction Funds are provided for improvement of uncompleted sections of state secondary, Class II, highways. The ratio of state to town matching funds is based on the assessed valuation of the municipality and varies from a 2 to 1 ratio in small towns to a 1 to 1 ratio in the large municipalities. Application must be made to the Administrator, Bureau of Municipal Highways by May 1 of each year, but preliminary discussions about such projects should begin well in advance of this date. (Chapter 235 RSA).

b. State Aid Reconstruction Funds are available for improvement of completed sections of state secondary, Class II, highways when the town or city wishes to advance the priority of construction for special types of work such as improved drainage, riding surface or elimination of sharp curves. The matching ratio is the same as for State Aid Construction Funds and application is made in the same manner. (Chapter 235 RSA).

c. Highway Block Grant Aid Funds are apportioned to all cities and towns on a yearly basis for the construction, reconstruction, and maintenance of Class IV and V highways on the following basis:

   Apportionment A. These funds are allocated from an annual apportionment of not less than 12% of the total highway revenues collected the preceeding fiscal year. The amount distributed is based on one-half mileage and one-half population as the city/town factors bear to the state total.

   Apportionment B. These funds are allocated from an annual apportionment of $400,000; the amount available to towns is based on a formula using equalized valuation and Class V mileage designed to give the greatest benefit to the low valuation towns with high road mileage.

   Block Grant Aid payments are made as follows: 30 percent in July; 30 percent in October; 20 percent in January; and 20 percent in April. Unused balances may be carried over to the following municipal fiscal year. (Chapter 235 RSA.)

d. Federal Aid Bridge Replacement Funds are available for replacement or rehabilitation of town bridges over 20 feet in length. Bridge Aid funds may be used for matching these funds. Application is made to the Administrator, Bureau of Municipal Highways in the same manner as aid under the Bridge Aid Program.

Alternative Road Improvement Funding

While this section attempts to address every aspect of financing road improvements, another possible funding source which many states across the country, including New Hampshire, are utilizing is road impact fees. These are fees collected from the developer to pay for part of the cost of infrastructure, in particular roads. The recent trend of shifting the burden to the private sector can be attributed to not only reduced federal assistance but also to the realization by municipal officials that new development is not paying its way, that the burden is placed upon the residents of a community instead.

During the 1988 legislative session, House Bill 404-FN was introduced by four representatives of Hillsborough County. The bill sought to establish a road pay-back fee system that would have allowed communities such as South Hampton to require developers to pay a fee which is directly related to the incremental financial burden imposed by that new development. If agreed to by the Planning Board and applicant, the fee could be in some form other than money, such as bond or other formal security, materials, labor, or equipment. Although this bill was defeated, it is an indication that New Hampshire, as with the rest of the country, is attempting to reduce the financial burden currently being placed upon rapidly growing communities.

Although no particular law exists pertaining to impact fees, a number of communities in New Hampshire are negotiating with developers based on a rational nexus or proportionate benefit concept as was upheld in an important New Hampshire court case - Land/Vest Properties, Inc. v. Town of Plainfield.

Essentially, future deficiencies are identified by traffic and fiscal impact studies, and in turn are the basis for the community to negotiate with the developer about a financial contribution that would be used to pay for improving roads or other infrastructure which would ultimately be needed by those residing in the development.

However, although there is consensus that towns in New Hampshire have a legal basis for adopting a development impact fee system, South Hampton should be careful to examine the proper procedures to evaluate the Town's present financial condition, the impact a proposed development would have on a community and how to administer the program.

Scenic Roads

Another important transportation issue is scenic roads, and is addressed in RSA 231:157 which requires that to designate any road in town, other than a Class I or Class II highway, 10 persons (voting or non-voting) who own land abutting the proposed road petition the town to do so. In turn, the town votes on it at any normal or special Town Meeting. The exact provisions for this process can be found in the RSA. Voters can also rescind the designation of a scenic road at a regular meeting upon petition.

By designating a road scenic, there are two benefits a town can enjoy. First, it establishes a procedure for protecting the rural landscape within a public right-of-way. Secondly, it can demonstrate the public's intent to preserve the rural qualities of a road.

The effects of designating a road scenic are detailed in RSA 231:15. Included are restrictions upon the repair, maintenance, reconstruction or paving work which is done to the road. Two important facets of the designation are that it does not affect the eligibility of the Town to receive construction, maintenance, or reconstruction funds, or affect the rights of any land owner with respect to work on his own property.

Currently in South Hampton, there are no scenic roads.

Commuting Patterns

According to commuting inforamtion from the 1980 census shown in Table 9, South Hampton residents travel to a variety of locations for employment. The highest single location is for those employed in Amesbury, MA. (15%). South Hampton (9%) and Boston (8%) are the next highest employment locations. Other New Hampshire and Massachusetts towns and cities account for the remaining 69% of the work force and are distributed fairly evenly.

Table 9 presents similar information based upon the 1988 Citizen Survey, which asked residents which town and state they worked in. Interestingly, although the information should not be directly compared to the method of collection, the distribution is very similar, with Amesbury, MA. the next highest category. Based on these figures, it appears that since 1980, the commuting patterns have remained much the same. However, the 1990 census will verify this hypothesis as being true or not.

Public Transportation

With the exception of bus and train service which are available at locations outside of the community, there is no public transportation service available to residents. Based on the Citizen Survey, this is not perceived as a problem to residents. However, the need for some form of elderly or specialized transportation service may be necessary. Therefore, Appendix C of this section contains information on the companies which service various surrounding communities and their routes for future reference.

Table 9
Journey To Work

	1980 Census		1988 S.H. Citizen Survey	
Seabrook	22	(7%)	1	(1%)
South Hampton	28	(9%)	8	(6%)
Portsmouth	8	(3%)	2	(2%)
Hampton	8	(3%)	6	(5%)
Newington, Greenland, New Castle, North Hampton and Rye.	8	(3%)	0	(0%)
Remainder of Portsmouth-Dover-Rochester, NH & Maine SMSA	10	(3%)	3	(2%)
Lawrence	4	(1%)	2	(2%)
Haverhill	8	(3%)	2	(2%)
Andover, No. Andover	12	(4%)	5	(4%)
Amesbury	45	(15%)	22	(18%)
Salisbury	18	(6%)	1	(1%)
Boston	25	(8%)	15	(12%)
Lynn, Lynnfield, Nahant, Saugus, Swampscott, Salem, Beverly, Danvers, Marblehead, Peabody	10	(3%)	7	(5%)
Remainder of Boston SMSA	8	(3%)	0	(0%)
Exeter	14	(5%)	3	(2%)
Elsewhere	52	(16%)	47	(38%)
Not Reported	24	(8%)	--	
	304	100%	124	100%

Roadway Characteristics

The roadway network in South Hampton, with the exception of Routes 107A and 150, is primarily designed to serve local transportation needs. However, many of South Hampton's roads serve as feeder roads for surrounding communities. Local roads are narrow, and in some cases are potted, and cracked due to the method of construction. In addition, some roads lack proper pavement markings such as center or side stripping which are extremely important for navigating, especially when it is dark or there is inclement weather.

One road in particular which serves as a major link from the eastern part of Town to the western half, is Woodman Road. Although part of this road is located in South Hampton, the remaining portion of the road which intersects with Route 107A is located in Amesbury. A review of the present condition of this road reveals that the portion of the road in Amesbury is severely potted and

rough. The condition of the road is so severe that those wishing to utilize the road to travel to the western part of South Hampton are probably discouraged from using it. This presents a serious problem for commuting patterns in South Hampton and should be addressed.

A review of South Hampton's roads indicates that their surface conditions are adequate. Although occasional shimming, hot topping and sanding have been applied over the years, no major work has been performed. Many of the roads in Town have erosion problems which can be partially attributed to the lack of proper drainage swales or ditches. Proper drainage is important for enhancing the life and quality of a road, since water contributes to accelerated deterioration if allowed to seep into new or existing cracks.

According to the 1987 Town Report, present maintenance techniques utilized by the road agent include the use of bituminous and Tilton Maine patch. The report also indicates that all roads were patched, the upper end of Highland Street was hot topped, and that the remainder of Highland Street should also be hot topped. Shimming and hot top work were performed on Chase and Woodman Roads, and Locust Street. Stagecoach and Chase Roads are listed as being in need of work. It is noted that Woodman Road especially needs to be upgraded due to increased travel. The report also acknowledged that work needs to be performed to numerous culverts, with one on Hilldale needing replacement.

Intersection Conditions

Rockingham Planning Commission's survey of roadway conditions in the Town of South Hampton involved a basic safety review of intersections in the Town. This review included identifying obstructions in intersections, alignment problems, and inadequate signage.

Two signage problems were noted in South Hampton. The first, and potentially the most serious, is the lack, or mislocation of traffic control signs at intersections (e.g. stop signs, yield signs). Examples are the intersection of Hilldale Avenue, Lone Goose Road, and Currierville Road, and also the intersection of Route 107A and Hilldale Avenue. Second, some streets in Town lack street signs. This can be very confusing and possibly a danger for those needing to travel somewhere quickly, such as firefighters or ambulances. Delivery trucks and visitors unfamiliar with the area are also greatly inconvenienced. Chase Road, South Road and Jewell Street where they intersect with Route 107A are examples.

RECOMMENDATIONS

The following recommendations will assist the Town of South Hampton in continuing to provide a safe and efficient transportation network for the current and projected population.

1. The Town of South Hampton should encourage developers to minimize their impacts on existing town roads. This can be accomplished through the use of cluster subdivisions, interior roads and traffic impact study requirements for development proposals.

   (Appendix A contains guidelines for the contents of a traffic impact analysis.)

2. The Town of South Hampton, when appropriate, should require developers to minimize off-site impacts either through monetary contributions or by undertaking necessary off-site road improvements.

3. The Town of South Hampton should, as part of its subdivision, site plan review and building regulations, require development to follow proper drainage and erosion control practices.

4. The Board of Selectmen should actively enforce RSA 47:17 "Bylaws and Ordinances" under Section VIII "Traffic Devices and Signals" which empowers communities:

> "To make special regulations as to the use of vehicles upon particular highways, except as to speed, and to exclude such vehicles altogether from certain ways; to establish stop intersections, erect and provide for the control of traffic by, stop signs or other traffic devices or signals which shall conform to standards set by the highway commissioner and shall be approved by him as to type, size, installation and method of operation."

This RSA allows South Hampton to adopt an ordinance restricting vehicles above certain weights (to be determined by the town engineer or road agent) from designated town roads during seasonally wet periods.

5. The Town of South Hampton should continue to update its inventory of roads, thus allowing the Town to guide future roadway improvement planning. An additional step should be to prepare a roadway management plan. The plan would enable South Hampton to achieve the best value possible for the available public funds in providing and operating smooth, safe, and economical road surfaces. Typical activities include inventory, condition assessment, selection of maintenance and rehabilitation strategies, predicting needs, requirements, and budgeting necessary funds.

6. The Town of South Hampton should develop a long range plan for establishing and maintaining proper drainage swales and culverts along existing town roads to alleviate any erosion and flooding problems.

7. The South Hampton Planning Board and Road Agent should apply and enforce the standards specified in "Traffic Control Standards, Statutes, and Policies," for the proper location and placement of roadway signs, and guidelines for all pertinent traffic control issues. This manual contains extracts from the "Manual on Uniform Traffic Control Devices for Streets and Highways," which is published by the U.S. Department of Transportation.

8. The Planning Board should require that the maximum driveway grade, within 50 feet of an existing or proposed roadway, not exceed 3%. This standard should not be waived. However, the Planning Board should also amend its subdivision regulations to permit a maximum driveway grade of 6%, at any point greater than 50 feet from an existing or proposed roadway. This standard may be waived up to a maximum of 8% only in extenuating circumstances.

9. The Planning Board should require that the maximum roadway grade within 100' of an intersection, measured along the centerline, not exceed 3%. This standard should not be waived.

10. Dead end or cul-de-sac roads should provide for adequate maneuverability for service vehicles such as school buses, snow plows, ambulances, and fire trucks.

11. South Hampton should adopt a street numbering system in order to avoid such problems as difficulties or delays for emergency vehicles such as fire trucks and ambulances and any inconveniences to visitors due to confusing or missing numbers.

12. All Town roads should be reviewed for potential designation as scenic roads as a way to protect the rural landscape within public rights-of-way, thus demonstrating South Hampton's intent to maintain its rural character.

13. The Town should contact the Town of Amesbury regarding the condition of Woodman Road to determine any short or long range plans for improvements.

14. A garage for the highway maintenance equipment and materials should be planned for future needs.

Appendix A

Guidelines for Content of a Traffic Impact Analysis

Proposal

1) Size and Type of Development:

   a. Gross square feet in commercial or industrial developments.
   b. Number of units in residential developments.

2) Location Map, with Proposed Driveways.

Traffic Data

1) Manual counts for peak hour data. This data must be gathered at or near time of analysis.

2) Twenty-four hour machine counts (an average weekday). Machine counts on record may be used if taken less than two years prior to the analysis.

Traffic Analysis

1) Assumptions used (i.e. growth rates, committed improvements, other proposed developments).

2) Trip generation volumes determined using the Institute of Transportation Engineers (ITE) "Trip Generation Manual". Refer to ITE code numbers. Trip generation volumes not obtainable using the manual must be documented.

3) Required Level of Analysis:

   a. All analyses must be completed for existing conditions, existing conditions plus 10 years (no build), opening year, and opening year plus 10 years (build).

   b. Analysis for each proposed driveway at its intersection with an existing street must conform with "Transportation Research Circular 212" Intersection Capacity Analysis.

   c. Assignment of generated traffic to surrounding road network. Analysis of adjacent road network and intersections for roadway and intersection capacity. [Note: For roadway capacity analysis, techniques developed in the Highway Capacity Manual are recommended. For intersection capacity analysis, techniques developed in "Transportation Research Circular 212" are recommended].

Conclusions

1) Summary of improvements by location, including but not limited to:

   a. Additional pavement widths and markings for right and left turn lanes;
   b. additional traffic lanes; and
   c. traffic control light.

Appendix B

SCU — System-Class-Urban/Rural

System
- 1 – State Primary
- 2 – State Secondary
- 3 – State Recreation
- 4 – Town/City Streets inside Compact
- 5 – Town/City Streets outside Compact
- 6 – Town/City Streets not maintained
- 7 – U.S. Forest Service roads
- 8 – Interstate Highways
- 9 – Toll Roads

Class
- 1, 2, 3 – State Maintained
- 4, 5, 6, 8 – Town or City Maintained
- 7 – U.S. Forest Service Maintained
- 9 – Toll Maintained

U/R
- 1 – Urban
- 2 – Rural

Valid SCU's are 112, 141, 192, 222, 241, 252, 272, 292, 332, 441, 552, 602, 662, 772, 812, 892, 991, 992

FUNCLASS — Federal Functional Classification

Code
- 00 – Rural or Urban Non-public Road
- 01 – Rural Interstate
- 02 – Rural Other Principal Arterial
- 06 – Rural Minor Arterial
- 07 – Rural Major Collector
- 08 – Rural Minor Collector
- 09 – Rural Local
- 11 – Urban Interstate
- 12 – Urban Other Freeways or Expressways
- 14 – Urban Other Principal Arterial
- 16 – Urban Minor Arterial
- 17 – Urban Collector
- 19 – Urban Local

FA_SYS — Federal Aid System

Code
- 1 – Interstate
- 2 – Primary
- 3 – Urban
- 4 – Secondary
- 5 – Non-Federal-Aid

RTE-TYPE Route Type of The highest system
The system hierarchy is:
Interstate, U.S. Route, N.H. route
Code 0 – Not Reported
1 – Interstate
2 – U.S. Route
3 – N.H. Route
7 – Other

SURF_TYPE Surface Type
Code 20 – Unimproved Road
30 – Graded and Drained Road
40 – Gravel Road
51 – Surface Treated Gravel
52 – Mixed Bituminous
53 – Bituminous Penetration
60 – Bituminous Concrete
70 – Reinforced Portland Cement Concrete
80 – Brick, Block, Misc.

PUBLIC UTILITIES

Water Supply

Currently, residents of the Town are served by individual drilled or dug wells. And, although the Town is not presently served by a municipal water supply, it is possible that as the population of South Hampton continues to grow, it may be necessary for South Hampton to install a public water supply. However, this will not be necessary or financially feasible in the near future.

Due to South Hampton's reliance on private wells, it is in the Town's best interest to protect the existing water supply. Groundwater protection can help maintain individual wells and will delay the need of a municipal water supply. The protection of South Hampton's water resources is discussed in greater detail in the Water Resources Management and Protection Plan contained in this document.

Wastewater Disposal

South Hampton does not have a municipal sewage treatment facility. Instead, the Town depends upon individual on-site sewage disposal systems for wastewater treatment. To date, South Hampton has not undertaken any studies to determine the location and feasibility of a municipal sewerage system. And, as with water supply, it will not be necessary or financially feasible in the near future to install one.

It is projected that the Town will generate 86,500 gallons of septage in 2006. (Source: Kimball-Chase Co., Inc., February, 1988). South Hampton is currently in compliance with NH RSA 149-M:13 which requires that "each town either provide, or assure access to, an approved septage and solid waste facility for its residents." South Hampton's has an agreement with the Town of Hampton to dispose of septage at its wastewater treatment plant.

However, due to the lack of awareness of South Hampton's agreement with the Town of Hampton, private haulers with no site of their own have relied on the wastewater treatment facilities of nearby towns for disposal.

Electrical Service

Electricity is supplied to South Hampton by the Exeter and Hampton Electric Company (E&H). Except for a portion of Town along Route 107A, the majority of South Hampton is served by a 2.4 kilovolts (KV) transmission line. The portion along Route 107A is an 8KV transmission line which extends from East Kingston and at some point is transformed to a 2.4 KV line. There are no substations located in South Hampton. According to a spokesman at the E&H Company, the

most economical way to upgrade a line is by adding on as needed. Most likely in the future, it will be necessary for the lines in South Hampton to be stepped up from 2.4 KV lines to 8 KV, depending upon the rate of development in Town. However, Exeter and Hampton Electric Company currently has no plans for expansion.

Natural Gas

Currently, gas using residents of the Town use only individual propane tanks for heating and cooking. There is no natural gas piped into the Town. And, no forecasts have been made as to if and when South Hampton residents will be served by natural gas lines.

Solid Waste Disposal

As discussed in the previous sections of this chapter, South Hampton relies on individual wells and septic systems. Because of the potential threat of contaminating groundwater supplies, it is important that South Hampton provide for a safe, efficient method of waste disposal for residents.

South Hampton is one of 21 towns comprising the Southeast Regional Solid Waste District (SRSWD), a planning district organized under New Hampshire Revised Statutes Annotated (RSA) 149-M. This statute requires each municipality to participate in a District and to complete a solid waste management plan. Formed in December, 1986 by combining three smaller districts, the purpose of the district is to determine a regional solution to the area's solid waste disposal problem. The SRSWD, as dictated by RSA 149-M, is responsible for the "continued and ongoing planning for systematic solid waste management within its boundaries".

The SRSWD completed a District Solid Waste Management Plan in December, 1987. The plan was approved by the N.H. Department of Environmental Services, Waste Management Division in February, 1988, and describes existing waste disposal conditions in the District and makes recommendations for future disposal.

According to the SRSWD Management Plan, South Hampton is projected in the year 2006 to generate 561 tons of solid waste per year. Currently, the Town relies on the Kingston Landfill for solid waste disposal. The Kingston Landfill, located on Route 125, is approximately 50 years old. Collections are made by private haulers once a week under contract. However, since the landfill is not lined and hydrogeologic studies are underway to determine the severity of groundwater contamination, it does not appear to be a reliable longterm disposal alternative.

In March, 1988 South Hampton and ten other SRSWD communities formed the Southeast Regional Refuse Disposal District (SRRDD). Organized under N.H. RSA 53-B, the SRRDD will implement the solid waste disposal solutions outlined in the SRSWD Management Plan.

These solutions include recycling programs, the siting of a regional landfill and the siting of a

regional septage disposal facility. South Hampton has one representative to the SRRDD who serves on a variety of District committees.

Although the SRSWD is already seeking regional alternatives for solid waste disposal, the issue will represent a major hurdle for the communities not only in Southeastern N.H., but the state as well.

Recently, South Hampton organized a recycling committee which is actively pursuing a program in the Town of South Hampton.

RECOMMENDATIONS

1. Undertake a program to educate residents about septic system function and the importance of proper maintenance. Materials for such a program are available through the Rockingham Planning Commission and the Rockingham County Conservation District offices.

2. Adopt groundwater protection methods which will be described in greater detail in the Water Resources section of this plan.

3. Conduct an inventory of all of the underground fuel storage tanks in Town and adopt underground fuel storage regulations as a method to ensure the safety of the Town's water supply.

4. The Town should consider developing a water testing program and establish a recording system for this information. All reports should be kept on file with the health officer and reviewed annually by the selectmen and planning board.

5. South Hampton is a rural community. The past and present rate of development has not made a public water or sewer system necessary or feasible. However, as a long range planning effort, the Town should begin investigating alternative ways to aggregate and treat sewage.

6. The Town should continue to pursue the options available for recycling.

COMMUNITY FACILITIES

Introduction

An important function of local government is to provide adequate community services and facilities for its residents and businesses. South Hampton, as in most of the communities throughout Rockingham County, should be aware of the possible impacts any increased population and economic growth will have on the Town. Examined in this chapter are the quality and quantity of South Hampton's existing town services and any future needs.

MUNICIPAL GOVERNMENT

Presently, the Town's municipal personnel and basis of compensation include the following:

- One chief of police and five part-time officers (Hourly salary);
- One part-time custodian (Hourly salary);
- One building inspector (Percentage of fees collected);
- One health officer (Fees collected per inspection plus $50.00 stipend);
- One road agent (Hourly salary and fees collected for heavy hauler and driveway permits);
- One part-time librarian (Annual salary) and one assistant (Volunteer);
- Three selectmen (Annual stipend and expenses);
- One secretary to the selectmen (Hourly salary);
- One treasurer (Annual stipend);
- One tax collector (Percentage of collections);
- One town clerk (Annual stipend plus fees).
- One deputy tax collector (Hourly salary);
- One deputy to town clerk (Hourly salary);
- One volunteer fire chief and 15 volunteer firefighters;

The Town Hall houses the offices of the Tax Collector, Town Clerk, Selectmen, Police, Planning Board, and the Zoning Board of Adjustment. A new library has been built which is attached to the Town Hall. Meetings of the Planning Board and Conservation Commission are routinely held in the Office of the Selectmen. The Zoning Board of Adjustment hearings are held in the main hall as are all other public hearings conducted by the various boards and organizations. In addition, the Town Hall is used for other activities including: Town meetings, elections, grange meetings and fund raising events. The Town Hall may also be rented by residents to hold large social events. The school uses the Hall for instruction including music, gym, tutoring, and as the school's auditorium.

