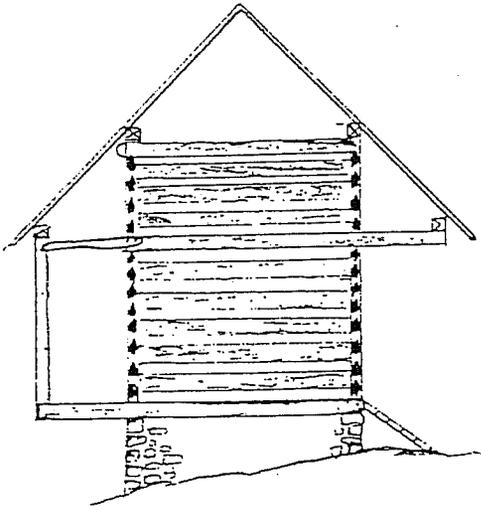
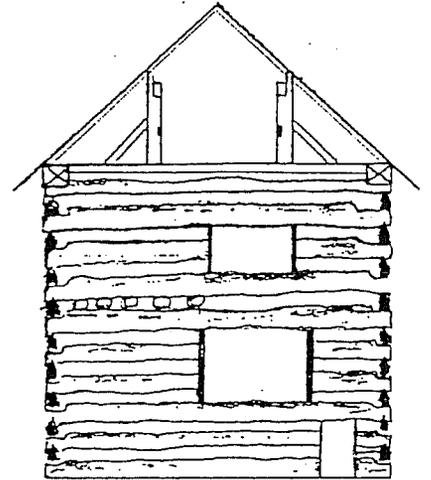


**A Study of Agricultural/Vernacular Architecture of Central and
Southwestern Pennsylvania:**

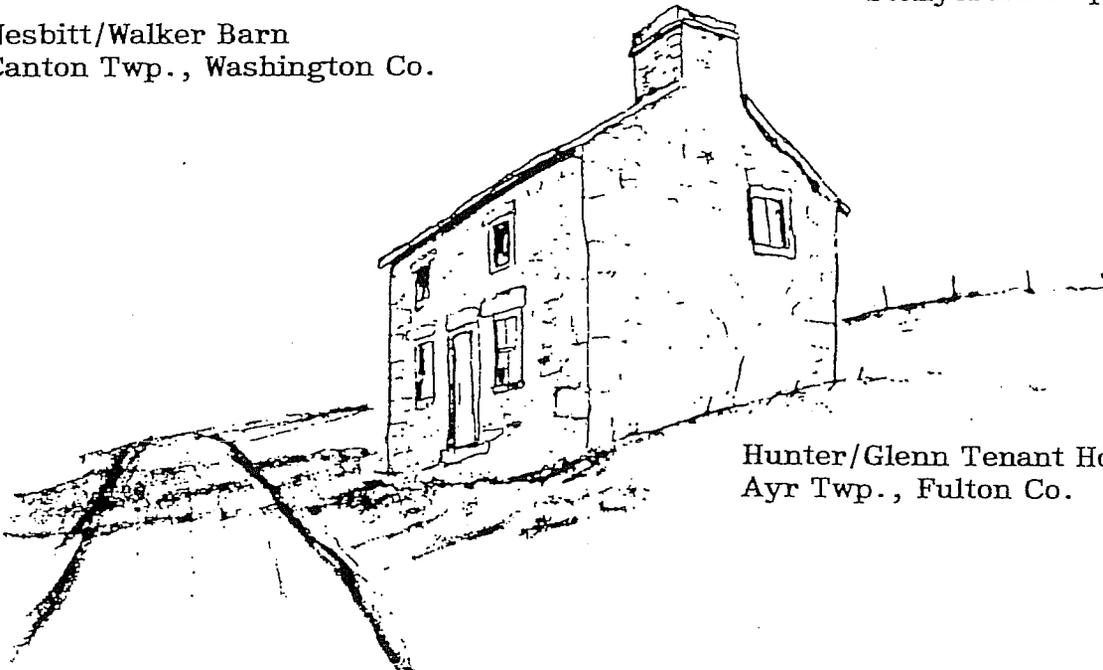
With a Particular Emphasis on the Barns of These Regions



Nesbitt/Walker Barn
Canton Twp., Washington Co.



Yoder/Knepper Barn
Stonycreek Twp., Somerset Co.



Hunter/Glenn Tenant House
Ayr Twp., Fulton Co.

by Jerry A. Clouse

Pennsylvania Historical and Museum Commission

September 1995

Agricultural/Vernacular Architecture of Central and Southwestern Pennsylvania

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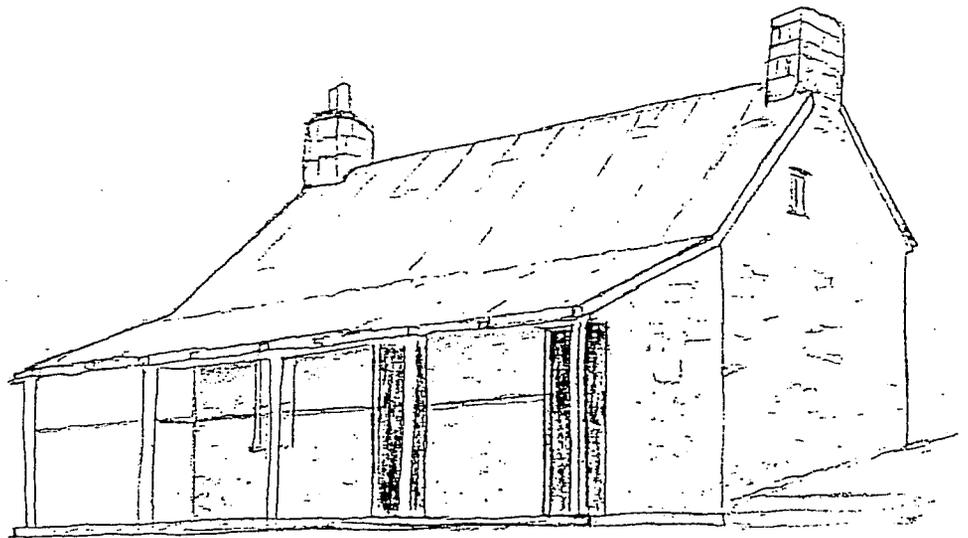
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Acknowledgments

Certain people always facilitate projects and make them more enjoyable. Many of the farmers, contacted on the spur of the moment, took time from their schedules to talk and allow me free run of their barns or farmsteads. Mark Ware and Calvin Will willingly showed me barns and farmsteads in central Somerset County. Dave Lesako and Terry Cole showed me sections of Greene County and directed me to what they believed was significant about vernacular architecture in that county. Nancy Shedd was helpful in steering me to areas of Huntingdon County where intact farmsteads were to be found, and Peggy Goodman led me on a survey of farmsteads in southeastern Blair County. Correspondence and telephone calls were exchanged with Bob Ensminger, the pre-eminent Pennsylvania barn scholar, who kindly shared his thoughts. Folklorist and professor Don Yoder provided insights on the cultural trends of central Pennsylvania, and vernacular architecture scholar Warren Hofstra assisted in my study of the Scotch-Irish and their influence in southwestern Pennsylvania. Conversations with Steve Miller, of the Landis Valley Museum, about Pennsylvania agriculture have been useful. And last but certainly not least, I acknowledge the funding for this project from the National Park Service's America's Industrial Heritage Project, now the Southwestern Pennsylvania Heritage Commission.



