

History Of Shoreham

by

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*Dedicated to my children
Joseph, Catherine and Michael
who were kind enough to be
quiet while I was working.*

Geographical Description

Shoreham is a residential hamlet within the Town of **Brookhaven** comprised of an incorporated village, **Shoreham Village**, and an unincorporated area surrounding the village.. It is located 65 miles east of New York City on the north shore of Long Island and is bordered by Rocky Point on the west, Long Island Sound on the north, Wading River on the east, and Ridge on the south. (See Fig, 1.)



Fig.1. Map of Long Island, showing Shoreham. From LILCO Final Environmental Statement related to Operation of Shoreham Nuclear Power Station, Docket #50-32, U.S. Atomic Energy Commission Directorate of Licensing.

It is situated on the Harbor Hill moraine formed from glacial till as the last wave of glaciation retreated from Long Island 18,000 years ago, Several depressions within the hills may be small kettle holes. The rolling hills alternate with seven deep, narrow gullies formed as melting water ran off the glacier and seeped northward back and underneath the glacier, The gullies open onto beaches composed of fine pebbles littered with large boulders deposited by the glacier. Wave action on the beach has produced some fine sand mixed with the pebbles. Between the gullies the beaches are rimmed by sandy cliffs 100 to 150 feet high, The cliffs are constantly being eroded at their base by the action of waves and at their top by occasional severe rainstorms. The updrafting of moisture-laden east winds as they meet the bluff often produces heavier rainfall than is encountered a mile or more inland, The soil in the moraine area

is composed of Miami stony loam, a thick soil presenting a rounded, knobby appearance and extending ten to twenty feet deep. The surface of the loam is strewn with large boulders of gneiss, granite, quartzite, shale, and conglomerate. South of the moraine region is a plateau formed by the glacial outwash carrying particulate material as the glacier melted and retreated. The soil is a Sassafras gravelly loam formed by thorough mixing of gravel with fine silt and clay during the late Pleistocene era. It is a soil which provides favorable conditions for the pitch pine (*Pinus rigida*)-scrub oak (*Quercus ilicifolia*) forests which grow there. (Bonsteel, 1903). (See Fig. 2.)



The Outer Lands



Fig.2. Map of Long Island, showing region of moraine and outwash plains. From Dorothy Sterling, The Outer Lands, a Natural History Guide to Cape Cod, Martha's Vineyard, Nantucket, Block Island, and Long Island, (Garden City, N.Y., 1967).

Settlement: 1671-1800

The settlement of **Shoreham** as a community is closely linked with the establishment of a settlement at Wading River in 1671. At a Brookhaven Town Meeting on Nov. 17, 1671 it was "voted and agreed upon that.

there should be a settlement at the Wading River or thereabouts of **eight** families or eight men, to have accommodations as the place will **afford.**"¹ Included among the eight men is the name of Richard **Woodhull**, a resident **of Setauket**, and one of the signers of the agreement with the **Montauk Indians** for the sale of land to the early English colonists. **Wading River and the** rest of Brookhaven Town was purchased from the Indians in the period from 1657-1675. The earliest purchase, in 1657, was a conveyance of **land** on the south side of Long Island to **Woodhull** from **Wyandanch**, Sachem of the Montauks, the **consideration** for which was "20 coats, 20 hoes, **20** hatchets, 40 **muxes**, 40 needles, **10** pounds of powder, **10** pounds of **lead**, 6 pairs of stockings, 6 shirts, 1 **trooper's** coat, made of good cloth, **20** **knives**, and 1 **gun.**"² In 1664, Tobacus, Sachem of the **Uncachaugs**, **sold** the land lying on the south side of the island east to Yaphank and north to the middle of the island to the **English.**³ In 1675, Gie, the Sachem of **Setauket**, confirmed the sale of all the land "from the west line that runs from **Stoney** Brook to the North Sea [**Long Island**] and **south** to the middle of the island, and **so to** extend to the **Wading River** or **Red Brook...to** Richard **Woodhull** and his **heirs.**"⁴ As land at that time was community owned, **Woodhull** released the land **to the rest** of the inhabitants of Brookhaven Town.⁵

The land at Wading River extending several miles in either direction from the creek was referred to as Wading River. The land west of the **creek is** now considered to be in **Shoreham**. Several of the original eight settlers appear to have settled on the **west side** of the river. In a patent of Sept. 29, 1677, Governor **Andross** confirmed the title of Richard and Nathaniel **Woodhull** to "**eighty** acres more lying Westward from ye **afor** said fresh Brook [**at Wading River**] near a mile at a Place commonly called ye long **chessnut** trees, lying in length North and South one hundred and sixty pole and in Breadth eighty..."⁶ This land, a mile and more west of the creek, is definitely in Shoreham. A sawmill was

erected on this site and began operating as early as 1710. (See Fig. 3.)



Fig. 3. Wooley's Sarv Mill was in operation from 1710 on the original Woodhull patent, along the west branch of The Wading River. Picture taken circa 1900.

From E. Meier, The Wading River: Pauguaconsuk (Riverhead, New York, 1955).

"Long Chestnuts" is also mentioned in the Town Records of 1685 when a sixty acre lot at the long chestnuts was laid out for Richard Woodhull.⁷ Early photographs show the house that his grandson built on the property in the early 1700's. (See Fig. 4.) Another early resident of the area was John Roe who owned fifty acres of land south of Isaac Dayton's lot at the Long Chestnuts, and fifty acres of land east of Isaac Dayton's land "at the Eastward Chestnuts." (Brookhaven Town Records, 1704)⁸ Isaac Dayton owned land to the west of Richard Woodhull's sixty acres and he petitioned the Town Trustees to have a surveyor "lay out and ascertain such passages and wayes to the land and meadow of the sd Isaac Dayton ... as may be most convenient."⁹ This right of way requested may have been the origin of the present Woodville Landing Road,¹⁰ On Jan. 19, 1714, Dayton's relatives, Jonathan and Nathaniel Dayton,



Fig.4.

Josiah Woodhull House, circa 1720. The original house was raised to the 2nd story, and the 1st floor was built under it. It is now the property of the Long Island Lighting Company.

From E. Meier, The Wading River: Pauguaconsuk (Riverhead, New York, 1955).

bought from John Roe "lands and dwelling house, orchard and garden at a place commonly called the 'Long Chestnuts west of Joseph Robinson's land, also a ten acre lot on the east of Joseph Robinson's land together with land lying on the west side of Isaac Dayton's meadow and the clift on the north side, with a dwelling house and barn on the land..."¹¹

A year later the Daytons sold this land to James Sell. James Sell continued to buy land in the area and when he died in 1757 his property passed to his sons, James and Wessell. James lived in the old homestead probably located at the southern end of the present Briarcliffe Road, and Wessell built a house farther east on North Country Road.¹² Land in the western part of Shoreham was laid out to Richard Miller, originally of Miller's Place, near the property belonging to Joseph Robinson,¹³

Early Life

Life in the Long Chestnuts section of Wading River was that of the

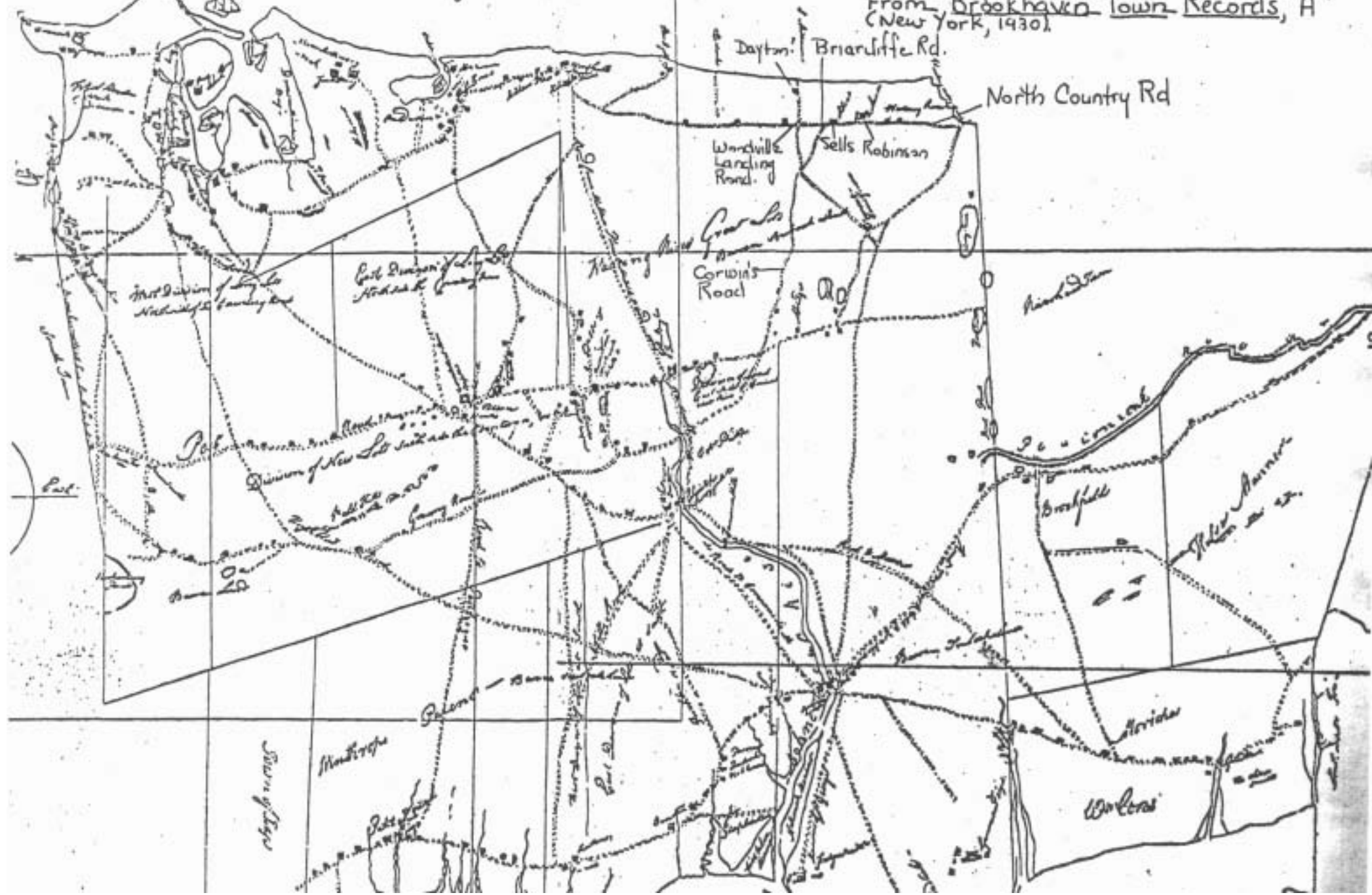
typical early Long Island settlement , devoted mainly to farming and producing those items necessary for survival. Several of the Long Chestnuts landholdings are described as large farms. In 1757 James Sell's farm consisted of "9⁵⁴ cattle...about 140 sheep, 10 horses, 22 pigs, and eight slaves..." Corn, beans, rye, and buckwheat were the principal farm crops. These were supplemented with fish and shellfish from the Wading River Creek and the Sound. Blackberries, huckleberries, and beach plums were gathered. Vegetables were grown in house gardens, pumpkin being an old standby that was used when other foods were scarce.¹⁵ Bedding and food for livestock were provided by the the Wading River Meadows, which were the common possession or the community members, among them Samuel Dayton and Richard Woodhull (Meier, 1955). Sheep were grown for wool to make clothing. Mills were available for grinding rye and buckwheat. One mill was located on the west branch of the Wading River creek across from Josiah Woodhull's house. (See Fig. 5.)

