

**STUDY
OF
LAND USE
AND
PHYSICAL CHARACTERISTICS**

WESTERN MONMOUTH REGION

PREPARED BY MONMOUTH COUNTY PLANNING BOARD

NOVEMBER 1963

October 1967

WESTERN MONMOUTH REGION

REPORT NO. 1

LAND USE AND PHYSICAL CHARACTERISTICS

OTHERS TO FOLLOW IN THIS SERIES ARE:

- No. 2 POPULATION AND HOUSING
- No. 3 ECONOMIC AND SOCIAL SURVEY
- No. 4 CIRCULATION AND TRANSPORTATION
- No. 5 REGIONAL DEVELOPMENT PLAN

NOTE: THE PREPARATION OF THIS REPORT WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE HOUSING AND HOME FINANCE AGENCY, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

THE REMAINDER HAS BEEN FINANCED BY LOCAL FUNDS AND BY AN APPROPRIATION OF THE STATE OF NEW JERSEY AS PART OF THE EXPANDED STATE AND REGIONAL PLANNING PROGRAM.

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GENERAL INTRODUCTION

THE WESTERN MONMOUTH REGION IS COMPOSED OF THE TWELVE MUNICIPALITIES OF MONMOUTH COUNTY WEST OF THE GARDEN STATE PARKWAY. IN LAND AREA IT CONSISTS OF 285 SQUARE MILES--60% OF MONMOUTH COUNTY. SURROUNDING IT ARE THE MONMOUTH COASTAL REGION ON THE EAST (WHICH HAS BEEN STUDIED PREVIOUSLY IN A SERIES OF REPORTS BY THE MONMOUTH COUNTY PLANNING BOARD), OCEAN COUNTY ON THE SOUTH AND MIDDLESEX, MERCER AND BURLINGTON COUNTIES ON THE WEST. WESTERN MONMOUTH STRETCHES WESTWARD FROM THE VICINITY OF THE PARKWAY TO WITHIN SEVEN MILES OF THE DELAWARE RIVER AND ONE MILE FROM THE NEW JERSEY TURNPIKE.

IN ORDER TO MEANINGFULLY EVALUATE WESTERN MONMOUTH, IT IS FIRST NECESSARY TO EXAMINE THE FACTORS THAT ARE INFLUENCING THE GROWTH OF NEW JERSEY. THERE HAS BEEN INCREASING PRESSURE FOR OUTWARD EXPANSION FROM THE NEW YORK METROPOLITAN AREA. THE NEW YORK REGIONAL PLAN ASSOCIATION ESTIMATES THAT THERE WILL BE A POPULATION OF 22 MILLION PEOPLE IN THE ENTIRE 22 COUNTY NEW YORK REGION BY 1985. THIS REPRESENTS AN INCREMENT OF SIX MILLION PEOPLE OVER THE SIXTEEN MILLION LIVING IN THE REGION IN 1960. AN ADDITIONAL 2,800 SQUARE MILES WILL NEED TO BE DEVELOPED TO ACCOMMODATE THIS ADDITIONAL POPULATION UNDER PRESENT ZONING STANDARDS. IN FACT, AS REGIONAL PLAN DESCRIBES IT, "WE WILL USE UP IN THE NEXT TWENTY-FIVE YEARS MORE LAND THAN WE HAVE DEVELOPED IN THE 336 YEARS SINCE MANHATTAN WAS PURCHASED FROM THE INDIANS".

THERE ARE SERIOUS IMPLICATIONS IN THESE TRENDS FOR WESTERN MONMOUTH. WITH ITS VAST OPEN SPACES, THIS REGION IS ONE OF THE AREAS MOST SUSCEPTIBLE TO URBAN GROWTH FROM THE NORTH. IN ADDITION, THE LOWER END OF WESTERN MONMOUTH--BEING CLOSE TO THE TURNPIKE AND TRENTON--IS ON THE

THRESHOLD OF FEELING PRESSURE FOR EXPANSION FROM THIS METROPOLITAN AREA. CAUGHT IN A PINCER MOVEMENT FROM BOTH DIRECTIONS, IT IS EXTREMELY TIMELY THAT LONG-RANGE GOALS AND PLANNING OBJECTIVES WILL BE ESTABLISHED FOR THE REGION TO ASSURE THAT ITS GROWTH AND DEVELOPMENT WILL BE CHANNELED AND GUIDED IN ACCORDANCE WITH A COMPREHENSIVE REGIONAL PLAN.

INTRODUCTION

THE LAND USE STUDY IS THE INITIAL STUDY IN A SERIES ON THE WESTERN MONMOUTH REGION TO BE UNDERTAKEN BY THE MONMOUTH COUNTY PLANNING BOARD WITH THE FINANCIAL AID OF THE FEDERAL GOVERNMENT THROUGH THE HOUSING AND HOME FINANCE AGENCY UNDER SECTION 701 OF THE HOUSING ACT OF 1954 AS AMENDED. OTHERS IN THE SERIES WILL BE POPULATION AND HOUSING, ECONOMIC AND SOCIAL SURVEY, CIRCULATION AND TRANSPORTATION. THE STUDIES WILL PROVIDE A FOUNDATION OF INFORMATION TO ESTABLISH THE LIMITS OF FEASIBLE ALTERNATIVES FOR PLANNING THE WESTERN MONMOUTH REGION. AFTER CAREFUL EXAMINATION OF THE ALTERNATIVES, AN INTEGRATED GENERAL DEVELOPMENT PLAN WILL BE DESIGNED RECOMMENDING THE PHYSICAL DEVELOPMENT OF THE REGION.

THE INTERRELATIONSHIP OF THESE REPORTS MUST BE EMPHASIZED. IT IS NECESSARY TO HAVE THE RESERVOIR OF FACTUAL INFORMATION THAT THE VARIOUS REPORTS PROVIDE IN ORDER TO DEVELOP A WORKABLE REGIONAL PLAN FOR THE WESTERN MONMOUTH REGION.

THIS FIRST REPORT ON LAND USE WILL CONTAIN A SECTION ON PHYSICAL CHARACTERISTICS WITH AN ANALYSIS OF THEIR AFFECT ON THE USE CAPABILITY OF VACANT LAND AND LAND WHICH CAN BE MORE INTENSIVELY UTILIZED.

THE STUDY OF LAND USE ITSELF IS ONE OF THE MOST BASIC AND IMPORTANT ELEMENTS IN PLANNING. THE USE OF LAND AND BUILDINGS IS THE DOMINANT FACTOR IN DETERMINING THE LOCATION, CHARACTER AND EXTENT OF COMMUNITY AND REGIONAL FACILITIES OF ALL TYPES INCLUDING HIGHWAYS, UTILITIES, AND PUBLIC LAND AND BUILDINGS.

REGIONAL COORDINATION OF LAND USE PLANNING BECOMES INCREASINGLY IMPORTANT AS DEVELOPMENT MERGES ACROSS MUNICIPAL BOUNDARIES. THERE IS AMPLE EVIDENCE REFLECTED IN THE ZONING ORDINANCES OF THE MUNICIPALITIES OF THE COUNTY, WHICH ARE THE BASIC TOOL IN LAND USE CONTROL AND REGULATION, THAT A MOSAIC FORMED OF THE INDIVIDUAL LAND USE PLANS WILL NOT PRODUCE A UNIFIED REGIONAL PLAN. COMPETITION FOR LAND USES WHICH ARE A TAX ASSET HAS RESULTED IN EXCESSIVE ALLOCATION OF LAND FOR "FAVORABLE" LAND USES AND EXCLUSION OR LIMITATION OF LAND USES WHICH REQUIRE MUNICIPAL EXPENDITURES IN EXCESS OF THE REVENUE THEY PRODUCE. MOST OF THE DIFFICULTY CAN BE TRACED TO THE SUBSTANTIAL RELIANCE ON THE PROPERTY TAX FOR PUBLIC FUNDS ON THE LOCAL LEVEL OF GOVERNMENT IN NEW JERSEY. THIS HAS MOTIVATED AND DIRECTED LOCAL ZONING AND LAND USE PLANNING AND CAN BE SINGLED OUT AS THE DOMINANT PROBLEM IN COORDINATING LAND USE PLANNING ON A REGIONAL BASIS.

THE WESTERN MONMOUTH REGION OFFERS A UNIQUE OPPORTUNITY TO EFFECTIVELY PLAN FOR ITS FUTURE. THE OUTWARD PRESSURE FROM THE METROPOLITAN AREAS AND THE ABUNDANCE OF DESIRABLE DEVELOPABLE LAND MAKES THE NEED FOR A REGIONAL PLAN URGENT AND TIMELY.

THE IMPLEMENTATION OF THE PLAN WILL REQUIRE THE COOPERATION OF VARIOUS STATE AGENCIES ON THE LEVEL OF GOVERNMENT ABOVE THE COUNTY AND PARTICULARLY THE TWELVE MUNICIPALITIES AND THEIR OFFICIALS AT THE LOCAL LEVEL. A LOCAL COORDINATING COMMITTEE HAS BEEN FORMED WITH REPRESENTATION FROM EACH OF THE LOCAL PLANNING BOARDS TO ALLOW PARTICIPATION IN THE FORMATION OF THE PLAN BY LOCAL OFFICIALS AND TO BUILD A FOUNDATION OF SUPPORT FOR LOCAL ACTION NECESSARY FOR THE IMPLEMENTATION OF THE PLAN.

1.0 PHYSICAL CHARACTERISTICS

1.0 PHYSICAL CHARACTERISTICS

AN ESSENTIAL PREREQUISITE TO THE DEVELOPMENT OF A LAND USE PLAN IS AN EVALUATION OF PHYSICAL CHARACTERISTICS SINCE DRAINAGE AND TOPOGRAPHY IN PARTICULAR CAN INFLUENCE, RESTRICT OR PREVENT VARIOUS TYPES OF LAND USES.

1.1 TOPOGRAPHY

1.11 SLOPE

FIGURE 1 OUTLINES FIVE CATEGORIES OF TOPOGRAPHIC CONDITIONS BASED ON THE DEGREE OF SLOPE--0 - 4.9% OF SLOPE, 5 - 9.9% OF SLOPE, 10 - 14.9% OF SLOPE, 15 - 19.9% OF SLOPE AND OVER 20% OF SLOPE. LAND HAVING SLOPES OF LESS THAN 10% GENERALLY WILL NOT HAVE TOPOGRAPHIC LIMITATIONS ON DEVELOPMENT. USUALLY, HOWEVER, COMMERCIAL AND INDUSTRIAL AREAS SHOULD NOT HAVE LARGE AREAS IN EXCESS OF 5% SLOPE.

APPROXIMATELY 75% OF THE REGION FALLS IN THAT CATEGORY INDICATING A RELATIVELY WIDE CHOICE OF LAND USE FOR THESE AREAS AS FAR AS TOPOGRAPHY IS CONCERNED. THE OTHER CATEGORIES OF SLOPE ARE CONCENTRATED PRIMARILY IN TWO GENERAL AREAS--THE MOUNT PLEASANT HILLS AREA OF MARLBORO AND COLTS NECK TOWNSHIP AND THE CENTRAL PORTION OF MILLSTONE TOWNSHIP. THERE IS A SCATTERING OF LAND WITH SLOPE OF MORE THAN 5% AT OTHER LOCATIONS BESIDES THOSE MENTIONED BUT THERE ARE NOT ANY SIGNIFICANT CONCENTRATIONS OF IT.

[IT SHOULD BE NOTED HERE THAT AREAS WITH SLOPES OF ONE-HALF PER CENT OR LESS CAN BE TROUBLESOME SINCE SURFACE DRAINAGE OF ROADS AND SEWER LINES REQUIRE SLOPES

OF AT LEAST THIS MUCH. EXAMINATION OF FIGURE 1 REVEALS THAT WESTERN MONMOUTH DOES NOT HAVE ANY AREAS THAT ARE THIS FLAT SO THAT THIS CONSIDERATION SHOULD NOT BE ANY PROBLEM IN WESTERN MONMOUTH. AS A MATTER OF INTEREST THE FLATEST AREAS ARE EAST OF FREEHOLD RUNNING SOUTHWARD FROM ROUTE #537 TO THE MANASQUAN RIVER AND IN THE NORTHWESTERN SECTIONS OF UPPER FREEHOLD, MILLSTONE AND MANALAPAN TOWNSHIPS WHERE SLOPES RANGE BETWEEN ONE HALF AND ONE PER CENT IN MANY AREAS.

DEVELOPMENT OF AREAS WITH SLOPES OF 10% TO 20% WILL BE INFLUENCED BY TOPOGRAPHY AND THOSE WITH SLOPE OVER 20% WILL BE SEVERELY RESTRICTED. THEREFORE, THE PRINCIPAL CONCLUSION THAT CAN BE REACHED FROM THIS ANALYSIS IS THAT THE WESTERN MONMOUTH REGION IS FOR THE MOST PART AN AREA CHARACTERIZED BY GENTLY ROLLING TERRAIN THAT PRESENTS NO BARRIER TO INTENSIVE DEVELOPMENT. THOSE AREAS THAT HAVE BEEN OUTLINED WITH GREATER DEGREES OF SLOPE SHOULD BE DESIGNATED FOR LOW-DENSITY DEVELOPMENT OR PARK AND CONSERVATION USE. AREAS IN THIS CATEGORY ARE EXPENSIVE TO DEVELOP FOR INTENSIVE USE AND PROBLEMS ARISE IN SUPPLYING WATER, SEWERS AND ROADS. THE REMOVAL OF TREES AND NATIVE VEGETATION CAN ALSO RESULT IN SERIOUS AND COSTLY EROSION PROBLEMS.

1.12 DRAINAGE BASINS

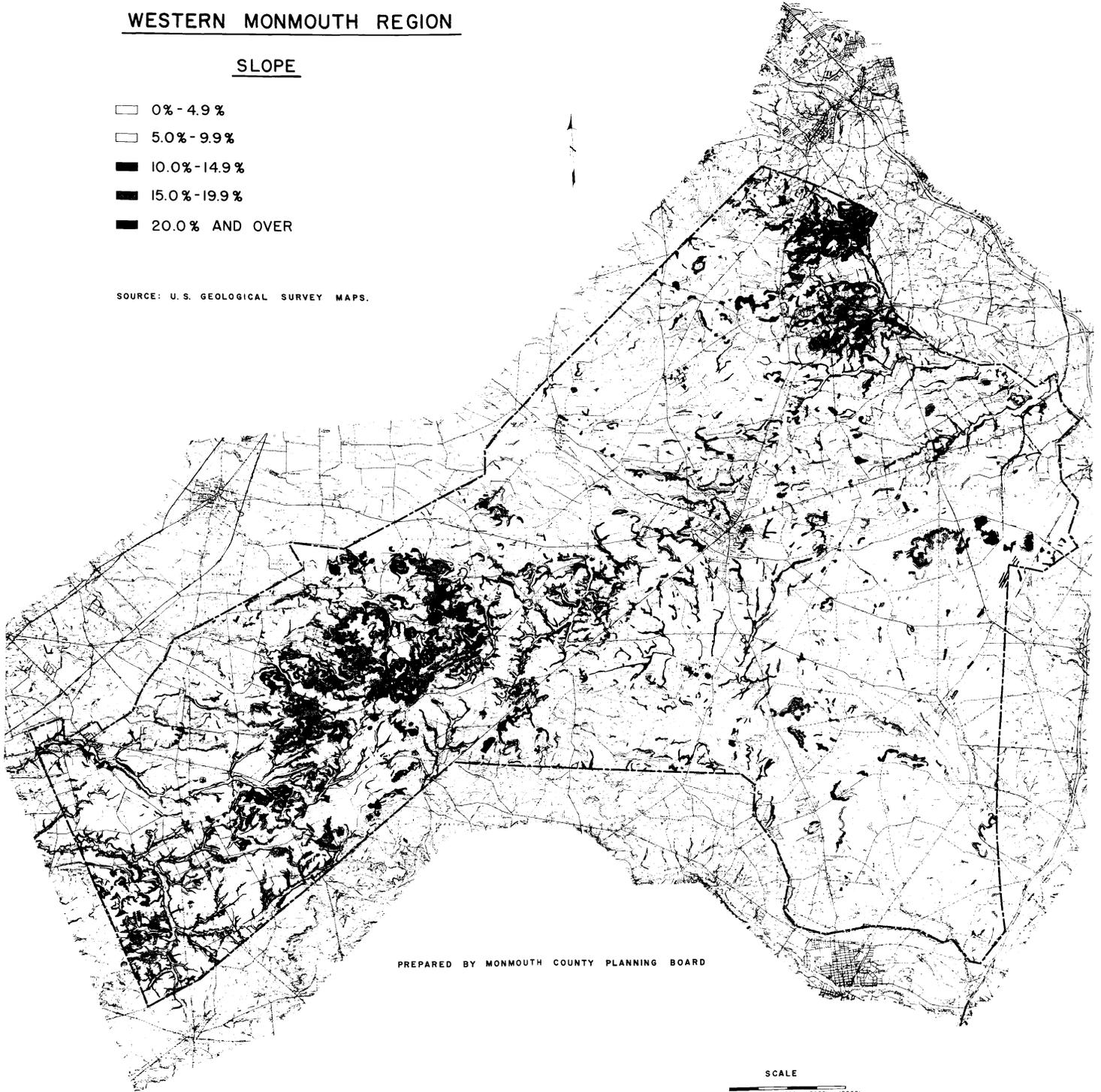
THE DRAINAGE BASINS OF MONMOUTH COUNTY ARE DELINEATED ON FIGURE 2. IN WESTERN MONMOUTH THE MAJOR RIDGE LINE RUNS ROUGHLY SOUTHWARD FROM MORGANVILLE ALONG ROUTE #79 TO FREEHOLD BOROUGH AND SOUTHWESTWARD ALONG ROUTE #537 TO HOLMESON. EAST OF THIS LINE THE FLOW IS EASTWARD TO THE ATLANTIC OCEAN

WESTERN MONMOUTH REGION

SLOPE

- 0% - 4.9%
- 5.0% - 9.9%
- 10.0% - 14.9%
- 15.0% - 19.9%
- 20.0% AND OVER

SOURCE: U. S. GEOLOGICAL SURVEY MAPS.