Gaskill House
Georges Twp., Fayette Co.
(See p. 74)

Preface

The rich agricultural/vernacular architecture of an eleven-county area of southwestern Pennsylvania has been barely scratched in this study. This heritage deserves greater attention and study. Many of the buildings and structures looked at are threatened with neglect as well as with mining, strip malls, advancing suburbia, and changing agricultural methods. Consequently, the study of the area's farmsteads is crucial if we want to know more about late eighteenth through early twentieth century farming in Central Pennsylvania and in the counties west of the Alleghenies.

Much has been written about the farmsteads and architecture of southeastern Pennsylvania, but there is a relative paucity of information on central and western Pennsylvania's architectural past. Charles Stotz's 1936 work on the architecture of western Pennsylvania noted many of the finer buildings and structures. However, few barns or outbuildings were recorded even with photographs. Stevenson Fletcher's history of Pennsylvania agriculture focused more on southeastern Pennsylvania where there was already more textual information.

Solon and Elizabeth Buck's 1930s history of western Pennsylvania touched on the general farming trends of the late eighteenth and early nineteenth centuries. Social historian R. Eugene Harper gave a better documented picture of western Pennsylvania life before 1800. The southeastern Pennsylvania counties of Berks and Lancaster had the first agricultural/architectural studies completed. An agricultural/architectural study of Somerset County was completed in 1994. A much smaller version was finished in Blair County at the same time. The in-depth Somerset study provided much needed information on farmsteads there, but it furnished little context as to what was occurring in surrounding counties and the state. This is where my study fits in, providing informational clues as to statewide and regional trends that these counties were a part.

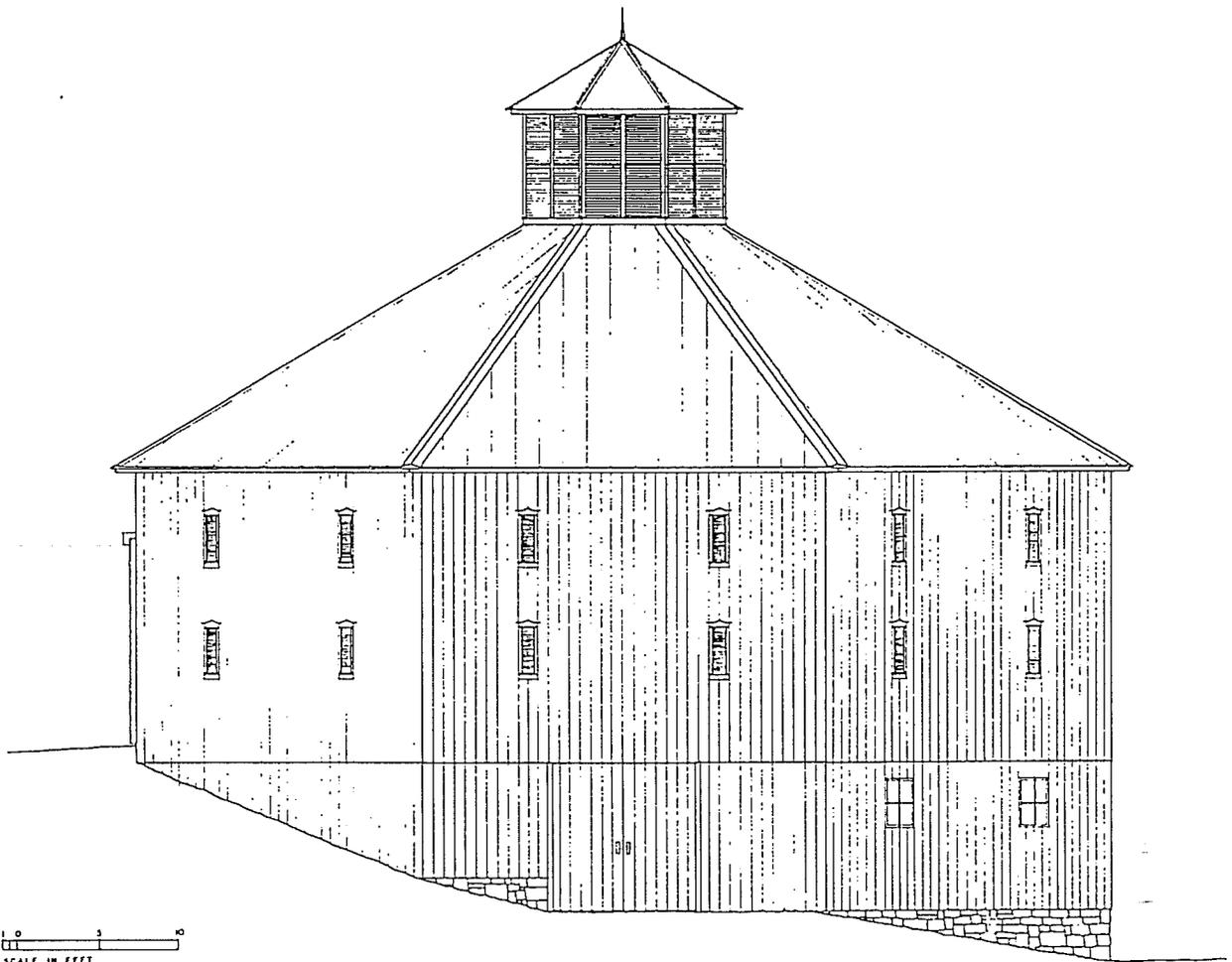
This report begins with a geographical/topographical description of the region/regions of this study and the impact of this on the agriculture there. Next a summary of agricultural trends in Pennsylvania is presented. Particular comment is made on certain counties within the study area which excelled in a certain aspect of agricultural development. Elements of the nineteenth century progressive agriculture movement are described by using examples from the Pennsylvania Farm Journal.

Next the findings of detailed studies of agricultural vernacular architecture, completed in Berks, Lancaster, Somerset, and Blair counties, are summarized and commentaries are provided on each.

the major works on this topic are summarized and commented upon.

The vernacular architecture of the region/regions is investigated from various angles. Stotz's 1936 study is summarized and analyzed for trends. The Pennsylvania Bureau for Historic Preservation's computer files and survey files for the area of study are analyzed and summarized. In addition, previous contextual studies of southwestern Pennsylvania architecture conducted by myself and others are summarized for comparison with fieldwork observations of this present study. Statistical information is presented for each county along with summaries and analysis of windshield, farm, and building surveys. An appendix contains many of the photos, farm plans, and barn plans made on forays into each county. A few floor plans of area houses are provided as well. Finally, drawings of barn and house types and a glossary of terms is included at the end of the report.

