# MASTER PLAN

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY

# CINNAMINSON MASTER PLAN

A Reexamination Report
of the
Township Master Plan

Public Hearing: January 24 and February 22, 1983

Adopted: February 22, 1983

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# FOREWORD

## REPORT ON REEXAMINATION OF THE MASTER PLAN AND DEVELOPMENT REGULATIONS: 1982

In compliance with the Municipal Land Use Law, this report represents the re-examination of the Township's Master Plan.

40:55D-89a

The major problems and objectives confronting the township at the time of the 1965 Master Plan were related to rapid residential development. These development pressures required coordination of highway needs, expansion of utilities, future school sites, commercial and industrial services to serve the future residents, and careful planning of individual subdivision designs.

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Since the 1965 Master Plan, residential development has subsided due to an absence of available land. The commercial development that took place along with the residential development is now reflecting turnover in tenants and scattered vacant parcels. On the other hand, industrial development lagged behind the residential growth. While it was slow in getting started, it has enjoyed a steady growth since the 1970's. Along with this decline in the rate of development and a general settling down of events, the township population has grown older and family sizes have gotten smaller.

40:55D-89c and d

The changes in assumptions, policies, and objectives between the 1965 and 1982 Master Plans are quite numerous in detail, but relatively few in their basic elements. The basic changes recommended are outlined below. The details are included in the accompanying Master Plan text:

a. While the concept of placing industrial development in the north-west, commercial development along Route 130, and residences in the remainder of the township has been retained in the 1982 Plan, the shift in population age characteristics, family size, and school enrollment trends has resulted in proposed residential development based on both a density control as well as minimum lot sizes. This approach will not only retain compatibility with established single family neighborhoods, it will also allow more opportunity to provide townhouses to meet the growing needs of the elderly population.

b. The preservation of environmentally critical areas is addressed more specifcally in the 1982 Master Plan.

c. Population projections are lower than those forecast in earlier years reflecting the changes with respect to the increase in elderly, the drop in the average family size, a lower birth rate, and a rising death rate.

d. With the rapid development during the 1950's, 60's and early 70's, the 1982 Master Plan also proposes some corrections to the street system as a result of traffic accident patterns and congestion.

e. The Plan includes recommendations for additional pedestrian and bikeway routes to reduce school bus transportation and provide convenient access to the high school.

f. A general development goal is to encourage some senior citizen townhouse development along Route 130 consistent with the intensity of retail services along that highway and in recognition that all the previously designated commercial sites along Route 130 are not expected to be marketable for commercial use. These townhouse projects are in smaller, scattered locations around the community. Each area is intended to be at densities similar to the neighborhoods in which they are located in order to be compatible with that neighborhood. The designs are to integrate building coverage with open space and careful landscaping to assure a sense of security, privacy, and aesthetics consistent with the interests of senior citizens for whom they are intended.

g. The Master Plan recognizes the extent to which the township is already developed. It maximizes the use of existing roads and utilities to minimize undertaking major utility and road extensions. By identifying flood plains and other wet soils, the preservation of these environmentally sensitive areas can be reasonably assured as any remaining tracts might be developed in the future.

h. A long-term capital improvements program is recommended to include some road reconstruction so underdrains and storm drain systems can be provided in those areas having seasonal high water tables or other drainage problems. While such reconstruction is costly, the higher initial expense is expected to be cheaper in the long run since re-paving programs can be reduced.

# CINNAMINSON MASTER PLAN

1983

## Existing Land Use

During July, 1981 a lot-by-lot land use survey was conducted throughout the township. The results are shown on Plate 1, Existing Land Use. A similar survey was conducted during March, 1975. Both surveys show the extent of land development and provide a basis for future comparisons to measure the rate of development, land use relationships, and whether any unanticipated shifts in land use patterns have occurred.

The major land use patterns include the commercial development along Route 130, the industrial area in the northwest, large areas of single family homes extending away from Route 130 to the township boundaries, and scattered public and quasi-public uses within the residential neighborhoods.

A comparison between the 1975 and 1981 surveys shows a general intensification of development. There were no major, new developments, but rather a pattern of in-filling on many scattered parcels. For example, there was a net increase of only 55 residential acres. While new residential development consumed more than 55 acres, this was offset by a loss of 16 lots.

Plate 2, Land Use Changes, 1975-1981, was prepared to show the location of the 229 land use changes. This averaged 3 land use changes per month over the 76 months between surveys. About half were residential, another third were commercial, and the remainder were industrial and public. While the largest number of changes were residential, the industrial changes consumed the most land due to the larger industrial lots.

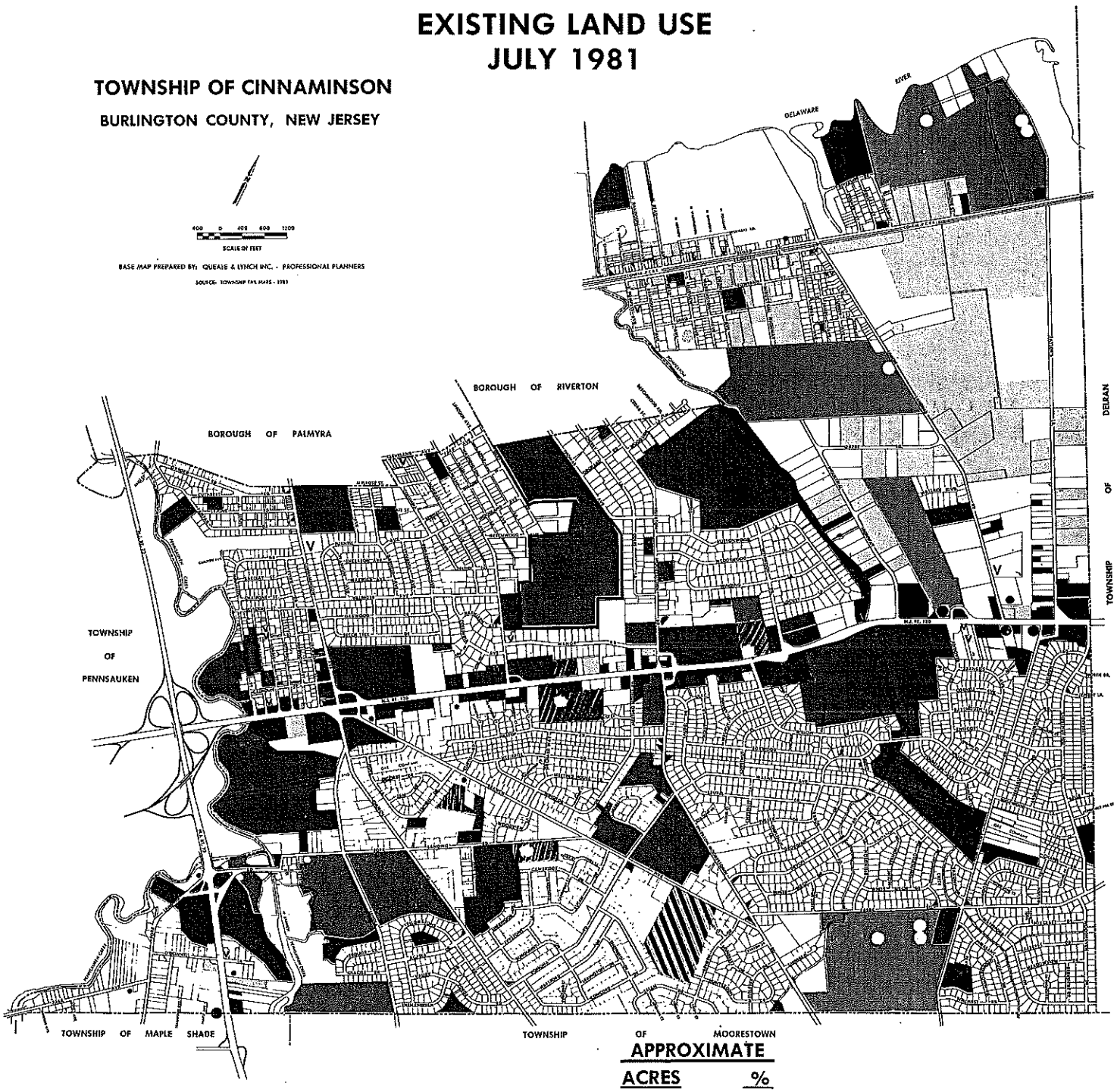
| Types of Land Use Change | Residential | Commercial | Industrial | Public & Quasi Public |
|---|---|---|---|---|
| New Uses Added | 86 | 32 | 18 | 3 |
| Lost | 16 | 1 | 2 | - |
| Change in Tenant | NA | 39 | 6 | 1 |
| Occupied in 1975, but Vacant 1981 | 10 | - | 2 | 1 |
| Current Vacancy (7/81) | - | 12 | - | - |
| Totals: 229 = | 112 | 84 | 28 | 5 |

Since 1975 there were 84 commercial changes, including 32 new uses. But the additional 20 acres of commercial use (from 165 to 185 acres) was not signifi-

# Plate 1
# EXISTING LAND USE
# JULY 1981

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY




SCALE IN FEET

BASE MAP PREPARED BY: QUEALE & LYNCH INC. - PROFESSIONAL PLANNERS

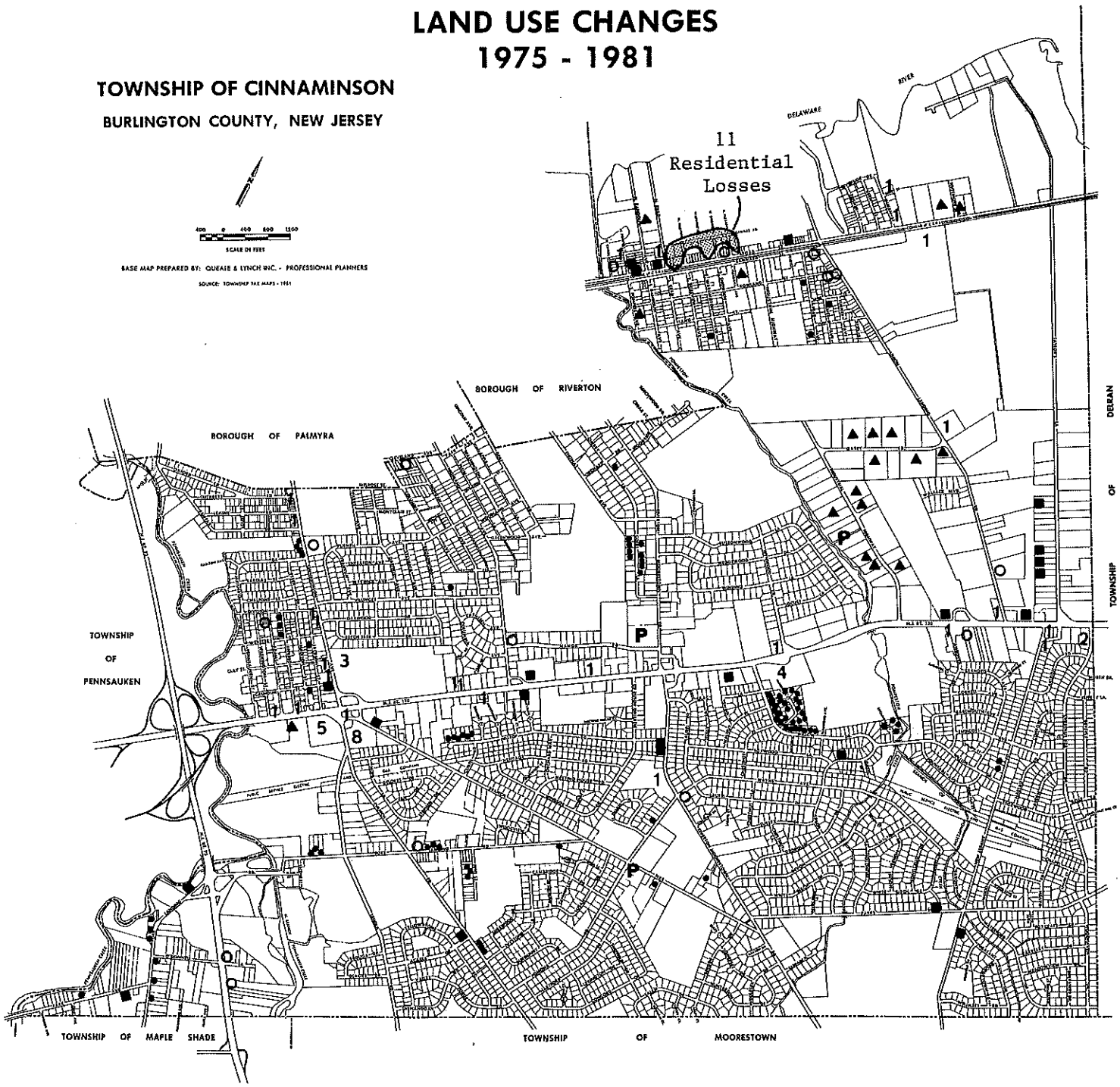
SOURCE: TOWNSHIP TAX MAPS - 1981

| | | APPROXIMATE ACRES | % |
|---|---|---|---|
| | RESIDENTIAL | 1460 | 30 |
| | COMMERCIAL | 175 | 4 |
| | PUBLIC & QUASI-PUBLIC | 645 | 13 |
| | INDUSTRIAL | 350 | 7 |
| | INDUSTRIAL-AGRICULTURE RESEARCH | 30 | 1 |
| | AGRICULTURE | 435 | 9 |
| | NURSERY | 45 | 1 |
| V | VACANT | 895 | 18 |
| | STREETS, WATER & RAILROAD | 810 | 17 |
| | | 4845 | 100 |

# Plate 2
# LAND USE CHANGES
# 1975 - 1981

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY




- ● NEW RESIDENCE
- O OCCUPIED 1975, VACANT 1981
- ■ NEW COMMERCIAL
- ▲ NEW INDUSTRIAL
- P NEW PUBLIC
- 5 NO. OF TENANT CHANGES

**DISTRIBUTION OF CHANGES**

COMMERCIAL 37%
RESIDENTIAL 49%
PUBLIC 2%
INDUSTRIAL 12%
TOTAL: 229 CHANGES OVER 76 MONTHS
= AVG. OF 3/MONTH

SOURCE: QUEALE & LYNCH, INC. SURVEYS

cant because 35 acres was the result of shifting the nursery uses from an agricultural classification in 1975 to commercial in 1981.

The largest increase in new development was in the industrial area along Industrial Highway and Gary Road. All told, industrial acreage went from 240 to 380 acres consuming an additional 3 percent of the township. This brought the total area devoted to industrial use to 8 percent.

Residential development is predominantly single family. The July, 1981 survey revealed 4,612 dwelling units (compared to the 1980 Census of 4,672). Of these, 98 percent were single family as follows:

| Type | Number of Structures | Number Dwelling Units | % of Dwelling Units |
|---|---|---|---|
| Single Family | 4,514 | 4,514 | 97.8 |
| Two-Family | 20 | 40 | 0.9 |
| Four-Family | 2 | 8 | 0.2 |
| Six-Family | 1 | 6 | 0.1 |
| Vacant Units | 9 | 9 | 0.2 |
| Mixed Comm./Resid. | 35 | 35 | 0.8 |
| Total | 4,581 | 4,612 | 100.0 |

Between 1975 and 1981, the land use surveys revealed 112 residential changes. Three-quarters (86) were the construction of new residential units. The other one-quarter represented a loss of residential lots (mostly two-family structures) and some vacancies. All 16 structures razed were in the Broad Street area. There were also 10 structures that had been occupied in 1975, but were vacant in 1981.

The pattern of the 86 new residences was scattered in what appears to have been either a few minor subdivisions or development on isolated vacant lots. The one exception was the major subdivision of 29 homes along Willow Drive and Magnolia Court.

The commercial pattern remained concentrated along Route 130. However, of the 32 new commercial enterprizes, half were "home occupations" away from Route 130. In the residential areas south and east of Route 130, professional services such as doctors and dentists represented the bulk of the home occupations. Along Taylors Lane and Broad Street, the home occupations were more in line with the industrial/commercial character of the area and included such uses as auto repair, contractor facilities, and similar services.

Between 1975 and 1981 the commercial pattern revealed a significant change in tenants. Along with the 32 new commercial uses, there was 1 loss (an optometrist's office in a residence), 39 different tenants, and 12 vacancies. These latter 51 conditions represented two-thirds of all the commercial changes and reflect a generally soft market.

The 1981 survey also reflected a large amount of commercial property still underutilized. Some properties have large side or rear yard areas. Other properties that have been developed are not fully occupied. Others indicate tenant turn-over. In general, the commercial pattern has stabilized, if not softened. While there were some new buildings, they were balanced by vacancies and turnovers elsewhere. There was no indication of strong, sustained pressure for more commerical development.

Industrial uses are concentrated in the northwest. From 1975 to 1981, there were 28 industrial changes adding about 140 acres of new industrial development. The majority of the changes, 18, were new uses. All but 1 of the new uses were in this northwest area. The exception was the office/warehouse on the east side of Route 130 near Pennsauken. In addition, 2 small industrial buildings were demolished. In contrast to more frequent commercial changes, industry had only 6 changes in tenants plus 2 vacancies from one survey to the other. While industrial development lagged behind the rapid residential development over the past 20 years, it is now catching up. The northwest area has assumed an industrial character and further industrial development will be an infilling process on the remaining sites.

The least number of land use changes involved public and quasi-public uses. In both 1975 and 1981, public and quasi-public uses occupied 13-14 percent of the township. The 3 new uses since 1975 included the new police administration building, a church at Pomona and Branch Pike Roads, and the pumping station off Industrial Highway. There was also a change in tenancy from the Memorial School on Riverton-Moorestown Road to occupancy by the Burlington County College. The other change was the church on Bannard Street near Union Landing Road which was vacant at the time of the 1981 survey. Overall, the pattern of public and quasi-public uses is one of being scattered around the township. Uses such as schools and recreation areas serve residential neighborhoods while services such as the library, municipal building and fire houses serve broader areas.

The township's land use pattern is one of a developed community. While almost one quarter of the township remains either vacant or agricultural, the largest portion of the vacant land consists of wetlands and flood plains along Pennsauken and Pompeston Creeks, some isolated residential lots, some of which can be subdivided into 2 or 3 lots, a few scattered farm sites near the Moorestown and Maple Shade boundary, rear portions of undeveloped commercial property along Route 130, and scattered tracts in the industrial district.

Future development will be limited to the slower in-filling process on remaining sites, along with a few changes that might occur in existing buildings. In addition, design constraints can be expected on many of the few remaining sites because of either environmental problems or restrictions on the size and shape of the property.

## Natural Resources

Soil and flood characteristics have an impact on land use decisions. The Engineering Soil Survey of New Jersey identifies soil types by letters; the particle size by numbers; and surface drainage classifications by lower case letters. The particle sizes range from "1" (stone fragments such as gravel, coarse sand, and cinders) to "7" (very fine particles such as clay and marl). Soil types consisting of two numbers, i.e. 24, indicate the size of the particles range from "2" to "4". The lower case letters at the end of the symbol reflect an estimate of the drainage conditions. Conditions are described as ranging from very poor to poor (vp), poor to imperfect (pi), imperfect to good (ig), and good to excellent (ge).

To a limited extent the township has soil types noted by a fraction. The soil type shown in the upper part of the fraction appears at the ground surface while that on the bottom of the fraction exists at variable, but shallow depths, under the surface. Generally, the soil of the underlying formation is close enough to be encountered during ordinary construction and might even emerge above the ground surface in scattered instances.

Plate 3, Soil Types, illustrates the marine tidal mashes and alluvial soils along the Delaware and up the Pompeston and Pennsauken Creeks. In addition, areas of "imperfect to good" drainage appear around the periphery of these wet areas as well as in the corner of the township off Parry and New Albany Roads. In this latter area the poorer drainage is due to the surface material being underlain by marine deposits of clay and marl.