PREPARED BY MONMOUTH COUNTY PLANNING BOARD



JUNE 1963

THE PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE URBAN RENEWAL ADMINISTRATION OF THE HOUSING AND HOME FINANCE AGENCY, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED. THE REMAINDER HAS BEEN FINANCED BY LOCAL FUNDS AND BY AN APPROPRIATION OF THE STATE OF NEW JERSEY AS A PART OF THE EXPANDED STATE AND REGIONAL PLANNING PROGRAM.

DRAINAGE BASINS

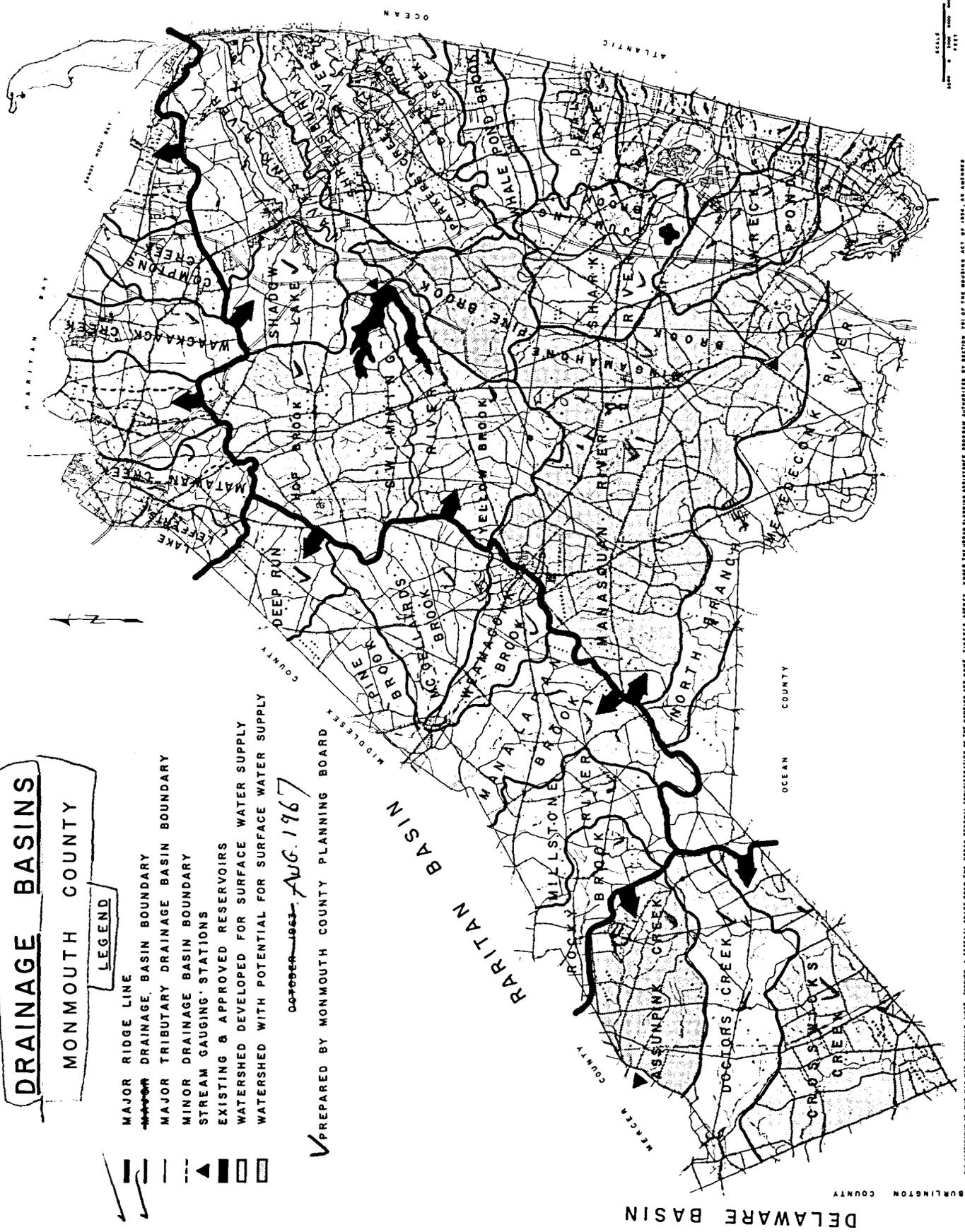
MONMOUTH COUNTY

LEGEND

- MAJOR RIDGE LINE
- MAJOR DRAINAGE, BASIN BOUNDARY
- MAJOR TRIBUTARY DRAINAGE BASIN BOUNDARY
- MINOR DRAINAGE BASIN BOUNDARY
- STREAM GAUGING STATIONS
- EXISTING & APPROVED RESERVOIRS
- WATERSHED DEVELOPED FOR SURFACE WATER SUPPLY
- WATERSHED WITH POTENTIAL FOR SURFACE WATER SUPPLY

~~OCTOBER 1963~~ **AUG. 1967**

PREPARED BY MONMOUTH COUNTY PLANNING BOARD



IN THREE MAJOR BASINS--SWIMMING RIVER, MANASQUAN RIVER AND METEDECONK RIVER. THE FLOW ON THE WEST SIDE OF THIS RIDGE LINE IS TO THE NORTHWEST TO THE RARITAN RIVER IN SEVEN SMALLER DRAINAGE AREAS RANGING FROM 7.0 TO 19.0 SQUARE MILES. IN THE WESTERN QUARTER OF MILLSTONE TOWNSHIP AND UPPER FREEHOLD TOWNSHIP, THE FLOW IS WESTWARD TO THE DELAWARE RIVER IN THREE MAJOR DRAINAGE BASINS--ASSUNPINK CREEK, DOCTORS CREEK AND CROSSWICKS CREEK.

FOR PLANNING PURPOSES, THE DIRECTION OF STREAM COURSES IS SIGNIFICANT IN A NUMBER OF WAYS. WHEN PLANNING WATER SUPPLY, STORM DRAINAGE AND SEWER SYSTEMS, SUBSTANTIAL ECONOMIES CAN BE EFFECTED BY UTILIZING NATURAL DRAINAGE PATTERNS WHENEVER POSSIBLE. WHEN NATURAL SLOPES ARE NOT USED, THE ALTERNATIVE IS THE ESTABLISHMENT OF PUMPING STATIONS FOR EACH UTILITY WHICH IS EXPENSIVE.

AS AN EXAMPLE, THE COUNTY-WIDE SEWER STUDY RECENTLY AUTHORIZED BY THE MONMOUTH COUNTY BOARD OF CHOSEN FREEHOLDERS WILL RESULT IN DATA BEING DEVELOPED ON EACH OF THE MAJOR DRAINAGE DISTRICTS WITH RESPECT TO THE NEED FOR SEWERAGE DISPOSAL FACILITIES.

1.2 DRAINAGE

AREAS OF POOR DRAINAGE ARE DELINEATED ON FIGURE 3 WHICH IS DERIVED FROM THE "ENGINEERING SOIL SURVEY OF NEW JERSEY" PREPARED BY RUTGERS UNIVERSITY. THE MAP SHOWS MARINE TIDAL MARSH, SWAMPS AND STREAM COURSES AS AREAS OF POOR DRAINAGE

WITH THE LATTER TWO CATEGORIES BEING THE PRINCIPAL ONES IN WESTERN MONMOUTH. THE REGION IS FORTUNATE SINCE MANY OF THESE AREAS ARE ALREADY COMMITTED TO DRAINAGE, WATERSHED OR PUBLIC PARK USE. THIS IS TRUE OF THE TURKEY SWAMP AREA IN FREEHOLD TOWNSHIP OWNED AS PUBLIC HUNTING AREA AND HOCKHOCKSON SWAMP IN COLTS NECK TOWNSHIP WHICH IS OWNED BY EARLE NAVAL AMMUNITION DEPOT. OTHER MAJOR AREAS OF POOR DRAINAGE ARE ALONG THE NORTHWESTERN BOUNDARY OF THE REGION IN MANALAPAN AND MARLBORO TOWNSHIPS AND ALL OF THE FLOOD PLAIN AREAS ALONG STREAM COURSES.

MANY OF THE AREAS OF POOR DRAINAGE ADJACENT TO STREAM COURSES ARE WOODED AND ATTRACTIVE. THEIR RESERVATION WILL HELP TO PRESERVE ONE OF THE NATURAL AMENITIES OF WESTERN MONMOUTH. HOWEVER, THERE ARE PRACTICAL REASONS FOR DOING THIS AS WELL AS AESTHETIC ONES. BY RETAINING PUBLIC CONTROL OF THESE AREAS, THE POSSIBILITIES OF NATURAL DRAINAGE WAYS BEING IMPAIRED OR DESTROYED BY SEDIMENTATION ARE DIMINISHED. PONDS CAN BE CREATED TO HELP REGULATE STREAM FLOW AND THUS CONTROL FLOODING WHICH MINIMIZES THE NEED FOR INCREASING THE SIZE OF DRAINAGE FACILITIES AT DOWNSTREAM LOCATIONS. LINEAR PARKS COULD ALSO BE ESTABLISHED IN SOME AREAS AND SPACE WOULD BE AVAILABLE TO BUILD TRUNK AND INTERCEPTER SEWERAGE LINES TO SERVE THE NATURAL DRAINAGE BASINS. THE DESIRABLE ASPECTS OF THIS IDEA ARE INNUMEROUS AND ONE MUNICIPALITY IN WESTERN MONMOUTH--COLTS NECK TOWNSHIP--HAS ALREADY ESTABLISHED A MECHANISM FOR IMPLEMENTING IT.

AS PART OF ITS SUBDIVISION REGULATIONS, IN ADDITION TO DRAINAGE EASEMENTS, CONSERVATION EASEMENTS ARE REQUIRED ALONG STREAMS WHERE THEY ARE SO DESIGNATED IN THE MASTER PLAN. THE OTHER

WESTERN MONMOUTH REGION

DRAINAGE CONDITIONS

(Limiting or Restricting Development)

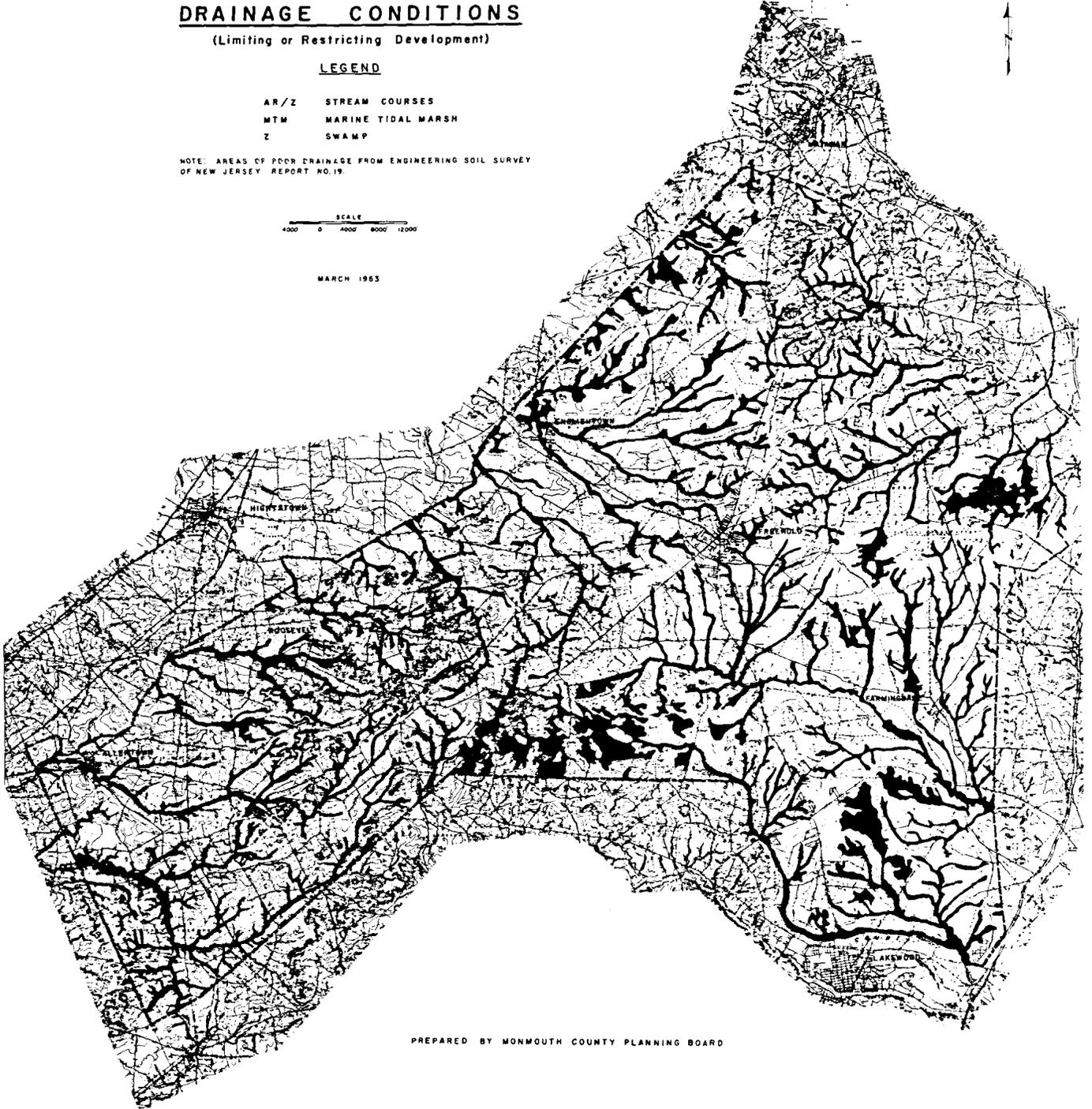
LEGEND

AR/Z STREAM COURSES
MTM MARINE TIDAL MARSH
Z SWAMP

NOTE: AREAS OF POOR DRAINAGE FROM ENGINEERING SOIL SURVEY
OF NEW JERSEY, REPORT NO. 19.

SCALE
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MARCH 1963



PREPARED BY MONMOUTH COUNTY PLANNING BOARD

MUNICIPALITIES OF WESTERN MONMOUTH SHOULD ESTABLISH SIMILAR REQUIREMENTS TO PRESERVE STREAMS AND FLOOD PLAINS FOR INCREASED AND ADDITIONAL FUNCTIONS IN THE FUTURE.