HABS Drawing
Wylie-Miller Barn
S. Strabane Twp., Washington Co.
(see p. 105)



Geography of Southwestern Pennsylvania

The eleven-county area of this project falls within two landform regions, the Ridge and Valley and the Allegheny Plateau. Fulton, most of Bedford, Huntingdon, and half of Blair County lie in the Ridge and Valley region. This region is defined by its lines of ridges and valleys running in a southwesterly direction. The other seven counties are part of the Allegheny Plateau. The deeply scored lands of the Plateau creates an irregular land pattern which is difficult to cross. The soils are largely too rocky for much farming. The Plateau has been subdivided into six subregions, but only two of these apply to this study. The Allegheny Mountain subregion includes Somerset, a little of the western part of Bedford, more than half of Blair, almost all of Cambria, the eastern segments of Fayette and Westmoreland, and the southeast corner of Indiana County. The Pittsburgh Plateau subregion includes Greene and Washington counties and most of Fayette, Westmoreland, and Indiana counties. (1)

The kinds of crops grown in these regions are dictated by climate. The area centered in Somerset County averages about four degrees cooler than the area surrounding the Monongahela River. (Included in the Somerset belt is the western half of Bedford, almost all of Blair and Cambria counties, the southern portion of Indiana County, northeastern Westmoreland, and a sliver of eastern Fayette County. The Monongahela area includes the western part of Westmoreland and Fayette counties and the eastern part of Washington and Greene counties.) Somerset also receives the highest amount of rainfall in the southwestern counties. The area of Fulton, the eastern half of Bedford, and most of Huntingdon County averages about two degrees warmer than Somerset. (2)

The length of the growing season for a particular area is the period, usually measured in days, between the last frost of spring and first frost of fall. Many species of plants do not start growing until the daily average temperature rises above a certain threshold. For example, the threshold for corn is 50 degrees. The Monongahela Valley region of Greene, Washington, Allegheny, Westmoreland, and Fayette counties has the longest growing season of the study area at 160 to 180 days. Fulton and Bedford counties, the southeastern part of Huntingdon, the southern half of Blair, the eastern third of Somerset, and the southeastern tip of Cambria County also has a growing season of between 160 to 180 days. The western part of Somerset, the eastern half of Fayette, nearly all of Westmoreland, and two-thirds of Indiana and Cambria counties have an average season of between 140 and 160 days. (3)

Southwestern Pennsylvania is unique for its climate because there is a continual succession of storms coming through the area from a southwesterly direction. During the entire year, there are more small precipitation events here than throughout the rest of the state. In addition, the area has the distinction of being the cloudiest in the state. (4)

The lower sections of Fulton, Bedford, and Somerset counties are part of the Potomac River basin. Greene, Fayette, Washington, Westmoreland, and Indiana counties and sections of Cambria and Somerset counties are part of the Ohio River system. Huntingdon, and Blair counties, and portions of Fulton, Bedford, Somerset, and Cambria counties are part of the Susquehanna River

basin. (5)

The soils map indicates that the largest area of the study area with the richest soils is the southwestern corner including Greene, Washington, Fayette, and Westmoreland counties. There are also areas of fertile soil in northern Bedford and southern Blair counties and narrow valleys in Bedford and Fulton counties. Somerset and Cambria counties have no limestone soils. Only relatively narrow strips of land in all of the counties have soils which are preferred for agriculture. The Dekalb soil series, deficient in lime and organic matter, covers the greater part of the Allegheny Plateau. The Westmoreland soil series replaces the Dekalb in the southwestern corner of the state. This type has a higher lime content and is agriculturally more productive. Since Kentucky blue grass replaces the Canada blue grass on this soil, it is much better suited to pasturing. (6)

In this study area, Washington County had the highest amount of improved farmland in 1859. That year, Cambria County had the least amount of improved land. The four study counties of the Ridge and Valley region had less than 50% improved land. By 1900, Greene County had developed to Washington's level of improved land, which was the highest of this study area. Washington and Blair counties had the most valuable farmland in 1859. By 1900, farmland in Greene, Fayette, and Westmoreland in addition to Washington was deemed the most valuable. In all probability this was largely due to the burgeoning coal/coke industry. (7)

Broad Trends and Influences on Pennsylvania Agriculture

Stevenson Fletcher's 1950s work provides a good, basic history of agriculture in Pennsylvania, but it is dated. It lacks the social history that has come later as well as some of the individual regional or county information that is important to those particular areas. Some of his sources should have been documented and some of the ethnic traditions tested. Steve Miller, curator of agricultural history, at the Landis Valley Museum has concurred in this evaluation of Fletcher's work. (8)

Wayne Rasmussen's 1960 Readings in the History of American Agriculture noted that the colonial period was characterized by the transfer of the agricultural practices common to seventeenth century Europe to the New World and the modification of these practices by the new environment. The settlers learned much from the American Indians, but were isolated from the changes taking place in English agriculture in the eighteenth century. A few Indians taught the European immigrants to grow corn, practical men developed types particularly suited to the American corn belt, and scientists developed the techniques of hybrid corn. (9)

In 1790, nine out of ten working persons were employed on farms, and agriculture was at a near-subsistence level. The freeing of America from the fear of famine and the freeing of America's energies from the necessity of its population spending most of its efforts in feeding itself has been accomplished by the American farmer, with the help of groups established for that purpose.

For more than a century, from 1725 to 1840, Pennsylvania led the nation in food production. The "wheat boom" reached a peak in the late 1760s and early 1770s. In 1770 wheat accounted for 69% of the value of Pennsylvania exports. The first substantial houses and barns were built during this period in southeastern Pennsylvania.

Since the late eighteenth century, Pennsylvania's Germans have been touted as better farmers than their English or Scotch-Irish neighbors. Although it is often hard to prove one ethnic group has certain abilities over another, Steve Miller stated that articles in the Mennonite Historical Review have noted studies showing that the value of land increased in various European baronies where Mennonites moved. In addition, Mennonite areas showed larger barns. This tends to show that their farming methods brought prosperity. Historical geographer James Lemon has argued that there were no significant differences in farming practices among ethnic groups in southeastern Pennsylvania. (10)

Fletcher boasted that the period 1790 to 1840 was the golden age of Pennsylvania agriculture or the period when agriculture ruled the economy. It was during this time that new implements and farming methods brought prosperity to Pennsylvania farmers. Permanent agriculture was established by a combination of crop rotation, and the application of lime, gypsum, and manure. The displacement of exclusive grain farming by livestock farming was significant in the development of permanent agriculture. (11)

Pennsylvania agriculture changed slowly over a long period of time. Prior to 1840 most Pennsylvania farmers were self sufficient, their production of vegetables, grain, and livestock went to feed themselves and their families. With the advent of the railroad and other transportation improvements and the opening of town and city markets after 1840, these same crops and livestock were sold for cash to buy processed foods and factory made clothing. In the period before 1900 the export market was important to Pennsylvania farmers. Chiefly, these products were wheat, beef, pork, and apples.

The strength of Pennsylvania agriculture lies not only in its well-tilled, owner-operated farms but in its diversified farming as well. However, as the nineteenth century progressed more farms became specialized. By 1930 about a third of Pennsylvania farms were still general, and a quarter of the farms were classified as dairy. In 1840 grain was the chief source of income for Pennsylvania farmers, but by 1930 it was the chief income producer for only 2% of the farmers.

During the period 1840 to 1890, cheap land in the West lured many Pennsylvania farmers to abandon their farms here. Pennsylvania farmers, particularly between the years 1840 and 1860 emigrated in large numbers. However, throughout the years Pennsylvania agriculture has been one of the most stable in the Union. The ethnic character of Pennsylvania farmers remained essentially the same from colonial times to the 1900s--about 85% were of German, Scotch-Irish, or English ancestry.