According to the fire code, the current Town Hall's capacity is 150, and the voting population is 650. Therefore, there are limitations to the use of the Town Hall.

Future Needs

The Town Hall, built in 1832, is a two-story wood framed structure. Presently, the condition of the Town Hall is good, however the following is a list of the needed repairs to the Town Hall as expressed by the selectmen in 1988:

Immediate Town Hall needs include:

- Access for elderly and handicapped should be constructed.
- Replacement of sills and clapboards.

Other Town Hall needs include:

- Total refurbishing of kitchen including insulating the walls and replacing the windows.
- Cosmetic work in the office area and paint the window coverings.
- The area where the library presently is housed will need to be adapted for other uses when the library moves out.
- Paint the ceilings and walls.

Municipal personnel needs include:

- More administrative support for the Selectmen and Planning Board.

Equipment needs include:

- Additional telephone lines and equipment.
- A computer for such uses as computerized tax records, voter checklists, inventories, generating reports, and day to day use.

- A sound system for public meetings.

Recommendations

1. It appears that the existing office space is less than adequate. The problem will be exacerbated by additional personnel and equipment. Therefore, a careful analysis of future space needs should be undertaken as early as possible and further recommendations made to address this issue.

2. A study should be made of the possibility of expanding the capacity of the Town Hall Auditorium to meet the community's needs.

LIBRARY

At the Town Meeting held on March 8, 1892, the Town voted to establish a library under provisions of the State Library Act and at that time converted the Town Hall balcony into a library. The library actually opened on February 1, 1893. Entrance to the present library is made by climbing a steep flight of stairs and older citizens find access a problem.

The library is open twelve hours a week and as of December, 1988, the library served 280 registered borrowers, 236 of which were juveniles and 44 were adults. The library has a borrowing circulation of 7290 books and 16 periodicals. There is presently one librarian and one aide. The librarian is only the tenth to serve in the history of the library.

The Town finished the construction of a new library which is a building attached to the Town Hall. It opened sometime in late 1989. The new building is on the ground level, and provides handicapped access. The new library provides more space and will be more efficiently arranged than the old library. There is a separate area for preschool children and grades 1-3, an area for grades 4 and up and a separate area for adults. There will also be study tables at the reference area and chairs for browsing near the periodical section. There is a meeting room available for educational programs and Friends of the Library Group meetings.

The Trustees and Friends of the Library Group worked together to start a Building Fund Drive. Although the building itself was funded by matching grants, the furnishings will be purchased with monies obtained from various fund-raising activities.

Future Needs

Because the Town has just built a new library which is expected to have adequate space for seating, book storage, and assorted programs, there are no major needs for the future.

Recommendations

1. The Town should continue to support the library.

FIRE DEPARTMENT

Prior to 1985, the fire station was located adjacent to the Town Hall where the library now stands. The old building was a carriage shed which was subsequently converted to a garage to house the fire equipment.

The present South Hampton fire station is located on Route 107A (Main Avenue) approximately a mile north of the Town Hall on land donated by Albert Gray. The building was constructed by members of the Firemans Association in 1984 at a cost of $34,000 dollars. The money to build the new fire department was raised by the Firemans Association through various fundraising events conducted since 1971.

The station contains an apparatus bay which measures 32 feet by 54 feet, and a meeting room which consists of a bathroom, kitchen and dispatching office measuring 12 feet by 54 feet. Currently, the Fire Department operates three trucks. One is a 1962 International Howe Pump which was obtained from Seabrook second hand. This vehicle is capable of pumping 750 gallons of water a minute and can hold 700 gallons of water. Another vehicle the Town owns is a 1947 Ford Forester Unit which was given to the Fire Department in 1970 by the Town of Newington. This vehicle is capable of pumping 200 gallons a minute and can hold 400 gallons of water. Finally, the Town owns a 1989 Ford Grumman Tanker Pump.

The South Hampton Volunteer Fire Department is comprised of an acting fire chief and 15 volunteer fire fighters. Four of the firefighters are also trained EMT's. The South Hampton Fire Department participates in an interstate mutual aid agreement with 41 towns throughout New Hampshire, Massachusetts and Maine.

In 1988, the Fire Department responded to 64 calls. A breakdown of these calls reveals that the largest percentage (16%) was for medical aid, with the next highest number of responses being for lightning strikes to buildings (13%) and mutual aid (13%). Other calls included wood fires, auto accidents, electrical transformer fires, and chimney fires.

Future Needs

The South Hampton Fire Department has many potential capital outlays. The acting fire chief believes that there is a need for a rescue squad vehicle. More fire fighting equipment such as fire pants and coats were recommended by the acting fire chief.

The fire chief believes that as South Hampton's population and number of fire calls increase, so will the duties and time commitment of the fire chief. Eventually, the town may need to consider hiring a full-time fire chief and compensation for the firefighters.

Also, the acting chief feels that although the present fire station is relatively new, the Town may find that there is a need to build another substation which would house fire vehicles and reduce fire response times for the more remote areas of Town. Or the Town may decide that the existing fire station needs to be enlarged to house more equipment, and continue to depend on mutual aid for responding to the entire Towns needs.

Recommendations

1. Policies and procedures for the operation of the fire department should be developed by the fire department, adopted by the selectmen and published for town-wide distribution.

2. Study should be given to the capital outlays and expansions which have been recommended by the acting fire chief. Those studies should be undertaken with consideration for economic feasibility, South Hampton's obligation under the mutual aid agreement, and any applicable legal or insurance rating requirements.

BUILDING INSPECTION

The Building Inspector is appointed by the Selectmen in South Hampton. Inquiries regarding applications for building permits are referred to the inspector, who provides a detailed application form. The Town's zoning presently requires a plot plan be filed with the Planning Board prior to issuance of a building permit. The application form calls for the signatures of the Planning Board, as well as the Health Officer, Fire Chief, Historic District Commission, Conservation Commission, and Zoning Board of Adjustment, the last three subject to waiver if not applicable.

The Inspector's principle responsibility is to ensure safe building practices which generally conform with adopted codes such as Building Officials and Code Administrators (BOCA) and the New Hampshire Energy Code.

Recommendations

1. Procedures and responsibilities of the Building Inspector should be drafted and published.

2. The Building Inspector should be required to obtain the Building Officials and Code Administration (BOCA) certification.

POLICE DEPARTMENT

There is presently one full-time Police Chief and 5 part-time officers on the South Hampton Police Department. All officers are dispatched by way of the Rockingham County Sheriff's Office. Presently, the police department has an office in the Town Hall. The Town owns one police cruiser which was purchased in 1988.

The current level of police activity is moderate, with the trends in police call responses being motor vehicle citations and burglaries.

Future Needs

The police chief feels there is somewhat of a problem with adequate space for storing of records, evidence, and equipment.

Recommendations

1. Policies and procedures for the operation of the police department should be developed by the police department and adopted by the selectmen, and published.

2. Studies should be undertaken to investigate possible locations for the police department and the other recommendations made by the police chief. These studies should be undertaken with consideration for economic feasibility and South Hampton's obligation under applicable legal requirements.

3. The Police Department expansion should be consistent with guidelines made available by the State of New Hampshire Police Standards and Training Council.

ROAD AGENT

In South Hampton, there is one road agent elected annually at Town meeting who is paid according to the number of hours he works. As the Town owns no equipment, he is also paid for the use of his personal bucket tractor and truck when needed for Town purposes.

There are approximately 10 miles of roads which the Town is responsible for maintaining. Both summer and winter maintenance of Town maintained roads are contracted out by the road agent and include patching, shimming, cleaning ditches, sanding, salting, and hot topping and other items. The New Hampshire Department of Transportation - Division VI maintain all of the 5.69 miles of state roads in South Hampton.

By ordinance, the road agent is charged with issuing permits for the transport of overweight and over dimension vehicles on certain roads. He also issues the driveway permits for driveways accessing Town roads.

Future Needs

According to the road agent, there are no real problems associated with contracting which presently exist. However, the economics of owning equipment and hiring a full-time road agent versus contracting may some day dictate that South Hampton buy their own equipment for plowing, sanding and road resurfacing. This would require a garage in which to house the equipment. In addition, the Town may want to consider hiring a full-time road agent.

Recommendations

1. A manual which contains the job description and function of the road agent should be developed by the selectmen and the road agent.

2. The driveway permitting process should be brought into compliance with RSA 236:13.

3. A cost-benefit analysis should be conducted to determine when the change from contracted services to Town owned equipment, garage and full-time personnel is warranted.

CEMETERIES

There are three cemeteries in South Hampton: Main Avenue Cemetery, Indian Cemetery, and Currierville Cemetery. The Main Avenue Cemetery is located behind the Town Hall and School and has an estimated size of 100 grave sites.

The Indian Cemetery is located at the far side of the common by Hilldale Avenue and Main Avenue. There are only a few sites available in this cemetery. However, it is estimated that more sites could be provided if the site is upgraded.

Finally, the Currierville Cemetery is bordered by Currier Street and Dugway Roads on the way into Newton. Therefore, half of the cemetery belongs to South Hampton, the other half to Newton. Presently, there are a few sites available but more could be added if the layout were improved.

All maintenance and operations of the cemeteries fall under the jurisdiction of the Trustees of the Cemeteries. The Trustees are elected each year at Town Meeting. The Trustees have control over burials and the maintenance of all the cemeteries. They are also responsible for the distribution of funds included in the Cemetery Trust Funds. The Trustees arrange for the mowing of the cemeteries and general maintenance. In the past, contracting for these services has been on an annual basis. The Trustees typically work on a very tight budget with limited monies being realized from the Cemetery Trust.

Currently, there is no provision for residents to plan for and purchase burial sites in the Town's cemeteries.

Future Needs

There are no plans at the present time for any expansion or land acquisition.

Recommendations

1. New sources of money should be pursued for upgrading the existing cemeteries. This would provide for additional sites.

2. New sites for future cemeteries should be investigated.

3. A study should be undertaken to establish the number of sites currently available and determine whether the present system of allocating space is satisfactory. The Town should consider the possibility of selling sites in advance.

SCHOOL SYSTEM

South Hampton belongs to the SAU 21 School District. South Hampton students in grades 1 through 8 are housed in a building adjacent to the Town Hall, the Barnard School. The building and the land is owned by a trust which has control over construction and maintenance. The building is a wood framed building which was built in 1836 and contains five classrooms, with additions constructed in 1956 and 1963. The first floor contains three rooms which are 720, 290, and 290 square feet respectively. There are two rooms on the second floor which are 840 and 720 square feet respectively. The total square footage of the school is 2860. Presently, there is no handicapped access. No classroom in the Barnard School or Town Hall meets the state's minimum standard of 900 square feet per classroom or 30 square feet per child, whichever is greater.

Although a major portion of the school program is located in the Barnard School, there are also two portable classrooms which were added in 1987 and are located on the playground next to the school. The classrooms are used and are owned by the school district. These classrooms are 900 square feet each. The two rooms in the portable classroom can legally hold 60 students, although the state's recommendation is no more than 25 students per classroom. The balance of the school programs are held in the South Hampton Town Hall which is also located adjacent to the Barnard School. This space is used for special needs tutoring, but not for regular classroom instruction. In addition, the Town Hall also serves as a gymnasium if physical education classes are unable to be held outdoors. The total square feet available for regular instruction is 4660. Currently, the ratio of students to teacher is 15.4. However, grades one and two are taught by one teacher, as are grades three and four.

Students in grades 9 through 12 are bussed to the Amesbury, MA High School, under contractual agreement with the Town of South Hampton. The school was built in 1968 and has had no additions since. Handicapped access is provided at the high school. South Hampton students may also choose to attend the Exeter or Whittier Vocational Technical Schools. There is transportation provided by the Town of South Hampton from the Town Hall to the High School and back.
According to the 1980 Master Plan, between 1970 and 1980, South Hampton's school population actually decreased. A sizeable drop occurred in the high school age group, compared with significant growth between 1950 and 1970 (See Table 11).

Table 10

School Population 1950 - 1990

Grade	1990-91	1980-81	1975-76	1970-71	1960-61	1950-51
1	6	7	5	24*	21*	20*
2	7	11	11			
3	14	7	10	22*	26*	
4	7	14	8			
5	12	18	13	30*		16*
6	9	8	14		25*	
7	10	11	14	28*		
8	8	13	12			

Sub-Tot	73	89	87	104		
High	33	47	64	44	21	16
Total	106	136	151	148	93	52

*Multiple grades, beginning in that grade

Table 11 is a breakdown of the 1980-1990 enrollment:

Table 11
1980-1990 Barnard and Amesbury High School Breakdown

	Barnard School	Amesbury High School
1980-81	93	45
1981-82	92	57
1982-83	82	53
1983-84	78	45
1984-85	76	48
1985-86	76	41
1986-87	91	39
1987-88	87	41
1988-89	77	33
1989-90	72	35
1990-91	72	33

These figures suggest that, for the most part, the school population has continued to decline. Between 1980-1988, the grade school age population has declined by 17%. At the same time, the high school population has declined by 27%.

Recreational facilities at the Barnard School include a one acre playground on land owned by the school district. The school has one swing set, one jungle gym and miscellaneous sports equipment. Playground space at the school has been reduced due to the addition of the portable classrooms. In addition, the Town Hall main room is used as a gymnasium for physical education classes.

Extracurricular activities made available for students of the Barnard School include basketball and softball. In addition, the school is used for school board meetings.

Indoor recreational facilities at the Amesbury High School include: a gym, weight room, health room, boys and girls locker rooms, a training room for sports medicine, and if needed, the cafeteria and auditorium can be utilized for athletic events.

Outdoor recreational facilities at the Amesbury High School include: 8 soccer and football fields; 1 stadium; the use of seven softball and baseball fields which are located at three different schools all within a half mile of the high school; a multi-purpose track; and the use of three outdoor basketball courts which are also located at three different schools all within a half mile of the high school.

Extra-curricular activities made available for students of the Amesbury High School include such activities as: Student Council; National Honor Society; School Newspaper; Cheerleading; Band and Musical groups; French and Spanish Clubs; and several others in addition to those already listed.

Future Needs

According to the Amesbury School District, there are presently no problems associated with crowding at the High School. It has been estimated that the high school's capacity to handle projected growth will be adequate for five to seven years. Student enrollment at the high school has actually been declining since 1979 as noted in Table 12.

Table 12
History of Amesbury High School Enrollment

Year	Enrollment
1979	826
1980	791
1981	783
1982	735
1983	738
1984	714
1985	733
1986	705
1987	640
1988	600
1989	604
1990	590

Since the high school's total capacity is actually around 800, and could potentially house as many as 900, there are no perceived problems for the next five to seven years. Presently, students do not lack any programs because of space or equipment limitations.

In January, 1988, the Educational Review Subcommittee suggested the following list of rooms, staffing and programs are present needs of the school system:

- Full time secretary
- Nutrition program
- Kindergarten
- Gymnasium
- Science Lab
- Nurse
- Counseling room
- Teacher's work room and lounge
- Conference room
- Storage closets
- Computers

- Library
- Art facilities
- Foreign language program
- Home Economics program
- Industrial Arts
- Various extra-curricular activities
- Access for handicapped

A report of the Rehabilitation Subcommittee to South Hampton School Board identified problems associated with long term use of the Barnard School Building and site as the following:

- Significant septage problems
- Siting a new well
- Parking for the school and town offices
- Barrier free code
- Underground fuel oil tanks

Other Issues

1. Safety Standards

   Presently, the Barnard School does not meet the standards of the Life Safety Code in several areas. The School Board and The Barnard Trustees are under notice from the South Hampton Fire Chief to correct the numerous deficiencies.

2. Minimum State Standards

   Presently, the major areas which South Hampton is in violation are:

   - No child nutrition program
   - Inadequate library /media program
   - Fire protection and life safety rules

3. Bond Proposal

   The Town of South Hampton defeated in March, 1989, a $1,780,000 bond issue for the construction of a new school building.

4. Capital Reserve Fund

   At the March 1990 School District Meeting, a capital reserve fund was established by the voters "for the purpose of constructing and furnishing a new school building."

Recommendations

1. The Town should continue to explore viable alternative solutions to the school's deficiencies.

HEALTH DEPARTMENT

Presently, the following hospitals, agencies, or programs are available to serve Town residents health needs:

-Rockingham Community Action
-Rockingham Child and Family Services
-Seacoast Visiting Nurses
-Brentwood Nursing Home
-Amesbury Hospital
-Anna Jacques (Newburyport)
-Exeter Hospital

Transportation service for the elderly and disabled is available. An outline of services provided can be found in RPC's "Guide to Elderly and Disabled Transportation" which is updated annually.

The Town follows the state health regulations and does not have any local health ordinances.

Future Needs

According to the health officer, there are no present or anticipated needs regarding health services which cannot be accommodated by the above services. However, it is felt, that a need does exist for a paid position of health officer which would be funded in the budget with a partial offset of funding by user fees. The present situation is that the health officer is a volunteer position.

Recommendations

1. A manual which contains the job description and function of the health officer should be developed by the selectmen and the health officer.

2. Continue to assess the needs of the Town in terms of health care for all age groups.

3. The Health Officer should have a consultants engineering support.

RECREATION

Town-owned public recreational facilities are the ballfield and tennis court located on Hilldale Avenue approximately one-half mile from the Town common, and the school playground located in the Town Common. The Town also owns a few small parcels of undeveloped land which provide access to the Pow Wow River. Activities on the Pow Wow include fishing, ice skating, and canoeing.

The Audubon Sanctuary located at the intersection of Woodman and Peak Roads is an undeveloped area owned by the Audubon Society. It provides for hiking and bird watching for a small but regular user level.

Five acres of land have been dedicated by a developer as a recreation site to be privately but jointly held by the owners of individual lots on Woodman and Highland Roads. Due to the character of the land, little development of the site is expected.

A 55 acre tract of land known as the Powwow River State Forest, located off Hilldale Avenue, once belonged to the Town but was given to the State in lieu of taxes during the late 1920's. More recently, in September, 1988, these lands were leased for ninety-nine years to the South Hampton School District as a potential site for a new school. The land is currently undeveloped and its potential future use as a recreation source is unknown.

In addition to facilities located in the Town of South Hampton, there are a wide variety of recreational sites and activities in neighboring communities. The following is a partial list of those sites and facilities:

1) Gardner Lake in Amesbury is utilized for purposes of swimming, boating, canoeing, etc...

2) Tuxbury Pond is located partially in Amesbury, MA and partially in South Hampton, N.H.. The Pond is utilized by residents for boating, canoeing, and fishing.

3) The Public Park System in Amesbury makes available a children's playground and playing fields.

4) Salisbury Beach State Park in Massachusetts offers low cost memberships which include seasonal parking. Beaching, swimming, and fishing are just some of the activities available. There is access to numerous beaches (e.g. Hampton, N.H. and Newburyport, Ma.) due to the proximity of the Atlantic Ocean.

5) There are numerous golf courses available in the area including East Kingston, Amesbury, Ma., and Haverhill, Ma..

6) Maudslay State Park offers such activities as cross country skiing, art shows, horticultural displays, horseback riding, hiking trails, etc...

Approximately ten years ago, the Town's Recreation Committee became inactive, and has been so since then. Although the Citizen Survey did not indicate a major concern over recreational facilities, citizens did express some concern that there be more organized teenage activities. Therefore, if the Recreation Committee were to become reactivated, this is one need which they may wish to address.

Future Needs

It is important that South Hampton maintain and manage existing recreational areas and identify and set aside certain areas for future recreational development. Although it appears that the existing recreational facilities available in South Hampton and in the vicinity are adequate for the present level of population, as the Town continues to grow, there will be a greater demand for additional public recreational facilities. Presently, the baseball field and tennis courts need to be upgraded and according to the selectmen, there is already a need for more tennis courts.

The N.H. Recreation and Resources Planning Office has developed standards for recreation facilities for New Hampshire communities. While some of these standards may never apply to South Hampton, they are useful for determining ideal conditions. These standards are:

Facility	Standard/1000 people
ballfields	.6 to 1.0 (number)
tennis courts	.5 to 1.5 (number)
hard court games	1 to 4.0 (courts)
playgrounds	.2 to 2.0 (number)
playgrounds	1.3 to 3.5 (acres)
parks	1 to 2.0 (acres)
picnic areas	.2 to 5 (acres)
campgrounds	1.5 to 3.5 (acres)
campsites	5 to 15 (number)
boating areas	23 to 95 (acres)
sailing areas	8 to 15 (acres)
beaches	.1 to 1.5 (acres)
outdoor swimming pools	.07 to .4 (number)
outdoor swimming pools	200 to 500 (sq.ft.)
indoor swimming pools	.05 to .2 (number)
outdoor ice areas	.2 to 1.0 (number)
outdoor ice areas	2000 to 7000(sq.ft.)
indoor ice areas	.02 to .5 (number)
gymnasiums	.2 to 1.0 (number)
18 hole golf courses	.02 to .03
downhill ski areas	.1 to .5 (acres)

Recommendations

1. The Town should reactivate the recreation committee to manage the maintenance of the present facilities. In addition, the committee should be charged with investigating the possibility of organizing various activities and monitor the Towns recreation needs.

2. The Town should investigate the present conditions of the baseball field and tennis courts to determine what can be done to upgrade their condition.

CONSERVATION/PRESERVATION

Introduction

As development pressures increase, South Hampton must take steps to ensure that conservation areas, recreational areas and historically significant lands are preserved. For discussion purposes, these areas will be referred to as open space. Open space can be described in a number of ways-- it may contain areas of valuable natural resources like farmland, aquifers, forests, floodplains, or wetlands; it may also consist of scenic vistas, recreational areas or historic landscapes.

People often consider open space lands merely to be lands which are not currently being used. It is unfortunate that the value of open space is often overlooked. Open space provides many benefits: 1) recreation; 2) buffer areas between developments; 3) screens hiding unsightly features; 4) pleasant scenery, visual relief, maintenance of rural character; 5) food production; 6) wildlife habitat; 7) soil and other natural resource conservation; 8) air purification and production of oxygen; 9) water retention and recharge; and 10) flood control.

The conservation of valuable and unique natural resources and the preservation of open space is important for South Hampton. Ninety percent of those responding to the citizen survey indicated that protecting open space was very important or important and eighty-seven percent of those responding indicated that preservation of wetlands was very important or important. When asked about spending money for acquiring more conservation land, seventy-three percent responded with very important or important. Another question asked residents to rank a number of local problems on a scale of 1 to 5, with 1 being least serious and 5 being most serious. Seventy-one percent ranked the issue of the loss of woods and open space as being most serious.

