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INDUSTRIAL SURVEY

Edinburg and Madison District
Shenandoah County

Virginia



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BLACKSBURG, VIRGINIA
JANUARY, 1930



INDUSTRIAL SURVEY

Edinburg and Madison District
Shenandoah County
Virginia

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PREFACE

This study is designed to serve as a convenient source of general information about Edinburg and Madison District. The facts contained herein were obtained through actual investigations in the town and district, and by study of publications covering this area.

Intended primarily to aid in industrial development, the discussions dwell upon the character and extent of present industrial enterprises, the attitude of the residents toward industry, and some advantages available to industrialists in this community. The primary factors in plant location are applied to this locality in order to show what industries might be expanded or launched. Proper consideration is given the character of the population, the governmental organization, the financial status, the business progress, and the suitability of the community for home life. All of these are of great interest to industrialists.

Industries will not locate in Edinburg and Madison District simply as a result of the publication of this study. It is hoped, however, that the leaders of the community will use the study in planning to utilize more fully their present advantages, in formulating a definite plan for correcting any unfavorable conditions, and in coordinating all efforts which look to the growth of industries already established and to the encouragement of new ones.

As a sort of source-book to aid in industrial development, and with the hope that it will be used to that end, this study is submitted to the Edinburg Board of Trade.

The survey was prepared by R. L. Humbert, director of surveys, in collaboration with R. B. H. Begg and P. H. McGauhey, civil engineers; R. J. Holden, geologist; J. Elton Lodewick, wood technologist; F. H. Fish and J. A. Addlestone, chemists; and J. W. Whittemore, ceramic engineer. M. L. Jeffries, W. H. Humbert, and S. C. Andrews were actively engaged in the collection of field notes and in preparing and editing the publication.

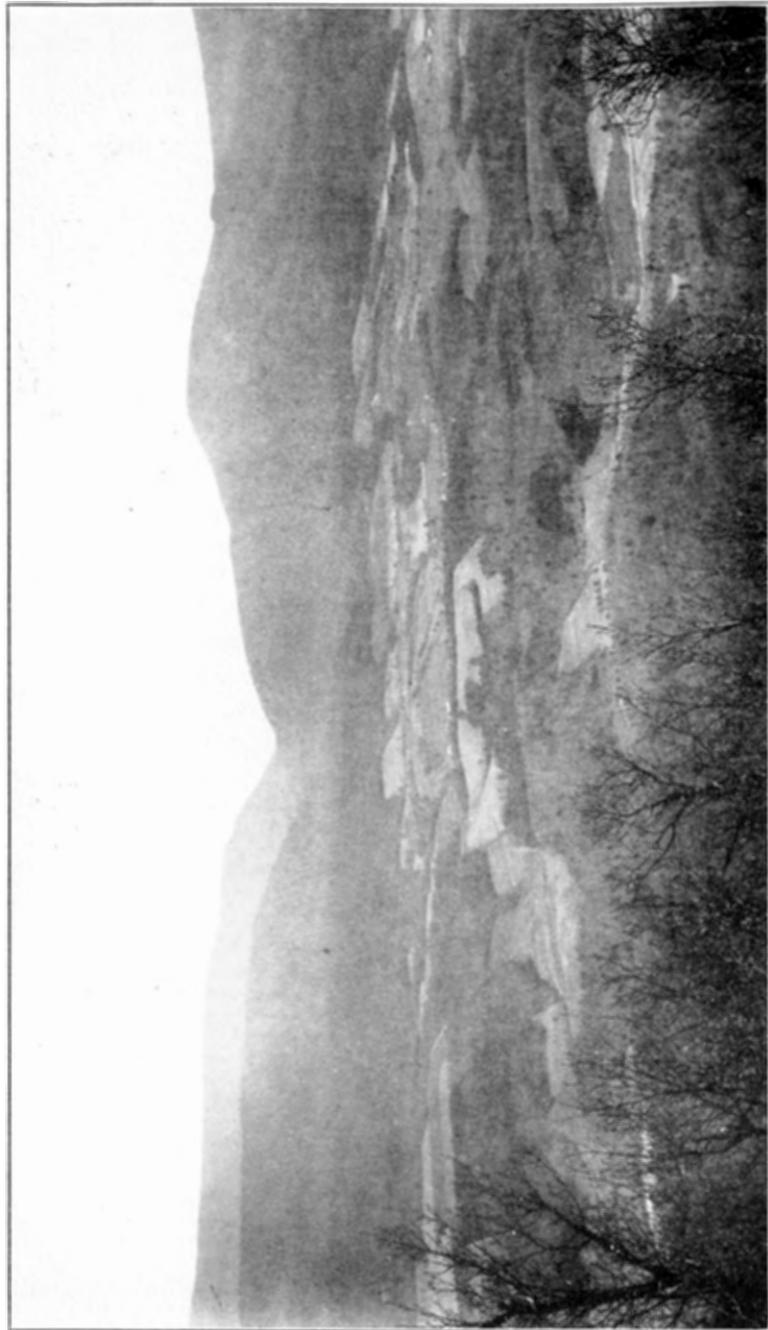
The survey was sponsored by the Edinburg Board of Trade, a commercial organization working for the economic and cultural advancement of the community. The staff recognizes the valuable assistance of the following officers

of the Board of Trade: H. H. Newman, president; George W. Ring, Sr., vice-president; and G. Robert Irvin, secretary. Joseph C. Hutcheson, Hugh Saum, L. G. Swann, Mark B. Getz, C. H. Ranck, and others were generous with their time and displayed much interest in the study. A large number of business men could be mentioned who readily supplied information and made the work of the staff, in the community, a most pleasant task.

Inquiries regarding Edinburg and Madison District should be addressed to G. Robert Irvin, Secretary, Board of Trade, Edinburg, Virginia, or to Mayor Houston Newman, Edinburg, Virginia.

CONTENTS

	PAGE
I. General Information.....	7
1. Introduction.....	7
2. Edinburg.....	7
3. Shenandoah County.....	8
4. Population.....	11
5. Highways.....	12
II. Present Industrial Development.....	14
1. Character of Industry.....	14
2. Classification of Industries.....	14
3. Industrial Statistics.....	15
4. Local Attitude Toward Industry.....	15
5. Industrial Sites.....	16
6. Industry Desired.....	18
III. Primary Economic Factors in Plant Location.....	19
1. Natural Resources.....	19
2. Timber Resources.....	23
3. Agriculture.....	26
4. Labor.....	29
5. Power.....	30
6. Transportation.....	32
7. Markets.....	33
8. Water Supply.....	34
9. Climate.....	35
IV. Secondary Factors for Industrial Development.....	37
1. Local Government.....	37
2. County Government.....	37
3. Taxes.....	38
4. Receipts and Disbursements.....	39
5. Bonded Indebtedness.....	40
6. Real Estate Values.....	40
7. Fire Protection.....	40
8. Police Protection.....	40
9. Health Protection.....	41
10. Housing Conditions.....	42
11. Banking Facilities.....	42
V. Civic Refinements.....	43
1. Educational Facilities.....	43
2. Recreational Facilities.....	44
3. Churches.....	45
4. Hospitals.....	45
5. Hotel Facilities.....	46
6. Physical Plan and Streets.....	46
7. Street Lighting.....	46
8. Municipal Sanitation.....	47
9. Newspapers.....	47
VI. General Business Data.....	48
1. Retail and Wholesale Business (<i>By types of business</i>).....	48
2. Retail and Wholesale Business (<i>By town and district</i>).....	48



A landscape scene near Edinburg, Virginia

INDUSTRIAL SURVEY OF EDINBURG AND MADISON DISTRICT

GENERAL INFORMATION*

Introduction.—Shenandoah County has a total area of 510 square miles, an average width of about 14 miles and a length of nearly 40 miles. It is bounded on the northwest by the Alleghanies and on the southeast by the Massanutten range. The county lies midway from northeast to southwest of the famed and beautiful Shenandoah Valley of Virginia—a land as richly endowed in value and beauty as it is steeped in romantic history.

The town of Edinburg is situated near the center of Shenandoah County, in Madison Magisterial District. The commercial interests of the town, like its history, are closely woven with those of the county.

Edinburg.—Bernhard, Duke of Saxe-Weimar, passed up the Valley of Virginia by stage coach from Woodstock to Staunton, November 20, 1825. One of the towns he mentions in his book of travels three years later he calls Shryock, which now is Edinburg. In its early days the town was also known by the name of Stony Creek. It is said, by some, that the original form of the present name was “Edenburg,” the significance of which is readily understood by all who have viewed this section of the Shenandoah Valley of Virginia.

From Martin’s Gazetteer of Virginia, published in 1835, we find that Edinburg then contained 17 dwelling houses, two merchant stores, a place for public entertainment, a blacksmith shop, a rifle factory and a population of 130. The rifle factory, owned by George Grandstaff, made guns for the American soldiers in the War of 1812. Operations must have continued for some time, for several of the rifles of this concern were carried by Confederate soldiers in the War Between the States.

