A STUDY OF THE INDUSTRIAL AND COMMERCIAL DEVELOPMENT IN MONTGOMERY COUNTY AND RADFORD, VIRGINIA FROM 1930 THROUGH 1954

by

James Theodore Lucas, Jr.

Thesis submitted to the Graduate Faculty of the
Virginia Polytechnic Institute
in candidacy for the degree of

MASTER OF SCIENCE

in

Business Administration

APPROVED:

Director of Graduate Studies

APPROVED:

Head of Department

Dean of Applied Sciences and Business Administration

Major Professor

September, 1955

Blacksburg, Virginia

ACKNOWLEDGMENTS

The author wishes first to express his gratitude to his parents, whose encouragement and financial assistance made completion of this thesis possible.

The author is deeply indebted to his uncle, , whose financial aid contributed to the completion of this thesis.

The author is also indebted to Mr. R. L. Humbert, Professor of Economics, Virginia Polytechnic Institute, for his valuable guidance and criticism during the writing of this thesis.

The writer wishes to express his appreciation to Dr. B. O. Miller, Professor of Economics, and to Dr. T. J. Horne, Professor of Agricultural Education, Virginia Polytechnic Institute, for their helpful suggestions and criticisms in the preparation of material contained in the thesis.

The author is indebted to various Virginia state officials for their assistance in providing information for this thesis.

Appreciation is also extended to local government officials for their time and information which helped make the completion of this thesis possible.

To those persons who have offered their time to give information and suggestions, the writer is also deeply indebted.

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INTRODUCTION

In recent years, particularly during the past decade, there has been a definite and an ever increasing movement of industry and commerce from the northeastern part of the United States into the South. This ever increasing shift of industry and commerce into the southern states has been and still is the result of a number of factors. High tax rates imposed by all levels of government in the North, the high cost of labor, scarcity of favorable industrial sites, and frequent union troubles are but a few of the undesirable conditions that harass industry and commerce in the North. By contrast, the South offers industrial and commercial firms many excellent sites with relatively low tax rates, and, in many cases, prospective industries are offered special tax concessions by local governments to induce them to locate in a particular area. In addition, labor costs in the South are lower than in the crowded northeastern states. Many portions of the southeastern United States have a relative abundance of water which is essential to most industrial and many commercial firms. With some exceptions, unions in the South have not developed to the point where they cause frequent and expensive strikes as is the case in the North. For these as well as other reasons, many industrial and commercial firms presently located in the North are seeking new locations and are building in communities throughout the southern part of the country.

In connection with this movement of industry into the South, this writer is of the opinion that the area involved in this study, i.e. Montgomery County and Radford, Virginia, has not only developed as a partial result of this relocation process, but will benefit to an even greater extent in the future. This writer believes that the current study is timely in that it brings into focus the rate and nature of commercial and industrial development of the area during the past twenty-five years which, in turn, presents a clear and useful grasp of trends for future years. Secondly, the study serves as a valid indicator of the potential facilities which the area can offer as well as limitations which would have to be considered by interested firms.

Historical Statement - Montgomery County

Montgomery County is located in the southwestern part of the Great Valley of Virginia, and has the distinction of being one of the oldest counties in western Virginia. It was part of the great territory of Augusta, and, for a short time, was a portion of Fincastle County which had a legal edict for a few years and was then subdivided into the counties of Montgomery, Kentucky, and Washington in 1776.[1]

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[1] R. L. Humbert, Industrial Survey, Montgomery County and City of Radford, (Engineering Extension Division, Virginia Polytechnic Institute, Blacksburg, Virginia: April, 1929), p. 7.

In it's original area Montgomery County embraced an area of approximately twelve thousand square miles: three times as great as that of Connecticut; six times that of Delaware; and ten times that of Rhode Island. Since it's formation twenty-nine counties, wholly or in part, have been formed from the original Montgomery County. It's present area is 395 square miles, and the county contains 252,000 acres.[1]

Montgomery County was named after Richard Montgomery, a gallant general of the Revolutionary War. Montgomery was born in Swords County, Ireland in 1738, educated at Trinity College, and in 1757 was sent as a soldier to Canada where he saw extensive action in the French and Indian War. Later, in 1775, he joined the patriots as a brigadier general, lead the Montreal expedition, and, after taking Montreal, was killed in December, 1775 in the assault on Quebec.

The first court for Montgomery County was held at Fort Chiswell, Virginia, near Wytheville where, just prior to the organization of Montgomery County, the first formal declaration of independence from Great Britain was declared on January 20, 1775.[2]

> The history of Montgomery County is notable because the area has furnished four governors for the commonwealth: James Patton Preston, elected 1816; John Floyd, elected 1830; John Buchanan Floyd, elected 1849; and J. Hoge Tyler, elected 1898.[3]

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[1] Montgomery County Farm Statistics, 1910-1954, (Virginia Cooperative Crop Reporting Service, June, 1955), p. 1.

[2] Humbert, op. cit., p. 7. [3] Ibid., p. 8.

Historical Statement - City of Radford

The history of Radford, Virginia is as interesting and varied as that of Montgomery County. R. L. Humbert writes that the site that is now Radford was, at one time, probably inhabited by Indians. He states that the site lay along the geographical route used by northern and southern Indians, and, because of the fertile river-bottom soil, was greatly desired by many tribes of the region.[1]

> The first record of a white man entering the section is that of Colonel Abraham Wood and his party in 1654. The first permanent settlement recorded around Radford was made at Ingles Ferry in 1755. This land is still in the hands of the Ingles family, descendents of the first settlers and of Mary Draper Ingles, famous heroine of the Drapers Meadow Massacre of 1775.[2]

The trails leading into Radford were later used by the pioneers and early settlers as they pushed west into Kentucky, Tennessee, Ohio, and West Virginia. Daniel Boone once camped near the present site of Radford, and General George Rogers Clark passed along the trail in 1772.

> The earliest possible records for the colonization of Radford are those of Francis Riley and John Wylie. Francis Riley evidently owned the land west of Connolly's Run and extending to the Ingle's land. Peter Wylie probably owned all of the land now known as East Radford. It is certain that his land included the site of the State Teachers College. (The State Teachers College is now the Womens Division of Virginia Polytechnic Institute.) It is not known but is believed that these two men received grants for this land from King George II. Thus, property comprising the present site of Radford was first largely owned by two families, descendents of which are now prominent in the affairs of the city.[3]

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[1] Ibid., p. 67. [2] Ibid., p. 67. [3] Ibid., p. 67.

Radford was formerly known as Central Depot because of it's central location between Lynchburg and Bristol, the opposite terminals of the Norfolk and Western Railway at that time, (1881). The formation of the Norfolk and Western Railway in 1881 and it's subsequent growth stimulated the expansion of Radford which was incorporated in 1885 and named after Dr. John B. Radford one of it's leading citizens. In 1891 the people of Radford decided to separate from Montgomery County and form a city to be called the City of Radford. A charter was applied for and was approved in January, 1892.[1] Since that time Radford has grown rapidly, and a more thorough discussion of it's growth appears later in this study.

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[1]Ibid., p. 69.

CHAPTER I

PURPOSES OF THE STUDY

The purposes of this study have been fourfold. The first purpose has been to determine the nature and extent of industrial and commercial development in Montgomery County and Radford, Virginia during the period from 1930 through 1954. To illustrate this expansion the author has presented material showing the growth of representative firms within the county and the City of Radford.

To describe this growth without giving reasons for it would have left the study incomplete. Therefore, the second purpose has been the presentation of reasons for the expansion enjoyed by the industrial and commercial firms within the area. From the facts regarding growth and the reasons behind it, valid conclusions have been drawn with regard to future expansion in Montgomery County and the City of Radford.

A third purpose of this study has been a determination of any trends which may have been established as a result of industrial and commercial growth within the area. Established trends are an excellent basis for predicting development in future years.

A final major purpose has been the presentation of conclusions which resulted from the study. It is hoped that these conclusions will provide valid data for future studies by individuals interested in work of a similiar nature.

The nature of this problem has involved a factual gathering of data on industrial and commercial development in Montgomery County and the City of Radford. The study has been concerned only with firms located within the boundries of Montgomery County and Radford City. The author has not attempted to compare data found for this area with data on any other governmental unit. There has been no attempt to predict future trends. However, in the concluding statements of the study appropriate comments have been presented based on facts established during the course of the study.

This problem has been limited geographically to the confines of Montgomery County and the City of Radford, Virginia. In addition, it has been limited to the amount of source material available and obtainable from various Virginia governmental departments, United States publications dealing with county and city divisions, information from Montgomery County and Radford industrial and commercial firms, and information from local residents.

All definitions used in this study have been consistant with all existing and accepted definitions of the English language. Any words, terms, or phrases taken from source material or personal interviews which were not self-explanatory have been clearly defined or explained in the main text or in the footnotes.

In conducting this research problem the author has assumed that the combined use of written source material and information obtained through personal interviews has provided valid data for the study. It was further assumed that the educational background and training of the writer qualified him to gather, compile, and prepare necessary data for the study, and present the results in an acceptable form.

Procedures

Five separate procedures have been employed in this problem. First, the author obtained and studied written material from sources within the confines of the county and Radford City. This material included research papers available at V. P. I., Montgomery County and Radford City governmental documents, and company statements of firms located within the area under study.

Second, the author has contacted appropriate departments of Virginia state government for additional research material. Included in this source were bulletins, brochures, surveys, reports, and handbooks. In addition to the material from state offices, the author obtained reports, maps, and bulletins from the United States Printing Office in Washington, D. C., and from the Virginia State Chamber of Commerce.

The writer prepared and utilized interview forms to obtain information from individual business firms and local governments involved in the study.

This third procedure involved the collection of data from a sufficient number of firms to illustrate the growth and development of a representative number of firms for the entire area. These firms are referred to by name in the study to indicate the leading industrial and commercial firms in the county and Radford City.

As a fourth procedure the author interviewed all firms that contribute substantially to the income and livlihood of the people of the area. The firms interviewed were the largest and most progressive in the area. For this reason they provided the most valuable data for illustrating progress and growth in the area.

After adequate research and compilation of data, the author studied all material and selected that which he considered satisfactory as valid data for the final report.

The final procedure was the writing of the report. This was done after a thorough study of the material had been made to determine it's value and validity as a basis for the report. All material was rechecked for accuracy and it's relative bearing to the purposes of the study.

CHAPTER II

A REVIEW OF THE SUPPORTING AND CONTRIBUTING LITERATURE FOR A STUDY OF THE INDUSTRIAL AND COMMERCIAL DEVELOPMENT IN MONTGOMERY COUNTY AND RADFORD, VIRGINIA FROM 1930 THROUGH 1954

The purpose of this review of literature was to obtain and present in this study, the findings of other persons who were interested and experienced in the study of industrial and commercial development. Since it was not intended that the study be original in every respect, but, rather, a compilation, study, and presentation of existing data, the author believes that substantiating statements and contributions of others familiar with this field of research are appropriate.

In a recent study of Giles County, Virginia, Williams stated that:

> Industry is beginning to look more and more to the South as a new territory. The reasons are many. Generally speaking, labor is much higher in the North than in the South. The congested areas of the North have made it impossible for many industries to operate at maximum economy and efficiency as they once did. As buildings and machinery become obsolete, it is not always advantageous to remain at the present location. As new products are introduced, the market or source of production material may shift. Thus, industry is on the move. Naturally, areas are sought which have patterns which most resemble those of industry. The answer for many of these relocation problems and many other problems for the last decade has been the South.[1]

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[1] Wafford Guy Williams, Jr., "A Study to Evaluate Some Possibilities for Future Industrial Growth of Giles County, Virginia", (Unpublished Master's Thesis, Department of Business Administration, Virginia Polytechnic Institute, December, 1954), p. 9.

Industrial and commercial development in Montgomery County and Radford, Virginia is not entirely new to the people of the area. That an awareness of and an interest in such development has existed for some years is evidenced by a statement by R. L. Humbert, who in 1929, wrote:

> Although Montgomery County is primarily agricultural, the people are keenly interested in industrial development. The leaders in the towns are exerting much effort to organize new industrial enterprises and induce new capital to locate in their respective communities. The rural people, including those who reside in the unincorporated towns of the county, are thinking industrially and planning the organization of factories. The extension of power lines into rural communities has awakened the people to new industrial consciousness. It is recognized that greater wealth can be produced by industry than by agriculture alone. The most prosperous condition in a county such as Montgomery is that which attains proper balance between industry and agriculture. There is a strong sentiment for this type of development in the county.[1]

As a county or city unit, Montgomery County and Radford City are not exceptions to the interest and desire for industrial expansion among local communities in Virginia. To the contrary they are typical of many counties and cities within the state who are currently endeavoring to attract industry and commerce. Nor are the individual counties and cities within the State alone in the rapid economic expansion which they have enjoyed during recent decades.

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[1]Humbert, op. cit., p. 14.

"Virginia has been favored with remarkable growth in the progress of it's industrial economy during the past several decades. This improvement has been at a rate exceeding the progress in the nation as a whole."[1] Thus, the present study of Montgomery County and Radford, Virginia may be illustrative of the recent past progress of other counties, cities, and particular industrial areas within the State. The following statement by Chris H. Whiteman illustrates the general awareness of and desire for industry and commerce on the part of local governmental subdivisions as well as the State.

> Industrial growth, long the keystone to a continuing healthy economy of many Virginia communities, has become a major objective of practically every rural area, town, and city within the state. How to let industry know what opportunities for successful operations exist in each, how to organize to attract industry, and how to find and persuade industrial prospects to include the communities in site investigations, have become important objects for study and action by many local chambers of commerce, civic groups, and others.[2]

One of the most important indicators of progress in a study such as this is the change in the financial economy of the area under consideration. The increased payrolls of established firms undergoing expansion, and the additional revenue from new industrial and commercial plants have an immediate and profound effect on the lives of local residents.

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[1] Taxes as a Factor in Industrial Location, (Division of Planning and Economic Development, Richmond, March, 1955), p. 1.

[2] C. H. Whiteman, "Localities Organize for Industry", Economic Development Activities of the Virginia State Chamber of Commerce, (Richmond, 1955), p. 1.

Communities throughout the nation are keenly aware of the implications of industrial expansion in their respective areas. Dr. R. B. Brandis, Research Economist, recently wrote that:

> Industrial expansion has continued at a rapid pace. The growing trend toward decentralization is bringing industrial plants into areas which have been mainly agricultural in the past. Older industrial areas also are experiencing growth, so that in every section of the country there is renewed interest in the impact on a locality of new industrial payroll dollars.[1]

This has certainly been true of Montgomery County and Radford, Virginia. In 1930, the first year under consideration in this study, the number of Montgomery County and Radford residents engaged in industrial occupations was negligible as compared to the total area population. However, in 1950 industry in Montgomery County employed the second greatest number of people of all occupation classifications for the county.[2] Only professional services, (including teachers), employed a greater number of people. In Radford City industry lead all other occupation classifications in number of people employed.[3] This shift from a predominantly agricultural economy is an integral part of this study, and it's causes and effects have been presented in subsequent chapters of this paper.

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[1] R. B. Brandis and F. D. Lindsey, What New Industrial Jobs Mean to a Community, (Economic Research Department, Chamber of Commerce of the United States, Washington, 1954), p. 1.

[2] Economic Data, Montgomery County, Virginia, (Division of Planning and Economic Development, Richmond, 1951), p. 4.

[3] Ibid., p. 4.

CHAPTER III

MONTGOMERY COUNTY

General Information

In 1930 Montgomery County, Virginia was typical of the nineteen counties which comprised southwestern Virginia. This entire region was predominantly agricultural and Montgomery County was no exception. This pattern had been established in the two preceeding centuries when countless pioneers, travelling through Virginia to the western territories, found local soils fertile and productive and consequently many settled in what is now Montgomery County.

The economy of the county in 1930 was a very limited and local one. At that time the farm families in the county were the largest single group of consumers of retail goods. However, this group spent a very limited amount of money. There were three principal reasons for this limited spending. First, farming at that time was of a very diverse nature wherein each farmer raised a variety of small crops and several types of farm animals. This variety of crops and produce was calculated to provide the individual family with the bulk of it's required food during the year. Therefore, these farm families were inclined to buy only staple foods from merchants within the county. Second, local farmers had very few excess marketable items, and these items brought relatively little money on local markets.

Thus, county farmers received very little for the limited products which they had to sell. Third, it must be remembered that the great depression which began the previous year had left financial scars on individuals in every part of the country. Montgomery County did not entirely escape this financial catastrophe. Many of the more prosperous farmers and merchants of the county had previously invested heavily in financial instruments which became worthless as a result of the crisis of 1929. Some of the heaviest investors in the area were practically ruined in a financial sense. Moderate investors suffered substantial losses. Local banks curtailed loans and other financial operations necessary to the normal economy of the county. The total result was a temporary stagnation of commercial, industrial, and agricultural activity.

Recovery from this financial malady would have been slow indeed had it not been for the assistance given by the Federal government. Work for the many unemployed was provided through such agencies as the Works Progress Administration, (WPA), the Public Works Administration, (PWA), the Civil Works Administration, (CWA), and the Civilian Conservation Corps, (CCC). Under these agencies, with the exception of the Civilian Conservation Corps, many unemployed persons in the area were given work to provide a livlihood for themselves and their families. All projects involving these people were calculated to fullfil some need within the area while providing work for the unemployed.

A number of county schools were built through the efforts of these agencies. Limited work was done on roads and highways within the area. Picnic areas were constructed, soil erosion was checked along certain highways, and other road improvement work was accomplished. Other projects were initiated to employ those persons without work, and, at the same time, to improve certain facilities within the area. The Civilian Conservation Corps did forestry work which included the construction of fire-breaks in local forests, and the regulated cutting of timber from these forests. A transient camp was established at the Yellow Sulphur Springs near Blacksburg to teach useful trades to local young men. Limited military drill was also required. Both the CCC camps and the transient camp were under the supervision of Army Reserve Officers. All of these efforts provided limited income for the participants, and this income contributed to the financial recovery of the communities within Montgomery County.

At the same time local banks tightened their loan policies, and curtailed their activities involving real estate. (Excessive real estate holdings and mortgages had caused many banks to fail during the first years of the depression.) Through slow and cautious banking operations in the early 1930's the banking institutions in the county were able once again to offer normal financial service to those firms and individuals who desired such service. By 1935 the county was well on it's way to economic recovery.

Montgomery County has enjoyed a number of natural advantages which have contributed to it's recovery from the early depression years. With the exception of the extreme northern portion of the county which contains a part of the rugged Jefferson National Forest, most of the county is relatively level, broken only by gently rolling hills and shallow valleys. Prior to the years included in this study, this relatively level terrain was of greatest importance to the farmers of the county. A great percentage of the existing farmland was tillable thereby making most farms relatively productive. The degree of farm productivity has been improved even more in recent years through the use of more and better fertilizers, better farm equipment, and greater knowledge of correct farming methods. The Virginia Polytechnic Institute in Blacksburg has played an important part in educating county farmers in proper farming methods.

Beginning in the early 1930's industry began to appreciate the county topography, and the fact that it was quite suitable for building sites. A great part of the land adjoining the major highways in the county was ideally suited for industrial and commercial sites. In addition, each of the three incorporated towns offered suitable building sites. That the terrain of the county offered many excellent sites is attested by the industrial and commercial growth described in subsequent chapters of this work.

Excellent building sites were not the only inducement offered industry and commerce by the county. Fine highways offered a necessary transportation facility. In 1929 R. L. Humbert wrote:

> In the county there are 71.46 miles of state highways, of which 46.13 miles are improved. All improved road is either surface-treated macadam or bituminous macadam. One national highway, U. S. Route No. 11, extends across the county from the Roanoke County line near Elliston to the Pulaski County line at Radford, a distance of 28.78 miles. State Route No. 23 traverses the county from north to south. It enters the county at the Giles County line near Newport, passes through Blacksburg and Christiansburg, and leaves the county on the south at the Floyd County line. This highway comprises 27.75 miles in Montgomery County.[1]

The State Route No. 23 referred to by Mr. Humbert was later changed to Route No. 8. The U. S. Route No. 11 has become one of the best and most heavily travelled roads in the entire eastern United States. As this important highway was gradually improved through the years, the motor freight industry in the country also expanded. In recent years more than six major trucking lines have established regular routes through the county via this highway. This availability of good motor freight service has therefore been an additional attraction for industry.

A third important factor in the early years of this study was the railway service available to the county. The Norfolk and Western Railway serviced Christiansburg and Radford City several times daily with trains routed through the approximate center of the county.

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[1]Humbert, op. cit., p. 10.

Thus, industry and commerce had the dual facilities of a good highway system and a good railway system. Additional comments on present rail and highway facilities are made in subsequent chapters of this work.

Another attraction for commerce and industry in these early years was the existance of a relatively abundant supply of water. Montgomery County is bordered on it's northwestern boundry by the New River, one of the few large rivers in the eastern United States to flow northward for the greater part of it's course. Records of nineteen years, (1907-15, 1939-50), indicate an average daily flow of 2,505,771,009 gallons.[1] The flow of this river has been regulated since May 1939 by Claytor Reservoir, an artificial lake created by the Appalachian Electric Power Company's Dam located just southwest of Radford. The capacity of the New River is sufficient to provide water for a number of industries in addition to the daily demand made upon it by the City of Radford.

In addition, this county, located atop the Alleghany watershed, has numerous springs and small streams which flow through all parts of the county. A number of these springs and streams have furnished communities within the county with water since their inception. The one discordant note with regard to water supply is the fact that as water demands within the county have increased, actual supplies have diminished. This reduction of spring and stream flow is the result of the uncontrolled cutting of timber within this general area.

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[1] Economic Data, Montgomery County, Virginia, op. cit., p. 10.

Lumbermen and private owners have, during the past twenty-five years, cut thousands of feet of timber without reseeding the cut-over areas and without any plan of selective cutting. As a result large areas that comprise the watersheds for local streams have been completely denuded of moisture retaining timber. Fires have destroyed additional forest regions that formerly retained much moisture for local streams. In recent years certain portions of Montgomery County have been moved to undertake rather drastic steps to acquire water, a fact that is discussed later in this work.

Toward the end of the decade, 1930 to 1940, Montgomery County had left behind most of the economic hardships that were so prevalent during the early years of that decade. The normal population increase within the county and surrounding areas created a greater demand for agricultural products. Since farming was still the dominant activity in the county this increased demand for farm products meant greater prosperity for farm people which, in turn, resulted in a greater volume of business for county merchants. Rural areas were gradually being serviced with electricity which meant increased sales of electrical appliances. Better farming methods permitted the production of more and better crops and farm animals on existing farmland. This gave the farmer more dollars to spend. As is mentioned in subsequent chapters, industry was increasing in the county and the employees of these industries were spending substantial sums in local stores.

Enrollment of students at V. P. I. had gradually increased and this increased enrollment brought with it additional faculty members and other college employees whose incomes contributed to the county economy. These and other factors all contributed to the resumption of a normal and healthy economy by 1940.

In September, 1939, a young man who had started his political career nineteen years earlier triggered the greatest war in modern history. Adolph Hitler, Germany's Dictator, launched the German invasion of Poland. This event was to have a profound effect on practically every citizen of this small county thousands of miles away. Because basic liberties and freedoms the world over were in peril, this country, along with other freedom loving nations, began arming for the war to come. In September, 1940, exactly one year after the invasion of Poland, construction was begun on the multi-million dollar Radford Arsenal in the western part of the county. Hundreds of persons flooded into the county and surrounding areas to live and work at the Arsenal. Thousands more commuted to the plant from other parts of this general region. At first the construction force for this tremendous plant was much larger than the operating force. However, by January, 1942 the bulk of the construction employees had become powder producing employees. Every available home, room, and apartment housed these workers. Trailer camps sprang up, and some people even constructed temporary shanties. The plant constructed a "staff village" for the key personnel, and Christiansburg and Radford added entire residential villages to house Arsenal employees.

The Federal government approached farmers and built government houses on individual farms, giving the farmer an opportunity to buy the dwelling at a reduced cost after it was no longer needed. For the workers who commuted to and from work, government busses were placed in operation, and numerous individuals formed bus companies to carry these employees. The entire Arsenal operation was on a scale completely new to county residents.

The economic impact of this operation is difficult to ascertain. However, in a recent study made for the United States Chamber of Commerce it was estimated that 100 new factory jobs created $590,000 more personal income per year for an area, and $360,000 more in retail sales per year for the same area.[1] At it's peak production the Radford Arsenal employed approximately 23,000 people. Based on the estimate by the U. S. Chamber of Commerce this number of employees theoretically was paid twelve billion, five hundred seventy million dollars in personal income. Using the same estimate, these employees created additional sales of eight billion, two hundred eighty million dollars. These figures are not meant to represent the actual value of the plant, in personal income or retail sales, to this area, but are given to convey some idea of the economic impact which it was capable of and did have on this immediate area.

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[1] What New Industrial Jobs Mean to a Community, (Economic Research Department, Chamber of Commerce of the United States, Washington: 1954), pp. 4-5.

It is true that a substantial portion of the annual wages paid by this plant was taken to other areas by the employees who commuted from distant places. Nevertheless, the greatest percentage of Arsenal employees resided within Montgomery and Pulaski Counties and the City of Radford. Therefore, the economy of this immediate area was affected to the greatest degree by the location of the plant in the county. A detailed description of the development of this industry is presented in a subsequent chapter. It is sufficient to say at this point that the Radford Arsenal was the greatest single stimulant to the county economy of any past or present development within this general area.

During the war Radford Arsenal was the greatest focal point of activity within the county. Many consumer goods were sharply curtailed and retail stores found their sales substantially reduced. Farm equipment was not available because of the critical need for metals. Building was extremely limited because lumber and other building materials were needed for national defense. This situation existed until the end of World War II. Following the end of the war in 1945, industry slowly began to retool for civilian consumers. Rationing was discontinued. Residential and commercial construction began to mushroom. In general, the county economy shifted from a very restricted wartime economy to a limitless postwar economy. Great numbers of small business establishments were opened within the county, towns, and Radford City by returning veterans, and by others who had been forced to wait until after the war to construct buildings.

Within the three years following World War II there was a rapid expansion of the county economy. The same was true of the incorporated towns and the City of Radford. However, by 1948, after satisfying the great volume of consumer demands created by the war, the county and local towns resumed a more normal business pace. New industries were gradually locating in the county and this, coupled with the post-war population increase, provided a considerable amount of business for local firms. Then in 1951 the Korean conflict caused the Radford Arsenal to resume production on a large scale. (It had been placed on stand-by status by the Federal government after World War II.) Requests were sent out for employees and once again people flocked to this plant to work. Once again the county and it's towns felt the stimulating effect of the large Arsenal payroll. The Radford plant continued to operate at full production until the end of the Korean War in 1953. At that time it reduced it's employee roster substantially, but not to the same extent as in 1945. Since World War II the Radford plant had assumed the production of propellants for guided missles. These missles were being produced on an ever-increasing scale and the Radford plant had to retain a force of considerable size to provide the necessary propellants for these missles. This plant was continuing to operate with a sizeable force at the end of 1954.

Meanwhile, Montgomery County has continued to enjoy a prosperous economy. Farm products have demanded greater prices as the population increased.

The number of industries and business houses within the county has increased to a point sufficient to provide a diversity of work for county residents. The county has recently undergone a tremendous school building program which employed large numbers of people. The Virginia Polytechnic Institute and Radford College have been expanding constantly since World War II. These and other factors have provided Montgomery County with a continuous high level of living for most of it's people, and economic stability for the county itself. A more detailed description of this development is presented in subsequent chapters.

Population and Labor Force

Population - No area can grow industrially or commercially without a concentration of population in that area sufficient to provide an adequate labor force. Along with the prime requisits mentioned previously, firms considering the construction of plants in this area have had to consider the labor potential available to them. Fortunately, Montgomery County and Radford City have, during the past twenty-five years, had ample population to provide a large labor force. Population for Montgomery County and the City of Radford is shown in Table I. Figures are for representative years from 1930 through 1954. It is notable that from 1930 to 1940 the county had a population increase of less than two thousand while during the decade from 1940 to 1950 the total population increased by approximately one-third.

TABLE I

POPULATION OF MONTGOMERY COUNTY AND RADFORD, VIRGINIA FOR THE YEARS 1930, 1940, AND 1950[a]

	1930	1940	1950
Montgomery County	19,605	21,206	29,780
Alleghany District	3,605	3,157	3,851
Auburn District	3,132	3,301	3,753
Blacksburg District	6,844	8,329	13,459
Christiansburg District . .	6,024	6,419	8,717
Blacksburg town	1,406	2,133	3,358
Christiansburg town	1,970	2,299	2,967
Cambria town	673	810	853
Radford City	6,227	6,990	9,026

[a]U. W. Bureau of the Census, Seventeenth Census of the United States: 1950. Population, II, Part 46, pp. 10-14.

The most important reason for this tremendous increase was the erection, in 1940, of the Radford Arsenal which, at peak production, employed 23,000 people. A second factor worth mention was the increased enrollment at the Virginia Polytechnic Institute following World War II. Student enrollment increased from 3,242 for the school session ending June 1940 to a peak enrollment of 5,689 for the session ending June 1950.[1] A substantial percentage of this latter figure was comprised of service veterans whose families were counted in the 1950 census.

[1]Interview with Dr. Paul H. Farrier, Director of Admissions, Virginia Polytechnic Institute, Blacksburg, Virginia, July 23, 1955.

Of great value to industry and commerce was the high percentage of native white population within the county. Newly established firms expect to lose money on new employees during their initial training period. Therefore, companies hiring persons with varied backgrounds and of foreign extraction must expect slower learning and prolonged training of such individuals. Because of the high percentage of native white population in the county, this problem was greatly reduced for incoming industry and commerce. Population characteristics for the county are presented in Table II. The fact that the local population readily adapts itself to industrial conditions is attested by the following statement by T. M. Hanna of the Radford Arsenal: "The success with which they adapted themselves to the operation is attested by the fact that the Radford Unit of the Arsenal won five Army and Navy "E" awards for general excellence and achieved a production record of over half-a-billion pounds of powder - 560,000,000 lbs. - by August 10, 1945."[1] This ability of the general population to learn industrial trades with a minimum of effort has been of great value to all business firms locating in this general area.

Labor Force - The main concern of industry and commerce, with regard to population, is the potential labor reserve which it provides. In Montgomery County the general excellence of the labor force has kept pace with increased industrialization.

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[1]Interview with T. M. Hanna, Director of Personnel and Security, Radford Arsenal, July 26, 1955.

TABLE II

POPULATION CHARACTERISTICS OF MONTGOMERY COUNTY, VIRGINIA FOR THE YEARS 1930, 1940, 1950[a]

	1930	1940	1950
Total Population	19,605	21,206	29,780
Male	9,920	10,455	16,265
Female	9,685	10,751	13,515
Native White	17,604	21,140[b]	28,018
Male	8,886	10,405	15,372
Female	8,718	10,735	12,646
Foreign-born White	36	66[b]	174
Male	28	50	114
Female	8	16	60
Negro	1,965	1,569	1,569
Male	1,006	.....[c]	766
Female	959	.....	803
Other Races	.....[c]	.....[c]	19
Percent Native White	89.8	92.3	.....[c]
Percent Foreign-born White	0.2	0.3	.....
Percent Negro	10.0	7.4	.....
Urban and Rural	.....[c]	.....[c]	.....[c]
Urban population	.....	.....	6,325
urban farm	.....	.....	22
Rural population	19,605	21,206	23,455
rural farm	8,114	8,575	6,435
rural non-farm	11,491	12,631	17,020

[a]U. S. Bureau of the Census, Census of the United States, 1930, 1940, 1950: Population, II, Part 46, pp. 10-14.

[b]Includes all races.

[c]Figures not available.

However, it is interesting to note the rather drastic changes that have taken place during the past twenty-five years with regard to both industry and labor. In 1929 R. L. Humbert wrote of labor:

> There are 459 laborers employed in the 34 industrial enterprises of the county. There are 349 male workers and 110 female employees. These are classified as 93 skilled and 366 unskilled.
>
> . . . . . .
>
> Labor may be employed at wages attractive to industry. The average wage scale is as follows:
>
> | | | |
> |---|---|---|
> | Skilled, male . . . . . | Weekly, | $25.00 - - - $40.00 |
> | | Hourly, | .50 - - - .75 |
> | Unskilled, male . . . . | Weekly, | $12.00 - - - $25.00 |
> | | Hourly, | .25 - - - .40 |
> | Female . . . . . | Weekly, | $9.00 - - - $15.00[1] |

In contrast to this limited labor group of 1929, the following figures are presented for the years 1940 and 1950.

TABLE III

LABOR RESOURCES - MONTGOMERY COUNTY - 1940 and 1950[a]

	Male		Female	
	1950	1940	1950	1940
Persons 14 Years and Over . .	12,276	7,396	9,637	7,661
In Labor Force	7,137	5,771	2,382	1,660
Per Cent in Labor Force . . .	58.1	78.0	24.7	21.7

[a] Economic Data, Montgomery County, Virginia, (Division of Planning and Economic Development, Richmond, 1954), p. 3.

[1] Humbert, op. cit., p. 35.

Recent existing wage rates in Montgomery County, as compared with rates presented by Mr. Humbert in 1929, are as follows:

Male Workers		
Skilled	Hourly,	$1.50 - $2.25
Semiskilled	Hourly,	1.00 - 1.50
Unskilled	Hourly,	.75 - 1.00
Female Workers		
Skilled	Hourly,	$1.35 - $1.65
Semiskilled	Hourly,	.75 - 1.35
Unskilled	Hourly,	.75 - ....[1]

In a comparison of the wage rate figures for 1929 and 1954, it is interesting to note that the minimum wage scale for male workers, skilled and unskilled, increased by 200 per cent during that period. Factors responsible for this increase include increased demand for labor, increased cost of living, and greater industrial and commercial prosperity which permits a corresponding higher wage rate.

In a national census of business, conducted in 1947, Montgomery County reported the following manufacturing establishments as presented in Table IV. The leading category listed for that year, food and kindred products, included a number of canneries located in the county. Most of these plants can local products with tomatoes being the principal product. Since the growing season for this region is limited to the summer months, most of the plants are seasonal and do not employ people for the full year.

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[1] Unpublished wage rate table prepared by the Virginia State Employment Service, Richmond, 1954. p. 1.

TABLE IV

NUMBER OF ESTABLISHMENTS BY TYPE FOR THE YEAR 1947[a]

Food and kindred products	13
Textile mill products	0
Apparel and related products	2
Lumber and basic lumber products	11
Furniture and fixtures	2
Paper and allied products	1
Printing and publishing	3
Stone, clay, and glass products	4
Primary metal industries	0
Electrical machinery	0

[a]Economic Data, Montgomery County, Virginia, (Division of Planning and Economic Development, Richmond, 1954), p. 4.

Lumber firms, which rank second in Table IV, represent plants of two different types. Part of the plants comprising this group are custom sawmills that operate to serve the public. These plants receive and saw logs for a set fee, serving anyone who has timber to be converted into lumber. The remaining plants in this group are lumber companies, usually located in local towns, who buy timber products in volume and resell these products to the general public. This latter group usually carries a large variety of building supplies including nails, hardwood and tile flooring, roofing materials, and a diverse number of additional items.

While the firms listed in Table IV employed a substantial percentage of the county labor force at that time, a great number of persons were employed in other occupations.

The diversity of occupations which have employed Montgomery County workers during the past twenty-five years are shown in Tables V, VI, and VII, on the following pages. Each table illustrates occupation by industry group for representative years from 1930 through 1950. This occupation classification is presented for both Montgomery County and the City of Radford.

The most important factor borne out by these tables has been the gradual change, in people employed, of the primary industry groups. Table V shows that agriculture employed the greatest number of county workers in 1930 - (2,569). This group was followed by "Other professional and semiprofessional services", (586), and "Wholesale and retail trade", (397). In 1940 agriculture was still the leading employment category, (1,869), followed by professional and related services, (915), and construction, (485). However, in 1950, manufacturing was the leading industry group with 1,611 employees, followed by educational services, (private) with 1,416 people, and agriculture ranked third in importance with 1,323 workers. Thus, these tables show very effectively the transition from an agricultural economy to one supported primarily by manufacturing. Reasons for the development of industry within the county have been presented earlier in this work. A more detailed description of the actual growth of industry and commerce is contained in later chapters. A detailed account of the ever increasing importance of professional and educational services has been presented in subsequent portions of this paper.