Chapter 36-A of the RSA's establishes the right of a municipality to create a conservation commission for the purpose of "proper utilization and protection of the natural resources and for the protection of watershed resources of said town." The commissions also inventory open space, natural, aesthetic, and ecological areas, marshlands, swamps and other wetlands and make recommendations to the selectmen, on the use of such lands. In addition, RSA 36-A:4 allows the conservation commissions to receive gifts of property or money that are intended for conservation purposes, subject to the approval of the selectmen. The commission is then responsible for managing the acquired land.

Currently, South Hampton has a Conservation Commission comprised of five members. In May, 1989, the Commission developed, distributed and tabulated the results of a questionnaire sent to all South Hampton residents. A copy of this survey can be found in the appendix. Overall, residents indicated they were very interested in the Conservation Commission's efforts to preserve areas of land in South Hampton. In addition, the questionnaire allowed residents to rank, in terms of importance for preservation, scenic areas and watersheds. From most important to least important, those areas were: 1) Powwow River; 2) Tuxbury Pond; 3) Back River; 4) Indian Burial Ground; 5) Grassy Brook; 6) Chair Hill; 7) Hume Brook; and 8) Bugsmouth Hill.

Other activities of the Conservation Commission include the completion of an application to the Land Conservation Investment Program (LCIP) for the purpose of purchasing the conservation easement on 113 acres of land in South Hampton. In July, 1989, the LCIP granted preliminary approval of the application subject to certain conditions. A total of $65,000 in LCIP funds were approved.

The Conservation Commission also provides information and instructions to other town officials regarding the open space protection methods described later in this section. Based on the results of the May, 1989 questionnaire, the Conservation Commission has the names of numerous residents who are interested in discussing possible means for protection of their land.

Natural Resources

1. Forests - With increasing residential development, South Hampton is experiencing a steady loss of forested land. According to the University of New Hampshire's Department of Forest Resources, South Hampton had 3,455 acres of forest land in 1953, 3,380 acres in 1974, and 2,955 acres in 1982. The Town should seek to have forest lands of manageable size (greater than ten acres) preserved and utilized for their many aesthetic, environmental, and economic benefits.

   Publicly owned forests provide the townspeople with many benefits: 1) areas for outdoor recreation such as hiking, cross-country skiing, snowmobiling, etc.,; 2) local sources of outdoor education in forestry, nature studies, and wildlife; and 3) a greater sense of community by adding to the quality of community life. In addition, the sale of timber partially covers the cost of managing the forest, while helping to increase the future yield of forest products.

   Proper management allows multiple forest uses. The goals and strategies of proper management is best described in a forest management plan. A forest plan is important for the following reasons: 1) the plan describes to citizens the administration of public resources and provides continuity in the land's management; 2) managed forest stands have greater timber yields, thus greater revenues from wood sales; 3) a management plan may increase the Town's eligibility for federal assistance for forest management practices through the Agricultural Stabilization and Conservation Service (ASCS), and for state funds through the Local Conservation Initiative Program (LCIP); and 4) if Town lands are well managed, the townspeople are more apt to support the Town forest activities and may choose to deed their land to the Town, or manage their own lands better.

   In addition to UNH, the County Extension Service and the State Forester can assist in the preparation of a forest management plan. The plan will include the location, history, descriptions of timber stands and site factors (i.e. wildlife, water, soils), maps, forest management objectives, management recommendations, and a schedule for plan implementation.

   The management plan should be flexible in order to reflect any changes in the Town's objectives or demands. Typically, the plan is reassessed every five to 10 years. The forester will evaluate the effectiveness of the program implemented, collect new data, and make new recommendations.

2. Farmland - The USDA Soil Conservation Service has classified agriculturally productive land best suited for producing food, feed, forage, fiber and oilseed crops into two categories: 1) prime farmland - which has the soil quality, growing season, and moisture supply to produce sustained high yields; and 2) farmland of statewide importance - which exhibits some properties, such as erodibility and drought, that exclude them from prime farmland.

   As with forest land, South Hampton is experiencing a loss in agricultural land. In 1953 the Town had 920 acres of farmland, 625 acres in 1974, and 575 acres in 1982. With only a few sites containing very good agricultural soil, and even fewer farms still active, South Hampton should act to preserve these areas. The methods for open space preservation are outlined later in this section.

3. Wetlands - Wetlands provide many benefits yet pose significant development constraints. Wetlands severely restrict all types of building development because of high water tables, poor drainage, slow percolation rates for septic systems, highly unstable conditions for foundations, and susceptability to flooding. Costs to overcome these limitations and the associated environmental damage typically prohibit development.

   An analysis of South Hampton wetlands and the many benefits they provide will be discussed in the Water Resources section of this plan. Briefly, the benefits include: wildlife habitat; silt and nutrient absorption; stabilization of ground and surface water levels; flood water storage; recreation and education; and visual aesthetics.

   Map 3 shows that South Hampton has a significant amount of wetlands. In order to give the wetlands even more protection, the Conservation Commission should undertake a prime wetlands inventory and prepare the material necessary to get certain wetlands designated as prime.

4. Floodplains - South Hampton is subject to periodic flooding as a result of storms. Low-lying areas adjacent to the rivers and brooks provide temporary water storage during floods, thus serving as natural flood control. One of the State's coastal zone policies deals specifically with floodplain protection. It reads:

   > "Reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to preserve the natural and beneficial value of floodplains, through the implementation of the National Flood Insurance Program and applicable state laws and regulations, and local building codes and zoning ordinances."

Map 3 Town of South Hampton, Wetlands (11 x 17)

At Town Meeting on March 10, 1987, South Hampton adopted zoning of the Floodplain District pursuant to state and federal regulations. The Floodplain District was based on the Flood Hazard Boundary Map issued by the Federal Emergency Management Agency (FEMA) dated February 28, 1975, and amendments to that map or Flood Insurance Rate Maps that result from a FEMA study.

On June 1, 1989, FEMA issued Flood Insurance Rate Maps for South Hampton. These maps depict the 100-year flood zones and specify flooding elevations. In general, the flood zones surround major water courses. Further development should be located away from these low-lying areas because of the flooding potential and the unstable soil conditions. South Hampton has its flood hazard areas identified, and the Town is in the regular phase of the National Flood Insurance Program as of June 1, 1989.

An added benefit South Hampton may achieve by having adopted a floodplain protection district regulation would be a very attractive "greenbelt", used for scenic and recreational enjoyment, along the Town's floodprone streams. If they also enact a riverbank protection district, this would ensure greater protection.

5. Aquifers - As will be discussed in the Water Resources Management and Protection Plan, the U.S. Army Corps of Engineers and the USGS have identified and delineated a number of aquifers in South Hampton. The protection of these aquifers is crucial to South Hampton.

6. Slopes - Topographic conditions are an obvious natural constraint to development and all types of construction. A slope percentage is the number of feet of rise in land over a 100 foot horizontal distance. For example, a 3% slope implies a three foot change in elevation over the course of 100 feet. The topographic conditions in South Hampton have been put into four classifications, namely, 0-3%, 3-8%, 8-15% and 15-25%. For purposes of land suitability for development, the categories are established at 0-8%, 8-15%, and 15-25%.

   a. Slopes of 0-8% - Land in this percentage category represents areas, in terms of topography only, that are generally well suited for development. These slope percentages provide for adequate runoff and good construction sites.

   b. Slopes of 8-15% - This slope category has many of the same assets for development in terms of foundation construction and septic tank installation as does the preceding category. However, at 15% slope, the chances of erosion are more pronounced and land with higher slope percentages can be eroded through intensive development and the uprooting of trees. This problem can be overcome by minimizing the cut into the slope for foundation and driveway construction and moving earth only during the drier portions of the year. Site design considerations aimed at minimizing changes to an existing 10-15% slope are important in considering building and permit approvals. Where larger developments are being considered, engineering and landscape architectural review should be required prior to approval by the Town.

      Any road or driveway construction through land areas in the 8-15% slope category could present problems. Work construction must be so designed as to minimize potential land erosion and maintain a generally steady slope. Roads that exceed 10% in slope become difficult to negotiate in the winter months and grades of 12% and

above are almost impossible to travel in the winter without a four wheel drive vehicle. These problems of excessive grades can be overcome through road alignment that prevent excessive grades over long distances.

c. Slopes of 15-25% - Slopes in excess of 15% pose potential environmental constraints because of excessive erosion and lack of soil stability. Sometimes it is economically and environmentally feasible to use cut and fill techniques to reduce this effect on slopes between 15-25%. However, extensive caution must be used during construction to protect unvegetated slopes and to disturb as little of the natural vegetative cover as possible.

Road construction through these areas of steep topography between 15-25% is most difficult, if not impossible. The effect on vegetation and soil conditions should be an overwhelming consideration in reviewing any developments over 15% slope. Map 4 depicts the steep slope areas throughout South Hampton.

Planning Approaches for Open Space Protection

The previous section described the benefits of different types of open space lands, and some areas of notable value. However, for a more complete analysis of lands worthy of protection, a natural resource inventory should be performed. Priorities for land protection could then be set based on environmental benefits, imminent threat, accessibility, scenic beauty, recreational potential, fragility, and scarcity. The next step would be to piece together a protective strategy using an appropriate combination of approaches. Purchasing land fee-simple will give the Town ultimate control over its use, but may also be the most expensive means of land acquisition. However, federal and state matching grants can greatly reduce purchase costs.

Town options for conservation land protection include:

1) Option or Right of First Refusal - If landowners are not interested in any permanent protection method, they may be willing to grant an option or right of first refusal to the Town. An option establishes a price at which the Town could purchase the land any time during a specified period of years. A right of first refusal guarantees the Town the opportunity to purchase the land for a price equal to a bonafide offer from another party. It provides a legal means for the Town to become aware of a potential sale and an opportunity to respond.

2) Purchase and Resale - One possible option the Town could consider is the purchase of the property and subsequent resale of all or part with restrictions or limited development opportunities. In this way, the Town may be able to recoup more than its purchase cost through some creative planning, such as cluster development, on that part of the land not critical to open space benefits. This option would not apply to donated or purchased land that contains conservation easements restricting such resale.

3) Bargain Purchase - Buying the land for less than its fair market value reduces the purchase price for the Town and offers tax deductions to the seller. The difference between the fair market value and the bargain sale price may be used as a charitable donation by the landowner. Used in concert with the Trust for New Hampshire Lands Local Conservation Initiative Program (LCIP), a bargain sale of 50% could eliminate any expense for the Town.

4) Easements or Less-than-Fee-Interests

Conservation Easement - Landowners who do not want to develop their land can sell or, more commonly, give a conservation easement to the Town, and yet retain some property rights themselves. A conservation easement places perpetual restrictions on land use and provides for long term enforcement by the Town.

Purchase of Development Rights - Landowners sell the development rights to the Town, or state, thereby permanently protecting their land from development.

Both of these methods provide potential tax benefits to the landowner.

5) Regulation and Zoning - Through land use regulation, South Hampton has already begun to protect environmental quality and public health and welfare, A wetlands ordinance is currently administered by the Planning Board and enforced by the Board of Selectmen.

6) Tax Incentives - There are two ways in which property owners can benefit from keeping their land as open space: 1) Donation - landowners who donate their land, or easement restrictions, can receive tax benefits in the form of federal income tax deductions, potential estate tax benefits, and relief from property taxes. 2) Current Use Abatement Program - authorized by NH RSA 79-A, this program generally provides for reduced property assessments on parcels of field, farm, forest and wetland of 10 acres or more or on "natural preserves" of any size, recreational land of any size, or farmland generating more than $2,500 annually.

7) Public Programs - Designation of Prime Wetland: This program permits towns to designate some wetlands within their borders as "prime wetlands" because of their size, unspoiled character, fragility or uniqueness. Once prime wetlands are designated, the NH Wetlands Board is required to give special consideration to these areas. The Wetlands Board will not issue a dredge and fill permit without a public hearing. This program provides municipalities with a strong mechanism for protecting wetlands.

Map 4 Town of South Hampton, Steep Slopes (11 x 17)

Acquisition of Agricultural Land Development Rights: This program is administered by the Agricultural Land Preservation Committee (ALPC) and is designed to save important farmland throughout New Hampshire.

If the ALPC designates a farmland parcel as an "agricultural preservation restriction area", (after the landowner has applied to the program for consideration), the state will purchase the landowner's development rights in order to limit the land's use to only agricultural production. Criteria used to make this designation include: soils potential and suitability, threat of development, cost of the development rights, and the present use of the land.

Land Conservation Investment Program (LCIP): Established by the New Hampshire Legislature in 1987, this program provides $7 million in state matching funds to communities for the protection of land of local importance. In order to qualify for the funds, communities must complete an application explaining, in detail, the uniqueness of land to be preserved.

Land and Water Conservation Fund: All New Hampshire communities, school districts, and counties are eligible to apply for 50/50 grants for outdoor recreation and conservation land acquisition and park and playground facility development or renovation. Sites must be dedicated to public outdoor recreation use. Project selection for these limited funds is based upon a numerical rating priority system of project applications. The sponsoring government must have local legislative approval by warrant article or budget item for each specific project.

8) Pitman-Robertson Funds - The N.H. Department of Fish & Game receives Pitman-Robertson Funds which cover 75% of the fair market value of lands acquired by the Department for wildlife protection.

Recommendations

1) In order to identify important areas on which to focus its preservation efforts, the South Hampton Conservation Commission should undertake a natural resources inventory. Such an inventory would establish areas of critical concern that the Commission should direct its energies toward protecting.

2) The Town should develop an Aquifer Protection Ordinance which will serve to protect aquifers from encroachment and preserve a vital natural resource.

3) The South Hampton Conservation Commission should continue to encourage the preservation of land and assist residents with the various methods for preserving their land.

4) The Town should consider Prime Wetlands designation.

Historic/Architectural Areas and Landscape Vistas

The following information was developed by the Strafford Rockingham Regional Council Historic Preservation Assistance Project started in January 2, 1979, funded by a grant from the Comprehensive Employment Training Act. The survey of South Hampton was authorized by the Board of Selectmen, January 16, 1979. Initial field work was completed by March 15, 1979. The final inventory was presented to the Town on March 20, 1980.

The survey was undertaken to identify the cultural and landscape resources of South Hampton through 1979 inclusive. These resources include: districts, sites, buildings, structures, and objects significant in history, architecture, archeology, and culture. They also involve fields, stonewalls, orchards, fences, and other evidence of man's experiences on the land. These resources are of local, state or national significance. A site-specific survey was conducted for all structures and sites within the town boundaries.

In South Hampton the architecture is inseparably linked with the landscape. The Town was historically a farming community, and its landscape and architecture reflect this agricultural heritage.

Certain areas of South Hampton have concentrations or clusters of older structures, and these areas have been defined as "Historic/Architectural Areas." They are shown on Map 5 and keyed with a capital letter to be easily distinguishable from numbered individual sites. Areas of the landscape which retain their historic agricultural character have also been noted. The original character of the Town is relatively unaltered within these areas.

This key contains a description of the features and sites identified in each of these areas. They are grouped by road for easier location.

1. Main Avenue (AREA A)

At the northwest entry of South Hampton from East Kingston on Route 107A (Main Avenue) is a small Historic/Architectural Area (Area A) containing two early houses. From the town line, there is an impressive view to the southeast of open fields that serve as a reminder of the Town's agricultural past.

Anchoring the southern corner of the intersection of Main Avenue and Clement Lane is the Engstrom House, also known as the Norling House (Site 167), a 2 1/2 story, central chimney house built c. 1750. A short distance to the southeast and situated on a slight rise in the road is the Clement House, known historically as the Colonel Rufus Dow House (Site 168), a mid-nineteenth century Greek Revival house with an unusual, ogee-shaped pediment over its sidehall entry.

2. Main Avenue (AREA B)

Area B is located on Main Avenue at the midpoint between the East Kingston town line and Smith's Corner. It contains four houses of historic and architectural interest. Main Avenue at this point is bordered by open land that is framed by woodland.

Sited on a knoll, the four houses include two on the north side of Main Avenue and two on the south. They include examples of the Federal and Greek Rivival styles, two major architectural styles of the nineteenth century.

On the north side are the Clement House (Site 170), known historically as the Ephraim Fitts House, c. 1787, a 2 1/2 story Georgian style house, and the McCarthy House (Site 173), c. 1800, in the Federal style. On the south side of the road are the Shivik (Hull) House (Site 174), built c. 1790, now with a minimum of surviving detail, and the Harlow House (Site 175), known historically as the George Goodwin House. Known in the nineteenth century as the Cascade House Tavern, this house displays characteristics of the Greek Revival style such as gable front orientation to the road and a sidehall entry flanked by full-length sidelights.

3. Smith's Corner (AREA C)

The Smith's Corner Area (Area C) derives its name from the Smith family which was prominent in the Town of South Hampton in the nineteenth century. The area is centered around the intersection of Main Avenue and South Road, with a southern branch extending down Chase Road onto Old Stagecoach Road to the area known as Duck Island.

Architecturally, the core of the Smith's Corner area is a cluster of four houses at the intersection of Main Avenue and South Road, all mid-nineteenth Greek Revival houses with gable front orientation to the road and sidehall entry.

On the southwest corner of the intersection is the Bragg House, historically known as the Jacob Eaton House (Site 183). Behind this house to the south and west is a large expanse of open land that slopes away and toward the Powwow River.

On the northwest corner is the Smith house, once known as the Central House Tavern (Site 184), basically Greek Revival in style with interesting additions of detailing characteristic of the later Gothic Revival and Italianate styles, including decorative bargeboard at the eaves and cornice brackets. To the north and northeast of this house is an open field that follows South Road and ends just this side of the East Kingston town line.

Across the street from this field is the Embree House (Site 186). With plain pilasters framing its main block and other Greek Revival characteristics, the Embree House echoes the other houses of the same style that surround this important intersection.

On this northeast corner is the Hess House (Site 185), built c. 1840 and known locally as the Sam Prescott House. With the classical treatment of its recessed main entry and its main block connected to a large barn, the house contributes to the architectural cohesiveness of the Smith's Corner area.

Also included in this area are a part of Chase Road and Old Stagecoach Road running south to Duck Island. Woodland lines the west side of Chase Road, and on the east side there are three houses built in the twentieth century. Also on the east side of Chase Road the Richard Verge House (Site 194), a modest vernacular dwelling built c. 1790. To its south and set back from the road is the Spooner House (Site 195), a mid-nineteenth century house with gable front orientation to the road.

The area ends with the vernacular Paine House (Site 199), built by Frank Gile c. 1891. Located near the banks of the Powwow River on Old Stagecoach Road, the house overlooks an agricultural vista to its southwest that extends to a densely wooded area.

4. Old Stagecoach Road Area (AREA D)

Area D, situated on the Old Stagecoach Road near the East Kingston town line, contains only the Moses Eaton House (Site 193), a Georgian style farmhouse built c. 1750. This remarkable agricultural complex sits on a small hill surrounded by open land and includes an orchard, open fields and a distant landscape vista to the north. All of these elements combine to provide a strong visual link with South Hampton's agricultural tradition.

5. Main Avenue (AREA E)

Area E is located on Main Avenue just east of the Smith's Corner Area and contains two noteworthy houses of the early eighteenth century.

On the north side of Main Avenue is the Dennett House (Site 208), a Georgian style dwelling built c. 1727. It is situated prominently on a high rise of land and commands an exceptional view to the north and east of open fields extending to woodland.

Farther down Main Avenue, on the south side, is the Taylor House, historically known as the Reuben Currier House (Site 209). The main facade of the Currier House (also Georgian in style and built c. 1727) is oriented perpendicular to the road and the house is surrounded by woodland.

These two houses represent the same style and period in their design and, with their surrounding environment form a small but cohesive architectural and scenic unit.

6. Main Avenue (AREA F)

Area F is about a half mile long and is located between Smith's Corner and the Town center. All but one of the seven houses within the area are located along the north side of Main Avenue, and the entire area is bordered by fields that provide scenic vistas from both sides of the road. Particularly striking is a wide panorama of open fields extending to woodland that stretches northeast toward Indian Ground Hill and Chair Hill.

The area begins at the point where Grassy Brook crosses Main Avenue. At the western limit of the area on the south side of Main Avenue is the Quinn House (Site 216), a Greek Revival house with gable front orientation to the road, built c. 1840. Across from the Quinn House, on the north side of the road begins a chain of seven houses, four of which were built in the eighteenth and nineteenth centuries. The first house is the Donald Hellen House (Site 215), a house built c. 1930 with a jerkinhead (clipped gable) roof. Next door to this is the Nettie Hellen House (Site 217), a mid-nineteenth century farmhouse.

The Bonah House (Site 219), built c. 1860 and known historically as the John L. Currier House, with its attached carriage shed and barn, makes a strong statement about the area's agricultural past. Next is the Cressy House (Site 220), built c. 1770, which retains little exterior evidence of its early date but still contributes to the historic character of the roadscape. Site 222 is the Gosselin House, a modern Cape-style house built c. 1970.

At the southernmost limit of the area is the Coffin House, known historically as the Israel Sawyer House (Site 224), built c. 1765. This Georgian style "double house" is an unusual house type and a particularly important component of the historic roadscape. Architecturally, it is one of South Hampton's most interesting structures. To the southeast of the Coffin House is the Miller House (Site 225), a house of recent twentieth century construction.

Historically and aesthetically, the five early houses within this area and the open fields that surround them present an image of eighteenth and nineteenth century South Hampton that is worth preserving.

7. Town Center-Main Avenue-Hilldale Avenue (AREA G)

The Town Center Area G includes Barnard Square and runs southeast along Main Avenue to the Massachusetts State Line and westward along Hilldale Avenue to the house known historically as Isaiah Palmer House (Site 156).

The identity of any town is heavily dependent on its town center. In the case of South Hampton, the town center represents the popular ideal of a small New England town. It contains the Town Hall, the Barnard School, the Baptist Church, a Green, two cemeteries and a variety of residential buildings - all vital components of the center.

Within this area are 35 surveyed structures and three notable landscape vistas. The ratio of early structures to modern buildings is 3 to 2. A row of modern houses along the south side of Main Avenue has been excluded from this Historic/ Architectural Area (Sites 71, 68, 66, 65 62 and 61), although they do not detract from the streetscape.

Scenically, there are three important landscape vistas within the sight lines of the town center. One of South Hampton's most dramatic vistas lies to the northeast of Main Avenue - a wide panorama extending for several miles to the wooded slopes of Indian Ground Hill and Chair Hill.

To the west of the town center is a long stretch of open land, and to the southwest, a densely wooded area. Looking south from the intersection of Main Avenue and Jewell Street, one sees yet another landscape vista of open land and woodland that extends to Jewell Town.

Architecturally, the present appearance of this area is much the result of the "Hilltop Fire" in 1912, which spread throughout the town center, destroying six houses (including "The Hilltop", a large resort), six barns, a schoolhouse and damaging six other buildings including the church.