AR: This is recent alluvium. It is normally along streams, characterized by flat low lands, and often integrated with swamps. The material is mainly silt and sand with some clay. A significant amount of organic matter near the surface is not unusual. Drainage conditions are usually extremely poor at lower elevations because of the stream and prevailing water tables. At slightly higher elevations, imperfect drainage conditions might occur.

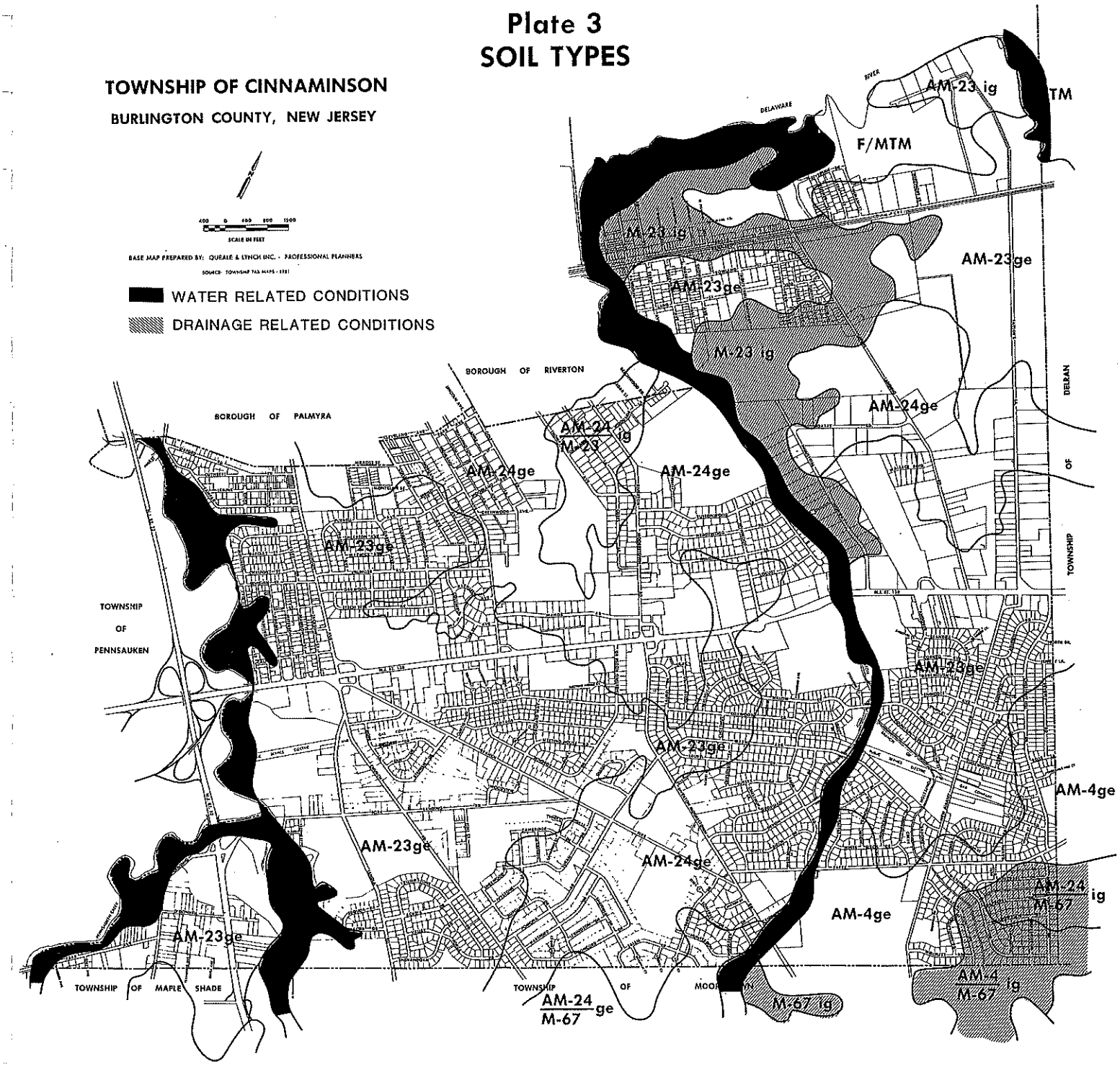
AM: This is stratified alluvial material having varying thicknesses of silt, sand, gravel, and clay. The specific texture in the township generally ranges from granular sand, to fine sand, to silty soils. For the most part, this soil type appears as rolling, low hills and has "good to excellent" surface drainage. "Imperfect to good" drainage is noted where this soil is underlain by marine soils. Internal drainage can be expected to worsen to the "imperfect to poor" conditions where the particle sizes decrease and the more dense, clay conditions are encountered.

M: This soil consists of stratified deposits of marine origin with a full range of particle size from sand to clays and marls. The major location of this soil is along Pompeston Creek west of Route 130 running toward the Delaware River. The land itself ranges from low, poorly drained areas along steams to gently rolling hills and some upland areas away from the stream corridors. Surface drainage depends upon the soil's position in relation to stream corridors as well as the degree of slope. The more slope, the better the surface drainage. Some elevated areas can have imperfect drainage because of poor internal

# Plate 3
# SOIL TYPES

## TOWNSHIP OF CINNAMINSON

### BURLINGTON COUNTY, NEW JERSEY



drainage characteristics and flatter terrain. In particular, as the finer particles and more dense soils of clay are encountered, internal drainage is very poor.

MTM: Marine tidal marsh is found along the Delaware River as well as various distances up the Pompeston and Pennsauken Creeks. Most of these areas consist of a decomposed organic mat extending 2 to 5 feet below the ground surface, underlaid at varying depths by highly organic sand, silt, clay-silt and clay. The maximum thickness of tidal marsh material is not known, but deposits in the larger streams near their entrance to the Delaware River are expected to exceed 10 feet. (Some areas west of Broad Street have been filled since the 1955 Rutger's survey so the maps do not reflect current conditions.)

F/MTM indicates landfill areas along the Delaware. Normally this F/MTM symbol indicates hydraulic fill pumped from the channel of the River.

While the texture of the soils throughout the township is generally in the category of sand and gravel, the water-related problems are clearly associated with tidal areas, stream courses, and minor occurrences of areas underlain by clay. As the proportion of soil consisting of clay increases, internal drainage is impeded.

Plate 4, Soil Conservation Service Classifications, shows the configuration of the 18 soil classifications identified in the township. While the Soil Conservation Service Maps are more detailed, neither the Rutgers' nor the SCS data can be used for site-specific determinations. They both show general characteristics indicating areas where surface and internal drainage characteristics might require special consideration when reviewing development plans. By mapping this information, the data gives some indication of the degree to which soil conditions might impose a limitation on a site. As site-specific information is generated by an applicant, more precise boundaries of the problem soils can be identified.

The legend on Plate 4 outlines the symbol, name, and general characteristics of the soil types. Five soils have high water table characteristics and another three have moderately high water tables. When plotted, the five with the worst (or highest) water conditions are along the Pompeston and Pennsauken Creeks. Another smaller area is between Broad Street and the Delaware River. The areas having moderately high water tables are, in large part, along smaller drainage courses and in the more sluggish headwater areas in three basic areas: the broad area toward the Delaware River; around the eastern corner near the Moorestown and Delran boundaries; and in the higher elevations of tributaries to the Pennsauken Creek.

Plate 5, Flood Plains and Environmentally Sensitive Areas, is a composite map developed from the Federal Flood Insurance Maps and the Rutgers' and the SCS data.

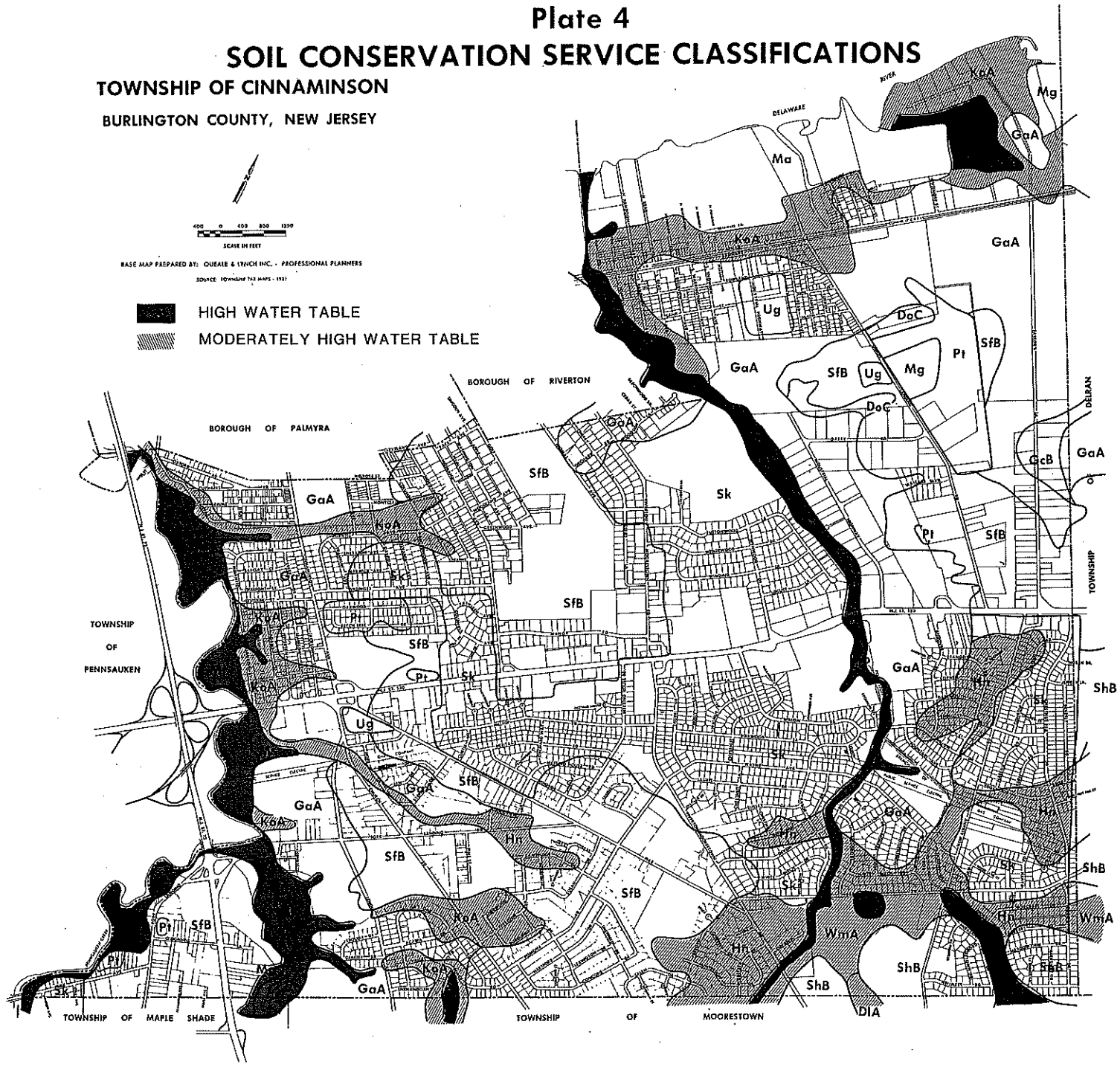
Development should not occur in the obvious flood plains and tidal marsh areas. Preferably it should not occur in the areas with moderately high water tables since the data implies many of these areas will have severe limitations with

# Plate 4

# SOIL CONSERVATION SERVICE CLASSIFICATIONS

## TOWNSHIP OF CINNAMINSON

### BURLINGTON COUNTY, NEW JERSEY

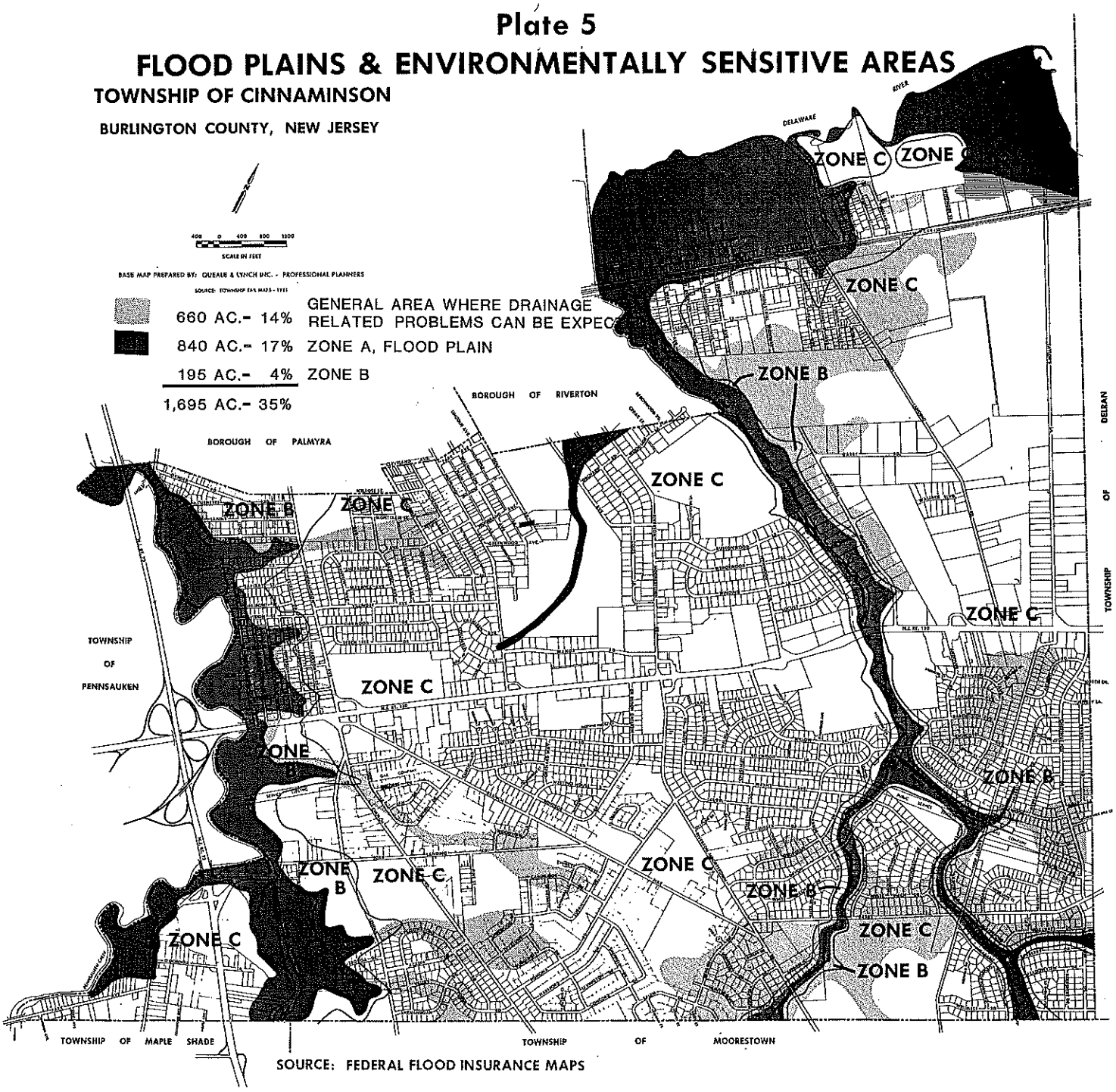


# Plate 5

# FLOOD PLAINS & ENVIRONMENTALLY SENSITIVE AREAS

## TOWNSHIP OF CINNAMINSON

### BURLINGTON COUNTY, NEW JERSEY




SOURCE: FEDERAL FLOOD INSURANCE MAPS

respect to constructing and maintaining streets, parking lots, and lawns. Where higher water tables exist, the freezing and thawing action of water can more rapidly deteriorate paved areas resulting in higher maintenance costs. Proper drainage is essential in order to minimize these problems. While the maintenance of landscaped areas and lawns is an important aesthetic consideration, it is also important with respect to stabilizing soil to prevent erosion and the resulting siltation of drainage courses.

All told, over one-third of the township has some sort of flood plain or wetness problem. The largest portion is Zone A of the Federal Flood Maps which identify the tidal marshes, Pompeston Creek corridor, and the wet areas along the Delaware River. These areas represent 17 percent of the township and approximately 840 acres.

The second largest category is the enlarged area around the drainage corridors, i.e. the area of moderately high water table around the perimeter of the flood plains. Combined these represent another 14 percent of the township or about 660 acres.

The smallest of the three categories is Zone B of the Federal Flood Maps. Zone B is generally an extension of the actual flood plains and represents only 4 percent of the township or about 195 acres.

Traffic Report

The township's traffic patterns are influenced by such major corridors as the railroad, Route 130, the Pompeston and Pennsauken Creeks, and the Delaware River. They are a combination of natural and manmade barriers that divide the township into sections and have only limited locations where they can be crossed.

The river, for example, is crossed only by Route 73 at the Tacony-Palmyra Bridge. The railroad is crossed at Read Avenue, Union Landing Road, and Taylor's Lane while Route 130 is crossed at three locations in addition to three jughandles giving access from one side or the other. Pompeston Creek is crossed at Broad Street and Route 130 in the western half of the township, and by four local streets and the Riverton-Moorestown Road on the east. Pennsauken Creek along the township's southern boundary is crossed by Route 130 and a narrow bridge on Fork Landing Road. While Route 73 also crosses the Pennsauken Creek, this artery primarily serves east/west, regional traffic. Park Avenue in the far southeast corner is a local street crossing into Pennsauken.

All the railroad and street crossings are grade-crossings. There are no vehicular overpasses. While the Route 130 intersections are controlled by traffic signals and jughandle designs, traffic is nevertheless periodically congested at peak hours. By comparison, the grade separated interchange at Routes 130 and 73 provides a variety of ramps and bridges allowing reasonably free flowing traffic.

During February, 1982, a survey of street conditions was completed. In general,the impression was one of an aging street system consistent with the age

of development in the township. One consistent pattern was deterioration around manholes, gas and water valves, and along seams. In addition, a seasonal high water table was also apparent. Some areas around seams, manholes, and other cracks in the surface were oozing water. Water can cause problems as it freezes and thaws, breaking the surface and creating pot holes.

Other conditions were also noted, e.g. the ten traffic signals, fifteen segments of unpaved roads, three railroad grade crossings, and two sharp curves (Fork Landing Road near Pennsauken Creek). However, the most noteworthy were the 33 locations where impairment to driver visibility was indicated. With the exception of a crest in a hill at the Moorestown boundary, blocked visibility by cars parked on private property, but close to the curb line of Broad Street, and grading of the land in the sight triangle at Park Avenue and Fork Landing Road, the vast majority of visibility problems were related to matured trees and shrubs at street intersections. Selective pruning of lower tree branches or cutting back overgrown shrubs should be sufficient in most instances.

The traffic accident pattern for 1980 and 1981 is shown on Plate 6, Two--Year Traffic Accident Pattern. Of the 1,356 accidents (697 in 1980, 659 in 1981), the major concentration was along Route 130 and at a variety of intersections along other collector and arterial roads. Accidents along major corridors are predictable from year to year while accidents on local streets in residential neighborhoods will vary.

There were 42 locations having 5 or more accidents. Almost half were either along Route 130 or at its intersections. Only four of these intersections had from 16 to 25 accidents, two of which were on Route 130. Another six locations had more than 25 accidents --four on Route 130, a fifth on Route 73 at Fork Landing Road, and a sixth at Broad Street and Taylor's Lane.