TABLE V

PERSONS TEN YEARS OLD AND OVER ENGAGED IN GAINFUL OCCUPATIONS, BY INDUSTRY GROUPS, FOR MONTGOMERY COUNTY AND RADFORD, VIRGINIA, FOR THE YEAR, 1930[a]

	Montgomery County		Radford	
	Male	Female	Male	Female
All Gainful Workers				
All Industries	5,437	967	1,626	430
Agriculture	2,435	134	42	2
Farmers (owners and tenants)	1,271	92	13	2
Farm managers and foremen	20	33	0	0
Farm laborers	1,142	9	29	0
wage workers	796	7	28	0
unpaid family workers	346	2	1	0
Forestry and fishing	35	0	6	0
Coal mines	395	5	12	0
Other extraction of minerals	64	0	19	0
Building industry	279	3	93	0
Chemical and allied industries	10	5	16	0
Cigar and tobacco factories	0	0	1	0
Clothing industries	16	91	17	94
Food and allied industries	52	4	68	2
Automobile factories and repair shops	21	1	1	0
Iron and steel industries	27	0	424	2
Saw and planing mills	65	2	9	0
Other woodworking and furniture industries	60	3	8	0
Paper, printing, and allied industries	11	2	2	0
Cotton mills	0	0	0	0
Silk mills	3	9	1	0
Other textile industries	0	3	0	0
Independent hand trades	29	22	11	4
Other manufacturing industries	73	7	32	1
Construction and maintenance of streets, etc.	229	0	7	0
Garages, greasing stations, etc.	43	1	29	0
Postal service	34	8	11	2
Steam and street railroads	382	1	314	2
Telegraph and telephone	28	20	18	13
Other transportation and communication	44	0	25	0
Banking and brokerage	24	7	14	2
Insurance and real estate	11	1	19	2
Automobile agencies and filling stations	39	2	23	0
Wholesale and retail trade, except auto	337	60	171	43
Other trade industries	1	2	0	0
Public service (not elsewhere classified)	53	6	29	4
Recreation and amusement	12	6	10	8
Other professional and semiprofessional ser.	339	247	72	87
Hotels, restaurants, boarding houses, etc.	62	50	24	19
Laundries and cleaning and pressing shops	13	17	14	18
Other domestic and personal service	56	241	23	118
Industry not specified	155	7	61	7

[a]U. S. Bureau of the Census, Fifteenth Census of the United States: 1930. Population, II, Part 2, p. 1191.

TABLE VI

PERSONS FOURTEEN YEARS OLD AND OVER ENGAGED IN GAINFUL OCCUPATIONS, BY INDUSTRY GROUPS, FOR MONTGOMERY COUNTY AND RADFORD, VIRGINIA FOR THE YEAR, 1940[a]

	Montgomery County		Radford	
	Male	Female	Male	Female
All Gainful Workers				
Agriculture	1,809	60	22	0
Forestry (except logging) and fishery	2	0	0	0
Coal mining	320	2	4	0
Crude petroleum and natural gas production	0	0	0	0
Other mines and quarries	38	0	12	0
Construction	483	2	159	1
Food and kindred products	61	5	60	1
Textile mill products	23	13	209	131
Apparel and other fabricated textile products	62	351	27	171
Logging	8	0	0	0
Sawmill and planing mills	38	0	6	1
Furniture, store fixtures, misc. wooden goods	40	0	37	3
Paper and allied products	1	0	5	6
Printing, publishing, and allied industries	5	4	5	2
Chemicals and allied products	15	1	83	6
Petroleum and coal products	0	0	0	0
Leather and leather products	0	0	4	0
Stone, clay, and glass products	21	0	2	0
Iron and steel and their products	24	0	314	2
Nonferrous metals and their products	6	0	0	0
Machinery	6	0	1	0
Automobiles and automobile equipment (mfg)	0	0	0	0
Transportation equipment, except auto	0	0	2	0
Other and not specified manufacturing industries	0	2	2	0
Railroads (including rwy repair shops) and rwy express	283	0	192	1
Trucking service	46	1	12	0
Other transportation	25	0	14	0
Communication	10	11	11	17
Utilities	27	3	22	0
Wholesale trade	61	1	21	1
Food and dairy products stores, milk retailing	107	11	71	11
Eating and drinking places	41	27	15	11
Motor vehicles and accessories, retail and filling station	94	7	43	1
Other retail trade	182	56	104	47
Finance, insurance, and real estate	42	11	29	8
Automobile storage, rental, and repair services	51	0	40	0
Business and repair services, except auto	18	1	2	2
Domestic service	26	342	7	135
Hotels and lodging places	32	25	5	10
Laundering, cleaning and dyeing services	18	6	22	25
Miscellaneous personal services	37	23	21	15
Amusement, recreation, and related services	24	1	12	4
Professional and related services	570	345	85	105
Government	138	50	47	10
Industry not reported	39	14	14	6

[a]U. S. Bureau of the Census, Sixteenth Census of the United States: 1940. Population, II, Part 7, pp. 205-211.

TABLE VII

PERSONS TEN YEARS OLD AND OVER ENGAGED IN GAINFUL OCCUPATIONS, BY INDUSTRY GROUPS, FOR MONTGOMERY COUNTY AND RADFORD, VIRGINIA FOR THE YEAR, 1950[a]

	Montgomery County		Radford	
	Male	Female	Male	Female
Industry Group				
Agriculture	1,281	42	29	2
Forestry and fisheries	7	0	0	0
Mining	269	1	5	1
Construction	782	7	178	3
Manufacturing	912	699	705	299
Furniture, lumber, and wood products	260	85	26	1
Primary metal industries	78	3	314	10
Fabricated metal industries	7	9	1	0
Machinery, except electrical	11	0	2	0
Electrical machinery, equipment and supplies	1	0	1	1
Motor vehicles and motor vehicle equipment (except motor vehicles)	1	0	0	0
Transportation equipment	1	0	0	1
Other durable goods	41	1	4	1
Food and kindred products	131	14	38	1
Textile mill products	136	160	196	186
Apparel and other fabricated textile products	61	411	7	61
Printing, publishing and allied industries	25	4	32	9
Chemicals and allied products	149	7	70	13
Other nondurable goods	5	1	14	15
Not specified manufacturing industries	5	4	0	0
Railroads and railway express service	349	5	213	3
Trucking service and warehousing	70	5	20	1
Other transportation	66	8	29	2
Telecommunications	16	34	10	24
Utilities and sanitary services	81	4	29	6
Wholesale trade	92	8	73	9
Food and dairy products, stores, milk retail	160	47	73	27
Eating and drinking places	122	99	15	38
Other retail trade	426	185	229	117
Finance, insurance, and real estate	51	25	46	19
Business services	8	2	3	0
Repair services	153	8	56	3
Private households	34	240	12	101
Hotels and lodging places	22	28	13	3
Other personal services	96	119	64	61
Entertainment and recreation services	32	4	26	8
Medical and other health services	75	69	48	95
Educational services, government	937	479	57	147
Educational services, private	7	28	5	11
Other professional and related services	47	19	30	10
Public administration	238	61	101	16
Industry not reported	152	85	16	8

[a]U. S. Bureau of the Census, Seventeenth Census of the United States: 1950. Population, II, Part 46, pp. 110, 117.

Briefly, the sharp increase in population within the county has resulted in the need for greater numbers of professional and educational persons.

Secondary Factors in Industrial and Commercial Development

County Government

The Board of Supervisors is the supreme governing body in Montgomery County. This board is composed of four members, one member elected by each of the four magisterial districts within the county. Each member of the body is elected for a term of four years. At the first meeting of the board, a chairman and vice-chairman are selected to preside for the entire term of the governing body. Other elective offices within the county include a treasurer, a commonwealth attorney, a commissioner of revenue, a clerk of the court, and a sheriff. The clerk of the court is elected for a term of eight years, and all remaining officers are elected for terms of four years. The Board of Supervisors selects a superintendent of schools from a list of eligibles approved by the State Board of Education. In addition to the elective officers mentioned above, the county has a number of appointed officials some of which are a county surveyor, county health officer, and a county welfare officer.

Public Finances - The tax rate effective within the county varies in each magisterial district. Each district is authorized to make certain expenditures of it's own, and may levy an additional tax to support these expenditures.

In 1929 R. L. Humbert quoted the following tax rates for the separate districts within the county: "Christiansburg and Alleghany Districts, outside incorporated towns, $2105 per $100; Auburn District, $1.75 per $100; Blacksburg District, $2.00 per $100 of assessed valuation."[1] Table VIII presents tax rates for Montgomery County and the City of Radford as they existed in 1953. It is notable that these rates have increased substantially since 1929 in order to support increased county and city expenses. The tax rate upon real estate and tangible personal property as imposed by the City of Radford has remained unchanged, this rate being $1.75 per $100 of assessed valuation.

Some idea of the recent valuation of property in Montgomery County and the City of Radford may be had from Table IX. This table presents several classifications of property and the total value of each classification.

Receipts and Disbursements - A statement of Montgomery County receipts and disbursements is found in Table X. These figures are for the year ending June 30, 1954.

County Indebtedness - The indebtedness of Montgomery County, as shown by representative years since 1930, is as follows:

1930	- - - - - -
1936	$ 248,797.31
1942	207,105.00
1948	74,355.00
1954	1,396,000.00[2]

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[1]Humbert, op. cit., p. 46.

[2]Interview with Margaret Cowan, Montgomery County Treasurer, July 27, 1955.

TABLE VIII

RATES OF LOCAL TAX LEVIES PER $100, 1953[a]

	Real estate	Tangible personal	Machinery and tools	Merchants capital
Montgomery County				
Alleghany District	$3.05	$3.05	$3.05	$3.05
Auburn District	3.15	3.15	3.15	3.15
Blacksburg District . . .	3.75	3.75	3.75	3.75
Christiansburg District. .	3.05	3.05	3.05	3.05
Blacksburg town	4.75	4.75	3.75	3.75[b]
Cambria town	4.05	4.05	3.05	3.05[b]
Christiansburg town . . .	4.05	4.05	4.05	3.05[b]
City of Radford	1.75	1.75	1.75	0[b]

[a]Economic Data, Montgomery County, Virginia, (Division of Planning and Economic Development, Richmond, 1954), p. 3.

[b]Merchants license tax is imposed.

TABLE IX

ASSESSED VALUES SUBJECT TO TAXES, 1952[a]

		Montgomery County	Radford
Local:	Real estate	$ 7,551,468	$ 7,307,960
	Tangible personal property. .	2,097,634	2,421,320
	Machinery and tools	147,818	442,080
	Merchant's capital	829,454	-
	Public service corporations .	3,832,464	2,118,301
State:	Intangible personal property.	2,991,731	2,188,786
	Bank and trust company stock.	1,206,031	456,354
	Aggregate.	$18,656,600	$14,934,801

[a]Economic Data, Montgomery County, Virginia, (Division of Planning and Economic Development, Richmond, 1954), p. 3.

TABLE X

MONTGOMERY COUNTY RECEIPTS AND DISBURSEMENTS FOR FISCAL YEAR 1954[a]

GENERAL COUNTY FUND		
Balance July 1, 1953		$10,891.39
RECEIPTS:		
Current taxes	$ 58,193.48	
Delinquent taxes	1,332.75	
Land redemptions	2,322.48	
Transfer fees	729.68	
Commonwealth's attorney fees	280.38	
County's share of sheriff's fees	930.68	
Trial justice fees	5.70	
Board of prisoners	1,649.00	
County fines	25.00	
Refunds	21.32	
Public telephone commissions	1.67	
Repayment of hospitalization funds	87.43	
County's share of O. A. A. recovery	1.24	
Sale of table from Clerk's office	300.00	
Sale of scrap metal	99.55	
Temporary loans	50,000.00	
From the Commonwealth:		
Public assistance grants	96,329.20	
State's share of hospitalization costs	4,050.27	
Tax on motor vehicle carriers	587.00	
County's share of ABC profits	72,181.26	
County's share of wine tax	4,720.47	
State's share of jail expense	7,970.52	
State's share of FICA contributions	377.70	
Capitation taxes returned	3,777.00	
80 per cent of tax on bank stock paid by Bank of Shawsville	629.50	
Transfer:		
Dog tax fund	1,705.95	$308,309.23
Receipts and balance		$319,200.62
DISBURSEMENTS:		
General warrents	142,549.32	
Vital statistics warrents	135.50	
Compensation of judge	725.14	
Notes	40,000.00	
Interest	887.38	
Tax refunds	2.12	
State's share of S-L Hospital repayment	8.50	
Transfers to VPA Fund	$118,985.16	$303,293.12
Balance June 30, 1954		$ 15,907.50

[a]County of Montgomery, Virginia Financial Report for Year Ended June 30, 1954, (Christiansburg, Virginia, 1954), p. 4.

Agriculture

Agricultural development in Montgomery County during the past twenty-five years could easily command a separate study of it's own. Although it has recently declined in number of people employed, agriculture in Montgomery County has always had an important position in the county economy. Statistical data regarding county farms is shown in Table XI below.

TABLE XI

MONTGOMERY COUNTY FARMS - 1930 TO 1950[a]

	1930	1935	1940	1945	1950
Number of farms	1,709	2,158	1,670	1,660[b]	1,596[b]
Average size of farms (acres)	101.8	88.1	101.7	96.2[b]	94.0[b]
Average values (land and bldgs) . .	$6,717	$2,870	$4,598	$5,921[b]	$8,886[b]
Number of farms (full owners). . . .	1,223	1,320	1,140	1,467[b]	1,380[b]
Farm population[c]. . . .	8,114	10,742	8,575	8,148	6,435
Land in farms[c]. . . .	174,029	190,180	169,793	159,655	150,040
Average value per acre (land and bldgs)[c].	$65.96	$32.56	$45.22	$61.57	$95.14

[a]U. S. Bureau of the Census, Sixteenth Census of the United States: 1940. Agriculture. II, pp. 92-93, 102.

[b]U. S. Bureau of the Census, Seventeenth Census of the United States: 1950. Agriculture, pp. 60-61, 68.

[c]Montgomery County Farm Statistics, 1910-1954, (Richmond, 1954), p. 1.

It is notable, as shown by Table XI, that the number, size, and amount of land in farms has declined since the middle 1930's while the average value of farmland has increased. This reduction in the number of farms is partially due to the general trend, within the county, toward increased industry and commerce. Many of the smallest landowners have gradually relinquished their holdings and have taken wage and salaried jobs elsewhere in the area. This of course has reduced the number of farms within the county. In addition, there has been a trend in recent years to break up the large farms that were rather numerous several generations ago. A graphic illustration of this trend is presented in Table XII below.

TABLE XII

FARM ACREAGE BY SIZE OF FARMS[a]

	1925[b]	1950	(Per cent of all farms - 1950)
Under 50 acres	1,010	763	47.8
50 to 99 acres	519	346	21.7
100 to 179 acres	342	256	16.0
180 to 259 acres	146	112	7.0
260 to 499 acres	100	89	5.6
500 to 999 acres	19	25	1.6
1,000 acres and over	10	5	0.3

[a]Economic Data, Montgomery County, Virginia, (Division of Planning and Economic Development, Richmond, 1954), p. 5.

[b]R. L. Humbert, Industrial Survey, Montgomery County and City of Radford, Virginia, (Engineering Extension Division, Virginia Polytechnic Institute, Blacksburg, Virginia, April, 1929), p. 30.

Total farmland in the county has been slowly reduced through the acquisition, by local towns, of land adjoining these towns for industrial, commercial, and residential sites.

Farmland values have increased primarily because the price for farm products has risen over the past few years. With an increase in population in this area, farmers in the county now command better prices for their products. Livestock and dairy products provide the greatest amount of farm revenue in Montgomery County. "Livestock is the main branch of farming and accounted for nearly 93 per cent of the value of all farm products sold in Montgomery County in 1949."[1] The recent trend in county livestock raising is shown in Table XIII.

TABLE XIII

LIVESTOCK ON MONTGOMERY COUNTY FARMS, 1930-1954[a]

Year	All cattle (including milk cows)	Milk cows - 2 years and older	Hogs & Pigs	Sheep & Lambs	Horses & Mules
1930	14,400	5,850	6,500	12,800	2,370
1935	11,600	5,920	3,400	12,700	2,170
1940	13,800	6,300	5,000	9,200	2,250
1945	14,900	6,950	5,100	5,600	2,080
1950	17,300	8,150	5,600	4,400	b
1954	20,000	7,650	3,300	4,700	

[a] Montgomery County Farm Statistics, (Richmond, 1954), p. 1.

[b] Count of this category discontinued.

[1] Montgomery County Farm Statistics, (Richmond, 1954), p. 1.

"Meat animal production, mostly cattle, was the principal source of cash farm income in 1949, accounting for slightly more than 45 per cent of the total."[1]

Dairying has been the most rapidly developing farm enterprise and it's contribution to total farm sales increased from about thirty-one per cent in 1944 to forty-two per cent in 1949. In 1930 there were four local firms buying milk from Montgomery County dairy farmers. These firms were the Southern Dairies plant and Banner Cola Ice Cream Company in Christiansburg, Clover Creamery Company in Radford, and the V. P. I. Creamery in Blacksburg. With the exception of the Banner Cola Company, these milk plants have all undergone expansion which has enabled them to buy and process increased quantities of milk. In 1939 the Carnation Milk Company built a receiving plant in Riner, and this plant ships locally produced milk to a second Carnation plant in Galax, Virginia where evaporated milk is produced. Because of company policy none of the above mentioned firms were allowed to disclose actual volume of milk bought from local dairymen. However, in recent interviews with the managers of these plants, this author discovered the following percentages of volume increase between 1930 and 1954: Clover Creamery - 1400 per cent; Southern Dairies - 400 per cent; and Carnation Milk Company, (located in the county in 1939), 100 per cent increase.[2]

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[1] Ibid., p. 1.

[2] Figures are approximate.

These figures are rather dramatic in their illustration of the increased dairy activity in Montgomery County. The actual increase in dairy products, from 1929 through 1949, is shown by the following figures:

Year	Whole milk sold (pounds)	Cream sold (pounds of butterfat)	Butter sold (pounds)
1929	9,333,554	20,314	129,400
1939	13,261,062	21,611	82,051
1944	17,000,540	2,306	16,465
1949	20,943,175	16,304	. . . [1]

One of the primary factors which made this increase in dairy products possible was the introduction of alfalfa hay to this general area in the early 1930's. Prior to that time the principal hay crops had consisted mostly of slow growing red clover, timothy, orchard grass, and other grasses of a similiar nature. Most of these hay crops could be harvested only once each season thereby limiting the amount of hay which each farmer could produce for winter feeding of his dairy animals. With the introduction of alfalfa each farmer was able to harvest hay from the same acreage at least three times each summer, and, with a good season, could get four cuttings from each field. This was a tremendous help to dairy producers who had limited amounts of land available for hay crops. The rapid increase in the growing of alfalfa and the corresponding decline in the use of other hay crops in the county is shown in Table XIV.

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[1] Ibid., p. 2.

TABLE XIV

MONTGOMERY COUNTY HAY ACREAGE, 1929-1949[a]

Year	All hay (acres)	Alfalfa for hay acres	Alfalfa for hay tons	Clover-Timothy for hay acres	Clover-Timothy for hay tons
1929	9,963	651	1,253	8,245	11,616
1934	9,135	1,420	1,847	6,009	4,289
1939	10,358	1,392	3,058	6,656	6,366
1944	10,637	2,028	3,975	5,920	6,393
1949	12,776	2,809	6,812	5,927	7,600

[a]Montgomery County Farm Statistics, (Richmond, 1954), p. 2.

While specific mention has been made of it's importance to the dairy industry, alfalfa has also played a most important part in the increase of all livestock raised within the county. However, it's importance to dairymen is paramount since this industry is undergoing the most rapid expansion of all farm operations. In 1949 the value of all farm products sold amounted to $2,314,662 with livestock and livestock products totalling $1,045,143 and dairy products sales amounting to $975,194.[1] These two farm groups comprised 87.3 per cent of the total farm products sold for that year.[2] Thus, as has been clearly shown, agriculture continues to contribute substantially to the economy of the county.

[1]Economic Data, Montgomery County, Virginia, (Division of Planning and Economic Development, Richmond, 1954), p. 5.

[2]Ibid., p. 5.

Forest Resources

Montgomery County has approximately 131,600 acres of commercial forest exclusive of public reserved and other noncommercial forest land. About 31.2 per cent of the timber is softwood (shortleaf pine, Virginia pine, white pine, pitch pine, red cedar, and other softwoods), and 68.8 per cent is hardwood (red oak, white oak, chestnut oak, black locust, yellow popular, hickory, black gum, and miscellaneous hardwoods). Annual growth is estimated to be 5,373,000 board feet while annual drain is slightly more, about 5,841,000 board feet.[1] Plans contemplate the eventual purchase of 39,008 acres in the county as part of the Jefferson National Forest; 17,805 acres had been purchased as of 1952.

Mineral Resources

Two distinct fields of semianthracite coal occur in the county. The Brush Mountain field along the northwestern boundry, and the Price Mountain field, a short distance south of Blacksburg. Coal from the Merrimac mine in the latter field was used by the Confederate frigate Virginia (Merrimac) in her fight with the Monitor in Hampton Roads on March 9, 1862. Beds of limestone and dolomite between Miles and Christiansburg, north of Cambria and east of Blacksburg, offer sources for products made from these rocks as well as for crushed stone. Millstones and grindstones have been made for years from sandstone on Brush Mountain, a short distance from Blacksburg.

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[1] Ibid., p. 5.

Manganese, arsenic, lead and zinc, and barite have been reported locally. Occurances of clay and beds of shale, probably suited for making brick and tile products, are known at several localities.[1]

Water Resources

The greater part of Montgomery County is underlain by belts of limestone, shale, and sandstone of variable width, ranging from Cambrian to Mississippian in age. Valleys generally occur in the belts of limestone and shale; ridges or hills occupy the sandstone or quartzite belts. In the extreme eastern and southern portions of the county (the Blue Ridge section), there occur bodies of granite rocks of pre-Cambrian age. From this rock strat yields of 5 to 200 gallons per minute of generally hard water are obtained at depths of 100 to over 600 feet in the belts of limestone; from 1 to 35 gallons per minute of generally soft water are obtained at depths of 120 to 300 feet in the shale belts; from 5 to 25 gallons per minute of soft water are obtained at depths of 100 to over 300 feet in the sandstone belts.[2] Abundant natural springs and drilled wells provide an abundant supply of water from these formations for consumers who do not require excessive amounts from one source.

Surface water is also rather abundant in the county. Montgomery County contains the divide between Roanoke River Basin and New River Basin.

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[1] Ibid., p. 5. [2] Ibid., p. 6.

The eastern portion of the county is drained by the headwaters of Roanoke River. The western portion of the county is drained by tributaries of New River and Little River. The headwaters of Craig Creek, a tributary of James River, drains the extreme northern portion of the county. New River and Little River form the southwestern boundry of the county. New River is a major stream, and the source of a large supply of water for this general area.[1] Claytor Dam, just a few miles to the southeast of Radford, provides water control, and also generates electricity for this general area.

Banking Facilities

Montgomery County enjoys the facilities of six banks, exclusive of two additional banks located in nearby Radford. These banks are geographically distributed throughout the county to provide service to each major community. Two banks are located in Blacksburg, two in Christiansburg, and one in Shawsville. The extreme western part of the county is served by banks in Radford. A consolidated statement of the county banks is presented in Table XV.

Public Lands

Montgomery County contains a surprising amount of public land within it's confines.

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[1] Ibid., p. 6.

TABLE XV

CONSOLIDATED STATEMENT OF MONTGOMERY COUNTY BANKS - 1954[a]

Bank	Capital	Resources	Deposits	Surplus & Profits
Bank of Christiansburg[b]	$115,500.00	$5,713,202.98	$4,914,920.84	$394,349.25
Bank of Shawsville	60,000.00	1,153,788.60	1,036,788.60	52,599.44
Cambria Bank[b]	30,000.00	1,046,198.18	935,830.38	73,076.37
Farmers & Merchants National Bank (Blacksburg)	100,000.00	2,336,276.44	2,062,202.92	169,869.52
The National Bank of Blacksburg	100,000.00	4,586,087.05	4,189,327.72	250,318.54
The First National Bank(Christiansburg)	100,000.00	3,957,553.80	3,512,743.97	205,809.83

[a]Figures taken from individual bank statements.

[b]Calculated from 1955 bank statements.

A substantial acreage has been transferred from private to public ownership in recent years. Land which is a part of the Jefferson National Forest, Radford Arsenal, Virginia Polytechnic Institute, and Radford College comprises the greater part of these public lands. In addition to the acreage presently a part of the public lands within the county, the Federal government has plans to purchase approximately 39,000 more acres to enlarge the Jefferson National Forest. There is every indication that the amount of such land in the county will continue to increase.

V. P. I. is continually expanding it's facilities, particularly to satisfy the ever growing operations of the School of Agriculture.

Following is a statement of the public lands existing within the county in 1954.

Federal	
Jefferson National Forest (portion in Montgomery County)	17,805 acres
Radford Arsenal (portion in Montgomery County)	2,560 acres
State	
Virginia Polytechnic Institute	2,850 acres
Radford College (portion in Montgomery County)	1,500 acres
Waysides	3 acres
Poor Man Mountain Radio Station	1 acre
Department of Highways	3 acres
County	
Public Schools	287 acres
Municipal	
Sanitary facilities	40 acres
Watersheds	184 acres
Forests	47 acres
Public Schools (Radford)	33 acres
Unclassified	561 acres
Total	25,874 acres[1]

Civic Refinements

Within the normal concept of this term, Montgomery County is one of the most fortunate counties in southwestern Virginia.

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[1] Ibid., p. 2.

The number and nature of facilities contributing to civic refinement in the county provide it's residents with a great variety of fine services.

Public Schools - The public school system in Montgomery County is one of the best in the State. Both the physical facilities and the standard of instruction have been greatly improved within recent years. High schools are located in Blacksburg, Christiansburg, Riner, and Shawsville. Elementary schools are located throughout the entire county. In the late 1940's the county found itself in possession of a number of small elementary school buildings which were in immediate need of major repairs. At the same time the normal population increase had reached the point where many county schools were overcrowded and did not have adequate facilities to accommodate the children of the county. Therefore, in 1951 school officials began a major building program with two objectives in mind: first, to provide modern buildings and facilities of sufficient number to serve the school population of the county, and second, to eleminate many of the outmoded frame schools and house students from these schools in new additions and new buildings centrally located in the county. Table XVI shows school construction accomplished since 1951. This building program included the construction of a new high school in Blacksburg, major additions to the Riner and Christiansburg high schools, and a number of new and larger elementary schools throughout the county. Facilities for colored children in the area were also improved and expanded.

TABLE XVI

MONTGOMERY COUNTY SCHOOL CONSTRUCTION, 1951-1954[a]

Facility	Contract cost	Description
Auburn High School	$ 68,000	Complete home economics facilities, 2 elementary classrooms, 1 H. S. room
Belview Elementary	142,000	7 classrooms, 1 multi-purpose room
Christiansburg High School	222,980	gymnasium, 6 classrooms, renovation of auditorium
Christiansburg Elementary	275,000	14 classrooms, suite of offices, cafeteria, clinic room, library
Christiansburg Institute(Negro)	308,400	facilities for industrial arts, gym, music, vocational agriculture
Friends Elementary (Negro)	103,000	4 classrooms, cafeteria, multi-purpose room
Blacksburg High School	700,000	12 classrooms, 2 science labs, 1 art room, cafeteria, complete gym, clinical facilities, auditorium, adm. offices, 2 home economics suites
Blacksburg Vocational Agricultural bldg.	175,000	industrial arts dept., complete vocational agriculture facilities
Blacksburg Elementary (Negro)	39,500	2 classrooms
Prices Fork Elementary	192,000	9 classrooms, suite of offices, 1 multi-purpose room, clinic room, cafeteria, library
Ironto Elementary	80,000	4 classrooms, suite of offices
Shawsville Vocational Agricultural bldg.	32,916	complete vocational agriculture facilities
Shawsville Elementary	104,900	5 classrooms
Total Expenditures	$2,441,296	

[a]Interview with H. S. Abernathy, Assistant Superintendent of Schools, Montgomery County, July 20, 1955.

To serve colored students, the Christiansburg Industrial Institute, just north of the Christiansburg corporate limits, is a well equipped industrial high school for Negroes. This school was established and operated by the Friends Freedman's Association of Philadelphia until 1933 when it was transferred to the Montgomery County public school system.

In connection with the growth of the county public school system within recent years, Table XVII below presents the actual change in school buildings, teaching staff, and students enrolled in county schools.

TABLE XVII

MONTGOMERY COUNTY SCHOOL STATISTICS, 1940-1954[a]

	1940		1945		1950		1954	
	W	N	W	N	W	N	W	N
Total schools								
high schools	4	1	4	1	4	1	4	1
elementary	40	6	33	6	30	5	23	4
Total number of teachers								
high school	40	8	42	13	64	12	69	14
elementary	100	9	93	8	113	7	122	7
Total enrollment								
high schools	1000	220	963	230	1244	111	1438	109
elementary	3628	278	3646	212	4193	241	4641	258

[a]Interview with H. S. Abernathy, Assistant Superintendent of Schools, Montgomery County, July 20, 1955.

The combined requirements for more and larger schools, more busses, and additional teachers has placed a great financial load on county residents as well as state and Federal agencies who assist in school financing. Some idea of the tremendous cost of operating the public schools may be had from the county school fund statement on the following page.

Recreational Facilities - Montgomery County's beautiful mountains and valleys constitute one of it's finest assests and provide wonderful recreational resources. Several thousand acres of the Jefferson National Forest is located in the extreme northern portion of the county, and provides rugged forest terrain for those persons who desire to hunt, camp, or picnic. Other forest areas are located in many parts of the county and are accessible for the recreation mentioned above.

For persons who like to fish, several streams and lakes are available in the immediate area. Beautiful Mountain Lake, located just north of Blacksburg in the edge of Giles County, contains bass, perch, and trout. This is a vacation resort and attracts people from all parts of the country. Swimming, hiking, and horseback riding are featured here. Claytor Lake with a shoreline of over one hundred miles, is situated on the western banks of New River, the northwestern boundary of Montgomery County. A state park has been established here complete with a beach, picnic grounds, boating facilities, bath houses, and cabins. Fishing in this large lake is excellent. Hundreds of privately owned boats are kept on the lake and water skiing is becoming a popular attraction.

COUNTY SCHOOL FUND

Balance July 1, 1953		$ 83,353.20
RECEIPTS:		
Current taxes	$283,693.28	
Delinquent taxes	6,855.50	
Sale of equipment	964.52	
Sale of supplies	218.14	
Gifts from foundations and boards	650.00	
Donations for school libraries	434.75	
Fire insurance adjustments	1,115.28	
Veterans' tuition	1,590.00	
Other tuition	1,552.00	
Refund of state gasoline tax	3,415.32	
Other refunds	761.17	
Rent	30.00	
State supplements	436,255.54	
From Federal funds:		
School lunch grants	9,421.82	
Veterans' training grants	3,994.87	
School operating funds	70,540.25	
Forest reserve funds	355.90	$821,848.34
Receipts and balance		$905,201.54
DISBURSEMENTS:		
Administration	$ 16,016.81	
Instruction	516,656.46	
Other instructional costs	18,998.45	
Co-ordinate activities	117.60	
Transportation	69,112.80	
Replacement of buses	12,612.00	
Other auxiliary agencies	9,634.35	
Operation of school plants	56,795.25	
Maintenance of school plants	37,950.14	
Fixed charges	7,222.10	
Capital outlay	10,713.01	
Veterans training	5,239.87	
Tax refunds	11.31	
Appropriation to Christiansburg Institute	23,000.00	
Transfer:		
School building construction fund	3,750.00	$787,830.15
Balance June 30, 1954		$117,371.39[1]

[1] County of Montgomery, Virginia, Financial Report For Year Ended June 30, 1954, (Christiansburg, Virginia, June 30, 1954), p. 5.

Little River, another of the boundary lines for the county, provides excellent bass, perch, and catfish fishing.

Montgomery County has approximately 131,600 acres of commercial forest exclusive of public reserved and other noncommercial forest land. In addition, there is more than 47,000 acres of woodland on farms in the county. These extensive woodlands provide good hunting for fox, opossum, rabbits, squirrel, and pheasant. The Issac Walton Club of Christiansburg is a private club that sponsors limited game stocking within the county.

In 1954 residents of Blacksburg, Christiansburg, and Radford formed the Tri-City Golf and Country Club to be located just west of Christiansburg. This club has constructed a nine hole golf course and has plans for a new club house and swimming pool. Additional golf facilities are located in Blacksburg. The Cohee Country Club has a nine hole course, and V. P. I. is in the process of building an eighteen hole course for college students and faculty. Golf practice ranges are located east of Christiansburg on U. S. Route 11, and west of Radford on the Bel Spring road.

Blacksburg and Christiansburg each have a conventional theatre, and three drive-in theatres are located on the major county highways. The City of Radford has an excellent conventional theatre, and an additional drive-in theatre is located just west of the city in the edge of Pulaski County.

Swimming facilities are available at three locations in and near the county. The V. P. I. pool in Blacksburg is open to certain residents of that community and to most of the children who live in the community. Christiansburg has a public swimming pool located just west of the town on U. S. Route 11. The Claytor Lake Park is within thirty minutes driving time from any part of the county. This latter facility offers an excellent man-made beach.

For those who prefer legitimate theatre, Radford College and V. P. I. have theatre groups who stage a number of productions each year.

In addition to the various forms of recreation mentioned above, the churches, civic groups, school organizations, and other agencies of the county continually produce or sponsor activities designed for recreation.

Churches - Montgomery County residents enjoy the facilities of approximately sixty churches. Of this total thirteen are in Blacksburg, twelve are in Christiansburg, and three are in Cambria. Two of the Blacksburg churches are colored and one colored church is located in the Christiansburg-Cambria community. County residents living in the area near Radford have the facilities of twenty-eight churches in that city. Radford has the nearest Roman Catholic Church, and the nearest Jewish synagogue is in Roanoke. The Protestant faiths predominant in this area with the Methodist, Baptist, and Presbyterian churches comprising the largest percentage of the total church members.

CHAPTER IV

ALLEGHANY MAGISTERIAL DISTRICT

General Information

The Alleghany Magisterial District is located in the southeastern portion of Montgomery County. With the exception of the western tip of Roanoke Valley which extends into the center of the district, most of the district is rough and mountainous. The district contains portions of both the north and south forks of Roanoke River. The largest single section of desirable farmland lies in the Roanoke Valley area which extends to the foot of Christiansburg mountain. U. S. Route 11 enters the district from Roanoke County on the eastern boundary of the district and runs through the approximate center of the district to the top of Christiansburg mountain where it enters the Christiansburg district. Excellent industrial sites lie along this highway for most of it's course through the district. However, this land is also good farmland and at present is used for that purpose. Both the Norfolk and Western and the Virginian railroads run through this district, but there are no major freight or passenger stops within the district.

The Alleghany District does not contain any incorporated towns. However, it does contain the villages of Shawsville, Ironto, Layafette, and Elliston. Shawsville is the largest of these communities.

This community has one bank, a post office, a new motel, one of the county high schools and grade school, and several stores and service stations. Approximately fifty homes are located in Shawsville. The three remaining communities are much smaller, containing only two or three stores and less than two dozen homes each.

Both Shawsville and Elliston have been by-passed in recent years by U. S. Route 11. Formerly this highway ran through the center of both villages. In order to widen and improve the highway, the state recently re-routed highway 11 to pass several hundred yards south of the center of these communities. The Bank of Shawsville has erected a new building facing the present route of the highway. A new motel and service station have also been erected on this highway and in the community of Shawsville.

Most of the residents of this district derive their incomes from two different sources. Those people who own suitable land are occupied in farming. The great percentage of the remaining labor force is employed by firms located in Montgomery and Roanoke counties. People living in the eastern part of the district are employed in Salem and Roanoke. A substantial number of residents living in the western portion of the district work in the Christiansburg area.

The Shawsville High School and Grade School serve the school population of the district. The high school recently had a new agricultural unit added to it's existing facilities.

A new grade school has also been constructed to increase the facilities for younger children. Recreational facilities include a gymnasium in the high school, baseball and softball diamonds, and playground areas. The Alleghany District School Debt Fund for the year ending 1954 was as follows:

Balance July 1, 1953	$ 2,539.17
Receipts	15,285.84
Receipts and Balance	17,825.01
Disbursements	9,145.42
Balance June 30, 1954	8,679.59[1]

The increased balance for the year ending 1954 was the result of the new agricultural unit and grade school which was built in the district in 1954.

The 1953 tax rates imposed on residents of the district were as follows:

Alleghany District:	General Fund	School Fund	School Debt Fund	Total
	$ .40	$1.95	$ .70	$3.05[2]

The 1953 assessed value of real estate, tangible personal property, merchants capital, machinery and tools, and public service corporations for the Alleghany District was $2,243,557.00.[3]

Industrial and Commercial Development

Industrial and commercial development in the Alleghany District since 1930 has been negligible.

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[1] County of Montgomery, Virginia, Financial Report for the Year Ended June 30, 1954, (Christiansburg, Virginia, 1954), p. 2.

[2] Ibid., p. 15. [3] Ibid., p. 16.

With the exception of limited acreage in the Roanoke Valley area of the district, very few sites are suitable for development. Most of the land in this vally area is used for farming and the owners are not inclined to sell it for industrial purposes.

L and T Provision Company - This meat processing firm located in the eastern part of the district in 1946. The plant is situated on U. S. Route 11 approximately two miles west of the Roanoke County line. The firm buys and slaughters beef and hogs in volume and processes this meat into packaged products. The company buys most of it's animals from livestock markets in southwest Virginia and sells to retail outlets in the same general region. Eight trucks make weekly trips to areas bordering the West Virginia, Kentucky, and North Carolina state lines.