Public buildings now fronting the Green are the Greek Revival Town Hall (Site 164), built in 1832 and the Barnard Academy building (site 165), built at about the same time, also in the Greek Revival style. Early residential structures facing the Green include the Georgian style Haper House (Site 83), which was moved to its present location in 1976, the Fraser House (site 163), historically

known as the Major Moses Eaton, Jr., House, an excellent example of Federal style architecture, the Imbrescia House (Site 82), an early nineteenth century house also in the Federal style, and the Vozzella House (Site 86), built in the Colonial Revival style, c. 1912.

Two other structures that do not actually face the Green but are vital to the character of the town center are the Baptist Church (Site 116), in the Greek Revival style and the old Baptist Parsonage (Site 115), a 1912 Greek Revival reproduction of the original parsonage, which was destroyed in the "Hilltop Fire."

An interesting architectural aspect of the Town Hall, the Barnard School and the Baptist Church is the similarity of their design elements. They were built within two years of each other (1832-1834) and were designed to compliment each other.

Also on the Green, near the site of the Barnard School, is a marker indicating the site of South Hampton's first meetinghouse. To the west of the Green is the old town burying ground. (A newer cemetery is located behind the Baptist Church.)

On Main Avenue heading southeast toward the New Hampshire-Massachusetts border there are eight houses of historic/architectural interest. On the north side of the road is the Berry House, known historically as the Taxbury House (Site 78), a central chimney, Georgian style house that was used by the Baptists for services in the early nineteenth century. Across the road is the Santosuosso House (Site 77), a twin-chimney, Federal style house that was once known as the Parker Merrill Tavern.

Farther down Main Avenue on the south side is the Griset House (Site 73), known historically as the David Currier House, which shows the influence of several nineteenth century architectural styles, and across from it is the Sewell House (Page Homestead, Site 72), a Colonial Revival house that was moved to its present location in 1906. The Hartwell House (Site 70), a mid-nineteenth century Greek Revival house, was torn down in 1979, several months after this survey was begun.

On the north side of Main Avenue is the Mertinooke House (Jeremiah Ordway House, Site 67), South Hampton's only Georgian saltbox, built c. 1720. Farther southeast and set back on the north side of the road is the Syvenski House (Chair Hill Farm, Site 64), a simple vernacular farmhouse built in 1912.

Terminating this section of the area are the Woodman House (Site 60) on the south side of the road, a Georgian style "Half house" built c. 1795, and across from it, the Kiely House (Palmer House, Site 59), a restored central chimney house in the Georgian style. These two houses are located on the border near the "Delaware Bound," a granite marker indicating the state line and delineating the "Delaware Territory"

Returning to the town center and heading west on Hilldale Avenue, on the north side of the road one sees the Price House (G. Baxton House, Site 159), a Georgian style "I" house built c. 1795. On the south side of Hilldale Avenue is the Ross House, known historically as the Delaware House (Site 157), a vernacular house of the late nineteenth century, and the Isaiah Palmer House (Site 156), a central chimney Georgian style house built in the late eighteenth century. This house marks the western edge of the Town Center Historic/Architectural Area.

8. Currierville Area (AREA H)

Currierville, the site of one of South Hampton's oldest settlements, is located on the west end of Hilldale Avenue near the Newton town line. Its name derives from the Currier family, who were among South Hampton's earliest settlers. Of the original small community, only one dwelling survives, the Captain Jonathan Currier House (Site 122), a typical central chimney Georgian farmhouse located on the north side of Hilldale Avenue at the intersection of Hilldale Avenue and Lonegoose Road.

Several early Currierville houses were destroyed by fire, including those on present day Sites 123, 125, 126 land 129. Modern development has since occurred on these sites.
The Currierville Historic/Architectural Area (Area H) includes three residences and a cemetery. In addition to the above mentioned Currier House (Site 122), are the Wallace Verge House (Site 124) and the Cronin House (Site 121).

The Verge House, now displaying a jerkinhead (clipped gable) roof and a front porch, was originally a barn built c. 1790 belonging to Major John Currier and has been modified for use as a residence. Since the Cronin property was sold with design controls, the present house, although built in 1975, is visually compatible with its eighteenth century neighbor to the north, the Captain Jonathan Currier House.

Also an integral part of the Currierville area is an early cemetery located on the south side of Hilldale Avenue near the Newton town line. Surrounded by ancient pine trees, it contains many graves of the Currier family and of other families dating to the eighteenth century.

The landscape in the area is primarily re-forested. Dense woodland occurs particularly to the west of Lonegoose Road, north and south of Hilldale Avenue.

9. Hilldale Avenue (AREA I)

East of Currierville, on a half-mile stretch of Hilldale Avenue, is Area I, which consists of two Georgian style houses of the late eighteenth century and one twentieth century Cape style house.

On the north side of Hilldale Avenue is the True Farm (Site 139), a 1 1/2-story Cape style house built c. 1935. Its plain styling is in harmony with the simplicity of the neighboring Sanborn House, known as the Stockman Farm, c. 1785 (Site 143), located across the road and a short distance to the east.

On the north side of the road, about half a mile east of the Stockman Farm, is the Martin House, also known as the T. Sawyer House (Site 151), one of South Hampton's two surviving Georgian style "three-quarter houses," built c. 1780. The Martin House faces woodland across the road. Each of these three houses is set on open land that extends to woodland, framing each property and strongly defining the rural character of the area.

10. Jewelltown and West Whitehall Road (AREA J)

The Jewelltown Historic/Architectural Area begins south of the town center at the northern property lines of the Coffin House (Site 107) on the west side of Jewell Street and the Amsler House (Site 106) on the east side. The eastern edge of this district follows the eastern property line of Site 106 to the Powwow River, following it downstream to the Amesbury town line.

On the west side of Jewell Street, the district boundary again follows the Powwow River as it meanders around the Merrill House (Site 100) and then westward following West Whitehall Road to the Amesbury town line. The New Hampshire- Massachusetts border constitutes the southern edge of the area. The Jewelltown area was first settled in 1687, when it was a part of Amesbury according to the Shapley Line established in 1657, by a small group of settlers that included Thomas Jewell.

The key geographical factor in the eighteenth century development of the area was the Powwow River, which provided water power for South Hampton's earliest industries. By the year 1800, several mills were operating here, including saw, grist, planning and fulling mills. The river and the two bridges that cross it provide an important scenic element that remains an integral visual component of the area's character.

Jewelltown proper, surrounding the intersection of Jewell Street, West Whitehall Road and the Powwow River, contains nine houses (Sites 99-107, inclusive), at least three of which (Sites 101, 102 and 104) were either built by or owned by the Jewell family.

Architecturally, Jewelltown represents a cohesive grouping of primarily Georgian and Federal style houses of the eighteenth and nineteenth centuries, with one outstanding early twentieth century example of the Colonial Revival style. The Coffin House (Site 107), one of three Georgian "I" houses in South Hampton, is attractively positioned north of the bridge on the west side of Jewell Street, its front elevation facing south and overlooking a lawn that slopes down to the river bank.

Across the road and south of the bridge is the Oldak House (Site 104), an excellent example of a Georgian style house with Federal style modifications, which serves as a focal point at a bend in the road. The area surrounding the bridge is especially picturesque, with a variety of stately trees shading the houses on either side of the river.

Moving west on Jewell Street, one comes to a second bridge over the Powwow. The area surrounding this bridge contains a variety of trees, and the river bank at this point is lined by a granite retaining wall that adds to the historic character of this part of the district. East of the bridge on the north side of Jewell Street is the Merrill House (Site 100), c. 1915. It is an imposing Colonial Revival structure set in neatly landscaped grounds and framed by hedges and ancient trees.

Heading south on Whitehall Road, on the east side is the Miller House (Site 102), built c. 1740, an excellent intact example of the 2 1/2-story, central chimney Georgian style house type and thought to be the oldest house in the area. Farther south on the same side of the road is the Morse House (Site 101), a part of which dates to the eighteenth century (see Individual Survey Form, Site 101).

Moving north on Whitehall Road to its intersection with Jewell Street and heading west, one sees the Capp House (Site 99) on the south side of West Whitehall Road to the west of the bridge. The Capp House is a fine Federal style house built c. 1800. It overlooks orchards and open land to the south and typifies the popular ideal of an early nineteenth century farm complex.

Moving west of Jewelltown, West Whitehall Road is tree-lined and flanked by open fields and woodland extending to the Massachusetts border. A variety of eighteenth and nineteenth century architectural styles are represented here, and in spite of recent new construction within the area, it still succeeds in recalling an image of South Hampton's agricultural past.

All seven early houses of the West Whitehall Road section are on the north side of the road. The Gorski House (Site 98) represents the Greek Revival style of the mid-nineteenth century. It overlooks a large expanse of open fields, as does the late nineteenth century vernacular Holstrom House (Site 97). Sharing the same vista is the Georgian style Kimball Farmhouse (Site 96), thought to be the oldest house on West Whitehall Road and notable for its fine state of preservation.

Set back from the road and resting on a small hill surrounded by open fields is the Miller House (Site 93), in the Greek Revival style. Vestiges of a large barn and cider mill attest to the size of the original complex and enhance the visual interest of the site. The Yeaton House (Sites 91 and 92) was the last of the working farms on West Whitehall Road. The house itself is a simple vernacular farmhouse probably built around the time of the Civil War. Its barn and large chicken coop are located across the road, behind which is a large open-field agricultural vista.

The Brown House (Site 89) is a 1 1/2-story Cape style house with Greek Revival detailing. The visual terminus of this section is the 2 1/2-story, late nineteenth century Eaton House (Site 87), with gable front orientation to the road, and a sidehall entry topped by a door hood of the Victorian era.

Due to recent development of numerous apartment units on what was once open land across the border in Amesbury, the Jewell Town and West Whitehall Road district takes on added importance in assuring the continuity of an area that has managed to retain its historic/architectural character for the last 300 years.

11. Woodman Road (AREA K)

Area K is located high on the slope of Chair Hill. It contains a pair of 2 1/2-story Greek Revival style houses, both with gable front orientation to Woodman Road, and facing each other.

The Cornwell House (Site 55) is basically Greek Revival in style with some detailing of the later, Italianate style such as brackets under the eaves.
Across the road, the Richard Verge House (Site 56) features a closed pediment on its gable end, indicating a construction date during the height of the Greek Revival era of the mid-nineteenth century. Historically known as the Woodman Farm, this house was used as a meeting place by the Free Will Baptists between 1830 and 1849.

The top of Chair Hill and the area surrounding these houses has returned to forest cover, but sloping to the southeast is a panorama of open fields and farmland long associated with the Woodman Farm.

12. Highland Road (AREA L)

Area L is located along Highland Road and includes eleven structures (Sites 3-12 and 14) between Woodman Road and Old Route 150. The agricultural origins of the area are still reflected in its surviving farmhouses and in the large expanses of open land associated with them.

Cut into the slope of a hill in the northeast part of town, Highland Road provides the town with one of its most dramatic vistas - a sweeping view of open fields to the south.

The houses in this area range in construction dates from 1730 through 1976, about half of which were built before 1760, including a "half-house," and "I" house and a "three-quarter house," all Georgian in style. There are only two new houses in the area, and one of these is built in the "colonial" style, making it visually compatible with its older neighbors.

North of the intersection of Woodman Road and Highland Road, situated next to each other on a knoll, dominating the landscape, Sites 3 and 4 provide a most impressive focal point at the western edge of the area. Both the Berry House (Site 3) and the John Murphy House (Site 4) are excellent examples of the Federal and Georgian styles, respectively and graphically illustrate the differences in the two styles.

Travelling east on the north side of Highland Road, the McLaughlin House (Site 5) is a modern ranch-style house, set back from the road near the tree line. Next is the Carey House (Site 6), an eighteenth century Georgian style "three- quarter house" situated on a nicely landscaped lot lined by a stone wall. To the east and set back from the road is a new "colonial style" house (the Daniel Murphy House, Site 7).

Farther along, on the south side of the street, the Mignosa House (Site 8) is a Federal style farmhouse which sits on a 139-acre, originally agricultural lot. Across the street is an interesting Georgian style "I" house (the Mousseau House, Site 9). This house is on the site of "The Old Garrison House," an early defensive structure, no longer extant.

Next, on the south side of the road, is one of South Hampton's two surviving examples of the Georgian "half-house." This farmhouse (the Swensrud House, Site 10) is believed to have been built c. 1755. Sited on 24 1/2 acres of land and with a large barn, it still conveys a sense of its eighteenth century origins.

Across from Site 10, another early farmhouse is situated on property that still comprises 37 acres of agricultural land. This house (the Batchelder House, Site 12) displays an interesting combination of Georgian and Federal style ornamentation.

The final house in the area, the Kilcup House (Site 14), known historically as the William Towle House, is a typical 2 1/2 story, Georgian style farmhouse located prominently at the northwest corner of the intersection of Highland Road and Old Route 150.

The Highland Road area contains an important concentration of primarily Georgian style houses of the eighteenth century. This architectural identity, in combination with the area's special scenic qualities, make it one of South Hampton's most noteworthy historic/architectural districts.

Potential Archeological Areas

During the course of this survey a number of potential historic archeological areas were discovered. These areas include the sites of dwellings, barns, schoolhouses, taverns, mills, a garrison house, the town pound, a resort hotel, the Town's first meetinghouse, etc.

Since this report deals primarily with the town's existing architecture, further investigation by qualified archeologists will be necessary to determine the potential of these areas.

The Rockingham Planning Commission hopes that an awareness of the existence of these sites will encourage town planners and private citizens to undertake a program designed to protect them, so that future archeological investigation may be possible.

The following list contains the sites but purposely avoids giving exact locations. Lists with exact locations are maintained by the South Hampton Planning Board, the State Historic Preservation Office, and the Archeological Research Services of the University of New Hampshire in Durham.

1. Town Center

   Site of T. J. Goodwin Tavern
   Site of Alline Merrill House
   Site of Gilman P. Smith House
   Site of Charles W. White House
   Site of Hilltop House Resort Hotel
   Site of Parker Merrill Tavern
   Site of Town Pound
   Site of James Carr's Shop
   Site of Buxton House
   Site of Old Meetinghouse
   Site of First Congregational Church
   Site of Schoolhouse

2. Currierville

   Site of Mountain House Tavern
   Site of Capt. Jonathan Currier's Barn
   Site of Stagecoach Way Station (unverified)
   Site of James Hume House #1
   Site of James Hume House #2
   Site of Major John Currier House
   Site of Eliza-Ben Currier House
   Site of "Rose Cottage"

3. Hilldale Avenue

Canoe Canal
Site of and Early Farm, Historic Name Unknown
Site of J. J. J. Sawyer House
Site of Helen Woodman House

4. Main Avenue, Between Town Center and Massachusetts State Line

Site of Palmer-Purinton House
Site of Cyrus Atkins House
Site of Joseph True Merrill House
Site of Flanders Farm
Site of Delaware House

5. Smith's Corner Area

Site of Central House Tavern
Site of Moses Pierce Homestead
Site of Phillips White Tavern
Site of Barnes French House
Site of Clifton Berry House
Site of Schoolhouse
Site of Grist Mill and Brickyard
Site of Cascade House Tavern

6. Highland Road Area

Site of old Peak Schoolhouse
Site of Garrison House
Site of Town Posting Place
Site of a Farmhouse, Historic Name Unknown

7. Jewelltown

There was at least one mill on the Powwow River in Jewelltown, an area of town that was notable for its industry in the eighteenth and nineteenth centuries.

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Map 5 Town of South Hampton, Cultural and Landscape Resource Inventory Map (two 81/2 x 11 pages)

WATER RESOURCE MANAGEMENT AND PROTECTION PLAN

Introduction

This component of the Town of South Hampton Master Plan addresses the requirements, established by the New Hampshire Office of State Planning under the authority of RSA 4-C:20, I, for the preparation of local water resource management and protection plans.

The purposes of this chapter are to identify and describe surface and groundwater resources; to identify existing and potential threats to these resources; to evaluate the adequacy of water resources to meet the current and future needs of the Town; to evaluate existing local programs which have the potential to impact water resources; and to identify regulatory and nonregulatory programs that could further enhance water resource management and protection efforts.

The protection and wise use of water resources are of critical concern to the Town of South Hampton. With all but a very few residents of the Town dependent on groundwater, the quantity and quality of this resource must be protected from depletion and/or contamination. Other Town water resources, such as swamps, ponds, rivers, streams, and wetlands, are important not only because they are often hydrologically related to groundwater, but because they provide ecological, scenic and recreational value to the Town as a whole.

In general, there is a direct relationship between land use and water quality. Uses in areas with poor suitability can degrade and contaminate both surface and groundwater, increase flood hazards, destroy water-based wildlife and interfere with scenic and recreational values. It is the responsibility of the Town to take reasonable precautions to protect all water resources from incompatible uses and, in so doing, protect the health and general welfare of the community.

I. Description of the Surface Water Resources

Watersheds

The Town of South Hampton is entirely contained by the Powwow River regional watershed. This watershed was identified on the "New Hampshire Hydrologic Unit Map" (source: U.S. Department of Agriculture, Soil Conservation Service, May 1982). The watershed boundaries shown on Map 6 - "Regional Watershed Boundaries", were delineated by the Rockingham Planning Commission using 7.5 minute topographic maps (source: Sandown Quadrangle, NH; Kingston Quadrangle, NH; Exeter Quadrangle, NH-MA; Haverhill Quadrangle, MA-NH; Newburyport West Quadrangle, MA-NH; 7.5 minute topographic maps; U.S. Geological Survey, 1973).

A general description of the Powwow River Watershed is as follows:

> The receiving bodies of the Powwow River Watershed are Lake Attitash and the Merrimack River. The area of the Powwow River Watershed is 3,450 acres. The Powwow River originates in Danville at 270 feet above mean sea level (MSL) then travels to Long Pond, to Great Pond, to Powwow Pond, then southeast through East Kingston to Tuxbury Pond in South Hampton and Amesbury, Ma.. Amesbury's water treatment f plant is located within a bend in the river below the Tuxbury Pond Dam and then turns back into South Hampton through Jewelltown, then flows back into Amesbury where it becomes Lake Gardner.

Watersheds Within the Municipal Boundaries

South Hampton's Powwow Regional Watershed was divided into two sub-watersheds within the Town: Powwow River and Back River. These sub-watersheds are depicted on Map 7 - "Watersheds and Perennial Water Bodies.

The characteristics of each sub-watershed is described below. All of South Hampton's water bodies have a legislative classification of "B" (see "Potential Surface Water Supplies" of this section for more detail).

a. Powwow River Watershed:

> Within the Town of South Hampton, the Powwow River is fed by Grassy Brook and Pierce Brook. The Powwow River is a damned river and flows from an elevation of 116 MSL to 96 MSL, and is 14,500 feet long.

b. Back River Watershed:

> The Back River watershed is 1,350 acres (sq.mi.). The Back River originates in Kensington at 150 MSL and flows to an elevation of 75 MSL and flows southeasterly through South Hampton and into Amesbury, MA.. The Back River is free flowing and is a length of 10,000 feet.

The Back River is fed by two unnamed streams (coded as A and B) on Map 6.

TABLE 13
Unnamed Perennial Streams

Stream	Location	Length (ft.)	Elevation (ft.)
A	Southwest	1125	110 to 100
B	Southwest	3750	100 to 90
C	Southwest	2500	110 to 100
D	Central	1750	140 to 100
E	Northcentral	2000	179 to 100
F	Northcentral	4000	100 to 90
G	Northeast	3750	120 to 70
H	East	2250	140 to 0

I	East	3250	100 to 40
J	Central	1500	150 to 100

Note: "Length is the length of the stream within South Hampton. "Elevation" is the stream's elevation, above mean sea level, within South Hampton.

Map 6 Regional Watershed boundaries

Map 7 Town of South Hampton, Watersheds and Perennial Water Bodies (11 x 17)

South Hampton's Powwow River Watershed also contains one pond - Dennett Pond which is approximately 1.3 acres in size.

Table 14 - "Acreage of Wetlands and Floodplain Areas," presents a breakdown of the acreage of floodplain areas, and poorly drained and very poorly drained soils within South Hampton's two sub-watersheds. The areas for muck and ponded soils, both of which are classified as very poorly drained soils, are also inventoried.

TABLE 14
Acreage of Wetlands and Floodplain Areas

Sub-Watersheds	Powwow River	Back River
Wetlands	N/A	N/A
Floodplains	553 acres	N/A

Map 3 - "Wetlands," depicts the locations of wetland areas throughout South Hampton. This information was taken from an SCS County Soil Survey Map (source:
USDA Soil Conservation Service, May 1980).

Wetlands are defined as poorly and very poorly drained soils. Many of these wetlands are contained in South Hampton's 100-year flood zones, which are depicted on Map 8 - "Flood Hazards and Bedrock Geology". Flood hazard boundaries are those shown on the Town of South Hampton "Flood Insurance Rate Map" (effective date: June, 1989), published by the Federal Emergency Management Agency (FEMA). The only floodplains in Town surround the Powwow River.

Development should be located away from wetlands and floodplains. The filling of and use of wetlands for building construction not only destroys wetlands and their benefits, but may also lead to groundwater contamination. Building within a flood zone may also reduce the floodplain's capacity to absorb and retain water during periods of excessive precipitation and runoff. Moreover, in regard to building within floodplains, contamination may result from flooding damage to septic systems. Without specific flood-proofing design and construction, development within floodplains poses threats to public health, safety, and welfare.

In accordance with N.H. Code of Administrative Rules (Wr700), the Water Management Bureau (of the Water Resources Division, N.H. Department of Environmental Services (DES)) compiles data on all water users throughout the State which withdraw or discharge more than 20,000 gallons of water per day. According to the Bureau, the Town of South Hampton presently has no major users of surface water.

The Powwow River is the largest river in South Hampton; and has a legislative classification for water quality of "B" which means that the water is swimmable and fishable, but would not be potable without treatment. According to the New Hampshire Water Quality Report to Congress 305(b), the Powwow River is in compliance with the water quality standards set by their legislative classification (source: N.H. Department of Environmental Services, Water Supply Map 8 and

Pollution Control Division; April 1988). This is true for all of the water bodies within South Hampton as well. Although the Powwow River is suitable as drinking water if treated, the Town of South Hampton has no water useage rights to the Powwow River because they have been owned by the Town of Amesbury, Ma. since the 1940's.

At this time, the most economical and practical source for public water from within South Hampton would be from groundwater, which typically requires much less treatment.

II. Description of Groundwater Resources

The term "aquifer" is defined as earth material containing sufficient quantities of groundwater for pumping. The 1977 USGS/Cotton Maps (described below) has delineated an aquifer area in South Hampton that could be utilized as a potential municipal water supply.

Stratified Drift Aquifers

The groundwater resources of South Hampton have been investigated by two federal agencies: the U.S. Army Corps of Engineers (USACE) and the U.S. Geological Survey (USGS). Both of these agencies based their findings on the surficial geology of the Town. They assumed that areas in Town which contained stratified drift formations would also yield the greatest amount of groundwater.