History and tradition relate that the name Edinburg was already in use in 1844 and 1845. The town was incorporated by Act of the Assembly of May 24, 1852, such act

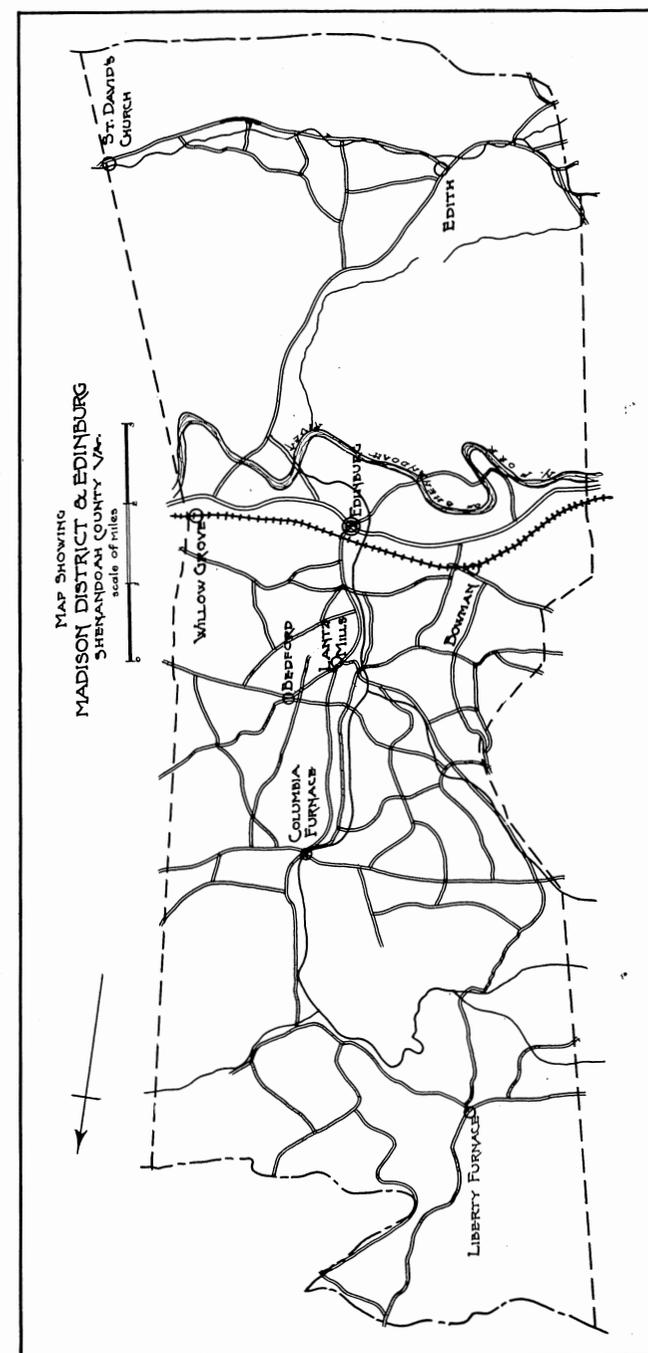
*The chief source of information for this section is *A History of Shenandoah County*, by John W. Wayland.

definitely fixing the limits as an area three-fourths of a mile long and three-eighths wide on both sides of the "Vailey Pike." The Act provided for five trustees and authorized Richard Miller, John J. Grandstaff, and Peter Belew to hold an election for trustees on the first Saturday of August, 1852.

Some of the most stirring events of the War Between the States took place near Edinburg. Within the confines of the county many of the romantic chapters of Virginia history were unfolded. The tramp of marching men, some wearing the gray, others the blue, were familiar to Edinburg people during the sixties. The picket lines of the opposing armies were repeatedly drawn up along the banks of Stony Creek. In March and April, 1862, General Turner Ashby, with his horse artillery, spent thirty days at or near Edinburg and during that period engaged the enemy no less than 28 times. The Federal batteries were often planted on Academy Hill, just northeast of town, while those of Ashby's Confederates would dash from nearby woods and unlimber on what is known as Cemetery Hill.

Shenandoah County.—Late in 1670, John Lederer and others from Eastern Virginia came up by Fredericksburg to or into the borders of what later became Shenandoah County, made observations and returned to Tidewater. In 1707 Louis Michelle and others came up from Annapolis, Maryland, through Harper's Ferry, Berryville, White Post, thence to the vicinity of Powell's Fort in the Massanutten Mountains, and proceeded up the North Fork of the Shenandoah River as far as the present Shenandoah County.

Commencing about 1730, the area now the county of Shenandoah was settled rapidly. Many came to this beautiful country to find cleared land. Samuel Kercheval, the "Herodotus of the Valley," relates that most of the early settlers were from Pennsylvania and were Germans. Tradition has it that the Indians did not object to the Pennsylvanians coming in and records show that for the first 20 years or so the red man and the white man lived together peaceably. In 1753 the tribes withdrew westward and two years later the red man's fury was visited upon the people of the Valley. History records many horrors, many acts of



heroism before the attacks ceased after the close of the French and Indian Wars.

Dunmore (now Shenandoah) County was organized from Frederick County, March 24, 1772. Frederick, by act of assembly on this date was subdivided into three separate and distinct counties. One section retained the name Frederick, another became Berkeley County and another part Dunmore County, in honor of John Murray, Earl of Dunmore, king's governor of the Virginia Colony from 1771 to 1775. This was Dunmore County for five years, the name being altered in 1777 after the royal allegiance of the once popular governor had caused him to be hailed as tyrant and traitor to Virginia's interests. The county was renamed Shenandoah, a beautiful Indian name, said to mean "Daughter of the Stars."

Shenandoah County in War Time.—For almost two centuries the sons of Shenandoah County have distinguished themselves in the service of their country. Joseph Bowman, son of George Bowman, a pioneer settler on Cedar Creek in the early 1730's, was a major, second in command to General George Rogers Clark in the conquest of the Northwest Territory. Records also show that many of the members of this intrepid band were from Shenandoah territory.

In the Revolution, as General Washington was overpowered and retreating, he planned to make a final stand against the British in the Fort, a narrow valley of the county extending from near Strasburg and Waterlick almost to New Market, a distance of 22 or 23 miles. Because of Washington's successes at Trenton and Princeton and a turn in the tide of the war, his army never occupied the Fort, and the final surrender of the British was at Yorktown instead of in the Fort Valley. During the war of 1812 the county was the scene of unusual activity in organizing the state militia. During the Mexican War about 30 Shenandoah County men served in the army and one local company, the Mt. Jackson Riflemen, was organized. Ephraim White, a Fort boy, was killed storming the walls at Chapultepec and another native, Levi McInturff, was the second U. S. soldier over the walls.

The War Between the States.—The rumble of artillery, the tramp of marching feet, the sharp crack of musketry sounded again and again in Shenandoah County, where some of the most stirring events of the war took place. Several fighting units for the Confederate armies were recruited and mustered into service in the county. During the year 1862, March to November, Stonewall Jackson and his famous "foot cavalry" spent 46 days in Shenandoah County. Marching, recruiting, drilling, fighting, Jackson's army here gained much of its reputation as a fighting unit. Many of the stirring events of the famous "Valley Campaign" were enacted here. The exploits of General Turner Ashby in connection with the valley campaign were largely centered around Edinburg.

During the later years of the war Shenandoah County was oft-times the battleground of the opposing armies. The battle of New Market, fought just a few miles from Edinburg on the afternoon of Sunday, May 15, 1864, was one of the most sanguinary encounters of the later valley fighting. Here the battalion of cadets from the Virginia Military Institute, all of them mere boys in their 'teens, won undying fame by their heroic capture of a Federal battery.

The World War.—Hundreds of Shenandoah County boys served in the army at home and abroad in the fight for Democracy. The total number of men registered in the county was 1,485, according to the report of the Virginia War History Commission, and records show that 565 were called for examination. The most complete record to date lists 21 Shenandoah County boys who died in the service. Nine of these were killed in action and three died from wounds received at the front.

Population.—The population of Madison District, including the town of Edinburg, is almost wholly native-born white. The people are largely of Scotch-Irish and German extraction, and as a whole, are thrifty, cultured and intelligent. According to the 1920 census report the population of Edinburg was 563. There has been some decrease in the past few years, unofficial census figures for 1930 placing the present population (all white) at 496. The population of Madison District, including Edinburg town, was 3,347 in

1900; 3,368 in 1910; and 3,192 in 1920. These figures show a slight decrease in the population of the district, as well as in the town of Edinburg.

Figures for the county and district are given below for the three decennial periods from 1900 to 1920:

	1920	1910	1900
Shenandoah County.....	28,808	20,942	20,253
Ashby District, including Mount Jackson town.....	3,886	3,855	3,817
Davis District, including Strasburg town.....	4,053	3,888	3,359
Johnston District, including part of Woodstock town.....	2,546	2,668	2,602
Lee District, including New Market town.....	3,115	3,328	3,331
Madison District, including Edinburg town.....	3,192	3,368	3,347
Stonewall District, including part of Woodstock town.....	4,016	3,835	3,797

The composition and characteristics of the county population, as given by the 1920 census, are shown by the figures below:

Total population.....	20,808
Male.....	10,223
Female.....	10,585
Native white.....	20,333
Male.....	9,991
Female.....	10,342
Native white, native parentage.....	20,172
Native white, foreign parentage.....	52
Native white, mixed parentage.....	109
Foreign-born white.....	40
Male.....	23
Female.....	17
Negro.....	434
Male.....	208
Female.....	226
Indians, Chinese, Japanese, and all others.....	1
Per cent native white.....	97.7
Per cent foreign-born white.....	0.2
Per cent negro.....	2.1

Highways.—The public and state road mileage for Shenandoah County, as furnished by the Department of Highways, is:

	Miles
Total hard surfaced, state system.....	50.20
Total conditioned, state system.....	36.99
Total state system mileage.....	87.19
Total public road mileage.....	953.30

The principal highway of the county is the famous "Valley Pike," designated federal route No. 11, which enters the county northeast of Strasburg and follows a south-

westerly course across the county. State highway No. 55 extends from Strasburg northwestward to the county border and in an easterly direction to Riverton. In the southern part of the county, there are two state highways: No. 820 extending from Mt. Jackson west to Orkney Springs, and No. 819 which connects the community of Forestville with federal route No. 11. The important federal route No. 211 enters New Market from the east, connecting there with federal route No. 11.

In addition to route No. 11, two roads in the central portion of the county, serve Edinburg and Madison District. These are: State route No. 824, which follows a westerly direction from federal route No. 11 near Calvary to the West Virginia line; and a county route extending from Edinburg southeastward until it connects with state route No. 821 a short distance east of the county line.

These highways, in addition to providing good transportation routes over the county, serve as outlets to the improved highways of adjoining counties.