Pennsylvania has traditionally been a state of small family sized farms. The average farm was 117 acres in 1850, but by 1900 this had shrunk to 84 acres. By 1925 the size had shrunk to about 81 acres. The state never had a great

amount of large farms. However, there were exceptions to the rule, in about 1910 Clark Grazier of Blair County owned 6,000 acres, of which 3,000 were cropped. From about 1880 into the 1900s about 70% of Pennsylvania farms were owner operated. Traditionally, the state's farmers were deeply attached to the land, and farms were passed on from one generation to another. The houses and barns were built to last generations as well.

About a quarter of Pennsylvania farm land is classified as good and best. This land, however, produces about 50% of the state's crops and livestock. In 1900 farm tenancy reached its peak in Pennsylvania at 26%.

The state of farming in the bituminous coal regions of southwestern Pennsylvania had already greatly deteriorated by the early 1900s. Thousands of acres of once productive land were now idle. Farmers sold their mineral rights to speculators or operators, moved to a nearby town, and left the farm in the hands of tenants. Consequently, the land fell into disuse and became overgrown with brush, etc. The Connellsville coke region was one of the hardest hit. (12)

From 1840 to 1900 the state had a phenomenal population growth, but this was largely in the cities. The 1870 census showed more urban than rural dwellers for the first time in Pennsylvania history. In the period 1880 to 1890 there was a large concern for the number of abandoned farms in the state. The 1890 census showed that two-thirds of the state's rural counties had declined in population. An overall downward trend in farm population began after 1900. Between 1884 and 1924 the number of farms across the state dropped. Although some of the counties of this study followed the state trend, others, including Bedford, Blair, Cambria, Fayette, Greene, and Somerset had increases in the number of farms. The amount of improved land statewide also decreased, and all of the study counties fell within this trend.

Tools, Implements, and Farming

Prior to 1850 most farm operations were done by the hands of men. Increasingly after 1850, animals, particularly horses, were employed in farm labor. The period between 1850 and 1910 was dominated by animal power. Horses were used to pull the grain drill, reaper, mower, hay rake, and cultivator. (13)

The reaper had the most significant influence in Pennsylvania agriculture in the nineteenth century. No longer would the size of the labor force limit the amount of wheat grown. By 1860 the reaper had begun to supplant the cradle all over the state. The labor saved during harvest could be invested in other mechanization. Threshing machines were in limited use by 1830. However, it was not until after 1850 that the flail was abandoned as a threshing tool. Even then it continued to be used for buckwheat. (14)

By 1840 most Pennsylvania farmers were using a cast iron plow instead of a wooden moldboard plow. (According to Crumrine's history, Robert Chambers of Amwell Township in 1824 purchased and used the first iron plow in Washington County.) In the 1850s most plows were still being locally made. By 1860 the steel plow, invented by John Deere, largely replaced the cast iron

plow. A further improvement was the "chilled iron" plow which cut the soil more cleanly. By the 1850s cultivators were being used in the cultivation of corn. After a series of patents and improvements, there was a variety of cultivators on the market by the 1890s. During the 1850s various corn planters were introduced that were capable of planting between six and ten acres a day. By 1900 corn shellers handling 2,500 bushels a day were on the market.

In 1840 wood was the almost universal fence material in Pennsylvania. With the advent of mechanized farming, many small fields of two to ten acres, were enlarged, decreasing the amount of fencing per farm. It was not until after 1874 that barbed wire fences began to replace wooden ones within the state.

New machines, new techniques, and new forces dedicated to improved agriculture led to the first American agricultural revolution at the time of the Civil War. Farmers found that the demand for farm products was so great and the labor shortage so pronounced that it seemed both possible and profitable to adopt the new machines and techniques developed in the preceding decades. After the Civil War, the increasing industrialization of America and an increased foreign demand for American farm products led to an ever increasing commercialization of American agriculture. The farmer found himself more and more dependent upon the market place for the cash needed to make payments on machinery and land. The self-sufficient, independent farmer of fiction was disappearing.

The primary advantage of mechanization is the money it saves in time and cost of production. However, the farmer needed to calculate whether the number of hours the machine would be used during the year would yield a profit. By about 1950 over a third (36%) of the cost in producing a crop in Pennsylvania was labor. Livestock was even more labor intensive at (42%).

Pennsylvania Dairy Industry

About 1850 Pennsylvania farmers were forced by competition from the West to abandon all-grain farming. Many turned to dairying. Actually this provided greater prosperity as the cattle furnished manure, and more land was left in sod. All-grain farming robbed the soil of essential nutrients for its fertility. Prior to 1900 all aspects of dairying, including milking and making butter, was considered "women's work." The period 1840 to 1900 saw the transformation of the dairy industry from a simple home enterprise to an organized commercial industry. When the size of dairies increased and became mechanized, not only did the work change but the gender of the workers as well. The transferral of work of the dairy from that of women to that of men was not a rapid process. Steve Miller's findings confirmed this, and he noted that different families reacted differently to commercialization. (15)

Several scientific developments revolutionized the dairy industry: the invention of the vacuum condenser in 1856 by Gail Borden; the development of the pasteurization process by Louis Pasteur, 1860-1864; the introduction of the silo about 1875; the invention of the continuous milk separator by De Laval in 1879; and the development of an efficient method of determining the butterfat content of milk in 1892 by S.B. Babcock.

Prior to 1840 gentlemen farmers of the Philadelphia region experimented with English breeds to determine which produced the highest yields. The Durham-Shorthorn, known for its high milk production, was the most imported cow between 1825 and 1875. It was the most popular breed in Pennsylvania dairies until after 1880. By 1870 the Jersey and Guernsey were recognized in the Philadelphia region for their superior milk and butter production. After 1880, when the swing toward dairying had made considerable headway, the specialized milk breeds--Jersey, Guernsey, Holstein, Ayrshire, Brown Swiss--had largely displaced the general purpose Shorthorn. In 1890 more than half the milk produced in Pennsylvania was manufactured into butter and cheese. By 1900, when market milk had become the main outlet for the state's dairies, Holstein led. At that time, most of the market milk from Pennsylvania's one million cows was shipped to Philadelphia, New York, Pittsburgh, Baltimore, and lesser metropolitan areas. The phenomenal growth of the dairy industry between 1870 and 1900 is a major feature of the state's agricultural history. In 1900 Pennsylvania ranked second among the states in the value of dairy products, third in market milk, third in the production of butter, and fourth in the production of cheese. In 1870 milk was only shipped within 50 miles of its destination. With the growth of cities and improvement of transportation facilities this distance was expanded to several hundred miles by 1900. Between 1880 and 1940 milk consumption in the state doubled. Statewide, the number of milk cows dropped between 1884 and 1924. However, in counties like Bedford, Blair, Fulton, and Washington the number rose. In addition, milk production rose despite the lesser number of cows.

The agricultural revolution in England had been marked by the development of improved breeds of livestock which could pass on their desirable traits with fair certainty. By the early nineteenth century many farm leaders in the U. S. were conscious of the need of a similar improvement in American cattle. Shorthorns were the most widely known of the improved English breeds before 1850. Many persons imported them during the first quarter of the nineteenth century, but none achieved the distinction of John H. Powel of Philadelphia County. Powel began his importations of improved shorthorns in 1822 and soon built up his herd. His stock spread widely and rapidly over Pennsylvania and neighboring states. By the time he disposed of his herd in 1836, it was evident that even one superior herd kept in a pure state for so short a time as fifteen years could have a profound influence toward improving livestock.