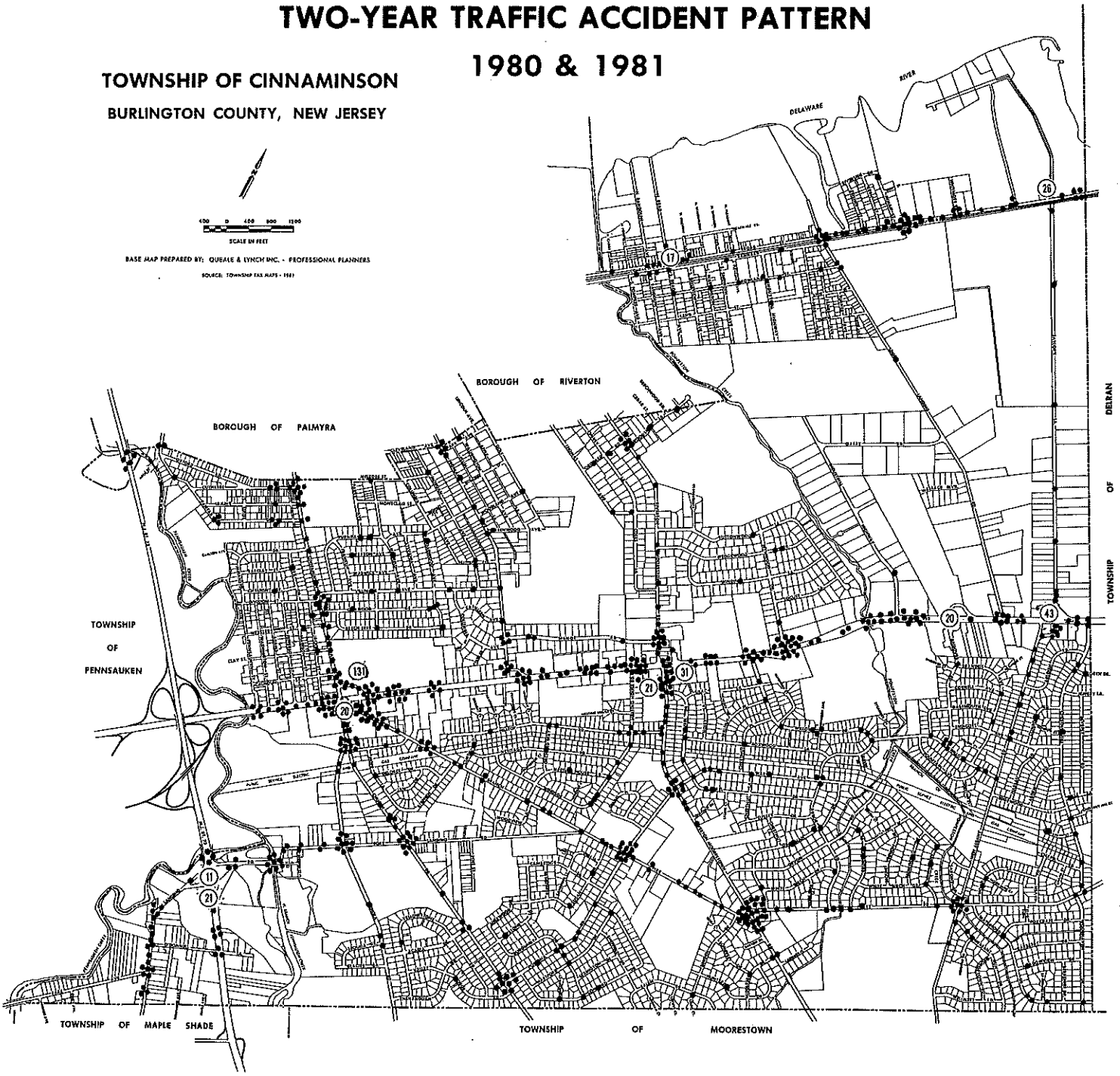
The highest accident rate was where Route 130 intersected Cinnaminson Avenue, Church Road and Branch Pike. This intersection had 190 accidents over the 2 years and totalled 14 percent of all accidents in the township. This equalled more than one accident every four days. In addition, there were another 26 accidents just beyond the intersection. The second highest number of accidents was at Route 130 and Riverton-Moorestown Road with 69 accidents during 1980 and 1981. Overall, the Route 130 corridor and the jughandles serving that highway accounted for 485 accidents or 36 percent of the township's total. The 10 locations having 16 or more accidents accounted for 416 accidents (31 percent).

Plate 7, Accident Trends, shows that over the past 6 years the township had a low of 557 and a high of 813 accidents a year. The average was 700. The accidents on State highways ranged from 37 to 44 percent of the total while another 22-27 percent occurred on County highways. Roughly, therefore, about two-thirds of all traffic accidents are occurring on either State or County highways reflecting their collector and arterial functions and higher traffic volumes.

This 6-year history also showed that there was an average of almost 2 accidents a day, 365 days a year. Over one-third involved injuries and, in the last 4 years, the township has had 3-5 fatalities a year. From 77 to 83 percent of all accidents involved 2 or more vehicles, but another 7 to 10 accidents a month

# Plate 6
# TWO-YEAR TRAFFIC ACCIDENT PATTERN
# 1980 & 1981

## TOWNSHIP OF CINNAMINSON
### BURLINGTON COUNTY, NEW JERSEY




**1980 = 697 ACCIDENTS; 4 FATALITIES**
**1981 = 659 ACCIDENTS; 5 FATALITIES**
**42 LOCATIONS W/5-15 ACCIDENTS; 20 ON RT. 130**
**4 LOCATIONS W/16-25 ACCIDENTS; 2 ON RT. 130**
**6 LOCATIONS W/OVER 25 ACCIDENTS; 4 ON RT. 130**

Plate 7

Cinnaminson

## ACCIDENT TRENDS

1976 - 1981

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|
| Total Accidents | 557 | 698 | 813 | 770 | 697 | 659 |
| State Highway | 237 | 286 | 346 | 302 | 258 | 289 |
| County Highway | 150 | 156 | 190 | 193 | 179 | 167 |
| Municipal Streets | 170 | 256 | 277 | 275 | 260 | 203 |
| Summer (June,July,August) | 103 | 157 | 189 | 168 | 177 | 144 |
| Fall (September,October,November) | 140 | 195 | 203 | 191 | 183 | 157 |
| Winter (December,January,February) | 157 | 173 | 217 | 223 | 168 | 177 |
| Spring (March,April,May) | 157 | 173 | 204 | 188 | 169 | 181 |
| Other Vehicle | 434 | 568 | 654 | 592 | 569 | 546 |
| Fixed Object | 89 | 96 | 125 | 112 | 115 | 90 |
| Hit and Run | 33 | 47 | 67 | 50 | 65 | 53 |
| Motorcycle, Bicycle, Pedestrian | 27 | 22 | 10 | 16 | 10 | 11 |
| Number of Injuries | 247 | 235 | 265 | 263 | 237 | 241 |
| Number of Fatalities | 0 | 1 | 4 | 5 | 4 | 5 |

were where a vehicle hit a fixed object such as a telephone pole, tree, etc. There was also an average of 3 to 5 hit and run accidents a month. Based on New Jersey Department of Transportation data, the accident rate on Route 130 in Cinnaminson was 2 times the State average for a similar highway in 1975 and 1.25 times the State average in 1980. It also had 2 times and 1.25 times the state average for the number of accidents resulting in injury.

With 70 percent of the accidents occurring on major roads and 60 percent occurring at street and driveway intersections, the importance of intersection designs and land use patterns along arterial highways can be seen. A comparison of traffic accidents to locations where there was surface deterioration revealed only 9 percent of the accidents happened in these locations. This indicates that although the surface deterioration might be a costly problem and an annoyance, it has not resulted in an identifiable safety hazard.

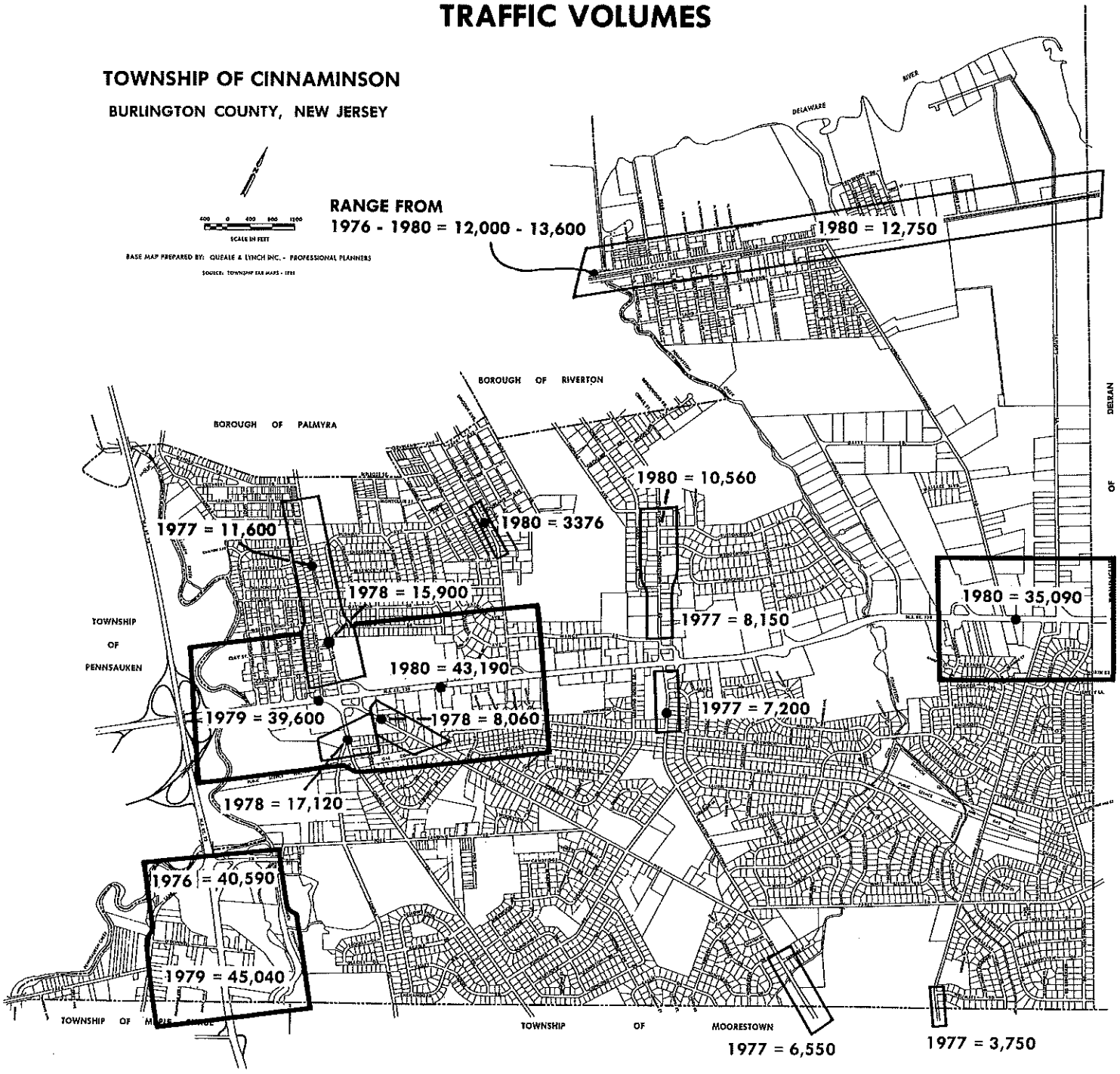
Plate 8, Traffic Volumes, graphically compares the amount of traffic on different highways. This data was obtained from the New Jersey Department of Transportation and shows the Average Annual Daily Traffic (AADT) for the years indicated. In general, Route 130 carries about 3 times as much traffic as Cinnaminson Avenue, more than twice as much as Church Road near its intersection with Route 130, almost 3.5 times the volume of Broad Street, and 4 times Riverton-Moorestown Road west of Route 130. Route 73 has an AADT slightly higher than Route 130.

The traffic on Route 130 ranged from about 35,000 vehicles per day at its northern end to over 43,000 vehicles per day just north of Cinnaminson Avenue. South of Cinnaminson Avenue the volume dropped to just under 40,000. This drop in volume south of Cinnaminson Avenue is an indication of the number of turning movements taking place. For example, Department of Transportation data in June, 1978 showed traffic entering the intersection from all 5 legs totalled over 56,000 vehicles a day. Those vehicles passing straight through the intersection and not making any right or left turn represented almost three-quarters of that volume. On the other hand, the 25 percent which manipulated some turn was divided so that one half exited Route 130 as a right turn into the jughandles, less than a quarter manipulated a right turn out of the jughandle onto Route 130, and more than a quarter manipulated a left turn from the jughandles onto Route 130.

Traffic data on Broad Street for 1979, 1980, and 1981 indicated 51-53 percent of the 24-hour volume occurred during the 8-hour period of 10:00 AM to 6:00 PM. Also, Friday and Saturday nights showed a significantly higher volume between 9:00 PM and 4:00 AM compared to the other 5 nights of the week. During the 8-hour day, 85-90 percent of the vehicles were registered in New Jersey. About three-quarters were automobiles while 21-23 percent were different types of trucks. The remainder were buses, motorcycles, and miscellaneous vehicles.

Plate 9, Maintenance Responsibility and Street Rights-of-Way Greater Than Fifty Feet, shows which streets are state, county, and township responsibilities. It also indicates most major streets have the wider rights-of-way. The few exceptions are where major subdivisions have not occurred.

# Plate 8
# TRAFFIC VOLUMES

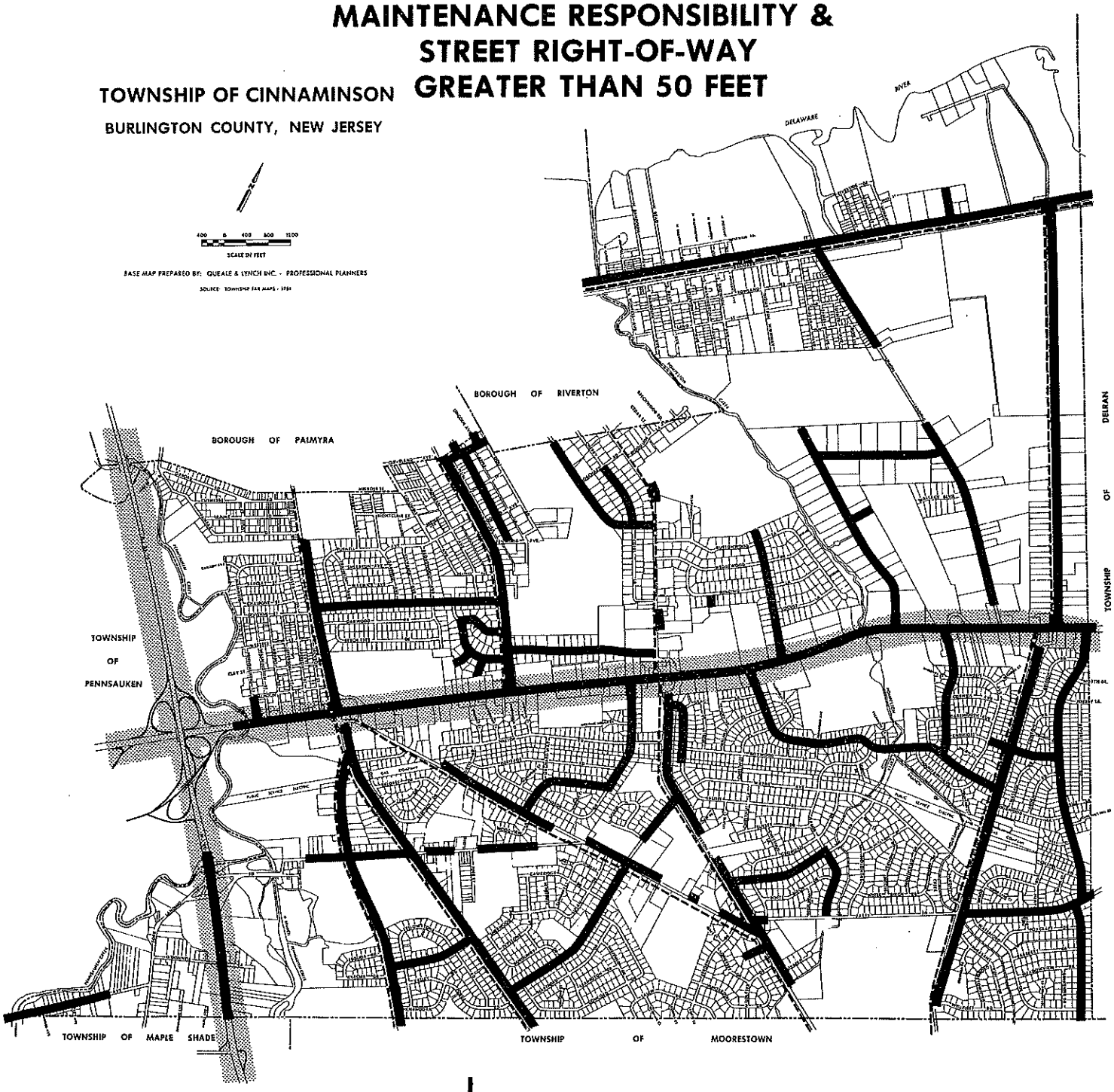



**SOURCE: NJDOT**
**AADT = AVERAGE ANNUAL DAILY TRAFFIC (24 HRS.) BOTH DIRECTIONS**

# Plate 9
# MAINTENANCE RESPONSIBILITY & STREET RIGHT-OF-WAY GREATER THAN 50 FEET

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY




SCALE IN FEET

BASE MAP PREPARED BY: QUEALE & LYNCH INC. - PROFESSIONAL PLANNERS

SOURCE: TOWNSHIP TAX MAPS - 1981

STATE ROUTES 73 & 130

COUNTY

R.O.W. GREATER THAN 50 FT.

| COUNTY ROUTE | COUNTY PROPOSED R.O.W. |
|---|---|
| 543 | 66 FT. |
| 602 | 66 FT. |
| 603 | 66 FT. |
| 606 | 66 FT. |
| 607 | 86 FT. EAST RT. 130; 66-85 FT. WEST |
| 608 | 86 FT. |
| 732 | NOT SHOWN |

There was also a scattered pattern of narrow streets. The largest concentrations were in the two older subdivisions: one west of Route 130 south of Cinnaminson Avenue; the other around Broad Street between the Borough of Riverton and Union Landing Road. While some of the streets less than fifty feet wide were 49.5 feet, others have less right-of-way. Over the years, however, street widening has been achieved as development took place. It is expected this practice will be continued in the future as new development is proposed. The main objective should be to achieve wider rights-ofway on those roads serving arterial and collector functions such as Union Landing Road, Fork Landing Road, Branch Pike, and Riverton-Moorestown Road.

With regard to non-automotive services, Transport of New Jersey operates bus service between Philadephia and Trenton. The service follows Route 130 with some buses swinging into Riverside and Palmyra. The schedule gives the times at the Riverside and Palmyra railroad stations plus a stop in Cinnaminson at 5-Points on Route 130. There are 32 buses a day, each way, on Route 130 stopping at 5-Points. Of these, eleven go into Philadelphia leaving Cinnaminson between 6:00 and 9:00 AM. Another seven buses leave Philadelphia between 4:30 and 6:00 PM on the return trip. Buses along Broad Street stopping at the Riverside and Palmyra railroad stations number 36 per day, each way---eleven into Philadelphia during the 6:00-9:00 AM rush period, and six leaving the city between 4:30 and 6:00 PM. SEPTA offers no bus service in Cinnaminson.

The railroad along Broad Street provides no passenger service. The limitation to freight service is consistent with the township's industrial development in this area.

Facilities Report

Cinnaminson has a high school, middle school, two elementary schools, administration building, and a building now leased to Burlington County College.