PRESENT INDUSTRIAL DEVELOPMENT

Character of Industry

Diversified or Concentrated.—Industry in Edinburg and Madison District is largely confined to the “food and kindred products” group. Only three of the 16 groups outlined by the Census of Manufactures are represented in this area.

There are eleven industrial concerns operating in the town and district. Seven of these are classified in the “food and kindred products” group and two each in the “lumber and allied products” and “miscellaneous industries” groups. This evidences a concentration of industrial enterprise in the “food and kindred products” group for which raw materials are at hand. Observing the industrial statistics, it is found that the industries of this group employ the greatest number of workers and that the figures for annual payroll, capital invested, and volume of business, greatly exceed those of industries in the other two groups. Since the area studied is comparatively small and involves a fertile agricultural section, this concentration is not unexpected, but logical. Such a condition prevails in many sections of Virginia, even when larger areas are considered.

Diversification and expansion of industry would most certainly increase community prosperity. These conditions will likely follow as a result of the new interest in industry and a discriminating study on the part of the residents of the town and district.

CLASSIFICATION OF INDUSTRIES

Group I	Food and Kindred Products	Class No.*
King-Cola Bottling Company (Edinburg).....		101
Raeburn Cannery (Edinburg).....		106
Wakeman's Cannery (Madison District).....		106
Columbia Roller Mills (Madison District).....		117
Edinburg Milling Company (Edinburg).....		117
Lantz Roller Mill Company (Madison District).....		117
Stony Creek Roller Mills (Madison District).....		117

*The class number locates the industrial concern in the group and designates the product manufactured. “The Classification by Industries for the Census of Manufactures,” published by the Department of Commerce, gives a complete key to the classification.

Group IV	Lumber and Allied Products	Class No.
John Christian and Sons (Madison District).....		409
Hollingsworth Brothers (Edinburg).....		412

Group XVI	Miscellaneous Industries	Class No.
Edinburg Hatchery (Edinburg).....		Unclassified
Sheetz Hatchery (Madison District).....		Unclassified

Industrial Statistics

Group	Number employed	Payroll	Capital invested	Volume of business
Food and kindred products	60	\$16,600	\$110,500	\$329,000
Lumber and allied products; Miscellaneous industries	7	2,594	7,750	7,597
Totals	67	\$19,194	\$118,250	\$336,597

Group	Volume of business	Value of raw material	Added value
Food and kindred products	\$329,000	\$230,500	\$ 98,500
Lumber and allied products; Miscellaneous industries	7,597	3,600	3,997
Totals	\$336,597	\$234,100	\$102,497

Value Added by Manufacture.—Manufacturing processes created, according to the above table, an added value of \$102,497 during the period of a year. This shows an increase in added value over raw materials of approximately 44 per cent or about one-half of the rate of increase for the state in 1925. The higher per cent of increase in added value in the latter two groups of the above table is offset by the smaller increase in the “food and kindred products” group, in which most of the industries are found.

Local Attitude Toward Industry.—The attitude of the people of a community greatly influences the progress of its industrial development. A favorable attitude toward industrial work and a willingness to cooperate are two essential considerations for a community desiring industrial growth. An industry, even though natural resources are abundant, cannot flourish unless men are willing to use their money and their abilities to promote its growth. Moreover, if lasting benefits are to be realized, the interests of the com-

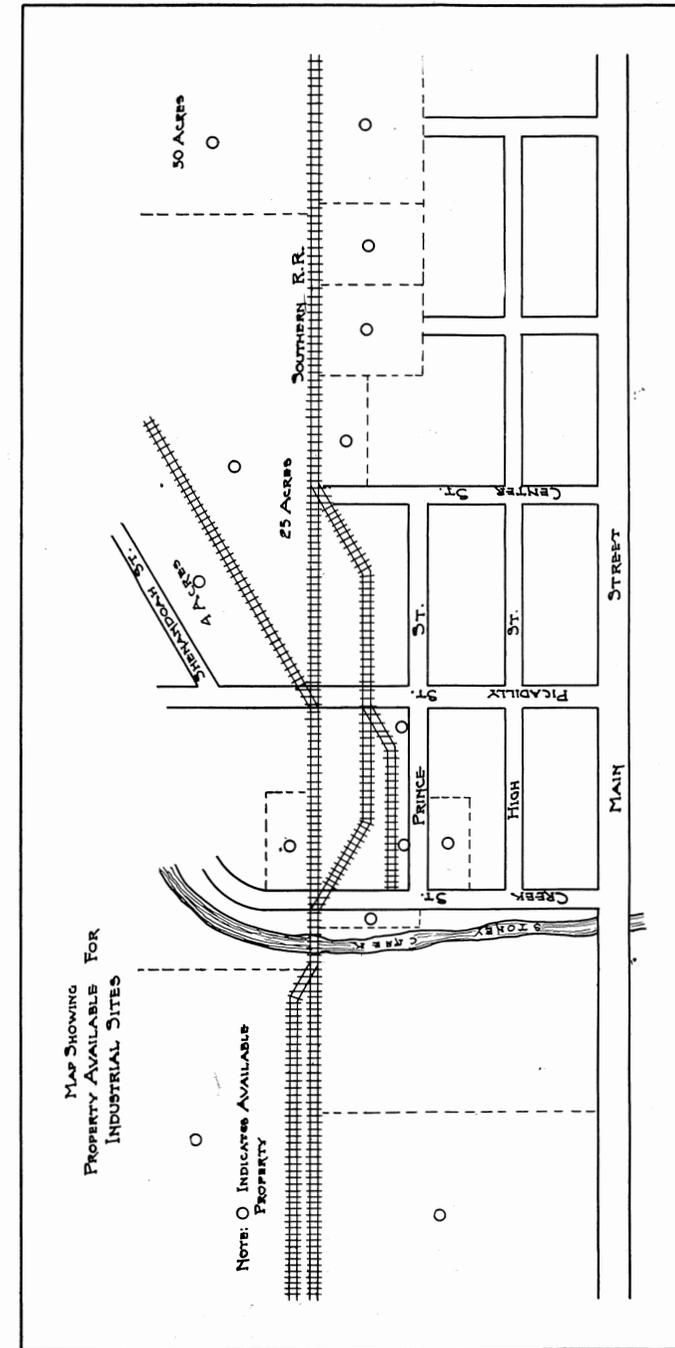
munity must be as dear to local industrialists as their desire to create and expand industry.

It can be said that the people of Edinburg and Madison District have a most favorable attitude toward industry. They realize that industries of a suitable type will increase the prosperity of the community through the utilization of capital and the employment of local workers. Leaders here desire to proceed cautiously and to plan carefully, before they invest their money in industrial enterprises. But when the proper industries have been agreed upon and capable managers procured, there will be no question about the attitude of the people of the community and the support which can be expected from them.

Residents of Edinburg and the district are following discussions on industry and are observing actual work in certain fields. They know that many communities have greatly benefited from the presence of industry. With this knowledge has come a desire to learn of the possibilities for useful industries in this section.

Industrial Sites.—The intelligent selection of industrial sites requires study and judgment on the part of industrialists and community leaders. In making a selection of sites, the future interests of the industries and the community must be considered jointly. Such timely and helpful questions might be asked as: Are the sites near raw materials? Are they accessible to local buyers? Are they within reach of transportation facilities? Will industries on such sites prove to be nuisances to residents? Is the land too costly for such use? Will industry here interfere with other community plans? These and similar important considerations will be helpful in avoiding later misgivings.

The most desirable industrial sites in Edinburg are along the railroad at points which will not interfere with the established community. A number of such sites are available at reasonable prices as shown by the sketch. The railroad extends across the district and affords other desirable sites along the right of way. Those industries which transport their products by truck will find good locations along federal highway No. 11 in the town and district. The leaders in community development will be pleased to aid



interested persons in selecting suitable plant locations at reasonable prices.

Industry Desired.—The reopening of manganese operations in Shenandoah County is tangible evidence of the interest of the people in industry. It also suggests the trend that new industrial enterprise should follow in Edinburg and Madison District; that is, exploit the known resources before entirely new fields of industry are entered. This does not mean that those industries using raw materials from the outside should not be encouraged, but that the plan of growth should first contemplate full benefits from present resources.

Although much of the timber in the county has been depleted by unwise cuttings, the practice of correct forestry principles, as recently indicated, will insure a supply of good timber for a number of concerns besides those now in operation. Modern forestry practices now being followed should make the lumber and allied industries increasingly important as time passes.

Shale and clay deposits have been worked to some extent in the county. Tests of clays just outside of Madison District show that the materials are suitable for the manufacture of brick, drain tile, and hollow building material. It is likely that similar clays occur in Madison District.

Most of the present industries are in the "food and kindred products" group, but possibilities have not been exhausted in this field. With the development of industries in other fields, new enterprises could be launched in this group without causing undue concentration. This section of the valley is well adapted to dairying and the production of fruits and vegetables. Raw materials could be used by creameries, cheese plants, and ice cream manufacturers. A cannery, to use the surplus vegetables and fruits, should be profitable to producers as well as to the operators of such a plant.

Some industry offering employment to women, other than canneries, is much desired. Textile plants usually employ more females than most other industries. Edinburg's transportation facilities make it possible to obtain the necessary raw materials for such an industry and conditions generally are favorable for textile manufacturing.

PRIMARY ECONOMIC FACTORS IN PLANT LOCATION

A student of plant location should carefully consider a number of important economic matters before determining the site of a manufacturing enterprise. The relative importance of these considerations varies with the type of factory. In one instance, the raw materials and their accessibility may be preëminently important; in another, the presence of trained labor or working conditions may be the dominant consideration. All economic factors must be carefully weighed against each other and then the location selected that will afford the greatest economic and natural advantages. The primary factors to be discussed in this chapter are natural resources, produced resources, labor, power, transportation, markets, public utilities, and climate. A brief application of each of these factors to Edinburg and vicinity is here given that the manufacturer may determine whether or not the locality is favorable for manufacturing enterprises.