Usually cows were bred to freshen in early spring. They produced well when pastures were lush, fell off during fall, and were dry during winter. Only the few farmers who provided winter succulence in the form of root crops obtained a flow of milk throughout the year. Not until after 1900 when the silo came into general use was there a considerable increase in average milk production per cow. Until after 1880 most milk was made into butter. Butter produced on the farm continued to exceed that made at creameries. In 1900 only one-third of Pennsylvania butter was made in creameries. The peak in the state's butter production came in 1900.

Pennsylvania Crops

Fletcher stated that crop production was remarkably stable between 1840 and

1940; there was no marked change in the total production of the ten leading harvested crops, although there was considerable change in that of individual crops. Although the total acreage in crops was somewhat less in 1940 than in 1840, production was considerably higher. The acreage of corn, hay, and alfalfa increased as dairying became the leading farm enterprise. (16)

Pennsylvania led all states in corn production until 1830. An indication of the farming interest in Fayette County is the fact that Benjamin Covert raised a record corn crop there in 1853. John Lorain, of Phillipsburg, was a pioneer in expanding corn production. He developed a method to breed golden yellow maize. He saw and demonstrated that certain mixtures of dent and flint varieties of corn would result in a yield much greater than the flint, yet with many of its desirable qualities. (17)

Certain areas of southwestern Pennsylvania were known for their particular crops. The production of hay in the state tripled from 1840 to the early twentieth century. Washington and Greene counties have been long known for their rich bluegrass pastures. By the early twentieth century 40% to 50% of farmland in those counties was in permanent pasture. By 1924 Pennsylvania ranked fourth in hay production in the United States, and Washington and Westmoreland counties were among the top producers. In 1840 Washington County led the state in potato production. Somerset County has the coolness of high altitude and short, moist growing season for the production of disease-free seed potatoes. Since 1840 Somerset County has led the state in maple sugar production. (18)

Prior to 1900 wheat was the most valuable crop of the state during most years. In 1850 Lancaster County led the state and nation in wheat production. Up until about 1870 most flour was produced in local Pennsylvania mills. By the early twentieth century three quarters of Pennsylvania wheat was shipped out of the state to be milled. In about 1850 Washington and Westmoreland counties were among the leading wheat growing areas of the state. By the early twentieth century their rank had fallen considerably. Generally across the state, wheat production increased in southeastern Pennsylvania but decreased in western and northern Pennsylvania. However, the entire state showed increased production per acre.

The production of oats within the state nearly doubled between 1844 and 1924. While Washington County's production fell within this period, Somerset and Westmoreland counties were among the areas whose production rose by the early twentieth century.

From colonial times through much of the nineteenth century rye was a close competitor of wheat. In 1840 Pennsylvania ranked number one in rye production, producing over six million bushels of rye, one-third of the nation's crop. Rye production in the state fell throughout the late nineteenth century and into the early twentieth century. However, in three of the study counties (Cambria, Fulton, and Indiana) the amount of rye produced increased between 1844 and 1924. (19)

In 1840 Westmoreland and Fayette counties were among six within the state to produce more than 10,000 pounds of tobacco. In 1860 Lancaster County took

the lead in tobacco production in the state and has led ever since. Most Pennsylvania tobacco has been used in the manufacture of cigars.

Fletcher listed 1845-1872 as the golden era of Pennsylvania fruit growing. Until 1850 excellent fruit could be grown with little care. Up until 1900 the state's apple industry was dominated by small orchards on general farms. During the late 1880s and early 1890s a "peach craze" swept through the counties of Juniata, Mifflin, Huntingdon, and Blair. (20)

Small fruits were rarely grown commercially until after 1850. During the 1850s the Pittsburgh area was a center of the grape industry. John Knox of Allegheny County was one of the most skilled cultivators of the grape and strawberry in America during the 1860s and 1870s. His berries were shipped to markets at New York and Boston for \$1.00 a quart.

Prior to 1840, vegetables were grown almost wholly for home use. From 1850 to 1875, market gardening was quite profitable near urban centers. In addition to potatoes, the largest vegetable crops in 1900 were sweet corn, cabbage, and tomatoes. The H.J. Heinz Co. was established in 1869, and after 1890 became a significant factor in the vegetable canning industry not only in Pennsylvania but in surrounding states as well. In 1902 it planted 18,000 acres with its own seeds and gathered the products of many thousands of acres more.

Pennsylvania Farm Animals

The number of livestock on Pennsylvania farms increased from 1840 to its peak in 1880. Since that time the trend has been downward, except in the number of poultry. Poultry is now a primary industry, second only to the dairy industry. The per capita consumption of eggs doubled from 1880 to 1940.

After 1850 swine production declined heavily in Pennsylvania. Corn was the universal hog fattening feed and the swine industry was centered in the counties with the highest corn production: Lancaster, York, Berks, Franklin, Lebanon, and Cumberland. In the study area, only Somerset County had its number of swine increase between 1884 and 1924.

In 1840 nearly every Pennsylvania farm had a flock of sheep. They were second only to cattle in money producing stock. The "Merino craze" of the 1830s brought much speculation in the sheep market. The maximum number of sheep in the state was reached in 1850. The wool industry became concentrated in the southwestern counties, and in 1849 Washington County was said to be largest producer of wool in the nation. After 1920 Greene County replaced Washington County as the Pennsylvania leader in the sheep industry. In 1940 it produced more wool than any other county east of the Mississippi. After World War II, the wool market in Greene County dropped, and it has never recovered. (21)

Between 1850 and 1890 the number of horses on Pennsylvania farms doubled. In the western counties of the state during the first half of the nineteenth century many horses were raised for sale. What were known as Pennsylvania draft horses in eastern markets were actually western horses that had been

fed and fitted for market on the state's farms.

From 1850 to 1940, there was triple the amount of investment in farmland and buildings. Investment in livestock increased six-fold and in machinery and tools, twelve-fold. Naturally, investment varied with the type of farming, locality, quality of land, etc.

From 1860 to 1873, a major period of agricultural prosperity, more beautiful farmhouses were built than at any other time in the history of the state. Until late in the nineteenth century the barn was often more spacious than the house. Although Fletcher felt most of the houses were built by the farmers themselves from their own plans, it was more often specific builder/carpenters within the community who constructed the houses and barns in the local area. (22)

Summary of Agricultural Trends in Pennsylvania from Kuan I. Chen's dissertation

Kuan I. Chen wrote his 1954 Pennsylvania State University dissertation on Pennsylvania agricultural production for the period 1840 to 1950. He divided the state into four geographical areas. Seven of the counties of this study fell into Area I (basically southwestern Pennsylvania), and the remaining four fell into Area III (essentially the Ridge and Valley region of central Pennsylvania). Chen's study showed that the greatest difference in agricultural trends was between southwestern and southeastern Pennsylvania. Area IV (southeastern Pennsylvania) was the most intensively farmed area while Area I was the least intensively farmed. Area III had a higher proportion of its land area in crops than Area II (northern tier counties). The Ridge and Valley region naturally had its cropland concentrated in its valleys. He found that the proportion of land in pasture in this region was the lowest of the four regions. In addition, he found that agriculture in Area III is comparatively more intensive than all the areas except the southeastern Pennsylvania area. Chen showed that the average value of crop production dramatically increased (54%) after 1900. Livestock production increased even more dramatically (79%) in this later period.