The USACE classified small parts of northeastern and southwestern South Hampton as having an aquifer defined as "an unconsolidated geologic formation containing a minimum of 20 feet of saturated permeable material which will yield significant quantities of water to wells for public usage. Generally, this range is in the order of 150 gpm per well" (source: Groundwater Assessment Study for 50 Communities in Southeastern New Hampshire, USACE; September, 1980).

Three years previous to the USACE report, the USGS also identified the same small northeastern and southwestern sections of South Hampton as having high potential to yield water. Wells located "within these areas should yield sufficient quantities of water to meet or augment municipal and industrial requirements." In addition, a small sliver of southwestern South Hampton was identified as having medium potential to yield water. Wells located "within these areas may yield sufficient quantities of water for small municipal and rural water districts and commercial and light industrial use". A more significant portion of western South Hampton was identified as having a low potential to yield water. Wells located "within these areas may yield sufficient water to wells for domestic and light commercial use". (See Map 9 - "Aquifers and Wells".) (Source: Availability of Groundwater in the Lower Merrimack River Basin, Southern New Hampshire, J.E. Cotton, USGS; 1977.)

Map 8 Town of South Hampton, Flood Hazards & Bedrock Geology (11 x 17)

The latest and most reliable source of information concerning stratified drift aquifers is from the N.H. State Geologist Office. In early 1983, the surficial geology map for the Kingston Quadrangle was finalized. In 1988, the surficial geology map for the Exeter, NH Quadrangle was finalized. These maps assist in the definition of the actual length and breadth (surface area) of stratified drift aquifer deposits. The stratified drift formations, as identified for South Hampton from the three sources described above, have been depicted on Map 9.

The surficial geology mapping currently provides the most accurate delineation of the Town's stratified drift aquifers. However, it should be noted that surficial geology is based on the earth material at depths ranging from five to ten feet. Thus, it is entirely possible for an aquifer formation to have a greater lateral extent at greater depths than what is delineated by a surficial geology map.

The most thorough study to date of the Seacoast Region's groundwater conditions is currently being undertaken by the U.S. Geological Survey (USGS). Their study will be titled "Groundwater Resources of the Lower Merrimack and Coastal River Basins of Southeastern New Hampshire", and will be published sometime during 1991 or 1992. The report will identify stratified drift aquifers within South Hampton and will quantify important pumping factors, such as water table elevation, saturated thickness, transmissivity, direction of groundwater flow, and water quality. Once available, the information as it pertains to South Hampton should be incorporated into this plan.

Various State agencies collect important water resource data throughout New Hampshire. According to the State Water Management Bureau, South Hampton has no major users of groundwater. According to the Water Resources Division of the N.H. Department of Environmental Services (DES), 32 wells were reported as being completed between April 1984 and November 1988. The well log data is presented in the "Summary of Well Completion Report Data for the Town of South Hampton", dated April 18, 1989, and is contained herein as Appendix I.

Map 9 depicts the locations of seven of these wells which were mapped by the Water Well Board of the N.H. DES (denoted by circles). Of these, none are located within a stratified drift aquifer, as identified by the N.H. State Geologist.

Map 9 Town of South Hampton, Aquifers and Wells (11 x 17)

Bedrock and Till Aquifers

The State Geologist map (previously cited), which depicts South Hampton's surficial geology, contains information regarding the location and extent of till (and marine sediment) formations. In general, till material has poorly sorted grain sizes, which results in limited porosity, transmissivity and hydraulic conductivity. Given these qualities, till formations would not be suitable for municipal water supply wells.

The bedrock geology of South Hampton was determined using the "Geologic Map of New Hampshire", U.S. Geological Survey/State Geologist (1986), prepared at a scale of one inch equals approximately four miles. As previously stated, Map 9 depicts the bedrock wells which were mapped by the Water Well Boards. In addition, the fault lines of different formations are shown on Map 8.

South Hampton has two general types of bedrock geology:

1) Eliot Formation (OZe): gray to green.

2) Berwick Formation (OZb): purplish biotite - quartz - feldspar granofels or schist, with interbeds or bouding of calcareous - silicate granofels; some metapelites.

Appendix I includes a list of well log data for South Hampton. Map 9 depicts the locations of 17 wells (mapped by the N.H.DES) that are located outside of the stratified drift aquifers previously identified. Each of these wells are drilled into bedrock at depths ranging from 102 to 405 feet. Discharges from these wells ranged from 2 to 100 gallons per minute.

Potential Groundwater Supplies

Groundwater is a very valuable resource for the Town of South Hampton. It has the potential to provide the Town with drinking water for many generations to come. However, the resource is vulnerable to contamination or depletion if not properly managed and protected.

Groundwater quality can be impaired by a variety of materials. Sources of groundwater contaminants include landfills, commercial and industrial wastes, agricultural fertilizers, human sewage, road salting, etc. Groundwater quantity is reduced by contamination of available groundwater supplies, over-pumping in the aquifer zone, and increasing impervious surfaces such as roof tops and parking lots, thereby preventing recharge of the aquifer. These threats to groundwater are discussed further herein (see Section III).

As shown on Map 9, South Hampton contains portions of stratified drift aquifers which lie predominantly in abutting towns. These aquifer areas are briefly described below:

1) The aquifer zones along the eastern border are a part of an aquifer contained in Seabrook and Kensington, NH. According to the surficial geology map of the Exeter Quadrangle this aquifer has a medium thickness (stratified as much as 50 feet thick).

2) The south - central aquifer is a part of an aquifer that extends into Amesbury, MA. This aquifer appears to be split in half by South Hampton, N.H. and Amesbury, MA.

3) The western aquifer is shared with East Kingston, NH.

All of South Hampton's stratified drift aquifers, lying partially within Town, were evaluated for their potential to be used as a public drinking water supply within the next ten years.

The Water Supply and Engineering Bureau requires periodic water quality testing of public water systems throughout South Hampton. However, no public water systems are located within South Hampton's aquifers. The groundwater within the Town's aquifers is primarily available or is being used for private home use. Hence, the only current water quality information for South Hampton's primary aquifer is from the USGS test well (see Appendix II).

South Hampton's primary aquifer contains assorted potential pollution threats. These include: a closed landfill located on the very eastern border of Newton (not located in South Hampton) and road salt application along Routes 150 and 107A. A full description of these threats is presented within Section III, entitled "Identification of Potential Threats to Water Resources", and on Map 10 - "Potential Pollution Sources", contained herein.

An area within South Hampton's primary aquifer is zoned as residential. The remaining area overlaying the aquifer is also zoned as residential. Given the extent of vacant land within the aquifer area, there is high potential for further development, with additional private wells to serve future residential and commercial uses. The Town should continue to closely scrutinize and monitor development in these areas in order to prevent potential groundwater contamination or depletion.

As previously discussed, the USGS expects to publish information regarding South Hampton's aquifers sometime during 1990. This report will quantify important pumping factors which will assist in determining the aquifers best suited for additional water supplies.

Map 10 Town of South Hampton, Potential Pollution Sources

Identification of Potential Threats to Water Resources

Potential Nonpoint Pollution Sources

A. Within South Hampton

1. Existing Potential Pollutant Sources:

Nonpoint sources of pollution involve the diffuse discharge of wastes from sources which are widely spread, difficult to identify, and hard to control. Nonpoint pollution is typically produced from land runoff during times of rain and snowmelt.

Table 15 is a general list which briefly describes potential nonpoint pollution sources, and their associated mitigation techniques, within the Town of South Hampton:

TABLE 15

Nonpoint Pollution Sources and Remedies

Source	Remedy
subsurface sewage disposal	replacement and/or relocation;
agricultural runoff and infiltration	best management practices, e.g., concrete manure pits, no winter manure-spreading, etc.
road salt storage and	salt sheds, decrease salt to sand ratio, application emphasize mechanical snow removal using plows, graders, etc., reduce frequency of application; increase use of calcium chloride and other de-icing chemicals;
storm runoff from construction sites	erosion control measures e.g., haybales, silt fences, straw mulch, etc.;
storm runoff from parking lots	catch basins which trap grit, oil and/or grease;
sediments from silted-in catch basins and detention ponds	maintenance programs
application of fertilizers pesticides to of lawn care, etc. timing gardens, and lawns.	integrated pest management, e.g., soil and farmland, testing, biological pest control,

runoff/leachate from junkyards	drainage collection/treatment systems, and abandoned landfills and proper disposal of hazardous materials, e.g. battery acid, gasoline, etc. with a certified hauler;
leaking underground storage tanks	remove abandoned tanks, monitor and regulate existing tanks;
roadside application of insecticide for mosquito control	biological pest control, e.g., use of non-toxic insecticides such as bacteria which attacks mosquito larvae.

In 1982, the Water Supply and Pollution Control Division (of the N.H. Department of Environmental Services (DES)) published a report entitled: Inventory of Groundwater and Surface Water Potential Nonpoint Pollution Sources. The report's scope covered most of Strafford and Rockingham counties. South Hampton was cited as having the following potential nonpoint pollution sources:

- Salted Roads: South Hampton contains several roads that are subjected to substantial winter salting. Road salting should be minimized within the Town's aquifer area.

- Underground Storage Tanks: As of March 1989, the N.H. Department of Environmental Services had identified 6 underground fuel storage tanks, all of them located at a site on Route 150. The capacity of these tanks range from 2000 to 10,000 gallons, while the ages range from 7 to 18 years. Detailed data relative to tank location (by street address), owner's name, tank number, capacity, type of product stored, and the tank's age is presented in Appendix III, "Inventory of Underground Storage Tanks." The underground storage tanks within South Hampton are single-walled and have no leak detection systems. All of the tanks are constructed of asphalt-coated steel. No other underground storage tanks have been proposed, based on Planning Board files for nonresidential development, as of July 1989.

  The sites described above are depicted on Map 10.

In addition to these non-point source pollutant categories evaluated by the 1982 Inventory, excavation sites are also of concern. South Hampton contains one gravel pit within its primary aquifer. Substantial excavation poses a potential threat to an aquifer's water quality and quantity. By removing the aquifer's cover soils the site's capacity to filter pollutants is reduced. This problem may become acute if development is located in this area, and groundwater quality is threatened by poorly-treated septic system effluent. In general, when protective layers of earth material

are stripped away, the groundwater is left more vulnerable to contamination (e.g., a site with an exposed water table being contaminated by fecal wastes from animals). Moreover, when earth is excavated too close to the water table, flooding problems can ensue from unusually wet years and high water tables.

Although naturally-occurring, radon has a significant potential for nonpoint source pollution. Radon contamination in water has recently become a concern throughout the U.S. Radon is a colorless, odorless, cancer-causing gas produced as uranium (typically occurring in trace amounts) decays. This gas escapes from water once it is brought up from the ground. For example, when a shower is used in a home with radon-containing water, radioactive gas diffuses into the air. Hydrogeologists at UNH's Department of Earth Sciences report that water from deep, bedrock wells is more likely to carry radon than water from shallow wells or those in gravel deposits.

Several years ago New England was surveyed for its susceptibility to radon using remote sensing techniques. A map was produced from this project entitled: "Generalized Bedrock Geologic Map of New England with Emphasis on Uranium Endowment and Radon Production," (W.J. Olszewski, Jr.; UNH, 1986). Around this time, the U.S.G.S. drafted a map (unpublished, but available for inspection at the State Geologist Office) showing the uranium concentration in rocks throughout New Hampshire. In April, 1989, the State Geologist devised a "radon susceptibility rating" system for the bedrock types in the region, based on the probability of radon occurrence. This rating system ranged from "Very Low" to "Very High". The bedrock types listed above and shown on Map have been rated as "medium" for OZe and OZb formations.

2. Future Potential Pollutant Sources

   a. Near Term - As of September, 1990 the South Hampton Planning Board did not approve any residential or nonresidential development which could be considered a future potential pollutant source.

   b. Long Term - Only a small area of commercial land lies within South Hampton's aquifer. When reviewing future developments within these districts, runoff from commercial and industrial sites should be considered as potential sources of nonpoint pollution to groundwater and surface waters.

B. Contributing Areas Outside of South Hampton

As previously discussed, South Hampton's aquifers which lie only partially within the Town borders are not considered suitable as a municipal water supply source. Hence, this plan does not evaluate potential nonpoint contributions of pollution to the Town's groundwater from surrounding communities.

There are several surface water bodies that flow into South Hampton from abutting communities.

1. East Kingston

   The Powwow River flows into South Hampton from East Kingston. This water body flows through mostly undeveloped land.

   The southern part of East Kingston is zoned residential/agricultural, and contains low density residential areas along existing roads, and within both conventional and cluster subdivisions. The Future Land Use map of the East Kingston Master Plan (1987) recommends that this area remain residential/agricultural with the exception of 60 acres of land zoned light industry which follows Route 108 at the South Hampton Town Line and is bordered by the Powwow River.

   East Kingston's Zoning Ordinance allows residential, agricultural and forestry uses.

2. Kensington

   The Back River and Hog Hill Swamp flow into South Hampton from Kensington. This water body flows through the residential portion of Kensington.

   The western part of Kensington is zoned for low density residential development (two acres per dwelling). The proposed Future Land Use map of the Kensington Master Plan (1989) recommends that this area remain as low density residential.

3. Newton

   Two unidentified streams flow into South Hampton from Newton (see Map 7). Stream A is located in the eastern portion of Town flows through mostly low density residential development, and undeveloped woodlands and fields. Stream B is also located in eastern Newton, but 1 mile south of stream A, and flows through low density residential development, and undeveloped woodlands and fields, with a very small portion flowing near single-family housing.

   The eastern part of Newton in this area is zoned predominantly low density residential. The proposed future land use map of the Newton Master Plan (1988) recommends that this area remain as low density residential.

4. Seabrook

There are no rivers or streams which flow into South Hampton from Seabrook or into Seabrook from South Hampton. The western portion of Seabrook abutting South Hampton is referred to as Zone 1 which allows recreational purposes, single and two-family dwellings, professional offices, municipal buildings, churches, schools, and accessory uses. Currently, the western portion of town is relatively undeveloped with single-family homes predominant.

5. Salisbury, MA

The Back River eventually flows from South Hampton into Salisbury, MA, via Amesbury, MA, where it becomes the Lucy Brook and finally terminates in Seabrook, NH. Otherwise, only the northwestern corner of Salisbury abuts South Hampton. Currently, the northwestern portion of Salisbury is commercial along major streets and residential along the minor streets. This area is currently zoned commercial (1 acre lots along roads), and low density (2 acre lots) in the backland areas.

6. Amesbury, MA

The Powwow River, Back River, and one unnamed stream flow into Amesbury from South Hampton. The Powwow River flows into Tuxbury Pond which then flows east and north and gradually south where it deposits into Lake Gardner. The Back River also flows south into the northeastern corner of Amesbury, where it eventually becomes Clarks Pond. The unnamed stream flows from the south-central part of South Hampton, across Woodman Road, and south into the northeastern portion of Amesbury, and then flows easterly into Lucy Brook in Salisbury.

Amesbury is an important abutting community, as there is a considerable volume of water which is just south of Town. Currently, there is lakeside development along Tuxbury Pond, Lake Attitash and less so along Lake Gardner. Zoning in the area of Tuxbury Pond and Lake Attitash is low density residential, residential cluster, open space conservants, and wetlands/floodplains.

Point Pollution Sources

In May, 1989, the Rockingham Planning Commission reviewed public files, maintained by the New Hampshire Department of Environmental Services, in order to locate potential point pollutant sources in South Hampton. The findings are as follows:

A. There were no permits issued under the National Pollutant Discharge Elimination (NPDES) for surface water discharges.

B. No permits have been issued in South Hampton for a groundwater discharge in accordance with the NH Code of Administrative Rules, (Ws 410).

IV. ASSESSMENT OF GROWTH IN DEMAND FOR WATER

Projected Growth in Demand For Water

In June 1987, the Water Management Bureau, of the NH Department of Environmental Services' Water Resource Division, initiated the Water User Registration and Reporting Program. The objective of the program is to gather accurate data on the major uses of the state's water and the demands placed upon aquifers, streams, and rivers. To accomplish this objective, all facilities which use an average of 20,000 gallons (or more) of water per day must register with the Division. According to the Bureau's latest list (October 1988), the Town of South Hampton has no users of 20,000 gallons of water per day.

The lack of detailed data on water usage makes it extremely difficult to quantify water consumption and to identify changing trends in water use. An attempt was made to calculate the gross daily consumption from residences using household and population data published by the N.H. Office of State Planning. In 1988, South Hampton's estimated population was 706 persons with approximately 2.7 persons per household, which translates into 258 households. Assuming that the average household contains three bedrooms, and using the standard of 150 gallons per day per bedroom (source: "Subdivision and Individual Sewage Disposal System Design Rules", N.H. DES, Water Supply and Pollution Control Division, April 1987), South Hampton residences used 116,100 gallons of water per day in 1986. The same calculation was used to project residential water demand for the year 2000. With a projected population of 1149, and average household size of 2.70 persons, and 426 households, South Hampton residences will use 191,700 gpd during the year 2000.

The water demand for the non-residential sectors will be entirely dependent upon what types of commercial or industrial uses locate within South Hampton, and whether or not they are water-intensive uses. At this point, however, it is assumed that the residential water demand will account for the majority of South Hampton's water usage during the next 10 to 20 years. During this time, the bulk of South Hampton's water demand will be met through the use of private wells.

In summary, it is emphasized that during the next 10 to 20 years more information should be gathered regarding the type of land uses occurring in Town, and their respective demands on water. This information may warrant new assumptions as to South Hampton's future water demands.

V. DESCRIPTION OF THE INFRASTRUCTURE

A. Septic System Usage

Using 1988 OSP Population estimates, approximately 706 residents are served by septic systems. South Hampton has no municipal sewer systems and is not planning on developing one in the foreseeable future.

Occasional septic system failures have occurred throughout South Hampton. As of January 1991, the Town Health Officer estimated that approximately 45 systems have failed during the past 10 years. These failures have been attributed to improper construct8ion, overloading (relative to system design), old age, and poor soil conditions (i.e., high water table, clay soils).

South Hampton has a high potential for growth in its number of septic systems. Given the expense of wastewater treatment facility construction, and the diffuse development pattern in much of Town, it is probably that all future development (at least during the next 10 years) will be served by septic systems.

South Hampton's Building Regulations and Subdivision Regulations require that "all dwellings and buildings in private or public use shall be equipped with a sewage and water system which meets or exceeds the specifications of the N.H. Water Supply and Pollution Control Commission".

B. Soil Potential Ratings

Using national standards, virtually all of South Hampton's soil types have received a "severe" rating for septic system development. In fact, there are only a few soils throughout Rockingham County that are not classified as having "severe" limitations for septic system development. In light of this, the Rockingham County Conservation District (RCCD) and the USDA Soil Conservation Service developed a more meaningful set of land use guidelines based on soil types.

In May 1987, the "Soil Potentials for Development – Rockingham County" manual was published by the RCCD. Five soil potential classes were provided: very high, high, medium, low and very low. Low and very low potentials are assigned to those soils having severe soil limitations, with costs of design measures extremely high or prohibitive.

Map 11 – "Soils Suitability for Septic Systems" - depicts the general areas of South Hampton which have different soil potentials for septic system development. Soils with low and very low potential were mapped because they had limitations due to steep slopes or high water tables (as well as high shrink-swell properties, short depth to bedrock, and stoniness).

C. Solid Waste Disposal

The Town of South Hampton is a member of the Southeast Regional Solid Waste District. It is a 21-town planning district organized under RSA 149-M. In addition, the Town voted to join the Southeast Regional Refuse Disposal District in March, 1988. The SRRDD is an 11-town

implementation district organized under RSA 53-B. The Town of South Hampton currently has no solid waste disposal facility. As of January 31, 1990, South Hampton's trash is taken to the Kingston Landfill. Their contract will expire in December of 1990; however, they intend to renew the contract, and will most likely continue to rely on this site in the future.

South Hampton currently has a recycling committee which continues to investigate recycling alternatives.

South Hampton residents can dispose of household hazardous waste (e.g., batteries, lead paint, pesticide, solvents) at the annual Household Hazardous Waste Collections organized by the Rockingham Planning Commission.

D. Public Water Supply

Map 9 shows the location of four public water systems, all of which draw from groundwater. These wells are "non-community" systems.

The Water Supply and Engineering Bureau requires periodic water quality testing of public water systems throughout South Hampton. As of June 1989, the Bureau had water quality information for wells A, B, C and D. The test for these wells generally showed good water quality. However, well "A" had elevated levels of manganese, at 0.05 mg/l. The maximum contaminant level for manganese, set by the Federal Safe Drinking Water Act of 1977, is 0.05 mg/l.

Table 16
Water Quality Data for Public Water Systems

Well (Map 9 symbol)	Sampling Date	Manganese (*MCL=0.05 mg/l)	Chloride (*MCL=250 mg/l)
A	1/84	0.05	15.0
C	5/82	0.03	6.0

* MCL is an acronym for Maximum Contaminant Level. These standards were set by the Federal Safe Drinking Water Act of 1977.

Since the Public Water Supplies, Facilities, and Policy Summary (updated November 1987, previously cited) does not include data on systems which serve fewer than 500 persons, specific information (e.g., treatment, storage capacity, fire flows, metering, customer cost, and leak detection) was unavailable for two of South Hampton's four public water supply systems. For general information, see Appendix IV – "Public Water Systems Inventory".

E. Public Waste Water Treatment

There is no municipal waste water collection and/or treatment system within South Hampton; and neither is foreseen to be constructed during the next ten years. Since must of the development in Town is spread over a wide area, it would be economically unfeasible and undesirable to develop a

municipal sewer system that covers a large portion of Town. Hence, it is important that natural resource information, especially soils type, be utilized in order to assure the continued safe and sanitary on-site disposal of the community's sewage.

VI. DESCRIPTION OF EXISTING PROGAMS AND POLICIES

Each ordinance and regulation in South Hampton was reviewed for the purpose of identifying the elements of each which have the potential to impact on any of the following eight water resources parameters (WRP):

1) Erosion and sedimentation;
2) Surface water flows;
3) Groundwater recharge;
4) Management of existing and potential contaminant sources;
5) Flood storage;
6) Encroachment on wetlands;
7) Nutrient levels; and
8) Wildlife and fisheries habitat.