The high school is west of Route 130, off the Riverton-Moorestown Road. It was built in 1961 with an addition in 1970. In 1982, the school had 42 classrooms plus 4 shops, 4 science labs, and 2 rooms each devoted to domestic science, music, typing, and gym. In addition there were special facilities such as the library, cafeteria, student store, and teachers' room. The site of about 39 acres was developed with about 7 percent building coverage leaving some 88 percent for yards and recreation use. The school had a football field, soccer goals, and baseball diamond. The recreation areas are available for use after school hours. There were approximately 220 parking spaces to serve the 86 teachers, 3 administrators, 30 maintenance personnel and the general public when it attends various activities. In school year 1981/82, enrollment was 1,202 or about 75 percent of what it was in school year 1977/78. The rooms were considered adequate and the overall facility was considered in fair condition by the Board of Education. There were no plans for major capital improvements.

The Middle School is on Fork-Landing Road in the southeast portion of the township. It housed grades 6-7-8 and was built in 1969. There have been no additions. The school had 37 classrooms and 4 science labs plus 2 each of shops, domestic science, and teachers' rooms in 1982. In addition there was a

library, cafeteria, multi-purpose room, gym, nurses office, and guidance office. The 23 acre site was estimated to have 12 percent building coverage and 75 percent recreation area with the recreation area consisting of soccer, basketball, and baseball facilities. There were about 100 parking spaces to serve the 53 teachers, 2 administrators, and 18 maintenance personnel. In the 1981/82 school year, enrollment was 780, or about three-quarters of the enrollment during the 1977/78 school year. The adequacy of classrooms and general condition of the facilities were considered good. There were no plans to enlarge or close the school, but a major roof repair was done in 1982.

The New Albany Elementary school is in the east end of the township off New Albany Road. It served grades K-5 in 1982. The school was built in 1966 and had had no additions. The building contained 26 classrooms plus a library, multi-purpose room, nurses office, teachers' room, and an administration suite. The 28 acres was estimated to be 92 percent recreation area and 3 percent building coverage. The recreation facilities included two swing sets, two baseball backstops, three basketball backboards, soccer, sliding board, jungle gym, and monkey bars. In the 1981/82 school year, there were 29 teachers, 1 administrator, and 12 maintenance personnel assigned to this school. The site had about 45 parking spaces. This school was considered to be in generally good condition with no plans for either expansion or major capital improvements. The recreation areas were available outside school hours.

The Rush Elementary School is on the same tract as the high school, i.e. west of Route 130 at the end of Wynwood Drive. The school served grades K-5 in 1982 and was built in 1962 with no additions. There were 26 classrooms plus a multi-purpose room, library, nurse's office, teachers' room, and administrative suite. As part of the 39 acre high school site, the building occupied another 3 percent of the site's total area. The recreation facilities were oriented to the younger students and included four swing sets, six basketball standards, two sliding boards, two monkey bars, two tether balls, and a ladder. The site had about 41 parking spaces serving the 23 teachers, one administrator and 15 maintenance personnel. This facility was also considered to be in good condition by school personnel with no plans for major capital improvements. The recreation areas were open for general use after school hours.

Elementary enrollments were also declining. In the 1981/82 school year, the 929 students in grades K-5 represented about two-thirds of the enrollment during the 1977/78 school year.

The school administration building is on a site of about 1 acre on Pomona Road. It is the oldest building in the school system having been erected in 1898 with an addition in 1906. Because of its administrative use, it had no students. The site had about 35 off-street parking spaces. Because of its age, the building was considered fair with respect to room size, but poor in its overall condition.

The last building making up the school system was Memorial School on Riverton-Moorestown Road east of Route 130. This building was leased by the Burlington County College in 1982 and housed no K-12 students from the township. The building was erected in 1956 with an addition in 1960. It contained 15

classrooms plus a science lab, library, multipurpose room, snack bar, teachers' room, and administration office. The site is about 6 acres. Some 270 parking spaces serve the property, including spaces at Wood Park.

A major consideration in any school system is the enrollment pattern. Plate 10, Cinnaminson Public School Enrollments, shows the extent to which enrollments have declined in recent years. This pattern is similar to other communities as a result of smaller family sizes. As shown later, Cinnaminson has also been influenced by a significant aging of its population. The children of those families remaining in the township are growing out of the public school system while the aging parents remain. In a community as developed as Cinnaminson, the number of new homes added each year is also modest so the few new families who might move in have been insufficient to off-set the existing children who have grown out of the school system.

As shown on the enrollment trends, the 1981/82 enrollment of 2,911 is about 72 percent of the 4,051 students in 1977/78. The greatest drop has been in the elementary grades. This is an indication that the higher grades will continue to drop for the forseeable future as these smaller groups of elementary-grade children advance into the higher grades.

Another way of viewing the family size and its impact upon the school system is to look at the trends since 1960.

| | 1960 | 1970 | 1980 | 1981 |
|---|---|---|---|---|
| No. of Households | 2,234 | 4,220 | 4,672 | 4,612*** |
| No. of Pupils | 1,874* | 4,955* | 3,476 | 2,911 |
| Avg. Pupil/Hsld | 0.84** | 1.17** | 0.74 | 0.63 |

* The 1960 and 1970 pupils were estimated from age-groups in the U. S. Census by including all those children aged 5-14 plus a proportion of the 15-24 age group to estimate those children aged 15-18.

** Because the estimated number of pupils included all the population aged 5-18, the actual number of pupils in public schools can be expected to have been lower than computed in this chart since not all those children could be expected to be attending public school.

***Dwelling unit count from Queale & Lynch Land Use Survey July, 1981.

The pattern is clear. Peak family size was attained during the late 60's and early 70's. Since then the reduction in birth rates and the decline in family size has had a significant impact on school enrollments. As shown later, the out-migration of young couples and the increase in elderly are exagerating Cinnaminson's condition.

Continued drops in enrollment are anticipated. However, the following data suggests that, at least with regard to kindergarten enrollments, the Board of Education's projections are on the high side. In conjunction with overall population trends, a sudden turn-around in kindergarten enrollments is not expected.

Plate 10

## CINNAMINSON PUBLIC SCHOOL ENROLLMENTS

| Grade | Actual | | | | | Projected | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 77/78 | 78/79 | 79/80 | 80/81 | 81/82 | 82/83 | 83/84 | 84/85 | 85/86 | 86/87 |
| K | 169 | 144 | 135 | 113 | 110 | 142 | 144 | 139 | 134 | 134 |
| 1 | 212 | 163 | 147 | 145 | 116 | 105 | 135 | 137 | 132 | 127 |
| 2 | 229 | 208 | 158 | 133 | 140 | 111 | 101 | 130 | 132 | 127 |
| 3 | 236 | 237 | 207 | 156 | 136 | 140 | 111 | 101 | 130 | 132 |
| 4 | 246 | 227 | 239 | 205 | 167 | 135 | 140 | 111 | 101 | 130 |
| 5 | 256 | 253 | 223 | 234 | 208 | 165 | 134 | 139 | 110 | 100 |
| | 1,348 | 1,232 | 1,109 | 986 | 877 | 798 | 765 | 757 | 739 | 750 |
| Special | 63 | 61 | 44 | 46 | 52 | 52 | 52 | 52 | 52 | 52 |
| Total K-5 | 1,411 | 1,293 | 1,153 | 1,032 | 929 | 850 | 817 | 809 | 791 | 802 |
| 6 | 295 | 263 | 252 | 223 | 229 | 208 | 165 | 134 | 139 | 110 |
| 7 | 335 | 291 | 267 | 254 | 231 | 230 | 208 | 165 | 134 | 139 |
| 8 | 372 | 321 | 286 | 245 | 250 | 221 | 221 | 200 | 158 | 129 |
| | 1,002 | 875 | 805 | 722 | 710 | 659 | 594 | 499 | 431 | 378 |
| Special | 8 | 8 | 40 | 63 | 70 | 70 | 70 | 70 | 70 | 70 |
| Total 6-8 | 1,010 | 883 | 845 | 785 | 780 | 729 | 664 | 569 | 501 | 448 |
| 9 | 397 | 411 | 354 | 304 | 249 | 276 | 243 | 243 | 220 | 174 |
| 10 | 425 | 369 | 405 | 343 | 288 | 239 | 265 | 233 | 233 | 211 |
| 11 | 407 | 397 | 332 | 363 | 320 | 271 | 225 | 249 | 219 | 219 |
| 12 | 401 | 370 | 387 | 328 | 337 | 298 | 255 | 212 | 234 | 206 |
| | 1,630 | 1,547 | 1,478 | 1,338 | 1,194 | 1,084 | 988 | 937 | 906 | 810 |
| Special | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Total 9-12 | 1,630 | 1,547 | 1,478 | 1,346 | 1,202 | 1,092 | 996 | 945 | 914 | 818 |
| TOTAL K-12 | 3,980 | 3,654 | 3,392 | 3,046 | 2,781 | 2,541 | 2,347 | 2,193 | 2,076 | 1,938 |
| Special | 71 | 69 | 84 | 117 | 130 | 130 | 130 | 130 | 130 | 130 |
| TOTALS | 4,051 | 3,723 | 3,476 | 3,163 | 2,911 | 2,671 | 2,477 | 2,323 | 2,206 | 2,068 |

Source: Cinnaminson Board of Education

The average number of births from 1973 to 1976 was 123 (1972 was eliminated because it was an unusually high birth rate compared to later years). Beginning in 1977 (the year that had not entered kindergarten by 1982) the average number of births per year thru 1980 dropped to 116. Because Cinnaminson was no longer a developing municipality, the number of new families being added to the community was insignificant. Consequently, kindergarten projections are estimated to be high by approximately 20 students each year if kindergarten enrollment reflects the average of the past five years of 1.025 times the number of births five years earlier. (About 13 students high if the 1976 result of 1.09 times births is used.)

| Year | Number of Births[1] | Kindergarten Enrollments 5-Years Later | Kindergarten Enrollment as % of Births 5-Years Earlier | |
|---|---|---|---|---|
| 1972 | 165 | 1977 = 169 | 102.4 | |
| 1973 | 127 | 1978 = 144 | 113.4 | |
| 1974 | 126 | 1979 = 135 | 107.1 | |
| 1975 | 140 | 1980 = 113 | 80.7 | 5-yr |
| 1976 | 101 | 1981 = 110 | 108.9 | avg=102.5 |
| 1977 | 118 | 1982 = 142 est[2] | 120.3 | |
| 1978 | 119 | 1983 = 144 est[2] | 121.0 | |
| 1979 | 116 | 1984 = 139 est[2] | 119.8 | 4-year |
| 1980 | 111 | 1985 = 134 est[2] | 120.7 | avg= 120.45 |

1. Source: N. J. State Department of Health, Annual Reports. Figures represent births less infant deaths.

2. Estimates by the Cinnaminson Board of Education.

Another approximation of the impact of elementary school enrollments is that the two elementary schools have a total of 52 classrooms. With 1981/82 enrollments of 929, this was an average of 18 children per classroom. Using the Board of Education projections thru 1986/87, the average classroom size will drop to 15 (less if the above birth rate data hold true). The same trend exists for the Middle School and High School. The Middle School now averages 21 students per classroom and the projections show a drop to 12. The trend in the High School is from 29 per classroom to 19.

The long range concern for the township should be adequate maintenance and capital improvements to the present buildings. The entire plant complex was constructed during the 1960's. With structures 20 years old, or more, major routine maintenance can be expected.

With the Memorial School having been closed for township use, the need for even further school closings is possible. Should another closing be necessary, part of the decision must include whether to retain the school for possible future school use. A period of stability in birth rates is expected. After that, some

increase in the birth rate is expected by many demographers. The township should make certain it avoids having sold off school property in the 1980's without having considered where a new school is able to be erected if one is needed in the future.

The library is located next to the municipal building on Riverton-Moorestown Road on a site a little larger than 1.5 acres. The building contains about 7,000 square feet on two floors with on-site parking for 92 vehicles. The facility is operated by 6 full-time and 3 part-time persons including two full-time, professional librarians. One of the part-time positions is also a professional position. The library participates in the high school cooperative education project where students work in the library for training and school credit. The hours of operation are 10:00 AM to 8:30 PM, Monday through Thursday. Friday and Saturday hours are 10:00 AM to 5:00 PM.

The membership in 1982 was over 6,700. The facility offered about 5,000 books from this branch of the county system, but had access to another 32,500 books on loan from the Burlington County Library system. As part of the Burlington County Library system, it also has access to resources at the college and the State Library. The lending volume exceeded a half million volumes from 1977 to 1982 ranging between 106,000 and 115,000 books per year or over 16 books per year per member.

In addition to the books, the library offers several features and other published material. For example, in 1982 it had 107 periodicals, 3 newspaper subscriptions, 250 recordings, and various film strips, cassettes, and framed prints. Their programs included children's story hours, language programs, reading programs, exhibits, tours, and film series.

The library estimates it will need another part-time, non-professional position and that the basement should be renovated for use as a childrens' room and a meeting room/reference area. This additional space would allow the collection of resource material to be expanded to meet the growing needs.

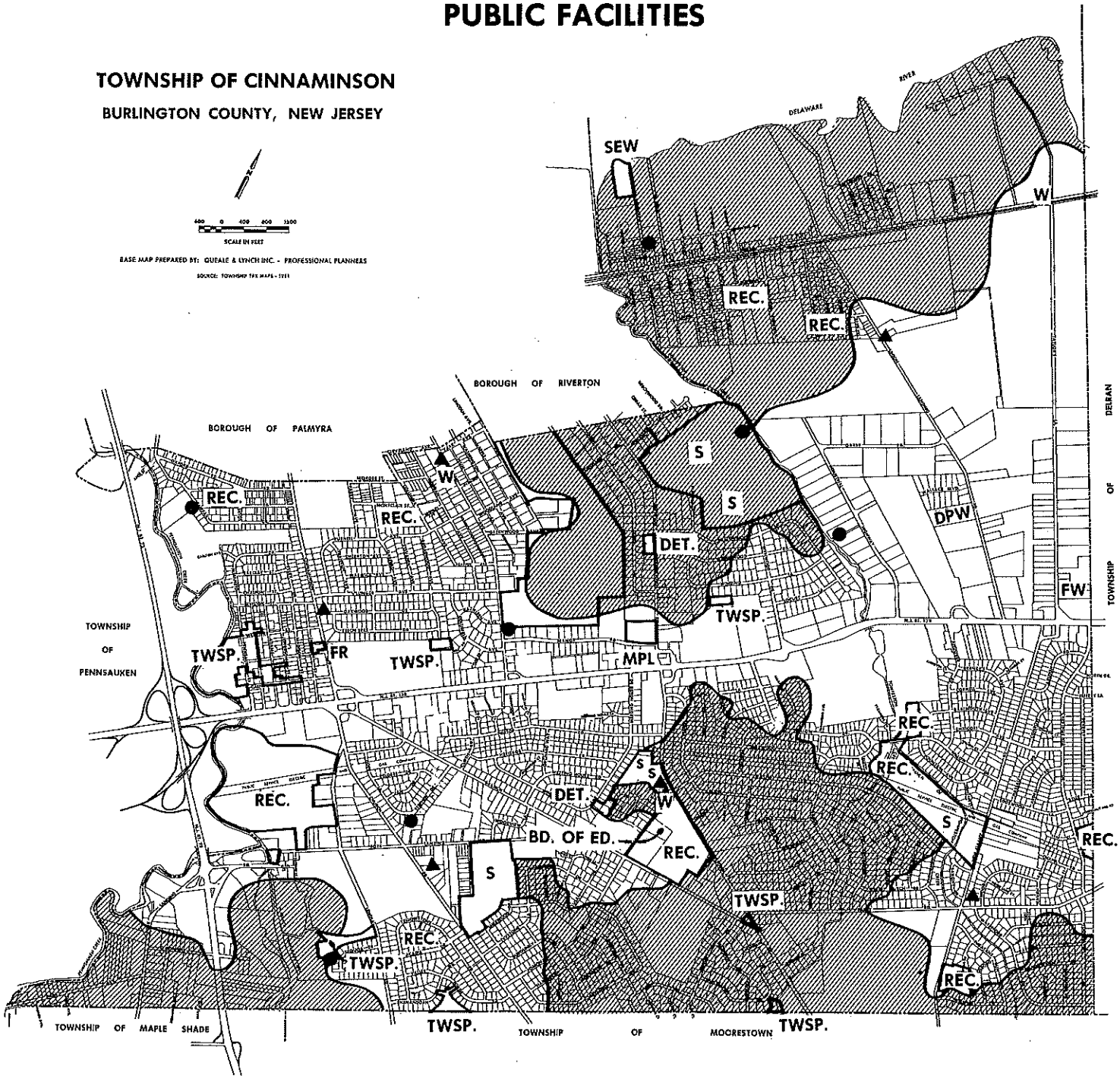
Water service is provided by the New Jersey Water Company. Development is so extensive in the township that extending the present water service to any undeveloped tract is possible. In addition to Cinnaminson, New Jersey Water Company also provides service to Burlington Township, Edgewater Park, Delanco, Delran, Riverside, Riverton, Palmara, and Beverly. The total network serves more than 18,000 customers with a population of almost 71,000. The company's water supply comes from 17 wells. These wells are all screened and tap the Raritan-Magothy Aquifer. The total pumping capacity is 15.6 million gallons per day. The company's storage capacity is handled by 2 standpipes, 5 elevated tanks, and 2 ground-level tanks, all connected to 239 miles of mains ranging in size from 2 inches to 20 inches. Throughout the township's system there are 1,165 fire hydrants. All customers are metered.

The locations of the water facilities in Cinnaminson are shown on Plate 11, Public Facilities. The facilities at Broad Street and Taylor's Lane and on Taylor's Lane near Route 130 are ground-level storage tanks and booster stations. Also in the northwest the company has a pressure regulating valve on

# Plate 11
# PUBLIC FACILITIES

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY




| | |
|---|---|
| S | SCHOOL |
| F | FIRE |
| | AREAS OUTSIDE 1½ MILE SERVICE AREA OF FIRE DEPT. |
| REC | RECREATION |
| W | WATER STORAGE |
| DET. | DETENTION BASIN |
| ▲ | WATER WELLS OR REGULATING VALVE |
| SEW | SEWER AUTHORITY |
| TWSP | TOWNSHIP PROPERTY |
| ● | PUMP STATIONS |
| MPL | MUNICIPAL BLDG. LIBRARY POLICE HQT. |

Union Landing Road near Hunter Street. The Highland Avenue station at the Palmyra boundary includes 2 standpipes, 2 wells and a pressure regulating valve. Still west of Route 130, but further south, another pressure regulating valve is located at Oakwood Drive and Cinnaminson Avenue.

East of Route 130, the water facilities consist of 2 wells at the "Steven's Drive Station" located north of Church Road, east of Fork Landing Road. Further north near the intersection of Pomona Road and Riverton-Moorestown Road is an elevated storage tank and 2 wells. The final facility of 2 wells is on New Albany Road near Parry Road.

As part of the company's operation, testing is done on a routine basis. Twice a year there is a comprehensive test done for inorganic and organic materials. If inorganic testing is required more frequently, other tests are conducted on an as-needed basis. Weekly tests are conducted for bacteriological samples. In general, the water quality from the wells is excellent. In the future, iron and manganese levels may rise to a point where removal by filtration will be required. Overall, however, there are no major capital requirements anticipated within the immediate future, i.e. storage or source of supply facilities. Normal replacement and reinforcement of the distribution system is an on-going operation.

Sewer service exists throughout the township. Plate 12, Sewer System, shows the major collection system of mains 10 inches in diameter, or larger. The smaller mains feeding into this collection system extend into the local streets. Individual users connect into the smaller mains. In total, there are 56 miles of 8" to 20" mains with 1,242 manholes providing access to the system for maintenance.