Natural Resources

Topography.—Edinburg is located on the southeast side of the north Shenandoah Valley which has a width, at this point, of about eight miles. The North Fork of the Shenandoah River meanders along the southeast side of the valley at an elevation of approximately 840 feet. The general valley surface, sloping gently to the southeast from an elevation of about 1,100 feet, is carved to a gently rolling plain by the southeastward flowing branches of the Shenandoah River. This valley, on account of its relatively smooth surface and the depth and quality of its soils, is one of the best agricultural sections of the state. Beyond the confines of the valley, from its northwest boundary to the West Virginia state line, there are sandstone ridges and shale valleys which are not well adapted to agriculture. Here the ridges have steep slopes and thin soils, and the valleys are largely underlain by Devonian shale, which generally yields poor soil.

On the southeastern side of the "Great Valley" are the Massanutten Mountains with a width of five to seven miles and extending to the southeastern border of Shenandoah County. These mountains consist of a series of sandstone ridges with intervening valleys of Devonian shale. These valley areas support some agriculture, but much of this region has been taken over by the national government for a forest preserve. On the northwest slope of Massanutten Mountain and on the lowlands adjacent, there is shale which, on gentle slopes, gives a fair soil. The steeper slopes are in forest. Elsewhere, with adequate air drainage, these shales have produced satisfactory fruit soils. The good agricultural soils, contributory to Edinburg, are chiefly the valley limestone and shale soils along the North Fork of the Shenandoah River.

Commercial Possibilities.—The Shenandoah River offers some power possibilities but the low gradient of the stream and its broad valley are not favorable to extensive developments. Along the river, between the edge of the shale region and the dolomite area, there are thin limestones which will require careful investigation before constructing a dam, in order to determine the danger of underground drainage.

About one mile east of Edinburg are found argillaceous materials which have been ground for paint pigment. Shades of light yellow, reddish orange, grayish pink, and grayish black may be produced without blending and additional shades may be procured by blending. The following analyses were submitted by the previous operators of the deposit:

Analyses of Black, Gray, and Yellow Ocher

	Gray	Yellow	Black
Silica, (SiO ₂).....	73.66	59.05	60.01
Alumina, (Al ₂ O ₃).....	19.36	23.87	19.75
Oxide of Iron (Fe ₂ O ₃).....	.31	7.06	2.52
Lime, (CaO).....	.05	.52	.60
Magnesia, (MgO).....	.32	.86	.32
Potash, (K ₂ O).....	.51	.56	2.61
Soda, (Na ₂ O).....	.09	.16	1.25
Water, (H ₂ O).....	5.53	7.48	7.21
Carbon.....	5.22
	99.83	99.56	99.49

Sphalerite, a zinc ore, occurs in good concentration in the western part of Madison District, but mineable quantities have not yet been developed.

In the mountainous region to the northwest of the valley, the iron smelting industry operated on local ores for a century. The Columbia furnace and the Liberty furnace were both of the charcoal type. Great slag piles about the Columbia operation are eloquent testimony to the quantity of iron ore smelted at that point. The Liberty furnace was active about 25 years ago and was one of the last of the charcoal furnaces to operate in the state. For a charcoal furnace, it was operated on a large scale and had a narrow gauge railway connecting with the principal line at Edinburg. The ores utilized at both of these furnaces were limonite of the Oriskany type which has been very productive on the headwaters of the James River.

Within the Massanutten Mountain area, to the east of Edinburg, manganese has been mined at a number of places. This ore is of the Oriskany type and is associated with the Oriskany sandstone.

The dolomite of the valley offers suitable material for building stone. Similar material has been used extensively elsewhere in the state for building stone, as well as for crushed stone. The sandstones of the mountain crests in North Mountain and the Massanutten ranges are usable as building stone and as a source for crushed stone. The Silurian sandstones have a stronger development in the Massanutten Mountain than in any other section of Virginia. In its unweathered condition, the stone is difficult to work but when somewhat weathered it is workable. The iron stains on the white weathered rock give an attractive antique effect now seen in a number of beautiful structures built of this stone in other sections of the state. As crushed stone, this rock is superior to dolomite and great quantities of material may be had by exploiting the talus slopes, without the expense of quarrying.

The clays of Shenandoah County are chiefly residual; in some places derived from the Cambro-Ordovician limestone and in others from the Ordovician shales. The clays reported on were not taken from Madison District but are indicative of what may be found there.

Although most of the limestone lies very close to the surface, with little residual clay there are a few locations where considerable material is found to be suitable for the manufacture of brick. At one time a brick yard was in operation north of Strasburg, making a stiff mud brick from this clay, which has good plasticity and a drying shrinkage of 6.7 per cent. The fired results from tests of this clay are as follows:

<i>Cone</i>	<i>Temperature</i> (°F.)	<i>Shrinkage</i> (Per cent)	<i>Absorption</i> (Per cent)
010	1742	0.0	18.6
05	1922	2.4	12.4

Several good deposits of weathered shale occur in Shenandoah County. A deposit of this material, found east of Woodstock, has a high plasticity, a drying shrinkage of 3.8 per cent, and gave the following fired results:

<i>Cone</i>	<i>Temperature</i> (°F.)	<i>Shrinkage</i> (Per cent)	<i>Absorption</i> (Per cent)
010	1742	0.0	21.6
05	1922	3.7	12.4
3	2174	7.0	6.2

These tests indicate that the clay should be suitable for the manufacture of good common or face brick and hollow building material. There are other deposits of this same material near Woodstock and brick were formerly made from this clay in a plant south of town.

There are several deposits of weathered shale near Strasburg. A short distance east of the town, on the Southern Railway, a good cut of the fresh shale and residual clay is shown. This deposit has good plasticity, a drying shrinkage of 4.5 per cent, and is typical of the clays in the vicinity of Strasburg. Its dry tensile strength is 86 pounds per square inch and fired results are:

<i>Cone</i>	<i>Temperature</i> (°F.)	<i>Shrinkage</i> (Per cent)	<i>Absorption</i> (Per cent)
010	1742	0	17.7
05	1922	3	12.2
03	1994	5.4	6.2
1	2102	7.3	4.7
3	2174	Over-fired	

This material fires to a red color, and is suitable for the manufacture of brick, hollow building block, and drain tile.

Timber Resources

General Situation.—The forest areas of the Shenandoah Valley, though constituting but a small proportion of the land surface, have contributed materially to the industrial development of the region. Throughout the Shenandoah region, early settlers found large open areas of grasslands—a condition which was rarely encountered east of the Mississippi River. These open spaces were restricted to the broader river valleys, and resulted from annual burnings resorted to by the Indians. The main timber-producing sections were the Massanutten Mountains along the southeastern border and the Alleghany Mountains to the northwest.

The soils of the valley lands and lower slopes are exceptionally deep and fertile. Agriculture in various forms, especially general farming, fruit growing, and poultry raising, prospers in this section. As in any agricultural region, the forests are restricted to small isolated areas varying from several to 30 or 40 acres in extent. These may occasionally be found on tillable soil, but are usually located on thin soils or steep slopes. Oaks and hickories predominate in the valley lands, and are associated with the other trees of the "slope type" in the mountain forests. Sycamore, elm and willow occur in proximity to the streams, but are not commercially valuable. Red cedar was at one time moderately abundant within this region, but it has been eliminated, either to be utilized for fence posts, or because of mandatory removal, it being the alternate host of the destructive apple rust.

Many of the farm woodlands are greatly in need of the application of scientific forestry principles. The better trees are being removed year after year, leaving non-commercial and poorly shaped individuals to take over the land. Excessive grazing also tends to keep down the reproduction of the better species. The potentialities of these "woodlots" are strikingly indicated by occasional woodlands which have received a moderate amount of care. These contain prime oak and hickory of a maximum size and free from defect. In such areas the undesirable trees have been removed for cordwood, thus permitting the better species and individuals to reach commercial maturity.

Forest Types.—The forests of the mountain areas were originally of three types. At present these are often indistinguishable without careful study, because past treatment has tended to modify the mixtures. Originally white and shortleaf pine were conspicuous components of the stand, but these are less prominent now. Occasional areas of cut-over or abandoned land are seeding into these species since the advent of adequate fire protection. Hence pine may again become a valuable tree in this region.

The three original types, and those to which the forest may be expected to revert if nature has her way, are in order of importance: the *slope*, the *ridge*, and the *cove*. The *hemlock* type, which is associated with the first three in the mountains farther south, appears to be totally absent in the northern part of the state. Ravines and other favorable sites from which fire has been excluded within recent years show a tendency to seed into hemlock. This indicates that the type was probably present originally, but has disappeared under man's mismanagement. The *slope* type consists of mixtures in which white oak predominates. Associated with it are chestnut, scarlet and black oaks, yellow poplar, black locust, maple, black gum, and a few white and yellow pines. The best stands occur on heavy limestone clay, with inferior growth appearing on light sandy loams.

The *ridge* type replaces the former mixture at higher elevations where the soils are thinner and the exposure more severe, while oak, maple, poplar and locust become less abundant as their place is taken by chestnut oak. Chestnut was a conspicuous component of this type, and occurred sporadically in the slope mixture until a decade ago. The chestnut blight has eliminated this species in the county.

The *cove* type is now difficult to distinguish as such. This occurs on the better soils in protected coves and on benches; hence it produces the best timber. Yellow poplar predominates, with white oak, hickory, other oaks, walnut, gum and locust as other important species. Close cutting and fire reduced the area occupied by these species, but the elimination of these two malpractices is permitting the re-establishment of this important type.

Exploitation.—The history of the forests of the region is interesting, and is essential to a sympathetic understanding of their present status and their future possibilities. Undoubtedly, the earliest removal of timber by the white man was for use in his dwellings. This was followed by the cutting and burning coincident with the clearing of land for agriculture. The first inroads upon the forests to meet industrial demands were in connection with the smelting of iron ores.