From 1850 to 1920 the utilization of Pennsylvania farms changed, particularly in the amount of woodland on each farm. The acreage of cropland and open pasture increased somewhat during this same period. Since 1900 the acreage in farmland in southwestern Pennsylvania declined by about 33 percent, but the decline in cropland was even more dramatic at 44 percent.

Chen's study showed that there was a rapid upward trend in Pennsylvania farm production from 1839 to 1906. The greatest periods of increase were from 1839 to 1849 and from 1879 to 1889. Production peaked in 1906 and this was not reached again until 1950. He broke Pennsylvania agricultural production down into two periods, 1839-1879 and 1879-1950. The first period accomplished increased production through increased acreage while the second period achieved greater production through better management and scientific developments with less acreage. Chen's statistical charts showed that the farms of southwestern Pennsylvania were a little larger than those in other areas of the state during the period 1850 to 1925.

Ridge +
valley
area
III

val. of
crops

use of
land

Farm
product.

Progressive Farmers Movement

Progressive farming is the result of practice and research. Pennsylvania farmers tended to be conservative, often unwilling to try new products and methods for fear of failure which would translate into the loss of money they could ill afford. Therefore, much of the late eighteenth/early nineteenth century progress in farming was made by gentlemen farmers who could afford to take chances. After methods and products became widely proven, more farmers became willing to use them. Societies were formed which produced writings to inform other farmers of proven methods in higher crop or animal production. By the mid-nineteenth century, the progressive movement in Pennsylvania had many proponents who established not only county agricultural societies, but a state society, and established a state farmer's high school. By the 1850s the state agricultural society was sponsoring fairs and giving prizes to farmers with the finest animals in various categories and for better designs in machinery and products. One of the driving forces for the movement was the competition from farmers of the Mid-West. (23)

Another force promoting the progressive farming movement was the loss of soil fertility. After new ground has sustained agriculture for a number of years, the organic material in the soil is depleted and the soil becomes infertile. This sets up the ground for easy erosion which further lessens the soil's fertility. One early method of maintaining fertility was through crop rotation. The most common crop rotation c. 1790 was corn, oats, wheat, and grass. This rotation involved having a cultivated crop followed by a spring grain. A winter grain followed the spring crop and after this was one or more years of sod. In the western counties the spring grain was oats. The grass mixture was seeded with oats in the western section; it was commonly timothy and red clover, sometimes alfalfa. (24)

Progressive farmers found that soil additives was a supplemental method to increase fertility. From about 1800 to 1850 gypsum or land plaster was in competition with lime, but eventually lime became known as the best way to improve land. By the mid-nineteenth century the most usual method of increasing the fertility of the soil was through manures, lime, and plowing down clover or other green or dry crops. Lesser numbers of farmers used guano and plaster to help with fertility. The liming of soil fell off in practice 1875 to 1900. During this time, dependence was put on commercial fertilizers alone. Although Justus von Liebig's treatise on organic chemistry and its application to agriculture was published in 1843, it was another 50 years before chemical fertilizers were established in the confidence of farmers.

Significant Dates in the Progressive Farmers Movement

1836--Farmer's Cabinet, first agricultural journal published in Pennsylvania

1839--Congress appropriated a sum for the collection of agricultural statistics and investigations for promoting agriculture

1850-1880--Frederick Watts, most outstanding nineteenth century figure in Pennsylvania agriculture--Father of Pennsylvania State University--Second U.S. Secretary of Agriculture--promoted agricultural experiment stations

1851--Pennsylvania Agricultural Society founded--worked for the education of the farmer--instrumental in developing agricultural school--it died in 1905 after it had accomplished many of its goals

1851-1857--Farm Journal, a well-edited Pennsylvania agricultural journal promoting progressive farming, operated out of Lancaster and Chester counties

1855--Pennsylvania legislature appropriated money for Farmer's High School--later became Pennsylvania State University

1862--U.S. Department of Agriculture created by President Lincoln

1867--The Grange was founded--by 1880 Pennsylvania was one of the strongest Grange states in the United States

1876--State Board of Agriculture was established

1877-1928--National Stockman and Farmer, published in Pittsburgh, was a powerful force in the development of Pennsylvania agriculture

1887--Agricultural Experiment Station established at State College by federal government

1895--Pennsylvania Department of Agriculture established

Pennsylvania Farm Journal--Publications, such as the Farm Journal, as part of the agricultural reform movement sought to bring scientific and educational advantages to the farmer.

The first two volumes of this magazine/journal run from 1851 to 1853. These illustrate the state of agriculture at that time. Since there was a good deal of concern for the fertility of the soil, numerous articles appeared on what was the best way of making soil fertile. Was it the use of guano, lime, plaster, saltpeter, liquid fertilizer, or a combination of these? A.S. Roberts of Philadelphia wrote to the editor in the April 1851 issue, "How few barn or cattle yards are planned with a view to economy in making and saving manure, and how little effort or ingenuity is exercised to increase this gold mine of the farmer?" Over time farmers sent in the results of their experimentations with various fertilizers and manures along with their recommendations. All seemed to agree that farmers could not continue to reap good harvests without returning some organic material or adding fertilizer to the ground. (25)

The September 1851 issue carried an article written by Lancaster County resident A.L. Hayes. He tells of his experience with Lancaster County soils all of which are not limestone or inherently rich as is often supposed. Hayes explained the changes that had occurred in the past fifteen to twenty years. First plaster of Paris was used to bring increased production. Then, the proper manuring of only a limited amount of land was advised. After a number of years, the efficacy of using plaster was diminished, and lime was used as a replacement. Now the once seemingly barren hills produce five fold what they formerly did and the farmsteads contain "comfortable brick or stone

mansions and good bank barns." Likewise, an article in the August and September 1852 issues told of how Philip Price of Chester County bought a run-down farm there in the 1790s. Through the use of plaster, lime, clover, and the rotation of crops he revolutionized the farm into one of high productivity. Since that time through the influence of men like Price the area from West Chester to Chadds Ford has been transformed with "substantial, comfortable dwellings, large stone barns, and neat stone spring houses." (26)

There was a definite concern that readers know the latest architectural designs for houses and barns. The plan of a "Villa Farm House," a drawing by Andrew J. Downing, was inserted in the second issue of this magazine. Downing popularized the Gothic Revival style as befitting the American taste. Downing, founder of the Horticulturist journal, wrote The Architecture of Country Houses in 1850. Downing also promoted rural architecture. He said, "The farmhouse must express that beauty which lies in the farmer's life." His accidental death was much lamented in the April 1852 issue of the Farm Journal.