The early settlers were all members of the Wading River Congregational Church and as such contributed to the salary of the preacher. Listed among the early contributors were James Sells, John Robinson, and Josiah Woodhull.¹⁶

Swezey's Landing: 1800-1900

The beginning of the development of Shoreham as a separate community occurred in the early 1800's with the advent of the cordwood industry and the development of Swezey's Landing. Swezey's Landing was named after Daniel Swezey, Jr. who established a house and store at the end of Woodville Landing Road near the landing on Long Island Sound. His store was the headquarters for the woodcutters, carters, and boatmen involved in the cordwood industry. Both material goods, news, and mail were exchanged there. The road which led to his store, shown on maps of 1797, was laid out over part of the route of Isaac Dayton's 1704 right of way, principally as a short route for woodcutters to cart cordwood to the landing from the pine barrens in Middle Island. (See Fig. 6.) It is known in Middle Island as Corwin Road from the fact that it began near

Longland Sound



the house of the Rev, Jacob **Corwin**, and in **Shoreham** as Woodville:Landing Road from the fact that so much **cordwood** was shipped from the landing at its end,¹⁷ Its usage in the transport of **cordwood** developed due to its location in one of the glaciated gullies leading to a flat, level opening onto the beach. **From** the beach, **cordwood** was **loaded** onto a sailing vessel and shipped to New York City, As early as the **1730's** and **1740's** landings like this were being established in the bays and harbors of the North Shore to carry farm produce and wood to New York City and other ports on the Sound, The return boats brought manure, ashes, bricks, or merchandise to these Long Island communities and hamlets.¹⁸ The **cordwood** industry became so important that the whole area surrounding **Swezey's** store became known as **Swezey's** Landing until approximately **1840**, when the name was changed to Woodville Landing. A second, lesser-known landing, called **Tuthill's** Landing was located one mile east of **Swezey's** Landing. (See Fig. 7.)

The **cordwood** industry flourished along the North Shore of Long Island because of the availability of wood from the chestnut, oak, and pine forests of the **Harbor Hills** moraine and areas south of it, and because of the easy transportation to New York City via coastal schooners on Long Island Sound. **Cordwood** was used as fuel for heating homes, to fire brickyard kilns in the Hudson Valley, and later to fuel engines in the steamboats travelling Long Island Sound,¹⁹

The soil of the moraine regions on which chestnut and oak forests grew is composed of Miami stony loam and Alton stony loam, both of which are thick soils ranging from three to forty feet deep. Miami stony loam is a firm, compact, brown loam underlain by silty or fine sand for approximately thirty inches until a yellow sand layer is reached, It holds a good deal of moisture and is thick enough for the development of growing trees and plants. Alton stony loam is much the same but contains somewhat more sand (Bonsteel, 1903.) Minerals are present in

SUFFOLK CO. L.I.

Verdict:

Fig. 1. Map of Part of Brookhaven Town, showing Woodville Landing and Tutthill's Landing. Origin unknown, circa 1870-189

both soils which provide considerable amounts of potassium, lime, iron, and silicon to enrich plants. The early forests found on these soils would be likely to contain chestnut (*Castanea dentata*), red oak (*Quercus rubrum*), scarlet oak (*Q. coccinea*), white oak (*Q. alba*), chestnut oak (*Q. prinus*), hickory (*Carya tomentosa*), sassafras (*Sassafras albidus*), black cherry (*Prunus serotina*), locust (*Robinia pseudo-acacia*), and dogwood (*Cornus rugosa*). Locust is not a native tree, having been introduced to this country in 1705 (Conard, 1935). Chestnut trees were, the most common trees in Long Island forests until the chestnut blight destroyed most of them in the early twentieth century.

"The plateau area south of the Harbor Hills moraine were and still are populated by vast acres of pine barrens, containing pitch pine (*Pinus rigida*) and scrub oak (*Quercus ilicifolia*) trees. The soil directly south of Shoreham is a Sassafras gravelly loam. Which consists of a surface soil containing more gravel than loam, underlain by a bed of coarse sand and gravel. It is usually less than two feet deep and thus provides little space for development of extensive plant roots.^{19a} The well drained nature of this soil combined with the humid Long Island climate does provide favorable conditions for the growth of the pines and scrub oaks in the pine barrens. The frequent incidence of forest fire has maintained the pitch pine-scrub oak community in this area.

The oak, pine, and chestnut trees were used for heating fuel and lumber. Svenson (1936) states that white, red, and black oaks provided the largest supply of building timber from the area. Pine provided the second best construction wood and was used also for charcoal, and the turpentine, tar, and rosin extracted from it. Charcoal was produced by enclosing freshly-cut or half-burned pine branches in an enclosure made by stacking large branches closely together. The pine was burned slowly with very little oxygen until charcoal was formed. So A profitable use had been discovered for trees which had been previously burned by forest fire.

Chestnut trees were used as a source of tannin for taming leather, and as wood for poles, fence posts, barrels, casks, pipestaves, and furniture. Hickory and white oak were popular woods used in making horse-drawn carriages and agricultural tools. Locust trees were used extensively in the shipbuilding industry (Conard).

Wood was shipped by horse and wagon over Woodville Landing Road where it was **stacked** to await loading aboard ship. In the early days of the eighteenth century wood was cut during the winter months when farming **was** finished for the year. Loading the cordwood on board ship had to be done at low tide whether that occurred **during** day or **night**. Schooners came in as close as possible to shore at high tide and became **"beached"** as the tide went **out**. As the water **level fell**, the water ebbed almost completely away from the side of the vessel **nearest** to the shore. Wagons **were** driven **onto** the beach **alongside** the ship and the wood was **loaded** onto the ship **as** quickly as possible so that the **vessel could** refloat and be ready to sail when the tide **next came** in. (See Fig. 8.)

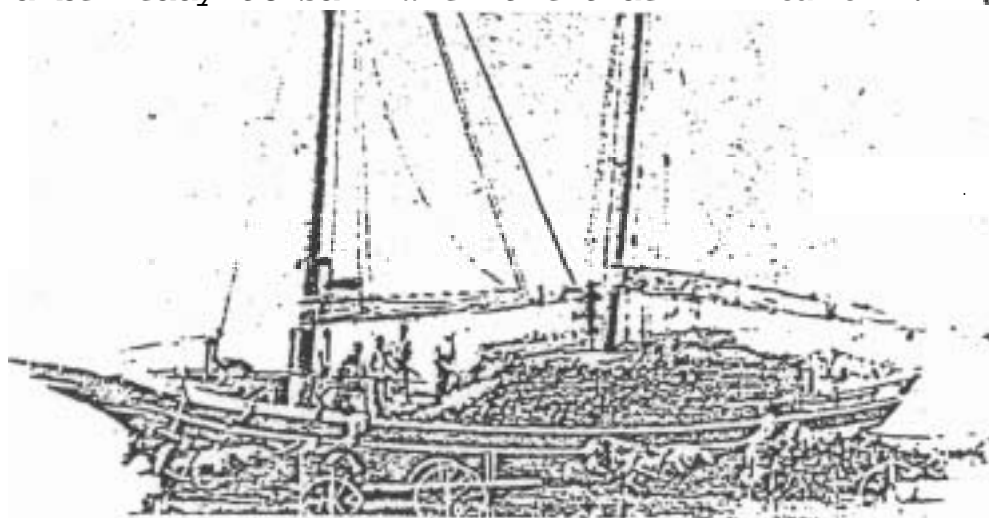


Fig.8.

The Olive Leaf, representative of the shallow sloops used for coast-wise transport, was built, owned and commanded by Captain Vincent Davis. It was used **in** the cordwood industry for many years. Picture taken in 1898.

From E. Meier, The Wading River: Pauguconsuk (Riverhead, New York, 1955).

There were many sloops carrying **cordwood** and fertilizer between the

landings in Brookhaven Town and New York City. In the late eighteenth and early nineteenth centuries Brookhaven Town shipped 100,000 cords of wood per year. In 1824, Brookhaven Town employed 100 vessels in the cordwood trade. Stony Brook alone used "1 brig, 8 schooners, 15 sloops. in the transport of 4,000 cords of wood per year with the return of 20,000 bushels of ashes, 1,000 bushels of bone, and 300 loads other manure."²¹ In fact, so much cordwood was shipped that in the middle of the nineteenth century wood began to be scarce,²²

Near the end of the nineteenth century the cordwood industry from Woodville Landing gradually declined, due primarily to the availability of coal as a source of fuel, and perhaps to the scarcity of wood. Swezey's Landing and the property surrounding it remained in the Swezey family for many years until it was transferred to the Dickerson family sometime after 1850. The Dickerson family planted extensive apple, peach, and pear orchards in the area.²³

Wardenclyffe-on-Sound

In 1895 travel by land on Long Island was difficult at best. The roads were in deplorable condition. North Country had been laid out as a dirt road in 1728 and remained a dirt road into the twentieth century. A picture of Teddy Roosevelt travelling on Route 25A in 1910 suggests that it was little more than a cowpath. (See Fig. 9.) However, this situation changed dramatically with the opening of the Long Island Railroad from New York City to Greenport. The opening of a northern branch of the railroad in 1895 reduced travelling time between Shoreham and New York City from five hours to two hours.²⁴ James S. Warden realized the possibilities offered by speedy travel and in 1895 he bought 1400 acres of land at Woodville Landing.²⁵ A few years later (about 1901) the J. S. Warden Co. published a brochure extolling the charms of "Wardenclyffe-on-Sound, Wardenclyffe, Long Island as an exclusive summer resort community an hour and a half away from the heart of New York City. Wardenclyffe thus became the fourth name for the area. (See Fig. 10.)