The firm began operations in 1946 with five employees and in 1954 employed seventy-seven persons. That year the company processed approximately 3,500,000 pounds of beef and pork products.[1]

Since the population of Southwestern Virginia is constantly increasing, this manufacturer of meat products may expect an expanding market for it's products.

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[1]Interview with E. A. Thurman, partner, L and T Provision Company, Elliston, Virginia, July 29, 1955.

CHAPTER V

AUBURN MAGISTERIAL DISTRICT

General Information

The Auburn Magisterial District comprises the southwestern portion of Montgomery County. It's entire outer border, which is also the county line, is separated from adjoining counties by Little River with the exception of a small portion of the southern boundary. Except for a portion of Pilot Mountain which extends into the eastern part of the district, this entire district is well suited to farming. Most of the land is gently rolling and the greater part of it is cleared of timber and is actively farmed. Dairy farming in the Auburn District has expanded more rapidly in recent years than in any other part of the county. Most of the larger land owners own their property outright as most of them are descendents of farm families who settled in the district a good many years ago.

There are no incorporated towns in the Auburn District. However, there are two small villages: Graysontown, located in the extreme western end of the district on Little River, and Riner, located on State Route 8 approximately seven miles south of Christiansburg. Graysontown contains only two stores, one church, and approximately two dozen homes. At one time it contained a prosperous feed mill, but this mill burned in the early 1940's.

Riner contains one of the four county high schools, a post office, milk plant, feed mill, one church, three stores, and approximately fifty homes. Through the united effort of it's citizens, this community recently completed a community cannery which operates for several weeks each summer. The Auburn High School is an excellent school which was constructed in 1938. It is a two story brick building which houses all high school facilities on the second floor and a grade school on the first floor. In 1954 the county completed construction of a new wing to the building which increased it's student capacity by a bout twenty-five per cent. The school has an agricultural shop which is completely equipped, and recently added home economics facilities for training high school girls. Recreation facilities include a baseball diamond, tennis courts, softball diamond, and a completely equipped gymnasium. Both the grade school and the high school serve all children who live in the Auburn district.

Farming is the basic occupation in this district. As previously mentioned, most of the terrain in this district is relatively level and conducive to cultivation. Because of this and the fact that the land has been farmed for many years, most of the land is cleared and actively productive. Because of the trend, in recent years, toward increased livestock raising, most of the acreage is currently in pasture land or hay crops. Prior to 1940 a great percentage of the farmers raised a variety of grain crops and animals, and consequently plowed a good portion of the land each year. In many cases land was plowed that was so steep that heavy rains carried away much of the good topsoil.

However, the trend toward increased dairy and beef activities being what it is, these farmers currently maintain most of their land in grazing pasture and plow their remaining acreage only for the planting of hay crops such as alfalfa, red clover, and corn for winter silage. Limited acreage is planted in wheat, oats, and barley to mix with commercial feeds for cattle feeding. These trends toward livestock raising and dairy operations are illustrated by figures presented in Table XIII.

The population of this district in 1950 was 3,955. As Table I indicates, the population increase in this district has undergone only a gradual increase in population during the past twenty-five years. This is due to the fact that it has remained primarily an agricultural area whereas the Christiansburg and Blacksburg districts have enjoyed a substantial increase in industrial and commercial activity. The population increase in the Auburn district has been primarily the result of normal population growth.

The Auburn District School Debt Fund for the year ending 1954 was as follows:

Balance July 1, 1953	$ 2,464.02
Receipts	16,546.72
Receipts and Balance	19,010.64
Disbursements	9,844.92
Balance June 30, 1954	9,165.72[1]

[1] County of Montgomery, Virginia, Financial Report For the Year Ending June 30, 1954, (Christiansburg, Virginia, June 30, 1954), p. 2.

The increase in the balance for the year ending 1954 was due to the addition made to the Auburn High School in that year. The 1953 tax rate imposed on residents of this district were as follows:

Auburn District:	General Fund	School Fund	School Debt Fund	Total
	$ .40	$1.95	$ .80	$3.15[1]

The 1953 assessed value of real estate, tangible personal property, merchants capital, machinery and tools, and public service corporations for the Auburn District was $2,155,316.00.[2]

Industrial and Commercial Development

The industrial and commercial development in this district since 1930 has been negligible. The district has always had an agricultural economy and this situation prevailed in 1954. The entire district contains less than two dozen small country stores, and these contribute relatively little to a commercial economy. One commercial feed mill located in Riner serves that small community. The only two plants which can be classified as industrial firms are the Carnation Milk Plant located in Riner and the Radford Limestone Company located near Radford.

Carnation Milk Company - This milk receiving plant located in Riner in 1939.

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[1] Ibid., p. 15. [2] Ibid., p. 16.

It is one of a nation-wide chain of plants owned by the Carnation Milk Company of Los Angeles, California.

The Riner plant was erected for and serves as a receiving plant for milk produced primarily in Montgomery, Giles, and Floyd counties. Milk is hauled daily to this plant where it is processed and transferred to large tank trailer trucks that transport the milk to another Carnation plant in Galax, Virginia. In this latter plant the milk is manufactured into evaporated milk. Milk from the Galax plant is distributed to retail stores located primarily in states adjoining Virginia.

This Riner plant began operations in 1939 with less than ten people and in 1954 employed thirteen persons. Total annual volume of milk processed through the plant has increased over 100 per cent since it first began operations. In 1939 one tank truck hauled milk daily to the Galax plant. In 1954 three such trucks were operated for this purpose.

For the year ending 1954, this firm contributed approximately $50,000.00 to the local economy through wages and salaries.[1]

Radford Limestone Company - This Montgomery County plant is a subsidiary of the Appalachian Electric Power Company. The plant first began operations in the county in 1923 under private ownership and was purchased by the parent firm in 1929.

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[1]Interview with J. W. Bowman, Plant Manager, Carnation Milk Company, Riner, Virginia, July 30, 1955.

This large plant produces crushed stone of various sizes from limestone rock quarried at the plant site. Considerable amounts of sand are also produced. Both the stone and sand are used for concrete in building construction and for highway construction. Local plants purchase large amounts of stone and sand for ready-mixed concrete. The primary market for these stone products are the counties of Montgomery, Pulaski, Floyd, and Patrick. Limited quantities are shipped to parts of other counties in this general region, but the great weight of this material makes shipment to distant points prohibitive.

In 1930 the plant had an annual production of approximately 150,000 tons of crushed stone and sand. Through the use of more and better machinery and increased technical knowledge, the plant produced about 400,000 tons of stone and sand in 1954. Partially responsible for this increased production was the installation, in 1937, of improved machinery which was capable of producing forty tons of stone and sand per hour. As of 1954 this machinery could produce about 250 tons of stone-sand per hour. The top yearly production occured during World War II when a tremendous amount of stone and aand was needed for the construction of the Radford Arsenal. At one time nearly 500,000 tons was produced annually. In spite of the thirty-two years of continuous operation, plant engineers estimate that there is an additional thirty year supply of stone in the present location.

In 1954 the plant employed approximately forty people. With increased commercial and industrial building and the increasing highway construction in this part of the state, there is every indication that this plant will continue to operate and contribute to the county economy for a number of years to come.[1]

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[1]Interview with W. B. Bobbitt, General Manager, Radford Limestone Company, Incorporated, Radford, Virginia, July 25, 1955.

CHAPTER VI

BLACKSBURG MAGISTERIAL DISTRICT

General Information

In area this is the largest magisterial district in Montgomery County. The Blacksburg District encompasses the northern portion of the county, and it's confines extend from the eastern to the western boundries of the county. A great part of this district contains the Jefferson National Forest, (59,600 acres). Industrial and commercial activity have been confined to two general areas within the district: The Blacksburg town area and the Radford Arsenal located in the extreme western end of the district and county. A detailed description of the development in these two areas is presented later in this chapter.

Town of Blacksburg

Blacksburg is a college town. The growth, commercial activity, and economy of the town have always been closely intertwined with the development of the Virginia Polytechnic Institute, located in the town. The population growth of the town has largely been the result of an ever increasing number of wage and salaried employees coming to the community to work for V. P. I. The commercial development within the town has been geared to accommodate the needs of college employees.

Since 1940 the Radford Arsenal has influenced the community development to some extent. In addition, two small manufacturing firms have located in and near the town since 1950, and have contributed to the development and economy of the town.

Government - Blacksburg employes the mayor-council form of government. The mayor presides over a council of six persons. Elections are arranged so that each two years two new councilmen are elected for a term of four years; the term for all council members being four years. This system permits four senior members on the town council at all times. The council appoints a town clerk whose duties include attendance at all council meetings and the keeping of minutes for these meetings. A town treasurer, appointed by the council, holds office during the pleasure of the council. He is the disbursing agent of the town and has the custody of all money and all evidence of value belonging or held in trust by the municipal corporation. The town sergeant is appointed by the council. He is responsible for preserving the peace and order within the corporate limits and to a distance of one mile beyond the limits of the town. The sergeant is the chief of police for the corporation. In 1952 the town council elected a town manager who also serves as town engineer and building inspector. He is vested with the administrative powers of the town and holds office during the pleasure of the council.

Taxes - The corporation imposes a tax rate of one dollar per $100 of assessed valuation on real estate not exempted.

A capitation tax of $0.50 is imposed each year on every citizen of the town who has attained the age of twenty-one years and who is not exempt from taxation by law. A tax of $0.80 per year is imposed on each $100 of the actual value of all bank stock both state and national. A merchants license tax is collected by the town as follows: $25.00 for the privilege of conducting the business of a commission merchant or forwarding merchant in the town; for wholesale and retail merchants, the sum of $10.00 per year is charged where the total amount of sales is $1,000 or less; where sales are more than $1,000 and not more than $2,000 this tax is $0.15 on each $100 in excess of $1,000. In addition to the above mentioned tax, the town imposes a special license tax on the following broad classifications of business and professions: advertising agencies and agents, amusements, manufacturing and processing, professions, service and trades, and transportation.

Bonded Indebtedness - The outstanding financial obligation of the town, in the recent past, has been a bond issue which provided money for a sewege disposal plant financed jointly by Blacksburg and V. P. I. Following an annual payment on this bond debt in September 1955, the town of Blacksburg will have a total remaining indebtedness of $5,000.00.

Fire Protection - Fire protection for the town has been greatly improved since 1930. At that time the corporation owned one 1 ton truck equipped with a 550 gallon per minute capacity pump and two and one-half and one and one-half inch hose.

In 1941 the town purchased a one and one-half ton truck equipped with a 500 gallon per minute capacity pump, 600 feet of two and one-half inch hose, and 1200 feet of one and one-half inch hose. This same year Montgomery County purchased two one and one-half ton fire trucks for use within the county. One of these trucks is housed in Christiansburg and the other is housed in Blacksburg. Each county truck has a 500 gallon per minute capacity pump, 900 feet of two and one-half inch hose, and 700 feet of one and one-half inch hose. In addition, these county trucks each have a 500 gallon reserve tank of water for emergency use. Thus, the town of Blacksburg has the use of two trucks capable of pumping 1,000 gallons of water per minute. A third fire truck owned by the college is also used by the town when it is needed. This truck has a 500 gallon per minute capacity pump and 1200 feet of two and one-half inch hose. In exchange for use of the county truck within the Blacksburg corporate limits, the town fire department houses this truck and responds to all county fires in the Blacksburg area, using the county fire equipment for these calls. The town had a total of forty-five fire hydrants in 1954, and these hydrants provided water for all parts of the town. A volunteer fire department answers all calls coming from area residents. This organization is known as the Blacksburg Fire Company.[1]

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[1]Interview with Atlee Frazier, Assistant Fire Chief, Blacksburg Fire Company, Blacksburg, Virginia, July 26, 1955.

Sewege Disposal - A sewege disposal plant that takes care of the sewege of both the college and the town was completed in 1915 at a cost of $9,000.00. Half of the cost of this plant was borne by V. P. I. and half by the town of Blacksburg. A septic tank was completed in 1914 and replaced by a larger one in 1924. The new plant, built jointly by the college and the town, was completed in 1927, at a cost of approximately $92,000.00. This plant reached the end of it's useful life by 1948, and that year a new one was constructed by the college at a cost of $350,000 ($250,000 for the sewege plant and $100,000 for the pumping station and pipe line). The old plant, owned jointly by the college and the town, was completely dismantled. The town currently has a contract with V. P. I. wherein the town sewege is treated by the college plant at an annual cost to the town of approximately $3,430.00. This contract is to be re-negotiated in 1955.[1] Rates for persons using this sewege system are presented in Table XVIII.

Water Supply - Prior to 1932, the town of Blacksburg purchased water from V. P. I. and resold it to town residents. Because of increased water demands by both the college and the town, this water supply became inadequate. As the town grew it was decided by the local town council to secure a supply of water independent of the college.

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[1]Interview with Mrs. R. P. Brown, town clerk, Town of Blacksburg, Virginia, July 26, 1955.

TABLE XVIII

SEWEGE RATES FOR THE TOWN OF BLACKSBURG, 1954[a]

Minimums	With sewer		No sewer	
gallons used	soft	hard	soft	hard
1,670 or 1 month	$2.00	$1.80	$1.20	$1.00
3,340 or 2 months	$4.00	$3.60	$2.40	$2.00
5,000 or 3 months	$6.00	$5.50	$3.50	$3.00

[a]Interview with Mrs. R. P. Brown, town clerk, Town of Blacksburg, Virginia, July 26, 1955.

Therefore, in 1931, the town purchased a spring on the Elliott road, south of the town. This spring had a daily water flow of 50,000 gallons. A pumping station was installed, and, at the same time, a reservoir was built above the town which held 300,000 gallons of water. A six inch line was built from the spring to this reservoir, and eight inch lines were installed which ran from the reservoir to the center of the town. In 1934 a second spring was purchased near the first and lines were installed to carry water from the second into the first spring. Increased water demands compelled the town, in 1941, to purchase a third spring which fed water into the first and second springs previously purchased. In 1948 another reservoir was constructed with a capacity of 1,300,000 gallons.

In 1954 the town of Blacksburg was using the resources of the three above mentioned springs which supplied water to the two reservoirs with a total storage capacity of 1,500,000 gallons.

Daily water consumption was approximately 300,000 gallons in 1954. The water is of a hard variety, (Zeolite type), and a water softener is used at the first spring. The water is treated with chlorine before being distributed to the community. Pipes of eight, six, four, and two inches in diameter are used by the town for the distribution system.[1] Basic rates for water consumers living both inside and outside the corporate limits in 1954 were as follows:

Inside corporate limits:	with sewer-first 5000 gallons	$6.00	monthly
	with garbage service	1.20	monthly
	total	$7.20	monthly
	no sewer-first 5000 gallons	$3.50	monthly
	with garbage service	1.20	monthly
	total	$4.70	monthly
Outside corporate limits:	with sewer-first 5000 gallons	$10.50	monthly
	with garbage service	2.25	monthly
	total	$12.75	monthly
	no sewer-first 5000 gallons	$6.10	monthly
	with garbage service	2.25	monthly
	total	$8.35	monthly

In 1945 the town council employed the engineering firm of R. Stuart Royer and Associates to make an exhaustive study of the water problem of the town. From this study it was recommended that the north fork of Roanoke River be used for future water needs. However, Blacksburg did not take action on this recommendation. The creation of a water authority in 1954, by Blacksburg and V. P. I., assured future water supplies from another source.

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[1]Interview with H. W. Simmons, Superintendent of Streets and Sewege, Town of Blacksburg, Virginia, July 27, 1955.

This water authority is discussed in detail later in this work.

Police Protection - In 1930 the town of Blacksubrg had one policeman. In 1954 the town employed four officers. The town sergeant is appointed by the council, and he, in turn, selects his assistants subject to the final approval of the town council. These officers are under bond as required by the town charter.

Virginia Polytechnic Institute

This institution is a co-educational, land-grant college that offers training in the fields of engineering, agriculture, applied sciences, and business administration.

The college had it's inception in 1872 as a result of action taken by the Virginia General Assembly of that year. Ten years prior to that date Congress passed the Morrill Land-Grant College Act giving the states land in the West, the proceeds to be used for the establishment of agricultural and mechanical colleges. In 1864 Virginia met the requirements and accepted the provisions of the act. Thus, in 1872, the Virginia General Assembly decided it was time to act and sold the 300,000 acres of land which had been granted to the state. Two-thirds of the proceeds were made available for the establishment of a college at Blacksburg. The Preston and Olin Institute was offered by the county, Colonel Robert Preston sold his farm "Solitude" (which now forms a part of the college grounds), and the Virginia Agricultural and Mechanical College was opened October 1, 1872.

Later, the Virginia General Assembly of 1895-96 passed an act allowing the Virginia Agricultural and Mechanical College to be known as "The Virginia Agricultural and Mechanical College and Polytechnic Institute". From this act came the Virginia Polytechnic Institute of today.

When the college first opened it's doors in 1872, 132 students enrolled for undergraduate work. There were no research or extension programs and no instructional program on the graduate level. Since that time V. P. I. has grown rapidly and continuously to a peak enrollment of 5,689 students during the 1948-49 session when the large number of veterans returned from World War II. It was possible to take care of this peak enrollment by providing accommodations for approximately 1,500 students at the nearby Radford Arsenal facilities and in temporary facilities on the campus, both of which are no longer available. The growth of the college in recent years, as reflected in student enrollment, is presented in Table XIX.

To provide adequate facilities for this increasing enrollment, the college has had to expand it's physical plant many times in recent years. Some idea of the expansion experienced by the college since 1930 may be had from the following information contained in Table XX. This table shows new buildings and additions to existing buildings which have been constructed since that date.

TABLE XIX

STUDENT ENROLLMENT AT VIRGINIA POLYTECHNIC INSTITUTE, 1930-1954[a]

Year	Number	Year	Number
1929-30	1495	1942-43	3382
1930-31	1659	1943-44	1559
1931-32	1810	1944-45	982
1932-33	1817	1945-46	738
1933-34	1561	1946-47	2331
1934-35	1694	1947-48	4971
1935-36	1836	1948-49	5458
1936-37	2115	1949-50	5689
1937-38	2376	1950-51	4857
1938-39	2780	1951-52	3801
1939-40	3119	1952-53	3091
1940-41	3242	1953-54	3347
1941-42	3382		

[a]Antonio L. Ruiz, "A Study to Evaluate Some Factors That Have Influenced the Growth of Blacksburg, Virginia", (Unpublished Master's Thesis, Department of Business Administration, Virginia Polytechnic Institute, 1952), p. 43.

In addition to the construction mentioned in Table XX, the college has built a great number of smaller units such as sidewalks, steam lines for the new power plant, and other units which required considerable effort and money. To provide land on which the school could grow, V. P. I. has purchased some 2,700 acres of additional land since 1930. The alumni association recently sponsored the construction of a beautiful war memorial which is located on the eastern end of the drill field. Having undergone this rapid expansion the college is now looking ahead to future growth. Detailed comments on plans to keep pace with increased enrollment are presented later in this chapter

TABLE XX

V. P. I. CONSTRUCTION FROM 1930 TO 1955[a]

Facility	Year built
Dairy husbandry building	1931
Addition to and renovation of Commerce Hall	1931-33
Addition to gymnasium	1933
Addition to Davidson Hall	1933
Faculty Center	1935
Burruss Hall	1936
Utilities building	1936
Military laboratory	1936
Squires Hall	1937
Eggleston Hall (dormitories 10, 11, 12)	1935-37
Agricultural building (Engineering)	1937
Smyth Hall	1938
New Agricultural building	1938
East wing of Campbell Hall	1938
Chemical engineering addition to Davidson Hall	1938
Holden Hall	1938
Agnew Hall	1939
Hillcrest (girls dormitory)	1940
Home economics addition	1940
V. P. I. airport	1940
Five temporary frame buildings for increased enrollment	1947
Addition to the college powerhouse	1948
Incinerator	1949
New sewage disposal plant	1949
Femoyer, Monteith, and Thomas Hall (men's dormitories)	1949
Three new wings to Smyth Hall	1949
Greenhouses	1950
Dairy barn	1950
Infirmary	1951
Williams Hall	1952
Randolph Hall	1952
Meat animal poultry processing plant	1952
Disease laboratory	1954
Library	1955

[a]Interview with S. K. Cassell, Business Manager, Virginia Polytechnic Institute, Blacksburg, Virginia, July 27, 1955.

The enrollment for the 1954-55 session was about 3700 students, of which approximately 200 were graduate students. Of the total enrollment, 54 per cent were enrolled in the School of Engineering, 26 per cent in the School of Applied Science and Business Administration, and 20 per cent in the School of Agriculture. The student enrollment for that session, as has been the case over the years, consisted of approximately 85 per cent Virginia residents.

The Virginia Polytechnic Institute places greatest instructional emphasis on four general fields of education and these are engineering, science, business, and agriculture, including home economics. Within these areas there are presently three very essential functions at V. P. I., namely: (a) resident instruction, (b) research, and (c) extension. These functions are being carried out through the four divisions of V. P. I. which are (a) the College, (b) the Engineering Experiment Station, (c) the Agricultural Experiment Station, and (d) the Agricultural Extension Service. Through work done in these divisions the college offers the B. S. Degree in thirty-six different fields, the M. S. Degree in thirty-five fields, and the Ph. D. Degree in nine fields. Table XXI presents a listing of the departments offering degrees and the type degree offered.

Of major importance to the town of Blacksburg is the contribution made by the college to the local economy. As has been previously mentioned, V. P. I. is the foundation for the economy of the town.

TABLE XXI

DEPARTMENTS OF INSTRUCTION WITH DEGREES OFFERED AT V. P. I.[a]

	B. S.	M. S.	Ph.D.
AGRICULTURE:			
Agricultural Economics	X	X	X
Agricultural Education	X	X	
Agronomy	X	X	
Animal Husbandry	X	X	
Dairy Husbandry	X	X	
Forestry and Wildlife	X	X	X
General Agriculture	X		
Home Economics	X	X	
Home Economics Education		X	
Horticulture	X	X	
Poultry Husbandry	X	X	
Rural Sociology	X	X	
APPLIED SCIENCE AND BUSINESS ADMINISTRATION:			
Biology	X	X	X
Business Administration	X	X	
Business Education	X	X	
Chemistry	X	X	X
General Science	X		
Industrial Arts Education	X		
Mathmatics	X		
Physics	X	X	
Statistics		X	X
Vocational Education For Joint Co.	X		
ENGINEERING AND ARCHITECTURE:			
Aeronautical Engineering	X	X	
Agricultural Engineering	X	X	
Architecture	X	X	
Architectural Engineering	X	X	
Applied Mechanics		X	X
Building Construction	X		
Ceramic Engineering	X	X	
Chemical Engineering	X	X	X
Civil Engineering	X	X	
Electrical Engineering	X	X	
Geology	X	X	X
Geological Engineering	X	X	
Industrial Engineering	X	X	
Mechanical Engineering	X	X	
Metallurgical Engineering	X	X	
Mining Engineering	X	X	
Naval Architecture and Marine Engineering	X	X	
Power and Fuel Engineering		X	
Sanitary Engineering		X	X

[a]Report to The Commission on State Capital Outlays and Means of Financing, Virginia Polytechnic Institute, (Blacksburg, Virginia, March, 1955), p. 4.

In years past the town has grown and prospered not with the college but as a result of the college and it's growth. Thus, any major expansion by the school is felt almost immediately in the commercial and private activity within the town. The most important aspect of this economic relationship between the college and the town is the stablizing effect which the college has imposed on the local economy down through the years. Institutions of higher learning are not usually subject to sudden termination of activities, great fluctuations of operations, or drastic changes in personnel requirements. V. P. I. is no exception to this generalization. The school was established in Blacksburg in 1872 with the intention that is would be a mermanent and enduring part of the state system of higher learning. The school has grown and has expanded it's facilities, down through the years, with this idea of permanence. Consequently, the people who have come to the college to work, those who have built business establishments, and the professional people who have established themselves in the community have all done so without fear that the basic revenue from the college would be terminated. This situation has produced a stable and reassuring economy for the entire community even though this economy is hinged almost completely on the college. The all important contribution which the college makes to the economy of the town is best presented in figures and this has been done in Table XXII. A summary of all divisions of the school is presented in this table. These figures cover a twenty-five year period from 1930 through 1954.

TABLE XXII

REPORT OF EXPENDITURES BY PERSONAL SERVICES AND OPERATIONS FOR ALL DIVISIONS OF THE VIRGINIA POLYTECHNIC INSTITUTE[a]

Summary All Divisions			
Year	Personal Services	Operation	Total
1929-30	$1,299,961.40	$ 855,412.00	$2,155,373.40
1934-35	1,013,522.35	608,334.88	1,621,857.23
1939-40	1,740,572.66	1,022,623.65	2,763,196.31
1944-45	1,937,662.56	1,017,942.83	2,955,605.39
1949-50	4,561,222.35	2,384,320.01	6,945,542.36
1953-54	5,755,894.38	2,871,283.70	8,627,178.08
Total	$16,308,835.70	$8,759,917.07	$25,068,752.77

[a]Interview with S. K. Cassell, Business Manager, Virginia Polytechnic Institute, Blacksburg, Virginia, July 27, 1955.

The column titled "Personal Services" reflects the approximate amount of money spent in wages and salaries. It is notable that the personal services column indicates an increase in wages and salaries of approximately 400 per cent during the past nine years. During the 1953-54 session alone, the college paid out approximately $5,755,000.00 in wages and salaries. While part of this figure represents money paid to salaried employees in other parts of the state, most of this amount went directly to employees who live and work in Blacksburg. It is estimated that approximately two-thirds of the total annual disbursements goes into wages and salaries.[1]

[1]Interview with S. K. Cassell, Business Manager, Virginia Polytechnic Institute, Blacksburg, Virginia, July 27, 1955.

Thus, it is easily seen that the financial as well as the cultural contribution by the Virginia Polytechnic Institute to the Blacksburg community is tremendous.

What does the future hold for the Virginia Polytechnic Institute? According to officials of the college, future development will be as great or greater than that of the past. For example Dr. Paul H. Farrier, Director of Admissions, recently predicted an enrollment, by 1967, of approximately 7772 students. This estimate is based on a number of statistics presented in Table XXIII. Of course there are factors which could adversely affect this estimate. A major depression, world war, paralyzing inflation, or some unexpected shift in popularity causing students to choose other schools, any of these factors could drastically altar Dr. Farrier's estimate.

In Table XXIII, column (2) is an estimate of the white seventeen year old people in the state of Virginia. Column (3) is an estimate of white males who are expected to finish high school. Column (4) shows the number of high school graduates who should be able to continue their studies in an institution of higher learning. Column (5) shows the number of freshmen expected to enroll at V. P. I. and column (6) presents an estimate of enrollment up through 1967.

With an estimated enrollment in 1967 of more than double the number of students actually enrolled in 1954, V. P. I. will naturally have to expand it's facilities tremendously.

TABLE XXIII

STATISTICS INDICATING FUTURE ENROLLMENT AT VIRGINIA POLYTECHNIC INSTITUTE[a]

1	2	3	4	5	6
Year	White-17 years old	White males H.S. grads	H. S. grads. entering college	V. P. I. freshmen	V. P. I. total
1955	36,982	7,914	2,263	1,290	3,583
1956	38,960	8,522	2,440	1,391	3,664
1957	42,254	9,464	2,707	1,543	4,286
1958	48,394	11,082	3,169	1,806	5,017
1959	51,217	11,985	3,428	1,954	5,428
1960	49,083	11,731	3,355	1,912	5,311
1961	47,488	11,587	3,314	1,889	5,247
1962	55,425	13,801	3,947	2,278	6,328
1963	62,506	15,877	4,541	2,588	7,189
1964	58,498	15,151	4,333	2,470	6,861
1965	59,147	15,615	4,466	2,546	7,072
1966	58,670	15,782	4,513	2,572	7,422
1967	62,662	17,169	4,910	2,798	7,772

[a]Interview with Dr. Paul H. Farrier, Director of Admissions, Virginia Polytechnic Institute, Blacksburg, Virginia, July 27, 1955.

The plan of development for the present physical plant was based on providing for an enrollment of approximately 3,000 students and limited facilities for research and extension activities.[1] Except for a few additions in recent years, this is the capacity of present facilities. Thus, future expansion is mandatory

[1]Report to the Commission on State Capital Outlays and Means of Financing, Virginia Polytechnic Institute, (Blacksburg, Virginia, March, 1955), p. 4.

The alternative is to deny admission to a very large number of qualified Virginia high school graduates who desire to attend college, and to fail to meet the ever increasing demands in the fields of research and extension

Therefore, a statement of capital outlay needs for the next six years has been prepared by the college. These needs cover all four divisions or agencies of Virginia Polytechnic Institute, which are the College, the Engineering Experiment Station, the Agricultural Experiment Station, and the Agricultural Extension Division. The needs are based on providing only those facilities which are believed essential for successfully carrying out the Insitution's program within present areas of operation. No projects are included to provide facilities for developing or emphasizing programs in areas in which the Institution is not presently engaged.[1] The estimate of funds needed for each construction project is based on a very economical type of construction. A summary of these projects is as follows:

SUMMARY OF PROJECT REQUESTS BY ACTIVITIES

Instruction and Research:	To be appropriated	To be borrowed
Business Administration Building	$ 793,000	
Engineering Laboratory and classroom building (for chemical and aeronautical engineering)	998,000	
Science Building (Physics)	770,000	

continued

[1] Ibid., p. 4.

(Project requests) - continued	To be appropriated	To be borrowed
Completion of Beef Cattle Center	35,000	
Livestock Pavilion	30,000	
Turkey Research Plant	300,000	
Housing for bio-chemical and bacteriological research with large animal	40,000	
Storage and Utility building (for Agronomy)	8,000	
Renovating Agricultural Hall	30,000	
Horticultural Buildings	50,000	
Central bio-chemical and bacteriological research laboratory	440,000	
Completion of Poultry Plant	75,000	
Purchase of farmland	100,000	
Sheep Center	40,000	
Engineering laboratory, classroom and office building (for Applied Mechanics, Civil Engineering and administrative offices)	1,200,000	
Service, storage and preparation building (for Plant Pathology and Entomology)	12,000	
Tobacco curing barn	4,000	
Dairy Barns and addition to Milk House	185,000	
Completion of Animal and Poultry Disease Research Laboratory	83,000	
Renovation of McBryde Hall	150,000	
Completion of Danville Extension Building	55,000	
Renovation of Davidson Hall	90,000	
Vocational Education Building	431,000	
Swine Center	35,000	
Alterations in Patton Hall	50,000	
Additions to Holden Hall	600,000	
Seed Processing and Storage Building (for Agronomy)	50,000	
Total for Instruction and Research	$6,654,000	None
Student Housing and Feeding:		
Student dormitory units (6 structures housing 1700 students)	$3,628,280	$1,555,120
Refregeration for food store room	50,000	
Student dining hall	528,720	132,180
Addition to Laundry	250,000	
Total for Student Housing and Feeding	$4,457,000	$1,687,300

continued

(Project requests) - continued	To be appropriated	To be borrowed
Utilities:		
Extending heat lines	$ 294,050	
Addition to heat and power plant	1,143,000	
Sanitary sewer mains	92,500	
Total for Utilities	$1,529,550	None
Recreation and Student Life:		
Field House	$2,200,000	
Constructing tennis courts	65,000	
Addition to Squires Hall	525,000	
Total for Recreation, Student Life	$2,790,000	None
Service:		
Central store room building	$ 320,000	
Building and Grounds Maintenance Units	250,000	
Farm tenant houses	50,000	
Total for Service	$ 620,000	None
Campus Development:		
Storm drainage installations	$ 150,000	
Purchase of land for campus development	150,000	
Campus development	250,000	
Total for Campus Development	$ 550,000	None
Total for Main Campus:	$16,600,550	$1,687,300
Agricultural Experiment Station Branches:		
Warsaw, Virginia		
Safe-Storage seed rooms and utility building	$ 16,000	
Deep-well with pumping and irrigation equipment	5,500	

continued

(Project requests) - continued	To be appropriated	To be borrowed
Southside Field Station, Charlotte Court House, Virginia		
Combination Tobacco barn, machinery shed and utility building	$ 8,400	
Tobacco Disease Research Station, Chatham, Virginia		
Research building for tobacco diseases	9,600	
Temperature and humidity control for greenhouses	4,000	
Bright Tobacco Research Station, Chatham, Virginia		
Research Station	18,000	
Greenhouse	9,000	
Deep well for irrigation	3,100	
Tidewater Research Station, Holland, Virginia		
Grain storage and processing facility to complete swine research building	4,800	
Farm shop and machinery shed	5,400	
Soil sterilization installation	4,000	
Refrigeration and freezing facilities	5,000	
General storage for seed, feed, and forage	7,000	
Grain and forage curing and drying facility	12,200	
Temperature and humidity control for greenhouse	4,000	
Total for Branch Stations	$ 116,000	
GRAND TOTALS:	$16,716,000	$1,687,300[1]

From these statistics it is apparent that the Virginia Polytechnic Institute anticipates a major expansion program within the immediate future. If the college is successful in accomplishing this expansion, or even a substantial percentage, then there should indeed be a prosperous future ahead for the people of the Blacksburg community.

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[1] Ibid., pp. 6-8.

Industrial and Commercial Development

Until 1940 the Blacksburg magisterial district did not have any industries worthy of mention. However, in that year the Radford Arsenal was constructed in the extreme western portion of the district and the county. This was the largest single industry to locate in Montgomery County, and it's impact on the lives of many local residents has been great.

Radford Arsenal - The Radford Arsenal is located in the counties of Montgomery and Pulaski; eight miles southwest of Blacksburg, ten miles west of Christiansburg, and seven miles northeast of Radford. The plant is composed of two units; one, a propellant manufacturing plant now operating at partial capacity and referred to as the Radford Unit; the other, a bag loading plant in caretaker status, referred to as the New River Unit. The Radford Unit receives it's water supply from New River, which runs through the grounds of the plant, and it's electricity from Claytor Dam, owned by the Appalachian Electric Power Company.

A statement of the mission of this Arsenal is given below.

Statement of Mission - Radford Arsenal

The mission of the Radford Arsenal is to perform and/or administer contracts for:

1. Operation of facilities required for the production of explosives, propellants, and related items as directed by higher authority.

(Statement of Mission - Radford Arsenal) - continued

2. Maintenance, in a stand-by status, of facilities required for the production of explosives, propellants, and related items as directed by higher authority.

3. Operation of facilities for the preservation, maintenance, and handling of OCIR equipment.

4. Operation of facilities for the preservation, maintenance, and handling of bulk propellants and explosives.

5. Receipt, storage, issue, and supply functions of assigned bulk propellants and explosives.

6. Receipt, storage, issue, and supply functions of ammunition packing and packaging components.

7. Operation of the necessary administrative, maintenance, and service facilities, including administration and supervision of a land utilization plan.[1]

In September, 1940, the Hercules Powder Company, under contract with the United States Army Ordinance Corps, began the construction of the Radford Unit of the Radford Arsenal - called the Radford Ordinance Works until October 15, 1945. This plant was designed to manufacture smokeless powder, trinitrotoluene, and pentolite. The plant comprises over 1,100 buildings scattered over an area of more than 4,000 acres lying on both sides of New River, it being necessary from the standpoint of safety to have the operations in widely separated building instead of one or several large buildings. The total cost of construction, including machinery and equipment, exceeded $85,000,000.00

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[1]Interview with T. M. Hanna, Director of Personnel and Security, Radford Arsenal, Radford, Virginia, July 26, 1955.

In March, 1941, at the peak of construction, there were 23,000 persons engaged in the building of the plant. These people came from all sections of the country. Special trains and busses brought workers from Roanoke, Bluefield, Galax, Independence, Marion, and many towns as far as eighty miles away.

The New River Unit of the Arsenal, formerly called the New River Ordinance Plant, was also built for the U. S. Army Ordinance Corps by Hercules Powder Company in 1941 at a cost of approximately $11,000,000.00. It was operated during World War II by Hercules Powder Company for the loading of powder into bagged charges, the production of flash reducers for the 155 millimeter guns, and for the storage of powder. Though under the same commanding officer as the Radford Unit during World War II, the New River Ordinance Plant was a separately designated installation until May 28, 1946 when it became a subpost of the Radford Arsenal. Effective February 1, 1950 it was discontinued as a subpost of the Radford Arsenal and re-designated an integral part of the latter unit. A part of the New River Unit was sold as surplus to the Burlington Industries, formerly Burlington Mills, in 1947. Of the remainder, the storage area has been in continuous use and other parts in caretaker status since World War II.

Producing it's first powder on April 15, 1941, the Radford Unit was the first smokeless powder plant to begin operations under the Defense Plant Program inaugurated by the Government in the summer of 1940.

The installation was designed to produce 300,000 pounds of smokeless powder per day and 300,000 pounds of pentolite, a high explosive, per month. At it's peak production it actually produced 500,000 pounds of smokeless powder per day and 1,000,000 pounds of pentolite per month. The trinitrotoluene plant included in the Arsenal's facilities was never operated. The pentolite and trinitrotoluene facilities have now been dismantled.