Columbia Furnace was established in 1808 and was followed during the next 50 years by a number of others. Forest areas contiguous to these furnaces were heavily drawn upon to supply charcoal. Large acreages were clear-cut, and timber of all sizes piled in pits for conversion into this necessary fuel. Areas on which fires were controlled soon restocked themselves with a coppice growth, some of which is now furnishing ties and saw timber. Fires, however, were very common because of the charcoal pits and the furnaces and as a result, very few coaling operations escaped at least one destructive fire. Farmers also set fires on their grazing lands to decrease the amount of brush and to increase the forage crops. Bark peelers likewise burned an area in order to reduce later hazards to the piles of bark. As a result, the forests of the county and surrounding regions have suffered greatly from these factors.

Conservation.—A large proportion of the forested areas was acquired by the Forest Service in 1911. At the present time, 66,930 acres (about 20 per cent of the county) are under federal management. In 1914 the first appearance of the chestnut blight was noticed. Efforts were made to control it, but to no avail. Within the next decade all of the chestnut was salvaged, either as stave wood, lumber or extract wood. The resulting stands are largely young second-growth hardwoods of little value as saw timber, but within ten years they should begin to supply ties and lumber. Practically no sawmills are now operating in the county, and no large operations have ever been located within its confines.

Since the acquisition of the forest lands by the federal government, fires have been reduced to a minimum, plant-

ing of open areas has been undertaken, and scientific handling of the second-growth forests has been instituted. The only forest product of any value at present is cordwood secured as thinnings on government forests, and sold at 25 cents a cord on the stump. Because of the almost total lack of saw timber no stumpage values for this product can be given.

Agriculture

Shenandoah County Farms.—According to the 1925 Census of Agriculture, there were 2,614 farms in the county, an increase of 326 over the number in 1910. The tendency is toward smaller farms upon which more intensive cultivation is practiced. Approximately 70 per cent of the farms in 1925 contained less than 100 acres. The figures are given for the county because statistics are not available for the several magisterial districts:

Farms of Shenandoah County According to Size*

Size	1925	1920	1910
Under 3 acres.....	2	8	0
3 to 9 acres.....	378	237	211
10 to 19 acres.....	312	253	235
20 to 49 acres.....	539	482	463
50 to 99 acres.....	593	599	563
100 to 174 acres.....	470	471	430
175 to 259 acres.....	197	207	230
260 to 499 acres.....	107	108	118
500 to 999 acres.....	14	21	32
1,000 acres and over.....	2	2	6
Totals.....	2,614	2,388	2,288

Farm Statistics

Number of farms, 1925.....	2,614
Number acres of crop land, 1925.....	86,331
Number acres of pasture land, 1925.....	65,936
Number acres of woodland and wasteland, 1925.....	59,077
Average number acres, per farm, 1925.....	83.3
Value of all farm property, per farm, 1925.....	\$ 7,332
Value of land and buildings, per farm, 1925.....	\$ 6,540
Value of machinery and implements, per farm, 1925.....	\$291.40
Value of livestock, per farm, 1925.....	\$600.60
Percentage of owner-operated farms mortgaged, 1920.....	19.1
Percentage of owner-operated farms mortgaged, 1925.....	16.9

*Bureau of Census definition of a farm: "A farm for census purposes is all the land which is directly farmed by one person managing and conducting operations by one person, either by his own labor alone, or with the assistance of members of his household or hired employes. Thus when a land owner has one or more tenants, renters, croppers, or managers, the land operated by each is considered a farm."

Tenantry.—The percentage of tenantry on farms in Shenandoah County in 1925 was lower than it had been during the preceding 15-year period. In that year the percentage of tenantry on county farms was 10.6 as compared with 25.2 for the state. Although the percentage of tenantry for the county is much lower than that for the state, efforts should be made to further decrease the number of tenants on farms. Too often tenants lack the ability and interest necessary to produce maximum returns and improve the property. The tenantry figures for 1925 are:

Total farms, white.....	2,611
Total farms, colored.....	3
Full owners, white.....	2,152
Full owners, colored.....	3
Part owners, white.....	170
Part owners, colored.....	0
Managers, white.....	11
Managers, colored.....	0
Tenants, white.....	278
Tenants, colored.....	0
Cash tenants, white.....	40
Cash tenants, colored.....	0
Croppers, white.....	40
Croppers, colored.....	0
Other tenants, white.....	198
Other tenants, colored.....	0
Percentage of tenantry, 1925.....	10.6
Percentage of tenantry, 1920.....	14.7
Percentage of tenantry, 1910.....	12.2
Percentage of tenantry, state, 1925.....	25.2

Farm Machinery.—The even topography and fertility of the soils of the area make possible the wide use of machinery. According to the 1925 Census of Agriculture, the value of farm machinery in Shenandoah County was \$761,765, only six counties in the state having higher valuations. Undoubtedly, the use of machinery on farms eliminates much hard labor and makes rural life more enjoyable. In many cases, machinery increases the profits from agriculture but care must be exercised in its selection and operation in order to realize such benefits.

Farm Crops.—The acreage and production of the principal crops of the county are shown below:

Number acres of hay harvested.....	1922.....	24,200
Number acres of hay harvested.....	1927.....	26,100

Number acres of corn harvested.....	1922.....	25,000
Number acres of corn harvested.....	1927.....	19,900
Number acres of wheat harvested.....	1922.....	28,500
Number acres of wheat harvested.....	1927.....	28,600
Number of chickens.....	1920.....	242,482
Number of chickens.....	1925.....	305,557
Value of chickens.....	1920.....	\$240,061
Value of chickens.....	1925.....	\$311,668
Number sheep and lambs.....	1923.....	6,500
Number sheep and lambs.....	1927.....	7,600
Number of swine.....	1923.....	14,500
Number of swine.....	1927.....	9,720
Number of dairy cows.....	1920.....	6,199
Number of dairy cows.....	1925.....	5,933
Average production, per cow (gals.).....	1920.....	351
Average production, per cow (gals.).....	1925.....	350
Number of all cattle.....	1923.....	17,300
Number of all cattle.....	1927.....	11,600
Number of mules and colts.....	1923.....	370
Number of mules and colts.....	1928.....	370
Number of horses and colts.....	1923.....	5,400
Number of horses and colts.....	1928.....	3,860
Number of apple trees.....	1925.....	328,372

* **Farm Population and Wealth.**—The total farm population of the county in 1925 was 11,521. Fifty-five per cent of the people of the county live on farms, based on the population figures for 1920. An analysis of farm population is shown below by color, age, and sex:

All Farm Population

Total.....	11,521
Under 10 years of age.....	2,493
10 years of age and over.....	9,028
Male.....	4,475
Female.....	4,553

White Farm Population

Total.....	11,482
Under 10 years of age.....	2,486
10 years of age and over.....	8,996
Male.....	4,460
Female.....	4,536

Colored Farm Population

Total.....	39
Under 10 years of age.....	7
10 years of age and over.....	32
Male.....	15
Female.....	17

*United States Census of Agriculture, 1925.

Shenandoah County was tenth among the 100 counties of Virginia in amount of total gross farm income for 1928, with a total of \$4,292,100. The average income per farm for the year was \$1,642. The investment in land and buildings, from which the income was derived, was \$17,096,522 in 1925, according to the Census of Agriculture for that year.

Labor

Supply.—An analysis of the labor supply of Edinburg and Madison District shows that 67 workers are employed in the 11 manufacturing concerns now in operation. The greatest number of workers is employed in the "food and kindred products" group, 60 finding employment with these firms, while only four workers are employed in the "lumber and allied products" group, and three in the "miscellaneous industries" group.

The number of male workers is less by two than the number of female workers, but all of the women are employed in two of the 11 industries. Unskilled laborers greatly predominate, constituting 80 per cent of the total number of workers.

Analysis of Edinburg and Madison District Labor

Group	Number employed	Male	Female	Skilled	Unskilled
Food and kindred products	60	25	35	9	51
Lumber and allied products; Miscellaneous industries	7	7	0	5	2
Totals	67	32	35	14	53

Industries employing either males or females or both, will find workers available. Some are not employed at present and others are idle part of the year, due to the seasonal character of the work in which they are engaged. Leaders in the community indicate that many men and women who leave the community in search of employment would prefer to work at home. Industrialists will find workers, who are for the most part unskilled, but who are industrious and a most desirable type of employe.

Practically the entire working population of Edinburg and Madison District is native-born and of Scotch-Irish or

German extraction. There are no negro workers in factories in the town or district. The workers are of high average intelligence, and are readily capable of adapting themselves to industrial pursuits. They are unorganized, contented, and are free from the strife and unrest prevalent in many industrial centers.

Wage Scale.—There is no great variation in the wage scale, due to the small number of industries now in operation. The scale is a little lower than the average paid throughout the state, a factor favorable to industries. Living costs in the town and district are comparatively low and the workers are able to maintain a reasonably good standard of living. The present wage scale is:

Skilled, male.....	Weekly, \$25.00 —	\$40.00
	Hourly, .50 —	.70
Unskilled, male.....	Weekly, \$10.00 —	\$20.00
	Hourly, .20 —	.35
Female.....	Weekly, \$ 8.00 —	\$15.00

Labor Laws.—The state law does not limit the number of hours of employment for males over 16 years of age. Females over 16 are limited to 10 hours of employment in each 24 hours. Males and females alike between the ages of 14 and 16 are limited to 8 hours per day, 44 hours per week, and night employment is prohibited at these ages. Children under 14 years of age cannot be employed. Those between the ages of 14 and 16 must obtain a certificate from the school attendance officer before they can be employed.

A compulsory workmen's compensation law operates when a manufacturer has 11 or more employed.

Power

Source.—The Shenandoah River Power Company furnishes electrical energy to the town of Edinburg and Madison District. This company operates the following generating units in the valley: a 150 K. W. generator at Edinburg; a steam plant producing 500 Kv-a. at New Market; a hydro-electric plant of 150 K. W. at Woodstock; a hydro-electric unit, supplemented by a 100 H. P. fuel engine at Timberville, with a capacity of 125 K. W.; and a hydro-electric unit

with a 250 H. P. fuel engine with a rated capacity of 244 K. W. at Grottoes.