Zoning Ordinance

Wetland Conservation District (Article VII, Section C): This section prohibits the erection of any structure or altering of surface configurations by the addition of fill in the poorly or very poorly drained soils identified in the Soil Survey, Rockingham County, New Hampshire, issued August 1959, and revised for South Hampton's Zoning Ordinance by the USDA Soil Conservation District Service. Adopted in 1972, the Ordinance has been amended on three occasions, the last being 1990. The intention of this ordinance is to accomplish the following selected purposes which relate specifically to water resources:

a) To prevent the development of structures and land uses on naturally occurring wetlands which will contribute to pollution of surface and ground water by sewage or toxic substances (WRP 1, 4, 6 and 7); and
b) To prevent the destruction of natural wetlands which provide flood protection (WRP 1, 2, 3, 5 and 6);

General Provisions (Article III, 2a and c): These provisions require new buildings or structures to conform to the full edition of B.O.C.A. Code, and that all dwellings and buildings in private or public use shall be equipped with a sewage and water system which meets or exceeds the specifications of the New Hampshire Water Supply and Pollution Control Commission.

Floodplain Management District (Article XVIII): Prohibits encroachment from fill or new construction that results in any increase in the 100-year flood levels (WRP #5); provides construction standards for buildings and septic systems within the 100-year floodplain (WRP #4).

Subdivision Regulations

General Requirements for the Subdivision of Land (Section V.B): This section prohibits the platting for residential occupancy, or such other uses as may increase danger to health, life, property or aggravate the flood hazard due to the peril from fire, flood or other menace. In addition, no floodway shall be obstructed.

Section V.M of the subdivision regulations requires that lots shall be laid out and graded to eliminate flood or stagnant water pools.

Section V.P of the subdivision regulations requires that water courses proposed for public control shall have a permanent easement of not less than 20 feet.

Section V.Q, Utilities of the subdivision regulations requires that for the location of on-site disposal systems, a series of percolation test taken one to an acre in the subdivision be performed. Such sewage systems shall be set back at least 100 feet from surface water.

Where a group sewage disposal system, serving one or more lots, is proposed, the design and specifications for same shall be submitted and shall have been certified to by a professional engineer, qualified and registered under applicable N.H. Statutes.

Section V-R of the subdivision regulations requires that when an individual on-lot supply is proposed, it shall be the responsibility of the subdivider to provide adequate information and operation of both individual on-lot water and sewer systems, where there is no group sewage disposal system proposed.

Each water system shall be at least 100 feet from any portion of a septic tank or drainage field and shall be constructed in accordance with the U.S. Department of Health, Education and Welfare publication titled “Manual of Individual Water Supply Systems”.

When group water supply systems, serving more than one lot, is proposed, the design and specification for same shall be submitted and shall have been certified to by a professional engineer, qualified and registered, and the proposed system shall meet applicable requirements of the State Water Supply and Pollution Control Commission and the State Public Utilities Commission.

Section V.S, Water Holes and Dry Hydrants of the subdivision regulations requires a subdivision plan of 5 to 9 house lots shall provide for a water supply of no less than 10,000 gallons of water the year around which, connected to a hydrant, will provide for such water supply within 1,200 feet of each dwelling unit measured along a road.

A subdivision plan of 10 or more house lots shall provide for a water supply of no less than 1,000 gallons of water per minute for a period of not less than one hour the year around which, connected to a system of hydrants, will provide for such water supply within 1,500 feet of each dwelling unit measured during a road.

Section V.S also requires that the subdivider install a dry hydrant(s) as deemed necessary by the Chief of the South Hampton Fire Department.

Sand and Gravel Ordinance

South Hampton has had a gravel ordinance in place since the 1960's. However, the Town has not adopted regulations under the states enabling legislation under RSA 155:E. The Planning Board does however currently regulate gravel pits under RSA 155:E without the amendment to the ordinance.

VII. ANALYSIS

Analysis Regarding Water Supplies

As discussed in the Section IV entitled "Assessment of Growth in Demand for Water", virtually all of South Hampton's water supply is derived from individual private wells. It is assumed that his type of supply will meet the Town's demand for at least the next ten years.

Analysis Regarding Other Water Resource Purposes

a) Discharges: There are no significant sources which discharge waters into the Town's groundwater or surface water. Therefore, there is presently no need to determine the "assimilative capacity" of South Hampton's water resources.

b) Wetland: There are several different types of wetlands, which include: marshes, meadows, shrub and wooded swamps, and bogs. Wetlands are important, valuable natural resources and worthy of protection from inappropriate use. They have been found, in general, to provide critical ecological and socially valuable functions, including:

1) provide habitat and reproduction areas for plants, fish and wildlife;
2) help maintain ground and surface water levels;
3) act as flood water storage areas;
4) absorption and filtration of pollutants and sediments (cause by upstream erosion);
5) provide opportunities for recreation and education; and
6) visual aesthetics.

The filling of and use of wetlands for building construction not only destroys wetlands and their benefits, but may lead to groundwater contamination as well. Leaching fields constructed in filled areas are likely to be placed too near the seasonal high water table below and to have an inadequate receiving layer for proper treatment of the septic system's effluent.

There is an ongoing need to protect wetlands in South Hampton. Statewide, wetlands are under increasing development pressure due to the depletion of the most developable land. Although the State of New Hampshire has laws and regulations in place (RSA 483-A,

administered by the Wetlands Board and RSA 149 8:A, administered by the N.H. Water Supply and Pollution Control Commission), they do not always provide the degree of protection needed. For these reasons, local control over the use of wetlands should remain in effect indefinitely. The Town of South Hampton has recognized the importance of preserving wetlands, and has acted accordingly by establishing a Wetlands Ordinance which was rewritten by amendment in March, 1990.

c) Fisheries: The Powwow River and Tuxbury Pond are the two most commonly fished waters in South Hampton. Each spring, the N.H. Fish and Game Department stocks the Powwow River with Easter Brook Trout and Rainbow Trout. In addition, Tuxbury Pond is the location of a warm water fishery.

South Hampton must safeguard its surface water quality in order to provide the opportunity of sports fishing for present and future townspeople.

d) Wildlife Habitat: River, stream and wetland corridors provide the richest habitat for the greatest number of fish, wildlife, and flora. Fish and wildlife populations cannot succeed within a limited range, and waterfowl and other birds need ground-level nesting habitat. Protection of these linear corridors is essential to the stability of wildlife populations.

Riparian corridors (i.e., riverbanks) also contribute much in terms of recreational benefits, i.e., canoeing, hiking, fishing, birding, horse trails, cross country skiing, picnicking, etc. Shorelands are also sensitive to flooding, erodibility, and proximity to open water. Moreover, soil type and slope typically limits the development potential of a riverbank area.

e) Hydropower: There are no hydropower dams in South Hampton, nor are there plans for any in the future. The hydropower market is not as strong as it was ten years ago (during the height of the nation's energy shortage) because of uncertain markets for electricity, environmental restrictions, and alternative power sources which are more economical.

Harnessing hydropower is not always benign to the fish, animals and people which use the impacted river. Hydro development can result in the loss of productive habitat, degrade water quality, and cause direct mortality of fish (especially juvenile fish traveling downstream) and other aquatic organisms.

If any hydropower facilities are proposed in the future, no decision should be made by Town officials until a thorough site review and evaluation is performed. The cumulative impacts of hydropower dams along the river should also be considered.

f) Fire Protection: South Hampton's Subdivision Regulations require a developer to provide for a subdivision plan of 5 to 9 house lots 10,000 gallons of water year-round and supply such water within 1,200 feet of each dwelling unit measured along a road. In a subdivision of 10 or more house lots, the developer is required to provide for a water supply of no less than 1,000 gallons of water per minute for a period of not less than one hour the year around, within 1,500 feet of each dwelling unit measure along a road.

All such fire protection equipment is required to be installed as directed by the South Hampton Fire Chief.

g) Conflicting Uses: The principal conflict that exists between competing uses involved the location of the Kingston Landfill which threatens to contaminate a key aquifer in Kingston which extends as far south as the Powwow Pond. This conflict could be mitigated by monitoring the aquifer to determine the presence of contaminants. If none exist in the Powwow River, it is possible that this conflict could be mitigated by treatment.

Another potential threat exists in the eastern portion of Town where South Hampton's only aquifer is located. The Town is concerned about excavation activities presently occurring over the area. Local officials would like to see measures introduced to protect any harm to the aquifer.

Finally, there is a possible conflict which could exist between the presence of a salt storage area near the Grassy Brook. However, the salt stored at the site is covered.

Management of Potential Threats

Section III, "Identification of Potential Threats to Water Resources", presents a full discussion of existing and permitted future land uses which pose threats to water resources within South Hampton. A brief discussion of the Town's primary potential threats to identified water resources, including mitigation measures, is presented below:

a) Road Salting: South Hampton contains several major highways (e.g., N.H. Routes 107A and 151) which are heavily salted during the winter months, and are located partially over the Town's primary aquifer. Road salting should be minimized throughout Town, but especially along roads that overlay the aquifer. Road salt reduction methods are specified in the following section under "Non-regulatory Programs", #8.

b) Salt Storage: The Town should be cautious about locating the salt storage in the least threatening location, i.e., not over any potential aquifer or water supply source. Town officials should closely monitor potential leaching effects.

c) Underground Storage Tanks: Six active or abandoned underground petroleum storage tanks have been identified and described in Appendix IV. All of these sites can be considered potential risks to water resources. Further measures to manage underground storage tanks are described in Section VIII.

d) Septic System Design Requirements: Noting that South Hampton experiences 4-5 failures per year, the Town should be very careful to enforce septic system design requirements.

VIII. RECOMMENDATIONS FOR NEW OR REVISED POLICIES AND PROGRAMS

Non-regulatory Programs

It is recommended that the Town of South Hampton employ the following non-regulatory programs in order to manage and protect its water resources:

1. Educational and informational programs should be developed in order to provide the general public with a understanding of the operation, proper use, and maintenance of septic systems and leach fields (i.e., regularly pumping out septic tanks, avoiding disposal of hazardous or harmful wastes, etc.) This would likely prevent unnecessary system contamination and failures, thereby protecting surface and groundwater resources.

2. Develop a septic system inspection program, especially for aquifer recharge zones, in order to ensure that these systems are adequately maintained.

3. Continue to promote and participate in the annual Household Hazardous Waste Collection, sponsored by the Rockingham Planning Commission. For this past year's collection, South Hampton's share of the costs was funded directly by the Town.

4. Establish and begin to appropriate money for a land acquisition fund to be used for the protection of land and water resource conservation areas. There are generally five different methods for protecting these natural areas:

   a) Land Purchase;
   b) Option of Right of First Refusal;
   c) Purchase and Resale;
   d) Bargain Purchase;
   e) Easements – Conservation Restrictions and/or Purchase of Development Rights.

   Conservation funds would enable the Town to act on short notice when a valuable parcel of land is threatened. This land may be of critical importance for protecting significant wetlands, shoreland, wildlife habitat, or recreational areas.

5. The Conservation Commission should also seek land acquisition funding through State and Federal grants (e.g. Trust for New Hampshire Lands, The Land and Water Conservation Fund and the Pitman-Robertson Fund through the N.H. Fish and Game Department).

6. The Conservation Commission should work with people who own land having conservation potential by promoting the tax incentives associated with the donation of land or easement restrictions. The Current Use Assessment Program also provides tax abatements on parcels of 10 acres of more or on "natural preserves" of any size.

7. The South Hampton Planning Board should work with their counterparts in surrounding towns to promote land use planning practices which are mutually beneficial to protect common watersheds, wetlands, and aquifers. South Hampton may choose to develop intermunicipal agreements (pursuant to RSA 53-A) to protect these shared resources. During the 1989 session, the N.H. Legislature approved Senate Bill 161, which authorizes agreements between municipalities to develop water resources management plans.

8. Develop a program to reduce the amount of road sale used, especially in aquifer recharges areas. The following methods should be employed:

    a) Emphasize mechanical snow removal;
    b) Mix sodium chloride with calcium chloride and/or sand to reduce the total amount of sodium chloride applied;
    c) Periodically re-calibrate salt spreaders so that they apply the correct amount of salt/sand mix; and
    d) Post areas where reduced salting is practiced, which will encourage drivers to reduce speeds and drive more cautiously.

    This program should be adopted for both Town and State-owned roads. In the meantime, the N.H. Department of Transportation should be notified of the Town's desire to reduce road salting within its aquifer areas.

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1. South Hampton should adopt a Riverbank Protection Ordinance to insure the proper protection of riverbanks and associated water bodies. This ordinance would establish a minimum setback for specific uses from the seasonal high water mark of the Town's primary rivers and streams. The establishment of a minimum standard will promote the following objectives:

    a) Provide a safety zone to avoid flood damage;
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   a) The on-site location of the proposed well, its expected yield, pumping duration and quantity (maximum) of water withdrawn:
   b) Subsurface groundwater conditions (e.g., saturated thickness, direction of groundwater flow, etc.);
   c) Location of abutting water supply wells, amount of water being pumped, and maximum capacity needed;
   d) Effect of proposed use on abutting water supplies.

7. Amend the Subdivision Regulations and Site Plan Review Regulations as follows:

   a) Promote the use of catch basins designed to trap oil and sediments;
   b) Encourage road designs which require less use of de-icing chemical (e.g., roads with minimal slope and/or turning radius, etc.);
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10. A state septic system inspector will issue a permit for a system that has been evaluated (before covering) and found to operate properly. South Hampton should grant a certificate of occupancy only after this State permit has been received.

11. Amend the Zoning Ordinance to include a maximum coverage percentage for commercial and industrial lots. This would provide for surface runoff water to infiltrate into the ground and recharge local groundwater supplies.

12. Amend the Subdivision Regulations to require a minimum standard for septic system siting requirements such as: "Any soil with a seasonal high water table at or within 18" of the natural ground surface shall not be used for the disposal of septic tank effluent."

13. The Town should require developers to supply hydrogeologic studies as part of their subdivision regulations.

Generally, the cost of preparing proposed amendments to regulations and ordinances is minimal. Technical assistance can be provided at low or no cost by the Rockingham Planning Commission or the Rockingham County Conservation District. There would be some expense involved with complying with the statutory requirements for the publication of hearing notices. The Town should not need to hire any personnel for the preparation of the proposed amendments to regulations and ordinances.

Unless the members of the Conservation Commission posses certain technical qualifications relative to the mapping and identification of wetland areas or can obtain voluntary assistance from qualified residents, some funding may have to be budgeted for training or the provision of limited technical assistance.

Since the goal of the surface and groundwater portions of this Plan is to assure that local land use decisions resulting from this planning process are based upon the most comprehensive and reliable scientific and technical information available, it is important that all implementing ordinances and

regulations should include: (1) a process which allows applicants from local approvals to present documented scientific and technical information which differs from the information used to prepare this Plan; and (2) the implementing ordinances and regulations should also include mechanisms which will enable local decision makers to consider the scientific and technical information submitted by the applicants prior to making a final decision.

V. DESCRIPTION OF THE INFRASTRUCTURE

A. Septic System Usage

Using 1988 OSP population estimates, approximately 706 residents are served by septic systems. South Hampton has no municipal sewer system and is not planning on developing one in the foreseeable future.

Occasional septic system failures have occurred throughout South Hampton. As of January, 1990, the Town Health Officer estimated that approximately 45 systems have failed during the past 10 years. These failures have been attributed to improper construction, overloading (relative to system design), old age, and poor soil conditions (i.e., high water table, clay soils).

South Hampton has a high potential for growth in its number of septic systems. Given the expense of wastewater treatment facility construction, and the diffuse development pattern in much of Town, it is probably that all future development (at least during the next 10 years) will be served by septic systems.

South Hampton's Building Regulations and Subdivision Regulations require that "all dwellings and buildings in private or public use shall be equipped with a sewage and water system which meets or exceeds the specifications of the N.H. Water Supply and Pollution Control Commission".

B. Soil Potential Ratings

Using national standards, virtually all of South Hampton's soil types have received a "severe" rating for septic system development. In fact, there are only a few soils throughout Rockingham County that are not classified as having "severe" limitations for septic system development. In light of this, the Rockingham County Conservation District (RCCD) and the USDA Soil Conservation Service developed a more meaningful set of land use guidelines based on soil types.

In May 1987, the "Soil Potentials for Development - Rockingham County" manual was published by the RCCD. Five soil potential classes were provided: very high, high, medium, low and very low. Low and very low potentials are assigned to those soils having severe soil limitations, with costs of design measures extremely high or prohibitive.

Map 11 - "Soils Suitability for Septic Systems" - depicts the general areas of South Hampton which have different soil potentials for septic system development. Soils with low and very low potential were mapped because they had limitations due to steep slopes or high water tables (as well as high shrink- swell properties, short depths to bedrock, and stoniness).

C. Solid Waste Disposal

The Town of South Hampton is a member of the Southeast Regional Solid Waste District. It is a 21-town planning district organized under RSA 149-M. In addition, the Town voted to join the Southeast Regional Refuse Disposal District in March, 1988. The SRRDD is an 11-town

implementation district organized under RSA 53-B. The Town of South Hampton currently has no solid waste disposal facility. As of January 31, 1990, South Hampton's trash is taken to the Kingston Landfill. Their contract will expire in December of 1990, however they intend Map 11 to renew the contract, and will most likely continue to rely on this site in the future.

South Hampton currently has a recycling committee which continues to investigate recycling alternatives.

South Hampton residents can dispose of household hazardous wastes (e.g., batteries, lead paint, pesticides, solvents) at the annual Household Hazardous Waste Collections organized by the Rockingham Planning Commission.

D. Public Water Supply

Map 9 shows the location of four public water systems, all of which draw from groundwater. These wells are "non-community" systems.

The Water Supply and Engineering Bureau requires periodic water quality testing of public water systems throughout South Hampton. As of June 1989, the Bureau had water quality information for wells A, B, C, and D. The tests for these wells generally showed good water quality. However, well "A" had elevated levels of manganese, at 0.05 mg/l. The maximum contaminant level for manganese, set by the Federal Safe Drinking Water Act of 1977, is 0.05 mg/l.

Table 16
Water Quality Data for Public Water Systems

Well (Map 9 symbol)	Sampling Date	Manganese (*MCL=0.05 mg/l)	Chloride (*MCL=250 mg/l)
A	1/84	0.05	15.0
C	5/82	0.03	6.0

* MCL is an acronym for Maximum Contaminant Level. These standards were set by the Federal Safe Drinking Water Act of 1977.

Since the Public Water Supplies, Facilities, and Policy Summary (updated November 1987, previously cited) does not include data on systems which serve fewer than 500 persons, specific information (e.g., treatment, storage capacity, fire flows, metering, customer cost, and leak detection) was unavailable for two of South Hampton's four public water supply systems. For general information, see Appendix IV - "Public Water Systems Inventory".

E. Public Waste Water Treatment

There is no municipal waste water collection and/or treatment system within South Hampton; and neither is foreseen to be constructed during the next ten years. Since much of the development in Town is spread over a wide area, it would be economically unfeasible and undesirable to develop a municipal sewer system that covers a large portion of Town. Hence, it is important that natural resource information, especially soils type, be utilized in order to assure the continued safe and sanitary on-site disposal of the community's sewage.

VI. DESCRIPTION OF EXISTING PROGRAMS AND POLICIES

Each ordinance and regulation in South Hampton was reviewed for the purpose of identifying the elements of each which have the potential to impact on any of the following eight water resource parameters (WRP):

1) Erosion and sedimentation;
2) Surface water flows;
3) Groundwater recharge;
4) Management of existing and potential contaminant sources;
5) Flood storage;
6) Encroachment on wetlands;
7) Nutrient levels; and
8) Wildlife and fisheries habitat.

Zoning Ordinance

Wetland Conservation District (Article VII., Section C): This section prohibits the erection of any structure or altering of surface configurations by the addition of fill in the poorly drained or very poorly drained soils identified in the Soil Survey, Rockingham County, New Hampshire, issued August 1959 and revised for South Hampton's Zoning Ordinance by the USDA Soil Conservation District Service. Adopted in 1972, the Ordinance has been amended on three occasions, the last being 1990. The intention of the ordinance is to accomplish the following selected purposes which relate specifically to water resources:

a) To prevent the development of structures and land uses on naturally occurring wetlands which will contribute to pollution of surface and ground water by sewage or toxic substances (WRP 1, 4, 6, and 7); and

b) To prevent the destruction of natural wetlands which provide flood protection (WRP 1, 2, 3, 5, and 6);

General Provisions (Article III,2a and c): These provisions require new buildings or structures to conform to the full edition of B.O.C.A. Code, and that all dwellings and buildings in private or public use shall be equipped with a sewage and water system which meets or exceeds the specifications of the New Hampshire Water Supply and Pollution Control Commission.

Floodplain Management District (Article XVIII): Prohibits encroachment from fill or new construction that results in any increase in the 100-year flood levels (WRP #5); provides construction standards for buildings and septic systems within the 100-year floodplain (WRP #4).

Subdivision Regulations

General Requirements for the Subdivision of Land (Section V.B): This section prohibits the platting for residential occupancy, or such other uses as may increase danger to health, life, property, or aggravate the flood hazard due to the peril from fire, flood or other menace. In addition, no floodway shall be obstructed.

Section V.M of the subdivision regulations requires that lots shall be laid out and graded to eliminate flood or stagnant water pools.

Section V.P of the subdivision regulations requires that water courses proposed for public control shall have a permanent easement of not less than 20 feet.

Section V.Q, Utilities of the subdivision regulations requires that for the location of on-site disposal systems, a series of percolation tests taken one to an acre in the subdivision be performed. Such sewage systems shall be set back at least 100 feet from surface water.

Where a group sewage disposal system, serving one or more lots, is proposed, the design and specifications for same shall be submitted and shall have been certified to by a professional engineer, qualified and registered under applicable N.H. Statutes.

Section V-R of the subdivision regulations requires that when an individual on-lot supply is proposed, it shall be the responsibility of the subdivider to provide adequate information to prove that the area of each lot is adequate to permit the installation and operation of both individual on-lot water and sewage systems, where there is no group sewage disposal system proposed.

Each water system shall be at least 100 feet from any portion of a septic tank or drainage field and shall be constructed in accordance with the U.S. Department of Health, Education, and Welfare publication titled "Manual of Individual Water Supply Systems".

When group water supply systems, serving more than one lot, is proposed, the design and specifications for same shall be submitted and shall have been certified to by a professional engineer, qualified and registered, and the proposed system shall meet applicable requirements of the State Water Supply and Pollution Control Commission and the State Public Utilities Commission.

Section V.S, Water Holes and Dry Hydrants of the subdivision regulations requires a subdivision plan of 5 to 9 house lots shall provide for a water supply of no less than 10,000 gallons of water the year around which, connected to a hydrant, will provide for such water supply within 1,200 feet of each dwelling unit measured along a road.

A subdivision plan of 10 or more house lots shall provide for a water supply of no less than 1,000 gallons of water per minute for a period of not less than one hour the year around which, connected to a system of hydrants, will provide for such water supply within 1,500 feet of each dwelling unit measured along a road.

Section V.S also requires that the subdivider install a dry hydrant(s) as deemed necessary by the Chief of the South Hampton Fire Department.