Approximately 10,000 employees were required to operate the Radford Unit during World War II. While the technical and supervisory personnel used came from forty-six of the forty-eight states, the majority of workers lived within commuting distance of the plant. These workers had formerly been engaged in agricultural pursuits, in mining, to a small degree in industrial activities, and in the performance of household duties, for many of the production workers were women. The success with which they adapted themselves to the operation is attested by the fact that the Radford Unit of the Arsenal won five Army and Navy "E" awards for general excellence and achieved a production record of over half-a-billion pounds of powder - 560,000,000 - by August 10, 1945.

At the Radford Unit there was operated during the war a development department which designed and developed new types of smokeless powders for our armed forces, some of which were produced at Radford and some at other smokeless powder plants. Improved types of powder for rickets, which our country started using in World War II, were developed at the Radford Arsenal.

The Radford Unit was more diversified in it's operations than any of the other smokeless powder plants. In addition to making powder for rifles, machine guns, and conventional cannon, it also produced powder for trench mortars, chemical mortars, recoilless rifles, and large and small rockets. There was also produced for the trench and chemical mortars, a powder in the form of small sheets sewed together in pads similiar to books of stamps. Some of these pads were packaged in cellophane in a manner similiar to that in which pills are packaged.

The raw materials used at Radford for the manufacture of smokeless powder included cotton linters or wood pulp, (resembling blotter paper), anhydrous ammonia, sulphur, glycerin, tin, potassium sulphate, and many others. In it's nitric acid plant, Radford Arsenal produced nitric acid from anhydrous ammonia; in it's oleum plant it produced fuming sulphuric acid from raw sulphur. Cotton linters or wood pulp were dipped into a mixture of these acids to form nitrocellulose, the principal ingredient of smokeless powder. A combination of nitric and sulphuric acids in the proper preparation with glycerin yielded nitroglycerin, another explosive compound of the so-called double base powder.

Considering the tremendous size of it's operations, Radford Arsenal has had a remarkable safety record. The plant concluded it's World War II activities with a safety record of seven accident-free months and more than three million consecutive man-hours worked without a lost time accident.

When hostilities with Japan ceased on August 14, 1945, active manufacturing operations at Radford Arsenal were discontinued. However, the Government did not dismantle this valuable munitions plant. Although many of the explosives plants were declared surplus and sold, Radford Arsenal was retained in stand-by status to form the nucleus of a munitions industry in the event of another war. The machinery in the plant was partially disassemble, cleaned, and treated with grease and other preservatives to protect it from rust and deterioration. Whereas the plant was operated for manufacturing purposes during the war by the Hercules Powder Company, it was maintained in stand-by status after the war by Government personnel employed by the U. S. Army Ordinance Corps. Crews were engaged in the surveillance of machinery and it's periodic retreatment for preservation; in the minimum maintenance of buildings and structures; in the control of vegetation and erosion; in the protection of the plant against fire, trespass, theft, and similiar hazards; and in other work designed to keep the plant in such condition that it could be placed in operation again in approximately four months.

In 1946 the nitric acid area of the plant was reactivated to produce ammonium nitrate, a fertilizer shipped to Europe for the rehabilitation of war devastated areas of that continent. This operation was performed under contract by the Hercules Powder Company and continued until April, 1949.

Under a lease executed on March 31, 1949, to be effective in ninety days, and approved by the Secretary of the Army on August 19, 1949, the Appalachian Electric Power Company assumed from Hercules Powder Company, the responsibility for the operation of the main plant Power House at Radford Arsenal. This lease continued in effect until June 31, 1951, at which time it was terminated and a cost-plus-fixed fee contract between Appalachian Electric Power Company and the Government was negotiated for the operation of this facility.

In July, 1949, the production of smokeless powder began again on a very small scale, so small as to require only 300 workers. This production was under a contract with the Hercules Powder Company.

With the resumption of double base smokeless powder operations at Radford Arsenal, it became necessary to operate a nitroglycerin line and part of the Rolled Powder area. A nucleus of operations was obtained for nitroglycerin and rolled powder manufacture by transferring all personnel from the acid plant. The latter operation was no longer necessary. Because of the small scale of powder operations, arrangements were made for obtaining nitrocotton and mixed acid for nitroglycerin from the Naval Powder Factory at Indian Head, Maryland. This method of operation was continued until single base powder facilities were reactivated early in 1951, at which time acid and nitrocotton facilities were also provided.

After the Korean conflict broke out the tempo of activity at the plant quickened.

In August of 1950, there occured a rapid transition in the plant operations, in that operations were increased from a ten shift per week schedule to a twenty-one shift schedule, coupled with the reactivation of "C" line powder, stick powder, and trench mortar facilities. Government and Hercules personnel joined forces to bring new areas into production. When it became apparent that it would be necessary to reactivate a major part of the plant in order to meet production schedules, the J. A. Jones Construction Company was called in to perform the rehabilitation work under the supervision of the Corps of Engineers. The rehabilitation contractor operated under a cost-plus-fixed fee contract.

Nitrocotton production at Radford Arsenal started in June, 1951, following final acceptance of the nitrating area building on May 10, 1951. Actual nitration began on June 12, and the first nitrocotton was sent to the smokeless powder line on June, 24, 1951.

Acid production facilities were accepted from the rehabilitation contractor and the ammonia oxidation plant was started on May 7, 1951. Production of strong nitric acid followed on May 20, 1951. Concentration of residual sulphuric acid began on May 14, 1951, and the oleum manufacturing unit was started on June 13, 1951. With increased powder operations, a second nitroglycerin nitrator unit was placed in stand-by under power condition during this period.

Along with the reactivation of the existing facilities, a new area was constructed that would enable the plant to manufacture propellant charges for new rockets and guided missles.

By 1954 the majority of the rehabilitation and new construction was completed and the capacity of the plant had increased approximately thirty-three per cent.

In July of 1952, Goodyear Aircraft Corporation of Akron, Ohio signed a contract with the Ordinance Corps to fabricate component parts used in the production of missles at Radford Arsenal. Since it was necessary for Goodyear Aircraft Corporation and Hercules Powder Company to closely coordinate their work, Goodyear moved this operation to Radford Arsenal. The original contract was to have expired in March, 1954, but this contract was amended to continue in effect until 1956.

Peak production during the Korean emergency was achieved in 1953 when approximately 13,000,000 pounds of powder was produced during the month of July. Peak employment at the plant was in December, 1952, when about 12,000 employees were on the various payrolls. The workload at the plant and the number of persons employed fluctuated as changes in requirements were received. When hostilities in Korea ceased and the stockpiles of various types of powder were replenished, requirements for powder decreased and the excess personnel were discharged. By the end of 1953, the total force had been reduced to approximately 8,500 employees. Gradual reductions in production and personnel have been made so that by the end of 1954 employment at the Arsenal was approximately 4,800.[1]

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[1]Interview with T. M. Hanna, Director of Personnel and Security, Radford Arsenal, Radford, Virginia, July 26, 1955.

Instrument Corporation of America - This firm located just north of the Blacksburg corporate limits in 1951 on about four acres of land. It is a subordinate plant of the Electro Tec Corporation of South Hackensack, New Jersey. Both of these firms manufacture certain slip ring assemblies and commutators used in highly complicated flight instruments. The Blacksburg firm manufactures and sells it's products to prime contractors who have contracts directly with the United States Army, Navy, and Air Force. For security reasons these prime contractors requested the parent firm in New Jersey, Electro Tec Corporation, to disperse it's manufacturing plants so that the total supply of slip ring assemblies and commutators could not easily be destroyed. Thus, the reason for the establishment of the Blacksburg plant.

In 1951, prior to the opening of the Blacksburg plant, the parent firm in New Jersey began training personnel for the Blacksburg plant. This was necessary because of the complex nature of the manufacturing process and of the component parts themselves. By October of that year the Blacksburg firm was in operation and was receiving orders direct from prime contractors.

The cost of the original building, which was completed in June, 1951, was approximately $75,000.00. Later that year the building was enlarged and it's present dimensions are 125 by 200 feet. The plant operates three shifts, twenty-four hours a day. Production workers are paid on an hourly basis, and all clerical personnel are salaried employees.

The production operation involves semi-assembly lines for maximum efficiency. Raw materials are purchased primarily from sources located in the northeastern United States. Instrument parts manufactured by the plant are shipped to contractors throughout the United States and Canada.

The total annual volume of business of this firm has increased approximately threefold since it's opening in 1951. Operations first began with less than fifty people. In 1954 the plant employed 175 people. The approximate annual payroll of the company in 1952 was $26,000.00. Future growth of the Blacksburg firm hinges on the number and size of contracts received from prime contractors who manufacture and sell instruments directly to the armed services. While the future volume of business may not be ascertained at present, officers of the Instrument Corporation anticipate a future volume of business approximating $750,000,000 a year.[1] Since the parts manufactured by this firm are used in motors, synchros, resolvers, gyroscopes, and other instruments which are in increasing demand for aircraft and missles, it is entirely possible that this firm will eventually realize it's anticipated expansion.

Poly-Scientific Corporation - This small but highly technical organization had it's inception in 1953. It is located in quarters on College Avenue, across from the V. P. I. campus. The Poly-Scientific Corporation is primarily a small research and development organization.

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[1]Interview with F. W. Monge, Plant Manager, Instrument Corporation of America, Blacksburg, Virginia, July 27, 1955.

It was organized because of the founders conviction that more research is one of the greatest needs of industry. In general, Poly-Scientific is a small organization, privately owned and financed and not affiliated with or supported by any parent organization. It consists of it's corporate officers and directors, a fell time Technical Staff and assistants, and a Scientific Advisory Board. The Advisory Board comprises highly qualified local scientists and engineers who meet with the officers, directors, and technical staff at periodic intervals. In addition, the individual members of the Scientific Advisory Board are available to Poly-Scientific for private consultation and advice.

Poly-Scientific confines it's interest primarily to the general subjects listed below.

Electronics	Ceramics
Thermosetting Plastics	Glass Fabricating
Metallurgy	Electrochemistry
Metallizing	Mechanical Miniaturization
Product Engineering	Centrifugal Casting
Superfinishing	Lost Wax Process

Around these subjects are built applicable literature files, trade periodicals, scientific organization memberships, and library. This specialized interest is reflected in the physical setup of the firm's laboratories. Each of the sections is fully equipped and tooled to undertake the specialized study and work in the subjects mentioned above.

Although primarily interested in research and development, the Poly-Scientific Corporation has recently entered the manufacturing field in a limited way.

The firm engaged solely in research for the first year of it's existance, but early in 1954 the firm began limited manufacture of component parts for electro-mechanical flight instruments. Slip ring assemblies for gyroscopic flight instruments comprised the greater part of these manufactured items. Having begun the manufacture of these instruments, the firm began operating on a three shift per day schedule with employees working three, eight hour shifts. Production workers are paid on an hourly basis, and all other employees are on a salary basis. Raw materials are purchased primarily from the northeastern United States and parts manufactured by the Blacksburg firm are shipped to consumers in the general area of New York and the midwest.

Because it is a young organization, Poly-Scientific has not established a substantial volume of business. However, it's officers estimate that present volume is eight times that of 1953. Employees have increased from eight in 1953 to approximately sixty-six in 1954.

Although still a young organization, the founder and officers of the Poly-Scientific Corporation anticipate a prosperous future for their firm.[1]

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[1]Interview with R. E. Jordan, Plant Manager, Poly-Scientific Corporation, Blacksburg, Virginia, July 27, 1955.

CHAPTER VII

CHRISTIANSBURG MAGISTERIAL DISTRICT

General Information

The Christiansburg Magisterial District is bordered on the east by the Alleghany district, on the north by the Blacksburg district, on the west by the Auburn district, and to the south the district extends to the county line where it adjoins Floyd County. With the exception of Pilot Mountain, this entire district has gently rolling terrain broken only by shallow valleys and small streams. Excluding the incorporated towns of Christiansburg and Cambria, it consists primarily of excellent farmland most of which offers fine industrial sites. This is attested by the fact that the Christiansburg district has undergone greater commercial and industrial expansion in recent years than any other portion of the county. While the topography of this part of the county is conducive to commercial and industrial development, it is not the only factor which has contributed to the industrial expansion within the district. The general location of the district within the county, the presence of excellent rail facilities and good highways, and the fact that Christiansburg, the county seat, is located in the district have all contributed to the industrial and commercial development of this district.

Town of Christiansburg

Christiansburg is the county seat of Montgomery County. It is located in the south central part of the county which makes it equally accessible to all county residents. In 1950 the town had a population of 2,967. The town adjoins the incorporated town of Cambria which had a population of 853 in 1950. These population figures are misleading however for approximately the same number of people live just outside the corporate limits of these two towns as reside within the corporations. County residents continually come to Christiansburg to transact business in the county offices. Local merchants enjoy additional business as a result of this fact. The Norfolk and Western Railway maintains a passenger and freight station in Cambria which brings people into both towns from all parts of the county as well as from adjoining Floyd and Giles counties. A livestock market and a milk plant located within the general area of the town of Christiansburg draw farm trade from all parts of this county and from a number of adjoining counties. All of these factors have contributed to a prosperous economy for the Christiansburg-Cambria area as well as the entire district.

Government - Christiansburg employes the mayor-council form of government. Prior to 1954, under the old town charter, seven council members and a mayor were elected every two years. However, in 1954, the town charter was amended to provide for the election of a mayor every four years, and changing the number of councilmen from seven to six.

The new charter also provided for the election of three councilmen every two years thereby allowing the retention of three veteran councilmen on the governing body at all times.

Because of it's relatively small size and the lack of any great amount of industry, Christiansburg has no legislation affecting the location of industry. Nor does the thwon have any building code, but, as most towns, does require the issuance of permits to build. At the time of this writing the town was in the process of working out the details of a building code to go into effect at a future date. The town does have a safety ordinance for the two main streets, Franklin and Main, which requires all commercial buildings to be of fireproof materials, i. e. brick, metal, concrete, or other similiar materials. This requirment is waived if the front of the building is at least one hundred feet from the street.

The town also has a zoning ordinance which lists the three following classifications: industrial, business, and residential. The entire main thoroughfare beginning at the eastern corporate limit, including Roanoke and Main Street, and extending to the intersection of West Main and Radford Street is zoned for business. The primary north-south thoroughfare, Franklin Street, is zoned for business from the northern corporate limit to First Street in the southern portion of the town. Deport Street from the Cambria corporate limit to the intersection of Depot and Radford Street is zoned for industry. The remainder of the town is zoned for residential buildings.

Taxes - The town imposes a tax of $1.00 per $100 of assessed valuation on real estate and tangible personal property. This basis of assessment and the accompanying rate has remained unchanged since 1930.

Bonded Indebtedness - In July, 1955, Christiansburg had a bonded indebtedness of $129,000.00.

Fire Protection - In 1930 Christiansburg had the limited services of one converted automobile for it's fire fighting needs. In 1931 the town bought one American LaFrance fire truck which was equipped with a 500 gallon per minute capacity pump including 1500 feet of two and one-half inch hose. This truck is still used by the town. In 1941 the town perchased one Oren fire truck from the Oren Company in Roanoke, Virginia. This truck has a 500 gallon per minute capacity pump, and, in addition, contains a 400 gallon reserve tank for use where external sources of water are not available. This truck uses 800 feet of one and one-half inch hose and 900 feet of two and one-half inch hose as part of it's equipment.

In order to provide protection for county residents, Montgomery County, in 1940, purchased two pumper trucks, one of which is maintained in Christiansburg and the other in Blacksburg. The county has a reciprocal agreement with the town of Christiansburg wherein the town houses and services one county truck, and, in return, is permitted to use the truck for town fires when town equipment is not capable of handling a particular fire.

This same arrangement exists with the town of Blacksburg. Each of the county owned trucks has a 500 gallon per minute capacity pump. Each pump uses 900 feet of two and one-half inch hose and 700 feet of one and one-half inch hose. These two trucks each have a 500 gallon reserve tank of water for emergency use.

Christiansburg has a volunteer fire department consisting of local residents who work and live within a short distance of the fire station. In 1930 this department operated with approximately sixteen people, and, as the town grew, this number increased to a membership in 1954 of about twenty-four people. Since it is a volunteer organization, the Christiansburg Fire Department elects it's own officers independent of any approval by the town council.

In 1930 the town had approximately forty fire hydrants. As the town grew in size and population this number was increased to seventy-six hydrants in 1954. Approximately twelve miles of water lines were maintained in 1930, and this system has increased to a 1954 total of seventeen miles, an increase of about five miles. The main water lines in 1954 utilized eight inch pipe with branch lines of six, four, three, and two inch pipe depending upon the building and general area served. Industrial and commercial lines have eight inch pipe because of sprinkler systems in certain buildings.

Water Supply - Prior to 1928 Christiansburg utilized one 100,000 gallon reservoir serviced by two springs located a short distance west of the corporate limit.

Water from these springs fed the town pumping station located nearby, and from this station water was pumped into the reservoir through a six inch line. In 1928 the town constructed an additional 200,000 gallon reservoir, giving the corporation a 300,000 gallon per day water storage supply. This water fed into the water mains from eight inch pipe leading from the two reservoirs. In 1942 a third storage tank was erected near the pumping station. This tank had a capacity of 125,000 gallons. At the same time a third spring and one drilled well were brought into use to feed the reservoirs. As a result of this additional supply of water the town then had a daily water resource of approximately 420,000 gallons.

As the town continued to grow the town officials decided that additional sources of water would be needed. Thus, in 1946 a second well was brought into use at a cost of $8,000.00. This well had a daily flow of 100,000 gallons. Again in 1952 the town attempted the drilling of three additional wells all of which were failures. Finally, in 1953, a third well was added to the existing water supply at a cost of approximately $30,000.00. This well had a daily capacity of 480,000 gallons.

The water resources mentioned above have not completely satisfied the requirements of the town of Christiansburg. The corporation has never been able to offer industry unlimited water supplies and serious fires requiring two fire trucks tax the existing water supply to the limit.

Consequently the town of Christiansburg has entered into the Water Authority originally created by the Town of Blacksburg and the Virginia Polytechnic Institute. Through this action the town hopes to solve future water problems. A detailed commentary of this Water Authority is presented later in this paper.

The town of Christiansburg presently imposes the following monthly rates on water consumers who are located within the corporate limits:

$1.00 for the first 2,000 gallons
.30 additional per 1,000 gallons between 3,000 and 10,000 gallons
.25 additional per 1,000 gallons between 11,000 and 30,000 gallons
.20 additional per 1,000 gallons between 31,000 and 100,000 gallons
.15 additional per 1,000 gallons in excess of 100,000 gallons

Water consumers located outside the corporate limits are charged at a rate of 25 per cent over the corporate rate. The same schedule of rates applies to consumers living outside and inside the corporate limits.

Police Protection - In 1930 Christiansburg had one policeman. The town continued to employ only one officer until the late 1930's when, to keep pace with the growth of the town, the police force was periodically increased in size until 1954 when it consisted of five officers. A chief is appointed by the town council and he, in turn, selects a town sergeant and three patrolmen, subject to the final approval of the town council.

Town of Cambria

The town of Cambria is primarily a commercial town. In 1950 it had a population of 853 people. The town adjoins Christiansburg at it's southern corporate limits. The town contains the Norfolk and Western passenger and freight stations which serve most of Montgomery and Floyd counties as well as parts of Giles County. Commercial activity includes a large wholesale firm, commercial grain mill, coal and fuel distributor, automobile agency, and a number of retail stores.

Government - Cambria uses the mayor-council form of government. The mayor and six councilmen are elected simultaneously for two year terms.

The town has no legislation affecting industry. Building requirements provide that the issuance of building permits preceed any new construction and that new commercial buildings must be built of fireproof materials such as concrete, metal or other materials of a similiar nature.

The town has no zoning ordinance but local officials are in the process of working out the details of such an ordinance.

Taxes - The corporation imposes a tax of $1.00 per $100 of assessed valuation on real estate and tangible personal property. The basis of assessment and accompanying tax rate has been the same since 1930.

Bonded Indebtedness - The bonded indebtedness of the town is $100,000.00. This figure represents a former bond issue for the installation of a town water system. These bonds reach final maturity in 1966.

Fire Protection - The town has no fire fighting equipment of it's own. However, it has one-fourth interest in the fire truck owned by the town of Christiansburg. Thus, the town has the use of this truck as well as the use of the county truck which is housed in Christiansburg. The Christiansburg Volunteer Fire Department handles all fire calls from the town of Cambria.

The town presently has fifty-eight fire hydrants which provide service for all areas within the corporate limits. The number of hydrants has more than doubled since 1930. These hydrants are fed by eight inch water mains which are reduced to six and four inch lines. There are approximately four miles of water lines within the corporate limits. This is more than double the amount existing in 1930.

Water Supply - Cambria bought water from the town of Christiansburg until 1946. However, in that year the town purchased a spring approximately one mile east of the corporate limits on the Elliott road. A pumping station was installed at the spring with dual four and eight inch lines running to the town reservoir. This reservoir has a capacity of 244,000 gallons. Water is pumped from the spring to the reservoir and from there to the town through eight inch water lines.

The maximum flow is 120 gallons per minute. The entire water system was installed at a cost of $115,000.00 and is still in use today.

Police Protection - Cambria employs one full time police officer. He is paid a salary and carries out all normal police duties.

Industrial and Commercial Development

As mentioned previously, the Christiansburg district, containing two of the three incorporated towns in the county, has enjoyed a greater amount of industrial and commercial growth in the past twenty-five years than any other part of the county. There are several reasons, some of which have been mentioned previously. The intersection of two excellent highways in the town of Christiansburg has provided industrial and commercial firms with good trucking services. The Norfolk and Western Railway in Cambria makes rail shipment of raw materials and finished products quite easy. Because of it's location near the center of the county and the fact that it's larger town, Christiansburg, is the county seat a great deal of trade is constantly carried on in this area.

Presented on the following pages are illustrations of the industrial and commercial development in this district.

Appalachian Electric Power Company - This company first established an office and service department in Christiansburg in 1918.

Very little expansion took place in the local office prior to 1930. However, beginning in the 1930's there began an extensive program of rural electrification which compelled Appalachian to add personnel to the Christiansburg office. Thus, the number of people employed by Appalachian in Christiansburg has increased from three in 1930 to nineteen in 1954. In 1930 the local office had one service truck. By the end of 1954 it maintained five service trucks and two automobiles.

The primary mission of the Appalachian Electric Power Company office in Christiansburg is the installation and maintenance of power lines and equipment. To accomplish this mission most of the employees work in the actual installation and maintenance of this equipment. However, this office is currently responsible for all power lines in Montgomery and Floyd counties. (In 1930 the local office served only the town of Christiansburg.) To administer this increased area, four separate departments now function in the Christiansburg office. These are a collections department, accounting department, rural service department, and a transmission distribution department.

Electrical power carried through lines serviced by this office is generated at the Claytor Dam on New River. This large dam was constructed in 1939 and is owned by the Appalachian Electric Power Company. Electrical poles for transmission lines come from Georgia. All equipment other than poles is distributed to the local office from a large storage warehouse in Pulaski, Virginia.

In 1954 this office served a total of 9,600 meters located in all parts of Montgomery and Floyd counties. Local personnel were responsible for more than 1,200 miles of transmission lines in the two counties.[1]

Blue Ridge Manufacturing Company, Incorporated - This Christiansburg plant is owned and operated by the Blue Ridge Manufacturing Company of Lynchburg, Virginia. The local plant was placed in operation in 1923 at which time it operated eighteen machines for cutting and sewing denim yard goods.

The plant manufactures denim garments for both sexes and for all age groups. These garments include the standard blue "overall" materials familiar in this region, and the newly introduced denim garments of various colors including the popular "faded" denim slacks and jackets. Raw materials, in the form of yard goods, are shipped from textile plants in North Carolina, Georgia, and Alabama. Products manufactured at the Christiansburg plant are shipped to all parts of the United States. Quantity shipments are made to retail outlets in California.

This garment plant has undergone several major expansions since it's opening in 1923. In 1925 the plant moved into larger quarters which permitted an increase in the number of machines from eighteen to 143.

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[1]Interview with A. P. Jones, Manager of the Christiansburg Office of the Appalachian Electric Power Company, Christiansburg, Virginia, July 28, 1955.

In 1936, at a cost of $92,000,00, the company constructed a new brick building which it presently occupies. This building originally had a floor space of 45,000 square feet and permitted the installation of 600 machines. In 1939, at a cost of $18,000.00, an addition was made to the original plant which permitted the installation of 200 more machines. Again in 1954 the plant was expanded to provide a floor space of 93,700 square feet. The expansion cost the company $129,500.00, and permitted the plant to accommodate approximately 1,000 machines. The plant presently operates one eight hour shift each day for five days each week. Production workers are paid on an hourly basis and also on the basis of amount of daily production. All clerical employees are on a salary basis.

Some idea of the growth of this firm may be had from the following table which shows expansion by number of employees and annual production.

TABLE XXIV

EXPANSION OF THE BLUE RIDGE MANUFACTURING COMPANY FROM 1930 THROUGH 1954 BY ANNUAL PRODUCTION AND NUMBER OF EMPLOYEES[a]

Year	Number of employees	Production in dozen
1930	200	200,000
1935	325	200,000
1940	800	385,000
1945	800	400,000
1950	900	480,000
1954	925	648,000

[a]Interview with R. L. Caldwell, Plant Manager, Blue Ridge Manufacturing Company, Incorporated, Christiansburg, Virginia, July 27, 1955.

The Christiansburg plant is considered the most effective of the chain of plants owned by the parent firm in Lynchburg, Virginia. It is the largest industry in Christiansburg. With approximately 1,000 employees on it's payroll, the plant contributes substantially to the economy of Christiansburg in particular and the county in general.

Chesapeake and Potomac Telephone Company of Virginia - This large utility company first established an office in Christiansburg in 1916. This was the year that it bought up local telephone property throughout this general area and established a local office in Radford, Virginia. Until 1953 the Christiansburg telephone exchange was located in small quarters on the second floor of the Proffitt building in Christiansburg. Until that time phone service had been accomplished through the use of a "manual" operation wherein exchange operators took individual phone calls and manually connected to the number being called. However, in 1953, at a cost of $500,000, this company built a permanent brick building complete with equipment for an automatic dial system. This dial system permits faster and more efficient phone service with fewer operators. With the new system operators used are primarily to handle long distance calls.

The development of the Christiansburg "C&P" office has followed a pattern similiar to that of the Radford telephone office. Phone service increased gradually until World War II when commercial service, in the form of installations of new phones and equipment, was almost completely discontinued.

All supplies were frozen for military installations and the Radford and Christiansburg maintenance people were employed to install phones at the Radford Arsenal. Because there was very little expansion of commercial phone service in this area during World War II, the C & P Telephone Company was flooded with phone requests immediately after the war. For that reason there has been a very rapid increase in local phone service since the war. To provide this service the local office has also had to expand. Expansion of the local Christiansburg office since 1930 is as follows:

	1930	1935	1940	1945	1950	1954
Telephones in service	590	590	800	817	1558	2239
Operators	7	7	9	12	32	28
Maintenance personnel	1	1	2	2	5	6

The slight decrease in number of operators between the years 1950 and 1954 is the result of a change, in 1953, from "manual" phone service to an automatic dial system. In accordance with company policy, excess operators are not released when such a change takes place, but, instead, this personnel surplus is reduced gradually through normal employee attrition.

It is notable that this utility company has not only performed an ever increasing service to the Christiansburg community but has employed increasing numbers of people thus contributing to the economic well-being of the town.[1]

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[1]Interview with L. W. Disney, Manager, Radford Office, Chesapeake and Potomac Telephone Company of Virginia, July 26, 1955.

Concrete Products Company, Incorporated - This manufacturer of building blocks first began business operations in 1946. Originally the firm manufactured only cinder blocks and building blocks made of crushed stone. Since that time the firm has added two products to it's manufacturing line: one, a lightweight expanded shale block, and two, a cupola slag block. All of these building blocks are made in four, six, eight, and twelve inch sizes. In 1950 the company purchased conveyor trucks and began the manufacture of ready-mixed concrete. By the end of 1954, five of these huge trucks were operated by the firm. An idea of the total investment in this truck equipment may be had from the fact that one such truck costs approximately $15,000.00.

A great percentage of the necessary raw materials, in the form of crushed limestone, is obtained from the Radford Limestone Company located near Radford. All other raw materials, such as Portland Cement, cinders, and shale, are shipped to the plant from a variety of distant sources located primarily in the Southeastern United States. The primary market for the products manufactured by this company is Montgomery County although limited orders are taken from customers located outside the county. The great weight of these products makes it impractical to transport them any great distance.

The growth of the firm is indicated by the fact that five employees operated the plant in 1946 while twenty people were employed in 1954.

According to it's owners, the tax value of the plant has increased twenty times since it was built in 1946.[1]

With the rapid population growth in Montgomery County and the accompanying increase in construction, there is every indication that this company will enjoy a substantial volume of business in the future.

Christiansburg Livestock Market - This livestock market was opened in 1933. It was originally chartered at a value of $50,000.00. It's growth is indicated by an increase in employees from approximately twelve in 1933 to twenty in 1954. In 1946 the market processed $3,928,000 worth of livestock. In 1952 about 40,000 animals were bought and sold through the market.

This local market processes every type of domestic animal raised in southwestern Virginia. It serves an area of approximately ten surrounding counties with farmers occasionally coming from as many as fourteen counties to sell their livestock. The market has a weekly sale which lasts about eight hours on sale day. Primary buyers are representatives of wholesale slaughter houses located in this part of the state. In addition, many sales draw buyers from West Virginia, New York, Pennsylvania, and North Carolina. Each fall the market has a special "feeder calf" sale and a "feeder steer and heifer" sale. These sales attract a great number of farmers who buy animals to fatten for a few months and re-sell later in the year.

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[1]Interview with J. E. Via, partner, Concrete Products Company, Incorporated, Christiansburg, Virginia, July 27, 1955.

A "feeder steer" sale is also held each spring. In 1954, livestock valued at approximately $2,250,000 was sold through this market. In comparison with other livestock markets in southwestern Virginia, the Christiansburg market is one of the largest, in volume handled, of any market in the region.[1]

Christiansburg Fuel and Supply Company, Incorporated - This large fuel and feed distributing firm was first established in 1907. For a number of years it was an independent business operating under private ownership. About 1930 it became affiliated with the Southern States Cooperative Association and began selling many products carrying the name of that cooperative. The company is primarily a retailer of coal, feeds, fertilizers, and small farm equipment. Most of the coal sold by this firm is shipped from West Virginia. Feed is shipped by rail from Norfolk, Virginia. Small packaged items and farm equipment is obtained from a large Southern States warehouse in Roanoke, Virginia. The firm sells primarily to farm trade in Montgomery, Floyd, Pulaski, and Craig counties.

The physical plant of this company has remained unchanged but the volume of business has increased substantially since 1930. An idea of this growth may be had from the following figures indicating employment for representative years and volume of business for the same years since 1930.

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[1]Interview with E. V. Crowe, Bookeeper, Christiansburg Livestock Market, Incorporated, Christiansburg, Virginia, July 29, 1955.

Year	Number of employees	Volume of business
1930	6	$ 37,000.00
1935	10	75,000.00
1940	10	156,431.25
1945	14	352,197.61
1950	11	452,030.77
1954	14	613,272.84

A good percentage of this increased volume of business is attributed to the increased raising of livestock which requires vast amounts of commercial feeds such as those sold by this firm. The dairy industry in particular requires a great amount of commercial feeds for consistant milk production. This local firm can expect a substantial future business as a result of the growing trend of livestock raising in this part of the state.[1]

Cromer Furniture Company - This retail furniture firm has been located in Christiansburg for over fifty years. However, it did not begin operating under the present name until 1927. Since that time it has been the primary outlet for quality furniture in Christiansburg.

The company carries over one hundred different lines of furniture and appliances. The variety of merchandise is sufficient to completely furnish a home. Furniture is purchased on a competitive market from manufacturers throughout the eastern United States with a great percentage coming from the furniture centers in North Carolina.

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[1]Interview with R. M. Jones, partner, Christiansburg Fuel and Supply Company, Incorporated, Christiansburg, Virginia, July 26, 1955.

This store has a trade area encompassing the counties of Montgomery, Floyd, Giles, and the eastern part of Pulaski County. Limited sales are also made in the western part of Roanoke County and the City of Radford.

The firm has employed approximately nine people since 1930. However, it's volume of business has increased substantially since that date. With 1930 as a base year, the firm had a decline in volume of business by 1935 of 7 per cent, an increase of 144 per cent by 1940, 160 per cent by 1945, 337 per cent by 1950, and 320 per cent by 1954.

The firm has expanded it's physical plant three times since 1930. In 1934 a warehouse was constructed for stock storage, and in 1936 a second warehouse was erected for the same purpose. In 1950 an adjoining store building was purchased which allowed the company to double it's floor space. Periodic interior renovations have made the store one of the most attractive furniture outlets in Christiansburg.[1]

Farm Supply Center, Incorporated - This farm equipment company first opened it's doors in 1945. It is primarily an outlet for general farm equipment. During the first years of operation, the firm sold trucks manufactured by the same firm which makes the farm equipment sold here.

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[1]Interview with A. E. Cromer, Jr., partner, Cromer Furniture Company, Christiansburg, Virginia, July 26, 1955.

However, limited shop facilities forced the elemination of truck sales in 1948. With the advent of television in this area the store began handling several lines of television equipment and later added frozen food lockers and refrigerators to it's list of merchandise.

The firm occupies a three story building and employs approximately ten people. An indication of it's growth may be had from the following figures of annual volume of business:

1946	$ 80,366.81
1948	220,779.08
1950	336,043.01
1952	265,187.24
1954	189,449.41

The heavy sales represented by the years 1948, 50, 52 were the result of volume buying of farm equipment after World War II. Because of the shortage of metals, farm equipment manufacturing was almost non-existant during the war. Consequently, farmers were not able to replace worn equipment for the five year period during World War II. Therefore, with the end of the war and the resumption of manufacture of farm equipment, farm operators bought large amounts of equipment to satisfy their farming needs. This produced heavy sales for the farm equipment dealers during the post-war period.

The Farm Supply Center buys equipment from sources in the eastern United States. It sells to farmers located primarily in Montgomery, Floyd, Giles, and Craig counties.[1]

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[1]Interview with W. V. Weeks, partner, Farm Supply Center, Incorporated, Christiansburg, Virginia, July 27, 1955.

Higgins Gas and Oil Company, Incorporated - This fuel distributing firm located in Montgomery County in 1949. It began operations with two people and in 1954 employed eight persons. The company is a wholesale distributor of fuels for heating, service stations, and mechanized farm equipment. It operates two bulk trailer trucks that bring fuel into the plant for storage and future distribution. Three radio-equipped distribution trucks make all deliveries to consumers. Fuel is shipped from North Carolina to the local plant from which it is distributed to customers in Montgomery, Floyd, Giles, and Craig counties and Radford City.

The following figures indicate the rapid growth of the firm:

Year	Total annual sales	Total annual gallons sold
1950	$113,476.21	123,044
1951	173,045.21	566,147
1952	247,919.84	864,510
1953	326,644.63	1,756,056
1954	406,999.95	1,875,286[1]

Leggetts Department Store, Incorporated - The Leggetts Department Store in Christiansburg is one of a chain of approximately fifty stores located prinicipally in Virginia, West Virginia, North Carolina, and part of Ohio. The Christiansburg store was opened in 1936 with less than twenty employees. It is a general department store specializing in medium and low priced merchandise.

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[1] Interview with E. G. Higgins, President, Higgins Gas and Oil Company, Incorporated, Christiansburg, Virginia, July 25, 1955.

Merchandise for this store is purchased on a competitive basis from sources throughout the entire United States. The Leggetts chain has a rather unique buying system for it's stores. At the home offices in Charlotte, North Carolina, the firm has a large sales room. Sales representatives from clothing firms all over the country bring their merchandise to this room where it is placed along side competitive items. Store managers from each Leggetts store travel to Charlotte several times a year and buy directly from the selection of merchandise in the salesroom. Each manager may buy what he feels will sell best in his store. Limited buying is accomplished through salesmen who come directly to each store, but the great percentage of all merchandise is bought through the method just described.

The Christiansburg store has undergone several expansions since it opened in 1936. The following year an adjoining store was purchased by the company which permitted the floor space to be doubled. Still later the store was altered to extend the floor space toward the rear of the building site. In 1952 a large warehouse was constructed for storing merchandise. The parent firm in Charlotte, North Carolina has completed plans for the construction of a new store in 1956. This new building will be located directly across Main Street from the present location and will be over twice the size of the present store.

The Christiansburg store has a trade area encompassing Montgomery, Floyd, Craig, and Giles counties, and part of Radford City.

However, another Leggetts store in Radford offers keen competition for the trade in that city.

The best indicator of the growth of this firm is the total sales for representative years from 1936 through 1954. Using 1937 as a base year, Leggetts had a 400 per cent increase in gross sales by 1942, 640 per cent increase by 1947, and 940 per cent increase by 1952. These figures show the tremendous trade volume that has been built up in the nineteen years of it's operation.

Regular employees have increased in number from approximately eight in 1937 to thirty in 1954. The part time employees who work during sales and holiday periods would double the 1954 employee figure.