Covering the area served by the company are approximately 550 miles of high tension lines extending from Strasburg to Mt. Sidney and from Rawley Springs to Elkton. During the current year, the company contemplates the construction of a 2,000 kilowatt hydro-electric plant on the Shenandoah River two miles south of Shenandoah and four miles north of Elkton. Surveys already have been made for this project and actual work will be started early in the spring or as soon as final settlements are made with land-owners for damages.

Of particular local interest is the proposal of the company to enlarge the plant near Edinburg. This plant now has an 18-foot dam with a 150 K. W. generator and it is proposed that the dam be made four feet higher and that other facilities be increased to provide greater capacity.

The Shenandoah River Power Company has adequate facilities to supply the electrical needs of this section, both for light and power.

Rates.—The following rate schedules are in effect in Edinburg and Madison District:

General Lighting Rate

Minimum monthly charge guaranteed by consumer, \$1.50, for which up to 15 K.W.-hours may be used, each meter being considered as a separate consumer.

For all electricity used in excess of consumer's guarantee:

First 75 K.W.H. excess per month.....	10 cents per K.W.H.
Next 110 K.W.H. excess per month.....	9 cents per K.W.H.
Next 200 K.W.H. excess per month.....	8 cents per K.W.H.
Next 200 K.W.H. excess per month.....	7 cents per K.W.H.
Next 400 K.W.H. excess per month.....	6 cents per K.W.H.
All excess used over 1,000 K.W.H. per month.....	5 cents per K.W.H.

Small Retail Power Rate

Available to consumers using not less than one or more than 15 H.P.

Minimum monthly charge guaranteed by consumer, \$.50 per connected motor H.P., but no bill to be less than \$2.00 per month, each meter being considered as a separate consumer.

First 150 K.W.H. per month.....	6 cents per K.W.H.
Next 650 K.W.H. per month.....	4 cents per K.W.H.
All excess over 800 K.W.H. per month.....	3 cents per K.W.H.

Large Retail Power Rate

Available to consumers only under contract for term of not less than one year where connected load exceeds 15 H.P.

Minimum monthly charge guaranteed by consumer, \$.50 per connected motor H.P.; no bill to be less than \$15 per month, each meter being considered a separate consumer; and for which guarantee the consumer may use such number of K.W.H. at 5 cents per K.W.H. as will be equivalent to the amount of the guarantee.

First 500 K.W.H. excess per month.....	4	cents per K.W.H.
Next 4,000 K.W.H. excess per month.....	3	cents per K.W.H.
Next 10,000 K.W.H. excess per month.....	2½	cents per K.W.H.
All excess used over 14,500 K.W.H. per month.....	2¼	cents per K.W.H.

General Heating and Cooking Rate

Minimum monthly charge guaranteed by consumer, \$3.00, each meter being considered as a separate consumer.

First 100 K.W.H. per month.....	4	cents per K.W.H.
All excess over 100 K.W.H. per month.....	3	cents per K.W.H.

Special Combination Domestic Residence Rate

Minimum monthly charge guaranteed by consumer, \$3.00, for which up to 30 K.W.H. of electricity may be used, each meter being considered as a separate consumer.

First 50 K.W.H. excess per month.....	6	cents per K.W.H.
Next 100 K.W.H. excess per month.....	4	cents per K.W.H.
All excess over 180 K.W.H. per month.....	3	cents per K.W.H.

Potential Power.—The North Fork of the Shenandoah River has some power possibilities. Such power is largely potential but there has been some development and especial attention is called to the dam near Edinburg.

Gaugings taken near Strasburg, 18 miles down stream, by the U. S. Geological Survey, show the following flows for this stream:

Maximum flow.....	10,100	second feet
Minimum flow.....	34	second feet
Mean flow.....	571	second feet

The fall of the stream is four and one-third feet per mile, which, computed with the mean flow, gives 281 horsepower as the full theoretical power of the stream per mile.

Transportation

Railroad.—Edinburg and Madison District are served by the Washington-Harrisonburg branch of the Southern Railway. This branch includes trackage and facilities from Washington, D. C., via Manassas and Front Royal to Harrisonburg, a distance of 144.4 miles.

The line enters Shenandoah County near Strasburg and passes through Edinburg and other larger communities in

traversing the county in a general southwesterly direction. Good passenger, express and freight service is provided. Three northbound and three southbound passenger trains make regular scheduled stops each week day. Four of the trains (two north and two south) carry Pullman buffet parlor cars. One train in each direction is run over the route on Sundays, both of these making scheduled stops at Edinburg.

The railway provides adequate sidetracks at Edinburg with good loading and unloading facilities.

Buses.—Towns Bus Line, Inc., a subsidiary of the Eastern Public Service Corporation, operates three buses daily each way over the "Valley Pike" between Roanoke and Winchester. In addition to the through schedule, daily service is maintained between Staunton and Winchester, between Roanoke and Harrisonburg, and between Roanoke and Staunton. In the opposite direction intermediate service includes one bus from Staunton to Roanoke, one from Harrisonburg to Roanoke, and one from Winchester to Staunton. Connections are made at Staunton for Charlottesville over Fisher's Bus Line; at Harrisonburg for Bridgewater and Elkton; and at Winchester for Washington, D. C.

The Old Dominion Stages, providing only interstate service between Winchester and Bristol, operates buses from Washington, D. C., to Knoxville, Tennessee. No regular stops are made in Edinburg, but the buses will take on passengers at this and other points in the state for destinations outside of Virginia. Passengers boarding the buses in other states may call for stops at any point in Virginia. The present facilities provide adequate bus transportation to points within and outside the state.

Markets

Retail and Wholesale Market.—Edinburg is the principal retail and wholesale center of Madison District. A survey of the business conditions in Edinburg and the district disclosed that 34 concerns, with an annual volume of business of almost \$900,000, are in operation. Of this number, 23 are located in Edinburg and do a yearly business of

approximately \$750,000. Eleven concerns, transacting an annual volume of business of about \$125,000 are operating in the district outside of Edinburg. The above data prove the local importance of Edinburg as a trading center.

Most of the retail and wholesale goods are sold and consumed within the town and district. However, some agricultural and poultry products are assembled at Edinburg for distribution to northern markets. Produce is shipped to New York, Philadelphia, and other northern cities.

Industrial Market.—The industrial concerns now in operation find local markets for the greater portion of their products. A large portion of the mill products, however, is shipped to North and South Carolina, and a small part of the products in the "lumber and allied products" group is sold in the Middle West. The branch line of the Southern Railway, serving Edinburg and vicinity, makes nearby and distant markets easily accessible in all directions. Rail facilities are adequate for more frequent and larger shipments to these markets.

Water Supply

Source.—Water for the town of Edinburg is obtained from three springs located in the Massanutten Mountain about two miles east of the corporate limits. Two pipes, one four inches in diameter and the other two and one-half inches, are used to carry the water from the springs to a reservoir, which has a capacity of 500,000 gallons. The reservoir is at an elevation of approximately 195 feet above the town.

Distribution.—From the reservoir to the town, a distance of about two miles, and in all of the streets the water is carried by gravity in 6-inch mains. The water is distributed untreated from the street mains to the consumers. Smaller pipes are used to carry water to consumers outside the corporate limits. Fire hydrants, with a water pressure of approximately 85 pounds per square inch, are located on nearly all street corners.

Operation and Rates.—The water supply is municipally owned and operated. It is unmetered and charged for as follows:

\$3.00 per spigot per year
\$1.00 per spigot for each additional spigot
Average cost per family for a year is \$12.00
Industrial rates are provided by special contract.

Quantity.—The normal flow from the springs is about 175,000 gallons a day and the minimum flow has not been less than 85,000 gallons in 24 hours. The present consumption is 70,000 gallons daily, 30,000 of which are used for domestic purposes and 40,000 by the Southern Railway.

Analysis.—Samples were taken from the Edinburg municipal supply and from Healing Springs near the town and analysed in the chemical laboratories of the Virginia Polytechnic Institute. The analyses show the following results:

Chemical Analyses of Water*
(F. H. Fish and J. A. Addlestone, Analysts)

	Edinburg	Healing Springs
pH.....	6.0	7.1
Odor.....	none	none
Turbidity.....	none	15
Color.....	none	30
Free ammonia.....	.06	trace
Albuminoid ammonia.....	none	.08
Nitrites (NO ₂).....	none	none
Nitrates (NO ₃).....	none	none
Chlorides (Cl).....	1.9	3.8
Bicarbonates (HCO ₃).....	9.6	272.7
Total solids.....	15.8	401.0
Organic and volatile residue.....	4.5	85.0
Mineral residue.....	11.3	316.0
Silica (SiO ₂).....	4.7	23.8
Iron & aluminum oxides (Fe ₂ O ₃ &Al ₂ O ₃).....	2.5	3.8
Calcium (Ca).....	1.9	90.5
Magnesium (Mg).....	1.4	18.0
Sulphates (SO ₄).....	3.4	97.8
Sodium (Na), calculated.....	1.7	14.3
Soap hardness.....	6.3	203.0
Calculated hardness.....	10.5	300.0

*In parts per million.

Climate

Location.—Edinburg is situated in the "Great Valley" section of Virginia, two miles from the Massanutten range and about eight miles from North Mountain on the northwest. It is in latitude 38° 49' north and longitude 78° 35'

west, and is at an elevation of about 900 feet. There are occasional extremes in temperature but the general climate of the area is favorable for agricultural activities and is conducive to health. There is much sunshine and an exceptionally long frost-free season in the valley region.

Climatological Data.—The following data are taken from the U. S. Weather Bureau records for Woodstock, Virginia, the nearest station to Edinburg. Woodstock is located five miles northeast of Edinburg at an elevation of 927 feet. The records extend over a period of 24 years.