Sand and Gravel Ordinance

South Hampton has had a gravel ordinance in place since the 1960's. However, the Town has not adopted regulations under the states enabling legislation under RSA 155:E. The Planning Board does however currently regulate gravel pits under RSA 155:E without the amendment to the ordinance.

VII. ANALYSIS

Analysis Regarding Water Supplies

As discussed in the Section IV entitled "Assessment of Growth in Demand for Water", virtually all of South Hampton's water supply is derived from individual private wells. It is assumed that this type of supply will meet the Town's demand for at least the next ten years.

Analysis Regarding Other Water Resource Purposes

a) Discharges: There are no significant sources which discharge wastes into the Town's groundwater or surface water. Therefore, there is presently no need to determine the "assimilative capacity" of South Hampton's water resources.

b) Wetlands: There are several different types of wetlands, which include: marshes, meadows, shrub and wooded swamps, and bogs. Wetlands are important, valuable natural resources and worthy of protection from inappropriate use. They have been found, in general, to provide critical ecological and socially valuable functions, including:

1) provide habitat and reproduction areas for plants, fish and wildlife;
2) help maintain ground and surface water levels;
3) act as flood water storage areas;
4) absorption and filtration of pollutants and sediments (caused by upstream erosion);
5) provide opportunities for recreation and education; and

6) visual aesthetics.

The filling of and use of wetlands for building construction not only destroys wetlands and their benefits, but may lead to groundwater contamination as well. Leaching fields constructed in filled areas are likely to be placed too near the seasonal high water table below and to have an inadequate receiving layer for proper treatment of the septic systems's effluent.

There is an ongoing need to protect wetlands in South Hampton. Statewide, wetlands are under increasing development pressure due to the depletion of the most developable land. Although the State of New Hampshire has laws and regulations in place (RSA 483-A, administered by the Wetlands Board and RSA 149 8:a, administered by the N.H. Water Supply and Pollution Control Commission), they do not always provide the degree of protection needed. For these reasons, local control over the use of wetlands should remain in effect indefinitely. The Town of South Hampton has recognized the importance of preserving wetlands, and has acted accordingly by establishing a Wetlands Ordinance which was rewritten by amendment in March, 1990.

c) Fisheries: The Powwow River and Tuxbury Pond are the two most commonly fished waters in South Hampton. Each spring, the N.H. Fish and Game Department stocks the Powwow River with Eastern Brook Trout and Rainbow Trout. In addition, Tuxbury Pond is the location of a warm water fishery.

South Hampton must safeguard its surface water quality in order to provide the opportunity of sports fishing for present and future townspeople.

d) Wildlife Habitat: River, stream, and wetland corridors provide the richest habitat for the greatest number of fish, wildlife, and flora. Fish and wildlife populations cannot succeed within a limited range, and waterfowl and other birds need ground-level nesting habitat. Protection of these linear corridors is essential to the stability of wildlife populations.
Riparian corridors (i.e., riverbanks) also contribute much in terms of recreational benefits, i.e. canoeing, hiking, fishing, birding, horse trails, cross country skiing, picnicking, etc. Shorelands are also sensitive due to flooding, erodibility, and proximity to open water. Moreover, soil type and slope typically limits the development potential of a riverbank area.

e) Hydropower: There are no hydropower dams in South Hampton, nor are there plans for any in the future. The hydropower market is not as strong as it was ten years ago (during the height of the nation's energy shortage) because of uncertain markets for electricity, environmental restrictions, and alternative power sources which are more economical.

Harnessing hydropower is not always benign to the fish, animals and people which use the impacted river. Hydro development can result in the loss of productive habitat, degrade water quality, and cause direct mortality of fish (especially juvenile fish traveling downstream) and other aquatic organisms.

If any hydropower facilities are proposed in the future, no decision should be made by Town officials until a thorough site review and evaluation is performed. The cumulative impacts of hydropower dams along the river should also be considered.

f) Fire Protection: South Hampton's Subdivision Regulations require a developer to provide for a subdivision plan of 5 to 9 house lots 10,000 gallons of water year-round, and supply such water within 1,200 feet of each dwelling unit measured along a road. In a subdivision of 10 or more house lots, the developer is required to provide for a water supply of no less than 1,000 gallons of water per minute for a period of not less than one hour the year around, within 1,500 feet of each dwelling unit measure along a road.

All such fire protection equipment is required to be installed as directed by the South Hampton Fire Chief.

g) Conflicting Uses: The principal conflict that exists between competing uses involves the location of the Kingston Landfill which threatens to contaminate a key aquifer in Kingston which extends as far south as the Powwow Pond. This conflict could be mitigated by monitoring the aquifer to determine the presence of contaminants. If none exist in the Powwow River, it is possible that this conflict could be mitigated by treatment.
Another potential threat exists in the eastern portion of Town where South Hampton's only aquifer is located. The Town is concerned about excavation activities presently occurring over the area. Local officials would like to see measures introduced to protect any harm to the aquifer.

Finally, there is a possible conflict which could exist between the presence of a salt storage area near the Grassy Brook. However, the salt stored at the site is covered.

Management of Potential Threats

Section III, "Identification of Potential Threats to Water Resources", presents a full discussion of existing and permitted future land uses which pose threats to water resources within South Hampton. A brief discussion of the Town's primary potential threats to identified water resources, including mitigation measures, is presented below:

a) Road Salting: South Hampton contains several major highways (e.g., N.H. Routes 107A and 151) which are heavily salted during the winter months, and are located partially over the Town's primary aquifer. Road salting should be minimized throughout Town, but especially along roads that overlay the aquifer. Road salt reduction methods are specified in the following section under "Non-regulatory Programs", #8.

b) Salt Storage: The Town should be cautious about locating the salt storage in the least threatening location, i.e., not over any potential aquifer or water supply source. Town officials should closely monitor potential leaching effects.

c) Underground Storage Tanks: Six active or abandoned underground petroleum storage tanks have been identified and described in Appendix IV. All of these sites can be considered potential risks to water resources. Further measures to manage underground storage tanks are described in Section VIII.

d) Septic System Design Requirements: Noting that South Hampton experiences 4-5 failures per year, the Town should be very careful to enforce septic system design requirements.

VIII. RECOMMENDATIONS FOR NEW OR REVISED POLICIES AND PROGRAMS

Nonregulatory Programs

It is recommended that the Town of South Hampton employ the following nonregulatory programs in order to manage and protect its water resources:

1. Educational and informational programs should be developed in order to provide the general public with an understanding of the operation, proper use, and maintenance of septic systems and leach fields (i.e., regularly pumping out septic tanks, avoiding disposal of hazardous or harmful wastes, etc.) This would likely prevent unnecessary system contamination and failures, thereby protecting surface and groundwater resources.

2. Develop a septic system inspection program, especially for aquifer recharge zones, in order to ensure that these systems are adequately maintained.

3. Continue to promote and participate in the annual Household Hazardous Waste Collection, sponsored by the Rockingham Planning Commission. For this past year's collection, South Hampton's share of the costs was funded directly by the Town.

4. Establish and begin to appropriate money for a land acquisition fund to be used for the protection of land and water resource conservation areas. There are generally five different methods for protecting these natural areas:
   a) Land Purchase;
   b) Option of Right of First Refusal;
   c) Purchase and Resale;
   d) Bargain Purchase;
   e) Easements - Conservation Restrictions and/or Purchase of Development Rights.

   Conservation funds would enable the Town to act on short notice when a valuable parcel of land is threatened. This land may be of critical importance for protecting significant wetlands, shoreland, wildlife habitat, or recreational areas.

5. The Conservation Commission should also seek land acquisition funding through State and Federal grants (e.g. Trust for New Hampshire Lands, The Land and Water Conservation Fund, and the Pitman-Robertson Fund through the N.H. Fish and Game Department).

6. The Conservation Commission should work with people who own land having conservation potential by promoting the tax incentives associated with the donation of land or easement restrictions. The Current Use Assessment Program also provides tax abatements on parcels of 10 acres or more or on "natural preserves" of any size.

7. The South Hampton Planning Board should work with their counterparts in surrounding towns to promote land use planning practices which are mutually beneficial to protect common watersheds, wetlands, and aquifers. South Hampton may choose to develop intermunicipal agreements (pursuant to RSA 53-A) to protect these shared resources. During the 1989 session, the N.H. Legislature approved Senate Bill 161 which authorizes agreements between municipalities to develop water resources management plans.

8. Develop a program to reduce the amount of road salt used, especially in aquifer recharge areas. The following methods should be employed:

   a) Emphasize mechanical snow removal;
   b) Mix sodium chloride with calcium chloride and/or sand to reduce the total amount of sodium chloride applied;
   c) Periodically re-calibrate salt spreaders so that they apply the correct amount of salt/sand mix; and
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8. The South Hampton Conservation Commission should consider mapping and documenting prime wetlands as authorized under RSA 483-A:7, and subsequently recommend their adoption as part of the Zoning Ordinance in accordance with RSA 675:3. The State of New Hampshire Wetlands Board is required to give special consideration to prime wetlands during the review of dredge and fill permit applications.

9. Many communities have developed Septic System Regulations to tighten the State's requirements. South Hampton should consider amending its Zoning Ordinance to require septic systems be designed to standards more stringent than the State. Because of South Hampton's soil conditions which can result in their rapid percolation of on-site sewage through sands and gravels, and the potential for nitrate contamination, certain design requirements for septic system construction should be made more stringent. Decisions on which standards to increase, and to what extent should be made in consultation with septic system design experts.

10. A State septic system inspector will issue a permit for a system that has been evaluated (before covering) and found to operate properly. South Hampton should grant a certificate of occupancy only after this State permit has been received.

11. Amend the Zoning Ordinance to include a maximum coverage percentage for commercial and industrial lots. This would provide for surface runoff water to infiltrate into the ground and recharge local groundwater supplies.

12. Amend the Subdivision Regulations to require a minimum standard for septic system siting requirements such as: "Any soil with a seasonal high water table at or within 18" of the natural ground surface shall not be used for the disposal of septic tank effluent."

13. The Town should require developers to supply hydrogeologic studies as part of their subdivision regulations.

Generally, the cost of preparing proposed amendments to regulations and ordinances is minimal. Technical assistance can be provided at low or no cost by the Rockingham Planning Commission or

the Rockingham County Conservation District. There would be some expense involved with complying with the statutory requirements for the publication of hearing notices. The Town should not need to hire any personnel for the preparation of the proposed amendments to regulations and ordinances.

Unless the members of the Conservation Commission possess certain technical qualifications relative to the mapping and identification of wetland areas or can obtain voluntary assistance from qualified residents, some funding may have to be budgeted for training or the provision of limited technical assistance.

Since the goal of the surface and groundwater portions of this Plan is to assure that local land use decisions resulting from this planning process are based upon the most comprehensive and reliable scientific and technical information available, it is important that all implementing ordinances and regulations should include: (1) a process which allows applicants for local approvals to present documented scientific and technical information which differs from the information used to prepare this Plan; and (2) the implementing ordinances and regulations should also include mechanisms which will enable local decision makers to consider the scientific and technical information submitted by the applicants prior to making a final decision.

FUTURE LAND USE

Introduction

As previously discussed, the goal of the master planning process is to establish a guide for future growth and development of South Hampton. As a "policy document", it must establish general policies and goals with which to guide development. The Future Land Use section of the Master Plan reflects the desired long-range development pattern of the Town. As a "plan", it must go further and specify land area where development should be prohibited, where it should be limited, and where it should be encouraged. The plan must also indicate what types of development should be encouraged to achieve the desired goals as outlined in the Community Goals and Policies section. The Future Land Use section of the Master Plan reflects the desired long-range development pattern of the Town.

Developing the Future Land Use plan requires a careful synthesis of all other components of the Master Plan. The evaluation and analysis must take into account existing natural features such as soils, topography, wetlands, water resources and other indicators of development suitability. At the same time, other important factors including existing development patterns, road conditions, zoning, existing and anticipated municipal services, as well as community policies must be taken into account.

In the 1988 Citizen Survey, respondents indicated a strong desire to maintain the existing residential, commercial, and industrial area as they presently exist. The Future Land Use map shown in this chapter represents the Town's desired direction of future development. It is not a formal zoning map, but rather serves as a useful tool for visualizing the recommended development pattern. The boundaries are general guidelines which may be revised as zoning amendments refine the original projection.

Development Suitability Analysis

Areas with the fewest natural development constraints are the preferred locations for development. By identifying the limiting characteristics and determining their effect on development, it is an important step in developing a future land use plan.

1. Land Unsuitable for Development

   Land which is not suited for development includes wetlands and areas which have very low potential for the siting of septic systems (such as poor soil and steep slopes). The significance of these areas is described as follows:

   a. Wetlands: The importance of preserving and protecting wetlands is well established. South Hampton's wetland areas are discussed in the Water Resource section of this plan, and are shown on Map 3.

Aside from the importance of preserving wetlands, it is equally important to prevent building in such areas because of the potential impact on water quality and public health. Wetlands exist where water is at, or near, the surface of the ground for seven months or more of the year. Septic system failures occurring in, or near, wetlands can readily cause groundwater contamination. Since a municipal sewer system is unlikely in South Hampton and will not be constructed in the foreseeable future, all buildings requiring sewage disposal should be located at a safe minimum distance from wetlands, surface waters and groundwater.

South Hampton's existing Wetland Ordinance addresses many of these concerns. The ordinance establishes setbacks from poorly and very poorly drained soils. The Town's future development will be guided by this ordinance. South Hampton should continue its efforts at resource protection by establishing similar ordinances aimed at protecting its other natural resources.

b. Areas with Very Low Potential for Septic Systems: The ability to adequately site a septic system on a lot is the most important consideration for determining development suitability. The Rockingham County Conservation District (RCCD) has developed a system to indicate the relative potential of a soil for siting a septic system. This system objectively and scientifically rates a soils potential on a five level scale ranging from very high to very low. As previously mentioned, the soil suitability ratings appear on Map 11.

The system judges soils that have a "very low" rating as economically infeasible for development due to the existence of wetlands or severe slopes. Regardless of economic feasibility, it is clear that land classified as having very low potential is not suitable for development under any reasonable standard. The development of such land only invites hazards to public health.

Overall, all wetland soils and steep slopes (greater than 8%) in South Hampton have very low potential for septic systems. These areas are shown on Map 12.

2. Land Poorly Suited for Development

Land considered to be poorly suited for development falls into the categories of: a) buffer areas for wetlands and river corridors; b) aquifer recharge zones; c) 100-year flood hazard zones; and d) areas with low potential for septic systems.

All of these areas are considered to be poorly suited for development. However, unlike those areas not suited for development, these areas do not pose serious enough environmental and public health problems to justify a prohibition of all construction. Rather, poorly-suited areas are considered "problematic" and are best suited for low density development. Carefully developed regulations are necessary to safely guide future development in these areas.

a. Buffer Areas for Wetlands and River Corridors: A wetlands ordinance which prevents development in wetlands does not necessarily protect wetlands from

harmful uses occurring immediately adjacent to them. Structures that are potentially harmful to ponds, rivers and wetlands, such as septic systems, waste storage areas and salt storage areas, should be excluded from buffer areas. As much as possible, natural vegetation should be protected or restored in these areas to control erosion and sediment from contaminating South Hampton's resources.

Map 12 Town of South Hampton, Steep Slopes & Wetlands (11 x 17)

b. Aquifer Recharge Zones: Aquifer recharge zones are poorly suited for many types of development due to the potential for contamination of large water supplies. Vulnerability to contamination is particularly high in land overlying sand and gravel aquifers due to the high permeability of the associated soil types. Contaminants can spread rapidly into the aquifer and destroy it as a water supply. To maintain the existing supply and to ensure a future, potable water supply, protection of these aquifers is of great importance to the Town.

c. 100 year Flood Hazard Zones: As discussed extensively in the Water Resource Management and Protection Plan, floodplains are undesirable locations for development because: 1) of the associated risks to life and property; 2) construction in the floodplains worsens flood hazards downstream; and 3) the inundation of subsurface sewage disposal systems can cause water pollution and a public health hazard.

South Hampton's participation in the National Flood Insurance Program insures that future development will not be subject to flood hazards.

d. Areas with Low Potential for Septic Systems: These areas contain soils that have low potential for the successful siting of septic systems. The soils are limited due to one or more of the following factors: slope, shallow depth to bedrock, seasonal wetness or slow percolation rate. In most instances, these natural limitations can be overcome by modifying the site to comply with minimum State septic siting requirements, but only at high cost. These areas are suited for low density development only, with densities determined by the soil type lot size requirements.

3. Areas Generally Suited for Development

All other areas not specifically identified pose no unusual limitation to limit development. This does not mean that all land is equally suitable. A town wide map cannot show in sufficient detail the location of all physical limitations described above. Conversely, developable land is likely to be found within areas shown as unsuitable for development. The Future Land Use Map and Soil Suitability for Septic Systems Map are not intended for site-specific development determinations but are intended as a general guide.

Other factors must also be considered that are not related to land capability such as highway access, quality or capacity of access roads, compatibility with surrounding uses, the need for municipal services, and existing zoning regulations.

Future Land Use Analysis

Many of the recommended actions listed in the 1981 Master Plan have not been implemented by South Hampton. However, many of the objectives from those plans are still valid today. The following section will restate those goals or recommended actions, as well as present new recommendations the Planning Board should consider in the future.

One statement from the 1981 plan warrants repeating: "The Town wishes to preserve and protect its rural character", and "guide growth in a manner which maintains the quality and quantity of existing

municipal services".
South Hampton's two acre minimum lot size requirement and a comprehensive Wetlands Protection Ordinance are prime examples of this statement. The construction of a municipal sewage treatment facility in the next five to ten years is not probable. The recommendations made in this section are based on the assumption that development will continue to rely on on-site septic systems.

Residential Land Uses. The topic of which housing types should be permitted has been thoroughly discussed in the Housing chapter. South Hampton is currently in compliance with the State law regarding manufactured housing. However, the Town should focus on the inclusion of duplexes and multi-family housing. Specifically, the absence of provisions for duplexes and multifamily housing in the Town's current zoning should be addressed and the Zoning Ordinance amended.

If South Hampton is to fulfill its responsibilities to provide its share of regional housing for low and moderate income households, some new multi-family rental housing must be allowed. South Hampton should consider allowing single and multi-family units in open space/cluster developments and allowing a greater density of units in limited areas. This would enable South Hampton to provide a greater opportunity for the construction of elderly housing which has been viewed as a need in South Hampton.

Citizens indicated in the Citizen Survey their desire to maintain and manage growth in a way which would not require rapid expansion of school and municipal services. Innovative land use control methods could address the need for the Town to provide a variety of housing types without sacrificing the public health and safety.

Associated with the issue of housing types is housing density. The two acre minimum lot size requirement is based on environmental limitations. The argument is that South Hampton's soils, wetlands, and lack of public sewerage make higher density development inappropriate. While there is some merit to this argument, an alternative method of determining lot size, which is based on scientific evidence, is available. The method, termed soil type lot sizing, ties the allowable density to the soil conditions of the lot. Soil type lot sizing can be used in conjunction with open space/cluster zoning to produce an environmentally safe development.

As an alternative to the creation of two or more residential districts, the Town of South Hampton proposes that there be one residential category only, and the adoption of soil-type lot sizing regulations for calculating the appropriate size of the residential lots. This would prevent endangering the residents' public health or safety, and preserve the rural character of the Town. In addition, the fact that there are many large tracts of open space with numerous wetlands and steep slopes, and no public water service to most of the area provides further justification for low density residential uses.

If public sewer becomes available to any part of South Hampton, the Town will have to reexamine the density issue to determine the appropriate density to be allowed.

Concerning housing, it is recommended that accessory apartments be allowed in any single-family dwelling that conforms to the zoning in existence at the time the ordinance is approved subject to such conditions as: 1) the dwelling must be in existence at the time of

the adoption of the ordinance, 2) the dwelling must be a minimum of 2,000 square feet in total floor space, 3) apartment must be contained within existing structure, and 4) septic system must be tested by civil or sanitary engineer to insure it is adequate to handle the additional flow.

Duplexes (two dwelling units in one structure) are recommended to be allowed as a permitted use on any lot that is 50 percent larger than the minimum lot size required in the Residential District.

Industrial Land Uses: Currently, South Hampton has no industrial zone, rather the zoning ordinance spells out procedures for "seeking suitable areas which will not be detrimental to residential and commercial uses, and the Planning Board shall make recommendations for or against the re-zoning of such areas for industrial use together with regulations applicable thereto." It goes on to state: "Any request for re-zoning any particular plot from one district classification to another shall be referred to the Town Planning Board, which shall hold at least two public hearings on the question." This flexibility in the zoning ordinance may have been suitable for the slow growth which South Hampton has experienced for many years. However, present-day considerations led the Master Plan's drafters to review the current use maps and soil ability data in the form of overlay maps in an effort to identify the section or sections of South Hampton that would lend themselves to be zoned for light industry. Proximity to major highways makes the eastern portion of Town the most attractive for industrial activity. The study did not produce any area that met the qualifications which were sought. The nature of the Town's soils and topography and the scattered positioning of existing residential development are impediments to the mapping out of a defined zone for light industry with appropriate buffers to protect residential areas.

It is recommended that additional study be made and that the Planning Board continue to consider amending the present ordinance. Also recommended is rezoning the present commercial district to commercial/light industry.

In addition to zoning, the Town should develop and adopt various regulations and performance standards to create a more attractive, cohesive and safe industrial zone. Such site plan criteria as screening and landscaping standards, architectural standards, sign control measures, and even tree-planting and preservation requirements are recommended to be developed and amended to existing regulations. The Town should develop and implement flexible regulations soon, before any future commercial and industrial pressures occur.

Commercial Land Uses: The existing commercial land uses are located along Route 150. South Hampton presently has very little commercial land use. The Commercial District currently includes all land within 1000 feet of the center line of Route 150. Lot sizes within the district are required to have not less than 200 continuous feet on an existing Town approved road and be a minimum of two acres.

The 1988 citizen survey indicated that of the 83 respondents, the majority prefer locating industrial and commercial development on Route 150. Route 107A and Hilldale Avenue were secondary choices.

In addition, when asked the question of needs of South Hampton, retail stores, restaurants, industry, and manufacturing/factories and office buildings were "least important" in terms of priorities.

Highway-oriented commercial uses should be encouraged along the Route 150 frontage. Land uses which do not require the high visibility of the Route 150 frontage should be considered behind the frontage lots on a shared access basis. These tracts should be reserved for light industrial uses or office parks.

In order to avoid strip development, the extension of commercially-zoned land in this area should be made in an east/west direction away from the highway (also known as "backland"), rather than along it. In addition, the Planning Board should ensure that access to this backland is maintained as lots along the highway are subdivided and developed. As necessary, the Town should acquire right-of-way easements at intervals along the highway.