1.3 WATER RESOURCES

THE ANNUAL AVERAGE PRECIPITATION IN MONMOUTH COUNTY IS 44 INCHES WHICH IS ONLY SLIGHTLY BELOW THE NEW JERSEY AVERAGE. AFTER THIS RAINFALL HAS REACHED THE GROUND, IT DIVIDES INTO THREE CATEGORIES--SURFACE RUNOFF, INFILTRATION (GROUND WATER) AND EVAPOTRANSPIRATION. ABOUT ONE HALF (23 OF THE 44 INCHES) IN MONMOUTH COUNTY IS DISSIPATED BY THE LATTER PHENOMEON WHICH INVOLVES EVAPORATION FROM THE EARTH'S SURFACE INCLUDING BODIES OF WATER AND TRANSPIRATION BY PLANT LIFE.

THE REMAINING 21 INCHES BECOMES EITHER GROUND OR SURFACE WATER DEPENDING PRINCIPALLY ON THE CHARACTERISTICS OF THE SURFACE GEOLOGIC FORMATIONS AT DIFFERENT LOCATIONS. EACH OF THESE TWO TOPICS WILL NOW BE EXAMINED INDIVIDUALLY.

1.31 GROUND WATER

MONMOUTH COUNTY'S GEOLOGY IS CHARACTERIZED BY UNDERLYING FORMATIONS COMPOSED PRINCIPALLY OF SANDS AND CLAYS WITH LESSER AMOUNTS OF GRAVEL AND MARL. THE IMPORTANCE OF THESE FORMATIONS AS WATER-BEARING ZONES OR AQUIFERS VARIES DEPENDING UPON THE MATERIALS FORMING THE AQUIFERS AS WELL AS OTHER GEOLOGICAL CONSIDERATIONS. THE GEOLOGIC MAP OF MONMOUTH COUNTY (FIGURE 4) INDICATES THE EXPOSED OR OUTCROP AREAS OF THE FORMATIONS UNDERLYING MONMOUTH COUNTY. THEY APPEAR AS BANDS RUNNING IN A NORTHEAST-SOUTHWEST DIRECTION AND GENERALLY DIP SOUTHEASTWARD AT 40 TO 60 FEET PER MILE.

FIGURE 5 IS A GENERALIZED GEOLOGIC CROSS-SECTION OF MONMOUTH COUNTY RUNNING FROM ENGLISHTOWN TO SPRING LAKE. AQUIFERS TAPPED BY PUBLIC WELLS ARE DESIGNATED AND THE LOCATION AND DEPTH OF THREE PUBLIC WELLS ARE SHOWN. THE TWO MAJOR AQUIFERS ARE THE RARITAN AND MAGOTHY FORMATION (INCLUDING THE OLD BRIDGE AND FARRINGTON SANDS) AND THE ENGLISHTOWN SAND WHICH TOGETHER SUPPLIED 76 PER CENT OF THE GROUND WATER DIVERSION IN THE COUNTY IN 1958. TABLE 1 ILLUSTRATES THE RELATIVE IMPORTANCE OF THEM IN RELATION TO THE OTHER WATER-BEARING STRATA TAPPED IN THE COUNTY. THIS DATA IS BASED ON INFORMATION RECEIVED FROM THE GROUND WATER BRANCH OF THE U. S. GEOLOGICAL SURVEY AND ALSO INDICATES THE POTENTIAL ADDITIONAL WITHDRAWAL WITHIN MONMOUTH COUNTY.

TABLE 1
GROUND WATER RESOURCES OF MONMOUTH COUNTY

<u>AQUIFER</u>	EXISTING WITHDRAWAL WITHIN COUNTY (1958) <u>(M.G.D.)</u>	POTENTIAL ADDITIONAL WITHDRAWAL WITHIN MONMOUTH CO. <u>(M.G.D.)</u>
RARITAN & MAGOTHY	12.3	50.0
ENGLISHTOWN	4.2	43.0
WENONAH & MT. LAUREL	0.6	15.0
KIRKWOOD	1.5	--*
RED BANK SAND) VINCENTOWN FORMATION) OTHERS)	3.0	--
TOTAL	<u>21.6</u>	<u>108.0</u>

SOURCE: GROUND WATER BRANCH, U. S. GEOLOGICAL SURVEY

*LIMITED ADDITIONAL POTENTIAL DUE TO SMALL AREAL EXTENT OF SAND LAYERS AND POSSIBLE SALT WATER ENCROACHMENT AND CONTAMINATION IF OVERDEVELOPED.

AVERAGE YIELDS IN THE ENGLISHTOWN AREA ARE 25 G.P.M. WITH SOME WELLS REPORTING YIELDS UP TO 300 G.P.M. YIELDS FROM THE RARITAN FORMATION RANGE UP TO 600 G.P.M. EXCEPT FOR THE REMOVAL OF IRON IN MANY LOCATIONS, THE WATER QUALITY FROM BOTH AQUIFERS IS EXCELLENT. AS TABLE 1 INDICATES THERE ARE MODERATE TO LARGE AMOUNTS OF GROUND WATER AVAILABLE TO MONMOUTH COUNTY.

1.32 SURFACE WATER

THERE ARE THREE GAUGING STATIONS WHICH MEASURE THE FLOW OF STREAMS IN WESTERN MONMOUTH. THEY ARE LOCATED ON THE SWIMMING RIVER ABOVE THE MONMOUTH CONSOLIDATED DAM IN COLTS NECK TOWNSHIP, ON THE MANASQUAN RIVER AT ROUTE #547 IN SQUANKUM, HOWELL TOWNSHIP, AND ON CROSSWICKS CREEK IN EXTONVILLE, MERCER COUNTY, JUST WEST OF THE MONMOUTH COUNTY LINE. THESE THREE GAUGING STATIONS ARE SHOWN IN LOCATION ON FIGURE 2. TABLE 2 PRESENTS THE RUN-OFF CHARACTERISTICS FOR THESE THREE DRAINAGE BASINS. IT ILLUSTRATES THE DROP IN TOTAL ANNUAL RUNOFF IN DROUGHT YEARS.

DEVELOPMENT OF SURFACE WATER SUPPLY FOR PUBLIC USE IS INFLUENCED BY THE FOLLOWING FACTORS:

1. WATERSHEDS THAT ARE TOO SMALL MAKING SURFACE WATER DEVELOPMENT IMPRACTICAL.
2. THE TYPE AND INTENSITY OF DEVELOPMENT WITHIN A WATERSHED MAKING CONTROL OF POLLUTION DIFFICULT.
3. THE AVAILABILITY OF SITES FOR IMPOUNDMENTS WHICH ARE NECESSARY FOR DEPENDABLE SURFACE WATER SUPPLY.

THE USE OF SURFACE WATER FOR IRRIGATION MUST ALSO BE CONSIDERED. IN THE WATER SUPPLY STUDY AND PLAN FOR THE MONMOUTH COASTAL REGION* WHERE MUCH OF THIS PREVIOUS INFORMATION

WAS OBTAINED, IT IS ESTIMATED THAT THE DAILY REQUIREMENTS FOR THE MANASQUAN AND SWIMMING RIVER DRAINAGE BASINS ALONE FOR THIS PURPOSE IS 31 MILLION GALLONS PER DAY DURING DRY PERIODS.

THE WATER SUPPLY PLAN FOR MONMOUTH COUNTY PROVIDED FOR FULL DEVELOPMENT OF THE SURFACE WATER POTENTIAL FROM THE MAJOR WATERSHEDS FLOWING TO THE ATLANTIC TO SERVE THE MONMOUTH COASTAL REGION LEAVING THE GROUND WATER RESOURCES FOR WESTERN MONMOUTH AND THE WESTERN SECTION OF THE BAYSHORE. SURFACE WATER FROM THE SWIMMING RIVER AND MANASQUAN MIGHT BE EXTENDED WESTWARD TO SERVE THE EASTERN PART OF THE WESTERN MONMOUTH REGION, AND SOME GROUND WATER WILL BE UTILIZED FOR INDUSTRIAL DEVELOPMENT AND TO MEET PEAK SUMMER DEMANDS IN THE COASTAL AREA.

TWO WATERSHEDS FLOWING TO THE DELAWARE IN WESTERN MONMOUTH HAVE APPARENT POTENTIAL FOR DEVELOPMENT AS POTABLE WATER AND ARE INDICATED ON FIGURE 2 IN THIS CATEGORY. THESE ARE CROSSWICKS AND THE ASSUNPINK. EXTENSIVE STORAGE WILL BE PROVIDED ON THE ASSUNPINK IN FIVE PONDS IF A CONTEMPLATED PROJECT MATERIALIZES UNDER THE SMALL WATERSHED ACT. PRELIMINARY STUDIES BY THE STATE DIVISION OF WATER POLICY AND SUPPLY INDICATE POTENTIAL FOR DEVELOPMENT OF THE CROSSWICKS WATERSHED AS A SOURCE OF SURFACE WATER SUPPLY. HOWEVER, IT WILL BE MANY YEARS BEFORE THE CONCENTRATED DEMAND NECESSARY TO DEVELOP SURFACE WATER EXISTS IN THIS AREA.

WHILE THE GROUND WATER BRANCH OF THE U. S. GEOLOGICAL SURVEY ESTIMATED THE TOTAL SAFE YIELD OF THE AQUIFERS UNDERLYING THE COUNTY, ADDITIONAL ANALYSIS IS REQUIRED TO DETERMINE THE AMOUNT OF WATER WHICH CAN BE WITHDRAWN IN A GIVEN AREA.

TABLE 2
RUNOFF CHARACTERISTICS OF VARIOUS STREAMS IN MONMOUTH COUNTY

GAUGING STATION	DRAINAGE AREA Sq. Mi.	AVERAGE ANNUAL DIS.		PERIOD OF RECORD	MINIMUM ANNUAL DISCHARGE		% DRIEST IS OF THE AVERAGE
		INCHES	INCHES		INCHES	YEARS	
SWIMMING RIVER	48.5	21.26	12.21	1923-1957	1931-32	53	
MANASQUAN RIVER	43.4	22.76	13.34	1932-1958	1931-32	59	
CROSSWICK CREEK	89.4	19.75	13.82	1941-1950 AND 1953-1957	1941-42	70	

SOURCE: SPECIAL REPORTS 5, 9, 12, 14, 16
SURFACE WATER SUPPLY OF NEW JERSEY
OCTOBER 1, 1928 TO SEPTEMBER, 1955
BY N. J. DIVISION OF WATER POLICY & SUPPLY

MEETINGS WILL BE HELD WITH STATE AND FEDERAL OFFICIALS PRIOR TO DEVELOPING ALTERNATE PLANS FOR THE REGION SINCE THIS COULD LIMIT OR RESTRICT CONCENTRATIONS OF INTENSIVE DEVELOPMENT OR SUGGEST THEIR PROPER DISTRIBUTION.

1.4 SOIL CHARACTERISTICS

WESTERN MONMOUTH IS KNOWN FOR ITS HIGHLY PRODUCTIVE FARMLAND. THE UNITED STATES SOIL CONSERVATION SERVICE HAS MAPPED THE ENTIRE COUNTY WITH VARIOUS CLASSES OF LAND ACCORDING TO AGRICULTURAL USE CAPABILITY. THE MAJOR DIVISIONS ARE:

LAND SUITABLE FOR CULTIVATION

- I - VERY GOOD LAND; NEARLY LEVEL
- II - GOOD LAND; SLOPING, SLIGHTLY WET OR SANDY
- III - MODERATELY GOOD LAND; SLOPING, WET OR SANDY

LAND SUITABLE FOR LIMITED CULTIVATION

- IV - LAND BEST SUITED FOR PASTURE

LAND NOT SUITABLE FOR CULTIVATION

- VI - SUITABLE FOR GRAZING OR FORESTRY WITH MINOR LIMITATIONS
- VII - SUITABLE FOR GRAZING OR FORESTRY WITH MAJOR LIMITATIONS
- VIII - SUITED ONLY FOR WILDLIFE OR RECREATION; SWAMPS OR TIDAL MARSH

THE MAJOR CONCENTRATIONS OF CLASS I AND II ARE IDENTIFIED IN FIGURE 9. THEY ARE THE WESTERN THREE-QUARTERS OF UPPER FREEHOLD TOWNSHIP AND AN AREA SOUTH OF FREEHOLD BOROUGH STRETCHING FROM ARDENA IN HOWELL TOWNSHIP THROUGH FREEHOLD TOWNSHIP TO SMITHBURG. THERE ARE MORE MINOR CONCENTRATIONS IN THE OTHER TOWNSHIPS--COLTS NECK, MARLBORO, MANALAPAN AND MILLSTONE. IN TOTAL, THESE TWO CATEGORIES ALONE ACCOUNT FOR OVER 30% OF THE LAND

OF THE REGION. THE FIRST THREE CLASSES ACCOUNT FOR ALMOST 60% OF THE LAND AREA. THE IMPORTANCE OF THESE PRODUCTIVE FARM AREAS CANNOT BE OVEREMPHASIZED. IF MONMOUTH COUNTY IS TO RETAIN ANY OF ITS RURAL CHARACTERISTICS THAT MAKE IT SO ATTRACTIVE, SOME METHOD MUST BE FOUND TO MAKE IT ECONOMICALLY POSSIBLE FOR AGRICULTURE TO REMAIN. UNFORTUNATELY, CAREFUL INSPECTION OF FIGURES 6, 8, AND 9 SHOWS THAT MANY OF THE AREAS BEST SUITED FOR FARMING ARE ALSO VERY ATTRACTIVE FOR MORE INTENSIVE USE-- RESIDENTIAL, COMMERCIAL AND INDUSTRIAL--AND IT IS HERE THAT THE PROBLEM LIES. IT HAS BEEN RECOGNIZED IN NEW JERSEY THAT THIS IS A STATE PROBLEM, AND AS A RESULT, A CONSTITUTIONAL AMENDMENT HAS BEEN PROPOSED TO TAX FARMLAND ON ITS AGRICULTURAL VALUE RATHER THAN ON ITS TRUE OR MARKET VALUE. REGARDLESS OF THE OUTCOME OF THIS PROPOSAL, IT IS BUT A FIRST STEP IN A SERIES THAT WILL BE NEEDED IF AGRICULTURE IS TO BE PRESERVED. ONE OF THE IMPORTANT CONCLUSIONS OF THIS REPORT WILL BE THE SELECTION OF AREAS OF GOOD FARMLAND WHERE IT WOULD BE FEASIBLE TO RETAIN AGRICULTURE FOR AN EXTENDED PERIOD OF TIME, AND EXAMINATION OF THE METHODS BY WHICH THIS COULD BE ACCOMPLISHED IN A LATER REPORT OF THIS SERIES.

2.0 LAND USE

2.1 EXISTING LAND USE

ONE OF THE MOST IMPORTANT BASIC STUDIES IN A PLANNING PROGRAM IS THE LAND USE SURVEY. IT IS ESSENTIALLY AN INVENTORY OF EXISTING CONDITIONS. THIS DATA IS BEST PRESENTED IN MAP FORM SINCE IT GIVES A GRAPHIC PICTURE OF THE EXISTING PATTERN OF LAND USE. ANALYSIS OF THE EXISTING LAND USE PATTERN IS ESSENTIAL TO PINPOINT INTERRELATIONSHIPS BETWEEN LAND USES AND DEFICIENCIES IN THE PATTERN AS A BASIS FOR THE LAND USE PLAN.

2.11 FIELD SURVEY AND MAPPING

DATA FOR THE LAND USE STUDY OF THE WESTERN MONMOUTH REGION WAS OBTAINED FROM SEVERAL SOURCES. BASIC LAND USE DATA WAS AVAILABLE FOR SEVERAL OF THE SMALLER BOROUGHES FROM THE FIRE INSURANCE MAPS OF THE SANDBORN MAP COMPANY. OTHER SOURCES INCLUDED LAND USE MAPS OF THE MUNICIPALITIES UNDERTAKING PLANNING PROGRAMS, RECENT AERIAL PHOTOGRAPHS, AND U. S. GEOLOGICAL SURVEY TOPOGRAPHIC SHEETS.

THE MAJOR SOURCE OF THE DATA FOR THIS SURVEY, HOWEVER, WAS OBTAINED FROM FIELD INSPECTION. THE INFORMATION WAS RECORDED ON MUNICIPAL TAX MAPS FOR EACH PARCEL OF LAND.

UPON COMPLETION OF THE DATA COLLECTED, THE INFORMATION WAS THEN TRANSFERRED TO A MAP OF THE WESTERN MONMOUTH REGION AT SCALE OF 1" = 2,000' AFTER CLASSIFICATION INTO 22 LAND USE CATEGORIES EACH REPRESENTED BY A COLOR OR SYMBOL. THIS MAP PORTRAYS AN EXCELLENT PICTURE OF THE PRESENT PATTERN OF LAND USE IN THE REGION.