The Leggetts store in Christiansburg is the leading department store in that town. It is considered by the parent firm to be one of the most efficiently run stores in the entire chain of department stores.[1]

Mitchell Sales Company, Incorporated - This firm first came into existance as the Farm Equipment Company in 1934. At that time it was primarily a distributor for fertilizers. The name was changed to the Mitchell Sales Company in 1949.

Shortly after it's inception in 1934, the firm began adding various lines of farm equipment and hardware items.

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[1]Interview with J. E. Tolley, Store Manager, Leggetts Department Store, Incorporated, Christiansburg, Virginia, July 25, 1955.

This trend continued for a number of years and the firm remained primarily a retail outlet until it was reorganized in 1949. At that time it began to wholesale merchandise on a large scale. Today the firm wholesales ninety per cent of it's total annual volume of business. Merchandise currently sold by the firm includes general farm equipment, housing supplies, and many other items.

The firm has grown in a number of different ways. The number of employees has increased from three in 1934 to twenty-five in 1954. With the change to wholesale operations in 1949, the firm began adding to it's fleet of trucks and in 1954 it was operating fourteen trucks daily and serving fifteen surrounding counties. In addition, three counties in West Virginia and North Carolina were serviced by this firm. The physical plant has undergone three major expansions. In 1945 a warehouse and a shop were added to the original plant at a cost of $51,000.00. In 1946 a salesroom and warehouse were constructed at a cost of $46,000.00. Another warehouse was erected in 1951 at a cost of $6,400.00.

This firm has enjoyed a tremendous increase in business volume since it opened for business in 1934. This increase in volume of business is best indicated by figures. In 1934 total sales were $12,000, in 1945 - $250,000, in 1951 - $1,250,000, in 1954 - $5,200,000.[1] With this rapid growth the firm has established itself as a major business enterprise in the Cambria community.

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[1]Interview with W. C. Mitchell, President, Mitchell Sales Company, Incorporated, Cambria, Virginia, July, 1955.

Sam Moore Chairs, Incorporated - This furniture manufacturing firm first located in Christiansburg in 1941. The plant is one of a chain of three privately owned plants located in southwestern Virginia. The Christiansburg plant employs approximately 136 people and manufactures medium priced upholstered occasional chairs. The plant was the first of it's kind in the United States to employ a conveyor system of production wherein each unit is mechanically carried past craftsmen who each perform some assembly job in completing the chair. This system has greatly increased the productive capacity of the Christiansburg plant.

Raw materials come from two different sources. Wooden frames for the chairs come from another plant in the chain and this plant is located in Bedford, Virginia. Cloth materials for covers and stuffing come from all parts of the eastern United States. Finished chairs from the local plant are shipped to retail dealers in all parts of the country.

Some idea of the volume of business done by this firm may be had from the following figures which show total annual sales for each of the three past years: 1952, $1,066,611; 1953, $1,286,285; 1954, $1,156,000. The decline shown in 1954 was the result of the opening of another plant which assumed a portion of the manufacturing formerly done in the Christiansburg plant. The firm anticipates the construction of a new and larger plant in the county within the near future.

In 1954 the Christiansburg plant contributed approximately $150,000 to the local economy through wages and salaries paid to it's employees.[1]

Southern Dairies, Incorporated - In 1925 the Southern Dairies firm bought out local milk processing facilities and established a plant in Cambria, Virginia. This plant continued to operate in Cambria until 1938 when it was totally destroyed by fire. That same year the firm bought property just east of Christiansburg on U. S. Route 11 and constructed a new plant on that site. The plant has since been improved and remodelled and currently employs eighty-six people full time in it's operations.

The Christiansburg plant is a supply plant for a number of other processing plants in the large Southern Dairies chain of plants. This plant receives milk daily from approximately a seventy mile radius surrounding the plant. Producers from five counties, Montgomery, Floyd, Botertout, Roanoke, and Pulaski, sell milk to the plant. Once the milk is brought to the plant it is processed and refrigerated and shipped out daily to other Southern Dairies plants where it is used for ice cream, buttermilk, cottage cheese, and other milk products. The milk is shipped from the local plant in large refrigerated trailers each of which is capable of carrying from 250 to 520 gallons of milk. Most of the milk from the Christiansburg plant ultimately finds it's way to consumers in Virginia, West Virginia, and North Carolina.

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[1]Interview with M. G. Reed, Plant Manager, Sam Moore Chairs, Incorporated, Christiansburg, Virginia, July 28, 1955.

An interesting picture of the increased activities of this plant in recent years is presented below. With the exception of the number of employees, which is actual, all figures show percentage increase over the base year of 1940.

Item	1940	1945	1950	1954
Pounds of milk processed	base year	200%	300%	400%
Labor cost	base year	200%	600%	900%
Farmer's payment	base year	400%	700%	800%
Total operating expensis	base year	300%	600%	800%
Number of employees (actual)	21	65	64	86[1]

This valuable plant contributes to the local economy in two ways. It provides employment for a number of local people, and, at the same time, draws farm trade into Christiansburg which stimulates the commercial activity in the town.

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[1]Interview with O. D. Walker, Plant Manager, Southern Dairies, Incorporated, Christiansburg, Virginia, July 30, 1955.

CHAPTER VIII

CITY OF RADFORD

General Information

The City of Radford is an independent city of approximately 10,000 people and is located between the western boundary of Montgomery County and New River, a large stream which separates the city from Pulaski County. Although it has a teachers college and a thriving commercial economy, the city is primarily industrial in it's activities. It's early history shows that it lay along the much travelled trail of northern and southern Indians who followed the New River in their wanderings through this region. More recent history establishes the town as a railroad town. It was once called Central Depot because it lay midway between Lynchburg and Bristol, the opposite terminals of the Norfolk and Western Railway in 1881.[1] In 1892 the community received it's charter as a second class city, it's citizens having decided the previous year to separate from Montgomery County. In the thirty-eight years from 1892 to 1930 the city gradually expanded it's commercial and industrial activities to become the largest settlement between Roanoke and Bristol.

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[1] R. L. Humbert, Industrial Survey, Montgomery County and City of Radford, (Engineering Extension Division, Virginia Polytechnic Institute, Blacksburg, Virginia, April, 1929), p. 69.

By 1930 the city had acquired a number of diversified industrial and commercial firms which provided a relatively well-balanced economy for the community. The basic economy of Radford has undergone very little change since 1930 except for the fact that a number of new industries have located in the city and many older firms have experienced substantial expansion. In 1930, as in 1954, Radford enjoyed the presence of a variety of industrial firms which contributed to a well-balanced activity within the city. This is attested by a statement by R. L. Humbert who wrote in 1929:

> Radford has a reasonably diversified industrial development. There are 15 industrial enterprises in which 8 of the 16 census classes are represented. The food and kindred products group is not as strong in Radford as in some of the southwest Virginia towns. On the other hand we find "lumber and allied products" class, the "chemical and allied products" class, and the "textile and their products" class well represented. There is as good diversification of industry in Radford as is found in any of the southwestern Virginia cities. There is employment for girls. There is also employment for skilled steel workers and journeymen of other skilled trades. Then, too, Radford offers liberal opportunity for the unskilled worker to find employment.[1]

Mr. Humbert continued his commentary by presenting the following major industry classifications as they existed in 1929:

Industry classifications	Number in Radford - 1929[2]
Food and kindred products	4
Textiles and their products	1
Iron and steel and their products (not including machinery)	1
Lumber and allied products	3
Paper and printing	1
Chemical and allied products	1
Railroad repair shops	1
Miscellaneous industries	1

[1] Ibid., p. 71. [2] Ibid., pp. 72-73.

In 1954 the following major industries were listed for the City of Radford:

Industry classification	Number in Radford - 1954[1]
Food and kindred products	1
Textiles and their products	4
Iron and steel and their products (not including machinery)	1
Lumber and allied products	1
Paper and printing	2
Chemical and allied products	1
Railroad repair shops	1
Miscellaneous industries	2

In a comparison of these two listings it will be seen that, basically, the same type and number of industries existed on the two dates under consideration. Commercial activity has expanded in the city during the past twenty-five years and the normal number of companies have entered business and failed, but those firms that are the largest and contribute the most to the local economy have remained about the same. The erection of the Radford Arsenal near Radford in 1940 has been the only major influence on the economy of this city since 1930. However, this large plant did not altar the contribution of the above named industries to the welfare of the local people. Most of the employees who were working for these basic industries remained on their jobs. The Radford Arsenal drew it's personnel from rural areas in the general region surrounding the plant as well as from a number of nearby towns.

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[1] Industrial Sites and Economic Data, Radford, Virginia, (Division of Planning and Economic Development, Richmond, September, 1954), p. 6.

Many people found work at the Arsenal who had previously drifted from one job to another in the Radford-Montgomery County area. Instead of subordinating the value of these local plants, the Radford Arsenal simply contributed additional money to the economy of the area through the wages and salaries paid to people living in this area.

Since the expansion of older Radford firms and the location of new ones comprised the greatest change in industry and commerce during the past twenty-five years, a detailed description of this expansion and construction best illustrates the progress of the community. An account of this progress has been obtained from major firms located in Radford at the end of 1954. Descriptions of individual company expansion and establishment in the Radford area have been presented in detail in subsequent portions of this chapter.

Population and Labor Force

As mentioned earlier in this paper, population sufficient to provide an adequate labor force is essential to the success of industrial or commercial enterprise. Radford City has been fortunate in this respect. Not only has the city enjoyed a population within it's immediate area sufficient to satisfy labor needs, but firms located here have been able to draw from a large rural population in Montgomery and Pulaski counties.

With the improvement of highways in this area and increasing numbers of automobiles in local families, substantial numbers of people drive from portions of both Pulaski and Montgomery County to work in the Radford industries and business houses. In addition, the Radford Arsenal drew many people to this immediate area who have remained and have thus swelled the population and labor force. Further, there are no large industrial centers near the city to provide competition for the local labor force. As a result of these factors most of the business and industrial firms in the city have been able, over the past twenty-five years, to select employees from an ample supply of labor.

Population - The population of Radford City has increased by approximately one-third since 1930. However, this one-third increase has occured since 1940 for the most part. In the decade from 1930 to 1940 the total population of the city increased by only 763 persons. The balance of the total increase for the twenty-five year period occured between 1940 and 1950. The location of the Radford Arsenal near Radford in 1940 was a major contributing factor to the rapid growth in population after 1940. This large plant, which at one time employed 23,000 persons, drew great numbers of people to the city to live while working at the Arsenal. A substantial number of these persons established themselves in the community and found other employment in the city when operations were curtailed at the Arsenal after the war.

This large munitions plant kept a small force after World War II and part of these people lived in Radford. In addition, the Korean conflict, in 1951, caused a resumption in operation of the Arsenal and this again brought people into the Radford area to live. Of course the presence of the Radford Arsenal was not the only reason for the population increase shown in 1950. Normal population increase no doubt contributed a substantial number of people to the 1950 census figure for the city.

Some idea of the population changes which have occured in Radford since 1930 may be had from Table XXV.

Labor Force - Industrial and commercial firms in the Radford area enjoy the resources of an excellent labor force for two reasons. First, as tables II and XXV indicate, the percentage of native white population in both Radford and Montgomery County is very high. This predominantly white population offers a distinct advantage to local firms seeking new employees. Individuals beginning work in any enterprise must be trained for the particular job in which they are employed. This training period is expensive to the employer. Companies who hire people with varied educational and racial backgrounds must take longer to teach these individuals the requirements of the job for which they were employed. This involves more expense to the firm conducting such training. Conversely, individuals with essentially the same background, as those in this general area, learn quicker and become productive employees much sooner thus saving the employer both time and money.

TABLE XXV

CHANGES IN POPULATION FOR THE CITY OF RADFORD, 1930 - 1950[a]

	1930	1940	1950
Total population	6,227	6,990	9,026
Male	3,029	3,409	3,959
Female	3,198	3,581	5,067
Native white	5,574	6,971[b]	8,349
Male	2,700	3,396	3,634
Female	2,874	3,575	4,715
Foreign-born white	15	19[b]	46
Male	10	13	17
Female	5	6	29
Negro	637	560	631
Male	318	...[c]	308
Female	319	...	323
Other races	1	0	0
Per cent native white	89.5	91.7	...[c]
Per cent foreign-born white	0.2	0.3	...
Per cent Negro	10.2	8.0	...

[a]U. S. Bureau of the Census, Characteristics of the Population, 1930, 1940, 1950.

[b]Includes all races.

[c]Figures not available.

This fact was proven locally when the Radford Arsenal located in Montgomery County. Area employees were cited for their ability to adapt themselves to the job requirements at this large plant.

A second advantage to Radford area firms has been the abundant labor force available to these firms.

As previously mentioned, these local firms may draw workers from a number of small towns in Montgomery, Floyd, and Pulaski counties and also from a large rural area surrounding the City of Radford. The following statistics present a picture of the labor potential available to Radford area firms in 1953:[1]

Population	Total	Male	Female
Radford	9,026	3,959	5,067
Craig County	3,452	1,736	1,716
Floyd County	11,351	5,798	5,553
Giles County	18,956	9,579	9,377
Montgomery County	29,780	16,265	13,515
Pulaski County	27,758	13,544	14,214
Radford vicinity	100,323	50,881	49,442

Available Labor Within 20-mile Radius

	Total	Male	Female
Unemployed	3,500	2,000	1,500
Net yearly new entrants	300	200	100
Potential supply	2,360	875	1,485
All available	6,160	3,075	3,085

It is estimated that this potential supply could be drawn thus:

	Male[a]	Female[b]
From Craig County	15	30
From Floyd County	375	215
From Giles County	185	565
From Montgomery County	175	450
From Pulaski County	125	225
Entire 20-mile radius	875	1,485

[a]Represents the number of low-income subsistance farmers above the proportion prevailing in agricultural areas of nonsouthern states.

[b]Represents additional number needed to raise the female labor force of these counties to the proportions prevailing in the labor force of the nation.

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[1]Ibid., p. 4.

These figures present a labor potential of 875 male and 1,485 female workers who would be available to new firms locating in the Radford area. With the normal increase in population, this number should increase also thus providing an even greater labor potential for future years. Thus, it is easily seen that a labor force exists within reasonable driving distance sufficient to satisfy the requirements of several small industrial firms or any number of commercial firms that might desire to locate in the Radford area.

Secondary Factors in Industrial and Commercial Development

Industrial and commercial firms that may be planning to move into a particular area must consider a number of factors before making such a move. In addition to the presence of suitable building sites and adequate labor force, interested companies desire a compatible local government, taxes, water, electrical, and sewage rates and facilities, adequate fire, police, and school facilities. Descriptions of the above mentioned items are presented on the following pages.

City Government - The City of Radford employs the city-manager form of government. The city elects a five man council which, in turn, elects it's own mayor who serves as council chairman. Elections are held every two years to select three members of this council thus permitting three veteran members on the council at all times.

These officers are elected in June and take office in September.

The city has no specific legislation affecting industry. Appropriate city ordinances guard against any possible abuse of private rights by existing industry and commerce. The city has no building code but building permits are required for new construction. Approximately one-sixth of the area within the city limits is zoned for industry and commerce.[1]

Taxes - In 1954 Radford imposed the following tax rates on property within the city:

Real estate	$1.75 per $100 of assessed value
Tangible personal property	1.75 per $100 of assessed value
Machinery and tools	1.75 per $100 of assessed value
Merchants capital	None[a]

[a]Merchants' license tax is imposed.

The true tax rates are considerably below these rates on the assessed value. For example, according to the Virginia Department of Taxation, the assessed value of real estate averaged only 39.7 per cent of the sales value of real estate in Radford. Thus, for Radford the tax rate per $100 of true value of real estate was $ .69 compared with the $1.75 tax rate per $100 of assessed value.

City Debt - The total city debt as of the end of fiscal year 1954 was as follows:

Funded debt applicable to municipality	$111,000.00
Funded debt applicable to utilities	118,000.00
Unfunded debt applicable to municipality and utilities	90,000.00
Other debt (sewer revenue bond)	93,000.00
Total debt	$301,000.00

[1]Interview with W. A. Woodward, City Manager, City of Radford, Radford, Virginia, July 28, 1955.

Receipts and Disbursements - Radford City had the following receipts and disbursements during the 1954 fiscal year:

Revenue:	
General property taxes and delinquent current taxes	$220,843.04
Other local taxes	11,601.40
License, permit, and privilege fees	63,421.08
Fines and forfeitures	13,067.27
Revenue from use of money and property	2,232.15
Revenue from other agencies	99,404.05
Service charge for current services	28,213.64
Sale of services, commodities and properties	1,595.33
Miscellaneous revenue	234,565.57
Non revenue receipts	24,115.32
Total revenue	$699,058.85
Expenses:	
Maintenance and operations expenses	$ 377.50
Department of Finance	16,424.40
Judicial Department and Prosecution	16,789.82
Department of Health	4,087.50
Department of Public Safety	60,054.06
Department of Public Welfare	40,351.98
Department of Public Works	112,553.21
Department of Recreation	17,542.77
Department of Education	214,209.60
Boards and Commissions	432.00
Non-departmental	34,829.79
Capital outlay	55,028.34
Equipment	19,086.24
Debt service	32,475.00
Transfer to highway fund	8,077.98
Total expenditures	$640,166.31[1]

Fire Protection - Radford City has an excellent fire department complete with life saving equipment. It is a volunteer fire department with two full-time, salaried employees and approximately fifty volunteer members.

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[1] City of Radford, Virginia - Report on Audit - Year Ended June 30, 1954, pp. 21-25, 56.

It is called the Radford Fire Department. This department utilizes the following equipment: (1) one - one and one-half ton fire truck equipped with a 500 gallon per minute capacity pump, 1000 feet of two and one-half inch hose, and 300 feet of one and one-half inch hose; (2) one - one and one-half ton fire truck equipped with a 550 gallon per minute capacity pump, 1000 feet of two and one-half inch hose, and 300 feet of one and one-half inch hose; (3) one - three ton fire truck equipped with a 750 gallon per minute capacity pump, 1000 feet of two and one-half inch hose, and 300 feet of one and one-half inch hose. In addition, the department uses one - one ton panel truck for carrying fire department personnel or, in emergency cases, injured persons, and one - half ton pick-up truck for hauling supplies. Life-saving equipment includes four fourteen foot boats equipped with motors. The department also has a respirator for emergency use.

This fire department has the resources of approximately 150 fire hydrants all of which are fed by six and eight inch water mains.

Water Supply - Radford's municipal water system receives it's water from the New River and has a rated capacity of two million gallons daily. The water, which is filtered and chlorinated, is pumped into reservoirs having a total capacity of a million and a quarter gallons. The distribution system of four inch to sixteen inch mains distributes water to metered services in every section of the city.

Below are shown water rates for the city.

Rates per month[a]

First	2,000 gallons	$0.625 per month
Next	23,000 gallons	.40 per month
Next	75,000 gallons	.35 per month
Next	100,000 gallons	.30 per month
Next	100,000 gallons	.25 per month
Next	100,000 gallons	.20 per month
All over	400,000 gallons	.15 per month

Subject to a minimum monthly charge of $1.50 for each meter installed. Customers outside corporate limits of the city will be billed at 150 per cent of the above rate up to 100,000 gallons. Users of over 100,000 gallons must make applications to the City Manager or city council or both for rates.

Police Protection - In 1954 Radford City employed a police force of fifteen people. This force was comprised of a police captain, police lieutenant, three dispatchers, and ten patrolmen. The police captain and lieutenant are selected by the city council, and they, in turn, select the patrolmen, subject to the final approval of the city council. All personnel are paid a salary. This department uses three motor vehicles for patroling the city. The total number of people employed by the department has gradually increased from three in 1930 to a total of fifteen in 1954.

Sewerage System - There are no existing facilities for the treatment of sewage. However, plans are currently being completed and the city is negotiating to acquire property for the construction of a sewage disposal plant. Monthly rates for use of the present facilities are as follows:[1]

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[1] Ibid., p. 10.

10,000 gallons water or less	$0.50
10,000 gallons to 20,000 gallons	0.75
20,000 gallons to 50,000 gallons	1.00
50,000 gallons to 100,000 gallons	1.25
100,000 gallons to 150,000 gallons	1.50
All over 150,000 gallons	2.00

Electric Power - The electric system is owned and operated by the city with the bulk of the power supplied by the Appalachian Electric Power Company, although a city-owned plant is maintained on a standby basis. This city owned plant produces about eight per cent of the total electricity needed by the city. Electric rates are shown below.

Electric Rates-1954[1]

Rates per month - residential service

First	40 kwhrs.	$0.050 per kwhr.
Next	40 kwhrs.	.040 per kwhr.
Next	120 kwhrs.	.027 per kwhr.
All over	200 kwhrs.	.018 per kwhr.

Commercial rates for lights - per month

First	25 kwhrs.	$0.08 per kwhr.
Next	75 kwhrs.	.07 per kwhr.
Next	100 kwhrs.	.06 per kwhr.
Next	200 kwhrs.	.05 per kwhr.
Next	400 kwhrs.	.04 per kwhr.
Over	800 kwhrs.	.03 per kwhr.

The above tariffs are subject to a minimum monthly charge of $1.50 for each meter installed. All of the above tariffs are in addition to Electric Service Charge of $1.00 per month.

Banking Facilities - There are two banks in Radford - the First and Merchants National Bank of Radford and the Peoples Bank of Radford.

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[1] Ibid., p. 11.

In 1954 the First and Merchants National Bank constructed a small branch bank in the western part of the city to serve the residents of that part of the city. Shown below is a combined statement of these two banks as of the end of 1954.[1]

	Capital	Resources	Deposits
Farmers and Merchants National Bank of Radford	$128,000.00	$9,788,416.26	$9,199,402.68
Peoples Bank of Radford	25,000.00	1,499,464.59	1,412,819.51

Civic Refinements

Today, more than ever before, industrial and commercial firms are interested in facilities to accommodate the families of their employees. As a result of a great deal of study, personnel experts have found that workers who are happy and content in their jobs produce much more than those who are dissatisfied. While certain aspects of employee satisfaction are job-connected, a substantial percentage of the overall problem lies in factors which affect the lives of the workers and their families outside the plant. Employees transferring to a new location want good educational facilities for their children, recreational facilities for their entire families, churches for worship, and hospitals for medical needs.

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[1]Compiled from individual bank statements.

Therefore, the industry that is considering a particular location for future development is interested in community facilities that will fulfill the requirements and desires of it's employees. With this fact in mind, facilities of such a nature are presented in the following sections.

Education - The City of Radford maintains five elementary schools for it's children. Four of these are for white and one is for Negro children. The high school for white students is fully accredited and offer the regular academic courses, plus home making, industrial arts, commercial diversified occupations, band and choral work, a driver-training course, and physical education. Negro high school students are transported to a modern, fully accredited, regional high school in nearby Christiansburg. The city contemplates construction of two more elementary school buildings and an addition to the high school.

Radford College - This institution of higher learning is now the Women's Division of the Virginia Polytechnic Institute. Radford College was originally established in 1910. The school opened it's doors as the State Normal and Industrial School in 1913. The name was officially changed to State Teachers College at Radford in 1924. Under an act passed by the General Assembly of Virginia in 1944, the Virginia Polytechnic Institute and the State Teachers College were combined under one Board of Control and Radford College was designated the Womens Division of V. P. I.

Radford College is located in the eastern part of the City of Radford, and has property totalling approximately seventy acres. The college confers two general academic degrees: Bachelor of Arts and Bachelor of Science; and two professional degrees: Bachelor of Science in Education and Bachelor of Arts in Education. In addition to these undergraduate degrees, work toward the Master of Science Degree in Education and Master of Education Degree is offered on the Radford campus. The graduate degrees are awarded by Virginia Polytechnic Institute. These degrees are conferred upon completion of the curricula as outlined and prescribed by the college.[1]

A total of 17,000 students have been enrolled at the college since it's opening in 1913. Current enrollment is approximately 800. Summer and regular academic sessions offer twelve major curricula including business, home economics, liberal arts, music, physical education, and other teaching majors. Two year programs are offered in the field of business for students who desire to become secretaries or medical secretaries. Pre-professional courses are offered in the fields of nursing, medical technology, and physical therapy.

Tennis courts, an outdoor swimming pool, and a large campus lawn provide ample opportunities for outdoor activities. Peters Hall, a gymnasium, provides facilities for indoor activities such as volleyball and basketball.

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[1]Radford College Bulletin, (Volume XLII, Radford, January, 1955), p. 15.

There are also game rooms in the residence halls for small group activities. The athletic events held at V. P. I. offer an excellent off-campus source of entertainment for the college students.

Radford College is a member of the Southern Association of Colleges and Secondary Schools which is a regional accrediting agency affiliated with all other national accrediting agencies. The school also holds membership in the Association of American Colleges.

Other national agencies of which the college is a member are: the American Association of Colleges for Teacher Education, the National Council for Accreditation of Teacher Education, the National Council of Education, the National Education Association, and the Virginia Association of Colleges. These affiliations and recognitions give the graduates of Radford College an interstate and national standing.

Hospitals - The Radford Community Hospital is a non-profit, non-stock institution which has eighty-five beds and a staff of 114. It's doctors, nurses, and technicians are giving efficient service with modern equipment and excellent professional experience to citizens of Radford and adjacent areas. Located here also is St. Albans Sanatorium, a privately owned institution ranking high in it's field.

Churches - There are twenty-eight churches in the City of Radford including a Roman Catholic Church.

There are four places of worship for Negroes. The closest Jewish synagogue is in Roanoke. Nearly all of the churches maintain Sunday schools, youth programs, and other activities which enhance the spiritual life of the city. Under the supervision of the Council of Churches, optional religious instruction is given during the school year by two full-time teachers.

Hotels - Hotels Governor Tyler and Alleghany provide adequate facilities and services to transients. Several excellent motor courts are located just outside the city in Montgomery and Pulaski counties.

Publications - The Radford News Journal is published daily except Sunday and delivered to subscribers throughout Radford and adjoining counties. Daily newspapers from Roanoke and Pulaski are delivered throughout the area. Commercial and book printing are also available in Radford.

Recreational Facilities - Radford has a municipal Recreation Department directed by a commission of seven persons. A paid director and assistant give direct supervision to the activities of this department. The recreation building furnishes many facilities enjoyed by all age groups. A library, open all year, provides reading and reference material. The gymnasium, in addition to it's athletic function, provides space for supervised dancing parties, large meetings, flower shows, festivals, and exhibits.

Here also are badminton, shuffleboard, volleyball, handball, and squash racquet courts available to everyone. Four smaller meeting rooms are in demand for meetings of citizens groups and organizations.

Wildwood Park, a natural wooded area in the center of the city, has tennis courts, facilities for family picnics, and a swimming pool. Swimming lessons and life saving classes are conducted here each summer. During the summer months, the public school grounds are utilized as neighborhood grounds with responsible personnel directing the activities. There is one motion picture theatre in Radford and nearby on U. S. Route 11 are two outdoor theatres. Radford College has a large auditorium which is used often for plays, lectures, and concerts.

Less than five miles to the west of Radford is Claytor Lake, an artificial lake created by the Appalachian Electric Power Company dam. Claytor Lake State Park is located here with facilities for fishing, boating, swimming and picnicking along with it's scenic beauty. Cabins are also available by the week or longer at the state park and other park areas around the lake.

Radio station WRAD, an independent station in Radford, provides programs of entertainment and information to this general area. WBCR, a new independent station located near Christiansburg, also provides radio entertainment for this general area. Good television reception is available from Roanoke and Lynchburg, Virginia, Greensboro, North Carolina, and, quite recently, from Bluefield, West Virginia.

Radford's community life is enriched by the work of Civic Clubs, Fraternal organizations, Veterans organizations, the Chamber of Commerce, and other community-minded groups.

Industrial and Commercial Development

As mentioned previously, Radford has remained primarily an industrial city for the past twenty-five years. In 1954 the economy of the city was still based mainly on industry and commerce. Any changes which have occured since 1930 have been the result of industrial and commercial growth within the city. Some idea of this growth may be had from the individual illustrations presented on the following pages.

Burlington Industries, Incorporated - This textile plant is owned and operated by Burlington Industries, Incorporated of New York City. The Radford branch of this firm began operations in 1938. The plant manufactures undyed rayon yard goods from raw yarn supplied primarily by the Celanese Corporation of America, American Viscose Corporation, and the DuPont Company. Material is shipped to the plant from Narrows, Virginia and Amcelle, Maryland. Yard goods made at the Radford plant are shipped to garment manufacturers all over the United States. Most of this material ultimately goes into ladies lingerie.

The Radford plant operates twenty-four hours a day, six days a week. The physical size of the plant has doubled since it first began operations in 1938.

Total annual production has also doubled as a result of more and better machines. The rapid growth of this plant is illustrated in Table XXVI which presents employment and annual production for representative years since 1938.

TABLE XXVI

ANNUAL PRODUCTION AND NUMBER OF EMPLOYEES OF THE BURLINGTON INDUSTRIES RADFORD PLANT FROM 1938 THROUGH 1954[a]

Year	Number of employees	Yards produced
1938	550	12,000,000[b]
1942	525	15,000,000[b]
1946	500	17,000,000[b]
1950	435	22,967,808
1954	283	27,520,331

[a]Interview with W. O. Lowman, Office Manager, Burlington Industries, Incorporated, Radford, Virginia, July 29, 1955.

[b]Figures are approximate.

This table shows an increase, over the years, in production with a simultaneous decrease in plant personnel. This is the result of a transition from human labor to machine production in the plant. This change has occured in most industrial firms during the past half century.

This Radford firm had an annual payroll in 1954 of approximately $1,000,000.00. Thus, it contributes tremendously to the economy of Radford City and the surrounding area.

Century Ribbon Mills, Incorporated - This Radford firm is a subsidiary of the Century Ribbon Mills, Incorporated of New York City. The local plant was first located in Radford in 1936. As the name implies, this plant manufactures undyed narrow ribbons, primarily for women's garments such as dresses, blouses, and frocks. Limited numbers of ribbons are dyed at the Radford plant and shipped directly to retailers for consumer use, but the greater percentage of the annual output is shipped in undyed form to garment manufacturers who dye and attach the ribbons as trim for ladies ready-to-wear clothing.

The Radford plant receives it's raw materials, in the form of thread, from firms such as American Viscose, The Celanese Corporation of America, and the Dupont Company. Most of these plants are located in the eastern United States. Ribbon produced in Radford is shipped to all parts of the United States and foreign countries.

When it first began operating in 1936, the firm utilized thirty-six looms. Three years later, in 1939, the firm doubled it's floor space with the construction of a new wing to the original building. This same year thirty-six additional looms were placed in operation which doubled the plant capacity. As of the end of 1954, sixty-eight of these looms were in operation. Employment has increased from fifty-two persons in 1936 to 105 in 1954. Total annual production in 1954 was approximately 52,000,000 yards of ribbon. The current annual payroll is about $10,000.00.[1]

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[1]Interview with I. W. Carns, Plant Manager, Century Ribbon Mills, Incorporated, Radford, Virginia, July 28, 1955.

The Chesapeake and Potomac Telephone Company of Virginia

This company first established an office in Radford in 1916 when it bought up local telephone interests. In 1930 the firm occupied limited space on the second floor of a Radford business building. At that time all phone service was accomplished through a "manual" operation wherein each operator personally took incoming calls and connected them to the desired number. This manual system was continued until 1942 when, at a cost of $375,000, the company constructed a modern brick structure for the local equipment and personnel. At the same time phone service was converted from the manual system to the automatic dial system in use today. An interesting fact is that the "C & P" telephone company does not terminate operators who may become surplus personnel as the result of such a conversion to automatic phone service. Excess operators are offered the chance to transfer to another office where they are needed, but if they refuse they are still employed by the local office. The company allows normal employee attrition to reduce the working force to the desired number.

The Radford telephone office serves the northern and western portions of Montgomery County, the City of Radford, and the extreme eastern part of Pulaski County. Operators are on duty at all times. With the automatic dial system in use, their primary mission is to handle long distance and information calls.

The expansion of this office was gradual until 1940 when the Radford Arsenal was constructed.

This local office was delegated the job of installing all phones required for the Arsenal plus many temporary phones needed by the construction contractor. After the initial installation of phones by this local office, the government assumed the operation of the telephone facilities at the Arsenal.

An idea may be had of the growth of this office through the figures presented below.

	1930	1935	1940	1945	1950	1954
Telephones in service	784	884	1400	2651	4234	5133
Operators	7	9	33	28	28	28
Maintenance personnel	3	3	19	23	24	24

These figures indicate a decrease in the number of telephone operators from 1940 to 1945. This was due to government personnel taking over and operating the phone service at the Radford Arsenal after the local had established phone service there in 1940-41.

The continued rapid expansion of telephone service in the Radford office area has been due to two factors. With the inception of World War II all telephone materials were declared critical by the Federal government. This was done so that rapidly expanding military facilities might be serviced. Therefore, for a period of approximately five years during the war there were very few phones installed for civilian use even though the population increased substantially in this area. This created a backlog of phone requests that could not be satisfied until the end of the war. Radford Arsenal had also created a demand for many additional private phones.

Since local phone service was curtailed during the war, the Radford office had the task, after the war, of installing phones during a nine year period that should have been installed over a fourteen year period. Even with the recent past expansion, company officials estimate an additional twenty per cent need for phones within the immediate future within the Radford area.

The Radford office of the "C & P" Telephone Company annually pays $220,000.00 in wages and salaries to local employees. In addition, it pays $178,700.00 in annual wages and salaries to it's employees in Christiansburg, Virginia. Consequently, the firm is a major contributor to the economy of this general area.[1]

Clover Creamery Company - This dairy plant located in Radford in 1922. It is a branch plant of the Clover Creamery Company of Roanoke, Virginia.

The Radford plant buys and processes raw milk and cream into pastaurized milk, butter, ice cream, cottage cheese, and condensed milk. The raw milk and cream is purchased primarily from Montgomery, Floyd, Grayson, Carroll, Wythe, Giles, Smyth, and Bland counties. Finished dairy products from this plant are sold in counties in southwestern Virginia from North Carolina to West Virginia and from Roanoke County in the east to Marion, Virginia in the west. Sixty-seven delivery trucks accomplish this distribution. The plant buys milk from approximately 300 milk producers and cream from about 1500 cream producers.

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[1]Interview with L. W. Disney, Manager, Radford Area, Chesapeake and Potomac Telephone Company of Virginia, July 26, 1955.

This large dairy plant was operating with approximately thirty employees in 1930 and in 1954 it employed 125 persons. The plant operates twenty-four hours daily. The physical plant has been enlarged a number of times. The most recent expansion involved the construction of facilities to process additional grade "A" milk and this work cost approximately $100,000.00. In 1953 offices and a cold storage unit were altered at an approximate cost of $45,000.00.

In 1954 the plant processed about fifteen times the amount of grade A milk that it handled in 1930. The current annual payroll of this plant is about $300,000.00.[1]

Esso Standard Oil Bulk Plant - This Radford distributing plant is owned and operated by Esso Standard Oil Company of New Jersey. Prior to 1930 the company had a small distributing plant in the city, but it was not until the early 1940's that this facility was enlarged. In 1947 Esso Standard Oil combined the Radford and Pulaski distribution plants, building a new plant in Radford at an approximate cost of $125,000.00. In 1952 the Christiansburg area, formerly served by a commission agent in that town, was brought under the Radford plant and for this additional operation the company spent $98,000.00.

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[1]Interview with G. R. Weaver, Plant Manager, Clover Creamery Company, Radford, Virginia, July 30, 1955.

This distribution center handles gasoline, motor oils, fuel oils, industrial oils, aviation oils and gasoline, and tires and accessories. Bulk shipments of gasoline are received from Norfolk, Virginia, Baltimore, Maryland, and Greensboro, North Carolina. Packaged supplies are received from Louisiana, New Jersey, and Maryland. These products are distributed to consumers in Montgomery, Floyd, Giles, and Pulaski counties. The Radford plant daily operates four large tanker transport trucks and one stake body truck to accomplish it's mission.

Local officials estimate that there has been 1000 per cent increase in volume of business of this plant since 1930. The Radford plant is the largest Esso bulk plant in Virginia located west of Roanoke, and is the fourth largest Esso bulk plant in Virginia.

The 1954 annual payroll of this plant was approximately $50,000.00. Thus, the plant contributes substantially to the economy of the city.[1]

J. Freezer and Son - This garment manufacturing firm located in Radford in 1928. It is one of three plants owned and operated by J. Freezer and Son of New York City. The two additional plants are located in Galax and Floyd, Virginia.

The Radford plant manufactures men's and boy's dress shirts, and has a sales area covering the entire eastern United States.

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[1]Interview with E. C. Hash, Manager, Radford Bulk Plant, Esso Standard Oil Company of New Jersey, July 29, 1955.

Raw materials for the plant, in the form of cloth yard goods, are purchased on a competitive market from sources throughout many eastern states. This cloth is shipped into the Radford plant where it is cut by machines and machine sewed into finished shirts ready for consumer use. The plant operates on a daylight shift schedule for five days each week.

While the production process has remained the same, the capacity of this plant has increased gradually since 1930. In 1928 the plant began operations with approximately 100 employees. In 1954 about 200 people were employed by the firm.