As noted in the discussion of Industrial Land Uses, it is recommended that additional study be made and that the Planning Board continue to consider amending the present ordinance. Also recommended is rezoning the present commercial district to commercial/light industry. A commercial district that encourages the development of backland will result in greater efficiency in the use of land, will limit the number of highway access points, and lessen the traffic congestion normally associated with commercial development along major highways. It will also encourage better planning in the development of commercial property.

In addition to zoning, the Town should develop and adopt various regulations and performance standards to create a more attractive, cohesive and safe commerical zone. Such site plan criteria as screening and landscaping standards, architectural standards, sign control measures, and even tree-planting and preservation requirements are recommended to be developed and amended to existing regulations. The Town should develop and implement flexible regulations soon, before any future commercial and industrial pressures occur.

Public Land, Conservation and Recreation Uses: Since a large portion of South Hampton is still undeveloped, the Future Land Use Chapter attempts to identify areas that should be preserved. As South Hampton continues to grow and develop, the preservation of the Town's natural resources will become even more important than it is today. The protection of open space is, according to the 1981 Master Plan, one goal which the Town has definitely pursued. The recommendation which bears repeating is: "Mechanisms such as land conservation easements should be utilized to guide future growth," and "Land use should be

regulated in areas where man's intrusion may result in significant environmental impact. These areas include: aquifer recharge, seasonally wet soils, slopes of 8% or more, and areas adjacent to water bodies." The attitude of Town residents has not changed since these words were written, as the 1988 Citizen Survey indicated that the majority of respondents (67%) are most concerned about the protection of open space.

The Conservation/Preservation Chapter contains important recommendations regarding various approaches for the protection of open space and the various resources which the Town needs to protect. South Hampton has previously taken steps to protect its natural resources through the adoption of various land use regulations. Wetlands and flood hazard areas are protected by various ordinances. Additional ordinances which the Town should consider developing and adopting are soil-type lot-size regulations, and a riverbank protection ordinance. These types of regulations are very important in assuring that there is undeveloped land and open space preserved in South Hampton.

The Water Resource Management and Protection Plan recommends the adoption of other important natural resource protection ordinances - an Aquifer Protection District and Riverbank Protection District Ordinance. This measure would serve to reduce the potential for future degradation of South Hampton's water resources and preserve additional open space along river corridors. In particular, it is recommended that Riverbank protection districts be set up 100 feet of each side of the Powwow and Back Rivers. In addition, the Town would like the provision of public access to the Powwow River.

Another step the Conservation Commission has recently taken toward the goal of open space protection is the recent attempt to acquire a conservation easement for 113 acres of land. This acquisition may be made possible due to funding available from the Land Conservation Investment Program (LCIP). There are also additional areas which the Town wishes to preserve and protect, such as the Cherette land (Audobon Society owned), and the Richard Sargeant Management land. These are all examples of the Town's dedication to the goal of protecting open space and natural resources. The Conservation Commission has taken a very active role in the area of open space protection. One method South Hampton's Conservation Commission may attempt is to negotiate with developers and landowners to trade vacant town-owned land for land next to existing conservation areas. This would provide for a few large conservation areas instead of more scattered, unattached ones.

Another public land issue that the Town needs to address is that of additional recreational land. With increased population, existing facilities will not be adequate. More neighborhood playgrounds and ballfields should be built in residential areas, so that children do not have to travel great distances to use them. Hiking and nature trails could also be developed in the more remote and undeveloped areas of Town. Large developments should be required to set aside a small portion of their land for recreational facilities. A good recreational program and adequate recreational facilities will benefit the whole Town.

FINANCING ROAD IMPROVEMENTS

Federal, State, and Local Assistance

South Hampton's road network is eligible for four forms of financing made available by the Federal and State governments:

a. State Aid Construction Funds are provided for improvement of uncompleted sections of state secondary, Class II, highways. The ratio of state to town matching funds is based on the assessed valuation of the municipality and varies from a 2 to 1 ratio in small towns to a 1 to 1 ratio in the large municipalities. Application must be made to the Administrator, Bureau of Municipal Highways by May 1 of each year, but preliminary discussions about such projects should begin well in advance of this date. (Chapter 235 RSA).

b. State Aid Reconstruction Funds are available for improvement of completed sections of state secondary, Class II, highways when the town or city wishes to advance the priority of construction for special types of work such as improved drainage, riding surface or elimination of sharp curves. The matching ratio is the same as for State Aid Construction Funds and application is made in the same manner. (Chapter 235 RSA).

c. Highway Block Grant Aid Funds are apportioned to all cities and towns on a yearly basis for the construction, reconstruction, and maintenance of Class IV and V highways on the following basis:

   Apportionment A. These funds are allocated from an annual apportionment of not less than 12% of the total highway revenues collected the preceeding fiscal year. The amount distributed is based on one-half mileage and one-half population as the city/town factors bear to the state total.

   Apportionment B. These funds are allocated from an annual apportionment of $400,000; the amount available to towns is based on a formula using equalized valuation and Class V mileage designed to give the greatest benefit to the low valuation towns with high road mileage.

   Block Grant Aid payments are made as follows: 30 percent in July; 30 percent in October; 20 percent in January; and 20 percent in April. Unused balances may be carried over to the following municipal fiscal year. (Chapter 235 RSA.)

d. Federal Aid Bridge Replacement Funds are available for replacement or rehabilitation of town bridges over 20 feet in length. Bridge Aid funds may be used for matching these funds. Application is made to the Administrator, Bureau of Municipal Highways in the same manner as aid under the Bridge Aid Program.

Alternative Road Improvement Funding

While this section attempts to address every aspect of financing road improvements, another possible funding source which many states across the country, including New Hampshire, are utilizing is road impact fees. These are fees collected from the developer to pay for part of the cost of infrastructure, in particular roads. The recent trend of shifting the burden to the private sector can be attributed to not only reduced federal assistance but also to the realization by municipal officials that new development is not paying its way, that the burden is placed upon the residents of a community instead.

During the 1988 legislative session, House Bill 404-FN was introduced by four representatives of Hillsborough County. The bill sought to establish a road pay-back fee system that would have allowed communities such as South Hampton to require developers to pay a fee which is directly related to the incremental financial burden imposed by that new development. If agreed to by the Planning Board and applicant, the fee could be in some form other than money, such as bond or other formal security, materials, labor, or equipment. Although this bill was defeated, it is an indication that New Hampshire, as with the rest of the country, is attempting to reduce the financial burden currently being placed upon rapidly growing communities.

Although no particular law exists pertaining to impact fees, a number of communities in New Hampshire are negotiating with developers based on a rational nexus or proportionate benefit concept as was upheld in an important New Hampshire court case - Land/Vest Properties, Inc. v. Town of Plainfield.

Essentially, future deficiencies are identified by traffic and fiscal impact studies, and in turn are the basis for the community to negotiate with the developer about a financial contribution that would be used to pay for improving roads or other infrastructure which would ultimately be needed by those residing in the development.

However, although there is concensus that towns in New Hampshire have a legal basis for adopting a development impact fee system, South Hampton should be careful to examine the proper procedures to evaluate the Town's present financial condition, the impact a proposed development would have on a community and how to administer the program.

Scenic Roads

Another important transportation issue is scenic roads, and is addressed in RSA 231:157 which requires that to designate any road in town, other than a Class I or Class II highway, 10 persons (voting or non-voting) who own land abutting the proposed road petition the town to do so. In turn, the town votes on it at any normal or special Town Meeting. The exact provisions for this process can be found in the RSA. Voters can also rescind the designation of a scenic road at a regular meeting upon petition.

By designating a road scenic, there are two benefits a town can enjoy. First, it establishes a procedure for protecting the rural landscape within a public right-of-way. Secondly, it can demonstrate the public's intent to preserve the rural qualities of a road.

The effects of designating a road scenic are detailed in RSA 231:15. Included are restrictions upon the repair, maintenance, reconstruction or paving work which is done to the road. Two important facets of the designation are that it does not affect the eligibility of the Town to receive construction, maintenance, or reconstruction funds, or affect the rights of any land owner with respect to work on his own property.

Currently in South Hampton, there are no scenic roads.

Commuting Patterns

According to commuting inforamtion from the 1980 census shown in Table 9, South Hampton residents travel to a variety of locations for employment. The highest single location is for those employed in Amesbury, MA. (15%). South Hampton (9%) and Boston (8%) are the next highest employment locations. Other New Hampshire and Massachusetts towns and cities account for the remaining 69% of the work force and are distributed fairly evenly.

Table 9 presents similar information based upon the 1988 Citizen Survey, which asked residents which town and state they worked in. Interestingly, although the information should not be directly compared to the method of collection, the distribution is very similar, with Amesbury, MA. the next highest category. Based on these figures, it appears that since 1980, the commuting patterns have remained much the same. However, the 1990 census will verify this hypothesis as being true or not.

Public Transportation

With the exception of bus and train service which are available at locations outside of the community, there is no public transportation service available to residents. Based on the Citizen Survey, this is not perceived as a problem to residents. However, the need for some form of elderly or specialized transportation service may be necessary. Therefore, Appendix C of this section contains information on the companies which service various surrounding communities and their routes for future reference.

Table 9
Journey To Work

	1980 Census		1988 S.H. Citizen Survey	
Seabrook	22	(7%)	1	(1%)
South Hampton	28	(9%)	8	(6%)
Portsmouth	8	(3%)	2	(2%)
Hampton	8	(3%)	6	(5%)
Newington, Greenland, New Castle, North Hampton and Rye.	8	(3%)	0	(0%)
Remainder of Portsmouth-Dover-Rochester, NH & Maine SMSA	10	(3%)	3	(2%)
Lawrence	4	(1%)	2	(2%)
Haverhill	8	(3%)	2	(2%)
Andover, No. Andover	12	(4%)	5	(4%)
Amesbury	45	(15%)	22	(18%)
Salisbury	18	(6%)	1	(1%)
Boston	25	(8%)	15	(12%)
Lynn, Lynnfield, Nahant, Saugus, Swampscott, Salem, Beverly, Danvers, Marblehead, Peabody	10	(3%)	7	(5%)
Remainder of Boston SMSA	8	(3%)	0	(0%)
Exeter	14	(5%)	3	(2%)
Elsewhere	52	(16%)	47	(38%)
Not Reported	24	(8%)	--	
	304	100%	124	100%

Roadway Characteristics

The roadway network in South Hampton, with the exception of Routes 107A and 150, is primarily designed to serve local transportation needs. However, many of South Hampton's roads serve as feeder roads for surrounding communities. Local roads are narrow, and in some cases are potted, and cracked due to the method of construction. In addition, some roads lack proper pavement markings such as center or side stripping which are extremely important for navigating, especially when it is dark or there is inclement weather.

One road in particular which serves as a major link from the eastern part of Town to the western half, is Woodman Road. Although part of this road is located in South Hampton, the remaining portion of the road which intersects with Route 107A is located in Amesbury. A review of the present condition of this road reveals that the portion of the road in Amesbury is severely potted and rough. The condition of the road is so severe that those wishing to utilize the road to trvel to the western part of South Hampton are probably discouraged from using it. This presents a serious problem for commuting patterns in South Hampton and should be addressed.

A review of South Hampton's roads indicates that their surface conditions are adequate. Although occassional shimming, hot topping and sanding have been applied over the years, no major work has been performed. Many of the roads in Town have erosion problems which can be partially attributed to the lack of proper drainage swales or ditches. Proper drainage is important for enhancing the life and quality of a road, since water contributes to accelerated deterioration if allowed to seep into new or existing cracks.

According to the 1987 Town Report, present maintenance techniques utilized by the road agent include the use of bituminous and Tilton Maine patch. The report also indicates that all roads were patched, the upper end of Highland Street was hot topped, and that the remainder of Highland Street should also be hot topped. Shimming and hot top work were performed on Chase and Woodman Roads, and Locust Street. Stagecoach and Chase Roads are listed as being in need of work. It is noted that Woodman Road especially needs to be upgraded due to increased travel. The report also acknowledged that work needs to be performed to numerous culverts, with one on Hilldale needing replacement.

Intersection Conditions

Rockingham Planning Commission's survey of roadway conditions in the Town of South Hampton involved a basic safety review of intersections in the Town. This review included identifying obstructions in intersections, alignment problems, and inadequate signage.

Two signage problems were noted in South Hampton. The first, and potentially the most serious, is the lack, or mislocation of traffic control signs at intersections (e.g. stop signs, yield signs). Examples are the intersection of Hilldale Avenue, Lone Goose Road, and Currierville Road, and also the intersection of Route 107A and Hilldale Avenue. Second, some streets in Town lack street signs. This can be very confusing and possibly a danger for those needing to travel

somewhere quickly, such as firefighters or ambulances. Delivery trucks and visitors unfamiliar with the area are also greatly inconvenienced. Chase Road, South Road and Jewell Street where they intersect with Route 107A are examples.

RECOMMENDATIONS

The following recommendations will assist the Town of South Hampton in continuing to provide a safe and efficient transportation network for the current and projected population.

1. The Town of South Hampton should encourage developers to minimize their impacts on existing town roads. This can be accomplished through the use of cluster subdivisions, interior roads and traffic impact study requirements for development proposals.

   (Appendix A contains guidelines for the contents of a traffic impact analysis.)

2. The Town of South Hampton, when appropriate, should require developers to minimize off-site impacts either through monetary contributions or by undertaking necessary off-site road improvements.

3. The Town of South Hampton should, as part of its subdivision, site plan review and building regulations, require development to follow proper drainage and erosion control practices.

4. The Board of Selectmen should actively enforce RSA 47:17 "Bylaws and Ordinances" under Section VIII "Traffic Devices and Signals" which empowers communities:

   > "To make special regulations as to the use of vehicles upon particular highways, except as to speed, and to exclude such vehicles altogether from certain ways; to establish stop intersections, erect and provide for the control of traffic by, stop signs or other traffic devices or signals which shall conform to standards set by the highway commissioner and shall be approved by him as to type, size, installation and method of operation."

   This RSA allows South Hampton to adopt an ordinance restricting vehicles above certain weights (to be determined by the town engineer or road agent) from designated town roads during seasonally wet periods.

5. The Town of South Hampton should continue to update its inventory of roads, thus allowing the Town to guide future roadway improvement planning. An additional step should be to prepare a roadway management plan. The plan would enable South Hampton to achieve the best value possible for the available public funds in providing and operating smooth, safe, and economical road surfaces. Typical activities include inventory, condition assessment, selection of maintenance and rehabilitation strategies, predicting needs, requirements, and budgeting necessary funds.

6. The Town of South Hampton should develop a long range plan for establishing and maintaining proper drainage swales and culverts along existing town roads to alleviate any erosion and flooding problems.

7. The South Hampton Planning Board and Road Agent should apply and enforce the standards specified in "Traffic Control Standards, Statutes, and Policies," for the proper location and placement of roadway signs, and guidelines for all pertinent traffic control issues. This manual contains extracts from the "Manual on Uniform Traffic Control Devices for Streets and Highways," which is published by the U.S. Department of Transportation.

8. The Planning Board should require that the maximum driveway grade, within 50 feet of an existing or proposed roadway, not exceed 3%. This standard should not be waived. However, the Planning Board should also amend its subdivision regulations to permit a maximum driveway grade of 6%, at any point greater than 50 feet from an existing or proposed roadway. This standard may be waived up to a maximum of 8% only in extenuating circumstances.

9. The Planning Board should require that the maximum roadway grade within 100' of an intersection, measured along the centerline, not exceed 3%. This standard should not be waived.

10. Dead end or cul-de-sac roads should provide for adequate maneuverability for service vehicles such as school buses, snow plows, ambulances, and fire trucks.

11. South Hampton should adopt a street numbering system in order to avoid such problems as difficulties or delays for emergency vehicles such as fire trucks and ambulances and any inconveniences to visitors due to confusing or missing numbers.

12. All Town roads should be reviewed for potential designation as scenic roads as a way to protect the rural landscape within public rights-of-way, thus demonstrating South Hampton's intent to maintain its rural character.

13. The Town should contact the Town of Amesbury regarding the condition of Woodman Road to determine any short or long range plans for improvements.

14. A garage for the highway maintenance equipment and materials should be planned for future needs.

Appendix A

Guidelines for Content of a Traffic Impact Analysis

Proposal

1) Size and Type of Development:

   a. Gross square feet in commercial or industrial developments.
   b. Number of units in residential developments.

2) Location Map, with Proposed Driveways.

Traffic Data

1) Manual counts for peak hour data. This data must be gathered at or near time of analysis.

2) Twenty-four hour machine counts (an average weekday). Machine counts on record may be used if taken less than two years prior to the analysis.

Traffic Analysis

1) Assumptions used (i.e. growth rates, committed improvements, other proposed developments).

2) Trip generation volumes determined using the Institute of Transportation Engineers (ITE) "Trip Generation Manual". Refer to ITE code numbers. Trip generation volumes not obtainable using the manual must be documented.

3) Required Level of Analysis:

   a. All analyses must be completed for existing conditions, existing conditions plus 10 years (no build), opening year, and opening year plus 10 years (build).

   b. Analysis for each proposed driveway at its intersection with an existing street must conform with "Transportation Research Circular 212" Intersection Capacity Analysis.

   c. Assignment of generated traffic to surrounding road network. Analysis of adjacent road network and intersections for roadway and intersection capacity. [Note: For roadway capacity analysis, techniques developed in the Highway Capacity Manual are recommended. For intersection capacity analysis, techniques developed in "Transportation Research Circular 212" are recommended].

Conclusions

1) Summary of improvements by location, including but not limited to:

   a. Additional pavement widths and markings for right and left turn lanes;
   b. additional traffic lanes; and
   c. traffic control light.

Appendix B

PUBLIC UTILITIES

Water Supply

Currently, residents of the Town are served by individual drilled or dug wells. And, although the Town is not presently served by a municipal water supply, it is possible that as the population of South Hampton continues to grow, it may be necessary for South Hampton to install a public water supply. However, this will not be necessary or financially feasible in the near future.

Due to South Hampton's reliance on private wells, it is in the Town's best interest to protect the existing water supply. Groundwater protection can help maintain individual wells and will delay the need of a municipal water supply. The protection of South Hampton's water resources is discussed in greater detail in the Water Resources Management and Protection Plan contained in this document.

Wastewater Disposal

South Hampton does not have a municipal sewage treatment facility. Instead, the Town depends upon individual on-site sewage disposal systems for wastewater treatment. To date, South Hampton has not undertaken any studies to determine the location and feasibility of a municipal sewerage system. And, as with water supply, it will not be necessary or financially feasible in the near future to install one.

It is projected that the Town will generate 86,500 gallons of septage in 2006. (Source: Kimball-Chase Co., Inc., February, 1988). South Hampton is currently in compliance with NH RSA 149-M:13 which requires that "each town either provide, or assure access to, an approved septage and solid waste facility for its residents." South Hampton's has an agreement with the Town of Hampton to dispose of septage at its wastewater treatment plant.

However, due to the lack of awareness of South Hampton's agreement with the Town of Hampton, private haulers with no site of their own have relied on the wastewater treatment facilities of nearby towns for disposal.

Electrical Service

Electricity is supplied to South Hampton by the Exeter and Hampton Electric Company (E&H). Except for a portion of Town along Route 107A, the majority of South Hampton is served by a 2.4 kilovolts (KV) transmission line. The portion along Route 107A is an 8KV transmission line which extends from East Kingston and at some point is transformed to a 2.4 KV line. There are no substations located in South Hampton. According to a spokesman at the E&H Company, the

most economical way to upgrade a line is by adding on as needed. Most likely in the future, it will be necessary for the lines in South Hampton to be stepped up from 2.4 KV lines to 8 KV, depending upon the rate of development in Town. However, Exeter and Hampton Electric Company currently has no plans for expansion.

Natural Gas

Currently, gas using residents of the Town use only individual propane tanks for heating and cooking. There is no natural gas piped into the Town. And, no forecasts have been made as to if and when South Hampton residents will be served by natural gas lines.

Solid Waste Disposal

As discussed in the previous sections of this chapter, South Hampton relies on individual wells and septic systems. Because of the potential threat of contaminating groundwater supplies, it is important that South Hampton provide for a safe, efficient method of waste disposal for residents.

South Hampton is one of 21 towns comprising the Southeast Regional Solid Waste District (SRSWD), a planning district organized under New Hampshire Revised Statutes Annotated (RSA) 149-M. This statute requires each municipality to participate in a District and to complete a solid waste management plan. Formed in December, 1986 by combining three smaller districts, the purpose of the district is to determine a regional solution to the area's solid waste disposal problem. The SRSWD, as dictated by RSA 149-M, is responsible for the "continued and ongoing planning for systematic solid waste management within its boundaries".

The SRSWD completed a District Solid Waste Management Plan in December, 1987. The plan was approved by the N.H. Department of Environmental Services, Waste Management Division in February, 1988, and describes existing waste disposal conditions in the District and makes recommendations for future disposal.

According to the SRSWD Management Plan, South Hampton is projected in the year 2006 to generate 561 tons of solid waste per year. Currently, the Town relies on the Kingston Landfill for solid waste disposal. The Kingston Landfill, located on Route 125, is approximately 50 years old. Collections are made by private haulers once a week under contract. However, since the landfill is not lined and hydrogeologic studies are underway to determine the severity of groundwater contamination, it does not appear to be a reliable longterm disposal alternative.

In March, 1988 South Hampton and ten other SRSWD communities formed the Southeast Regional Refuse Disposal District (SRRDD). Organized under N.H. RSA 53-B, the SRRDD will implement the solid waste disposal solutions outlined in the SRSWD Management Plan.

These solutions include recycling programs, the siting of a regional landfill and the siting of a regional septage disposal facility. South Hampton has one representative to the SRRDD who serves on a variety of District committees.

Although the SRSWD is already seeking regional alternatives for solid waste disposal, the issue will represent a major hurdle for the communities not only in Southeastern N.H., but the state as well.

Recently, South Hampton organized a recycling committee which is actively pursuing a program in the Town of South Hampton.

RECOMMENDATIONS

1. Undertake a program to educate residents about septic system function and the importance of proper maintenance. Materials for such a program are available through the Rockingham Planning Commission and the Rockingham County Conservation District offices.

2. Adopt groundwater protection methods which will be described in greater detail in the Water Resources section of this plan.

3. Conduct an inventory of all of the underground fuel storage tanks in Town and adopt underground fuel storage regulations as a method to ensure the safety of the Town's water supply.

4. The Town should consider developing a water testing program and establish a recording system for this information. All reports should be kept on file with the health officer and reviewed annually by the selectmen and planning board.

5. South Hampton is a rural community. The past and present rate of development has not made a public water or sewer system necessary or feasible. However, as a long range planning effort, the Town should begin investigating alternative ways to aggregate and treat sewage.

6. The Town should continue to pursue the options available for recycling.