A GENERALIZED LAND USE MAP CONSOLIDATING THE 22 CATEGORIES TO 9 IS INCLUDED IN THIS REPORT AND IDENTIFIED AS FIGURE 8.

2.12 LAND USE PATTERN

THE PRESENT PATTERN OF LAND USE IS A REFLECTION OF THE EARLY DEVELOPMENT OF THE REGION.

FREEHOLD, BESIDES BEING THE COUNTY SEAT, HAS ALWAYS SERVED AS THE PRINCIPAL SERVICE CENTER AND SHOPPING AREA FOR THE SURROUNDING AGRICULTURAL AREA OF THE WESTERN MONMOUTH REGION. IN ADDITION, THERE ARE THE SUBCENTERS THAT SERVED THE OUTLYING PARTS OF THE REGION. THESE INCLUDE ALLENTOWN, ENGLISHTOWN, FARMINGDALE AND SEVERAL OF THE VILLAGES IN THE TOWNSHIPS SUCH AS COLTS NECK AND MARLBORO VILLAGE.

ROOSEVELT WAS DEVELOPED AS AN EXPERIMENTAL COMMUNITY IN THE MIDDLE 1930'S. THESE ALL CAN BE IDENTIFIED FROM FIGURE 8.

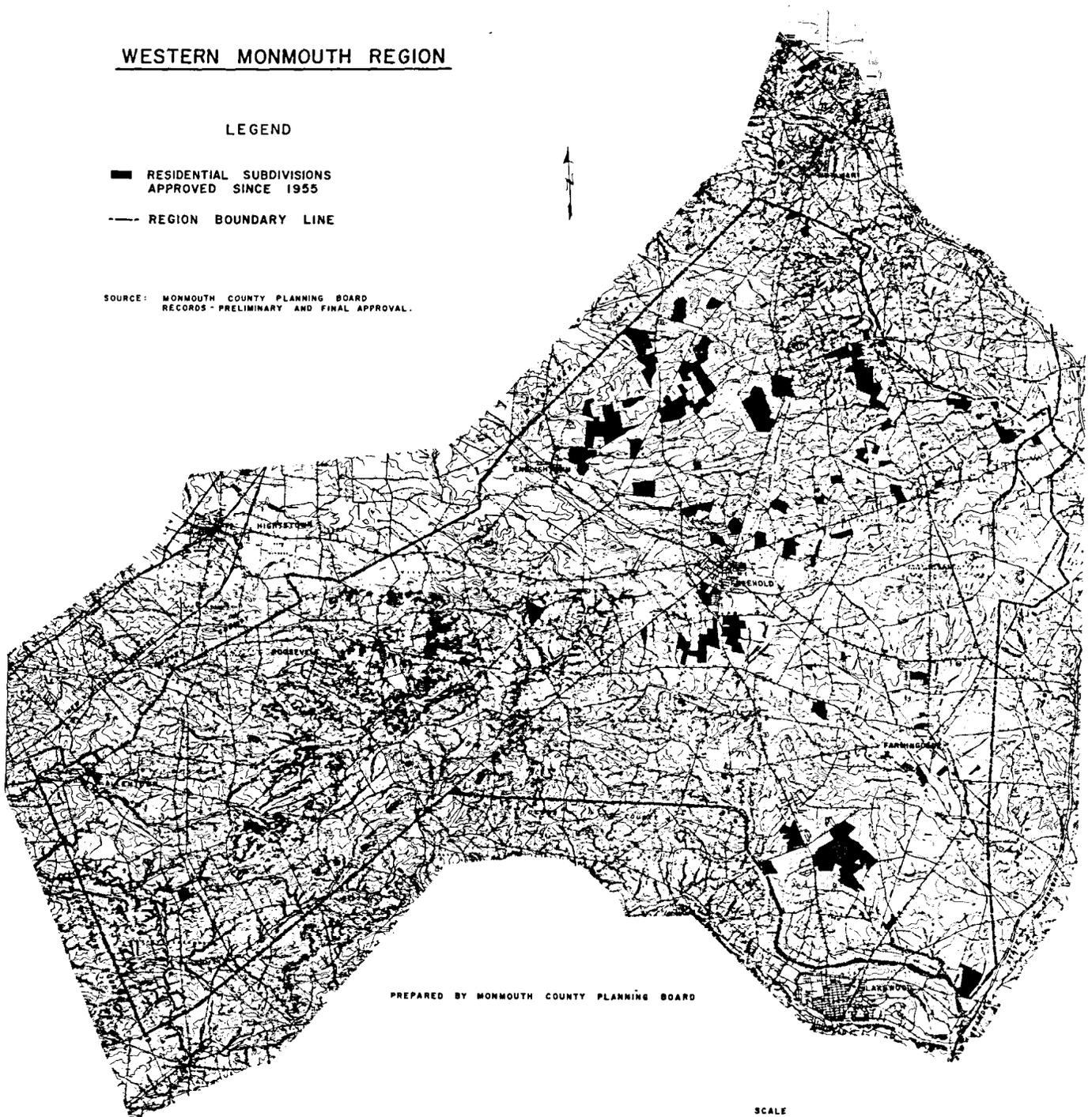
MORE RECENTLY THE REGION HAS FELT THE PRESSURE FOR URBANIZATION AND AS A RESULT THIS PATTERN IS CHANGING. THIS PHENOMENON FIRST OCCURRED PRIMARILY IN THE ADJACENT MONMOUTH COASTAL REGION FOLLOWING THE OPENING OF THE GARDEN STATE PARKWAY IN 1953. IN THE PAST FOUR OR FIVE YEARS, THE PRESSURE FOR DEVELOPMENT HAS BEEN RELEASED SOUTHWARD ALONG ROUTE #9 FROM NEW YORK-NORTH JERSEY METROPOLITAN COMPLEX. THIS IS GRAPHICALLY ILLUSTRATED BY FIGURE 6 WHICH IDENTIFIES SUBDIVISIONS THAT HAVE RECEIVED PRELIMINARY AND FINAL APPROVAL FROM THE MONMOUTH COUNTY PLANNING BOARD SINCE 1955. WHILE THERE IS A GREAT DEAL OF SCATTERING OF DEVELOPMENT (WITHOUT REGARD TO EXISTING UTILITIES AS WAS THE CASE IN THE MONMOUTH COASTAL REGION) THERE IS A TENDENCY FOR THESE SUBDIVISIONS TO GRAVITATE NEAR ROUTE #9 OR OTHER MAJOR TRAFFIC ARTERIES. ALL

WESTERN MONMOUTH REGION

LEGEND

- RESIDENTIAL SUBDIVISIONS APPROVED SINCE 1955
- REGION BOUNDARY LINE

SOURCE: MONMOUTH COUNTY PLANNING BOARD
RECORDS - PRELIMINARY AND FINAL APPROVAL.



PREPARED BY MONMOUTH COUNTY PLANNING BOARD



AUGUST 1963

THE COMPANIES OF THE NEW JERSEY PUBLIC SERVICE COMPANY, PROVIDING SERVICE TO THE WESTERN MONMOUTH REGION, ARE NOT RESPONSIBLE FOR THE CONTENTS OF THIS MAP. THE MONMOUTH COUNTY PLANNING BOARD HAS BEEN ADVISED BY THE NEW JERSEY PUBLIC SERVICE COMPANY THAT THE INFORMATION CONTAINED HEREIN IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF THE NEW JERSEY PUBLIC SERVICE COMPANY.

INDICATIONS ARE THAT AN INTENSIFICATION OF THIS CHANGING LAND USE PATTERN WILL OCCUR IN THE FUTURE.

2.2 LAND USE ANALYSIS - DEVELOPED AREAS

THE PRESENT LOCATION OF EXISTING LAND USES IS SHOWN GRAPHICALLY BY FIGURE 8. BASED ON MEASUREMENT OF THE VARIOUS AREAS, FIGURES HAVE BEEN COMPILED FOR THE VARIOUS LAND USE CATEGORIES AND ARE SHOWN IN TABLE 3. THIS TABLE NOT ONLY LISTS THE ACREAGE IN EACH CATEGORY BUT ALSO THE PER CENT EACH IS OF THE TOTAL LAND AREA AND THE TOTAL DEVELOPED AREA. FIGURE 7 ILLUSTRATES THE BREAKDOWN OF LAND USES AND THEIR RELATIVE IMPORTANCE IN THE FORM OF A BAR CHART.

THE FOLLOWING SECTIONS WILL BE DEVOTED TO A DETAILED DISCUSSION OF THE PRINCIPAL LAND USE CATEGORIES FOLLOWED BY AN OVERALL ANALYSIS OF THE PRESENT LAND USE PATTERN IN WESTERN MONMOUTH.

2.21 RESIDENTIAL USES

THE EARLY RESIDENTIAL DEVELOPMENT OF THE REGION TOOK PLACE PRIMARILY IN THE OLDER COMMUNITIES OF THE REGION SUCH AS ALLENTOWN, ENGLISHTOWN, FREEHOLD AND FARMINGDALE. IN ADDITION, THERE WAS A SCATTERING OF RESIDENCES THROUGHOUT THE RURAL AGRICULTURAL AREAS. MORE RECENTLY THERE HAS BEEN A TWOFOLD PHENOMENON: CUSTOM-BUILDING ALONG THE EXISTING ROADS IN THE RURAL AREAS AND SUBDIVISIONS THROUGHOUT THE AREA AS INDICATED ON FIGURE 6.

IN HOWELL TOWNSHIP IN 1957, SIXTY-NINE PER CENT OF THE DWELLING UNITS COULD BE CHARACTERIZED AS BEING SCATTERED ALONG EXISTING ROADS*. THIS WAS TYPICAL OF ALL THE RURAL TOWNSHIPS AT THAT TIME. WHILE THERE HAS CONTINUED TO BE SCATTERED CUSTOM-BUILDING, IT HAS BEEN OVERSHADOWED MORE RECENTLY BY ACCELERATED SUBDIVISION ACTIVITY THROUGHOUT THE REGION AS MAPPED ON FIGURE 6

WITH THE EXCEPTION OF THE TWO MOST WESTERLY TOWNSHIPS--UPPER FREEHOLD AND MILLSTONE. OVER 4,700 LOTS HAVE RECEIVED PRELIMINARY OR FINAL COUNTY PLANNING BOARD APPROVAL IN THE PAST THREE YEARS IN WESTERN MONMOUTH.

RESIDENTIAL USES WERE DIVIDED INTO FIVE CATEGORIES--ONE FAMILY, MULTIPLE DWELLING, HOTEL, MOTELS AND ROOMING HOUSES, TRAILERS AND MIGRANT HOUSING. THE LATTER CATEGORY IS AT SCATTERED LOCATIONS THROUGHOUT THE AGRICULTURAL AREAS OF THE REGION AND WILL RECEIVE SPECIAL TREATMENT IN THE HOUSING REPORT OF THIS SERIES.

OF THE REMAINING FOUR GROUPS, PRESENTLY ONLY THE ONE-FAMILY RESIDENTIAL IS OF REAL SIGNIFICANCE WHEN EXAMINING THE BROAD REGIONAL LAND USE PICTURE. HOWEVER, GARDEN APARTMENT PROJECTS ARE IN VARIOUS STAGES OF CONSTRUCTION IN FREEHOLD BOROUGH AND ONE HAS APPROVAL IN FREEHOLD TOWNSHIP. IN VIEW OF THE RECENT TRENDS TOWARD THIS TYPE OF HOUSING IN THE OTHER OUTER RING COUNTIES OF THE NEW YORK METROPOLITAN REGION, IT WOULD BE REASONABLE TO EXPECT THAT WESTERN MONMOUTH WOULD EXPERIENCE MORE OF THIS TYPE OF GROWTH IN THE FUTURE PARTICULARLY IN THE ESTABLISHED COMMUNITIES WHERE FACILITIES ARE AVAILABLE. THERE HAS BEEN A TREND TOWARD HOUSING FOR THE ELDERLY WHICH IS LIKELY TO MANIFEST ITSELF MORE IN WESTERN MONMOUTH IN THE FUTURE ALSO. THE MOTELS AND TRAILERS ARE LOCATED PRINCIPALLY ALONG THE STATE HIGHWAYS OF THE REGION WITH A CONCENTRATION ON ROUTE #9 IN HOWELL TOWNSHIP. MORE MOTELS WILL PROBABLY BE NEEDED FOR OVERNIGHT ACCOMMODATIONS AS THE AREA INDUSTRIALIZES AND ADDS ECONOMIC ACTIVITY.

TABLE 3 - WESTERN MONMOUTH REGION
EXISTING LAND USE

<u>TYPE OF USE</u>	<u>NUMBER OF ACRES</u>	<u>PER CENT OF TOTAL AREA</u>	<u>PER CENT OF DEVELOPED AREA</u>
RESIDENTIAL	9,993.5	5.47%	32.58
ONE FAMILY	9,773.2	5.35	31.86
LOT SIZE LESS 10,000 Sq.Ft.	483.6	0.26	1.58
LOT SIZE 10,000-30,000 Sq.Ft.	1,928.9	1.06	6.29
LOT SIZE 30,000 Sq.Ft.-2.5 ACRES	2,731.4	1.49	8.90
LOT SIZE 2.5-10 ACRES	4,629.3	2.53	15.09
MULTIPLE DWELLINGS	31.1	0.02	0.10
HOTEL, MOTEL, CABINS & ROOMING HOUSES	74.5	0.04	0.24
TRAILERS	83.9	0.05	0.27
MIGRANT HOUSING	30.8	0.02	0.10
BUSINESS	571.9	0.31	1.86
INDUSTRIAL	1,068.8	0.58	3.48
LIGHT INDUSTRY & PUBLIC UTILITIES	838.2	0.35	2.08
HEAVY INDUSTRY	430.6	0.24	1.40
PUBLIC AND QUASI-PUBLIC	15,485.7	8.48	50.49
PARKS	2,369.5	1.30	7.72
PUBLIC SCHOOLS & PUBLIC BUILDINGS	569.5	0.31	1.86
QUASI-PUBLIC BUILDINGS & OPEN USES	3,011.4	1.65	9.82
CHURCHES	173.9	0.10	0.57
CEMETERIES	237.3	0.16	0.94
FEDERAL GOVERNMENT	9,074.1	4.97	29.58
ROADS AND STREETS	3,554.7	1.95	11.59
TOTAL DEVELOPED AREA	30,674.6	16.79	100.00%
AGRICULTURE	76,315.7	41.77	
WOODLAND	57,142.6	31.27	
VACANT	18,587.1	10.17	
TOTAL AREA OF REGION	182,720.0	100.00	

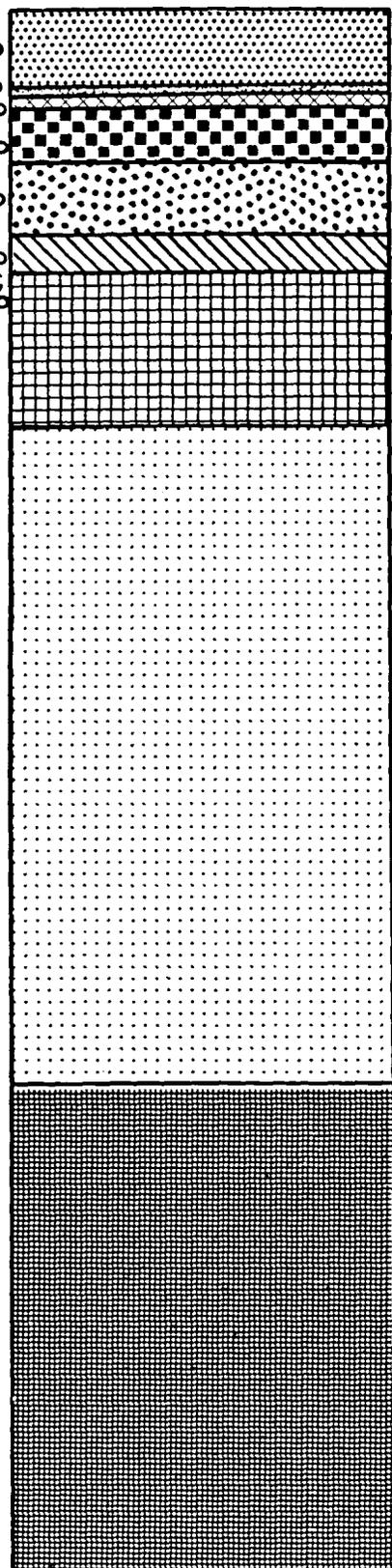
EXISTING LAND USES WESTERN MONMOUTH REGION

RESIDENTIAL	32.6%
BUSINESS	1.9%
INDUSTRIAL	3.5%
PUBLIC & QUASI PUB.	20.8%
FEDERAL GOV'T	29.6%
STREETS & ROADS	11.6%
TOTAL DEVELOPED (30,675 ACRES)	100.0%

VACANT
(18,587 AC.)