CLIMATOLOGICAL DATA
U. S. Weather Bureau

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An- nual
Mean temperature	33.2	32.4	43.7	52.4	63.7	69.7	74.6	74.0	67.1	56.6	44.6	34.2	53.8
Highest temperature	76	72	93	97	96	101	105	106	98	93	80	74	106
Lowest temperature	-22	-12	-2	19	20	37	44	43	31	20	5	-13	-22
Mean precipitation	2.45	2.25	2.95	2.59	3.44	4.41	3.41	3.95	2.68	2.67	1.81	2.37	34.98
Dryest year	1.64	2.23	1.72	3.11	1.01	2.19	2.68	2.43	1.50	1.24	1.48	3.96	25.19
Wettest year	2.45	0.15	3.49	5.57	5.44	6.58	3.50	6.92	4.08	0.28	2.07	3.84	44.37
Average snowfall	7.3	7.6	4.7	1.0	T	0	0	0	0	T	0.5	4.2	25.3
Av. no. days with .01 in. or more precipitation	9	7	10	9	11	11	11	11	7	7	6	7	106

Date of last killing frost in spring, average April 18
Date of last killing frost in spring, latest May 3
Date of first killing frost in autumn, average October 15
Date of first killing frost in autumn, earliest October 1

SECONDARY FACTORS FOR INDUSTRIAL
DEVELOPMENT

Local Government.—Edinburg, with an unofficial population of 496 in 1930, has the mayor-council form of town government. Under this type of organization the mayor, elected for a two year term, serves as chief executive and officially represents the town. The council, composed of six members elected for two years, enacts ordinances and aids the mayor in the administration of public affairs. Certain judicial officers interpret ordinances and serve as a justices court to handle violations. No industrial legislation has been enacted, but the council soon will require that building permits be secured and that all construction shall be in accord with certain specifications.

Shenandoah County.—Shenandoah County, the local governmental area in which Edinburg is situated, has the supervisor form of government prevalent in Virginia. The legislative body is composed of six supervisors, including one from each of the several magisterial districts; namely, Lee, Ashby, Madison, Johnson, Stonewall, and Davis. As a body the supervisors administer the affairs of the county, while individually they look after the interests of their own district.

Voters of the county elect a commonwealth's attorney, a treasurer, a sheriff, and a commissioner of the revenue for a period of four years. The clerk of the court is elected in like manner, but for an eight-year term. The division superintendent of schools is selected by the local school board from a list of eligibles approved by the State Board of Education.

In addition to the supervisor, each civil division in the county elects a constable, an overseer of the poor, and three justices of the peace. In Madison magisterial district, the civil division for Edinburg, the last named officers administer certain affairs which pertain primarily to the district and the welfare of their constituents.

Taxes

Rate.—The town tax rate on real estate and tangible personal property is \$.85 per \$100 of assessed valuation, such assessment representing about 35 per cent of its fair market value. Madison District imposes the additional rate of \$1.15 which makes a total tax rate of \$2.00 per \$100 of valuation. The state does not tax real estate and tangible personal property as these objects of taxation are segregated to the localities. The state takes corporation franchises, capital, and business taxes for its purposes. The following state taxes became effective January 1, 1929:

<i>Tax</i>	<i>Rate</i>
1. Automobile license tax.....	70 cents per hundredweight
2. Automobile gasoline tax.....	5 cents per gallon
3. Banks - state and national.....	\$1.10 per \$100 capital stock, less real estate
4. Bank examination fees.....	\$40 to \$1,200, according to volume of resources
5. Business, general and professional.....	Annual and temporary license taxes based on volume of business
6. Capitation or poll tax.....	\$1.50 per citizen
7. Court clerk's fees on collections.....	3% to 5%
8. Corporations:	
a. Charter fees.....	\$10 upward, according to authorized capital stock
b. Annual franchise, except public utilities.....	\$10 and upwards, according to authorized capital stock
c. Registration fee.....	\$5 to \$25
d. Car companies.....	\$1.60 per \$100 valuation property
e. Express companies.....	1 13-20% of gross receipts
f. Heat, light, water, and power.....	1 1-8% of gross income
g. Railway, steam and canals.....	1.5% of gross receipts
h. Railways, electric.....	\$2.50 per \$100 value rolling stock
i. Sleeping cars.....	\$3.15 per mile of track
j. Steamboats.....	2% of gross receipts
k. Telephone and telegraph.....	1 1-16% of gross receipts
9. Game and inland fisheries.....	Hunting, fishing, and dog licenses
10. Income - a. Individual.....	1.5% to 3% on net income
b. Corporations.....	3% on net income
11. Industrial insurance.....	Commercial premium, plus 3.5% of premiums
12. Inheritance.....	1% to 15%, according to relationship and value of estate
13. Insurance companies:	
a. Life.....	2.25% of net premiums
b. Fire, marine, disability, etc.....	1% to 2¾% net premium
14. Marriage license.....	\$2 per license
15. Stocks and bonds.....	0.35-0.5% of market value

Licenses.—Merchants doing business in the town of Edinburg are charged a license fee according to the following schedule:

\$10.00 on purchases from \$2,000 to \$5,000
 \$15.00 on purchases in excess of \$5,000
 \$20.00 on combined retail and wholesale business

Receipts and Disbursements.—The report of the treasurer for the year beginning September 1, 1928, and ending August 31, 1929, shows total receipts of \$5,690.02 and disbursements of \$5,438.98, with a balance of \$251.04. The itemized report gives sources of revenue and the purposes for which expenditures were made:

September 1st, 1928: To cash on hand..... \$ 42.58

RECEIPTS

To cash, Taxes collected by treasurer.....	2,159.64
To cash, Taxes collected by sergeant.....	252.05
To cash, Licenses collected by sergeant.....	553.01
To cash, Dog tags sold in 1928.....	39.54
To cash, Fines collected.....	10.00
To cash, Subscriptions to cement walks.....	41.94
To cash, Water taxes collected by treasurer.....	1,565.49
To cash, Water taxes collected by sergeant.....	186.91
To cash, Old pipe sold.....	9.60
To cash, Old stove and pipe sold from hall.....	30.00
To cash, Lime and cement sold from hall.....	1.09
To cash, Rent of town hall.....	11.50
To cash, Sale of lots in cemetery.....	86.67
To cash, Borrowed from bank.....	700.00

Total receipts..... \$5,690.02

DISBURSEMENTS

Streets and walks: Material.....	\$ 69.62	
Labor.....	67.80	\$ 137.42
Water system: Material.....	\$514.37	
Labor.....	250.85	
Interest paid on water bonds.....	500.00	
Amount reserved for outstanding coupons on water bonds.....	75.00	1,340.22
Town hall: Material for repairs.....	\$109.64	
Labor.....	49.10	
Coal.....	40.69	
Electric lights.....	21.00	
Insurance.....	29.82	250.25
Cemetery: 2 new lawn mowers.....	\$ 27.00	
Repairs for old mowers.....	6.74	33.74
Printing and stationery.....	4.35	
Street lights.....	449.40	
Parking lot.....	75.00	
Rest room, rent and electric lights.....	43.85	
Lodging and meals for tramps.....	14.50	
Commissioner of revenue.....	5.00	
Shenandoah County electoral board.....	10.85	

Membership dues to League of Virginia Municipalities.....	\$ 15.00
Rent of rest room, Sept. 1, 1927 to Sept. 1, 1928.....	36.00
Hauling rubbish from streets.....	9.00
Rent of safety deposit box.....	3.00
Extra police service, 1927-28.....	10.00
Amount paid banks on loans.....	2,000.00
Interest paid on loans from banks.....	139.00
Treasurer's fees from Sept. 1, 1927 to Sept. 1, 1928.....	103.78
Salaries: Mayor \$25.00; Recorder \$15.00.....	40.00
Attorney \$15.00; Sergeant \$600.00.....	615.00
Extra police \$5.00; Treasurer \$98.62.....	103.62
	\$5,438.98
September 1st, 1929: Balance on hand.....	\$ 251.04

Bonded Indebtedness.—Water bonds amounting to \$20,000 were issued August 1, 1906, for a period of 30 years at a rate of five per cent. The outstanding indebtedness at present is \$11,500. By state legislation, the legal bonding limit is placed at 18 per cent of the assessed valuation of real estate.

Real Estate Values

There has been very little change in the value of real estate during the past five years. The average selling price of residential property is \$3,000, residences selling as low as \$1,000, while others bring as much as \$10,000. Business property sells for sums ranging from \$4,000 to \$8,000, a fair average price for this type of property being \$6,000.

Fire Protection

Edinburg possesses fire-fighting equipment adequate to present needs. The equipment consists of one chemical extinguisher mounted on a truck, 1,000 feet of hose on three reels, and two houses in which to store the hose.

This equipment is manned by a volunteer organization of 50 men. Thirty fire hydrants, carrying a pressure of approximately 85 pounds, are conveniently and systematically located throughout the community. Fire losses over the last five-year period have been almost negligible.

Police Protection

One salaried police sergeant and two special officers perform the necessary police duties in Edinburg. These officers are sworn to maintain order and to uphold the law.

Their principal duties are to protect life and property, to amicably settle petty disputes, and to handle traffic on busy days. Ordinarily, traffic control is accomplished by street markings and signs.

Health Protection

Organization.—The responsibility for health protection and proper sanitary conditions is vested in a committee of three members, selected from the personnel of the town council. This committee makes thorough inspections twice annually and recommends suitable measures for the correction of unfavorable conditions. Necessary quarantine regulations are drafted and enforced by the health committee with the approval of the town council. This committee cooperates with county and state health authorities in all matters concerning the public health.

Vital Statistics.—A statement showing marriages, births, and deaths in the county is of interest. Comparative figures of births covering the last several years are:*

	1921		1922		1923		1924	
	Births	Rate	Births	Rate	Births	Rate	Births	Rate
Shenandoah County	560	26.92	529	25.43	539	25.91	496	23.85
State of Virginia.....	70,299	29.95	64,992	27.39	64,603	26.94	64,692	26.70

	1925		1926		1927			
	Births	Rate	Births	Rate	Births	Rate		
Shenandoah County....	505	24.28	427	20.53	464	22.30		
State of Virginia.....	61,459	24.62	58,085	23.06	58,232	22.87		

Deaths during 1927 with rates per 1,000 population are shown below:

	DEATHS			RATE PER 1,000		
	Total	White	Colored	Total	White	Colored
Shenandoah County..	250	243	7	12.01	11.93	16.09
State of Virginia.....	28,730	17,459	11,271	11.28	9.51	15.87

*Statistics compiled from the Annual Report, State Department of Health, for the year ending June 30, 1928.