The sewage treatment plant is located along the Delaware River near the Riverton boundary. It has a treatment capacity of 2 million gallons per day (mgd) using the contact stabilization method of treatment. The level of treatment is 85-90 percent. The plant's average daily volume is 1.65 mgd with the estimated range of flow from 1 mgd in the January-February-March 1981 period to 2.1 mgd during December.

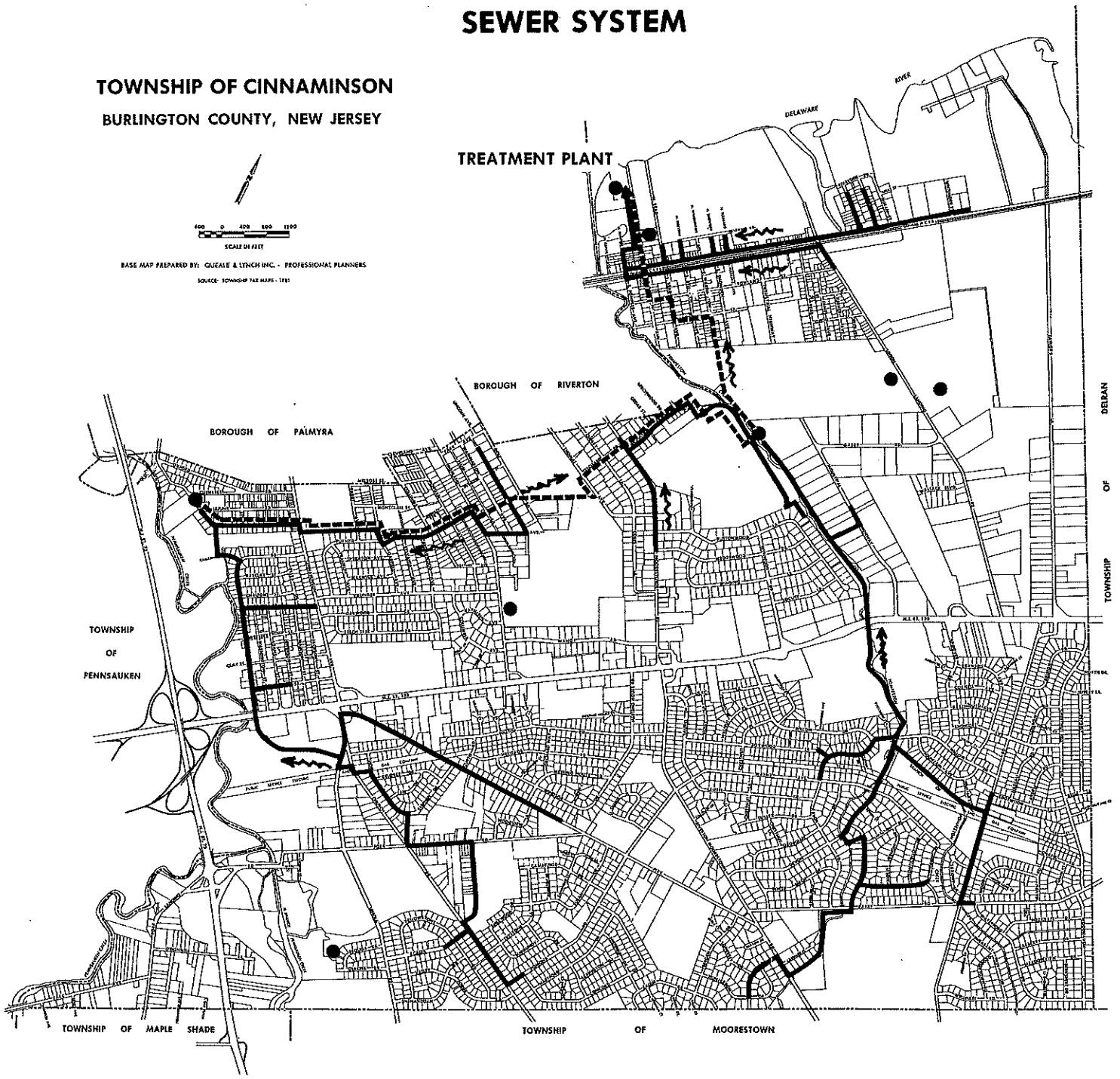
The treatment plant receives only domestic waste. Although Cinnaminson has a number of industries, chemical wastes are all pretreated so any discharge into the system is classified as domestic waste.

Although the Sewerage Authority is not anticipating any major capital projects in the immediate future, a few years ago the Authority conducted a campaign to identify inflow and infiltration problems. Part of that campaign reminded citizens to disconnect any sump pumps they might have connected to the sanitary sewer system in order to reduce the volume discharged into the sewer system. The authority also did extensive recalibration of the measuring instruments to obtain more accurate readings on the volume entering the treatment plant. In 1982 the Tri-Boro Study Group had a "201" study underway in which the Cinnaminson, Palmyra, and Riverton systems were being evaluated. Until that study is completed, a determination of whether each plant might need upgrading, or whether a single plant could handle all 3 communities is unknown.

# Plate 12
# SEWER SYSTEM

## TOWNSHIP OF CINNAMINSON

**BURLINGTON COUNTY, NEW JERSEY**




SCALE IN FEET

BASE MAP PREPARED BY: QUEALE & LYNCH INC. - PROFESSIONAL PLANNERS

SOURCE: TOWNSHIP TAX MAPS - 1981

GRAVITY FLOW MAINS OF 10" OR LARGER

FORCE MAINS

PUMP STATIONS

The police department had 32 full time positions in 1982 including a chief, captain, lieutenant, and detective/sergeant plus 4 patrol sergeants, 2 detectives, 15 patrolman, 5 dispatchers, and 2 clerical positions. In addition there were 15 school crossing guards.

The major equipment included 6 patrol cars and 4 unmarked cars, all with radios, plus a van used to transport prisoners. As part of a regional support system, the department works cooperatively with Palmyra, Riverton, Moorestown, Delran, and Riverside in a mutual aid agreement. Radio communications was through both a local radio band and a county band.

Police headquarters is located behind the municipal building. The structure was completed in 1976 and contains about 5,300 square feet of floor area. In additon to locker rooms and general office facilities, the police headquarters has nine detention cells; 6 for males, 2 for females, and a general holding cell.

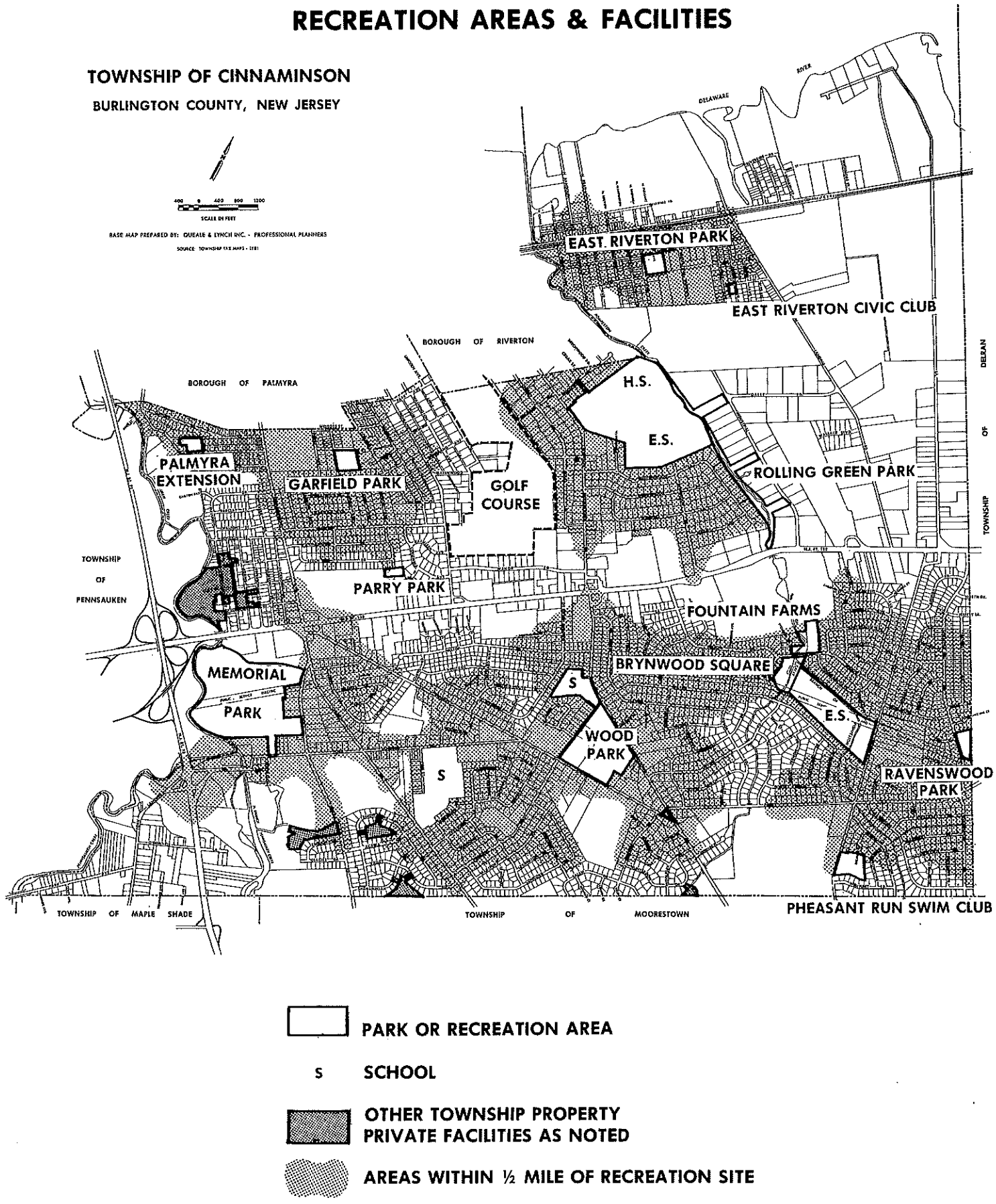
The department divided the township into 4 police zones using Route 130 and Riverton-Moorestown Road as the boundaries. Coverage is 24-hours a day with 3 to 5 patrols manned at all times. Each patrol car has one officer. The department did not have a K-9 corp, although 25 of its personnel had received special training in matters such as traffic, riot control, detective training, etc. The department operates a breathalyzer to determine the alcoholic content of a driver, and radar equipment. All detectives have attended narcotics school and the department has narcotics testing equipment.

The Board of Recreation Commissioners had an office and storage facilities in the building located at Memorial Park. The Board is served by a part time recreation superintendent and a part time secretary in addition to a recreation maintenance foreman. During the summer, there are usually 12 recreation leaders hired for the various summer programs. The recreation department sponsors year-round programs together with special summer programs. The year-round programs include men and girls basketball, ladies volleyball, high school co-ed volleyball, a senior citizen exercise program, table tennis, pom pom and baton twirling, and duplicate bridge. During the seven weeks of summer, the activities are expanded to include daily park programs at six township parks. These include a pro-college basketball league, a high school-college frisbee league, tennis lessons and tournaments, an adult bocci program, and arts and crafts. As part of the department's recreation program, the use of indoor and outdoor school facilities are available on a regular basis, including the gyms and all-purpose rooms.

The township has a community center building on Manor Road adjoining the municipal building. This is the township's only indoor facility and includes a kitchen, sound system, air conditioning, ping pong tables, and miscellaneous tables and chairs. Township residents can also participate in athletic programs sponsored by the PAL, churches, civic groups, scouting, etc. These organizations sponsor boys' basketball and baseball, girls' softball, and soccer for boys and girls. Boys may also participate in a boxing program.

Plate 13, Recreation Areas and Facilities, shows the locations of various parks, by name, in addition to the schools and private facilities. All told, the ten

# Plate 13
# RECREATION AREAS & FACILITIES




PARK OR RECREATION AREA

S SCHOOL

OTHER TOWNSHIP PROPERTY
PRIVATE FACILITIES AS NOTED

AREAS WITHIN ½ MILE OF RECREATION SITE

township parks contain 137 acres ranging in size from less than 2 acres to almost 70 acres at Memorial Park. Seven of the ten parks provide active recreation facilities while the remaining three are passive areas for walking or as a natural preserve. The seven active recreation parks include 14 basketball courts, 14 baseball/softball fields, and 13 tennis courts. In addition there are 7 sites for volleyball courts and 8 fields used for football and soccer. Of the major equipment, there are 73 swings, 24 see-saws, and 6 sliding boards, plus a variety of miscellaneous equipment.

Private recreation is also available in the township. The Riverton Country Club offers golfing, tennis and swimming to its members and the Pheasant Run Swim Club near Moorestown on New Albany Road offers tennis and swimming. The Pomona Swim Club is on Pomona Road. The East Riverton Civic Club has a small playground for neighborhood children at Hunter Street and James Avenue. Also, the township has seven areas of open space. Five are near the Moorestown boundary generated as part of more recent subdivisions. The largest of these seven is the assemblage of wetlands area west of Route 130 along Pennsauken Creek.

Cinnaminson is well served by a variety of park and recreation facilities. These are enhanced by both year-round and summer programs sponsored by the Board of Recreation Commissioners and augmented by a variety of private and civic organization programs. In terms of serving people, Plate 13 also highlights locations within a half mile of those recreation areas offering facilities such as baseball, softball, basketball, football, etc.

Cinnaminson Fire Company II is located on Taylor's Lane near Route 130. During the year 1981, this company answered 427 alarms. There were 40 active members consisting of a chief, 3 assistant chiefs, 1 engineer and 1 lieutenant. From 7 AM to 6 PM, approximately 10 members are available to respond to fires. From 6 PM to 7 AM, approximately 25 men are available.

The fire station contains about 54,000 square feet. In addition to the space for the engines, there is a lounge for members. The company's alarm system includes 33 pocket pagers, 16 instalerts, and 5 outside sirens: at the municipal building, one at each fire station, the intersection of Bannard and Read Streets, and on New Albany Road. In 1982, Fire Company II had 4 major pieces of equipment:

| | |
|---|---|
| 1979 Mack Telesqurt | 1,250 gpm |
| 1972 Mack Pumper | 1,250 gpm |
| 1963 Mack Pumper | 750 gpm |
| 1978 Ford Field Truck | 250 gpm |

Cinnaminson Fire Company I is located on Cinnaminson Avenue, also near Route 130. The company averages about 445 calls per year. However, the system of fire calls in the township is one of either a general alarm (responded to by both companies) or a local alarm (responded to by the appropriate company). All told, the number of alarms in the township approximates 750 per year.

The volunteers of Company I are alerted by pagers as well as the outside sirens. As part of the overall alarm system, Company II controls the traffic signal at

Route 130 and Taylor's Lane. With regard to all fire equipment, all vehicles can turn within a 40-50 feet radius. As support to the fire company, Hoeganes Industry has its own fire fighting equipment with employees trained to use it.

Fire Company I maintains a roster of about 30 volunteers. The station contains about 18,000 square feet including a lounge library, shower/locker room, and a recreation room in addition to the garage space for the equipment.

In 1982, Fire Company I had the following major pieces of equipment:

| | |
|---|---|
| 1975 Young | 1,250 gpm |
| 1978 Young | 1,250 gpm |
| 1980 Dodge/Marion | 250 gpm |
| 1981 Ford/Marion | rescue truck |
| 1981 McKee Craft | rescue boat |

Starting in 1972, fire equipment was placed on a 15-year replacement program. Under this program, all equipment is now owned by the township. Previously, equipment had been the property of the individual fire companies.

Fire hydrants throughout the service area maintain water pressure at about 60 pounds per square inch. All hydrants have National Standard thread. The only portion of the service area not covered by fire hydrants is the extreme northwest corner of the township between Broad Street and the Delaware River off Taylor's Lane. There were seven residences along that dirt lane.

With the two fire stations located near the northern and southern boundaries of the township, the edges of both service areas meet generally along Riverton / Moorestown Road.

Other quasi-public facilities exist in the township rounding out the full complement of services available. The township has 11 churches, 3 cemeteries, 2 nursing homes, a lodge, and golf course in addition to the public facilities outlined above. The 11 churches in particular can be seen to be dispursed around the township convenient to various residential neighborhoods.

Population and Housing Analysis

The data compares the township to Burlington County and the New Jersey portion of the Philadelphia Standard Metropolitan Statistical Area (SMSA). This covers Burlington, Camden and Gloucester Counties.

Plate 14, Population Characteristics, shows the township grew at a much faster rate than either the County, SMSA, or the State from 1950 through 1970. After 1970, the township lost population while the county and region continued to grow, but at significant reductions in their rates of growth. The township's loss in population from 1970 to 1980 reflects its greater level of development and the absence of major tracts of land for new development. Another aspect, though, was the township's lower proportion of its population under age 14 and over age 65 compared to the County, SMSA, and State, but an increase in those aged 45-64. This increase in older parents and persons nearing retirement tends to support the longer-term projections for continued school enrollment declines.

Plate 14

## GENERAL POPULATION CHARACTERISTICS

| | Cinnaminson | | Burlington County | | N.J. Portion[1] Phila SMSA | | New Jersey | |
|---|---|---|---|---|---|---|---|---|
| 1950 Population | 3,144 | | 135,910 | | 528,380 | | 4,835,329 | |
| 1960 Population | 8,302 | | 224,499 | | 751,374 | | 6,066,782 | |
| 1970 Population | 16,962 | | 323,132 | | 952,104 | | 7,171,112 | |
| 1980 Population | 16,072 | | 362,542 | | 1,034,109 | | 7,364,823 | |
| 1980 Density/Sq.Mi. | 2,123 | | 443 | | 756 | | 983 | |
| Population Age Groups | 1970 | 1980 | 1970 | 1980 | 1970 | 1980 | 1970 | 1980 |
| Under 5 | 8.4% | 4.3% | 8.7% | 6.8% | 8.8% | 7.2% | 8.2% | 6.3% |
| 5 - 14 | 28.0 | 17.1 | 21.8 | 16.5 | 21.3 | 16.4 | 19.6 | 15.1 |
| 15 - 24 | 12.5 | 20.5 | 21.0 | 19.9 | 17.5 | 18.7 | 15.6 | 17.5 |
| 25 - 34 | 10.0 | 9.6 | 13.0 | 16.5 | 12.3 | 16.2 | 12.0 | 15.5 |
| 35 - 44 | 17.1 | 13.3 | 12.7 | 12.6 | 12.3 | 11.8 | 12.3 | 11.9 |
| 45 - 54 | 13.0 | 16.5 | 10.6 | 10.9 | 12.1 | 10.7 | 12.8 | 11.2 |
| 55 - 64 | 6.0 | 11.3 | 6.2 | 8.9 | 8.0 | 9.8 | 9.7 | 10.8 |
| 65 & Over | 5.0 | 7.4 | 6.0 | 7.9 | 7.7 | 9.2 | 9.8 | 11.7 |
| Median Age | 26.3 | 33.6 | 24.3 | 29.2 | 26.8 | 29.8 | 30.2 | 32.2 |
| 1970-80 Trends | | | | | | | | |
| Natural Increase[2] | 467 | | 26,903 | | 76,138 | | 61,244 | |
| Migration[3] | -1,357 | | 12,507 | | 5,867 | | 132,467 | |
| Avg. Birth Rates[4] | | | | | | | | |
| 1970-75 | 44.3 | | 66.3 | | 70.4 | | 65.4 | |
| 1876-80 | 32.1 | | 53.7 | | 60.9 | | 55.4 | |
| Avg. Death Rates[5] | | | | | | | | |
| 1970-75 | 5.5 | | 6.4 | | 8.1 | | 9.5 | |
| 1976-80 | 5.9 | | 6.4 | | 7.7 | | 8.9 | |

Source: U.S. Census
Calculations by Queale & Lynch, Inc.