THEN AND NOW



Fig. 9. Teddy Roosevelt on Route 25A, August 1910. This picture was believed to have been taken west of the intersection of Wading River-Manor Road and 25A. From E. Meier, The Wading River: Pauguaconsuk (River-head, New York, 1955).

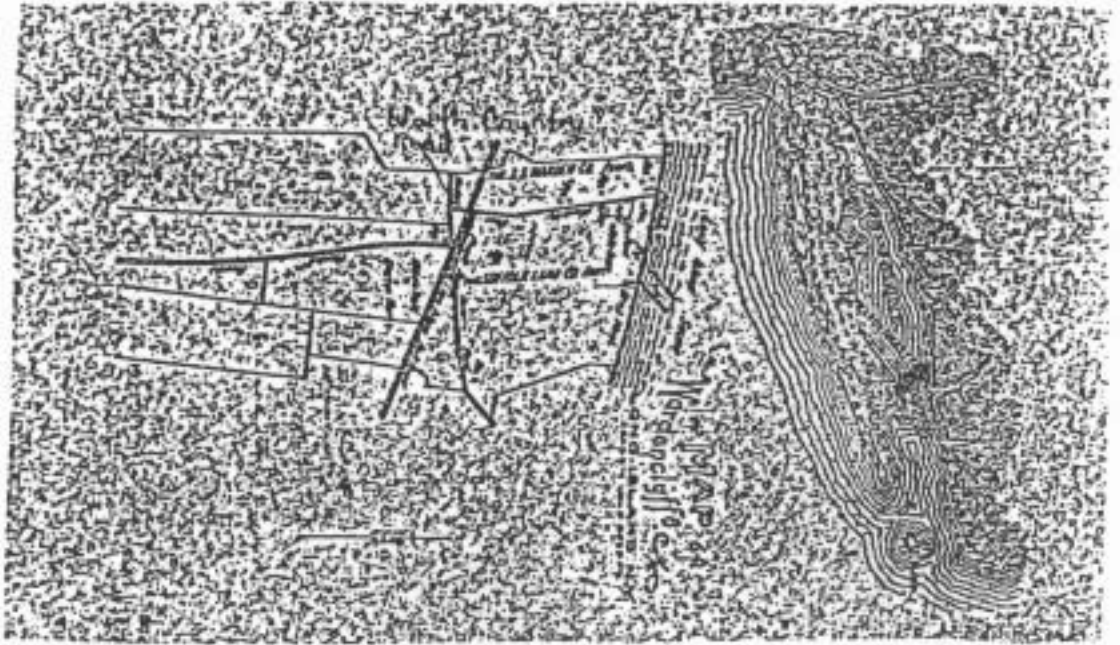


Fig.10. Map of Wardenclyffe-On-Sound, showing J.S. Warden Co. section for cottages and Suffolk County Land Co. section for estates. From Wardenclyffe On-Sound (Wardenclyffe, New York, n.d.).

The Warden Company brochure combines an advertisement of the site's physical attractions and recreational possibilities;

"Suppose a friend should tell you that within an hour and a half's ride from the heart of New York City, you could find a place to summer- yes! or winter- where the land is high above the sea, rolling, heavily wooded and picturesque; where charming drives, woodland walks, and every attraction of shore and sea abound, and the bathing, boating, and fishing were unrivalled- wouldn't you be attracted? Of course, you would... Such is Wardenclyffe-on-Sound!" (See Fig. 11.)

with an appeal to exclusiveness;

"...It is conceded that the North Shore of Long Island, because of the establishment of these large estates [Vanderbilt, Gould, Whitney] and consequent exclusiveness, is safeguarded against speculative sales

of small lots and cheap **exploitations.**"
and a promise of even easier access to Manhattan;

"The Long Island Railroad, now controlled by the Pennsylvania System, is **spending** millions of dollars on its lines along the North Shore, including,., new electric service and trains running... smoothly and rapidly,"²⁶

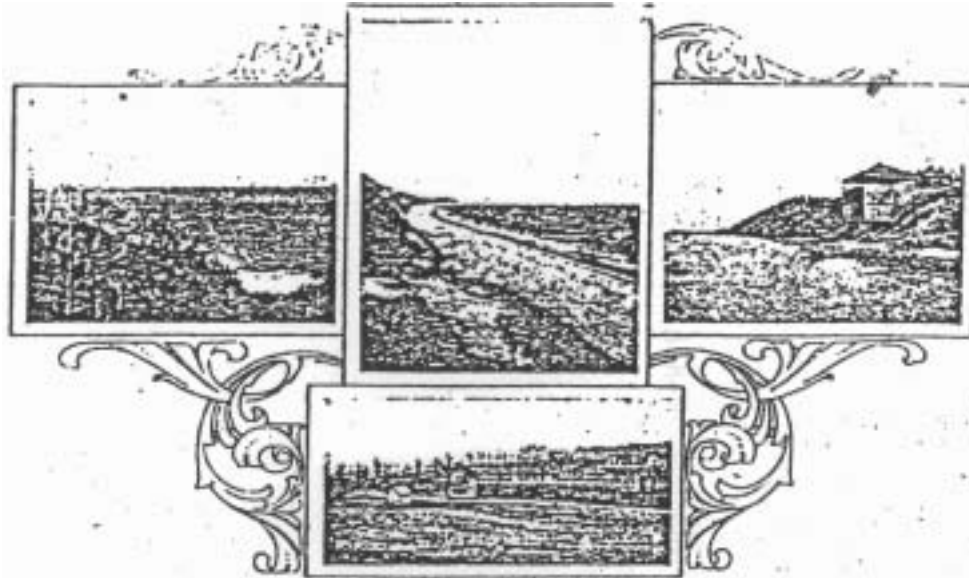


Fig. 11, THE BEACH AT WARDENCLYFFE-ON-SOUND.
From Wardenclyffe-On-Sound (Wardenclyffe, New York, n. d.).

The development was divided into **two** sections run by two different companies, (See Fig. 10.) The development to the west of Woodville Landing Road, operated by the J. S. Warden Co., contained

"a number of summer cottages and log cabins which can be rented by the season to families furnishing satisfactory references. **These** picturesque homes, all located within view of the **Sound**, are built for light housekeeping,., Pure milk, seasonable vegetables, fresh eggs and fowl are easily obtainable in **abundance.**"²⁷ (See Fig. 12.)



Fig. 12.

LOG CABINS FOR SALE OR RENT.

From Wardenclyffe-On-Sound (Wardenclyffe, New York, n.d.).

The development to the east of Woodville Road, operated by the Suffolk County Land Co. with J. S. Warden as manager and director, was for

"...those wishing large estates. The management has set apart a tract of several hundred acres exclusively for Estates."²⁸ (See Fig.: 13.)

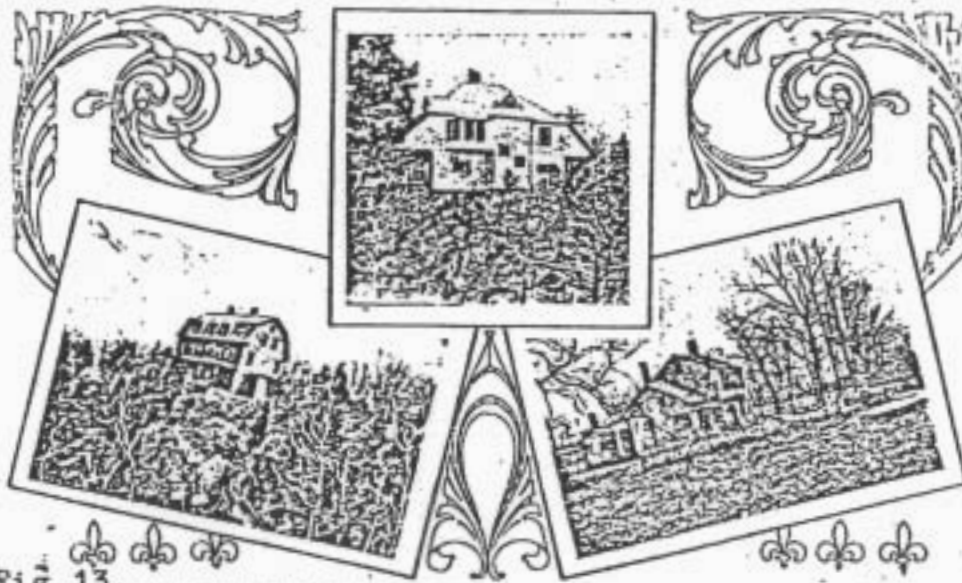


Fig. 13.

HOMES ON PRIVATE ESTATES AT WARDENCLYFFE-ON-SOUND.

From Wardenclyffe-On-Sound (Wardenclyffe, New York, n.d.).

In addition, the proprietors planned to provide all the necessary conveniences;

"This development is destined to give to its residents a purely country life in its best sense, while furnishing those conveniences which have become imperative by **custom**, **such** as a complete water system giving **to** every cottager running water; an ~~ice~~ **plant** on the grounds; and an electric light service about to be **constructed**," and certain luxuries;

"In order to meet the demands.,, of owners and lessees of cottages who desire an appetizing home table without the Trouble of house-keeping, and as a resting place for those who do not desire **household** responsibilities, the "**Wardenclyffe Inn**" is conducted, not as a money making investment, but more as a Dining and Social Club,"²⁹ (See Fig.



FIG. 14.

THE WARDENCLYFFE INN.

From Wardenclyffe-On-Sound (Wardenclyffe, New York,

The brochure's claims concerning the natural **attractions** of the **area** are to a large extent accurate. The climate is appropriate for a **summer resort** area. Listed below in Table 1 is a temperature chart for the years **1903, 1926, and 1965**, showing the monthly mean temperature at Setauket, ten miles west on Long Island **Sound**.