The number of marriages in the county during 1927 was 119, giving a rate of 5.72 per 1,000 population as against the state rate of 8.81. Eleven divorces were recorded the same year, the rates per 1,000 for the county and state being .53 and 1.18 respectively.

Housing Conditions

Houses.—There are approximately 150 residences in Edinburg of which about 15 were constructed during the period from 1920 to 1930. No apartment houses have been erected but there are several two family structures in the town.

Ownership.—Most of the houses are owned by the people occupying them, so that the percentage of ownership is estimated to be above 75. This ratio is high when compared with the percentages for the state and the entire country but it must be remembered that Edinburg is an old and well established community where many of the present inhabitants reside in homes which have housed several generations of their families.

Rents.—Houses are rented at prices ranging from \$8 to \$30 per month. Business property may be secured at prices ranging from \$15 to \$30, depending upon the desirability of the site.

Banking Facilities

One financial institution, known as The Farmers Bank of Edinburg, Inc., is located in the town and serves Madison District. The bank has adequate resources to meet the usual needs of the people in the district and assumes a very favorable attitude toward industrial financing. Cooperating with other banks in the county, this institution would be in a position to aid materially in financing industries desiring to locate in the district. Information relative to the condition of the bank as of December 31, 1929, is given below:

Bank	Capital	Resources	Deposits	Surplus and profits
The Farmers Bank of Edinburg, Inc.	\$20,000	\$327,514.75	\$242,654.98	\$34,859.77

CIVIC REFINEMENTS

Educational Facilities

Edinburg

Public Schools.—One frame school building, situated on an eminence in one end of the town, houses both the high and elementary schools of Edinburg. A playground, four acres in size and equipped with the usual recreational apparatus, is adjacent to the building. An area of five acres, privately owned, is used as an athletic field for interscholastic contests. All public school property, including building, site, furniture and equipment, is valued at \$20,000.

The building is somewhat antiquated and should be replaced by a modern fire-proof structure as soon as funds are available. Nearly all of the furniture and equipment are of a modern type. A school library, which has already assumed fair proportions and is being constantly increased, is a most useful asset to the school and a credit to the community.

The teaching standards and training requirements for teachers have been raised. This has resulted in better teaching methods and more thorough training in both the high and elementary departments.

School Statistics.—The number of teachers and the enrollment in the high and elementary departments of the school are given below:

Teachers	
High school.....	4
Elementary school.....	5
Enrollment	
High school.....	80
Elementary school.....	150

Madison District

Public Schools.—There are eight 7-month graded schools, one 9-month graded school, and one 9-month junior high school in Madison District, outside the town of Edin-

burg. Each of these schools is provided with a small playground area. The total value of school property in the district, exclusive of Edinburg, is approximately \$15,000.

School Statistics.—The number of teachers and the enrollment for the 1929-30 school session are:

Teachers	
High school.....	1
Elementary schools.....	13
Enrollment	
High school.....	18
Elementary schools.....	286

Recreational Facilities

Caverns.—Although no commercial caverns are developed in Madison District there are several beautiful underground wonders nearby. The Shenandoah Caverns are situated in Shenandoah County, the Endless Caverns in Rockingham County, and the Luray Caverns across the mountain in Page County. Besides the scenic attractions all of these resorts have recreational facilities, clubhouses, tea-rooms and other attractions for the pleasure seeker.

Theatre.—There is one theatre in the town with a seating capacity of about 300. Pictures are not presented daily, but are shown at least semi-weekly. A new modern theatre will soon be constructed, according to present plans, with a seating capacity of 300.

Mountain View Snake, Alligator, Bird, and Baby Animal Farm.—One of the recent recreational developments in the district is the *Mountain View Snake, Alligator, Bird and Baby Animal Farm*. It is located at Bowman, on the "Valley Pike," between Edinburg and Mount Jackson. The name of the resort is somewhat misleading, for one of its educational features is its large and varied collection of old Indian relics of historic interest. Guides are provided for visitors and the detailed history and legends connected with the beautiful Indian handicrafts assembled at the museum are revealed. The habits and conditions under which animals live, where they are found, and their commercial values are also explained to guests.

The Shenandoah Healing Spring.—The spring is situated on a mountain farm near Edinburg. It is now

readily accessible to the public nor is the character of the water widely known. It is available for development as a resort and is worthy of careful investigation. The water is reputed to have medicinal qualities and has been used for curative purposes. A chemical analysis of the water appears on page 35 from which it will be observed that the mineral residue and various chemical radicals are present in considerable quantity.

Orkney Springs.—This popular health and recreation resort, which was named for the Earl of Orkney in Colonial times, is situated in the adjoining district near the northwestern border of the county. The springs are said to issue 11 different waters of proved medicinal and beneficial qualities. Many visitors frequent the resort to drink the water and to take advantage of the recreational facilities.

The large estate of 1,200 acres is a veritable playground. A hazardous nine-hole golf course, tennis courts, a bowling alley, a swimming pool, and bridle paths are all available for the pleasure seeker.

The Orkney Springs Hotel has 500 guest rooms well furnished and appointed. About 30 baths are located conveniently throughout the building where the salt waters may be utilized for bathing. A spacious dance hall and the famed Orkney orchestra provide enjoyment and entertainment. The resort is an excellent recreational and rest oasis.

Churches

The people of the community are active in religious work. There are four Protestant denominations: the Methodist Episcopal, South, the German Reformed, the United Brethren, and the Christian. Each of these congregations has its own church edifice and conducts regular services.

Hospitals

Edinburg does not possess hospital facilities of its own, but has ready and convenient access to the hospitals at Harrisonburg and Winchester. The town is situated about equally distant between the two cities, and is within less than an hour's drive of either. Excellent medical and surgical attention is provided at both of these hospitals.

Hotel Facilities

The Narrow Passage Tavern, located between Edinburg and Woodstock on one of the seven bends of the Shenandoah River, provides clean, comfortable rooms, with or without bath, for tourists. Guests may secure accommodations on either the American plan or European plan at reasonable rates.

Boarding Houses.—Accommodations for local and out-of-town guests are provided by several boarding houses in the community. The principal ones are: Rest Haven Inn, In-and-Out, and Fairfax Lodge. Daily rates at these houses range from \$1.50 to \$3.00, but on a monthly basis, board and room may be obtained for \$30 to \$40.

Tourist Camp.—D. H. Clem's tourist camp, situated about one mile north of Edinburg along the "Valley Pike," provides comfortable quarters for tourists and spacious camping grounds well grassed and shaded. This resort has rooms, tents, and cottages for rent to tourists. Cold filtered water is furnished guests and food may be purchased on the grounds.

Physical Plan and Streets

The street layout of the town follows reasonably well the gridiron system. This plan has been modified materially by the principal transportation routes and the topography of the area. All streets run either parallel to or at an angle with federal highway No. 11, which serves as the main street of the town. Within the corporate limits there are approximately five miles of public streets, all of which are improved with bituminous macadam and kept in good condition. Sidewalks have been constructed along the main thoroughfares and it is estimated that nearly five miles of concrete walks are now in use.

Street Lighting

The town is illuminated by fifty-five 100-candle power lights conveniently placed along the public streets. In some sections where there are many trees the lights were irregularly placed to provide the best effect. All installation, consisting of iron bracket fixtures to wooden poles, is sub-

stantial and serviceable. It is understood that no extensive improvements are contemplated for the present but the community is ready to make extensions when such are considered advisable.

Municipal Sanitation

Sewer lines extend to all sections of the community but are not publicly owned. Edinburg is one of the few Virginia towns in which the citizens own and maintain the sewerage system. Six-inch pipes have been laid in nearly all streets with revenues supplied by those connecting with the system. At the present time, only 17 houses are not connected with some sewerage line. The sewage is emptied into Stony Creek at a point beyond the corporate limits of the community—a method of disposal which is considered to be satisfactory for the present population.

Annual clean-up campaigns are instituted by town officials in addition to the regular removal of garbage and trash. This refuse is dumped several miles beyond the town limits. The community presents a clean and well-kept appearance.

Newspapers

The Woodstock Times and Edinburg Sentinel, a tri-weekly journal published in Woodstock, five miles distant, serves as the community newspaper. *The Harrisonburg Daily News Record* is widely circulated in the town, for its columns habitually carry the news of Edinburg and vicinity. Convenient train schedules bring nationally-known dailies from Washington, Baltimore, and nearby cities.

GENERAL BUSINESS DATA

Retail and Wholesale Business

Type of business	Number of concerns	Number employed	Annual payroll	Capital invested	Volume of business
Automobiles and accessories; Gas and oil	12	20	\$12,798.00	\$ 56,250.00	\$282,880.00
Drug stores; Restaurants	4	4	2,800.00	7,100.00	22,000.00
Grocery stores; Antique shop; Hardware stores; Feeds, fertilizer, farm implements, etc.	7	18	14,820.00	50,350.00	282,100.00
General merchandise	8	11	8,470.00	59,000.00	156,400.00
Millinery store; Country produce; Lumber and mill work	3	4	4,120.00	5,500.00	121,000.00
Totals	34	57	\$43,008.00	\$178,200.00	\$864,380.00

Retail and Wholesale Business

Town and district	Number of concerns	Number employed	Annual payroll	Capital invested	Volume of business
Edinburg (town)	23	44	\$34,988.00	\$151,000.00	\$771,300.00
Remainder of Madison Dist.	11	13	8,020.00	27,200.00	93,080.00
Totals	34	57	\$43,008.00	\$178,200.00	\$864,380.00