1. N.J. Portion of Philadelphia SMSA = Burlington, Camden and Cloucester Co.
2. Births in excess of deaths
3. Gains or losses necessary in total population to offset natural increase
4. Number of births per 1000 females age 15-44
5. Number of deaths per 1000 population.

The rapid growth since 1950, and the level of saturation which now exists in Cinnaminson was reflected in the township's density of 2,123 people per square mile in 1980. This was almost 5 times the County's density, 3 times the SMSA's density, and more than twice the State's density.

A reflection of the township's aging is its median age of 33.6 years being higher than the County, SMSA, or State. This was consistent with the township having a higher proportion of older children (age 5 to 17) and a higher proportion of the population aged 35-64.

Through the details of the 1980 Census, it became clear the least proportion of children, highest proportion of elderly, smallest household size, and highest median ages were west of Route 130, north of Highland Avenue.

On the other hand, the highest proportion of children under age 18, youngest median ages and largest household size were east of Route 130 oriented toward the Moorestown Township boundary. In conjunction with this, the most people and the most households were located in the southeast while the least population and the lowest number of households were located in the northwest.

A major change in the township's population thru 1980 was its overall aging. The median age in Cinnaminson increased 7.3 years since 1970. The proportion of school-aged children declined significantly since 1960 and 1970 from 36 percent of the population to almost 21 percent. The number of children under age 15 in 1980 was almost half what it was in 1970. And both the number and proportion of persons over age 45 increased. While the County and SMSA also had a drop in the number and proportion of children under age 15 and an increase in the number and proporations of persons over age 55, the shifts in Cinnaminson were more dramatic. The township started with higher proportions of children in the 60's and 70's, but ended in 1980 with a lower proportion than the county or region. On the other hand, it started with a lower proportion of elderly, but grew to a larger proportion by 1980.

Part of the aging trend in the township was reflected in the natural increases in the population. The natural increase in township population (births less deaths) was 467 persons from 1970 to 1980. This was 2.8 percent of the 1970 population but was insufficient to offset outmigration patterns. The result was a loss in population between 1970 and 1980. By comparison, the natural increases in Burlington County and the SMSA were 8.3 and 8 percent, respectively, of their 1970 populations. These natural increases were augmented by migration patterns into the county and region resulting in net gains in population between 1970 and 1980.

The limited amount of natural increase in Cinnaminson's population was consistent with its escalating median age, higher proportion of elderly, reductions in children and young adults, and fewer children. The number of births per 1,000 females aged 15-44 dropped in the township, County and SMSA for the period 1976-80 compared to 1970-75. For example, the township's birth rate for 1976-80 of 32.1 births/1000 females aged 15-44 was only 73 percent of what it was in the early 70's while the County's 53.6 and SMSA's 60.9 births/1000 were 81 and 87 percent, respectively.

Not only did the township's birth rate decrease more than the county's and the SMSA's, but it was at a lower level to begin with, slipping to almost half the SMSA rate and about 60 percent of the County rate by the end of the decade.

By comparison, the death rates per 1,000 population for 1970-75 and 1976-80 show the township's lower death rate of 5.5 increased to 5.9 while the County and SMSA death rates of 6.4 and 8.1, respectively, went to 6.4 and 7.7 indicating a tendency toward decline in the region. The township's pattern again corresponded with the rising number and proportion of persons over age 55.

Part of the overall characteristics of the population include its jobs and income. The township has shown a consistent rise in new jobs since 1972. Since 1972, the township increased the number of jobs by 72 percent which was more rapid than the County's and the region's. From 2,935 jobs covered by unemployment compensation in 1972, the township grew to 5,045 by 1980. In part this was due to the township's rapid population growth of the 50's and 60's being followed by industrial growth. The rate of increase during the past eight-year period averaged almost 264 new jobs per year.

While the total jobs increased in the County and the region, the regional trend also showed there was a steady erosion of jobs in manufacturing and retail services. For example, total jobs grew 51 percent in the County and 37 percent in the region between 1970 and 1980, but the total number of manufacturing jobs dropped by over 1,200 in the region (declining from 39 percent of the total jobs to 28 percent) while increasing only 1,700 in the County (also declining from 39 percent of the total to 28 percent). In addition, retail jobs appear to the declining another 1 percent of the total jobs every 2 or 3 years while small service jobs have increased from 13 percent to 23 percent of all jobs in the County and region since 1970.

The township's per capita income has been higher than the County, Region or State in all four years for which information was available. The township's increase in per capita income from $3,954 in 1969 to $6,677 in 1977 was parallel to the pattern for New Jersey as a whole which went from $3,674 to $6,492 in the same period. By comparison the township's per capita income increased faster than the Burlington County's which went from $3,294 to $5,882.

The trends in housing shown on Plate 15, Housing Characteristics, reflect a decline in the rate of new housing units as a result of the township's level of development compared to the County and region. With the township running out of land, the gain in housing units from 1970 to 1980 was only 10.5 percent compared to the County's 37.1 percent and the region's 28.1 percent. The rapid housing growth in the township occurred during the 1950's and 1960's.

Of the occupied units, the township had a higher proportion of owner-occupied units compared to the County and the region in 1980. Only 4 percent were renter-occupied compared to the County's 26 percent and the region's 19 percent. The township's vacancy rate of only 1.5 percent of its total housing stock compared to 5 percent and 5.6 percent for the County and Region, respectively.

The trend in all 3 jurisdictions is toward fewer persons per household. While the township still had a larger family size, it nevertheless declined rapidly

Plate 15

## Housing Characteristics

| Housing Units | Cinnaminson | Burlington County | N.J. Portion[1] Phila. SMSA | New Jersey |
|---|---|---|---|---|
| 1960 | 2,408 | 60,126 | 221,357 | |
| 1970 | 4,229 | 88,175 | 283,149 | 2,388,689 |
| 1980 | 4,672 | 120,888 | 362,834 | 2,772,149 |
| 1980 Year Round Units | | | | |
| Owner Occupied | 4,401 | 84,555 | 246,967 | 1,579,827 |
| Renter Occupied | 199 | 30,335 | 95,560 | 968,767 |
| Vacant | 72 | 5,988 | 20,297 | 139,160 |

| Trends in Unit Size | Cinnaminson 1970 | Cinnaminson 1980 | Burlington County 1970 | Burlington County 1980 | N.J. Portion Phila. SMSA 1970 | N.J. Portion Phila. SMSA 1980 | New Jersey 1970 | New Jersey 1980 |
|---|---|---|---|---|---|---|---|---|
| 1 room | 0.2% | 0.3% | 0.4% | 0.6% | 0.6% | 0.6% | 1.5% | 1.6% |
| 2 rooms | 0.3 | 0.2 | 1.1 | 1.1 | 1.6 | 1.6 | 2.6 | 2.6 |
| 3 rooms | 1.3 | 0.7 | 8.8 | 8.6 | 9.9 | 9.5 | 12.0 | 11.0 |
| 4 rooms | 2.9 | 2.6 | 13.3 | 13.3 | 14.6 | 13.8 | 18.7 | 17.6 |
| 5 rooms | 8.2 | 6.3 | 18.7 | 17.0 | 14.2 | 17.1 | 20.4 | 18.4 |
| 6+rooms | 87.1 | 89.7 | 57.8 | 59.4 | 59.0 | 57.4 | 44.8 | 47.8 |
| Median Value | | | | | | | | |
| Owner Occup ($000) | $25.4 | 62.0 | $18.5 | $48.2 | NA | NA | NA | NA |
| Gross Rent | $99 | $244 | $131 | $238 | NA | NA | NA | NA |
| Median Household Size | 3.8 | 3.4 | 3.2 | 2.8 | 3.1 (est) | 3.0 (est) | 2.8 | 2.5 |

1. Burlington, Camden, Gloucester Counties.

between 1970 and 1980 when it dropped from a median family size of 3.8 persons to 3.35. As part of this trend, the number of households in the township having 3 or fewer persons increased from 40 percent of all households in 1970 to 53 percent by 1980. In the County the increase was from 55 to 64 percent while the Region went from 58 to 66 percent.

Larger households in the township decreased in both absolute numbers as well as a percent of the total between 1970 and 1980. While the number of 4-person households remained relatively constant, increasing from 1,025 to 1,063 units, households with 5 or more people decreased from 1,478 (35%) to 1,097 (24%). Another comparison is that households with 1, 2, or 3 persons increased by 46 percent between 1970 and 1980 while households with 4 or more persons declined by 14 percent.

Because of the township's past development history of single family homes, the township had a housing stock of larger size than the County and region, and consequently a higher value. In 1980, the township's 4,193 units with 6 or more rooms represented 90 percent of its housing stock. In the county and region these larger units represented 59 and 57 percent, respectively.

In all three jurisdictions, the rate of increase in jobs has been faster than the increase in housing. This reflects jobs following the housing development of earlier decades. However, while the township, County and Region all had 0.6-0.7 job/household in 1970, by 1980 Cinnaminson jumped to 1.08 compared to the County's 0.66 and the Region's 0.73.

The township's rapid housing and population growth of the 1950's and 60's slowed substantially during the 1970's. With no continuing influx of new people, the population began to take on the characteristics of the aging population already in place. The township is no longer a developing community as indicated by its lack of sizable land area (about 1,330 undeveloped acres); its location as part of the older built up suburbs of the metropolitan area; its having shed its rural characteristics with only 435 acres of farmland left; the great population increase since World War II has ceased and an actual decline occurred since 1970; its future developability is dependent on scattered parcels around the township in commercial, industrial and residential zones; and it has been passed over by the earlier wave of suburban growth. The only growth will be the selective, slow process of in-filling on the remaining fragmented parcels.

Major impacts as a result of new development are not likely. Large tracts available for new development are limited. Even if all residential lots were developed, the impact would be modified by the more than 4,600 units already in place. As a consequence, the 1970's have been a transition period away from the influence of a continuing influx of new residents toward an aging of its "in-place" population. In the township, there were about 3,400 people under age 15 in 1980 compared to almost 6,200 10 years ago. This impact will be seen for years to come even if a reversal of what happened in the 1970's begins almost immediately.

In conjunction with limited available land for new development, the future population can be expected to continue to decline, and age, as shown on Plate 16, Population Projections.

Plate 16

Population Projections

| | Actual | Low[1] | High[2] |
|---|---|---|---|
| 1950 | 3,144 | | |
| 1960 | 8,302 | | |
| 1970 | 16,962 | | |
| 1980 | 16,072 | | |
| 1990 | | 14,465 | 17,000 |
| 2000 | | 13,444 | 17,934 |

1. Continuation of Recent Trends in Births, Deaths and Migration.

2. This projection assumes numerical increases estimated by DVRPC, but the population levels are not expected to be achieved.

What is clear from the evaluation of age group trends is that a continuation of the 1970's pattern of births and deaths will result in a virtual stagnation of the total population at best, with an expected tendency toward further decline. For example, during the 1970's when there was a loss in the township's population due to out-migration, the number of births exceeded the number of deaths by 467 people. During the 1980's more deaths are expected than births, with a loss of about 286 people projected. If there is continued out-migration, it will exaggerate the population decline. For example, the number and proportion of children under age 14 are expected to decline and those age 55 and over are expected to increase. When the migration patterns of the 1970's are applied to these natural aging trends, another 8.4 percent of the population would be lost and a persistent decline in the total population to 14,465 would result. This is less people than were in the township in 1970 and is a loss of over 1,600 people during the decade of the 80's compared to a loss of 890 during the 1970's. This converts to an average household size of about 3.0 by 1990 (compared to 3.8 in 1970 and 3.35 in 1980). However, this average family size is only the case if the township adds another 225-275 units to its housing stock to achieve 4,850 to 4,900 occupied units by 1990. If the additional units are not erected, the loss of population will be even greater. If the aging and migration patterns of the 1970's are continued through the 1980's and 90's, the pattern of aging is further accentuated.

The population increases expected in Cinnaminson as projected by the Delaware Valley Regional Planning Commission (DVRPC) are not expected to result. To achieve even modest increases in the township's population of under 1,000 people per decade (roughly 93 people a year), a near reversal of the migration patterns of the 1970's must occur. Families moving in would have to have more children under age 15, there would have to be a major gain in persons aged 15-24 rather than a loss, and there would have to be gains rather than losses in the 45-54 age group, e.g.the parents of the children. To compensate for these gains

in the younger population, there would be greater out-migration of persons over age 55 and among the 25-34 parental ages. Such a sudden shift is not expected and hence the increase in population anticipated in the DVRPC projections is not expected.

## Master Plan

There are several basic features in the township which will continue to influence development patterns. The major ones are the barriers created by Route 130, the railroad, and the flood plains and Delaware River. Another is the extensive development throughout the township.

The master plan establishes written and mapped goals and objectives to serve as a guide for long-range planning. It is adopted only by the planning board, but should also be used by other agencies when reviewing matters referred to them for official action. Reviewing zoning and other development regulations, a capital improvement proposal, or official map are a few examples. The plan's flexibility is obtained by being able to implement the goals and objectives in more than one way.

A master plan must be regularly reviewed. It is most valuable when used as a reference in making day-to-day decisions on subdivisions, site plans, and other matters before the board. As new development takes place or as changes occur in uses which already exist, new land use patterns may emerge, new construction techniques may result, and new planning and zoning policies may be created. At some point, a reexamination of the master plan will be in order. Modification of the original plan may be a logical result.

For these reasons a master plan cannot be static. It must grow and change with the township while providing leadership in the process. Because of this, the planning board is the appropriate agency to distinguish between long-term advantages and short-term expediencies. The planning board should be devoted to the soundest community needs that will not be readily judged inadequate in the years ahead. The policies adopted by the board should be established in conjunction with the plans of adjoining municipalities, the county, and appropriate regional agencies. The final effectiveness will depend in part upon the relationship established between the township's planning, and the planning of these other agencies.

## Goals

The basic goal of the master plan is to establish reasonable objectives which will provide a balance between housing, commercial services, industrial development, and a range of public services. In addition, the plan recognizes the need to protect the environmentally sensitive areas such as the tidal marshes and flood plains. Within this framework, the following goals are established.

1. Environmentally critical areas are intended to be avoided by development. If encroached upon in exceptional cases, the intrusion should be minimal and with design features incorporating methods to deal with the natural limitations.

2. The intensity of development shall be a consideration in establishing new uses in existing neighborhoods.

3. Selective senior citizen townhouse development on small, scattered sites is recommended to accommodate the rising elderly population.

4. The underutilized rear yards of commercial properties along Route 130 should be carefully planned as transition areas to protect the single family homes behind them. Some may be considered for senior citizen townhouses to assist the housing objectives.

5. Expanded employment opportunities are contemplated in the industrial and commercial areas. These areas have developing non-residential characteristics with convenient access to major transportation routes.

6. The strip development characteristics along Route 130 should be improved. While many of the larger regional shopping centers have controlled access, other areas are an accumulation of smaller lots with numerous driveways. As new uses are proposed, or old uses come in with amended site plans, it is recommended efforts be made to redesign the areas to reduce the number of access points to Route 130, improve the quality of the access drives, and reduce the accident pattern along the highway.

7. The intent of the few recommendations for street improvements is to achieve consistent rights-of-way and make those spot improvements where the need is the greatest and the likelihood of success is reasonable.

8. There are no major public facility changes because the township is watered and sewered and has major recreational areas. The primary concerns are to maintain existing facilities, make some adjustments in recreational services due to the changing age characteristics, and anticipate sufficient school sites beyond the closings which may result in the forseeable future.

In developing the master plan, Plate 17, Remaining Developable Land, was prepared to identify those areas where new development can still take place. The scattered pattern, limited space, and proximity to existing neighborhoods can be seen. The developed areas, public property, and environmentally sensitive areas have been excluded from the map.

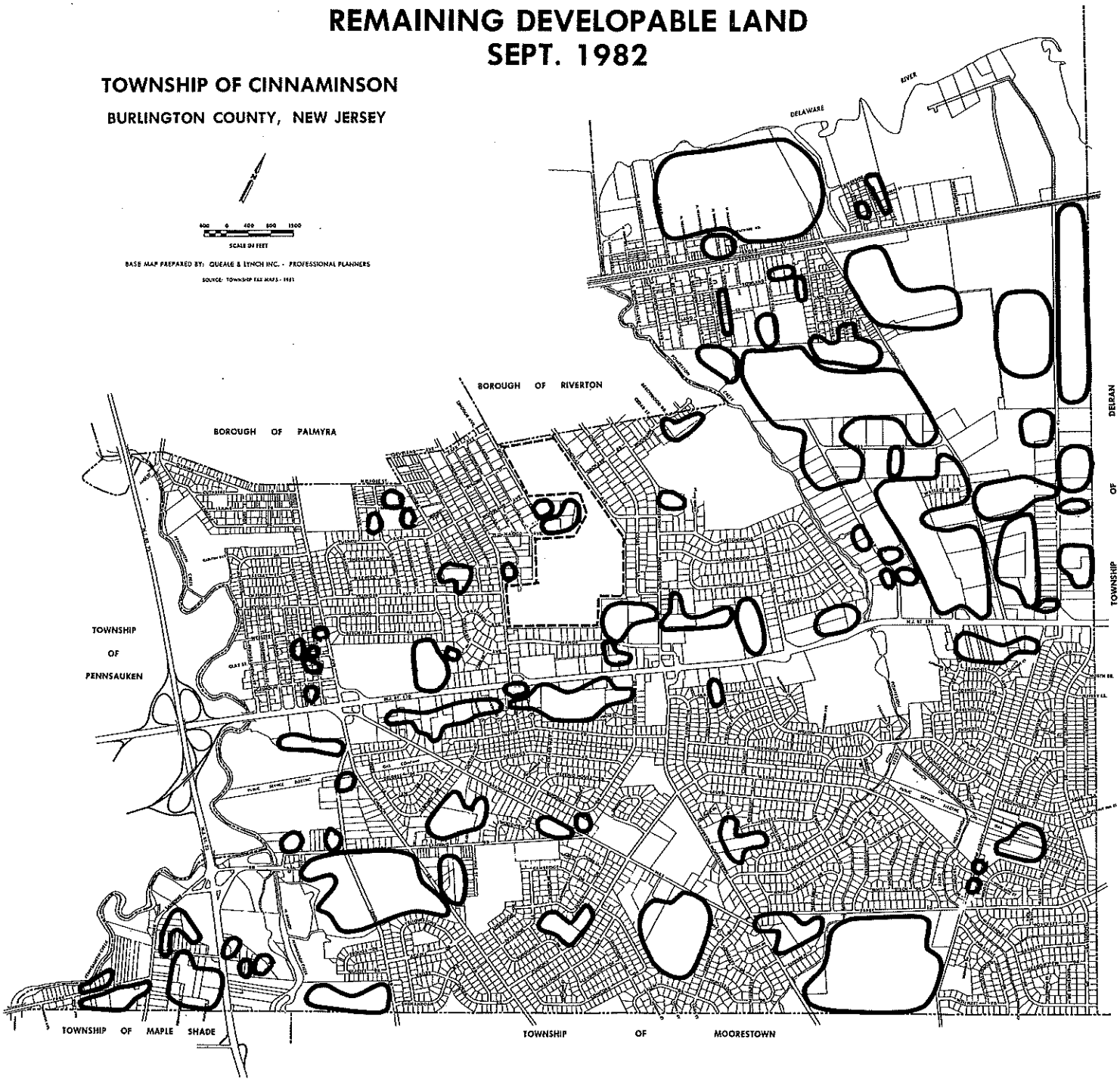
When the pattern of remaining land is viewed in conjunction with the natural resource and land use data, several items emerge: 1) only 18 percent of the township is undeveloped; 2) environmentally sensitive areas occupy more than one-third the township; and 3) remaining tracts are in scattered locations. About half the undeveloped land has some environmental condition that will have to be recognized. The most significant critical areas are the tidal swamps and flood plains.