Table 1. **Monthly Mean** Temperature, °F., Setauket Station, N.Y. ³⁰

	Jan.	Peb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1903	30.7	30.4	36.0	47.3	58.0	67.0	72.0	71.1	65.0	54.2	44.3	35.8
1926	31.0	29.5	37.4	47.9	58.0	66.4	72.2	70.7	62.0	55.2	44.2	34.0
1965	30.4	30.1	37.7	47.5	59.1	67.2	72.0	71.3	63.2	55.0	43.9	35.8

Summer temperatures average **75-85°F.** and the extreme variations that do occur are of short duration and are tempered by the large water area surrounding Long Island. There are usually **only two** or three days each summer when the average **maximum** shade temperature is above **95°F.** Spring and autumn temperatures are **usually** mild with an average of **60-65°F.** The temperatures show a gradual increase in the spring and decrease in the fall, which with the amount of monthly rainfall, provides a long growing season for the **abundant** crops mentioned in the **prospectus**. The length of the growing season averages approximately 207 days, ³¹ The monthly precipitation chart, Table 2, shows an average of 3.73 inches of rain in each summer month, with slightly less falling in June,

Table 2. **Monthly Precipitation**, Inches, Setauket Station. ³²

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1903	4.18	4.22	4.51	3.34	3.96	2.43	4.87	4.54	3.45	4.48	4.48	4.65
1926	4.0	3.98	4.29	3.74	3.44	2.73	4.17	4.31	3.50	4.12	3.66	4.05
1965	4.10	4.0	3.89	3.22	3.13	2.11	3.96	4.13	3.43	3.87	3.82	3.65

The average yearly rainfall is 46.23 inches. There were 145 sunny days

in Setauket in 1898-99 and 121 cloudy days. (Denslow, 1901).

With a summertime average of 70°F., the waters of Long Island Sound provide excellent swimming and boating opportunities. (See Table 3.)

Table 3, Estimated Monthly Water Temperature, °F., Herod Point, 33

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1965	37	36	39	45	54	63	69	71	68	61	52	46

A disadvantage of the warm summer water temperatures is the tendency of red, stinging jellyfish (*Cyanea capillata*) to invade warm waters. These jellyfish are apt to appear in August, ruining swimming in the area,

Wind in the area is sufficient for sailing purposes, as the monthly wind movement at nearby Port Jefferson has been recorded at 6,000 miles. The record hourly wind movement was greater than 61 miles per hour. A disadvantage of the climate is the possibility of one hurricane every seven years. ³⁴

The beaches are composed of fine, white pebbles and provide habitats for many marine organisms - horseshoe crab (*Limulus polyphemus*), green crab (*Carcinus maenas*), hermit crab (*Pagurus pollicarus*), hardshell clam (*Mercenaria mercenaria*), mussels (*Mytilus edulis*), softshell clam (*Mya arenaria*) - to watch or collect. Beach plums (*Prunus maritima*) can be picked and used to make beach plum jelly,

The "wooded hills and woodland walks" mentioned in the Wardencllyffe brochure are not readily apparent in pictures of the area. Many acres of open fields and relatively few small trees are shown. (See Fig. 15.) The statement that "the Sound can be seen from every lot on the estate" was only true because there no trees to obstruct the view as there are at present,

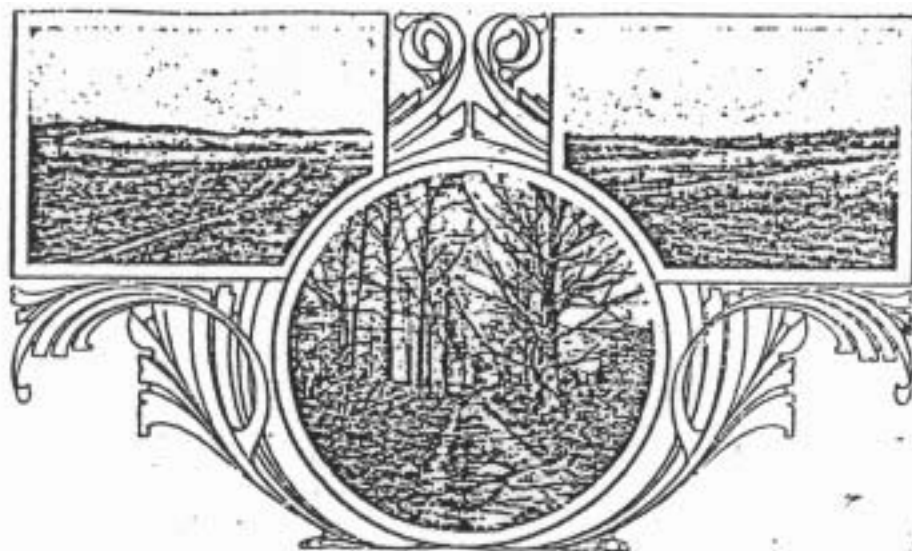


Fig. 15. SCENERY ON THE ESTATE AT WARDENCLYFFE-ON-SOUND.

From Wardenclyffe-On-Sound (Wardenclyffe, New York, n.d.).

The chestnut trees which existed in the early **oak-chestnut** forestq were no longer standing, having been decimated by the chestnut blight, **The** chestnut blight is a parasitic **fungus** brought here from Asia sometime **before 1904**, which caused the death of most of **the** chestnut trees in the Middle Atlantic and **Aew** England **states** by **the** early 1900's. **The** fungus has a vegetative part composed of many flat, **threadlike strands** called mycelium which penetrate and kill the bark and eventually the interior tissue of the tree. The reproductive part of the **fungus** produces two kinds of spores: **1)spores** contained in tiny, coiling, hairlike tendrils called **spore-horns,which** seep out of the moist spore-horn in a mass. **The** spores are sticky and adhere to birds and insects who transport them to other trees. **The** second type of 'spore is found within thin sacs which burst explosively, dispelling dry spores into the air to be borne by air currents. Enormous numbers of spores are produced and dispersed by the two methods described above, killing 99% of all existing chestnut trees. This had detrimental effects not only upon the appearance of a summer **resort** area but upon the previously mentioned **cordwood** industry. (Gravatt, 1930)

The scarcity of other trees in Wardencliff was probably due to the effects of the **cordwood** industry and to the **developer's axe** in preparing the land for easy construction of houses,

Fishing was mentioned as a recreational activity and still remains as a popular activity for sport and as a source of food. Long Island Sound contains many sport and food fish, flounder (*Pseudopleuronectes americanus*), bluefish (*Pomatomus saltatrix*), Bay anchovy (*Anchoa mitchilli*), silver perch (*Bairdiella chrysura*), bass (*Centropomus striata*), weakfish (*Cynoscion regalis*), and blackfish (*Tautoga onitis*), to name a few, **Fruits** and vegetables were **probably** available in abundance as **claimed**, for the **Peace** and Plenty Experimental Farm at Wading River demonstrated in 1905 that 380 varieties of vegetables, fruits, and other plants could be successfully grown in the area (Fullerton, 1906).

The modern electric train did not materialize but a railroad station was erected near the intersection of Briarcliffe and North Country Roads, reducing the travelling time between New York City and Wardencliff to one and one-half hours. **Figure 16** shows a picture of the railroad station.



Fig. 16. WARDENCLIFF (L. I. R. R.) STATION AND TESLA ELECTRIC TOWER.

From Wardencliff-On-Sound (Wardencliff, New York, n.d.).

Running water was provided and the water mains are still in use by the present water **company**. A water tower and a pumphouse **containing** a steam engine were used in providing service. The water tower has since been dismantled but the pumphouse has been converted into a residence in **use** today.

The Wardenclyffe Inn thrived as a restaurant and social center of the community, offering weekly **formal dances** in the **summer** time, until Prohibition sharply curtailed the **Inn's** business and forced its closing and dismantling in 1924 (**Frei, 1978**). Another **luxury** available at Warden-**clyffe** was the Beach Pavilion, a **houcelike structure** on top of the **cliff** overlooking the beach (See Fig. 11, top **right**). The **Beach** Pavilion was used for changing into beach clothes as it was considered unseemly at the time to wear beach clothes in the streets,

The Wardenclyffe-on-Sound development continued to expand until approximately 65 houses were built, including 50 cottages and 15 estates, In 1901 a postoffice was opened at **Wardenclyffe** in the general store on **Woodville** Road. In 1906 the name of the postoffice was changed to Shoreham, the fifth and **present** name for the locality,

Tesla:Worldwide Broadcasting

James Warden became involved in another venture in the area whose outcome was 'far less **successful than** that **of Wardenclyffe-on-Sound**. In 1901 he offered 200 acres of land south of his Wardenclyffe development to the 'inventor, Nikola Tesla, to build a power station , in return for which the 2,000 men to ^{be} employed at the power station would build homes on **Warden's** land,

Nikola Tesla was a brilliant scientist, born in **Yugoslavia** in 1856, who emigrated to this country and worked at Thomas **Edison's** plant in New Jersey. By **1899** he had invented the first electric motor to use alternating current and had demonstrated the use of a polyphase system **in** harnessing the power of **Niagara** Falls for the generation and transmission

of electric power, His plan at Wardenclyffe was to build a world wireless broadcasting system (radio) and a world-wide power transmission station, **His** system would provide universal distribution of news and music, interconnection of all world telephone, telegraph, and stock tickers, establishment of a secret government **communications** system and a private intelligence **system**, and the establishment of a marine navigation and spotter system, All wavelength channels were to be broadcast from a single channel, thus creating a radio-broadcasting **monopoly**. Stanford **White**, the well-known architect, and **Tesla's** friend, agreed to design the power station and tower, and the **"ideal city"** Tesla envisioned **for** the power station's workers. The wealthy industrialist, **J. P. Morgan**, donated **\$150,000** to the project.^{34b}

During the winter of 1902 a 154 foot tall mushroom shaped tower **was** constructed across from the Wardenclyffe railroad station. The tower **was** constructed of wood with **copper** sheathing and a stairway to a platform **near** the top. Below the tower was a well twelve feet square and 120 feet deep. A staircase led to the bottom of the well. (See Fig. 16,) Next to **the** tower was a 100 foot square brick building for the powerhouse and laboratory. Once the tower and laboratory were complete, Tesla stopped his daily commute **on the Long Island Railroad** and moved into a house **over-looking** the beach at **Wardenclyffe-on-Sound**.