AGRICULTURE
(76,315 AC.)

WOODLAND
(57,143 AC.)



16.8 %

10.1 %

41.8 %

31.3 %

DEVELOPED
UNDEVELOPED

TOTAL AREA (182,720 ACRES) = 100.0 %

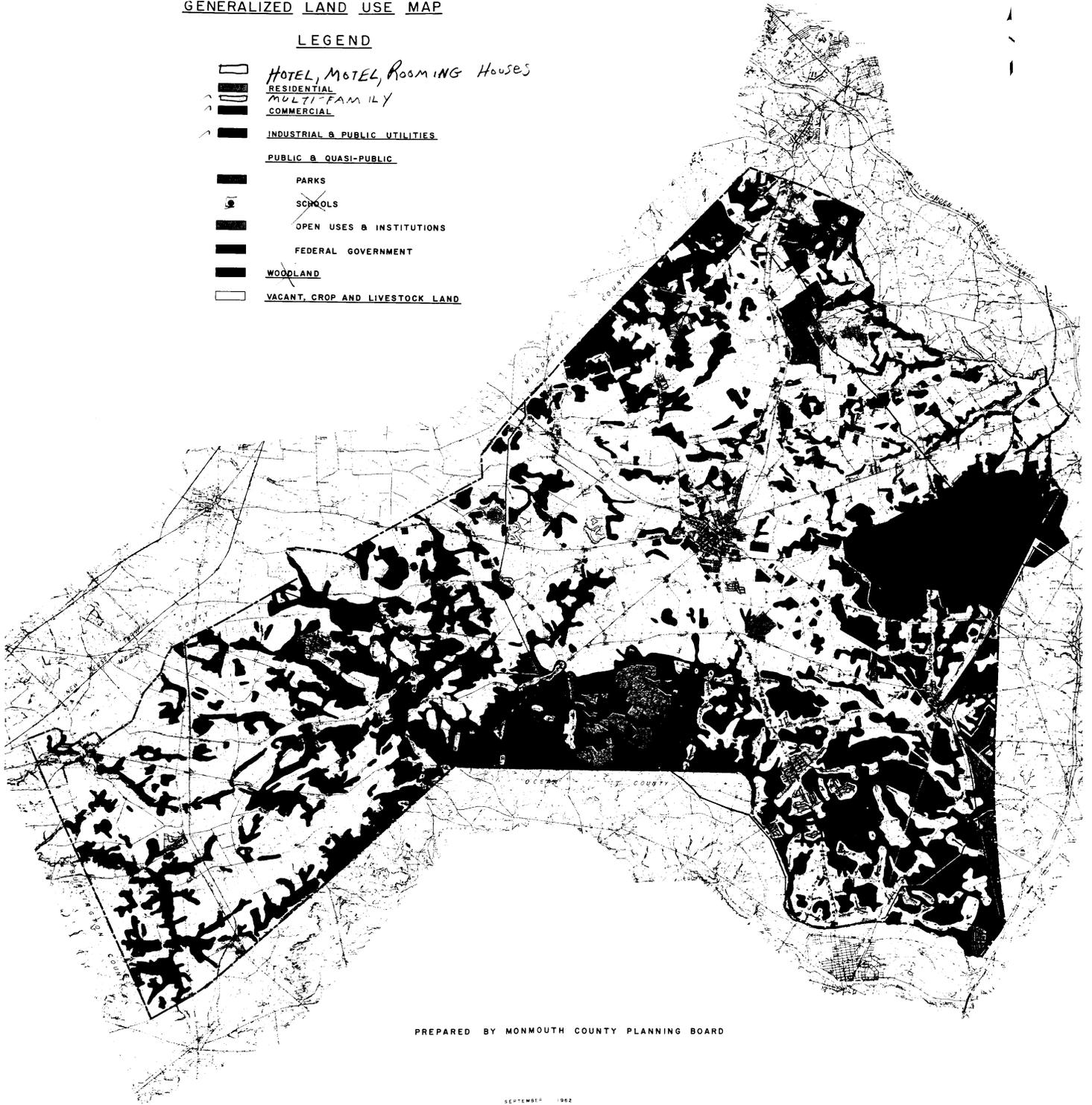
FIG. 7

WESTERN MONMOUTH REGION

GENERALIZED LAND USE MAP

LEGEND

-  HOTEL, MOTEL, ROOMING HOUSES
-  RESIDENTIAL
-  MULTI-FAMILY
-  COMMERCIAL
-  INDUSTRIAL & PUBLIC UTILITIES
-  PUBLIC & QUASI-PUBLIC
-  PARKS
-  SCHOOLS
-  OPEN USES & INSTITUTIONS
-  FEDERAL GOVERNMENT
-  WOODLAND
-  VACANT, CROP AND LIVESTOCK LAND



PREPARED BY MONMOUTH COUNTY PLANNING BOARD

SEPTEMBER 1962

SCALE
4000 0 4000 8000

THE PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE URBAN GENERAL ADMINISTRATION OF THE HOUSING AND HOME FINANCE AGENCY, UNDER FEDERAL PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1949, AS AMENDED. THE REMAINDER HAS BEEN FINANCED BY LOCAL FUNDS AND BY AN APPROPRIATION OF THE STATE OF NEW JERSEY AS A PART OF THE EXPANDED STATE AND REGIONAL PLANNING PROGRAM.

ONE FAMILY RESIDENTIAL ACCOUNTS FOR THE BULK OF THE RESIDENTIAL LAND USE. FOR PURPOSES OF THIS STUDY, THIS CATEGORY WAS DIVIDED INTO FOUR PARTS ACCORDING TO LOT SIZE AS SHOWN IN TABLE 4.

TABLE 4

WESTERN MONMOUTH REGION

ONE FAMILY RESIDENTIAL LAND USE

<u>CATEGORY</u>	<u>NET DENSITY*</u>	<u>ACREAGE</u>	<u>%</u>
LOT SIZE 2.5-10.0 Ac.	0.38-0.10 D.U.**/AC.	4,629	47.4
LOT SIZE 30,000 sq. ft. 2.5 ACRES	1.30-0.38 D.U./AC.	2,731	27.9
LOT SIZE 10,000-30,000 sq. ft.	3.52-1.30 D.U./AC.	1,929	19.7
LOT SIZE LESS THAN 10,000 sq. ft.	MORE THAN 3.52 D.U./AC.	<u>484</u>	<u>5.0</u>
TOTAL		9,773	100.0

*EXCLUDES STREET AREA

**D.U. - DWELLING UNITS

THE LARGEST CATEGORY (47.4%) IS ONE WITH LOT SIZES BETWEEN 2.5 AND 10.0 ACRES AND IS INDICATIVE OF THE TYPE OF LARGE LOT SCATTERED DEVELOPMENT IN THE OUTLYING AREAS THAT HAS BEEN CHARACTERISTIC OF THE REGION FOR SO LONG. THE OTHERS DECREASE IN IMPORTANCE AS THE LOT SIZE DECLINES.

IT WOULD BE EXPECTED THAT THE CATEGORIES OF RESIDENTIAL LAND USE WOULD FALL IN THIS ORDER AND THE LOT SIZE PATTERN WOULD DECREASE THE CLOSER AN AREA IS TO ONE OF THE OLDER TOWNS. MOST OF THE RECENT SUBDIVISION DEVELOPMENT HAS OCCURRED ON LOT SIZES RANGING FROM 20,000 TO 40,000 SQUARE FEET WITH MOST OF IT AT EITHER OF THESE TWO END POINTS.

FIGURE 8 GIVES A GRAPHIC PICTURE OF THE PRESENT RESIDENTIAL USE PATTERN WITH CONCENTRATIONS OF ONE TO THREE HOMES AT SCATTERED LOCATIONS SHOWN BY DOT SYMBOL. WHEN ONE SUPERIMPOSES FIGURE 6 - THE RECENT DEVELOPMENT MAP OVER FIGURE 8, THE PRESENT LAND USE CONDITIONS - IT INDICATES THE CHALLENGE FACING WESTERN MONMOUTH.

THE EXTENSION OF THE PRESENT PATTERN OF DEVELOPMENT WHICH HAS EMERGED IN THE PAST FEW YEARS COULD LEAD TO THE TYPE OF DEVELOPMENT PATTERN IDENTIFIED AS URBAN SPRAWL. THIS TYPE OF DEVELOPMENT WHICH IS CHARACTERISTIC OF SUBURBAN EXPANSION AROUND METROPOLITAN AREAS NATIONALLY, IN THE POST-WAR ERA, RESULTS IN A MONOTONOUS ENVIRONMENT. THE DEVELOPMENT PATTERN IS CHARACTERIZED BY LACK OF ADEQUATE FOCAL POINTS FOR NEIGHBORHOOD AND COMMUNITY ACTIVITIES RESULTING IN AN ABSENCE OF COMMUNITY IDENTITY AND AWARENESS, UNIFORM POPULATION DENSITY, AND DEVELOPMENT UNINTERRUPTED BY GREEN AREAS OR OPEN SPACE FOR RECREATION AND CONSERVATION PURPOSES.

THE REGIONAL PLAN FOR THE WESTERN MONMOUTH REGION WILL PROVIDE THE FRAMEWORK OR THE SKELETON AND VITAL ORGANS FOR THE ENTIRE AREA. THIS OVER-ALL FRAMEWORK WILL PROVIDE GUIDELINES FOR NEIGHBORHOOD AND COMMUNITY PLANNING, WHICH ARE THE BASIC UNITS OR BUILDING BLOCKS FOR REGIONAL PLANNING. FOLLOWING THE PLAN, HOMES ON VARYING LOT SIZES WOULD BE BUILT WITHIN WALKING DISTANCE OF ELEMENTARY SCHOOLS, LOCAL BUSINESS AND PARKS. A HIGH SCHOOL WOULD UNITE SEVERAL NEIGHBORHOODS INTO COMMUNITIES. AREAS FOR REGIONAL SHOPPING AND INDUSTRIAL EMPLOYMENT WOULD BE WELL RELATED TO THE CIRCULATION SYSTEM OF THE AREA PROVIDING EASY ACCESS BETWEEN HOME AND JOB.

THE REGIONAL PLAN FOR THE WESTERN MONMOUTH REGION WILL PROVIDE THE INSTRUMENT TO AVOID A PATTERN OF URBAN SPRAWL AS THIS AREA DEVELOPS. ITS ULTIMATE SUCCESS WILL BE DEPENDENT UPON ACCEPTANCE BY THE MUNICIPALITIES OF THE AREA SINCE THEY HAVE DIRECT CONTROL OF LAND USE UNDER NEW JERSEY LAW.

2.22 BUSINESS USES

COMMERCIAL AND BUSINESS USES OCCUPY 572 ACRES OR 1.9% OF THE TOTAL DEVELOPED AREA OF THE REGION. THIS AMOUNTS TO ONLY 0.3% OF THE TOTAL LAND AREA. INCLUDED IN THIS CATEGORY ARE RETAIL STORES, PROFESSIONAL AND BUSINESS OFFICES, SERVICE ESTABLISHMENTS, BANKS, AMUSEMENTS, AND OTHER SIMILAR TYPES OF ESTABLISHMENTS. THESE USES CAN BE PLACED INTO TWO GENERAL CATEGORIES. CERTAIN BUSINESSES ARE DEPENDENT PRIMARILY ON A TRADE AREA FOR THEIR CLIENTELE WHILE OTHERS ARE HIGHWAY-ORIENTED AND DEPENDENT PRIMARILY ON TRANSIENT TRADE.

PRESENTLY MUCH OF THIS DEVELOPMENT--PARTICULARLY THE RETAIL AND SERVICE ESTABLISHMENTS--ARE LOCATED IN THE OLDER CENTERS - ALLENTOWN, ENGLISHTOWN, FREEHOLD AND FARMINGDALE - WITH THE BALANCE OF THE DEVELOPMENT LOCATED PRINCIPALLY ALONG THE STATE HIGHWAYS IN THE TOWNSHIPS. THIS HIGHWAY DEVELOPMENT DEFINITELY HAS DIFFERENT CHARACTERISTICS. ROUTE #34 IN COLTS NECK HAS A SCATTERING OF MANY SMALL FARMSTANDS, WHILE ROUTE #9 IN FREEHOLD TOWNSHIP HAS NEW AND MODERN SHOPPING FACILITIES. AT THE OTHER EXTREME, ROUTE #9 IN HOWELL TOWNSHIP IS A NARROW TWO-LANE HIGHWAY CLUTTERED WITH AN EXTENSIVE AMOUNT OF SMALL BUSINESS-- MIXED WITH BOTH INDUSTRIAL AND RESIDENTIAL USES. CHARACTERIZED BY MANY SIGNS AND LITTLE ATTENTION TO AESTHETICS, THIS AREA

IS A CLASSIC EXAMPLE OF THE RESULTS OF STRIP COMMERCIAL ZONING OF HIGHWAY FRONTAGE.

AT THIS POINT IT SHOULD BE EMPHASIZED THAT WESTERN MONMOUTH HAS TWO APPROACHES IT CAN FOLLOW IN PLANNING COMMERCIAL DEVELOPMENT. IT CAN ALLOW ITS HIGHWAYS TO BE CLUTTERED WITH A MULTITUDE OF COMMERCIAL ESTABLISHMENTS OF ALL TYPES LINING THEM AND THEREBY LESSENING THE CARRYING CAPACITY OF THESE REGIONAL ARTERIES, OR IT CAN CONCENTRATE AND SEPARATE VARIOUS TYPES OF BUSINESSES INTO DIFFERENT CLASSIFICATIONS AND PROVIDE SITES AT VARIOUS LOCATIONS FOR THEM. MORE NEIGHBORHOOD-TYPE TRADE AREA-COMMERCIAL CENTERS WILL BE NEEDED PARTICULARLY.

ONE OF THE KEY OBJECTIVES OF THIS REPORT WILL BE TO ENCOURAGE THE LATTER COURSE SINCE ANY OTHER CHOICE WILL RESULT IN THE PRESENT HIGHWAY SYSTEMS BECOMING "COMMERCIAL MAIN STREETS" AND SERIOUS PROBLEMS OF TRAFFIC CONGESTION AND SAFETY WILL RESULT. AMPLE PROOF OF THIS CAN BE SEEN BY OBSERVING ROUTE #35 IN MIDDLETOWN TOWNSHIP WITH ITS HIGH ACCIDENT RATE AND AT MANY OTHER LOCATIONS THROUGHOUT THE URBANIZED SECTIONS OF NEW JERSEY.

2.23 INDUSTRIAL USES

INDUSTRIAL USES IN THE WESTERN MONMOUTH REGION OCCUPY 1,069 ACRES OR ABOUT 3.5% OF THE TOTAL DEVELOPED AREA. THIS IS 0.6% OF THE REGION'S TOTAL AREA. THE PATTERN OF INDUSTRIAL DEVELOPMENT IS DEFINITELY ORIENTED AROUND THE FREEHOLD AREA WITH THE NETWORK OF RAILROADS, ROADS AND HIGHWAYS WHICH RADIATE FROM IT.

AS IS NORMALLY THE CASE IN LAND USE ANALYSIS, INDUSTRIAL USES ARE DIVIDED INTO TWO GROUPS. LIGHT INDUSTRY INCLUDES THOSE WAREHOUSE AND INDUSTRIAL USES WHICH PRODUCE SOME NOISE, TRAFFIC CONGESTION OR DANGER BUT WHICH ARE OF SUCH A SCALE OR CHARACTER THAT THEY PRESENT NO SERIOUS HAZARD TO NEIGHBORING PROPERTIES FROM FIRE, SMOKE, NOISE AND ODORS. ALSO INCLUDED IN THIS CATEGORY ARE PUBLIC UTILITIES AND RAILROADS. SOMETIMES THE ABILITY OF THESE UTILITIES TO MEET THE NEEDS OF THE PUBLIC IS DEPENDENT UPON THEIR BEING LOCATED IN OR IMMEDIATELY ADJACENT TO RESIDENTIAL AREAS. LIGHT INDUSTRY ACCOUNTS FOR 638 ACRES OF THE TOTAL. MOST OF THE OLDER INDUSTRIES ARE LOCATED ADJACENT TO RAIL LINES. SOME OF THE NEWER ONES ARE ALSO BUT OTHERS ARE LOCATED ALONG THE HIGHWAYS OF THE REGION AS WAS MENTIONED PREVIOUSLY IN THE CASE OF HOWELL TOWNSHIP.