The marshlands are clearly visible. Development should not be permitted in them. The only consideration for work in the tidal marshes should be dredging

# Plate 17
# REMAINING DEVELOPABLE LAND
# SEPT. 1982

## TOWNSHIP OF CINNAMINSON

### BURLINGTON COUNTY, NEW JERSEY




SCALE IN FEET

BASE MAP PREPARED BY: QUEALE & LYNCH INC. - PROFESSIONAL PLANNERS

SOURCE: TOWNSHIP TAX MAPS - 1981

or other channel work to improve tidal flows and flood water capacities, and to maintain their natural drainage functions.

The most significant environmental condition outside the marshlands is a seasonal high water table. While seasonally high water will not preclude development in all cases, the condition must be recognized. For the most part, higher construction standards for streets and other paved areas must be anticipated to deal with the water condition.

Most of the areas to be developed are either small or part of an established residential, commercial or industrial area. Whatever development occurs, a design and intensity of development that is compatible with neighboring uses is critical. Established neighborhoods should be retained. While neighborhood boundaries are flexible, major conditions such as existing streets, streams, development patterns, and similar features should be used to define logical boundaries in each instance. Drainage rights of way should be preserved, not encroached upon. Homes and other uses should back up to them leaving sufficient space for the flood levels. Water courses should be crossed a minimum number of times to result in fewer, costly bridge construction projects and less costly long-range bridge and road construction maintenance.

The master plan consists of several elements in mapped and written form: the land use element and housing plan; circulation plan; public facilities and utilities services plan; and a conservation and open space plan. The energy conservation plan is discussed in the text only. All these elements are related even though mapped and written in separate places. The specifics of the plan have some flexibility in order to remain realistic and applicable to alternate development proposals. Flexibility is offered by being able to implement the plan in more than one way without altering the concepts.

Land Use Element & Housing Plan

Future development is expected to primarily be a slow process of in-filling on remaining parcels plus some limited changes where there will be demolitions and changes in use to existing buildings.

Plate 18, Land Use Element and Housing Plan, shows the environmentally critical areas to be preserved as well as the land use proposals.

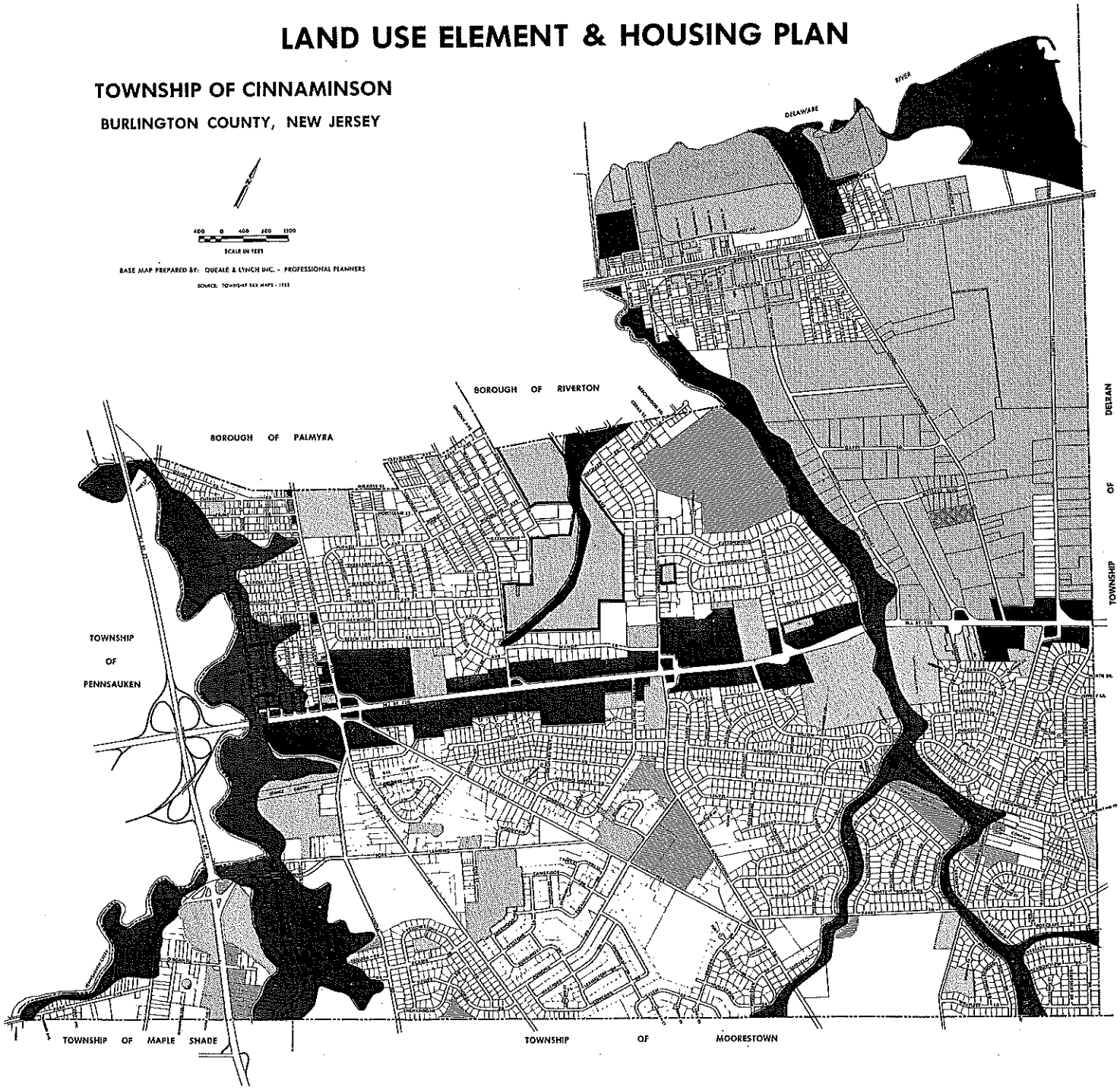
The residential areas are based on the established population and housing densities of existing residential areas. Presently almost one-third the township is developed with single family homes compared to 4 percent commercial and 9 percent industrial. The densities under the 1982 zoning ordinance were as follows:

# Plate 18

# LAND USE ELEMENT & HOUSING PLAN

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY




SCALE IN FEET

BASE MAP PREPARED BY: QUEALE & LYNCH INC. - PROFESSIONAL PLANNERS

SOURCE: TOWNSHIP TAX MAPS - 1973

**RESIDENTIAL** Single Family at densities consistent with existing development

**TOWNHOUSES** at densities similar to intensity of surrounding neighborhood

**COMMERCIAL** retail services

**INDUSTRIAL:**

**PUBLIC & QUASI-PUBLIC**

**FLOOD PLAIN & CRITICAL AREAS**

| Zoning District | Minimum Lot Size | Lot Size Converted to Units Per Acre* |
|---|---|---|
| R-1 | 43,560 sq.ft. | 0.85 |
| R-2 | 15,000 sq.ft. | 2.47 |
| R-2A | 11,475 sq.ft. | 3.23 |
| R-3 | 11,250 sq.ft. | 3.29 |
| R-4 | 5,000 sq.ft. | 7.40 |
| R-5 | 8,000 sq.ft. | 4.63 |

*assumes 15% loss for streets

The Land Use Element proposes that selective, small sites be planned for senior citizen townhouses to meet the needs of the growing number of elderly residents. The concept of allowing these townhouses is one of responding to the changing needs of the township. The population characteristics changed significantly between 1970 and 1980. Young couples left the community and their remaining parents are older. The allowance for townhouses will do two things: 1) they will provide housing units for older couples; and 2) they will allow older couples to move from their larger single family home , making the larger home available for younger couples needing the space.

As indicated on Plate 18, Land Use Element and Housing Plan, the intent is to provide the opportunity to initiate the townhouse concept. Primary attention was given to locating the townhouses on unused land, near major highways, shopping and bus routes.

The plan mostly continues the existing single family pattern. The intent is that each neighborhood continue with the intensity of development already established or, in the case of the undeveloped area adjacent to Moorestown, a new district is proposed to have 21,000 square foot lots as a transition between Moorestown's 25,000 square foot lots and Cinnaminson's 15,000 square foot lots. With about one-third the township in single family homes and another 30 percent either in public or quasi-public uses and streets serving the existing residences, almost two-thirds the township is oriented to single family development. The intensity ranges from 1 unit per acre to over 7 units per acre.

Commercial areas are recommended to be diminished. Presently the major pattern is along Route 130. As pointed out in the land use report, however, there were a number of sites along Route 130 which were either undeveloped, or underdeveloped. In addition, a number of homes containing neighborhood medical offices were noted during the land use survey. Therefore:

1. Route 130 should continue to be the commercial service area of the community containing highway services, daily conveniences, and regional shopping centers. It is the intent of the Master Plan to prevent adult book stores and other sex-oriented commercial businesses in the township. In considering the variety of such facilities now in the service area of the township, a reasonable level of opportunity in convenient locations has been provided for these businesses.

2. The neighborhood commercial area near the Palmyra boundary is recommended to be retained.

3. Allowance for home offices for professional services is recommended in limited residential areas where the site abuts a collector or arterial street, makes adequate provision for parking, and makes other site improvements to minimize any impact on adjoining residences.

With regard to the commercial properties along the Route 130 corridor, selected areas are planned for senior citizen townhouses. In view of the declining population, change in age and family size, the turnover in commercial tenants, and the conclusions drawn in the land use study that the commercial market appears to be stagnated, this proposal does several things:

1. prevents rear yard loading and unloading areas from being placed closer to the abutting single family homes.

2. provides an alternative to commercial development which, if it were to be constructed, would add more retail space in an already weakened market.

3. locates the senior citizen townhouses adjacent to a major highway and good bus service while also serving as a transition use between the single family homes and the commercial uses.

4. the senior citizen townhouses are smaller so more land can be set aside for buffer areas and an overall landscaping plan.

Industrial development is proposed in the northwest. Only a small area is set aside at the south end along Route 73 at the Maple Shade boundary. The dominant industrial pattern is established in these areas and an infilling process remains to complete the industrial development. The broader historical pattern is that the township received rapid housing development between 1950 and 1970 without corresponding industrial growth. The industrial growth did not begin until the 1970's and is continuing at this time.

The industrial pattern consists of three classifications: 1) the modern office and warehouse uses such as those along Industrial Highway; 2) the older manufacturing uses along Broad Street; and 3) the smaller, local operations such as auto body shops, contractors, and similar uses. In view of these established patterns, the plan recommends they be continued, but that better transition areas and buffers be incorporated on future site plans where they abut residential areas. In addition, at the time of site plan review, the industrial area along the Delaware River is proposed to be developed with low lot coverage with provision being made to preserve public access along the river for recreational and aesthetic purposes.

Public and quasi-public uses reflect what exists. No new sites are proposed for public uses. The major long-term considerations include the future use of school sites as enrollment declines and changes in the recreation programs as the population continues to age.

While the broader issues are discussed under the Facilities and Services Plan, the land use concept is to scatter the public and quasi-public uses around the township in different residential neighborhoods. This places these uses convenient to the residents they serve. For example, recreation areas are best when located within walking distance of a concentratiion of people. Churches offer neighborhood services for scout meetings, luncheons, senior citizen groups, and similar community services. Schools combine their educational function with recreational activities. Fire houses and the municipal building are more community-wide in their service, yet they are not incompatible with most neighborhoods.

Of all the public uses, the ones most apt to create a location problem are public works garages and sewage treatment plants. The obvious concerns are the noises, odors, and other nuisances that often emanate from these more industrial-type uses. In Cinnaminson, both these facilities are removed from residential neighborhoods and are more part of the industrial area.

Housing Element

One goal of the Master Plan is to put into motion a housing plan that will both recognize the neighborhood characteristics that exist while allowing the housing market to assist in responding to the changing age characteristics. The 1981 land use survey and the 1980 Census of Housing showed the extent to which the township is dominated by large, single family homes. In contrast, the township's trend is toward smaller families.

The plan proposes that selected sites, some smaller than others, be identified for senior citizen townhouses to better serve the growing proportion of elderly. For the most part, the areas are along the Route 130 corridor and in East Riverton. The places along Route 130 are on the periphery of non-residential areas and the single family zones they abut. It also places them convenient to Route 130 and the retail services. In East Riverton, the site is along the bus route and located where several duplex units were recently razed.

The impact is that if all the possible townhouse areas identified in the Land Use Element and Housing Plan were developed, a total of about 35 acres would be involved. These 35 acres consist of 6 tracts for new development ranging from about three acres to about twelve. The proposed densities were related to the surrounding neighborhoods and are recommended at 3-5 units per acre. The total number of townhouses would be about 135 units. With the proposed townhouses being limited to persons aged 55 and older, each unit would have a smaller average family size than a traditional single family home. Hence the higher dwelling unit density will allow a proper design, but will not have as great a population impact. Because of the smaller family size, the units would also be smaller and therefore cover less ground area. Mostly 2-bedroom units can be expected.

The Housing Plan contemplates a review of the senior citizen needs as well as the experiences with senior citizen townhouses as part of the Municipal Land Use Law's requirement for a reexamination of the Master Plan and development regulations every six years.

(In July, 1975 Cinnaminson's zoning provisions were upheld in a case argued under the Supreme Court's first Mount Laurel decision. The township was found not to be a "developing community". With this issue having been litigated, the township initiated a re-examination of its Master Plan and Development Regulations in 1981 in compliance with 40:55D-89. Drafts of both documents were completed in mid-1982. A special public meeting was held followed by public notices for a January 24, 1983 public hearing. On January 20, 1983, the New Jersey Supreme Court rendered its decision on "Mount Laurel II" which relied heavily on designated "Growth Areas" [in which Cinnaminson is located]. It also eliminated reliance on the earlier definition of a "developing Municipality". In view of the timing of this decision with the township's Master Plan program, the Master Plan as presented at the public hearing has been adopted in order to comply with the timing for the re-examination requirements of the Municipal Land Use Law. The implications of the "Mount Laurel II" decision will be evaluated. If modifications to the Master Plan and Development Regulations Ordinance are required, they will be handled by appropriate amendments.)

Circulation Plan

In conjunction with the land use proposeals, Plate 19, Circulation Plan, was prepared to suggest improvements to the present highway system. The bulk of the recommendations are spot improvements. For example, it is recommended warning signs be installed to alert drivers to "signals ahead" as one approaches the lights on Rt. 130. With regard to new roads, very few locations remain where new street alignments need to be planned since the township's street system is so extensively developed. The primary purpose of this plan is to recommend some adjustments and corrections that will improve conditions. It is intended that the new roads shown on the plan will be constructed by the dvelopers of the affected properties as those properties are developed.

The most significant recommendations concern the intersection at Route 130 and Branch/Church/Lenola Roads plus the realignment of Fork Landing Road going west to Route 73.

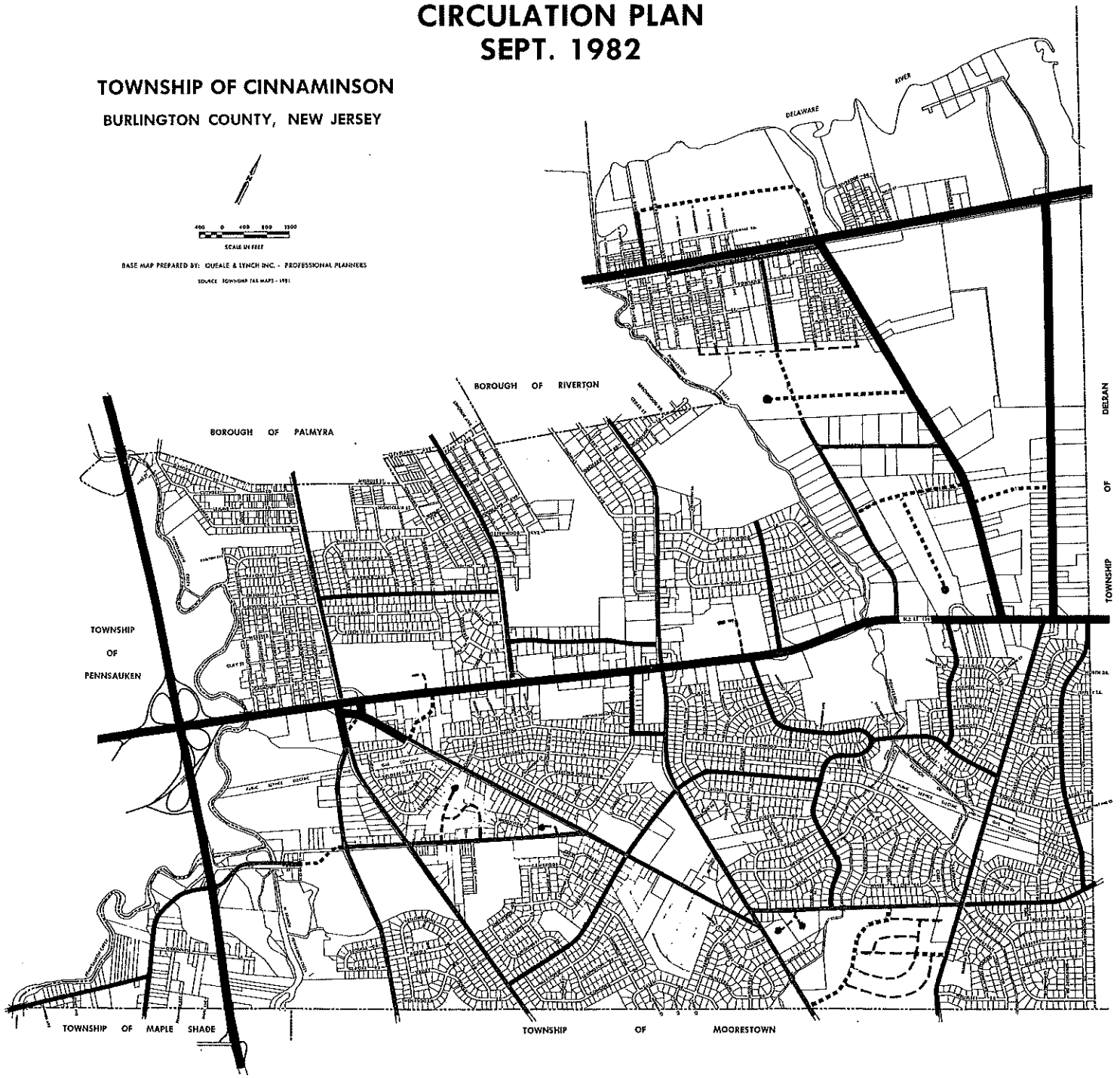
At the Route 130 intersection, two suggestions are made. One is to add a connection between Branch Pike and Route 130. This will provide two means of access for the property not yet developed as well as a bypass around the congested intersection at Route 130 where all four roads merge. The other recommendation is for a connection between Church Road and Branch Pike running behind the service station, along the perimeter of shopping center parking lot. This connection should be aligned to intersect Branch Pike opposite the leg of the jug-handle extending to Route 130. It should be one-way westbound with a traffic signal at its intersection with Branch Pike timed with the signal at Route 130. The result will eliminate the congestion that results when traffic merges through the jug-handle, e.g. northbound traffic from Route 130 heading out Branch Pike that must cross over traffic from Church and Lenola Roads going to Route 130. Because this suggestion involves both state and county highways, detail designs and funding are expected from those levels of government.