However, there were problems completing the interior of the power and **wireless** station. ~~le~~ 300 horsepower dynamos and motors had to be designed and built specially as did the glass tubes used in transmitting and receiving signals. Tesla was able to carry on several high-frequency current experiments, but the principal project, world-wide broadcasting, lagged. Many of his minor experiments, which lit up the sky at night and produced the smell of ozone, frightened the area residents and gave rise to rumors that Tesla was trying to communicate with Mars or to use the **sun's** rays to generate electricity, ³⁵ The secrecy that he maintained about his work added fuel to the rumors. In 1905, however, rumors of another sort, that J. P. Morgan had withdrawn his financial backing, caused **Tesla's**

creditors to ..close the laboratory, All experiments stopped and Tesla moved back to New **York** City where he continued experimenting on a minor scale until **his** death in 1943. Ironically, a powerful broadcasting station was later developed by RCA two miles away.

The Tesla tower remained standing until **1917**. Two theories exist as to the reasons for its dismantling, The most intriguing is that it was being used to send signals to the Germans in World War I and was dynamited **down** by the government. The second claim is that the **Waldorf-Astoria** Hotel acquired it as payment towards an old Tesla debt and had **it** dismantled and sold for scrap. The laboratory building remained vacant until **1939** when Peerless **Photo Products**, Inc. chose it as a **site for manufacturing photo-sensitive photographic materials** due to its location in a smoke and smog free environment ³⁶ with an abundant supply of pure water and high grade, intelligent labor,

Incorporation: **Shoreham** Village

In **Sept.**, 1913 the summer colony of **Shoreham** was incorporated as **Shoreham** Village. Notice of an election to be held on Sept. 6, **1913** to incorporate the Village of **Shoreham** was posted at the Woodville Store. The Papers of Incorporation list the population as **270 people**, with 31 votes in favor of incorporation and 0 (zero) votes against. The area incorporated was forty acres of land west of Woodville Road from Long Island Sound south one-half mile to the Woodville Store. (See Fig, 17.)

Officers of the village were elected on Oct. 4, 1913 with 19 total votes cast: For President: Claude V. Pallister - 16 votes

	C. J. Tagliabue	- 3 votes
For Trustee:	A. Fradenburgh	- 15 votes
	A. Varian	- 34 votes ³⁷

At the first village meeting on **Oct. 6, 1913** R. Smith was ³⁷appointed Road Commissioner and J. Melvin was appointed **Village Clerk**. It was not until the second meeting (**Nov. 22, 1913**) that **the village** officers began to **carry out** the tasks for which they were elected: a vote to borrow money by issuing

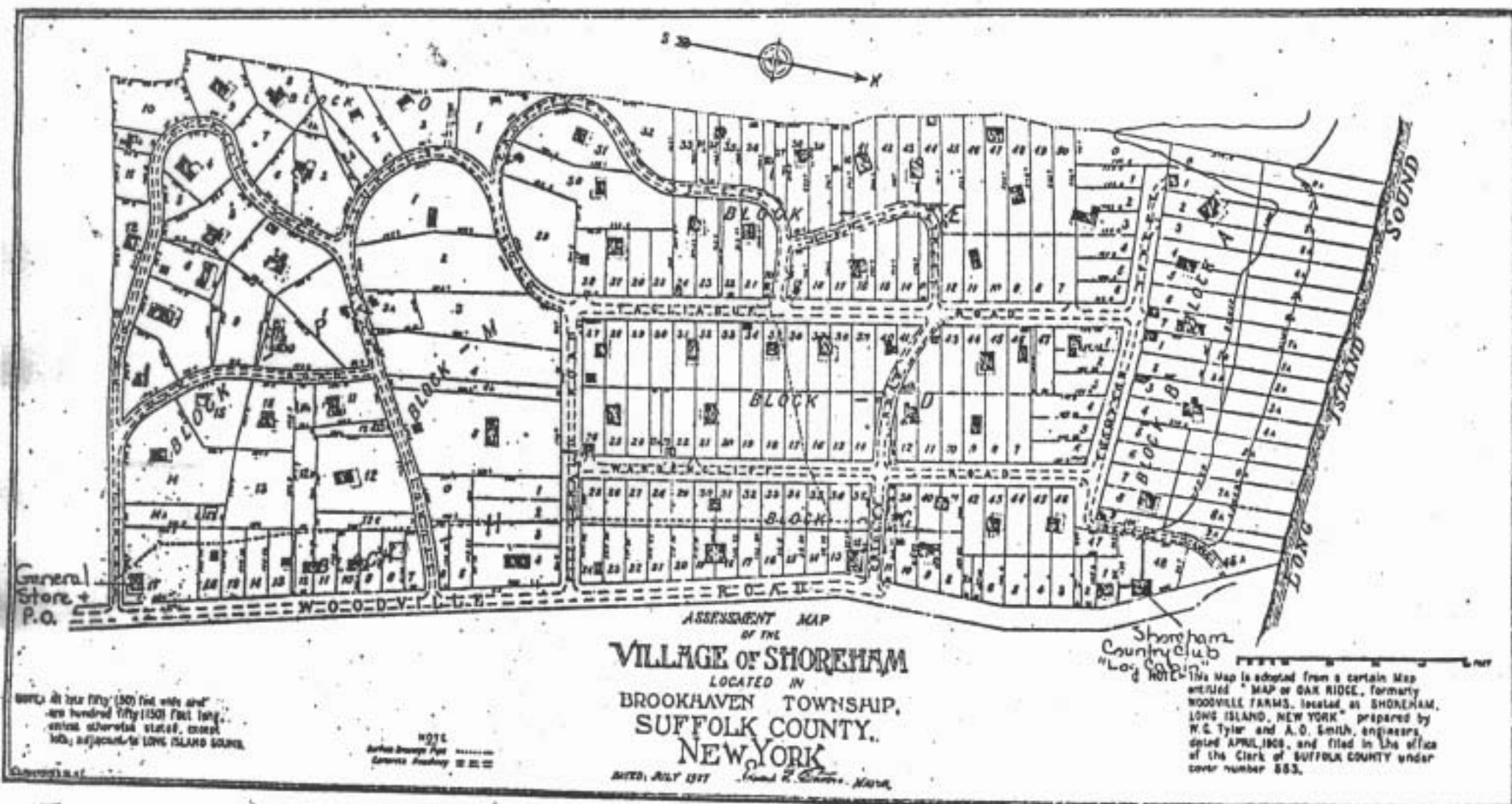


Fig. 17. Map of the original Village of Shoreham.

bonds in the amount of \$18,000 for the purpose of paving the village roads with concrete,³⁸ Aside from the reputed desire to be exclusive, the primary reason for incorporation was ³⁹to improve the dirt roads, which at that time were in disastrous condition. The village, being situated on the Harbor Hills moraine, has many hilly roads, all of which grade down into the main road, **Woodville Road**. Locally heavy rainstorms, aggravated in intensity by moist air hitting the bluffs overlooking the **Sound**, caused mud to wash down the village streets and collect in Woodville Road and homeowners' basements. Since the Town of Brookhaven had done little to correct the problem, **incorporation** was seen as a way to raise money to improve the road.

There seemed to be some early confusion in running a village as a special election had to be called on **Dec. 13, 1913** to **revote** the bond issue and elect two more trustees.⁴⁰ In spite of this special election to ensure the legality of the bond issue, a petition was sent to the Supreme Court of **Suffolk asking** the Supreme Court Justice to authorize the bond sale as legal in spite of certain irregularities which appeared in its terms and advertisement of expected interest rates,⁴¹ An affirmative decision was given and road work was finally begun in 1914. Completion of the village governmental roster took place during the summers of 1914 and 1915 when a tax collector, a police commissioner,⁴² a fire chief, and a three member Board of Health were appointed.

Shoreham remained a summer community until the post World War II period, The village meeting of Oct, **21**, 1916 has two resolutions: "**Resolved:** that removal of garbage be stopped for the season. Resolved: that cleaning of the streets be stopped for the season."⁴³ In fact, the few winter meetings of the village government that were held, took place in New York City either at a trustee's business office - Meeting, **Nov. 30**, 1917 at **A. Varian's** Office, 44 Pine St. -or club - Meeting, Oct. 10, 1932 at the Engineers Club. The summer meetings were usually held at the President's house.⁴⁴

Several of the early residents were well-known public figures of the time: **Channing** Pollock, a playwright; **Leroy** Scott, a writer; **Ludwig Bemelmans**, a cartoonist; **Helen Rowland**, an advice to the lovelorn

columnist; and **Tully** Marshall, a movie and stage actor.

Village **Services**

Much of the money expended by the village government was spent for routine municipal functions such as street repairs and cleaning, police, **and** fire protection, and garbage pickup. The village hired a policeman for the summer months, and in **1917**, discussed hiring an assistant to "preserve order on the beach and bluff at **Shoreham**" due to anticipated disturbances from residents of the "**Government Camp**" [**Army Camp Upton**]. But "**as** the Summer is a comparatively quiet one and the season is quite **advanced**" it was decided against doing so.⁴⁵ In **1947**, **Brookhaven Town's** offer to provide **police** service to the village **was** accepted and **remains** in effect at **present**.⁴⁶ Extra private duty policemen—ave also been employed by the village since **1975**.⁴⁷

The Fire **Dept.** initially consisted of volunteers and a two wheel wooden wagon with hose which could be **hooked** to the back of a buggy or car in the event of a fire. A used fire engine was purchased **for \$50 in 1923**, and in **1925** a "**heavy tone sterling siren**" Was bought for **it**.⁴⁸ The problem of where to house this fire truck peppers the village meetings for many years. In **1954**, one resident offered his garage **for such** use if the village would move the garage from his **property**.⁴⁹ This was evidently not practical because failed to accept his offer. Instead, **Dr. Adams** was **thanked** for the continued use of his garage with a pledge to find new storage as soon as **possible**.⁵⁰ The problem was finally resolved in **1961** when the fire engine was donated to the Little Plower **Childrens'** Home in Wading River,⁵¹ Immediately thereafter, the village entered into a contract for fire protection with the Rocky Point Fire Dept.,⁵² an arrangement which continues at present.

Two major concerns of the village government were: 1) **maintenance** of the exclusiveness and natural beauty of the village by property acquisition and zoning ordinances, and; 2) development of recreational facilities and programs desirable in a summer resort.

Land Acquisition

From a **small** forty acre initial area, the village acquired or annexed land until, at present, it includes approximately 350 acres. 'During this **time** the population has grown from a summer population of 270 people to a year round population of **610 residents**.