THE REMAINING 431 ACRES OF INDUSTRIAL LAND ARE CLASSIFIED AS HEAVY INDUSTRY. THESE CAN BE DESCRIBED AS INDUSTRIAL ACTIVITIES WHICH MAY BE OF A DANGEROUS OR NUISANCE-PRODUCING CHARACTER. AGAIN, MOST OF THESE USES ARE LOCATED ADJACENT TO RAIL LINES WITH THE EXCEPTION OF SUCH ACTIVITIES AS DUMPS OR SAWMILLS.

2.24 PUBLIC AND QUASI-PUBLIC

PUBLIC AND QUASI-PUBLIC LAND USES ACCOUNT FOR THE USE OF 15,486 ACRES OR 50.5% OF THE DEVELOPED AREA OF THE REGION. INCLUDED IN THIS CATEGORY IS 9,074 ACRES OF FEDERALLY OWNED LAND WHICH IS EARLE NAVAL AMMUNITION DEPOT IN COLTS NECK AND HOWELL TOWNSHIPS. OTHER MAJOR SECTIONS IN THIS CATEGORY ARE PARKS UTILIZING 2,370 ACRES, PUBLIC SCHOOLS AND PUBLIC BUILDINGS OCCUPYING 570 ACRES, QUASI-PUBLIC BUILDINGS AND OPEN USES WHICH

TOTAL 3,011 ACRES AND CHURCHES AND CEMETERIES USING 174 AND 287 ACRES RESPECTIVELY.

PARKS ARE PRINCIPALLY THE STATE FACILITIES AT ALLAIRE IN HOWELL TOWNSHIP AND TURKEY SWAMP IN SOUTHERN FREEHOLD TOWNSHIP AS WELL AS THE COUNTY PARK THAT IS PRESENTLY BEING DEVELOPED AT THIS SECOND LOCATION. RECREATION LAND AT THE MUNICIPAL LEVEL IS PRESENTLY AN INFINITESIMAL AMOUNT. WHILE MUCH OF THE REGION, PARTICULARLY THE LARGE TOWNSHIPS ARE NOW LARGELY UNDEVELOPED, THERE IS A DEFINITE NEED TO OBTAIN LAND NOW FOR LOCAL RECREATION IN THE FUTURE WHILE IT IS POSSIBLE TO SELECT UNDEVELOPED LAND IN THE PROPER LOCATION BEFORE LAND VALUES SOAR. FORTUNATELY, THIS DIRT OF MUNICIPAL PARKLAND HAS BEEN RECOGNIZED IN AT LEAST ONE MUNICIPALITY--COLTS NECK TOWNSHIP-- WHICH HAS RECENTLY MADE SEVERAL LAND ACQUISITIONS. FINANCIAL AID IS AVAILABLE THROUGH THE STATE "GREEN ACRES" PROGRAM. OTHER COMMUNITIES, PARTICULARLY THE RELATIVELY UNDEVELOPED ONES, SHOULD FOLLOW THIS LEAD ESPECIALLY WHILE THE TIME IS SO OPPORTUNE. STANDARDS TO GUIDE MUNICIPALITIES IN ACQUIRING RECREATION LAND WILL BE INCLUDED IN A LATER SECTION OF THIS REPORT.

THE PUBLIC BUILDING CATEGORY INCLUDES ALL PUBLIC SCHOOLS, MUNICIPAL BUILDINGS, FIREHOUSES AND OTHER BUILDINGS WHOSE OPERATIONS ARE FINANCED BY PUBLIC FUNDS.

THE REMAINING SUBCATEGORY IS QUASI-PUBLIC BUILDINGS AND OPEN USES. INCLUDED IN THIS ARE TWO AIRPORTS AT COLTS NECK AND MORGANVILLE, THREE GOLF COURSES, MARLBORO STATE HOSPITAL, BOY AND GIRL SCOUT RESERVATIONS AND CLUBS, CHARITABLE AND FRATERNAL ORGANIZATIONS.

TWO FACTS ARE SIGNIFICANT HERE. ONLY ONE GOLF COURSE HAS BEEN LOCATED IN WESTERN MONMOUTH--AT CREAM RIDGE--UP UNTIL THIS YEAR WHEN TWO WERE DEVELOPED IN MANALAPAN TOWNSHIP AND ONE IS CURRENTLY BEING CONSTRUCTED IN COLTS NECK TOWNSHIP.

TIED INTO THIS IS THE SECOND POINT WHICH IS THAT UP UNTIL NOW MUCH OF THE LAND UTILIZED FOR PUBLIC AND QUASI-PUBLIC PURPOSES WAS INTENDED PRINCIPALLY FOR SERVING RESIDENTS OF NEARBY AREAS--PARTICULARLY THE MONMOUTH COASTAL REGION AND AREAS TO THE WEST. SPECIFIC CASES ARE THE GOLF COURSE AT CREAM RIDGE, THE BOY AND GIRL SCOUT RESERVATIONS, TURKEY SWAMP AND OTHER PRIVATELY OWNED HUNTING AREAS.

IT IS SIGNIFICANT THAT PRESENT POPULATION TRENDS ARE CHANGING THIS SITUATION. AS WESTERN MONMOUTH GROWS, THE NEED HAS BEEN FELT FOR ADDITIONAL GOLF COURSES NOT ONLY FOR OUTSIDE RESIDENTS BUT ALSO FOR WESTERN MONMOUTH RESIDENTS THEMSELVES.

2.25 ROADS AND STREETS

A TOTAL OF 3,555 ACRES IS DEVOTED TO ROADS AND STREETS. THIS AMOUNTS TO 11.6% OF THE REGION'S DEVELOPED LAND AND ABOUT 1.95% OF THE TOTAL LAND AREA. ALL EXISTING STREETS AND ROADS ARE INCLUDED BUT "PAPER" STREETS ARE EXCLUDED.

2.26 SUMMARY

THE FIVE PREVIOUS CATEGORIES OF LAND USE TOTAL 30,675 ACRES AND THIS REPRESENTS 16.8% OR APPROXIMATELY ONE-SIXTH OF THE REGION'S TOTAL LAND AREA. ON FIGURE 8 ALL OF THESE CATEGORIES ARE SHOWN IN A GENERAL WAY BY COLORS. DOTS INDICATE LOCATIONS OF PUBLIC SCHOOLS AND SCATTERED LOCATIONS OF ONE-THREE RESIDENTIAL DWELLINGS.

INDICATIVE OF THE PRESENT BROAD, OPEN LAND CHARACTER OF THE REGION ARE THE REMAINING GREEN OR WHITE AREAS WHICH INDICATE WOODLAND AND LAND PRESENTLY USED FOR AGRICULTURAL PURPOSES OR CONSIDERED VACANT. THESE CATEGORIES MAKE UP THE REST OF THE REGION AND TOTAL 152,045 ACRES--THE BALANCE OF THE REGION'S LAND AREA. EACH OF THESE THREE CATEGORIES WILL BE DISCUSSED IN MORE DETAIL STARTING WITH THE LARGEST--AGRICULTURE.

2.3 ANALYSIS - NON-INTENSIVELY DEVELOPED AREAS

2.31 AGRICULTURE

MONMOUTH COUNTY AND PARTICULARLY WESTERN MONMOUTH HAS LONG BEEN A LEADER IN AGRICULTURAL PRODUCTION. IT HAS THE LARGEST NUMBER OF INDIVIDUAL FARMS IN THE STATE AND LEADS IN VALUE OF PRODUCTS GROWN FOR SEVERAL AGRICULTURAL COMMODITIES. IT IS, THEREFORE, NOT SURPRISING TO FIND THAT ALMOST 42% OF THE LAND AREA OF WESTERN MONMOUTH IS DEVOTED TO AGRICULTURE. THIS INCLUDES GRAIN AND POTATO LAND, PASTURES AND ALSO TRUCK CROPS AND POULTRY. THE ECONOMIC BASE REPORT OF THIS SERIES WILL ANALYZE THE AGRICULTURAL PRODUCTIVITY OF WESTERN MONMOUTH IN MORE DETAIL.

UNFORTUNATELY, NO STATISTICS FOR LAND USE ARE AVAILABLE FOR PREVIOUS YEARS. HOWEVER, THE MONMOUTH COUNTY AGRICULTURAL AGENT ESTIMATES THAT EACH YEAR IN RECENT YEARS APPROXIMATELY 3,500 ACRES OF AGRICULTURAL LAND HAS GONE OUT OF PRODUCTION. IT SEEMS CERTAIN THAT AGRICULTURAL USES HAVE DECLINED FROM SOMEWHERE BETWEEN 55-60% OF THE LAND AREA OF WESTERN MONMOUTH TO THE PRESENT 42%. MUCH OF THE CHANGE HAS OCCURRED IN THE PAST DECADE AND IT SEEMS ASSURED THAT THE TREND WILL CONTINUE AND UNDOUBTEDLY ACCELERATE IN THE NEXT TWENTY YEARS.

THE MORE PRODUCTIVE LAND HAS GONE DIRECTLY INTO OTHER NON-AGRICULTURAL USES WHILE THE MARGINAL AGRICULTURAL LAND IS LYING IDLE AS A GENERAL RULE. IN ADDITION, SOME 7,000 ACRES ARE INCLUDED IN THE FEDERAL SOIL BANK PROGRAM. THESE CHANGES REFLECT THE ECONOMIC PRESSURE ON FARMERS. RISING PRODUCTION COSTS AND LAND TAXES HAVE NOT BEEN OFFSET BY INCREASED PRICES FOR AGRICULTURAL PRODUCTS. AS A RESULT, AGRICULTURAL PROFIT MARGINS HAVE SHRUNK AND FARMERS HAVE BEEN FORCED TO PURSUE OTHER VOCATIONS AND EITHER LET THEIR LAND STAND IDLE, PLACE IT IN THE SOIL BANK, OR SELL IT FOR CONVERSION TO MORE INTENSIVE USES. A MORE COMPREHENSIVE EXAMINATION OF THIS PROBLEM WILL TAKE PLACE IN THE ECONOMIC BASE REPORT OF THIS SERIES.

WHILE THESE CHANGES ARE TAKING PLACE, THE FACT THAT AGRICULTURE IS IMPORTANT TO WESTERN MONMOUTH AND WILL REMAIN SO FOR A LONG TIME TO COME SHOULD NOT BE OVERLOOKED. INDICATIVE OF THIS IS THE FACT THAT A POPULATION INCREASE OF 100,000 PERSONS WOULD UTILIZE ONLY 20,000 ACRES AT A DENSITY OF TWO FAMILIES PER ACRE WHEN LAND IS INCLUDED FOR ALL AUXILIARY FACILITIES AND SERVICES. WITH 76,000 ACRES PRESENTLY BEING UTILIZED BY AGRICULTURE ALONE, NOT COUNTING WOODLAND AND VACANT LAND, IT SEEMS OBVIOUS THAT FARMING WILL BE A SIGNIFICANT COMPONENT OF THE REGION'S LAND USE PICTURE FOR MANY YEARS. THEREFORE, IT IS INCUMBENT UPON THE OFFICIALS OF THE AREA TO INTEGRATE AGRICULTURE INTO THE TOTAL LAND USE PLAN FOR THE REGION SO THAT IT IS PRESERVED AND THE AMENITIES IT GENERATES WILL BE AVAILABLE TO ALL RESIDENTS OF WESTERN MONMOUTH. FIGURE 9, INDICATING GOOD AND VERY GOOD AGRICULTURAL LAND, WILL BE HELPFUL IN ASCERTAINING WHICH AREAS SHOULD

SHOULD REMAIN AGRICULTURAL. POSSIBLE MEANS OF EFFECTUATION WILL BE REVIEWED IN THE FINAL REPORT OF THIS SERIES WHERE ALTERNATIVE DEVELOPMENT PLANS WILL BE DISCUSSED.

2.32 VACANT LAND

AS A COROLLARY TO THE DECLINE IN AGRICULTURAL LAND IN WESTERN MONMOUTH, THE AMOUNT OF PROPERTY PRESENTLY CONSIDERED VACANT, AS DISTINCT FROM WOODS OR FARMS, IS RELATIVELY HIGH-- 18,587 ACRES OR 10.2% OF THE REGION'S LAND AREA.

BEFORE FURTHER DISCUSSION, IT WOULD BE PERHAPS HELPFUL IF A DEFINITION OF VACANT LAND WERE GIVEN. FOR THE PURPOSES OF THIS STUDY, LAND WAS CONSIDERED VACANT IF IT WAS CLEARED AND SIMPLY LYING IDLE WITH NATURAL GRASS OR WEEDS GROWING UPON IT. ANOTHER MEANS OF DESCRIBING IT MIGHT BE THAT IT IS FALLOW LAND THAT HAS CEASED TO BE USED FOR AGRICULTURAL OR OTHER PURPOSES AND IS PRESENTLY IN A TRANSITIONAL STATE.

WHEN THIS LAND IS DESIGNATED ON THE 2,000' SCALE WALL MAP, IT CAN BE SEEN THAT IT IS SCATTERED THROUGHOUT THE REGION WITH A HIGH INCIDENCE OF IT IN THE TOWNSHIPS OF HOWELL, MARLBORO, MANALAPAN, AND MILLSTONE. IT IS THIS LAND IN A LARGE MEASURE THAT HAS BEEN IDENTIFIED PREVIOUSLY AS MARGINAL AGRICULTURAL LAND THAT IS PRESENTLY LYING IDLE. MUCH OF THIS LAND-- PARTICULARLY IN HOWELL TOWNSHIP--WAS FORMERLY UTILIZED FOR POULTRY FARMING. FURTHER SUBSTANTIATION OF THIS FACT CAN BE OBTAINED BY EXAMINATION OF THE 1950 AND 1959 CENSUS OF AGRICULTURE. THE NUMBER OF POULTRY FARMS HAVE DECLINED FROM 1,026 IN 1950 TO 510 IN 1959 IN MONMOUTH COUNTY.

MANY OF THESE FARMS HAVE SIMPLY BEEN ABANDONED AND THESE ARE CLASSIFIED AS VACANT AS ECONOMIC PRESSURES HAVE ACCUMULATED FOR THE FARMERS AND THEY HAVE BEEN UNABLE TO COMPETE EFFECTIVELY WITH THE BETTER AGRICULTURAL LANDS OF THE REGION.

THE FORMER POULTRY FARMS ARE A POTENTIAL BLIGHTING INFLUENCE ON THE COMMUNITY. THEY ARE RELATIVELY SMALL LAND PARCELS WITH A BIG INVESTMENT IN STRUCTURES AND SUGGESTIONS FOR THEIR POSSIBLE CONVERSION TO OTHER USES REPRESENTS A REAL CHALLENGE THAT SHOULD BE MET.

2.33 WOODLAND

OVER 57,142 ACRES REMAIN IN WOODLAND AND FOREST IN THE WESTERN MONMOUTH REGION. THIS IS 31.3% OF THE REGION'S LAND AREA AND IS THE OTHER MAJOR COMPONENT IN THE LAND USE PICTURE-- ALONG WITH AGRICULTURE.

WOODS ARE FOUND ADJACENT TO MOST OF THE MAJOR STREAMS IN WESTERN MONMOUTH. THERE ARE EXTENSIVE AREAS OF IT SOUTH OF THE MANASQUAN RIVER IN SOUTHERN FREEHOLD AND HOWELL TOWNSHIPS WHERE THE PINE BELT BEGINS, AND ALSO IN THE AREAS OF ROUGH TOPOGRAPHY IN MILLSTONE AND THE NORTHERN SECTIONS IN MARLBORO AND COLTS NECK TOWNSHIPS.

FORESTS IN THEIR NATURAL STATE ARE AN ASSET WORTH PRESERVING WHEN ONE CONSIDERS THE CONSEQUENCES OF THE PHENOMENON KNOWN AS "BULLDOZER BLIGHT" IN OTHER AREAS OF RECENT DEVELOPMENT IN NEW JERSEY.