The realignment and widening of Fork Landing Road west of Lenola Road is recommended as another way of relieving traffic at the Route 130 intersection with Branch/Church/Lenola Roads. The proposal eliminates the two sharp curves along

# Plate 19
# CIRCULATION PLAN
# SEPT. 1982

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY




SCALE IN FEET

BASE MAP PREPARED BY: QUEALE & LYNCH INC. - PROFESSIONAL PLANNERS

SOURCE: TOWNSHIP TAX MAPS - 1981

| EXISTING | PROPOSED | MIN. R.O.W. |
|---|---|---|
| ARTERIAL | NONE | 80 FT. |
| COLLECTOR | | 66 FT. |
| PRIMARY LOCAL | | 54 FT. |
| SECONDARY LOCAL | | 50 FT. |

an area of narrow pavement as the road approaches Pennsauken Creek. The new alignment is through an area proposed for housing and could be designed and built at the time those units are proposed. The major element is the new bridge across Pennsauken Creek and the widened pavement through the marsh area. The major reason for suggesting this improvement is to gain easier access to Route 73 for access to Route 130 southbound. If the State's proposal for the connection from Route 73 to Route 130 materializes, the improvements to Fork Landing Road will lead directly to that interchange.

Industrial Highway is recommended to be extended west across the farm to connect with the western end of that highway. When this occurs, an intersecting road extending north to Union Landing Road will be needed through the same farm. The placement of this north/south road should be located to have the future industrial uses back up to the residential area with adequate buffer plantings. Also in this industrial area, a new road is recommended to bisect the long, narrow tract which now abuts the jug-handle. It would intersect Wallace Boulevard, but because of differences in grade, a connection to the jug-handle is doubtful.

Should the landfill area off Union Landing Road ever be developed, the design should minimize the number of frontage lots along Union Landing Road. Interior lots served from a new street network should be the general rule.

The circulation plan recommends a loop street west of Broad Street to serve the large undeveloped area along the river. It is recommended this road be an extension of Union Landing Road so access would be aligned with a railroad crossing and be convenient for persons coming from Route 130 and areas east. The proposal is to extend Union Landing Road about half way to the river, then loop south, parallel to the river and connect to either North Read or North Randolph Avenues. This road can serve as a divider between the riverfront development and the industrial uses toward Broad Street.

Other street concepts in residential neighborhoods include: 1) extending some existing streets to have two means of access to most areas; 2) designing streets to discourage through traffic; 3) locating new dwellings so driveway access is to new, local streets, not an abutting collector or arterial street; and 4) locating streets for new townhouse projects so buffer areas can be maximized. This can be done by off-setting the access street to one side or the other in most instances.

Another major proposal in the Circulation Plan is the identification of several new pedestrian/bikeway corridors. These are located to improve non-automotive access to areas which attract concentrations of people, e.g. schools, recreation areas, shopping centers, neighborhood churches, and employment centers. Improved pedestrian and bikeway routes will put into place a total circulation system that will reduce travel costs (including school bus transportation), provide an optional means of travel, and reduce traffic volumes on the road system.

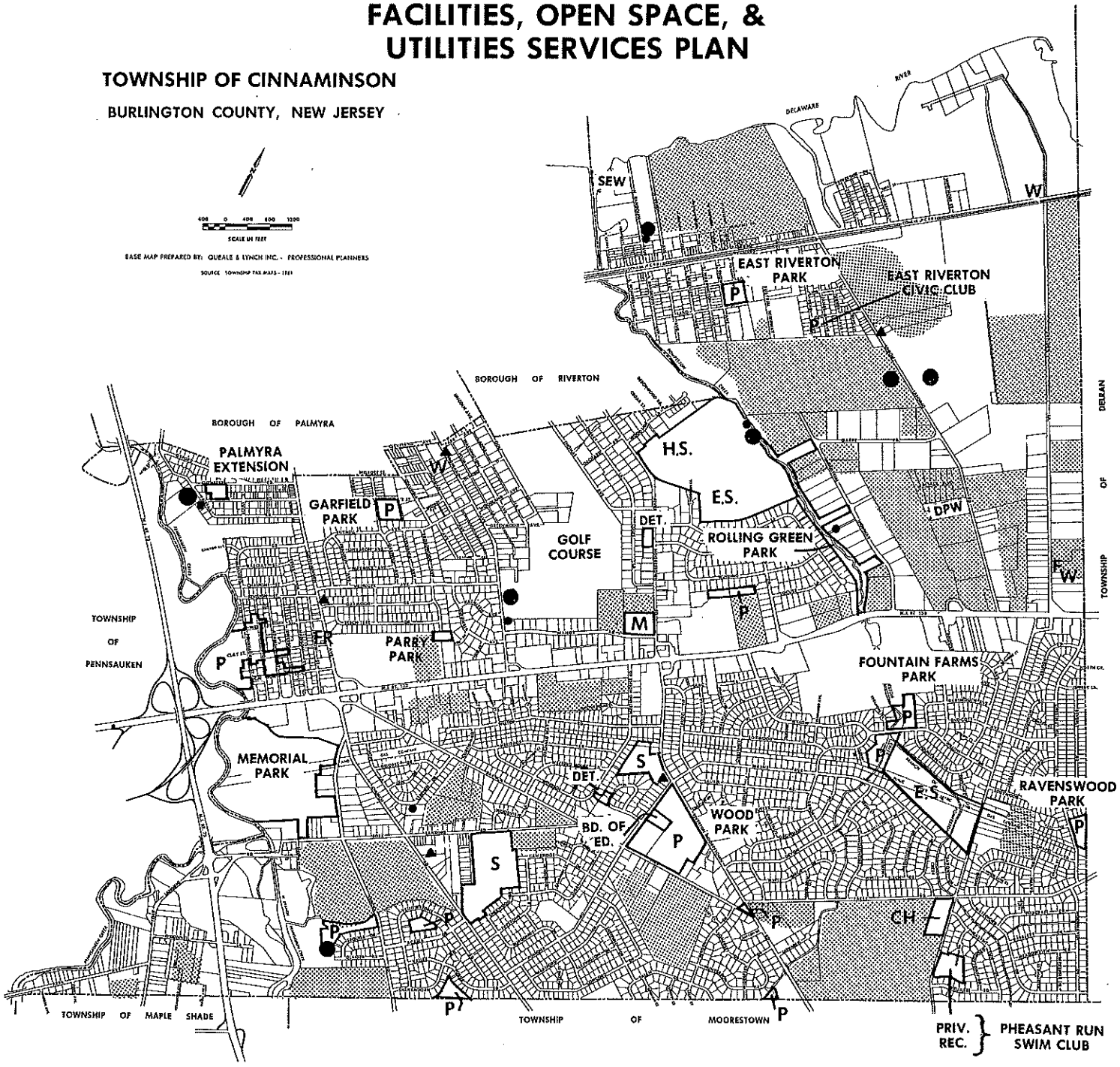
Facilities, Open Space & Utilities Services Plan

In addition to identifying the various land use and circulation proposals, the plan also identifies various facilities. These are shown on Plate 20,

# Plate 20
# FACILITIES, OPEN SPACE, & UTILITIES SERVICES PLAN

## TOWNSHIP OF CINNAMINSON

BURLINGTON COUNTY, NEW JERSEY




- WATER / SEWER } PUMP STA.
- P — PARK/REC. AREAS
- H.S. — HIGH SCHOOL
- E.S. — ELEMENTARY SCHOOL
- S — MIDDLE SCHOOL
- F — FIRE HOUSE
- W — WATER TANK
- ▲ — WATER WELLS OR REGULATING VALVE

- SEW — SEWAGE TREATMENT PLANT
- M — MPL. BLDG., POLICE, LIBRARY
- DET — STORM WATER DETENTION BASIN
- UNDEVELOPED AREAS WITH NO EXISTING WATER AND SEWER SERVICE.
- PROPOSED WATER FRONT RECREATION AREA TO BE DESIGNED AS PART OF NEW DEVELOPMENTS

Facilities, Open Space & Utilities Services Plan. Because of the developed nature of the township, the bulk of this plan shows existing facilities.

The schools are shown to be retained even though the enrollment projections anticipate a continued decline for the forseeable future. Retaining each school, even though another school might be closed due to enrollment declines, is recommended. Because the township's residential neighborhoods are so developed, finding another school site at a future date would be difficult, if not unrealistic. The concern, of course, is that the decline in enrollments over the past several years will cease and ultimately rise to equal previous years.

The retention of an unused school presents a problem of cost. Leasing a building to the county as was done with the Memorial School is an ideal opportunity. It not only provided a user to generate income to the Board of Education, it also retained a similar use in the neighborhood. Leasing subsequent vacated schools to other governmental or private schools would be ideal, but cannot be expected to be available at the convenience of the township. The possibility of other uses must therefore be considered.

Because of the location of the High School and Rush Elementary School away from the major highway system, it is recommended they be considered for permanent school use. On the other hand, Middle School and New Albany Elementary School front on major streets within the community. Both sites are laid out to back up to abutting residential neighborhoods and either exist or can be modified to prevent vehicular access through these residential neighborhoods.

New Albany School is across from an electric sub-station and has an overhead transmission line through the site. There are no local streets entering the site from the side or rear. Middle School abuts a nursery operation . While both schools abut single family homes, the buildings are sufficient distances from the property lines that self-contained operations in the schools should present no problems. It is recommended that if either of these two schools are vacated, then leased to another office or quiet industrial use, the township require continued availability of the recreation areas for citizen use.

The use of either of these sites for an office or a quiet industrial use requires special consideration at the time the leasing arrangements are being prepared. For example, both sites should be required to retain vehicular access from the major roads. In the case of Middle School, a new access from Church Road might be considered in order to divide traffic among two entrance points. In addition, should this facility be converted back to a school, this additional access will be opposite the orchards which are expected to be developed for housing at some future date. This access will then be a more direct route for children and perhaps eliminate the need for busing.

There is, however, another possibility. Assuming another school closing is necessary, the school board might sell the building and sufficient land around it to serve the new use, leaving enough land to serve the neighborhood recreation areas. Should enrollment increase sufficiently to warrant returning another school to the system at a future date, a site must be selected. The most logical would be a part of either Memorial or Wood Parks.

The major recreation proposal is to anticipate a waterfront park along the Delaware River between North Read Avenue and Union Landing Road as part of site plan designs for industrial uses. Recent improvements to the water quality along the Delaware make such a consideration possible and make the area is a unique natural feature which can be used for the benefit of the entire community. In addition, the use of the river for recreational pursuits will be compatible with the dedication of the Taylor Farm as a wildlife preserve. Between the farm dedication and this proposed park, all but the sewage treatment plant and the landfill site will be open space. The result can be a positive, aesthetic use of the area, not a forgotten dumping ground. Even the landfill site can be planned for landscaping and improvement as an open space area to complete a riverfront plan.

Although the township is considered to be watered and sewered, the plan identifies those tracts not yet fully developed. These areas are shown as "undeveloped areas into which water and sewer service will need to be extended". Even though water and sewer lines exist in the abutting streets or nearby, or in some cases service may be extended to a single home on the tract, when development does occur, a full network of water and sewer service will be required.

It is the intent of the plan that environmentally sensitive areas be avoided by development. To the extent water and sewer service might have to be placed in these critical areas for proper access or gravity flow alignments, it is assumed the construction can take place with proper sensitivity. However, with the lines in place, it is not intended that additional homes or other structures and roads will be designed in the environmentally sensitive areas.

As part of the Facilities, Open Space & Utilities Services Plan, the wetlands and flood plains have been shown. These areas are intended to be avoided by development. One exception is that areas of seasonal high water tables might be developed as long as special road construction standards are employed. It is intended that all environmentally sensitive areas be retained for their natural flood control purposes. They should be kept clear of debris and junk so they add to the beauty of the area, not detract from it. Once the areas are preserved, their enhancement by being cleaned up and possibly landscaped in some residential areas will not only preserve their flood control purposes, but they can serve as attractive open space and buffer areas between developments, or bikeways and other walkways for passive recreation purposes. Where these areas are to be designed as part of an open space network, a minimum width of about 200 feet is recommended in order to keep the public activities a proper distance from abutting residences.

In anticipation that the county's Solid Waste Disposal Plan will locate a landfill site some distance from Cinnaminson, it is proposed a transfer station be erected in the industrial area. This will allow township trash trucks to unload the trash at the transfer station and quickly return to trash collection duties. As a result, lost time will be minimized and the distance travelled will be reduced. At the transfer station, trash is compacted and "transferred" to another, larger vehicle for transporting to the landfill site.

Energy Conservation Plan

Because the township is extensively developed, improvements in energy efficiency

are restricted to the slower process of correcting conditions which exist. To the extent there is limited new development, energey conservation can be incorporated in those plans.

One effort in the plan is to encourage connections between proposed senior citizen townhouse develoments and adjoining shopping centers. These connections should be both vehicular as well as pedestrian. The effort is to encourage non-vehicular access to save fuel, but also to provide an alternate means of travel for the convenience of the residents. This prevents forcing traffic from a townhouse community onto Route 130 just to get to the abutting tract.

It is also intended the plan provide enough flexibility in site designing that new residences will be able to take advantage of southern exposures for possible solar access panels. Since Route 130 runs more east/west than north/south and several of the townhouse sites are along Route 130, solar design appears feasible at least in terms of building orientation. Whether solar panels are economically feasible will have to be left to market conditions.

Using the prevailing winds along the Delaware River as a means of generating electrical power was considered, but not felt to be feasible for at this time. If some industrial application of the concept were to be tried, such an effort would be supported in this Plan.

There has also been some development in the area of cogeneration systems. For example, huge diesel engines are used to turn generators for electric power. The heat by-product created by the engine is captured to make steam and the remaining heat is used to pre-heat water for either manufacturing or domestic needs. By the time the process is completed, energy is produced with 80-85 percent efficiency. It is anticipated that while this investment can have only limited application, the plan and implementing ordinance will make allowances for additional building height or coverage to encourage such an approach in the industrial areas. As envisioned, not only can energy be created for site-specific needs in a manufacturing operation, but excess electricity can be sold back to the power company and excess heat via steam or hot water can be used to reduce such costs as heating buildings or snow and ice removal by laying lines under selected streets and sidewalks.

Cinnaminson has already experienced a unique form of energy conservation through the efforts of Hoeganaes. In this instance the accumulation of methane gas generated in the landfill site abutting the Hoeganaes plant was tapped by the company and transported into the plant for use in energy systems.

As mentioned in the Facilities, Open Space & Utilities Services Plan, locating a transfer station in the industrial area will conserve energy by reducing the number of trash trucks needed to take solid waste to the county landfill site.

Compatibility with Adjoining Municipalities and Regional Plans

In examining the various plans in the region, the Cinnaminson Master Plan is considered to be compatible with what is proposed in other jurisdictions. For example, the State Development Guide Plan, as revised May, 1980, shows a "Growth

Area" along the broad corridor following Route 130, the Turnpike and Route 295. All of Cinnaminson is in this Growth Area which extends east from the Delaware River to the northern part of Evesham, parts of Lumberton, and into Mount Holly.

The State Development Guide Plan is intended to assist the State in establishing budget priorities for capital spending. It is also a guide to counties and municipalities in developing coordinated plans. Its generalities are apparent when realizing the "Growth Area" includes the western two-thirds of Camden County and the northwestern parts of Gloucester County as well as the northern parts of Burlington County. Generally, the Growth Area extends out from the urban centers along major transportation routes. As one gets further from the urban center, the intensity of development diminishes even though retained in the "Growth Area". The area therefore encompasses a wide variety of industrial, residential, commercial and public uses.

The State Development Guide Plan places most growth areas where the following criteria exist: major population and/or employment centers; within or in proximity to existing major water supply, sewer service areas, and service by major highway and commuter rail facilities; and where there is an absence of large concentrations of agricultural land and large blocks of public open space or environmentally sensitive land.

The Township's plan is consistent with the State Development Guide Plan because of the township's extensive development of residential properties, commercial patterns and the emerging industrial development. Water and sewer service exist and major highway transportation is available. The fact that the township's land use patterns are so extensively established and the intensity of development is consistent with the growth patterns having taken place as part of the larger metropolitan area, the township's plan for in-filling of remaining properties with development of similar intensity is consistent with the State's designation of the township being in a Growth Area.

With respect to Burlington County data, the township's plan is related to several objectives expressed in county publications: The highway designations; preservation of the stream corridors and flood plains; and identification of the open space parcels.

A review of the surrounding communities also reveals reasonable consistency in the planning and zoning in Cinnaminson. For example, Delran has proposed river oriented uses along the Delaware for a variety of boating, recreational, and related commercial uses. Between Broad Street and Route 130, the area is planned for industrial development on 1 acre lots consistent with Cinnaminson's industrial plans. Likewise, the frontage along Route 130 (about 400-450 feet deep) is for highway commercial with another 400-450 feet behind that for the area already developed in townhouses. From North Street to the Moorestown boundary, Delran has been developed and is retained for single family homes on 10,000 square foot lots along an area also developed with single family homes in Cinnaminson.

The township's southeastern boundary adjoins Moorestown and Maple Shade. Approximately the northern half of the Moorestown boundary is planned for resi-

dential development on lots of 25,000 square feet. While this is a larger lot than called for in Cinnaminson, it is compatible with the proposed 21,000 square foot lots in Cinnaminson as a transition toward Cinnaminson's smaller lots and the higher intensity of development as one approaches the Route 130 corridor. The southern half of the Moorestown boundary is proposed for "restricted light industrial and research". This abuts residentially developed areas in Cinnaminson and will need careful design consideration as more industrial development takes place. While some small topographic differences help create a visual barrier in some locations, the elevations are modest. To create as compatible a situation as possible, increased setbacks from residential uses, two or three rows of staggered evergreens, placing parking and loading areas away from the residential side of the industrial uses, and avoiding uses that create excessive nuisances should be imposed on future development.

In Maple Shade, the planning and zoning is consistent with Cinnaminson. The area along Pennsauken Creek (north branch) is proposed for open space similar to the policy in Cinnaminson. Along Route 73, the plan is for highway commercial similar to Cinnaminson's planning for industrial. Beyond Route 73, Maple Shade calls for residential development. Nearer Route 73 the plan is for 12,000 square foot lots (with sewers), or 20,000 square foot lots if sewers are not available. Southwest of Fork Landing Road, the density increases to 9,000 square foot lots. Assuming a loss of 15-20 percent of the a tract for streets, 9,000 square foot lots converts to a density of about 4 units per acre. These residential densities and lot sizes are compatible with the residential proposals in Cinnaminson.

The Pennsauken boundary is entirely the stream bed and tidal marshes of Pennsauken Creek. This water course is crossed in only three locations between both townships, the two major ones being Routes 130 and 73. Because of this barrier, the development on either side is a considerable distance from the other and no street connections can be reasonably expected. The result is that normally conflicting uses have less of an impact on the adjoining property across the creek. However, even though Pennsauken calls for either commercial or industrial development along the bulk of its common boundary with Cinnaminson, the more recent efforts have been to plan for water-related improvements including boating, open spaces, and similar aesthetic considerations. This approach to the environmentally sensitive area along the tidal marsh areas is consistent with the open space and critical area designation in the Cinnaminson plan. It is recommended both communities work cooperatively in improving the creek area so as to prevent further deterioration of its flood control importance and its aesthetic impact on both communities.

The township's land use patterns along the boundary with Palmyra and Riverton are consistent with existing development and land use proposals in both towns. Except a small light industrial area at Palmyra's southeast corner along Route 73 and the Pennsauken Creek, the bulk of the boundary is residential consistent with existing development and future plans for in-filling isolated lots. The small portion for industrial development at Route 73 and the creek would be more compatible if planned for part of the larger open space and flood control efforts being discussed by Cinnaminson and Pennsauken.

Riverton's zoning and development along the Cinnaminson boundary is mostly residential to reflect the nature of existing development. The larger lots around the golf course are similar to Cinnaminson and in keeping with the open space character created by the golf course. The other two residential districts call for 8,000 and 10,000 square foot lots and extend from the golf course to Broad Street. A "restricted manufacturing" district runs from Broad Street toward the Delaware River along Pompeston Creek. This district is a small area and is separated from Cinnaminson by the creek, but is also near similar non-residential uses in Cinnaminson. This district extends toward the river and the township's sewage treatment plant.