Finished shirts manufactured here are shipped to all parts of the United States.[1]

Kenrose Manufacturing Company - The Radford Kenrose plant is a branch of the Kenrose Manufacturing Company of Roanoke, Virginia. The local plant is relatively new to Radford, locating there in the spring of 1954.

This plant manufactures ladies cotton washable frocks which are sold to many chain department stores located throughout the entire country. Raw materials, in the form of cotton yard goods, are purchased on a competitive market from textile plants located primarily in the eastern United States. The local plant operates one shift each day for five days each week.

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[1] Interview with A. P. Harman, Plant Manager, Radford Plant, J. Freezer and Son, July 27, 1955.

Although this plant has been in Radford only a short time, it has grown fast. At the time of it's opening in April, 1954, the plant utilized forty cutting and sewing machines and employed approximately forty persons. At the end of 1954 the plant was operating 250 machines, and employed about 200 people. Monthly production at the end of 1954 was about 1200 dozen frocks per month.

For the first year of it's operation, the Kenrose plant had an annual payroll of about $8,000.00. Company officials anticipate future expansion of the plant.[1]

Leggetts Department Store, Incorporated - This general merchandise firm first located in Radford in 1934. It is one of approximately fifty stores owned by Leggetts, Incorporated of Charlotte, North Carolina.

This retail store sells medium and low priced clothing of all types. Most of it's merchandise is purchased through a central buying office at the company offices in Charlotte, North Carolina. The Radford store serves a trade area of approximately thirty miles surrounding Radford, although other Leggetts stores in Christiansburg and Pulaski offer keen competition.

The physical plant of this firm has increased by about one-third through alterations to the building. The store employed about twenty-five people in 1934, and by 1954 more than fifty-three persons were employed full time.

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[1]Interview with W. O. Jordan, Plant Manager, Kenrose Manufacturing Company, July 30, 1955.

Gross annual sales have increased since 1934 as follows:[1]

1934	$250,000.00
1939	350,000.00
1944	600,000.00
1949	650,000.00
1954	800,000.00

The above figures are approximate, but they show the substantial increase in business enjoyed by this Radford firm.

Lynchburg Foundry Company - This organization, as it is known today, came into existance in 1905. Prior to that time it was known as the Radford Pipe Works and Foundry Company. The company changed hands a number of times before 1905, but in 1906 the plant was completely renovated and remodelled and operations were expanded gradually to include all existing facilities of the present.

The plant itself is located on thirty-five acres of a total of 250 acres owned by the company along New River in Radford. Facilities include a deLavaud pipe foundry, a special foundry, a pattern shop, machine shop, physical and testing laboratory, offices, vast yard space, and trackage for locomotives.

There are two centers of activity at the plant. These are the deLavaud Pipe Foundry and the special foundry. Both operations are impressive.

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[1]Interview with S. C. Mattox, Store Manager, Leggetts Department Store, Radford, Virginia, July 26, 1955.

In the deLavaud Pipe Foundry, pressure pipe of the bell-and-spigot type is cast by the centrifugal process and this pipe customarily ranges in size from three inches to twenty-four inches in diameter and is eighteen feet long. Pressure pipe is distinguished from cast iron soil pipe in that it can withstand the pressure in water mains.

When the Radford plant was in it's infancy and for many years thereafter, all pipe was made in sand molds. However, in 1936, the company began producing pipe by the deLavaud process which utilizes a machine invented by a Brazilian engineer of that name.

Basically, the principle of the deLavaud process is that molten iron is fed into a revolving, water-jacketed metal mold. Centrifugal force causes the molten metal to cling to the inside surface of the mold, thus forming a pipe. In the Radford plant, molten iron is fed into three deLavaud machines and the pipe is cast in from one and one-half to six minutes, depending on the size of the pipe being poured. After casting, the pipe is removed to an annealing oven where it stays for approximately one hour.

The other center of activity at this plant, the special foundry, also provides a dramatic sight when castings are poured. Here castings may range in size from 500 to 100,000 pounds. Molds for smaller castings may be prepared by using iron flasks but huge castings weighing many tons frequently must be made in tremendous pits. The largest pit mold is seventy-eight feet long, fifteen feet, ten inches wide and twelve feet deep.

Bulkheads can separate the pit into sections.

Large castings manufactured at Radford have varied applications. They may be used for chemical vessels such as pots which weigh up to fifteen tons each or they may be twenty ton diesel engine cylinder blocks. The Radford plant specializes in the manufacture of large castings while another company owned factory in Lynchburg, Virginia makes smaller castings of various types.

Raw materials for this plant, in the form of scrap metals, are secured primarily from sources in Virginia and North Carolina. The great weight of scrap metals prohibits shipment from any distant point. Because of the weight of pipe produced here, most shipments from the Radford plant are to customers in Virginia and North Carolina. However, limited items are shipped to parts of Texas and Michigan. The two main products are cast iron pressure pipe and a miscellaneous line of iron castings.

The company has enjoyed a substantial expansion since 1930 and this expansion is shown below through the number of persons employed for representative years since that date.

Year	Number of employees
1930	200
1935	250
1940	412
1945	360
1950	614
1954	539

These figures are approximate but they show the expansion of activities since 1930.

During the past three years this firm had the following annual payroll: 1952, $3,067,681.65; 1953, $2,987,803.00; 1954, $2,382,514.16.[1] With an annual payroll of this size it is readily apparent that the Lynchburg Foundry makes a tremendous contribution to the economy of the City of Radford.

Sutton Company, Incorporated - The Sutton Company is a general contracting firm, specializing in highway and railroad bed excavating. It also does industrial excavating and builds railroad track. The firm was first established in Radford in 1929 where it still maintains a central office.

The firm has gradually expanded it's activities and in 1948 it did volume business in Virginia, West Virginia, and had limited contracts in adjoining states. In that year the founder of the company died and his successors have since been attempting to confine the contracting operations to a more concentrated area near Radford.

As most large contracting firms, Sutton Company does not consistantly employ large numbers of people. Instead they hire personnel in the vicinity of each specific contract which they receive. For this reason it has not been feasible to attempt to show the firm's expansion through number of people employed. However, an idea of the scope of operations of this company may be had from the following figures showing annual gross income for representative years since 1930.

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[1]Interview with H. H. Holland, Plant Manager, Lynchburg Foundry Company, Radford, Virginia, July 26, 1955.

Year	Annual gross income
1930	$ 201,569.40
1940	160,602.11
1945	1,729,402.12
1950	696,154.00
1954	391,035.28

Although Sutton Company has somewhat confined it's contracting activities since 1948, this firm is still one of the major industries in Radford.

Industrial Sites

Certainly, no industrial or commercial firm can seriously consider moving to a new area unless there is some building site available which will meet the requirements of that firm. While it is true that every company has certain qualifications in mind when they are seeking building sites, there are a number of general characteristics which are desirable in any building site. Building sites should be located reasonably close to a good highway or railroad or both. They should be located where adequate supplies of water may be obtained for the manufacturer or business house. Each site should be large enough to allow future expansion in the firm which builds on that site.

With regard to building sites, there is a growing trend in the South today for some agency or several agencies in each community to promote available building sites and to create interest in these sites on the part of industry.

Radford City has followed along in this trend. In 1954, after considerable effort on the part of certain local residents and with the assistance of state agencies, Radford listed some fifteen industrial sites available in or near the city. A brief description of these industrial sites is presented on this and the following pages.

Site Number 1 - Approximately 15 acres cleared, well drained, in east end of Radford on U. S. Highway 11. City water, electric, and sewer facilities are available. Zoned for light industry.
Owners: Ted Dalton and John B. Spiers - Radford, Virginia

Site Number 2 - Approximately 3 acres, cleared, well drained and sloping to river within corporate limits of Radford. City water, sewerage, and electric power facilities are available. Zoned for light industry.
Owner: Sutton Development Corporation - Radford, Virginia

Site Number 3 - Approximately 3 acres level, cleared, and well drained, in west end of Radford along the Norfolk and Western Little River spur. City water, sewerage, and electric power facilities are available. Zoned for heavy industry.
Owner: Sutton Company - Radford, Virginia

Site Number 4 - Approximately 3 acres level, cleared, and well drained, within corporate limits of Radford and along Norfolk and Western Little River spur. City water, sewerage, and electric power facilities are available. Zoned for heavy industry.
Owner: Virginia Iron, Coal, and Coke Company -
Roanoke, Virginia

Site Number 5 - Approximately 7 acres level, cleared, and well drained, along Norfolk and Western Railway spur track to Little River and within corporate limits of Radford. City water, sewerage, and electric power facilities are available. Zoned for heavy industry.
Owner: Virginia, Iron Coal and Coke Company -
Roanoke, Virginia

Site Number 6 - Approximately 4 acres, cleared, slightly undulating and sloping to railroad, in west end of Radford within corporate limits. City water, sewerage, and electric power facilities are available. Zoned for light industry.
Owner: Virginia Iron, Coal, and Coke Company -
Roanoke, Virginia

Site Number 7 - Approximately 13½ acres level, cleared, and well-drained, within corporate limits of Radford. Additional acreage is available to the north. A large building of heavy brick construction with a rail siding exists on the property. City water, sewerage, and electric power facilities are available. Water in large quantities is available from New River. Zoned for heavy industry.

Owner: Radford Industrial Development Corporation - Radford, Virginia

Site Number 8 - Approximately 120 acres, cleared, and slightly folling and sloping to river, just southwest of corporate limits of Radford and on the New River. The Norfolk and Western spur to Little River forms the east boundry of this property. City water, sewerage, and electric power facilities are available. Additional water in large quantities is available from the New River. No zoned.

Owners: James Lewis Ingles and Mary Lewis Jeffries - Radford, Virginia

Site Number 9 - Approximately 18½ acres, level, cleared and well-drained, within the corporate limits of Radford and known as the Airport Site. Additional adjacent acreage is available. City water, sewerage, and electric power facilities are available. Zoned - general agriculture.

Owners: L. P. Sutton and W. H. Weddle - Radford, Virginia

Site Number 10 - Approximately 210 acres, level farm bottomland, 5 miles north of Radford at Belspring in Pulaski County. The Norfolk and Western Railway mainline forms the west boundry and the New River is to the east. Water in large quantities is available from the New River. Not zoned.

Owners: L. A. Brown et. el., Stauffer Chemical Company, F. E. Lindsey and others - Radford, Virginia

Site Number 11 - Approximately 850 acres, mostly cleared and rolling, including 160 acres of level farm bottomland - 4 miles south of McCoy at Whitethorn Station. Large quantities of water are available from the New River. The Virginian Railway is nearby and Route 655 gives access to the county highway network. Not zoned.

Owners: Richard P. Adams and Gordon Bell - Whitethorn, Virginia

Site Number 12 - Approximately 93 acres, mostly clear farm bottomland, on Route 114, 3½ miles east of Fairlawn, Virginia. Two parcels of land separated by highway 114. Water in large quantities is available from the New River. The Norfolk and Western mainline forms the east boundry of this property. Not zoned.

Owner: W. C. Carden - Fairlawn, Virginia

Site Number 13 - Approximately 450 acres, mostly rolling cleared farmland on Route 114, 3 miles east of Fairlawn. Approximately 30 acres level bottomland. Water in large quantities is available from the New River. Not zoned.
Owner: Harley Dalton - Fairlawn, Virginia

Site Number 14 - Approximately 16 acres cleared, well-drained and slightly undulating, in east end of Radford just south of U. S. Highway 11. City water, electric and sewer facilities are available. Zoned for light industry.
Owners: Ted Dalton and John B. Spiers - Radford, Virginia

Site Number 15 - Approximately 50 acres, mostly cleared bottomland, within corporate limits of Radford. City water, sewerage, and electric power facilities are available. Large quantities of water are available from the New River. Zoned - limited agricultural.
Owner: J. P. King - Radford, Virginia[1]

The industrial sites described above and illustrated on the following pages are immediately available to firms interested in locating in the City of Radford or in the surrounding area. The Industrial Committee of the Radford Chamber of Commerce has additional information regarding these sites and stands ready to assist industry in any possible way with regard to location in the Radford area.

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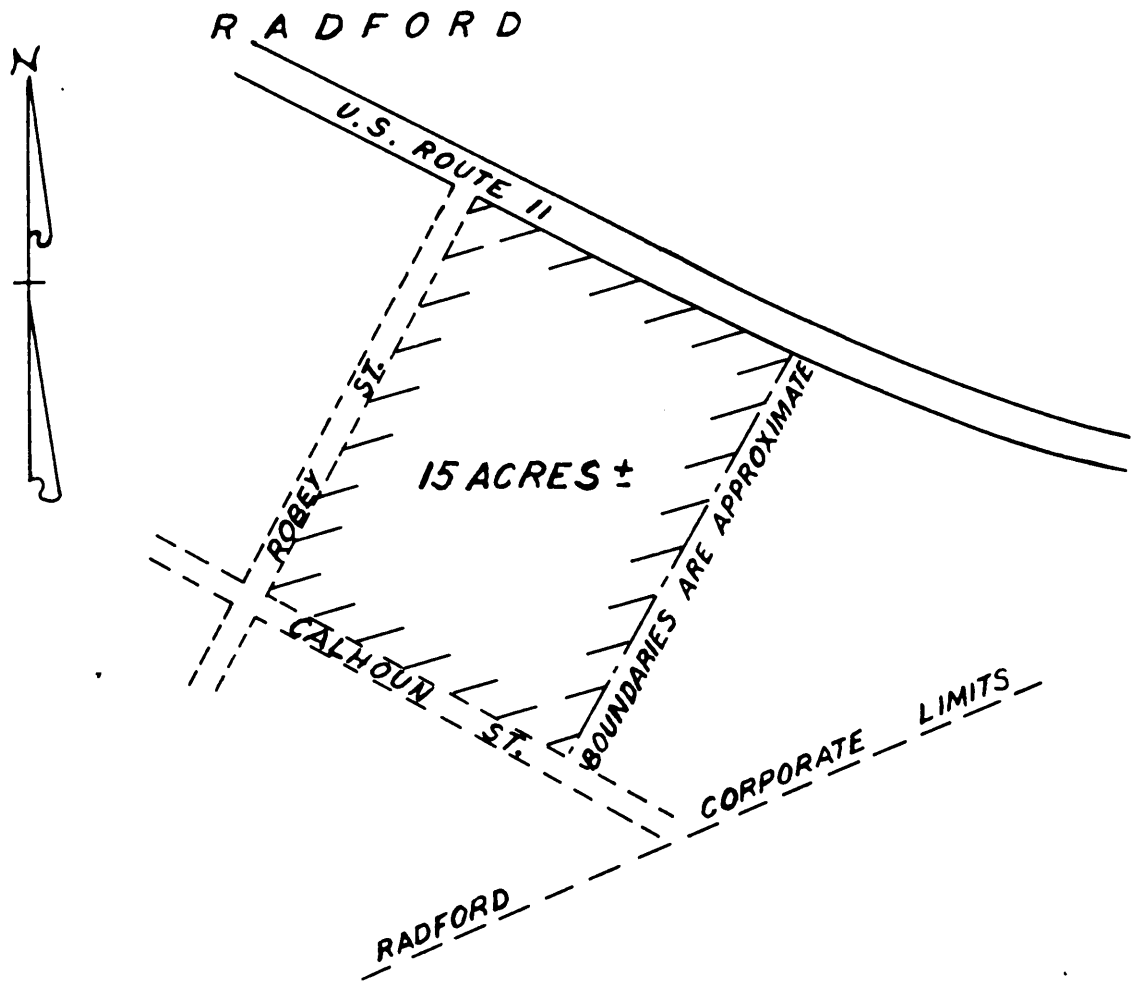
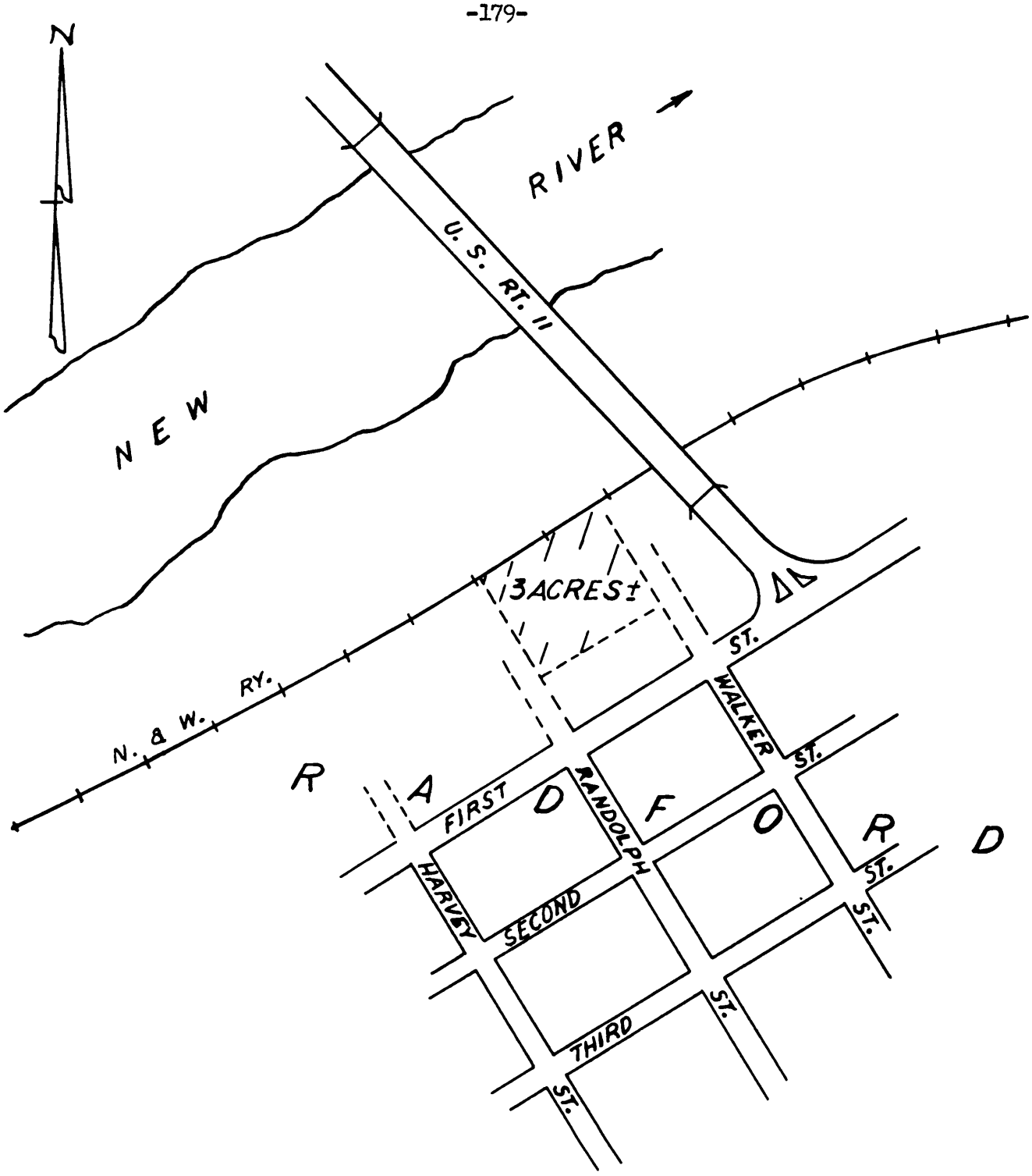
[1] Compiled from Industrial Sites and Economic Data, Radford, Virginia, (Division of Planning and Economic Development, Richmond, September, 1954).



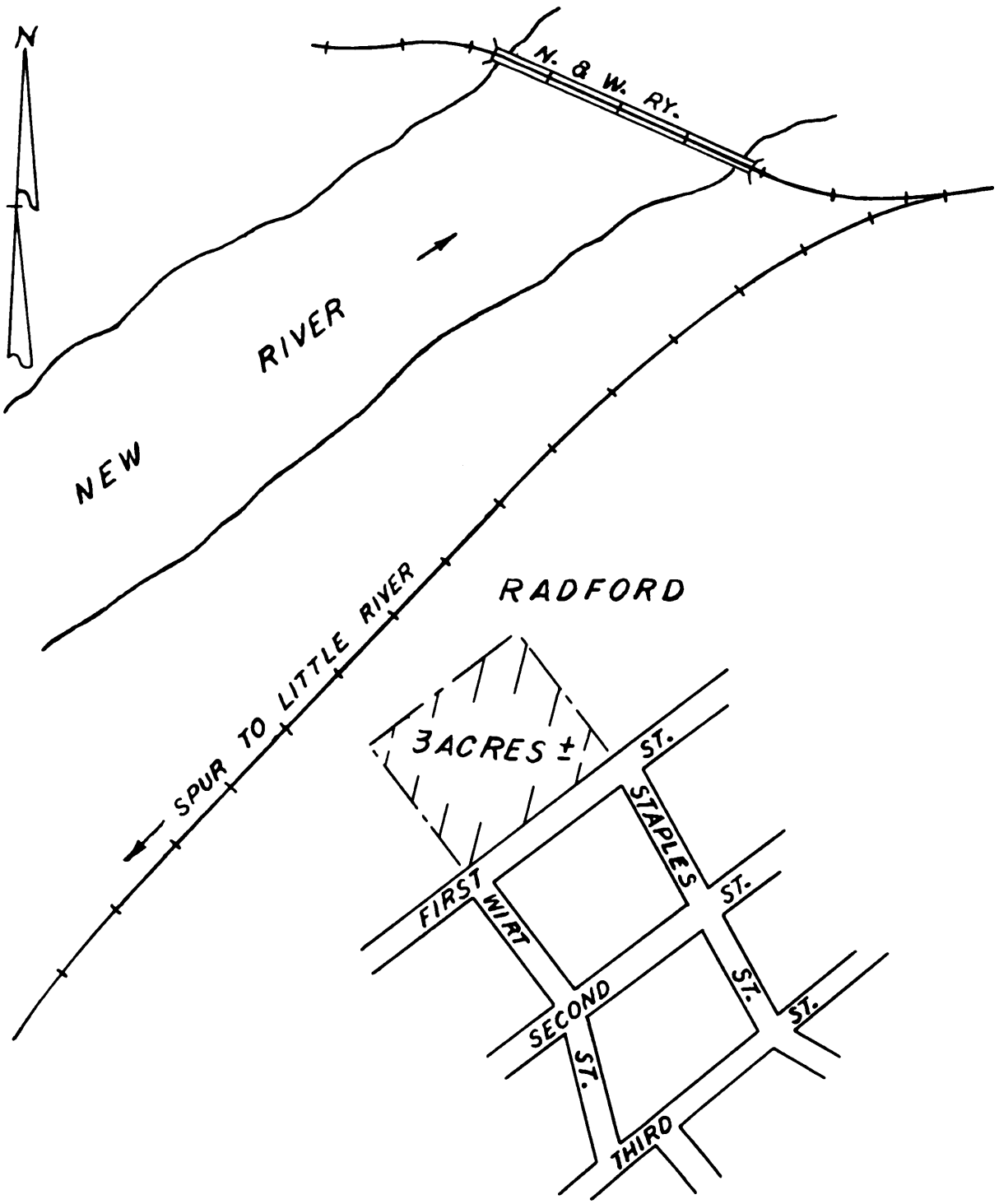
INDUSTRIAL SITE NO. 1
15 ACRE TRACT

APPROXIMATE SCALE

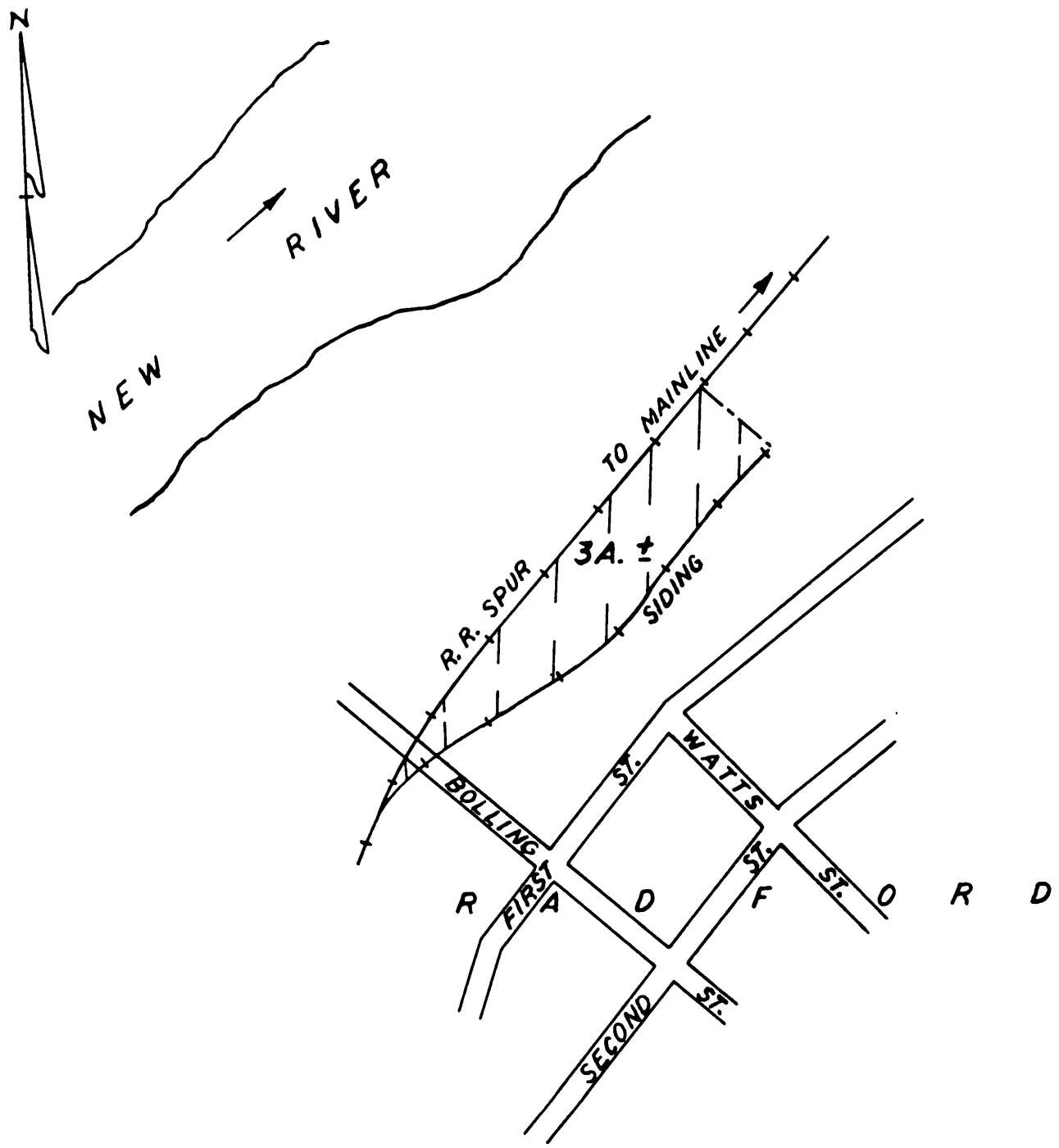
1" = 400 FT.



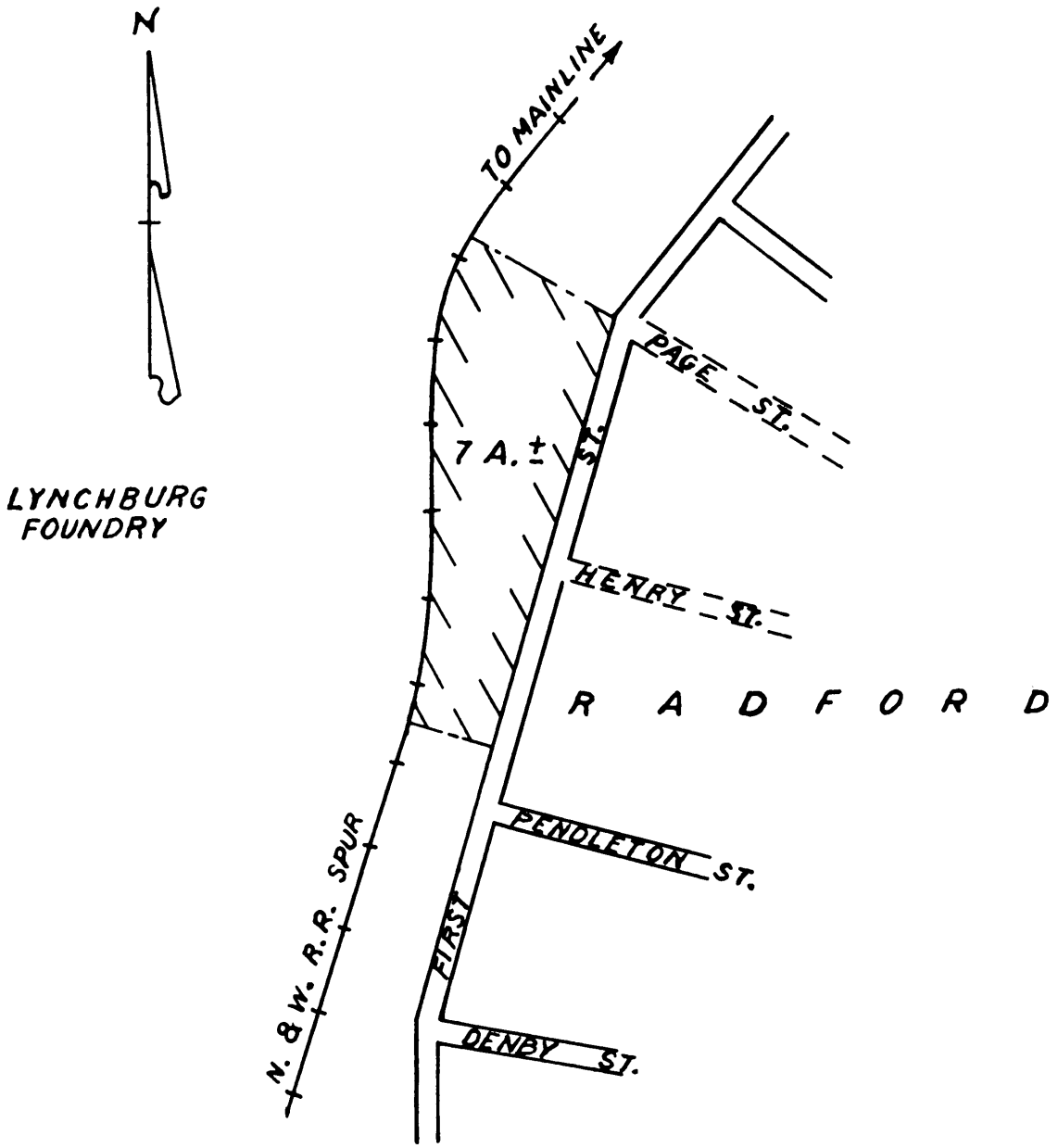
INDUSTRIAL SITE NO. 2
3 ACRE TRACT
APPROXIMATE SCALE
1" = 400 FT.



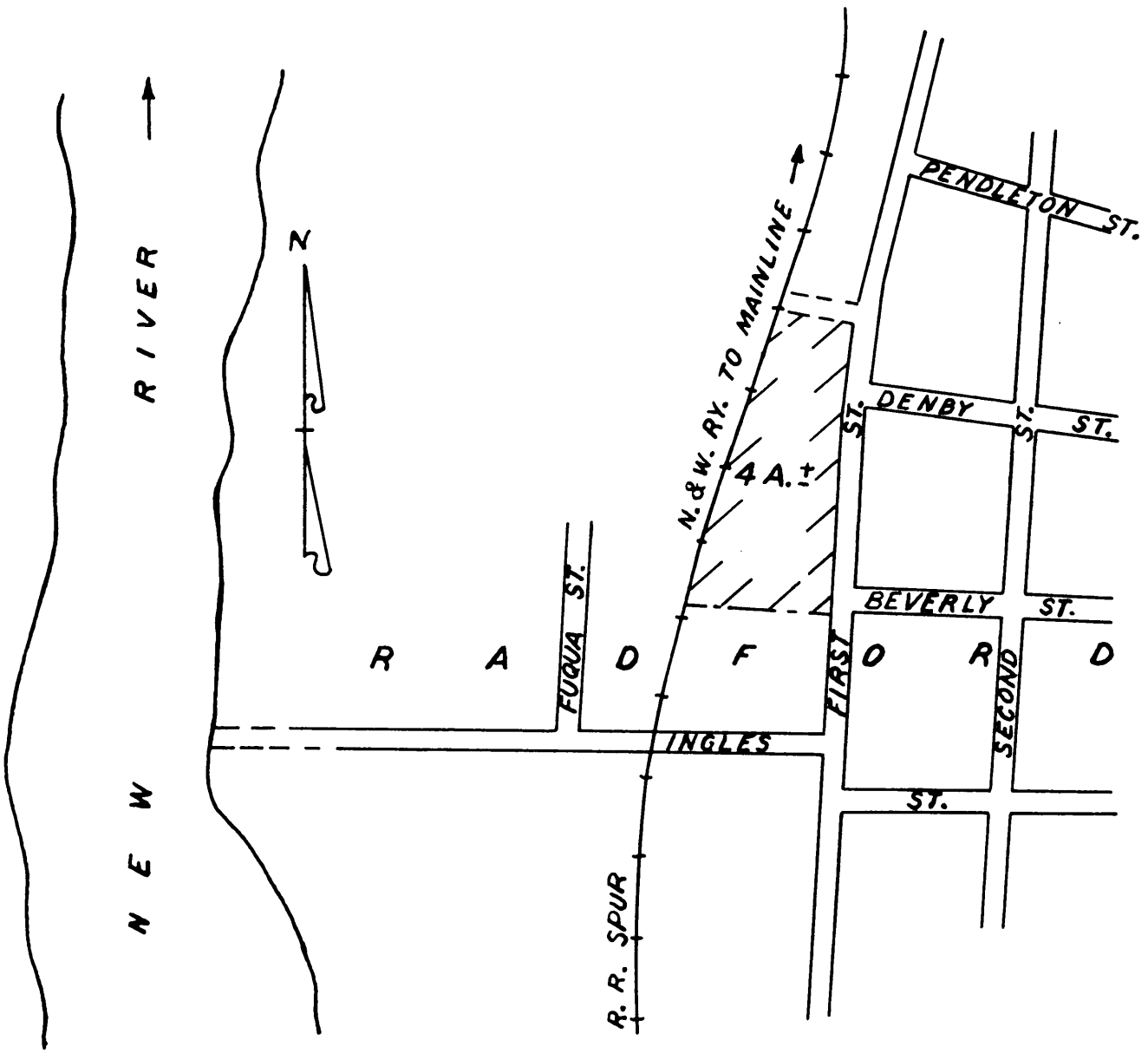
INDUSTRIAL SITE NO. 3
3 ACRE TRACT
APPROXIMATE SCALE
1" = 400 FT.



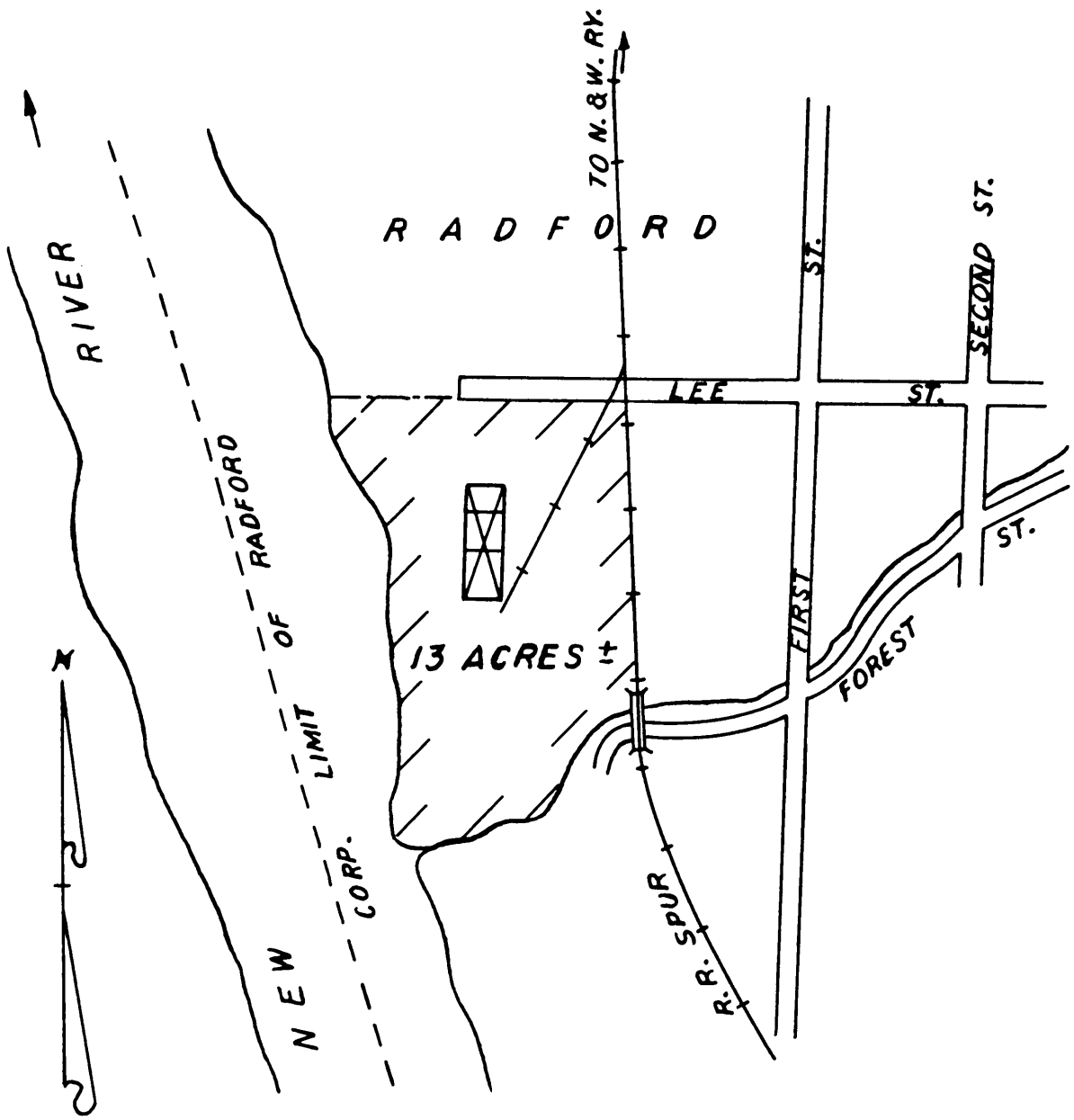
INDUSTRIAL SITE NO. 4
3 ACRE TRACT
APPROXIMATE SCALE
1" = 400 FT.