The editor in the October 1852 issue gave a review of Samuel Sloan's work as an architect of rural architecture. Sloan, a distinguished early American architect of Philadelphia, was particularly interested in the landscape surrounding the buildings. His plans for "The Farm" shown in this issue were evidently for a country gentleman rather than an ordinary farmer. The Journal also advertized Sloan's design book titled, The Model Architect. Published by E.S. Jones & Co. of Philadelphia, the book was recommended as an excellent work on rural architecture. (27)

The December 1852 issue debated the pros and cons of "artificial stone fronts on houses." By 1852 the Journal provided a book review section. Among the books noted was one by Gervase Wheeler titled, Rural Homes, or Sketches of Houses, Suited to American Country Life, with Original Plans, Designs, etc. The May 1852 issue used floor plans from this book. Titled "The Homestead," these plans appear once more better suited for the country house of a well-to-do entrepreneur than the common farmer.

The fifth issue of the magazine contained agricultural reformer Frederick Watts' article on Pennsylvania Barns. Above the article was the engraving of a large example of a "new Switzer bank barn" located in Dauphin County. Watts described in detail the uses of various spaces on the first and second floors of these barns. A.S. Roberts of Philadelphia wrote in 1851 of the imposing appearance of "world renowned" Pennsylvania barns with "bays, over-shoots, wings for carts, etc." The March 1853 issue of the Journal described "a model barn" at Belleville, Mifflin County. It was the owner's version of a double decker barn and was purported to be the "most convenient" the writer ever saw. (28)

Plans or descriptions were also given for various outbuildings or structures. The March 1853 issue of the Journal provided a plan for building a lime kiln. The February 1853 Journal gave elevations of poultry houses along with descriptions of each. The January issue of that same year told of a cheap wash for wooden cottages, barns, fences, etc.

The editors and supporters of the Journal emphasized the dignity and noble calling of the farmer. They also requested readers to write of their experience or use of various agricultural methods or implements. Not only did they advocate education in the common schools but expounded on the benefits of an agricultural school or college as well. They promoted education not only through the written word but also with lithographs of particular breeds of animals and particular insect pests. Drawings featured the newest farming implements as well. The Journal was to be used as a forum for exchange of information. The first year of publication indicates that at least the eastern half the state was participating by either sending in questions or commenting on various topics. By the second year farmers of western Pennsylvania were participating as well. There were inquiries and experimental comments from various Westmoreland County farmers. For example, one farmer found that the use of rutabagas increased the fertility of the soil. Another Westmoreland farmer found that raw apples alone did not fatten his hogs. There was an inquiry seeking a remedy for a weevil infested barn in Huntingdon County. A Blair County farmer explained the methods and results of the cultivation of Indian corn in that county.

Another role the editors sought for the Journal was the elimination of superstitions. One of the most common of these was the belief in planting by the signs of the moon. Articles abounded on various diseases of plants and animals and how they may be cured.

Similar to other agricultural journals of the period, concern was expressed in the Journal with farmers leaving the state for more promising land in the western states. A writer from Penns Valley, Centre County, was adamant that Journal readers know that agricultural opportunities existed within the state for "new, rich, vacant lands." This was particularly addressed to farmers of the eastern counties searching for good farming land. The writer bemoaned the loss of good Pennsylvania farmers whose farms were recognizable by their neatness and substantial and comfortable appearance in other states.

The Journal supplied lists of entries from the various state agricultural fairs. The 1851 lists showed that most of the entries were from the eastern part of the state. There were several implements registered from Pittsburgh and one entry each from Huntingdon and Washington counties. Despite the alleged prominence of sheep in Washington and Greene counties, none were exhibited that year from those counties. However, the distance to Harrisburg may have been a deciding factor in this.

Summary of information from Farms in Berks County

This was the first county wide agricultural survey in the state and served as a model for others, particularly Lancaster County. Information used in writing a multiple property nomination of Berks County farms was gleaned from a survey project conducted in 1990 and 1991. A reconnaissance survey for the county found 300 potential National Register farms. This was narrowed down to forty-seven properties. This elimination was based on certain criteria. Each farm had to have good examples of the main buildings, house and barn, as well as typical house dependencies and agricultural

outbuildings. In addition, they had to fit into the historical context which the survey had established for the county. Ten farms were chosen from the forty-seven for National Register nomination as being the best of their types. They represented various periods, regions, styles, ethnic backgrounds, patterns of organization, and evidence of farm evolution.

In order to define the context for these agricultural resources, the survey team broke the study into four periods. During the first period 1700 to 1740, land was cleared and farms established. The second period, 1740 to 1790, can be characterized as a time when self-sufficient family farms were developed and substantial agricultural related buildings were constructed. Also during this period wheat became the leading cash crop. In the 1790 to 1840 era, fields were rejuvenated through the use of fertilizer, lime, and crop rotation and well ordered farmsteads were established. In the 1840-1920 period, industrialization and urbanization dominated the Pennsylvania economy. Farming was revolutionized by technological advances.

After the 1730s Germans became the dominant ethnic group in Berks County. The Pennsylvania Germans established a tradition of family farming that has endured to this day. Rye was the second leading grain crop. The best example of a 1740-90 period farm is the David Kaufman farm in Oley Township.

The period 1790 to 1840 was one of commercial or market farming for Berks County farmers. However, the maintenance of soil fertility had to be accomplished before commercial farming could be permanently established. Unlike some settlers, the Germans generally cleared no more land than they could use to advantage. Typically, the farmsteads of 1790-1840 included a summer kitchen. The vernacular architecture of this period evolved from Georgian and Germanic traits. The most common rural house form, still seen throughout the county, is of this heritage.

The period 1840 to 1920 saw many changes in Berks County agriculture. Barns were enlarged as agricultural production increased. The Berks survey found some examples of horse-power rooms located at the rear of the barn. After threshing machines became larger and the amount of straw increased, straw sheds were built to the front of the barn. Improvement was the key word of the agricultural reform movement--improvement of soils, implements, livestock, and architecture. The number of dairy cattle remained fairly constant from 1880. By 1900 Berks County reached its peak in total farm acreage. The change over from a butter and cheese market to market milk largely occurred there after 1910.

In the period 1840 to 1870 the vernacular farmhouse, known as the Pennsylvania German style, dominated the landscape. Typically, this house was four bays wide with a four over four room plan.

Sloping sites were favored for farmstead layout. This was to facilitate drainage away from buildings. The direction of the slope would determine the location for the bank house, bank barn, and outbuildings. The surveyors found that most of the changes in the landscape from the nineteenth to the twentieth century was in the fences and plantings. Although the farm house, barn, and outbuildings often survive to the present, fences and period

plantings do not.

The summer house or summer kitchen was located for easy access to the kitchen of the main house. Usually, the summer kitchen was built after the main house. The survey found that a number of mid-nineteenth-century farmhouses had a summer kitchen in the basement level.

Until the era of the early twentieth-century milk house, milk was cooled and stored in the spring house or ground cellar. It would appear there was little evidence of early milk houses in Berks County.

The overwhelming type of barn found was the timber frame standard barn. Although the building and re-building of two-level Pennsylvania barns continued into the twentieth century, most new barns built after 1900 were specialized, dairy barns. These designs were largely promoted by agricultural colleges and journals.

Overall, the survey found there was a conservative building tradition throughout the county. Often, materials, design, and workmanship of outbuildings from 1740 to 1840 remained the same. The surveyors did find local building traditions in the various townships of the county. For example, banked wagon sheds were found in North Heidelberg Township, while barns decorated with barnscapes were more popular in Perry Township than elsewhere.