The two major land acquisitions were by **annexation** of the **Wardenclyffe** Estates area east of **Woodville** Road, and an area known as the Slopes, **76** acres south of the original village. (See Fig. 18.) By **annexation**, the **Shoreham** Estates landowners avoided paying a costly Brookhaven Town Highway **Tax** for road repair, and the village added an area whose residents were already using village facilities without paying taxes for them. This **annexation** became official on **Aug. 29, 1951**.⁵³ Annexation of the Slopes took place in **1959** after the area had been sold to a real estate developer who **planned** a housing subdivision on the **property**.⁵³ By annexation, the village could control its development according to the standards of the village zoning ordinance. Both of these **annexed** areas have been extensively developed with single family dwellings, under conditions of the 1951 zoning ordinance.

The first zoning ordinance, passed in 1927, set up three zoning use 'districts' - private **residence**, general residence, including boarding **houses**, hotels, and private clubs, and a business district, **confined** to fourteen lots including the postoffice and general store.⁵⁴ This law was amended in 1951 to include a public utility district. The residence districts were changed to Districts A and B which were limited to single **family** dwellings, churches, libraries, or private clubs, with **minimum** lot requirements of one acre for District A and three-fourths acre for District B.⁵⁵ (See Fig. 18.)

The first interest in acquiring parkland for the village was expressed at a **meeting** on Feb. 28, 1926 concerning the possibility of buying a strip of land along the **village's** western boundary. Such land was purchased in **1934**⁵⁶ and in **1959**⁵⁷ and today extends the length of the village from

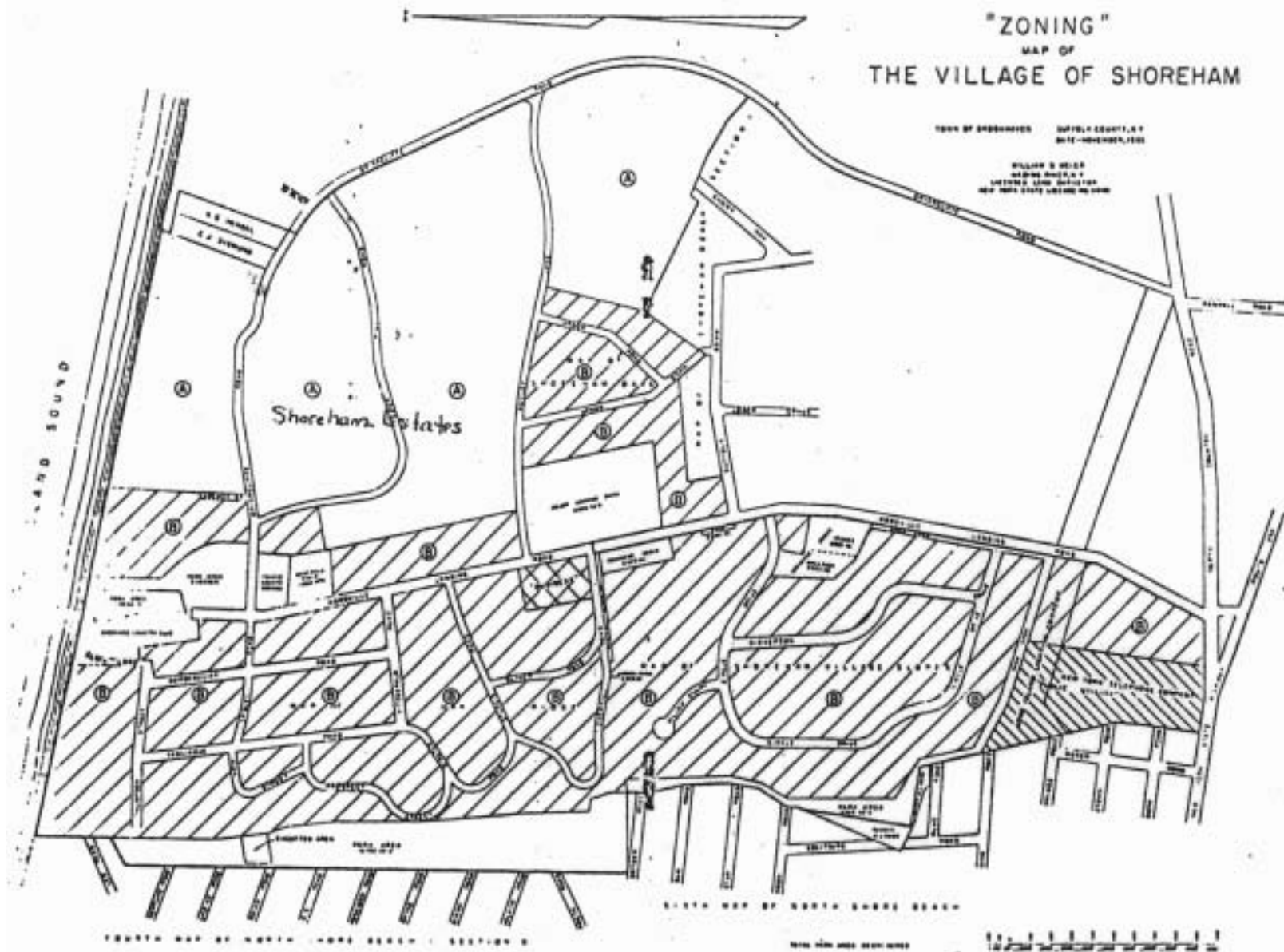


Fig. 18. Zoning Map of Shoreham Village. From the Village of Shoreham Village and Zoning Ordinances, 1961.

Long Island Sound to Route 25A. In 1954, the Major Hopkins **Park**, consisting of six acres in the middle of the village, was donated to **the village** by Mrs. Arthur Sackett to be preserved as a natural **memorial** to **her** brother, Major **Hopkins**.⁵⁸ Six acres of land at the intersection of **Briarcliffe** and Woodville Roads were purchased for parks, a ballfield, and **tennis** courts in 1954⁵⁹ and 1964.⁶⁰ By the end of 1965, the village had acquired a total of 26.6 acres of parkland, **much** of it forested with oak, hickory, and maple trees. Appendix 1 contains a list **of birds** observed in the forest by one birdwatcher.

Shoreham Country Club

A dominating force in terms of village recreation and social **life** was focused in the **Shoreham Country Club**. **The** country club was founded by a group of citizens who raised money by private subscription to build a **log** cabin on the beach at the north end of Woodville Road. The **log cabin** was used as a clubhouse for drinks and parties for its members, who included 99% of the village residents. In 1916, the **Shoreham Country Club** offered to the village "the use of its building for village purposes in exchange for tax exempt **status**."⁶¹ Thereafter, the Log Cabin was used by the village **government** for its annual **meeting** and for a grievance **day** meeting while being used the remainder of the time for club activities. On **July**, 1919, the village trustees discussed the possibility **of** building a **pavilion on** the clubhouse property and one day later they voted to **"accept** the gift of the present club property for the purposes of a village **hall** and park, subject to mortgages not to exceed \$6,000. "⁶² At the next meeting the village trustees voted to spend \$3,000 to erect a pavilion onto the clubhouse.⁶³ After spending village tax money to improve the **"village building"** the trustees voted to **"lease** to the **Shoreham Country Club, Inc.** such portion of its buildings as shall not at all times be required by Village uses for... \$500 per year. "⁶⁴ Village **uses** still consisted of only two meetings a year. It appears that the

village government was allowing the country club to function as the recreational unit of the government with the use of village funds, . . . There is some evidence that there was dissatisfaction with this arrangement by some residents, as a special election was scheduled in 1924 to see if residents wished to continue to rent the building.⁶⁵ A hundred residents attended a meeting preceding the vote and "it appeared there had been a misunderstanding among a few of the residents... as to the true situation in regard to these matters."⁶⁶ The rental arrangement persisted, however, and continues at present; In some years the Shoreham Country Club paid for additions or repairs to the village building,⁶⁷ in other years the village paid for such items.⁶⁸

A lifeguard, youth counsellor, and dancing teacher were hired by the village each summer from 1944 to 1958. Their programs were administered by the country club. In 1959, employment of these individuals was assumed by the country club. This partial separation of village and club function coincided with an increase in nonclub village residents and complaints about the use of village funds for club activities.⁶⁹ The village subsequently assumed responsibility for some recreational functions, including maintenance of 4 tennis courts and 2 platform tennis courts, and employment of a part-time summer lifeguard.⁷⁰ The Shoreham Country Club still provides most of the recreational programs, however.

The population of the village began to shift towards year-round residency after World War II when Brookhaven National Laboratory and the Grumman Aerospace Corporation opened. However, by 1964, the official census of the village was only 368 people, of which 224 were year round residents.⁷¹ Completion of the Long Island Expressway to Shirley in 1972 caused a large increase in the growth rate both in Shoreham Village and the surrounding areas. This growth is reflected in the number of schools built in the Shoreham school district between 1972 and the present: two elementary school additions, a middle school, and a high school.

Shoreham-Wading River School District

The history of the Shoreham-Wading River School District began in

1813 when the common school districts of New York State were laid out. District #6 included inhabitants of Miller Place and east to Wading River. District #1 included residents in Brookhaven Town "bounded on the East by the Wading River creek and on the West by the westerly line of James Woodhull's property."⁷³ In 1818 there were 26 children educated in District #1. In 1838 the easterly portion of District #6 was renumbered to #35,⁷⁴ and in 1842 a new school district, #10, was formed upon the petition of residents from Districts #35 and #1.⁷⁵ Shoreham Schl. Dist. #10 extended from Long Island Sound at the western boundary of Shoreham Village south four miles, and east to the Wading River creek.

The first school building was erected on Woodville Road in the early 1800's and was used until after the Civil War when it was sold as being inadequate for school use.. The second and third schools, located on North Country Road, were destroyed by fire. A fourth, Spanish style building, which remains in use today as a district maintenance building, was constructed on North Country Road in 1927.⁷⁶ This was used for elementary students until 1951 when the Upham Mansion in Shoreham Village was purchased and used under the name of the Briarcliff School. (See Fig. 19.)



Fig.19. Shoreham School, 1927-1951. Briarcliff Elementary School, 1951-1959. From Shoreham-Wading River Central School District #1 Photograph Collection.

The mansion had previously been converted in 1923 for use as a **private** boarding school.⁷⁷ Increasing student enrollment necessitated the **building** of an additional elementary school, the **Miller Ave. School**, in **1961**, to which extensions **were** added in 1966 and 1970.