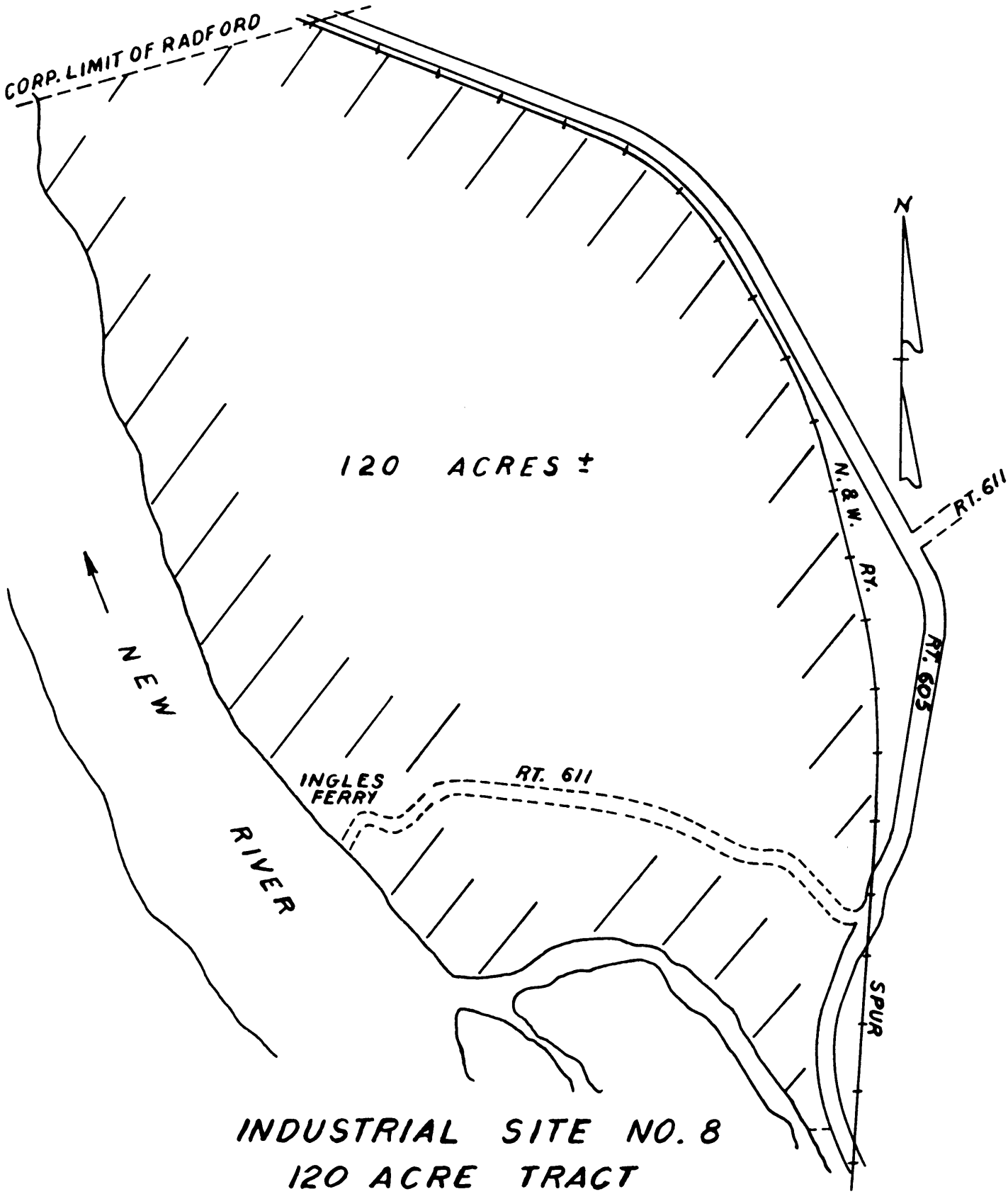
INDUSTRIAL SITE NO. 5
7 ACRE TRACT
APPROXIMATE SCALE
1" = 400 FT.



INDUSTRIAL SITE NO. 6
4 ACRE TRACT
APPROXIMATE SCALE
1" = 400 FT.



INDUSTRIAL SITE NO. 7
13 ACRE TRACT
APPROXIMATE SCALE
1" = 400 FT.

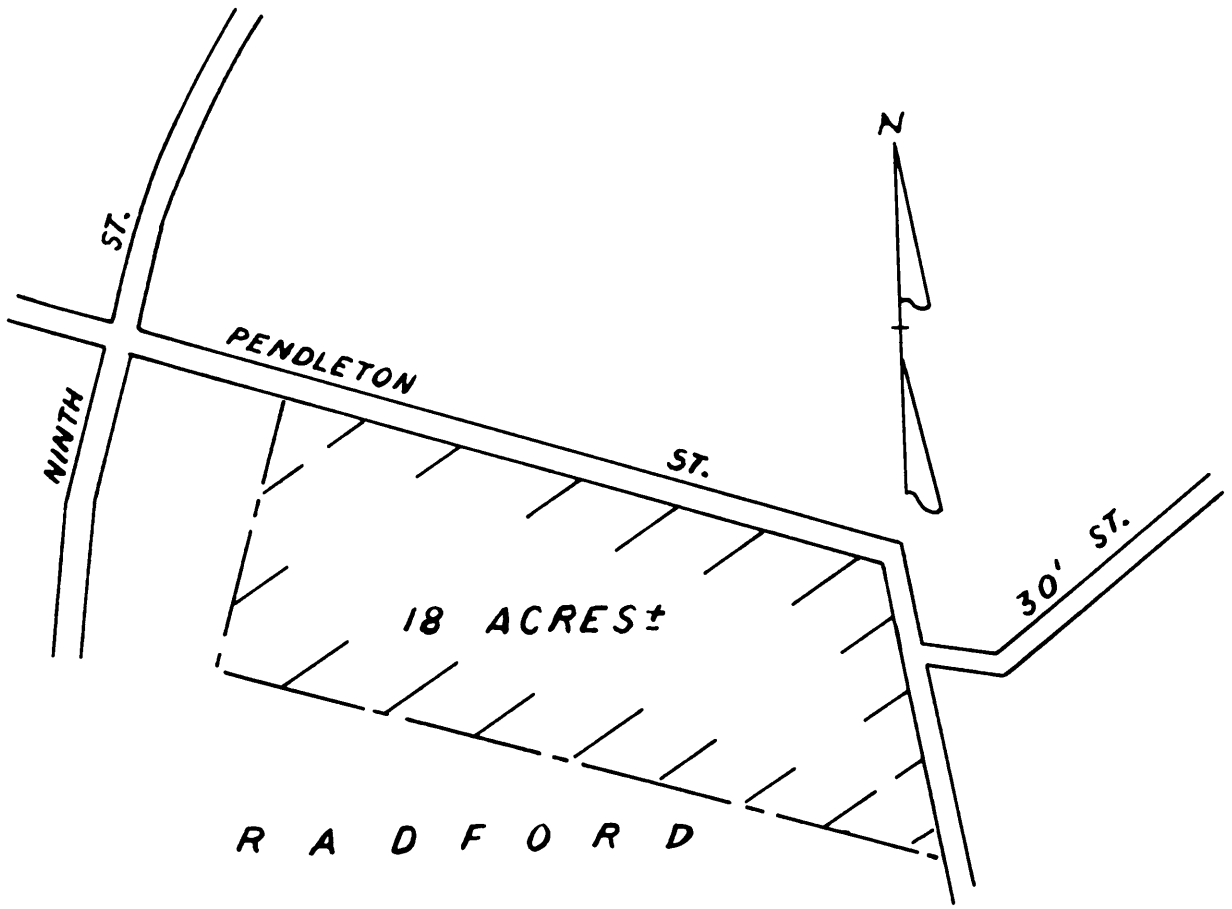


INDUSTRIAL SITE NO. 8

120 ACRE TRACT

APPROXIMATE SCALE

1" = 400 FT.

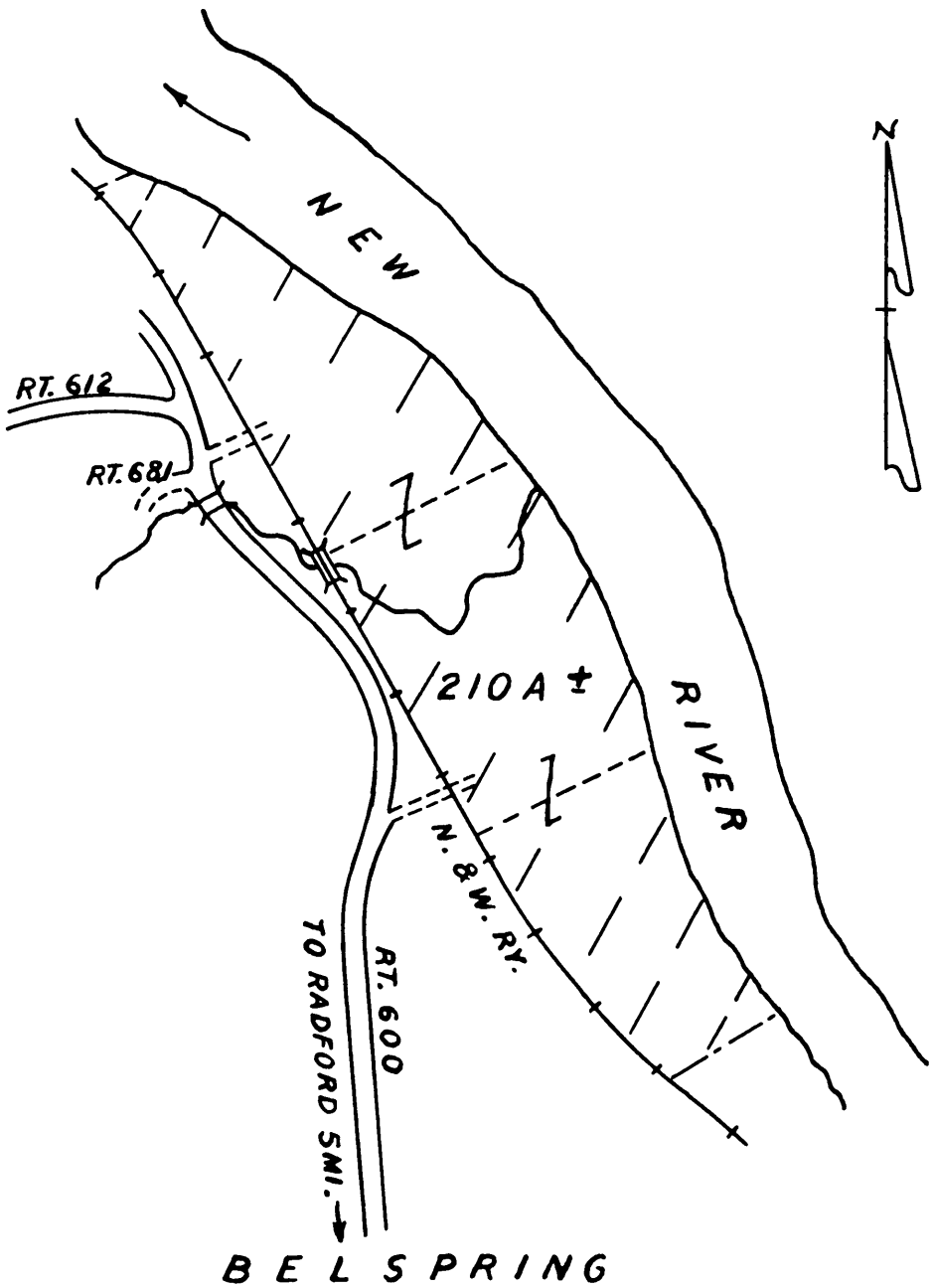


INDUSTRIAL SITE NO. 9

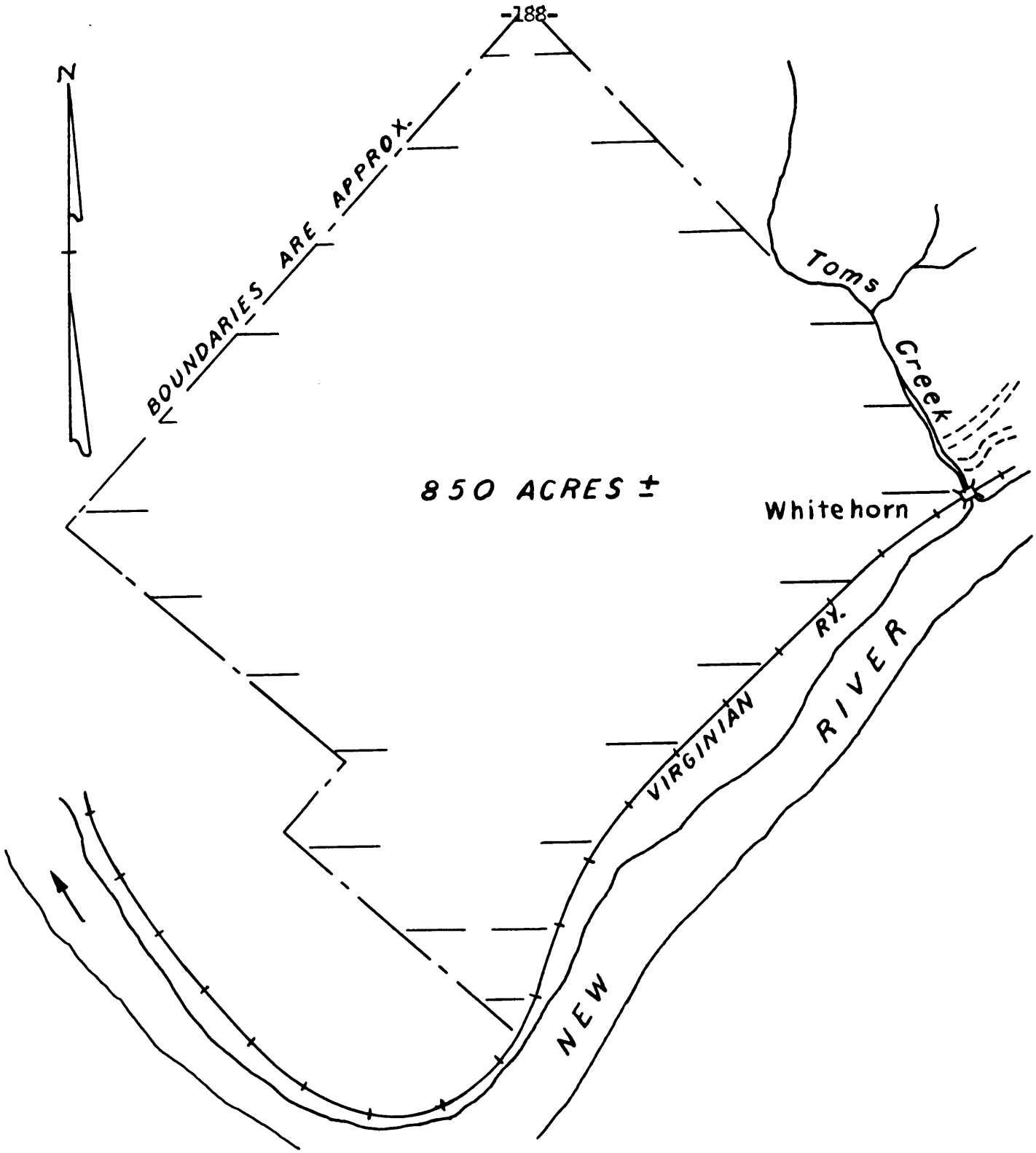
18 ACRE TRACT

APPROXIMATE SCALE

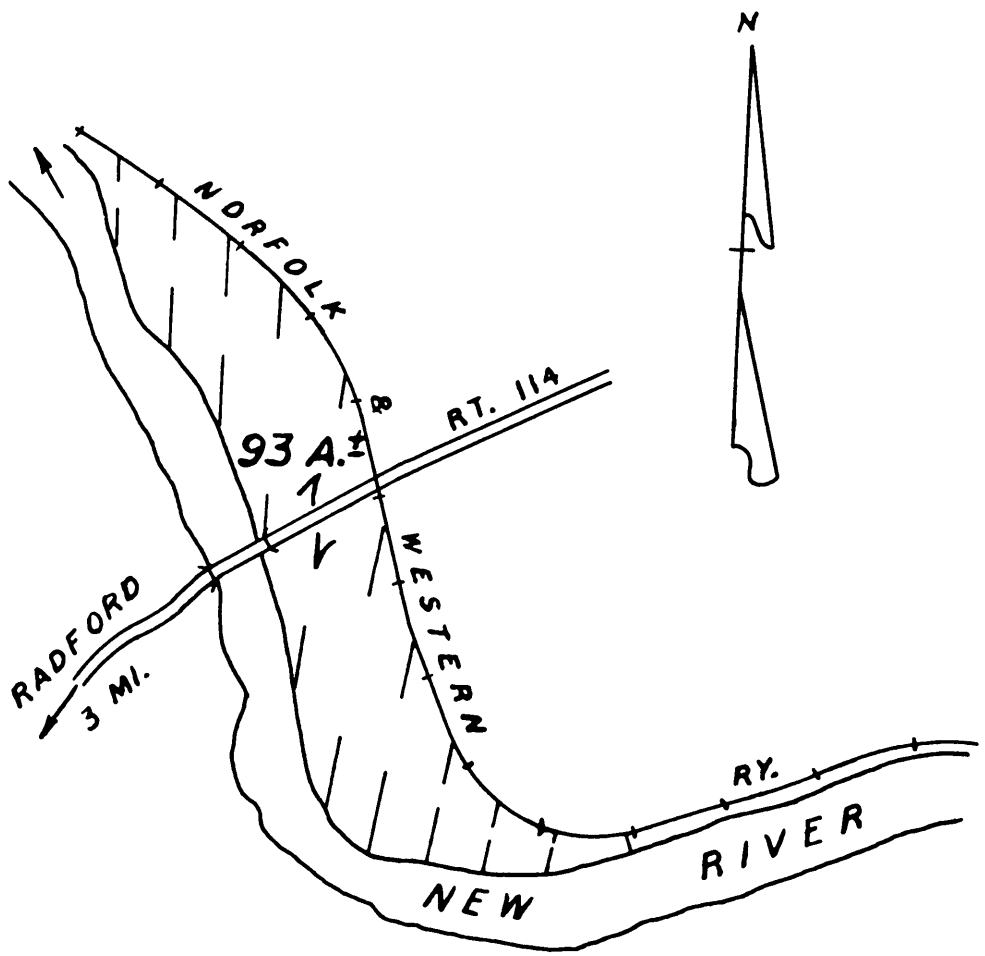
1" = 400 FT.



INDUSTRIAL SITE NO. 10
210 ACRE TRACT
APPROXIMATE SCALE
1" = 1320 FT.



INDUSTRIAL SITE NO. 11
850 ACRE TRACT
APPROXIMATE SCALE
1" = 1320 FT.

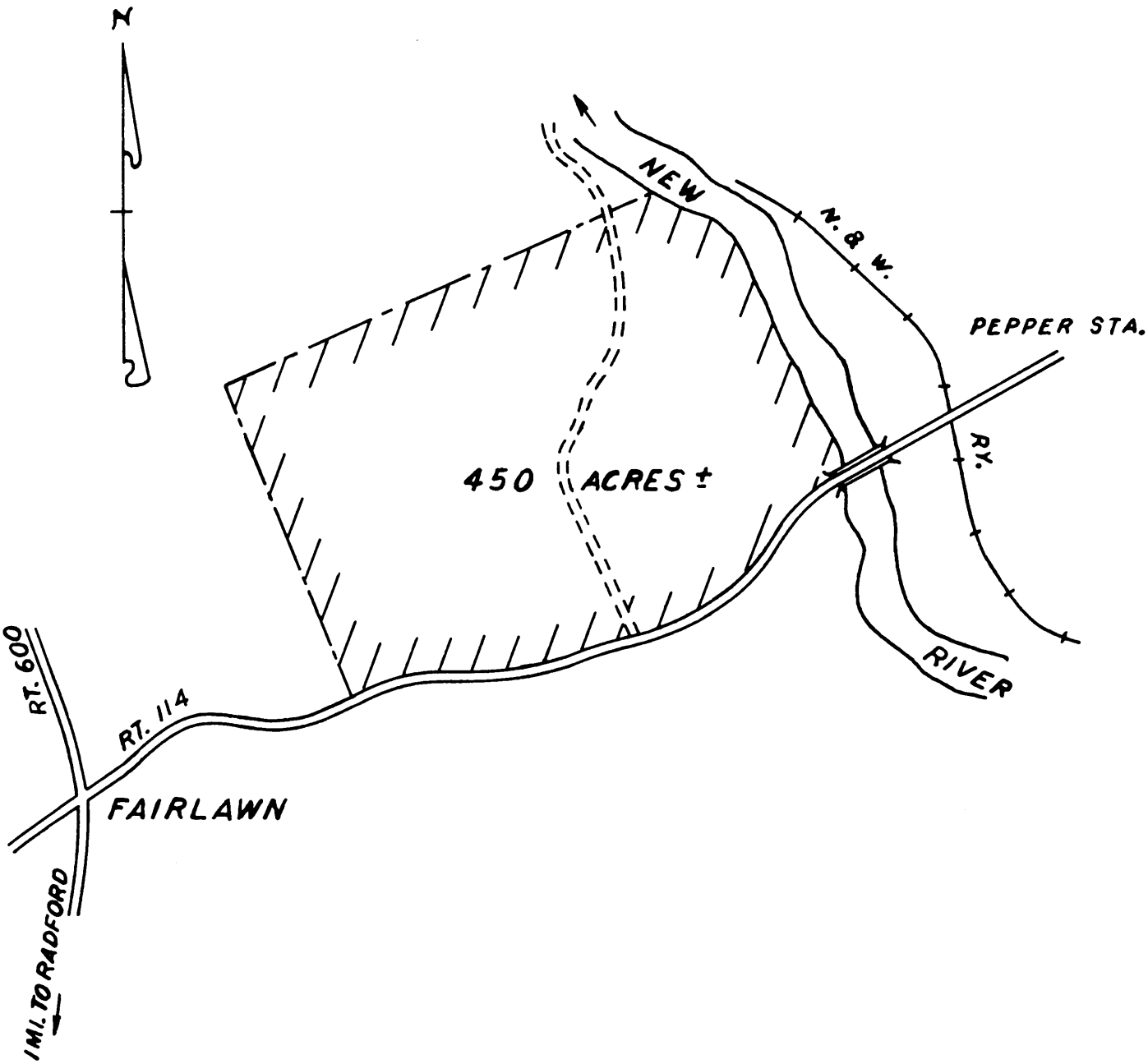


INDUSTRIAL SITE NO. 12

93 ACRE TRACT

APPROXIMATE SCALE

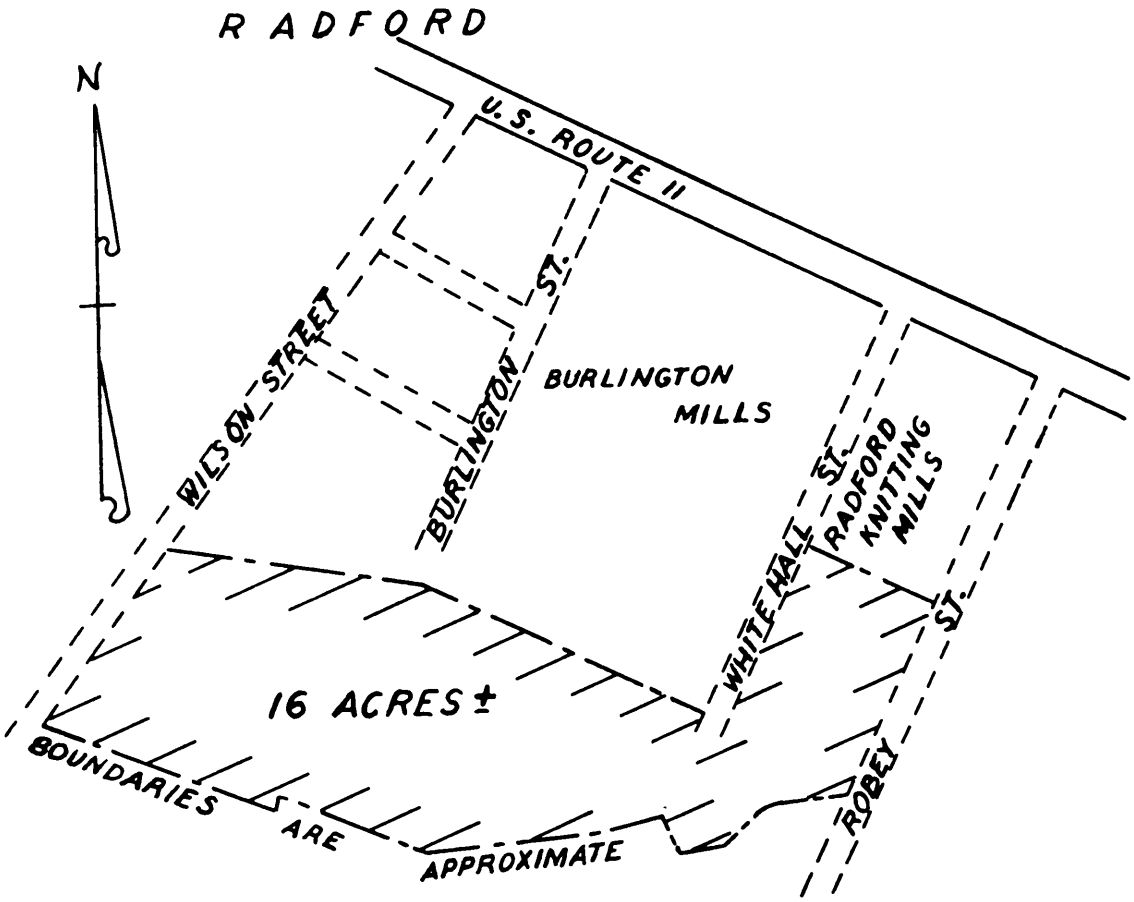
1" = 1320'



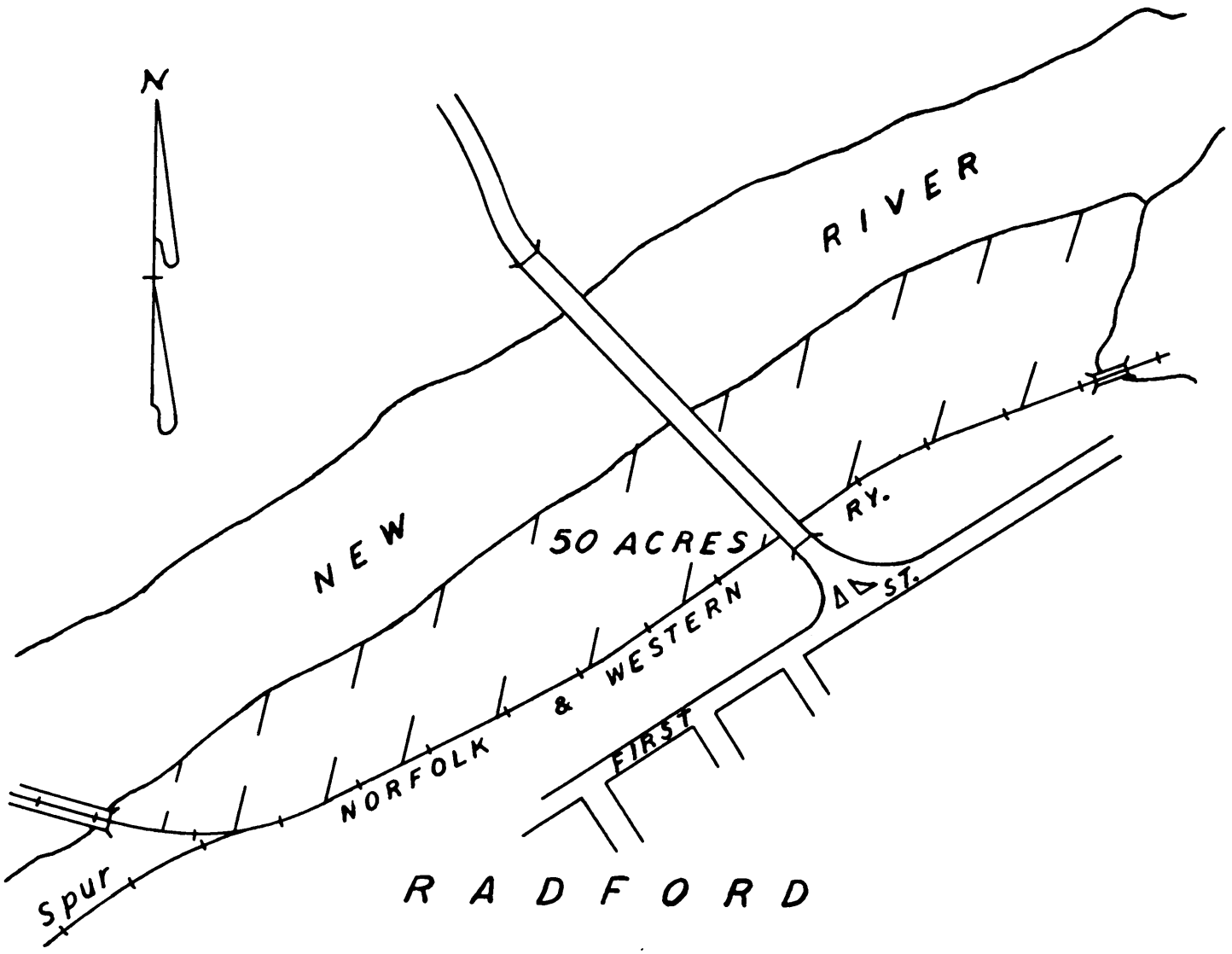
INDUSTRIAL SITE NO. 13
450 ACRE TRACT

APPROXIMATE SCALE

1" = 1667 FT.



INDUSTRIAL SITE NO. 14
16 ACRE TRACT
APPROXIMATE SCALE
1" = 400 FT.



INDUSTRIAL SITE NO. 15
50 ACRE TRACT
APPROXIMATE SCALE
1" = 1320'

CHAPTER IX

FACILITIES AVAILABLE FOR INDUSTRIAL AND COMMERCIAL DEVELOPMENT IN THE GENERAL AREA OF MONTGOMERY COUNTY AND THE CITY OF RADFORD

General Information

In previous sections of this work, descriptions have been given of industrial and commercial development in the Montgomery County-Radford area since 1930. In addition, various services, facilities, and requirements of individual governmental units within the area have been described. Since all industrial and commercial activities under consideration in this study are located within a radius of approximately fifteen miles, it is feasible to comment on facilities available to the entire area. That has been the purpose of this chapter.

Factors such as transportation, taxes, labor conditions, climate, and water supplies are all very important to industry. Since the area under study is a local one, the above named factors are essentially the same throughout the Radford-Montgomery County area. Thus, new firms locating in any part of this area would have access to and would be subject to facilities and conditions which were about the same throughout the entire area. The following pages contain a description of these facilities and conditions as they exist today.

Transportation Facilities

Airlines - There are no commercial airline facilities for Montgomery County or the City of Radford. At Blacksburg, the Virginia Polytechnic Institute Airport is used by local citizens for business and pleasure. Roanoke, forty-one miles to the east, offers excellent air transportation facilities with connections to all sections of the nation. Similiar facilities are available in Bristol, 108 miles southwest of Radford City.

Chart 1 shows the routes of major airlines serving Virginia with passenger, air express, and air freight transportation.

Highways - Radford and Montgomery County are served by U. S. Highway 11 connecting Roanoke, Staunton, Harrisonburg, and Winchester, Virginia to the northeast, and Bristol, Kingsport, Knoxville, and Chattanooga, Tennessee to the southwest. State Highways 8 and 460 serve to connect this area to the north and south. These highways give access to all of Virginia and the nation. Local roads provide access to the adjoining counties and adjacent trade areas.

Highway passenger service is provided through the facilities of the Greyhound Bus Lines. There are nine daily schedules serving Radford and Christiansburg eastbound from Bristol to Roanoke. Westbound from Roanoke to Bristol and serving Radford and Christiansburg are eight daily schedules.

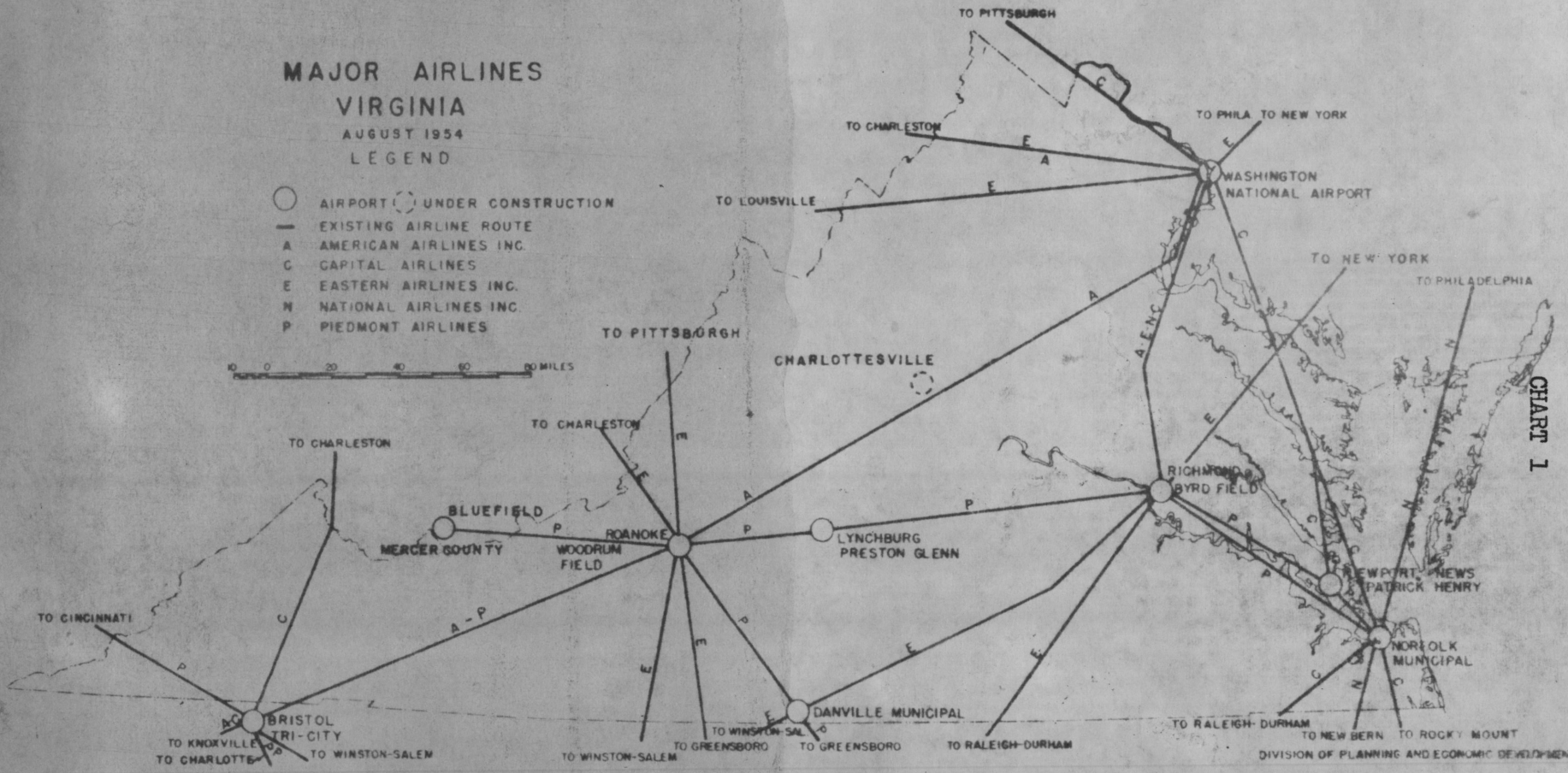

MAJOR AIRLINES
VIRGINIA
AUGUST 1954
LEGEND
AIRPORT
UNDER CONSTRUCTION
EXISTING AIRLINE ROUTE
A AMERICAN AIRLINES INC.
C CAPITAL AIRLINES
E EASTERN AIRLINES INC.
N NATIONAL AIRLINES INC.
P PIEDMONT AIRLINES
10 0 20 40 60 80 MILES
TO PITTSBURGH
TO CHARLESTON
TO PHILA
TO NEW YORK
WASHINGTON
NATIONAL AIRPORT
TO LOUISVILLE
TO NEW YORK
TO PHILADELPHIA
TO PITTSBURGH
CHARLOTTESVILLE
TO CHARLESTON
TO CHARLESTON
BLUEFIELD
MERCER COUNTY
ROANOKE
WOODRUM FIELD
LYNCHBURG
PRESTON GLENN
RICHMOND
BYRD FIELD
NEWPORT NEWS
PATRICK HENRY
TO CINCINNATI
NORFOLK
MUNICIPAL
BRISTOL
TRI-CITY
TO KNOXVILLE
TO CHARLOTTE
TO WINSTON-SALEM
TO WINSTON-SALEM
TO GREENSBORO
TO WINSTON-SAL
TO GREENSBORO
DANVILLE MUNICIPAL
TO RALEIGH-DURHAM
TO RALEIGH-DURHAM
TO NEW BERN
TO ROCKY MOUNT
DIVISION OF PLANNING AND ECONOMIC DEVELOPMENT

CHART 1

Greyhound also offers charter, freight, and express package services within the area.