MANY OF THESE WOODED AREAS ARE ALSO THOSE HAVING POOR DRAINAGE AS OUTLINED IN THE PHYSICAL CHARACTERISTICS SECTION OF THIS REPORT, AND, THEREFORE, IT IS A NATURAL CONCLUSION THAT MANY OF THEM SHOULD

REMAIN AS IS IF THEY ARE TO BE DEVOTED TO THEIR HIGHEST AND BEST USE. REMOVAL OF THESE WOODED AREAS WOULD VERY LIKELY CREATE SERIOUS DRAINAGE PROBLEMS SINCE THE PRESENCE OF TREES AND VEGETATIVE COVER IS AN IMPEDIMENT TO EROSION AND SILTING.

MEANS OF EFFECTUATION WILL BE DETAILED FURTHER IN THE ALTERNATE SCHEMES OF DEVELOPMENT THAT WILL BE DISCUSSED IN THE LAST REPORT OF THIS SERIES.

2.4 LAND USE COMPARISONS

A VALUABLE MEANS OF ANALYSIS IN DETERMINING THE REGION'S POTENTIAL FOR FUTURE DEVELOPMENT IS TO COMPARE WESTERN MONMOUTH WITH OTHER AREAS. STATISTICS ARE AVAILABLE ON THE LAND USE CHARACTERISTICS OF 53 "CENTRAL" CITIES AND THE MONMOUTH COASTAL REGION. THESE FIGURES ARE SHOWN IN TABLE 5 WHICH FOLLOWS:

TABLE 5
LAND USE COMPARISONS
PER CENT OF DEVELOPED AREA

	<u>AVERAGE 53⁽¹⁾</u> <u>"CENTRAL" CITIES</u>	<u>MONMOUTH⁽²⁾</u> <u>COASTAL</u> <u>REGION</u>	<u>WESTERN</u> <u>MONMOUTH</u> <u>REGION</u>
RESIDENTIAL USES	40%	44.8%	32.6%
COMMERCIAL USES	3-4%	3.8%	1.9%
INDUSTRIAL USES AND RAILROAD	10-12%	4.2%	3.5%
SCHOOLS & RECREATION	6-8%	30.0%	50.5%
OTHER PUBLIC & SEMI-PUBLIC	10-12%		
STREETS	25-30%	16.4%	11.6%

(1) LAND USES IN AMERICAN CITIES, HARLAND BARTHOLOMEW, HARVARD UNIVERSITY PRESS, CAMBRIDGE, 1955.

(2) LAND USE REPORT FOR MONMOUTH COASTAL REGION, MONMOUTH COUNTY PLANNING BOARD, JUNE 27, 1960.

THE MOST OBVIOUS FACT THAT CAN BE SEEN FROM TABLE 5 IS THE LARGE AMOUNT OF PUBLIC AND SEMI-PUBLIC LAND FOUND IN WESTERN MONMOUTH. IT IS A SITUATION THAT HAS BEEN DISCUSSED PREVIOUSLY BUT MERITS RE-EMPHASIZING. WESTERN MONMOUTH IS WELL ENDOWED WITH LARGE TRACTS OF LAND COMMITTED FOR PUBLIC USE, AND IN SEVERAL CASES THESE PROPERTIES ARE COMMITTED TO USE FOR NONRESIDENTS OR RESTRICTED BY FEDERAL GOVERNMENT ACTIVITY (N.A.D. EARLE). THE ADVANTAGE HERE IS THAT EVEN THOUGH THE ACTUAL USE IS RESTRICTED, THE LARGE AREAS OF WOODS AND FOREST THAT MAKE UP THE PRINCIPAL PART OF THESE PROPERTIES ARE OPEN SPACES THAT REMAIN MUCH IN THEIR NATURAL SPACE AND THUS HELP THE REGION TO REMAIN PLEASING AESTHETICALLY. WHILE STATE AND COUNTY PARK AREAS ARE PROVIDED IN WESTERN MONMOUTH, THE OVERRIDING NEED HERE IS FOR MUNICIPAL RECREATION LAND.

DESPITE THE DISTORTION DUE TO THE LARGE PERCENTAGE IN THIS CATEGORY, THE RURAL CHARACTER OF WESTERN MONMOUTH IS EMPHASIZED BY THE FACT THAT THE PERCENTAGE OF DEVELOPED LAND DEVOTED TO RESIDENTIAL USE AND STREETS IS LESS THAN FOR ANY OF THE OTHER AREAS SHOWN ON TABLE 5. ALONG WITH THIS THE ACREAGE DEVOTED TO COMMERCIAL ACTIVITY IS LESS THAN NORMAL WHICH IS AN INDICATION THAT WESTERN MONMOUTH IS DEPENDENT ON COMMERCIAL CENTERS OUTSIDE THE REGION FOR SHOPPING FACILITIES. IT IS KNOWN THAT THIS IS PARTICULARLY TRUE OF THE PERIPHERAL AREAS OF THE REGION.

WESTERN MONMOUTH ALSO PRESENTLY HAS A RELATIVELY SMALL AMOUNT OF LAND UTILIZED FOR INDUSTRIAL PURPOSES. THERE ARE A NUMBER OF FACTORS INFLUENCING THIS SITUATION WHICH WILL BE ANALYZED IN THE ECONOMIC BASE STUDY.

FURTHER ANALYSIS OF WESTERN MONMOUTH WILL TAKE PLACE IN A FOLLOWING SECTION. TO SUMMARIZE HERE, HOWEVER, IT CAN BE STATED

THAT THE WESTERN MONMOUTH REGION HAS BEEN AN AREA DEVOTED CHIEFLY TO AGRICULTURE, BUT IT IS NOW BEGINNING TO FEEL THE PRESSURE FOR URBANIZATION FROM SEVERAL DIRECTIONS.

2.5 DEVELOPMENT CRITERIA

IN FORMULATING THE LAND USE PLAN FOR THE WESTERN MONMOUTH REGION, THE FOLLOWING CRITERIA WILL BE UTILIZED AS GUIDE LINES FOR THE MAJOR COMPONENTS OF THE LAND USE PLAN.

2.51 RESIDENTIAL

A. HIGH DENSITY

* LOT SIZE

UP TO 5,000 SQUARE FEET

AVERAGE - 2,500 SQUARE FEET

* DENSITY

OVER 8.7 D.U.**/ACRE

* TOPOGRAPHY

0 - 10.0% SLOPE DESIRABLE

* LOCATION AND DESIGN

CLOSE TO PRINCIPAL TRANSPORTATION

ARTERIES AND PUBLIC TRANSPORTATION

SCHOOLS, LOCAL SHOPS, PARKS WITHIN WALKING DISTANCE

* SERVICES

ALL UTILITIES AND PUBLIC SERVICES **REQUIRED**

B. MEDIUM-HIGH DENSITY

* LOT SIZE

5,000 - 15,000 SQUARE FEET

AVERAGE 10,000 SQUARE FEET

* DENSITY

8.7 - 2.9 D.U./ACRE

AVERAGE - 4.4 D.U./ACRE

* TOPOGRAPHY

0 - 10.0% SLOPE DESIRABLE

* LOCATION AND DESIGN

INTERMEDIATE LOCATION WITH RESPECT TO PRINCIPAL
TRANSPORTATION ARTERIES AND PUBLIC TRANSPORTATION.

ELEMENTARY SCHOOLS WITHIN WALKING DISTANCE.

* SERVICES

ALL UTILITIES AND PUBLIC SERVICES REQUIRED.

C. MEDIUM-LOW DENSITY

* LOT SIZE

15,000 - 30,000 SQUARE FEET

AVERAGE - 20,000 SQUARE FEET

* DENSITY

2.9 - 1.5 D.U./ACRE

AVERAGE - 2.2 D.U./ACRE

* TOPOGRAPHY

0 - 10.0% SLOPE DESIRABLE

* LOCATION AND DESIGN

INTERMEDIATE LOCATION WITH RESPECT TO PRINCIPAL
TRANSPORTATION ARTERIES.

ELEMENTARY SCHOOL WITHIN WALKING DISTANCE.

* SERVICES

PUBLIC WATER REQUIRED AND SEWERS DESIRABLE AND
SHOULD BE PLANNED FOR.

D. LOW DENSITY

* LOT SIZE

OVER 30,000 SQUARE FEET

AVERAGE - 40,000 SQUARE FEET

* DENSITY

LESS THAN 1.5 D.U./ACRE

AVERAGE - 1.1 D.U./ACRE

* TOPOGRAPHY

HILLY AREAS UP TO 20.0% SLOPE ARE ACCEPTABLE
AND DESIRABLE

* LOCATION AND DESIGN

USUALLY IN MORE REMOTE AREAS
TAKES ADVANTAGE OF PERIPHERAL LOCATION ADJACENT TO
NATURAL AND MANMADE FEATURES - BODIES OF WATER,
RESERVOIRS, GOLF COURSES, PARKS AND PUBLIC RESERVA-
TIONS.

* SERVICES

PUBLIC WATER DESIRABLE

E. NEIGHBORHOOD DESIGN

* SIZE

A RESIDENTIAL UNIT SHOULD PROVIDE HOUSING FOR THAT
POPULATION FOR WHICH ONE ELEMENTARY SCHOOL IS REQUIRED.
ITS ACTUAL AREA WOULD BE DEPENDENT ON POPULATION DENSITY.

* BOUNDARIES

ARTERIAL STREETS SHOULD SURROUND THE RESIDENTIAL UNIT
FACILITATING THE FLOW OF THROUGH TRAFFIC AROUND IT.

* SCHOOL

A CENTRALLY LOCATED SCHOOL WITHIN EASY WALKING DISTANCE
OF EVERY HOME IN THE NEIGHBORHOOD WOULD SERVE AS A
FOCAL POINT OF ACTIVITY.

* OPEN SPACES

PLAYGROUND AND PARKS WOULD BE LOCATED AT CONVENIENT
AND APPROPRIATE LOCATIONS TAKING ADVANTAGE OF NATURAL
FEATURES.

* LOCAL SHOPS

LOCATED AT THE INTERSECTION OF ARTERIAL STREETS AT CORNERS OF THE NEIGHBORHOOD UNIT WITH EVERYDAY RETAIL AND SERVICE NEEDS AVAILABLE.

* STREET SYSTEM

DESIGNED TO FACILITATE CIRCULATION WITHIN THE NEIGHBORHOOD UNIT WITH GOOD ACCESS TO MAIN ARTERIES BUT DISCOURAGES USE BY THROUGH TRAFFIC.

2.52 COMMERCIAL

A. NEIGHBORHOOD CENTER

- * MAJOR STORE - SUPERMARKET
- * CONVENIENCE GOODS - FOOD, DRUGS AND PERSONAL SERVICES PROVIDED
- * SIZE - 5 TO 15 STORES
- * SITE AREA - 5 TO 10 ACRES
- * TRADE AREA - MINIMUM OF 1,000 FAMILIES - DESIRABLE 2,000
- * LOCATION - IMMEDIATELY RELATED TO ITS RESIDENTIAL TRADE AREA.

B. COMMUNITY CENTER

- * MAJOR STORE - VARIETY STORE OR JUNIOR DEPARTMENT STORE
- * GOODS AVAILABLE

CONVENIENCE ITEMS

"SOFT LINES" - CLOTHING

"HARD LINES" - HARDWARE AND HOUSEHOLD APPLIANCES

- * SIZE - 20 - 40 STORES
- * SITE AREA - 10 - 30 ACRES
- * TRADE AREA - 5,000 FAMILIES
- * LOCATION - SITE SHOULD BE WELL RELATED TO THE STREET SYSTEM LEADING FROM THE TRADE AREA TO THE CENTER.

C. REGIONAL CENTER

- * MAJOR FEATURE - DEPARTMENT STORE

* GOODS AVAILABLE

GENERAL MERCHANDISE
APPAREL
FURNITURE
HOME FURNISHINGS

* SIZE - 50 - 100 STORES

* SITE AREA - OVER 35 ACRES

* TRADE AREA - MINIMUM 100,000 PEOPLE

* LOCATION - NEAR MAJOR REGIONAL TRAFFIC ARTERIES
TRIBUTARY TO THE CENTER FROM ITS TRADE AREA.

2.53 INDUSTRIAL

* MOST COMMUNITIES REQUIRE SOME INDUSTRIAL DEVELOPMENT TO
PRODUCE A SOUND ECONOMY, BUT TO BE MOST EFFECTIVE IT SHOULD BE
PLANNED ON A REGIONAL BASIS.

* INDUSTRY DESIRES WELL-DRAINED LEVEL LAND (NOT MORE THAN
FIVE PER CENT SLOPE).

* INDUSTRY WISHES TO LOCATE IN AN AREA WHERE IT IS PROTECTED
AGAINST ENCROACHMENT BY CONFLICTING LAND USES.

* INDUSTRIAL AREAS SHOULD BE LARGE ENOUGH TO PROVIDE ROOM FOR
OFF-STREET PARKING AND LOADING, AMENITIES AND FUTURE EXPANSION.

* INDUSTRIAL AREAS SHOULD HAVE EASY ACCESS TO ALL TRANSPOR-
TATION FACILITIES--HIGHWAY, RAIL AND AIR.

* INDUSTRIAL AREAS SHOULD BE LOCATED WITHIN EASY COMMUTING
TIME OF RESIDENTIAL AREAS OF THE LABOR FORCE.

* ALL UTILITIES SHOULD BE AVAILABLE OR PLANNED FOR.

2.54 RECREATION AREAS, PARKS AND RESERVATIONS

A. REGIONAL FACILITIES

* SIZE - 100 ACRES OR MORE

* LOCATION - WITHIN 30-60 MINUTES OF POPULATION CONCEN-
TRATIONS

- * TOPOGRAPHY - VARIABLE FOR ALL TYPES OF RECREATION ACTIVITY. TAKES ADVANTAGE OF NATURAL FEATURES - STREAMS, VISTAS, ETC.

B. COMMUNITY FACILITIES

- * SIZE - 12 TO 50 ACRES
- * LOCATION - WITHIN 20 MINUTES OF POPULATION CONCENTRATIONS IN FOUR OR FIVE NEIGHBORHOODS.
- * TOPOGRAPHY - AREA SHOULD BE SUITABLE FOR ATHLETIC FIELDS AND PLAYGROUND AREAS WITH BUFFER TO INSULATE IT FROM SURROUNDING LAND USES.
- * RELATIONSHIP - PREFERABLY LOCATED IN CONJUNCTION WITH JUNIOR OR SENIOR HIGH SCHOOLS.

C. NEIGHBORHOOD FACILITIES

- * SIZE - 2 TO 7 ACRES
- * LOCATION - WITHIN EASY WALKING DISTANCE OF HOMES
- * TOPOGRAPHY - TAKES ADVANTAGE OF NATURAL SCENIC FEATURES
- * RELATIONSHIP - PREFERABLY LOCATED IN CONJUNCTION WITH ELEMENTARY SCHOOLS.

2.55 LOCATIONS FOR COMMUNITY* OR NEIGHBORHOOD** CENTERS

THERE ARE DEFINITE ADVANTAGES TO ACCUMULATING RELATED PUBLIC BUILDINGS ON ONE SITE NEAR THE CENTER OF POPULATION AND ROAD NETWORK OF THE AREA THEY SERVE SINCE:

IT CREATES COMMUNITY OR NEIGHBORHOOD IDENTITY AND AWARENESS.

THERE IS ECONOMY IN SITE DEVELOPMENT AND IMPROVEMENT.

IT SERVES AS THE FOCAL POINT FOR THE PLANNING UNIT.

IT IS CONVENIENT FOR THE PUBLIC IN TRANSACTING MUNICIPAL

BUSINESS.

*COMMUNITY

MAIN BUILDING
 MAIN LIBRARY
 MAIN POST OFFICE
 MUNICIPAL AUDITORIUM

**NEIGHBORHOOD

ELEMENTARY SCHOOLS
 BRANCH LIBRARIES
 POST OFFICE SUBSTATIONS
 NEIGHBORHOOD RECREATION
 CENTERS

2.6 FACTORS AFFECTING REGIONAL LAND USE PLANNING

THIS CONCLUDING SECTION OF THE REPORT IS DESIGNED TO SUMMARIZE BY TEXT AND GRAPHIC ILLUSTRATION--FIGURE 9--THE PRINCIPAL FACTORS WHICH WILL INFLUENCE, SHAPE OR RESTRICT DEVELOPMENT POTENTIAL IN THE WESTERN MONMOUTH REGION IN RELATION TO PHYSICAL CHARACTERISTICS, EXISTING AND PROPOSED MAJOR PUBLIC LANDS AND FREEWAYS.