Students at the secondary level were sent to the 'Port Jefferson **secondary** schools from the early **1900's** until a middle school, housing grades 6-8, was built in **Shoreham** in **1973**. Transportation to **Port Jefferson** was by railroad and frequently meant a twelve hour day, leaving home at 7 AM. and returning at 7 P.M. or later.⁷⁸ In 1927 the railroad **discontinued** regular service and substituted shuttle service, consisting of a one car combination engine-passenger car, which-made one **roundtrip** a day.⁷⁹ In **1938** service was discontinued completely and students were transported by bus. The Port Jefferson School District declined to accept **Shoreham** secondary school students after 1976, and in preparation for 'educating its own high school-students, **Shoreham** **voted** to merge with the Wading River School District. On July 1, 1973 the Shoreham-Wading River Central School District **#1** was formed.⁸⁰ (See Fig. 20.) Combining the two districts provided a large enough student population to make **their** education practical and a large enough tax base to enable construction of a secondary school building. On **Oct.24**, 1973, residents voted to erect a high school building on a forty acre tract of surplus **Brookhaven** National-Laboratory land acquired from the federal government. The 1,200 student capacity Shoreham-Wading River High School, located at the eastern edge of **Shoreham** on Route 25A, admitted its first students in Sept., 1975. (See **Fig.21.**)

Shoreham Nuclear Power Plant

A major contributor to the Shoreham-Wading River School District tax base, besides the 2,000 residences, is the Long Island Lighting Company **Shoreham** Nuclear Power Plant presently under construction. The power plant is located on an 880 acre site on Long Island Sound at the

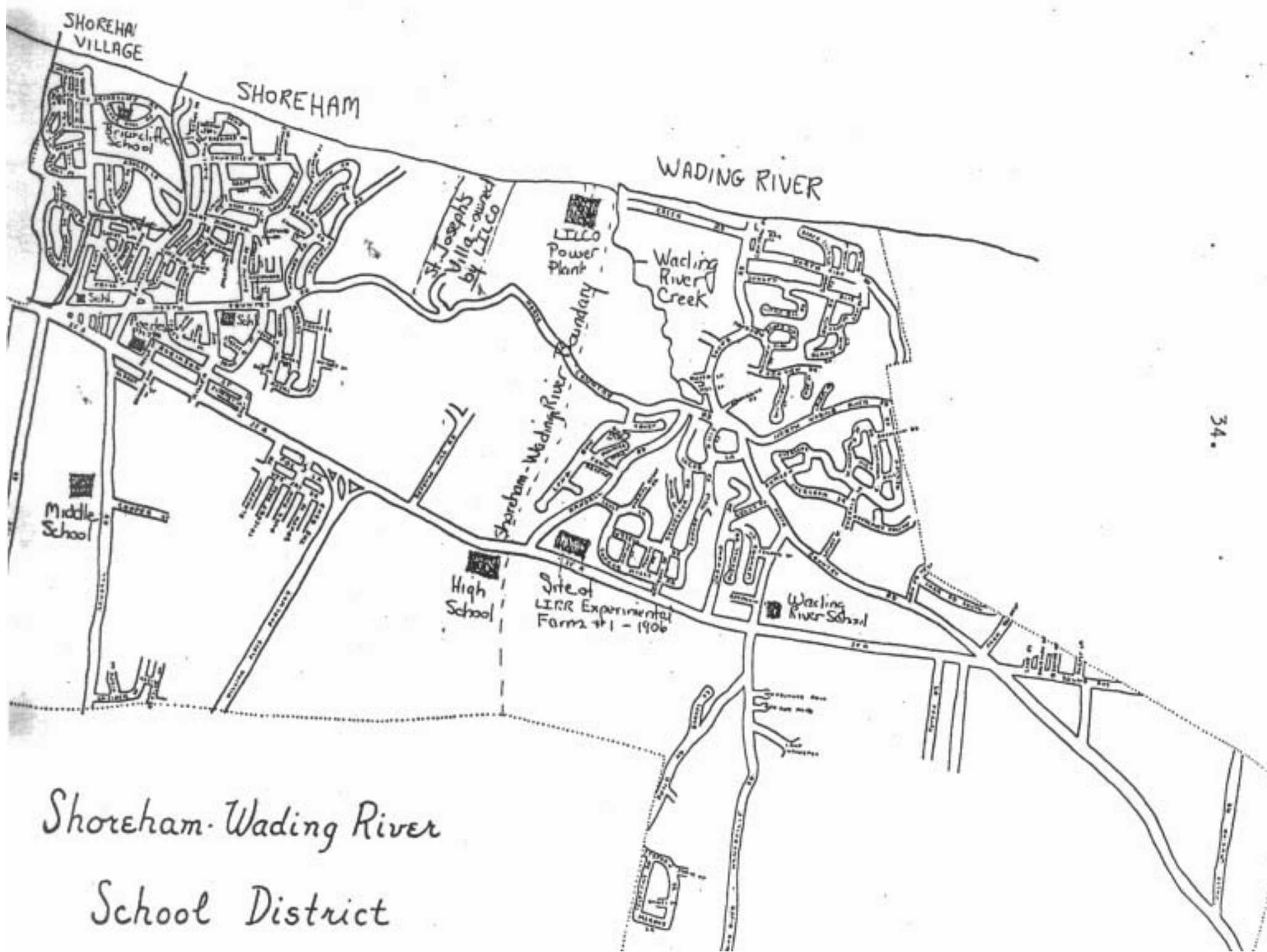




Fig. 21. Aerial View of Shoreham-Wading River High School. From the Shoreham Wading River Central School District #1 Photograph Collection.

west bank of the Wading River Creek. The reactor itself is being constructed on the northeast corner of the site about 1600 feet from the beach; station buildings will occupy another 80 acres nearby; 39 additional acres will be cleared for transmission Lines. LILCO will provide a 125 foot greenbelt on the boundaries of the site, and will provide permanent access to a beach and parking field at the Sound. (See Fig. 22) The power plant consists of an 820 megawatt boiling water reactor powered by nuclear fuel. The reactor will generate 2436 megawatts of heat, of which 1,587 megawatts are

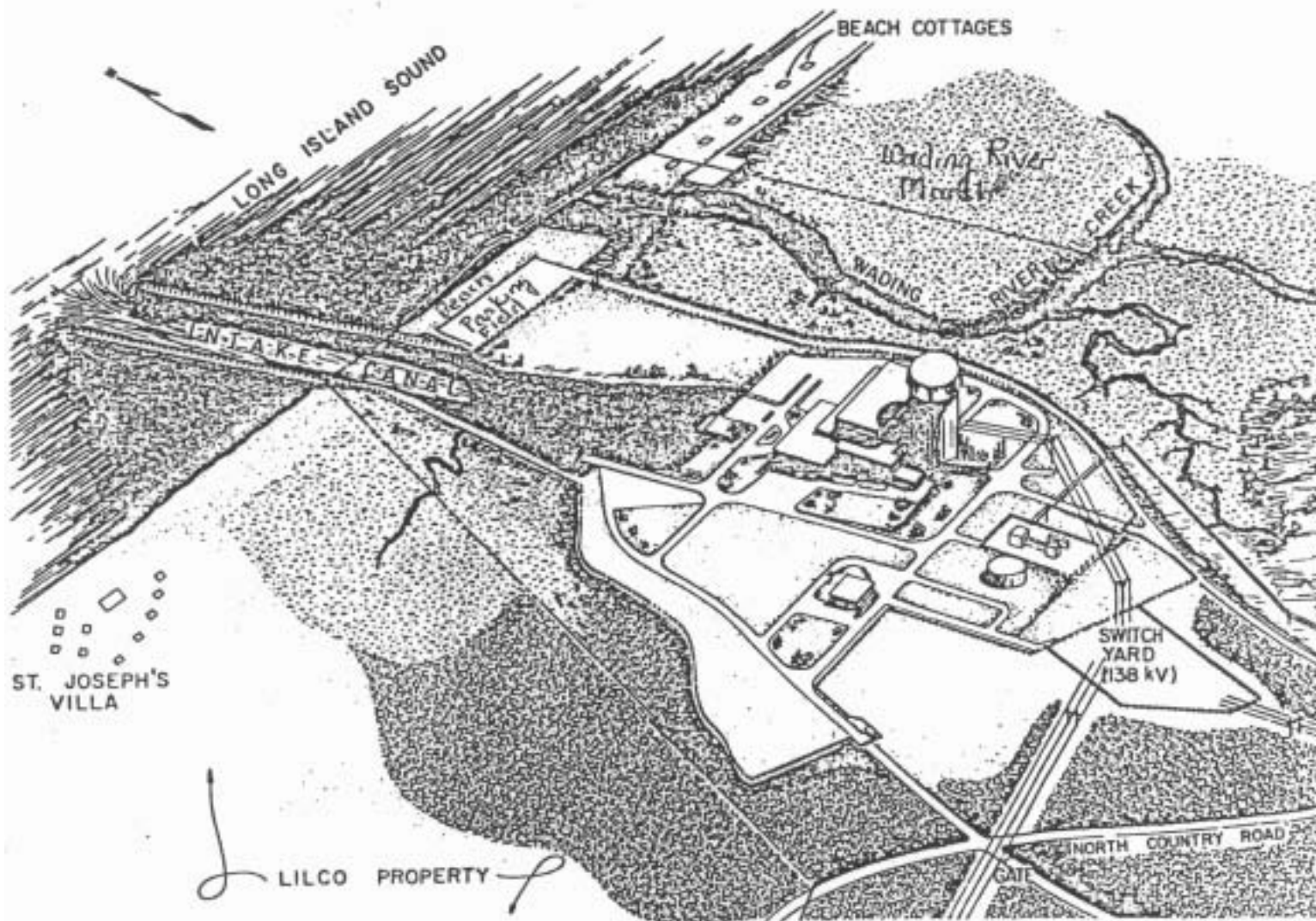


Fig.22. Drawing of the Long Island Lighting Company Shoreham Nuclear Power Station and its site as it will appear when completed. From LILCO Final Environmental Statement related to Operation of Shoreham Nuclear Power Station (1972).

waste heat. This **will** be cooled by seawater drawn into the plant **from** Long Island Sound and discharged back into the Sound heated approximately **17° above** intake temperature. Cooling water will be supplied to the **plant** through a **1600** foot long intake canal, which includes two stone **jetties** extending **600** feet from shore into the Sound, and a 12 foot deep, 1,000 feet long canal that has been dug from the shore toward the plant, **The** outflow pipe **consists** of a discharge pipe extending **1600** feet into **the** Sound. The increase in surface water temperature from **the** thermal **discharge** will be **1.5° to 4° F.** above ambient **water** temperature except within a **radius of 300** feet from **the** discharge pipe.⁸¹ The estimated release of **liquid and gaseous** radioactive wastes into the atmosphere of **Long Island Sound** will be very small, amounting to **15** curies per year. **Four hundred truckloads** of solid **radioactive** wastes containing a **total** of **550** curies of radiation will be shipped **offsite** annually,⁸²