Consolidated Bus Lines connects Bluefield, Princeton, and other major cities to the north with the Greyhound Bus Lines in Christiansburg. The Consolidated Bus Lines also serves Montgomery County with several daily schedules and offers charter, freight, and express package service within this area.

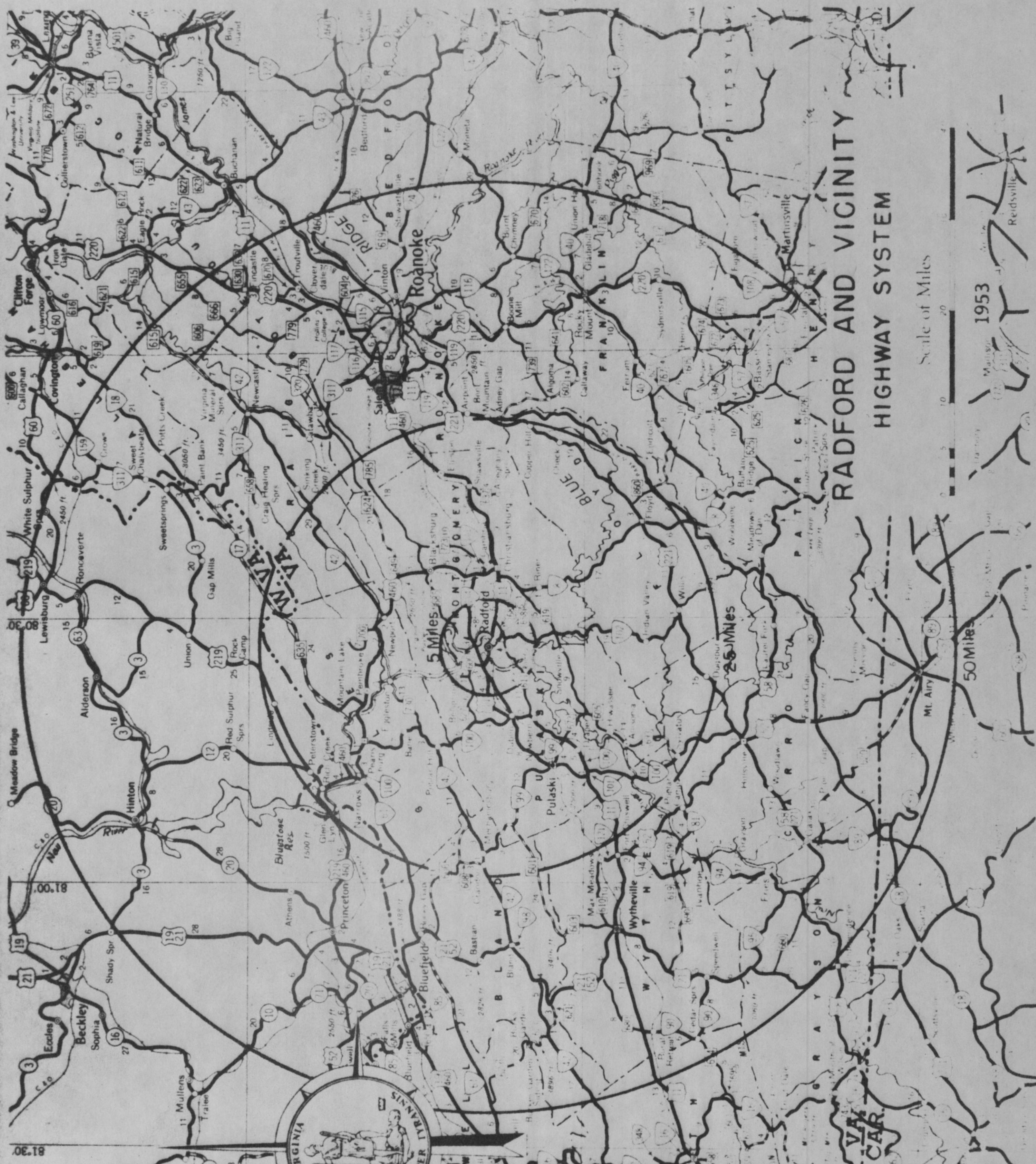
Freight transportation is available daily throughout the area with connections to all sections of the nation at Roanoke, Virginia, Bluefield, West Virginia, and Bristol, Virginia. Truck lines serving Radford and Montgomery County are the Mundy, Compton, and Rutherford motor freight transportation companies.

For the highway system serving this general area, see Chart 2.

Railroads - Both Radford and Christiansburg are on the Norfolk and Western Railway's Norfolk-Radford Divisions connecting Lynchburg and Bristol. Excellent passenger service is provided by four schedules daily in each direction between Lynchburg and Bristol. There are connections at Lynchburg, Roanoke, and Bristol that give access to all of the nation. Two local trains operate daily in each direction between Radford and Walton, which is the junction with the Norfolk and Western mainline from Norfolk to Columbus and Cincinnati, Ohio.

Freight trains operate twice daily through Radford and local freight trains serve the immediate area in and around Radford.

CHART 2


RADFORD AND VICINITY
HIGHWAY SYSTEM
Scale of Miles
1953
5 Miles
25 Miles
50 Miles
Radford
Roanoke
Wytheville
Pulaski
Bluefield
Princeton
Martinsville
Mt. Airy
VA
N. CAR.
W. VA.
BLUE
RIDGE
VIRGINIA
SIC SEMPER TYRANNIS

Christiansburg, being on the mainline of the Norfolk and Western Railway, is served by eighteen passenger trains daily and approximately that number of freight trains.

For the area served by the Norfolk and Western Railway, see Chart 3.

The Norfolk and Western Railway yard facilities at Radford have a capacity of approximately 800 cars. Activities include switching for local industries and making up trains for Bristol, North Carolina Branch, Bluefield, Blacksburg, and Potts Valley Branches. Here also are shop facilities for the maintenance and repair of locomotives, cars, and maintenance of way equipment.[1]

Chart 4 shows the major railroads operating in Virginia.

Taxes

Under the Virginia Constitution, only the local governments can levy taxes on real estate and tangible personal property. These rates vary in the different localities but the true tax rates of Virginia cities, towns, and counties are usually well below the average for the country as a whole. Among all the states Virginia enjoys the third lowest average true rate on rural property, a position which it has occupied for a quarter century.

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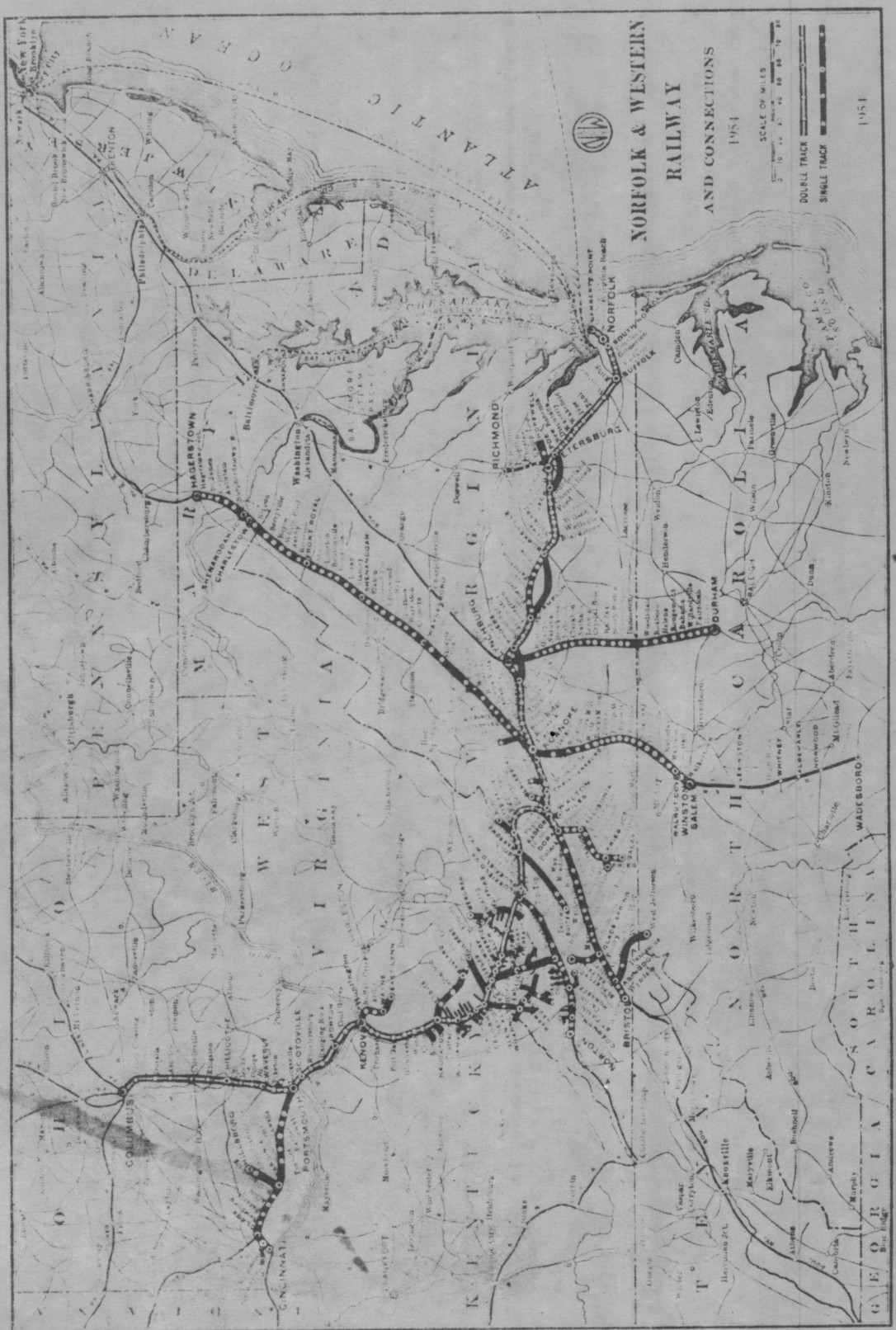
[1] Industrial Sites and Economic Data - Radford, Virginia, (Division of Planning and Economic Development, Richmond, September, 1954), p. 13.

CHART 3


NORFOLK & WESTERN
RAILWAY
AND CONNECTIONS
1951
SCALE OF MILES
DOUBLE TRACK
SINGLE TRACK
1951
ATLANTIC OCEAN
NORFOLK
RICHMOND
PETERSBURG
HAGERSTOWN
DURHAM
WADESBORO
BRISTOL
KENOVA
PORTSMOUTH
CINCINNATI
COLUMBUS
DELAWARE
MARYLAND
VIRGINIA
WEST VIRGINIA
OHIO
KENTUCKY
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA

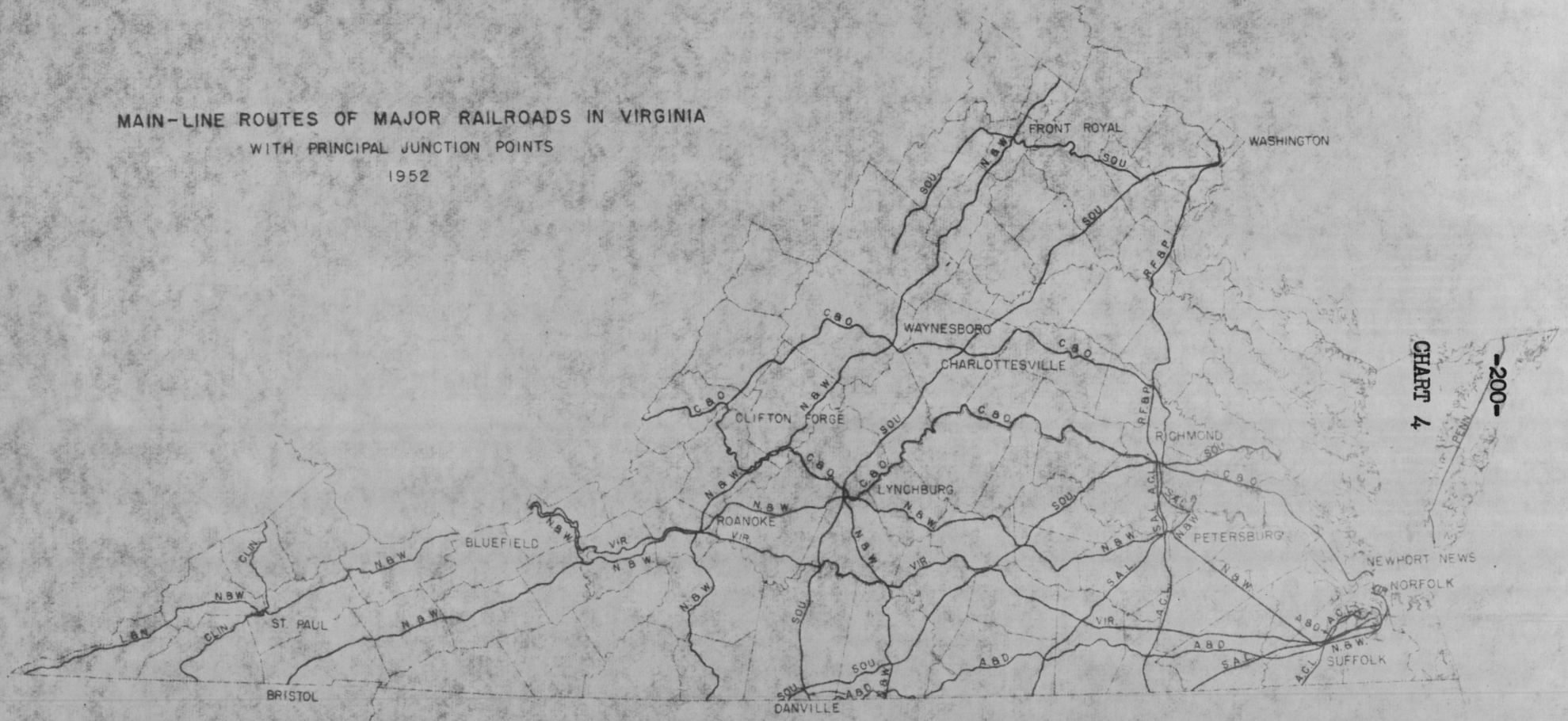

MAIN-LINE ROUTES OF MAJOR RAILROADS IN VIRGINIA
WITH PRINCIPAL JUNCTION POINTS
1952
FRONT ROYAL
WASHINGTON
WAYNESBORO
CHARLOTTESVILLE
CLIFTON FORGE
LYNCHBURG
ROANOKE
BLUEFIELD
ST. PAUL
BRISTOL
DANVILLE
RICHMOND
PETERSBURG
NEWPORT NEWS
NORFOLK
SUFFOLK
N&W
SOU
C&O
RF&P
VIR
CLIN
A&D
ACL
SAL
PENN

CHART 4

Municipal property tax rates in Virginia range, on the average, from one-third to one-half the rates for comparable cities elsewhere in the United States. Moreover, the local tax rate on machinery and tools, which constitutes a large item for manufacturing firms, is even lower than that on real estate in many localities.

To the state a manufacturing concern pays the following: (1) a Corporation net income tax of 5 per cent - the actual tax was reduced to 4 per cent in 1951 and 4.55 per cent in 1952 due to a state law which provides for a refund when revenues exceed the costs of state government; (2) a tax of $0.75 per $100 on business capital; (3) an annual registeration fee of $5.00 to $25.00 according to the maximum authorized capital stock; (4) an annual franchise tax on domestic corporations ranging from $10.00 to a theoretical $15,100 or more, depending on the maximum authorized stock; and (5) charter fee paid at time of incorporation by a domestic corporation or entrance fee paid when a foreign corporation receives authority to do business in the state. Theoretical levies imposed by the state of Virginia are presented in Table XXVII.[1]

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[1] Ibid., p. 14.

TABLE XXVII

STATE TAXES LEVIED IN VIRGINIA, 1953[a]

Tax	Levied on	Type	Rate per $1000
Entrance fee	Foreign corporations	Single	Graduated
Charter fee	Domestic corporations	Single	Graduated
Franchise tax	Domestic corporations	Annual	Graduated
Registration fee	All corporations	Annual	Graduated
Corporation net income	All corporations	Annual	$50.00
Capital	All corporations[b]	Annual	$ 7.50

Maximum capital stock	Entrance fee	Charter fee	Franchise tax	Registration fee
$ 10,000	$ 30	$ 10	$ 10	$10
25,000			10	10
50,000	30	10	20	10
75,000			40	15
100,000	60	20	40	15
250,000	150	50	60	20
300,000				25
500,000	300	100	100	25
750,000	450	150	200	25
1,000,000	600	200	200	25
3,000,000		600		
10,000,000	1,000	600	1,100	25
25,000,000	1,500	600	2,600	25
50,000,000	2,000	600	5,100	25
75,000,000	2,750	600	6,970	25
100,000,000	5,000	600	8,850	25
250,000,000	5,000	600	13,850	25
500,000,000	5,000	600	17,100	25

Corporate Net Income Tax		Capital[c]	
Income	Tax	Assessed value	Tax
$ 1,000	$ 50	$ 1,000	$ 7.50
2,500	125	2,500	18.75
5,000	250	5,000	37.50
7,500	375	7,500	56.25
10,000	500	10,000	75.00
25,000	1,250	25,000	187.50
50,000	2,500	50,000	375.00
75,000	3,750	75,000	562.50
100,000	5,000	100,000	750.00
250,000	12,500	250,000	1,875.00
500,000	25,000	500,000	3,750.00
750,000	37,500	750,000	5,625.00
1,000,000	50,000	1,000,000	7,500.00

[a] Industrial Sites and Economic Data - Radford, Virginia, (Division of Planning and Economic Development, Richmond, September, 1954), p. 16.

[b] Other than Mercantile Corporations and corporations in competition with the business of National Banks.

[c] Includes (1) inventory of stock on hand; (2) excess of bills and accounts receivable over bills and accounts payable; (3) money on hand and on deposit.

Labor Laws

Virginia's statutes dealing with employer-employee relations have been kept to a minimum in the belief that honorable and humane relationships between employers and employees are preferable to statutes.

The laws of Virginia permit females, 16 years of age and over, to work nine hours a day and forty-eight hours a week and place no restrictions on the number of hours worked by males sixteen years of age and over, except when the federal Wage and Hour Law applies.

Persons under sixteen years of age, both male and female, are restricted to eight hours of work per day between 7 a. m. and 6 p. m. and to forty-four maximum per week, except for work in canneries during school vacation. No one under fourteen years of age can be employed at either day or night work, except that boys between twelve and sixteen years of age may engage in street trades or outdoor work between 6 a. m. and 7 p. m. when schools are not in session. Children between fourteen and sixteen years of age must obtain permission from the chief school attendance officer before they can be employed. Such certificates are issued free, and usually may be readily obtained.[1] Compensation insurance is compulsory where seven or more persons are employed.

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[1] Ibid., p. 7.

Installation of safety devices is compulsory in all manufacturing establishments. The Department of Labor and Industry is actively engaged in promoting safety in industry through education and frequent inspections.

Following is Virginia's law pertaining to labor unions, strikes, etc., as taken from the Code of Virginia for 1950 and including subsequent changes by the 1952 General Assembly. This law is popularly known as the "Right to Work Law" and the Supreme Court of the United States has reviewed this law and upheld it's provisions.

(From Chapter 4, Acts of Virginia General Assembly, 1952)[1]

LABOR UNIONS, STRIKES, ETC.

Article 1.

In General.

Sec. 40-64. Preventing persons from pursuing lawful vocations, etc.; illegal picketing; injunction. - No person shall singly or in concert with others interfere or attempt to interfere with another in the exercise of his right to work or to enter upon the performance of any lawful vocation by the use of force, threats of violence or intimidation, or by the use of insulting or threatening language directed toward such person, to induce or attempt to induce him to quit his employment or refrain from seeking employment. No person shall engage in picketing by force or violence, or picket along or in concert with others in such manner as to obstruct or interfere with free ingress or egress to and from any premises or obstruct or interfere with free use of public streets, sidewalks or other public ways.

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[1] Ibid., pp. 7-9.

When a strike or lockout is in progress, no person who is not, or immediately prior to the time of the commencement of any strike or lockout was not, a bona fide employee of the business or industry being picketed whall participate in any picketing or any picketing activity with respect to such strike or lockout.

Any person violating any of the provisions of this section shall be guilty of a misdemeanor, and punished accordingly.

Notwithstanding the punishments herein provided any court of general equity jurisdiction may enjoin picketing prohibited by this section, and it may, in addition thereto, enjoin any picketing or interference with lawful picketing when necessary to prevent disorder, restrain coercion, protect life or property, or promote the general welfare. (1946, p. 382; Michie Suppl. 1946, Sec. 4711a; 1952, c. 674.)

Article 3.
Denial or Abridgement of Right to Work

Sec. 40-68. Policy of Article. - It is hereby declared to be the public policy of Virginia that the right of persons to work shall not be denied or abridged on account of membership or non-membership in any labor union or labor organization. (1947, p. 12; Michie Suppl. 1948, Sec. 1887(113).

Sec. 40-69. Agreements of combinations declared unlawful. - Any agreement of combination between any employer and any labor union or labor organization whereby persons not members of such union or organization shall be denied the right to work for the employer, or whereby such membership is made a condition of employment or continuation of employment by such employer, or whereby any such union or organization acquires an employment monoply in any enterprise, is hereby declared to be against public policy and an illegal combination or conspiracy. (1947, p. 12; Michie Suppl. 1948, Sec. 1887(114).)

Sec. 40-70. Employers not to require employees to become or remain members of union. No person shall be required by an employer to become or remain a member of any labor union or labor organization as a condition of employment or continuation of employment by such employer. (1947, p. 12; Michie Suppl. 1948, Sec. 1887(115).)

Sec. 40-71. Employers not to require abstention from membership in union. - No person shall be required by an employer to abstain or refrain from membership in any labor union or labor organization as a condition of employment or continuation of employment. (1947, p. 12; Michie Suppl. 1948, Sec. 1887(116).

Sec. 40-72. Employer not to require payment of union dues, etc. - No employer shall require any person, as a condition of employment or continuation of employment, to pay dues, fees or other charges of any kind to any labor union or labor organization. (1947, p. 12; Michie Suppl. 1948, Sec. 1887(117).

Sec. 40-73. Recovery by individual unlawfully denied employment. - Any person who may be denied employment or be deprived of continuation of his employment in violation of Secs. 40-70, 40-71, and 40-72 or of one or more of such sections, shall be entitled to recover from such employer and from any other person, firm, corporation or association acting in concert with him by appropriate action in the courts of this Commonwealth such damages as he may have sustained by reason of such denial or deprivation of employment. (1947, p. 12; Michie Suppl. 1948, Sec. 1887(118).)

Sec. 40-74. Application of article to contracts. - The provisions of this article shall not apply to any lawful contract in force on April thirtieth, nineteen hundred and forty-seven, but they shall apply in all respects to contracts entered into thereafter and to any renewal or extension of an existing contract. (1947, p. 12; Michie Suppl. 1948, Sec. 1887(119).)

Climate

The climate of an area is important to firms considering the location of a plant in that area.

With respect to climate, this area is particularly fortunate. According to national health statistics prepared by Cleve Hallenback, former U. S. meteorologist, the general area of Montgomery County lies in that small section of the United States which is the only one east of the Mississippi River having a rating of "good".[1] This rating for the area was based on the following climatic factors: abundant sunshine; moderate low atmospheric pressure; conditions of temperature that encourage outdoor life; moderate wind movement; altitude; and a year-round climate that is neither rigorous nor enervating at any season.

Temperatures in this immediate area average 34 degrees in January and 71 degrees in July. Precipitation is about 43 inches annually.

Water Supply

The City of Radford and adjacent areas have access to an abundant supply of water and potential water power. New River flows around Radford to form about one-half of it's boundary, and records of nineteen years, (1907-15, 1939-50), indicate an average daily flow of 2,505,771,009 gallons.

---

[1]Brochure on Christiansburg, Virginia, (Published by the Christiansburg Chamber of Commerce, 1952)

The flow of this river has been regulated since May, 1939 by Claytor Reservoir, an artificial lake created by the Appalachian Electric Power Company dam, located just southwest of Radford.

The City of Radford has, for years, received it's water from this river and a description of this water system may be found on page 151.

Until recently most of Montgomery County had been sharply restricted in having access to abundant water supplies. Local towns depend upon springs, wells, and surface streams for water. In recent years, as these towns and communities grew, water supplies were a constant problem. In addition to the fact that water for municipal use was restricted, there was very little or no water to offer new industry. Thus, the absence of a good supply of water in the general county area has been a stumbling block to municipal government and to industrial and commercial development as well.

In 1953, after years of resorting to temporary measures for water, the Town of Blacksburg and Virginia Polytechnic Institute began preliminary work toward the eventual creation of a Water Authority. Previous studies had been made which determined that New River would be the only lasting and satisfactory source of water.

Town and college officials decided that the creation of a water authority was the most feasible method of financing a water project for two reasons: one, by financing in any other way than through a water authority, the college would have to have an appropriation from the state; two, in using any other method of financing, the town of Blacksburg would have to sell bonds. Thus, in 1954, after approximately one year of preliminary work, formal resolutions were passed for the creation of a water authority. Later in the year a petition was presented to the State Corporation Commission which granted a charter for an authority to be known as the "Town of Blacksburg, Virginia, and Virginia Polytechnic Institute Water Authority".

At about the time this authority was coming into existance, the Town of Christiansburg decided to request membership in the Authority. Members of the Christiansburg town council felt that this water authority was an opportunity to obtain water for the entire Christiansburg area for municipal as well as for future commercial and industrial needs. Therefore, just prior to the writing of this paper, the town of Christiansburg made application to the State Corporation Commission for membership in the new Blacksburg-V. P. I. Water Authority. This application was approved and Christiansburg became a third member of the authority. After Christiansburg became a member, the name of the authority was changed to the "Blacksburg-Christiansburg-V. P. I. Water Authority".

This authority provides for facilities to take water from New River at the State Route 114 bridge crossing the river near the Radford Arsenal. Pipe lines will be constructed to follow State Route 114 to it's intersection with State Route 460 between Christiansburg and Blacksburg. From that point Christiansburg would construct it's own line to the corporate limits of the town and the town of Blacksburg and V. P. I. would construct a similiar line to the town of Blacksburg and to the college.

According to the studies made prior to formal action on the water authority, the facilities involved in this construction should not only provide ample water for the future needs of Blacksburg, Christiansburg, and V. P. I., but, in addition, should make an abundant supply of water available to future industries locating in the area.

Some idea of the size and cost of this undertaking may be had from the following estimate of the cost of construction.[1]

1.	River intake, pumps and screens at bridge	$ 46,000.00
2.	Raw water line to filter plant, 16" C.I., 6500'	62,000.00
3.	Filter plant and accessories, 3 m.g.d.	335,000.00
4.	High head pumps and station	24,000.00
5.	Supply main to college, 18" C.I., 44,800'	560,000.00
6.	Supply main to college tank, 16" C.I., 9000'	85,500.00
7.	Real estate and rights of way	12,500.00
8.	Operator's cottage	9,000.00
9.	Engineering, supervision, and contingencies	105,000.00
10.	Bond printing, legal and advertising	7,000.00
11.	Interest during construction	34,000.00
		$1,280,000.00[a]

[a]These estimates were made prior to the entrance of Christiansburg into the water authority.

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[1]Interview with S. K. Cassell, Business Manager, Virginia Polytechnic Institute, Blacksburg, Virginia, July 27, 1955.

A chemical analysis of the water of New River is presented in Table XXVIII.

Electric Power

This general area is served by the Appalachian Electric Power Company, one of the larger electric utilities in the south, both in area and number of customers served. Industrial sites in the Radford-Montgomery County area would be served by this company.

Industrial rates are not included in this study because of the difficulty many prospective customers encounter determining the most economical schedule for their use. However, 1954 rates for residential and commercial use in the City of Radford are presented on page 153.

Fuel

Industrial coal can be supplied from nearby coal fields at reasonable rates. In 1954 prices per ton at the mines were $4.25 to $4.50 for high-volatile coal and $4.75 to $5.50 for low-volatile coal.

The Norfolk and Western Railway, with it's home office in Roanoke, maintains a Coal Traffic Department to assist coal users in selecting coals to meet their individual needs.

TABLE XXVIII

CHEMICAL ANALYSIS OF NEW RIVER WATERS[a]

	New River at Radford	
	Nov. 21, 1945	June 21, 1946
Mean discharge (second feet)	2,550	4,180
Color	5	8
pH	7.3	7.2
Silica (SiO_2)	10	9.4
Iron (Fe)	.05	.11
Calcium (Ca)	8.7	10.0
Magnesium (Mg)	3.7	4.1
Sodium and Potassium (Na,K)	3.2	2.1
Carbonate (CO_3)	-	-
Bicarbonate (HCO_3)	43	44
Sulfate (SO_4)	5.2	6.5
Chloride (Cl)	1.6	1.6
Fluoride (F)	.1	.2
Nitrate (NO_3)	1.0	.9
Dissolved solids	54	60
Total hardness ($CaCO_3$)	37	42
Non-carbonate hardness	-	-
Specific conductions (micromnos)	-	-

[a]Industrial Sites and Economic Data - Radford, Virginia, (Division of Planning and Economic Development, Richmond, September, 1954), Chart 19.

There are fuel oil distributors located in Radford, Christiansburg, and Cambria representing the major oil companies and oil can be furnished in any quantity desired.

Butane gas is supplied by Southwestern Virginia Gas Company to industries at a minimum rate of $32.00 per month. Shown below are industrial rates for butane gas.[1]

First 20,000 cubic feet or less	$32.00
All over 20,000 cubic feet	$ 1.30 per 1,000 cu. feet

No Obstructive Legislation

The Virginia State government and most of the local governments have been unusually stable and have not enacted legislation of any kind which might obstruct industrial development and operation. Although the Virginia General Assembly has prohibited special tax inducements to new industries, both state and local governments by legislation and ordinance have demonstrated genuine interest in new industries of the right type and do all that is possible to help them prosper.

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[1] Op. Cit., p. 12.

CHAPTER X

CONCLUSIONS

In completing this study, a number of facts and trends have presented themselves which not only reflect past development but which may serve as indicators of future growth in the area under consideration. Concluding statements regarding these facts and trends have been presented as a concise summary of this study.

(A) Industry has replaced agriculture as the primary component of Montgomery County economy. During the first years considered in this study, Montgomery County depended upon agriculture to support the greater part of it's economy. However, in the past twenty-five years the importance of agriculture has declined and the importance of industry has increased with respect to it's contribution to the economy of the area under consideration. With the construction, in 1940, of a large munitions factory in the county, the role of industry became paramount in the local economy.

(B) The Montgomery County-Radford City labor reserve has contributed to industrial and commercial development. In the first years of this study the area under consideration enjoyed a population sufficient to provide an ample labor reserve.

The population increase since 1930 has been at a rate sufficient to continually provide adequate labor for new industry and commerce. This labor reserve has been expanded by a large rural population within a twenty mile radius which is available for employment in either Radford or Montgomery County. Further, the area under study has no close industrial centers to offer competition for this labor reserve.

(C) Excellent transportation facilities exist in the area under study. The presence of excellent railroad and highway facilities has played an important part in the growth of this area. Both Montgomery County and Radford City are served by the Norfolk and Western Railway, one of the finest railroads in the country. The entire area is served by U. S. Highway 11 which runs from Roanoke to Bristol, and by State Routes 460 and 8 which run from West Virginia to North Carolina. Thus, fine transportation facilities have contributed to the location of new industry and commerce in the area.

(D) Tax laws have contributed to the growth of the area under consideration. None of the governmental units involved in this study have tax legislation which discourages the location of new industry in the area. True tax rates in the county, city, and towns are relatively low and only these local governments can levy taxes on real estate and tangible personal property.

With regard to state taxes, Virginia enjoys the third lowest average true rate on rural property of all the states in the country. Virginia tax laws are designed to require relatively little of new industry and commerce locating within the state and this has assisted the area under study.

(E) Labor laws and labor conditions have been conducive to industrial and commercial growth. Virginia's statutes regarding employer-employee relations have been kept to a minimum in the belief that honorable and humane relationships between employers and employees are preferable to statutes. There is no local legislation regarding labor or employer-employee relations. Thus, each industry and business house has the opportunity to determine the relationship between management and labor. In addition, the labor force in this general area has an excellent attitude toward business and industry and this contributes to a minimum of friction between employers and employees.

(F) Fuel and electric power are available at relatively cheap rates. For larger industries in particular, the cost and availability of fuel is a major consideration. The firms which have located in this area during the past twenty-five years have done so with the knowledge that high grade coal was available from nearby West Virginia. Because this area is located close to the major coal fields, prices for this fuel are relatively low.

Further, electric power has been available to all parts of the county and City of Radford. Thus, these two major considerations have been readily solved for all incoming industries.

(G) The Montgomery County-Radford area has had an abundance of civic refinements available for the personnel of new industry and commerce. Civic refinements include a number of facilities which industry considers important to it's personnel. This area has been able to offer the services of two colleges, a good public school system, a great number of churches, and an abundance of recreational facilities. These factors are normally considered secondary in the location of a new industry but they are becoming more important as the result of increasing emphasis on personnel requirements and desires.

(H) This area has a good water supply to offer new industry and commerce. The existance of an ample supply of water has been an important factor in the development of industry and commerce in the Montgomery County-Radford area. The supply of water available to firms locating in Radford has been unlimited since 1930. Water supplies in Montgomery County have been limited but adequate for the smaller firms that have located in the county. The numerous streams and springs have provided water for almost every part of the county. Thus, water has attracted firms to the area, especially in the Radford area where the supply has been unlimited.

(I) The people of Montgomery County and Radford have been receptive to new industry and commerce. As industry and commerce began to develop in this area the people realized that these firms offered opportunities which would raise the standard of living, and, at the same time, boost the economy of the entire area. As a result, enthusiasm for this type of development has increased until today most of the local population is most favorable to the location of new industries within the area. This attitude contributes to better relations between these firms and the communities in which they are located.

In the twenty-five years since 1930, Montgomery County and the City of Radford have changed in their economy, their thinking, and their activities. Of the twenty-nine leading industrial and commercial firms located in the area in 1954, seventeen located here after 1930. If this trend continues toward increased industrial and commercial development there is a distinct possibility that the area may become a leading industrial center for western Virginia. The facilities and attractions offered by this area should encourage the continuation of such a trend.

With the development of communication systems such as the telephone, telegraph, highways, airlines, and railroads, the people of Montgomery County and Radford no longer confine their thinking and activities to the local area.

Activities in all parts of the state and country engage the attention and time of the people of this area. Trips of several hundred miles are now routine for much of the local population. Business activities now take many local people to other parts of the state and nation. Increased cultural facilities, expanded travel, and diverse business interests have produced a well-informed and well-rounded population in this area.

There is every reason to believe that future industrial and commercial development should take place at a pace equal to or exceeding the growth of the past twenty-five years. The advantages and facilities offered by the area have already been described. The people of the area seem to want more industry and commerce and this should encourage any firm seeking a new location for future activities. The combination of material advantages and the natural desire of the people for development in the area should provide Montgomery County and the City of Radford with a secure and prosperous future.

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