IN THIS SERIES OF STUDIES, CULMINATING IN THE REGIONAL PLAN, A FRAMEWORK OF FEASIBILITY WILL BE ESTABLISHED BY SYSTEMATICALLY DEFINING THE LIMITS OF DEVELOPMENT POTENTIAL. THEN ALTERNATIVE PLANS WITHIN THIS FRAMEWORK WILL BE DEVELOPED AND COMPARED BEFORE ARRIVING AT THE FINAL PLAN.

FIGURE 9 ACCUMULATES ALL OF THIS INFORMATION GRAPHICALLY SHOWING SPECIFICALLY (1) THROUGH (5):

- (1) POOR DRAINAGE AREAS SHOWN IN BLACK.
- (2) HILLY AREAS WITH CONCENTRATIONS OF SLOPE OVER 20%.
- (3) PUBLIC LAND AREAS AND WATERSHEDS--BOTH EXISTING AND PROPOSED.
- (4) VERY GOOD AND GOOD AGRICULTURAL AREAS.
- (5) PROPOSED FREEWAYS.

WHILE THESE FACTORS HAVE BEEN DISCUSSED IN VARIOUS SECTIONS OF THIS REPORT, THIS CONCLUDING SECTION IS DESIGNED TO HIGHLIGHT THE MOST IMPORTANT ITEMS WHICH WILL INFLUENCE AND SHAPE VARIOUS ELEMENTS IN THE REGIONAL PLAN.

2.61 POOR DRAINAGE

AREAS OF POOR DRAINAGE DIVIDE INTO TWO MAJOR CATEGORIES-- SWAMPS AND THE FLOOD PLAINS ADJOINING STREAMS AND BROOKS. FORTUNATELY, MOST OF THE SWAMPLAND IS INCORPORATED IN PUBLIC HOLDINGS

AT THIS TIME AND THE REMAINDER SHOULD BE RESERVED FOR THIS PURPOSE.

THESE AREAS PRESENT SERIOUS PROBLEMS FOR DEVELOPMENT AND TEND TO ATTRACT MARGINAL DEVELOPMENT TO THE PERIPHERAL AREAS AROUND THEM.

THE IMPORTANCE AND SIGNIFICANCE OF THE STREAMS AND BROOKS OF THE REGION TO THE PUBLIC WELFARE CANNOT BE OVEREMPHASIZED. THEIR IMPORTANCE WILL MAGNIFY AS THE REGION DEVELOPS AND THERE ARE COMPELLING REASONS FOR PUBLIC OWNERSHIP OR EASEMENTS OF STREAMS AND THE ADJOINING LANDS. THESE INCLUDE:

- A. THE RATE OF STORM WATER RUNOFF WILL INCREASE AS FARMLAND IS CONVERTED TO MORE INTENSIVE USE. THE MOST ECONOMICAL MEANS OF ACCOMMODATING THIS INCREASE IS BY REINFORCING THE NATURAL DRAINAGE SYSTEM THROUGH PROTECTION AND IMPROVEMENT OF STREAMS AND BROOKS.
- B. THE AREA ADJOINING STREAMS PROVIDES THE MOST ECONOMICAL LOCATION FOR TRUNK AND INTERCEPTOR SANITARY SEWER MAINS SINCE A SEWER COLLECTION SYSTEM IS MOST ECONOMICAL WITH GRAVITY FLOW.
- C. THE AREAS ADJOINING STREAMS WITH WELL DEFINED BANKS WERE LEFT IN THEIR NATURAL STATE BY FARMERS TO PREVENT EROSION. THESE WOODED STRIPS SHOULD BE RETAINED FOR THEIR DUAL FUNCTION OF EROSION CONTROL AND THEIR AESTHETIC VALUE IN PROVIDING VISUAL BARRIERS BETWEEN DEVELOPMENTS IN THE FORM OF GREEN AREAS.
- D. THE PROTECTION OF STREAMS AND ADJOINING LANDS ALSO PROVIDES SITES FOR PONDS WHICH WILL FUNCTION TO CONTROL STORM WATER RUNOFF, RECHARGE GROUND WATER AND ADD TO THE RECREATIONAL AND AESTHETIC VALUE OF THE AREA.

2.62 AREAS WITH EXCESSIVE SLOPE

THE HIGHEST, BEST AND MOST ECONOMICAL USES FOR THESE AREAS WITH A CONCENTRATION OF SLOPES OVER 20% IS LOW-DENSITY RESIDENTIAL DEVELOPMENT OR AS PUBLIC RESERVATIONS. THE COST OF ROAD IMPROVEMENTS, EROSION CONTROL, PROVISION OF WATER AND SANITARY SEWERS IS PROHIBITIVE FOR INTENSIVE USES REQUIRING THE COMPLETE RANGE OF URBAN FACILITIES AND SERVICES. THIS IS PARTICULARLY TRUE IN THE WESTERN MONMOUTH REGION SINCE THIS LAND IS COMPETING WITH AN ABUNDANCE OF LAND TOPOGRAPHICALLY IDEAL FOR INTENSIVE DEVELOPMENT.

2.63 EXISTING AND PROPOSED MAJOR PUBLIC LANDS AND WATERSHEDS

TABLE 6 IDENTIFIES THE AREAS DELINEATED ON FIGURE 9 AND INDICATES THEIR APPROXIMATE ACREAGE. ALL OF THE PROPOSED AREAS HAVE RESULTED FROM STUDIES BY STATE AND FEDERAL AGENCIES AND MOST REQUIRE ADDITIONAL APPROVAL OR AUTHORIZATION BEFORE INITIATION. HOWEVER, THEY ALL HAVE A DEGREE OF OFFICIAL STATUS. THE UNDEVELOPED NATURE OF THE WESTERN MONMOUTH REGION AND THE CONCENTRATIONS OF POPULATION SURROUNDING IT IS THE BASIC REASON UNDERLYING THESE PROPOSALS.

IN SEARCH OF LARGE RESERVATIONS AND WATERSHED AREAS TO SERVE THE URBAN POPULATION, THE STATE HAS BEEN COMPELLED TO UTILIZE THE WESTERN MONMOUTH REGION FOR THIS FUNCTION. THE REGION IS FORTUNATE IN THIS RESPECT SINCE THESE LANDS WILL PROVIDE THE CORE OF OPEN SPACE NECESSARY FOR THE PROPER DEVELOPMENT OF THE REGION. AN OBJECTIVE IN THE PLAN WILL BE TO TIE THESE AREAS TOGETHER TO EFFECTIVELY SEPARATE AND CONFINE URBAN SERVICE AREAS AND COMMUNITIES WITH LANDS WHICH WILL FUNCTION AS PERMANENT OPEN SPACE. THE AREAS ADJOINING "OPEN SPACE" LAND ARE DESIRABLE

TABLE 6

WESTERN MONMOUTH REGION
PROPOSED PUBLIC PROJECTS

	<u>NAME</u>	<u>LOCATION</u>	<u>APPROXIMATE ACREAGE</u>
1.	MONMOUTH BATTLEGROUND	MANALAPAN AND FREEHOLD TWPS.	1,300
2.	TURKEY SWAMP HUNTING & FISHING GROUNDS EXPANSION	FREEHOLD TOWNSHIP	1,500
3.	ASSUNPINK WATERSHED PROJECT	MILLSTONE & UPPER FREEHOLD TWPS.	3,800
4.	ALLAIRE STATE PARK EXPANSION	HOWELL TOWNSHIP	525
5.	MANASQUAN RIVER RESERVOIRS	HOWELL TOWNSHIP	800
6.	NEW STATE FREEWAYS	- - - - -	<u>1,250</u>
	TOTAL		9,175

AND ATTRACTIVE FOR LOW-DENSITY HIGH INCOME HOUSING IN MANY INSTANCES. THE EXISTING AND PROPOSED PUBLIC LANDS COMPRISING APPROXIMATELY 9,000 ACRES IN THE REGION IS CURRENTLY VIEWED WITH LIMITED ENTHUSIASM BY LOCAL OFFICIALS BECAUSE OF ITS TAX EXEMPTION. HOWEVER, ITS MEANING, SIGNIFICANCE AND VALUE IN THE FUTURE WILL OVERSHADOW THE LOSS IN RATABLES TO THE REGION.

2.64 LAND WITH GOOD AGRICULTURAL CAPABILITY

THE REGION IS ENDOWED WITH AN ABUNDANCE OF LAND WITH OUTSTANDING QUALITIES OF AGRICULTURAL CAPABILITY. THE INCREASE IN LAND VALUES FOR OTHER USES HAS FORCED A STEADY RETREAT IN AGRICULTURAL PURSUITS IN SOME AREAS OF THE REGION. THE PRESSURES OF URBANIZATION WILL CONTINUE TO FORCE COMMITMENT OF SOME OF THIS GOOD AGRICULTURAL LAND TO OTHER USES. HOWEVER, IN CERTAIN AREAS PRESENTLY REMOTE FROM PRESSURE, A SET OF CONDITIONS SHOULD BE ESTABLISHED TO PERMIT INTENSIVE AGRICULTURE TO REMAIN FOR AN EXTENDED PERIOD OF TIME.

2.65 PROPOSED FREEWAYS

TWO EAST-WEST FREEWAYS ARE SHOWN ON FIGURE 9 IN GENERAL LOCATION. WHILE THERE IS UNCERTAINTY CONCERNING THE LOCATION AND TIMING OF THESE ROADS AND DETAILED STUDY WILL BE GIVEN TO THEM IN THE TRANSPORTATION STUDY OF THIS SERIES, THEY WILL HAVE A GREAT IMPACT ON SHAPING THE PATTERN OF DEVELOPMENT IN THE WESTERN MONMOUTH REGION. IN PLANNING THE REGION, INTENSIVE TYPES OF DEVELOPMENT AND MAJOR TRAFFIC GENERATORS SHOULD BE WELL RELATED TO THESE ROUTES WHICH TIE INTO THE NEW JERSEY TURNPIKE AND REGIONAL HIGHWAY SYSTEM.

2.66 SUMMARY

TABLE 7 SUMMARIZES BY ACREAGES THE PRINCIPAL CATEGORIES OF LAND WHICH ARE COMMITTED TO INTENSIVE OR PERMANENT USE OR WILL BE

INFLUENCED BY PHYSICAL CHARACTERISTICS IN ITS FUTURE USE. THE PATTERN OF DISTRIBUTION OF THIS LAND IS ILLUSTRATED BY FIGURE 9 BY DISCOUNTING THE GOOD AGRICULTURAL LAND. 112,000 ACRES OR APPROXIMATELY 60% OF THE REGION IS LEFT TO PLAN WITH NO ENCUMBRANCES FROM EXISTING CONDITIONS. IT IS THIS AREA AND ITS USE WHICH WILL BE THE PRIMARY CONCERN OF THE STUDIES WHICH FOLLOW IN THIS SERIES TO FORM A FOUNDATION FOR THE RECOMMENDATIONS AND PROPOSALS WHICH WILL BE INCORPORATED INTO THE GENERAL DEVELOPMENT PLAN FOR THE WESTERN MONMOUTH REGION.

TABLE 7
 WESTERN MONMOUTH REGION
GENERALIZED LAND USE TABULATION

ACREAGE

182,000	
<u>31,000</u>	DEVELOPED AREA
151,000	AC.
30,000	POOR DRAINAGE AREAS AND AREAS WHERE SLOPE WILL RESTRICT DEVELOPMENT
<u>121,000</u>	
9,000	PROPOSED HIGHWAYS, STATE PARKS AND WATERSHEDS
<u>112,000</u>	LAND RELATIVELY UNDEVELOPED AND LEFT TO PLAN

WESTERN MONMOUTH REGION

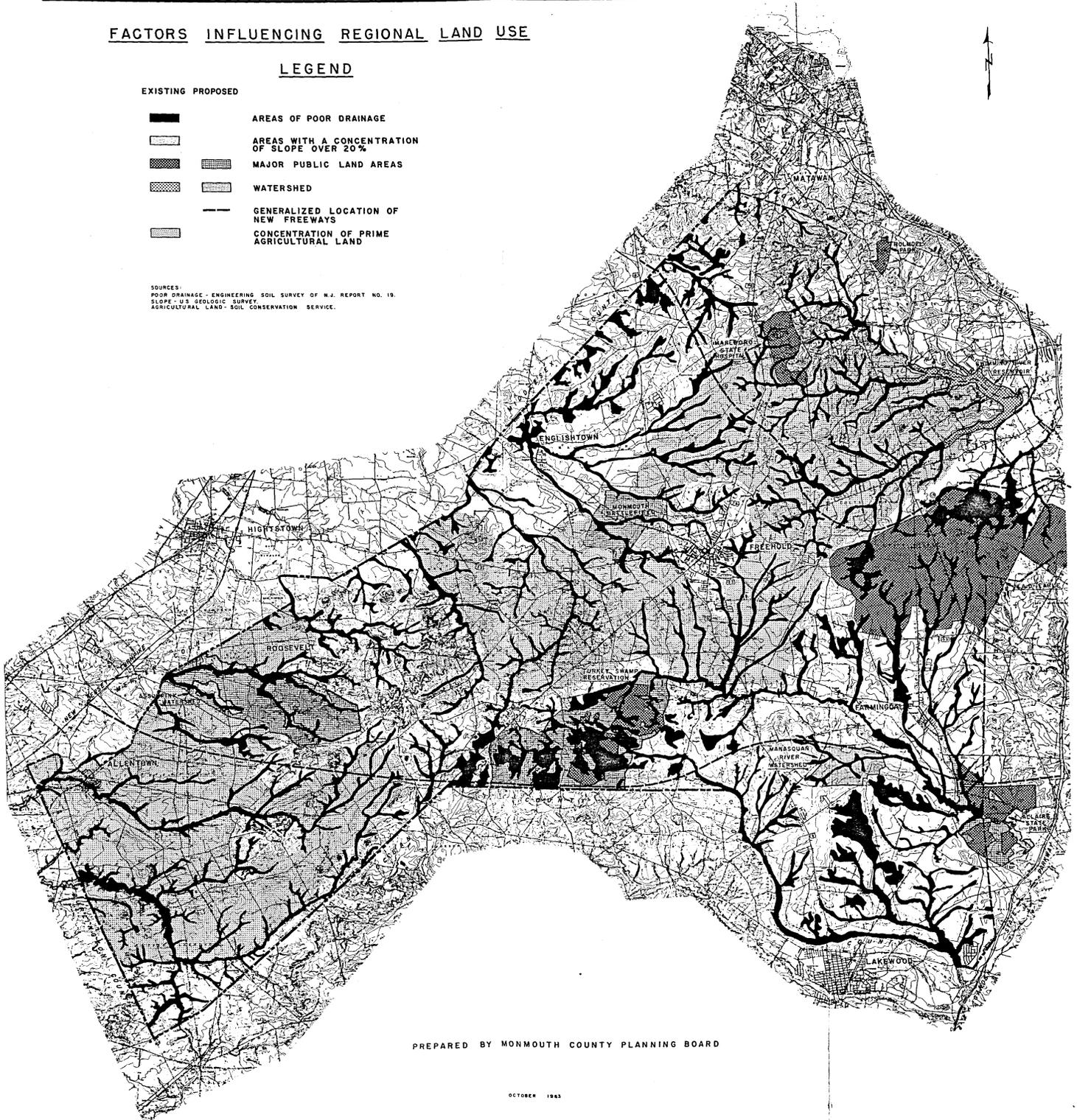
FACTORS INFLUENCING REGIONAL LAND USE

LEGEND

EXISTING PROPOSED

-  AREAS OF POOR DRAINAGE
-  AREAS WITH A CONCENTRATION OF SLOPE OVER 20%
-  MAJOR PUBLIC LAND AREAS
-  WATERSHED
-  GENERALIZED LOCATION OF NEW FREEWAYS
-  CONCENTRATION OF PRIME AGRICULTURAL LAND

SOURCES:
 POOR DRAINAGE - ENGINEERING SOIL SURVEY OF N.J. REPORT NO. 19.
 SLOPE - U.S. GEOLOGIC SURVEY.
 AGRICULTURAL LAND - SOIL CONSERVATION SERVICE.



PREPARED BY MONMOUTH COUNTY PLANNING BOARD

OCTOBER 1963

SCALE
 4000 0 4000 8000

THE PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE URBAN REDEVELOPMENT ADMINISTRATION OF THE MONROE AND HARRIS FINANCE AGREEMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED. THE REMAINDER WAS FINANCED BY LOCAL FUNDS AND BY AN APPROPRIATION OF THE STATE OF NEW JERSEY AS A PART OF THE EXPANDED STATE AND REGIONAL PLANNING PROGRAM.