The effect of the plant **upon the** ecology of **the area** has been **extensive**. **Six** acres of **ecologically** productive marshland (about **14%** of the Wading River Marsh) has already been destroyed by construction on the site, . Blowing sand may fill and destroy additional acreage., Deciduous forests in the **119** acres used for station buildings and transmission line **corridors** have been destroyed. The **stone jetties** extending **into** the Sound have increased erosion of the barrier dunes north of the **Wading River** Marsh, eliminating some of the **marsh's** protection from the open Sound, and endangering homes situated on the dunes, Material will have to be **periodically** dredged from the area west of the jetties and used to fill areas east of the **Wading River** creek outlet.⁸³

The effects of the discharge of heated water **upon** the marine organisms **in the Sound** is difficult to estimate. **LILCO** claims that the **"effects** should be minimal outside the immediate area of the diffuser discharge pipe,"⁸⁴ **The thermal discharge** will be **17°F** above **ambient** water temperature at the area of discharge but will be quickly cooled to **1.5° to 4° F.** above normal upon contact and mixing with the cooler water. Marine organisms **are unable** to tolerate wide temperature differences, however, and will be

affected. The number of species with northern affiliations (those whose geographical range extends further to the north of Cape Cod than to the south) will be reduced and possibly eliminated. These include the softshell clam (*Mya arenaria*), lobster (*Homarus americanus*), isopod (*Chiridotea tuftsi*), amphipod (*Ampelisca macrocephala*). Species with southern affiliations will be favored. These include the majority of species in the Sound: oyster (*Crassostrea virginica*), hardshell clam (*Mercenaria mercenaria*), razor clam (*Solen viridis*), blue crab (*Callinectes sapidus*), and starfish (*Asterias forbesii*). Unfortunately shellfish predators are among those favored by the warmer waters. Fish will be less severely affected although the warmer water temperature near the discharge pipe may bring about a change in their winter migration habits. ⁸⁵

Chlorination of the water to kill slime on condenser tubing could be detrimental to aquatic life if durations exceed 400 minutes. This possibility seems likely during the summer months. Release of other chemicals, such as copper, ozone, sodium phosphate, and sulfuric acid, may also be detrimental. ⁸⁶

One of the most significant impacts will be due to impingement of fishes upon the intake screens of the water cooling system. The damage is expected to be greatest to the populations of winter flounder, but is also likely to affect all shoreline schooling species. ⁸⁷ 1,310,000 fish were killed in a similar situation at the Indian Point Nuclear Power Plant in a period from Nov., 1969 to Jan., 1970. LILCO admits that there is significant potential for the same damage to occur at Shoreham. ⁸⁸

The effects of radiation exposure were estimated by LILCO assuming the most severe exposure pathway: example - that a duck in the area would be exposed to atmospheric radiation and would only consume marine plants growing directly next to the discharge area; the duck would concentrate radiation in its body and would then be consumed by man. The radiation levels thus acquired by man are estimated to be extremely low, well within Federal Gov't. limitations, and far below natural background radiation

found in a normal area. The estimate is that 5 millirems per year would be acquired from the power plant as compared to 100 millirems per year from normal background radiation. The possibility of an accident or sabotage to the plant resulting in significant radiation release is statistically estimated to be extremely remote.⁸⁹

The power plant's effect on the environment has been and will continue to be a significant one. How damaging that effect is and whether it is worthwhile in terms of the increased electrical productivity gained can begin to be assessed upon operation of the plant in 1981. A final answer depends upon long term effects of such operation.

Shoreham, 100 years ago part of the Wading River community, evolved a separate identity due to the economic pressures of a burgeoning cordwood industry. Today, having gone through its history as a cordwood shipping center, a summer resort area, and presently a stable suburban community, finds economic pressures moving it towards a closer relationship once more with Wading River. Mutual interests in the education of their children have resulted in the formation of a centralized school district. A public library, housed in the high school, serves both communities. The LILCO Shoreham Nuclear Power Plant affects both communities, through its contributions to the school district tax base and its environmental effects on the Wading River Marsh, Shoreham forest areas, and Long Island Sound.

Footnotes

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³B.T.R., A, p. 19.

⁴B.T.R., A, pp.41-42.

⁵B.T.R., A, p.43.

⁶B.T.R., C, p.16.

⁷B.T.R., C, p.7.

⁸B.T.R., B, p.335.

⁹B.T.R., C, pp. 45-46.

¹⁰Osborn Shaw, "History of Shoreham" (Brookhaven Town Historian's office), p.2.

¹¹B.T.R., B, p.346.

¹²Shaw, p.4.

¹³B.T.R., B, p. 345.

¹⁴Shaw, p.3.

¹⁵Evelyn R. Meier, The Wading River: Pauguaconsuk (Riverhead, New York, 1955), P.6.

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¹⁹Marilyn E. Weigold, The American Mediterranean (Port Washington, New York, 1974), p.38.

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²⁰John McPhee, me Pine Barrens (New York, 1967), p.37.

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²²Andrus T. and Harriet G. Valentine, An Island's People - "One Foot In The Sea, One On Shore" (Huntington, New York, 1976), p.

²³Mervin Pallister, Personal Communication, March 15, 1978.

²⁴Gilbert Frei, Personal Communication, April 24, 1978.

²⁵John J. O'Neill, Prodigal Genius: Nikola Tesla (Sudbury, England, 1944), p.203.

²⁶Wardencllyffe-On-Sound (Wardencllyffe, New York, n.d.), pp.1,2,4.

²⁷Wardencllyffe, pp.6-8.

²⁸Wardencllyffe, p.4.

²⁹Wardencllyffe, pp.4,6.

³⁰Plotted data from Bonsteel, p.95, Long Island Lighting Company Final Environmental Statement related to Operation of Shoreham Nuclear Power Station (1972), p.2-22, and Norman Taylor, "The Climate of Long Island," Cornell University Agricultural Experiment Station Bulletin (Ithaca, New York, 1926), p.5.

³¹Taylor, p.4.

³²Plotted data taken from Bonsteel, p.97, LILCO, p.2-23, and Taylor, p.9.

³³LILCO, p.2-18.

³⁴LILCO, p.2-23.

^{34a}O'Neill, pp.203-204.

^{34b}Arthur J. Beckhard, Electrical Genius: Nikola Tesla (New York, 1959), pp.171-176.

³⁵Steve Galante, "Shoreham's 'Mad' Scientist," Suffolk Life, May 9, 1976.

³⁶Bayles, "Radio Pioneer at Shoreham," Patchogue Advance, Sept. 13, 1951, pp.3,4.

³⁷Shoreham Village Board Meeting Minutes, Oct. 6, 1913. Hereafter cited as S.V.M.

³⁸S.V.M., Nov. 22, 1913.

³⁹Frei, Personal Communication

⁴⁰S.V.M., Dec. 13, 1913.

⁴¹S.V.M., July 2, 1914.

⁴²S.V.M., June 16, 1914.

⁴³S.V.M., Oct. 21, 1916.

⁴⁴S.V.M., June 16, 1914, July 30, 1927, Aug. 24, 1954.

⁴⁵S.V.M., July 28, 1917.

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⁴⁸S.V.M., May 14, 1923, Aug. 24, 1925.

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⁵⁰S.V.M., Aug. 20, 1955.

⁵¹S.V.M., Sept. 8, 1961.

⁵²S.V.M., Sept. 8, 1961.

⁵³S.V.M., Aug. 20, 1951, Oct. 10, 1959.

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⁵⁵S.V.M., Oct. 20, 1951.

⁵⁶S.V.M., Dec. 11, 1934.

⁵⁷S.V.M., Oct. 10, 1959.

⁵⁸S.V.M., Jan. 31, 1954.

⁵⁹S.V.M., Aug. 14, 1954.

⁶⁰S.V.M., Feb. 14, 1964.

⁶¹S.V.M., Aug. 31, 1916.

⁶²S.V.M., July 25, 1919.

⁶³S.V.M., Aug. 20, 1919.

⁶⁴S.V.M., May 28, 1921.

⁶⁵S.V.M., Aug. 23, 1924.

⁶⁶S.V.M., Aug. 22, 1924.

⁶⁷S.V.M., April 16, 1925, Oct. 13, 1934, May 20, 1936.

⁶⁸S.V.M., July 18, 1942, Sept. 22, 1946, April 27, 1950.

⁶⁹S.V.M., July 4, 1955.

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⁷¹S.V.M., Mar. 12, 1964.

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⁷⁴B.T.R., 1798-1856, p.525.

⁷⁵B.T.R., 1798-1856, p.529-530.

⁷⁶Board of Cooperative Educational Services, Second Supervisory District (1939), p. 8.

⁷⁷Mary J. Stangby, Personal Communication, April 25, 1978.

⁷⁸B.O.C.E.S., p. 9.

⁷⁹S.V.M., Nov. 18, 1927.

⁸⁰Shoreham-Wading River School Board Minutes, July 1, 1973.

⁸¹LILCO, pp. 3-5 to 3-32.

⁸²LILCO, pp. 3-41 to 3-44.

⁸³LILCO, pp. 4-4 to 4-5.

⁸⁴LILCO, p. 5-43.

⁸⁵LILCO, pp. 5-5 to 5-43.

⁸⁶LILCO, pp. 3-44 to 3-48.

⁸⁷LILCO, pp. 5-9 to 5-12.

⁸⁸LILCO, p. 5-10.

⁸⁹LILCO, pp. 5-62 to 5-79, 7-1 to 7-6.

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Appendix

Birds observed in and near **Shoreham** Parks by Mary Jane Stangby in 1977.

blackbird	white-throated sparrow
redwing blackbird	scarlet tanager
bluebird	brown thrasher
bluejay	tufted titmouse
cardinal	towee
catbird	blackthroated-blue warbler
chickadee	myrtle warbler
cowbird	whippoorwill
brown creeper	downy woodpecker
blackbilled cuckoo	red-bellied woodpecker
morning dove	Carolina wren
goldfinch	
Western finch	
licker	
grackle	
evening grosbeek	
rough grouse	
hummingbird	
ruby-crowned kinglet	
mockingbird	
nighthawk	
Baltimore oriole	
ovenbird	
owl	
phoebe	
quail	
redstart	
robin	
yellow-bellied sapsucker	