Conclusions and commentary from Foundations in a Fertile Soil

David Schneider, Executive Director of Historic Preservation Trust of Lancaster County, authored this book in 1994. It was in large part the result of survey work done in 1992 and 1993 which resulted in a multiple property nomination in 1994, Farming Resources of Lancaster County. Early farming practices in Lancaster County differed greatly from those in Europe where land was scarce and most land had been developed agriculturally. Although land seemed readily available in America, the land had to be made workable by the clearing of trees and brush. Native grasses provided for the early farmer's needs, but by the mid-eighteenth century artificial grasses were essential to supply the farmers' demands. Farms were dispersed with individual families conquering the land. This was the basis for the traditional family farm as a cooperative unit. Known European methods to increase fertility were not immediately needed and therefore were not generally used until soil depletions demanded remedies. (29)

From the earliest settlement, the land surrounding Lancaster City was known to be exceedingly rich. The high productivity of Lancaster County farms is also the result of good farming practices which had been greatly influenced by the Pennsylvania Germans, the largest cultural group there.

Period writings of the 1790s indicate that the further distant from Lancaster City, fewer stone and brick houses were sighted. Most of the houses were small log buildings, typically associated with larger barns. Arthur Lord's study of the 1798 Direct Tax for western Lancaster County found that there was an almost even share of log and stone houses comprising about 85% of the

best housing stock. The remainder were constructed of brick or frame. One unusual statistic was the fact that about 70% of the housing was one-story. (30)

Commercial farming developed in Lancaster County from 1790 to 1840. The county's wheat production led the nation off and on until 1850. During this period mixed farming, the interdependence of crops and livestock, became the heart of Lancaster's success. It was also during this period when commercial agriculture expanded that the regional Pennsylvania style of architecture evolved into a fully recognizable vernacular form, and the Pennsylvania barn reached its maturity.

Schneider notes that the Pennsylvania style farmhouse began to appear in the early 1800s. He identifies this style farmhouse by its massing, fenestration, and floor plan. These houses have a rectangular, almost square shape, are two-and-a-half stories, and have a symmetrical facade of three, four, or five bays. Often the stair hall is deleted, but there is a simple closed stair at the rear of the house. The majority of this type documented in Lancaster County have paired central doors. Those with the central door do not have a pure Georgian layout with a full hall. The most recognizable examples of this style have simple detailing. He feels that these evolved about the time of the Federal period. Apparently there is a fine line between the five-bay central door Pennsylvania style house and the Georgian style house. Schneider also believes that further research is needed to delineate this type. Obviously these houses were influenced by various cultural groups and architectural styles. Similar Pennsylvania style buildings were constructed in villages adjacent to rural farmland in Lancaster. As already stated, the Berks County Farm study identified these as Pennsylvania German style buildings. According to Schneider, Glassie and Noble simply identified them as "four over four." The writer agrees that farmhouses of this type were built by other cultural groups, but had they been somehow influenced by this apparent German design? Examples of this type have been seen in Greene County where there was little obvious German influence. Otherwise, I feel buildings of this type, for example in Cumberland and Huntingdon counties where the Scotch-Irish had an early role in settlement patterns, were influenced by Germanic traditions as well. (31)

This study found that bank houses are common in many areas of the county. These were constructed in response to site conditions and to functional requirements. It was also found that barns and farmhouses are often sited with their roof ridges parallel to one another. However, perpendicular and angled placement of farm buildings is common as well.

Schneider found that the first permanent structure of the farmstead was the barn, and the grundscheier was the first barn type built in the county. However, there is no mention that these had forebays as those found in Bedford and Somerset counties. Most of the standard barns built after 1850 were of frame construction. This was the most abundant class of barns in southeastern Pennsylvania and Lancaster County. Schneider indicates that the rear outshed barn emerged in Lancaster county in the early nineteenth century but does not document this. However, there are late eighteenth century examples in Cumberland and Fayette counties.

Writer, Eli Bowen, noted in 1853 while traveling through Lancaster County that among the outbuildings which nearly every farm has is the "summer dining house." Schneider noted that early references to out kitchens or back kitchens can be found. By the late eighteenth century food preparation functions were typically performed in what became known as the summer kitchen. Food preparation was handled here during the warm months of the year to keep heat out of the main house. Schneider's survey found that during the mid-nineteenth century houses were being constructed with basement rooms to perform summer kitchen functions. (32)

Margaret Schiffer's study of Chester County inventories showed that the number of times that kitchens were mentioned tripled between 1800 and 1810 and doubled again between 1810 and 1820. They were found most often between 1820 and 1849. That last period saw the most mention of "room over kitchen," kitchen loft, and "out kitchen." This last term was first documented in 1814. In Chester County, the kitchen was usually a part of the house, not a separate building. (33)

An interesting finding of this study is that by the late eighteenth century milk houses had already become a common outbuilding to Lancaster County farmsteads. Neither the Berks nor the Somerset County farm surveys found these this early. This may indicate that dairying developed earlier in Lancaster County.

Somerset County Agricultural Study Conclusions along with Commentary

Since about 1989, a research team has studied various aspects of the agricultural/vernacular architecture of Somerset County. A summary of their findings, written by Sally McMurry, was received by the writer in November 1994. They found that the vernacular architecture of the county had been previously understudied. Of course, this can be said of vernacular architecture in southwestern Pennsylvania generally.

The agriculture of the county was broken down into three periods: preindustrial--late 18th century to c. 1820; commercial/subsistence mix--1821-1880; and modernized general farming--1881-1930.

Although McMurry and the survey team in Somerset County found that there was an early German influence on Somerset architecture, no pure forms of German architecture were identified. Already, the settlers there had selected what they felt would work in this frontier area. The team found that the bank house was central to Somerset County's vernacular housing. In these houses, a portion of the basement was used as a kitchen where heavy cooking took place.

The earliest buildings of the county (those built prior to 1820) reflected the culture or society at that time. It was a society where survival relied on interdependence. Buildings were laid out to encourage personal contact. Therefore, these houses were void of halls and other architectural elements implying private sectors. Some of the earliest surviving buildings in the county show a two-room plan of unequal size. Altered examples of the Continental floor plan were located in Somerset as well.

Some of the long term trends in the county was the long standing high production of maple sugar, reluctance to give up production of home-made textiles, and the gradual development of the dairy industry. Rural vernacular architecture evolved in response to the progression of agricultural trends in the county. (The 1810 manufacturing census indicates that the domestic/family cloth industry in flax and wool was generally larger in Pennsylvania's western counties than the eastern.)(34)

They found that early barns were scarce even in 1798. This would have meant that threshing of crops and milking of cows occurred in open spaces. Their juxtaposition of 472 barns versus 1,235 houses in the county may not give an entirely accurate view however. For example, it should be mentioned that the 1798 Direct Tax for Somerset and Stoneycreek townships shows the 95 barns and 56 cabin barns there were supplemented with 39 stables and 36 cabin stables. It appears that the team could have used the Direct Tax in other discussions. For example, the discussion of kitchens and their location does not mention that at least 25 separate kitchens appear on that tax for Somerset and Stoneycreek. Although scholars don't know if these were actually detached from the main house, the tax assessor evidently thought of them as separate. Lesser numbers of kitchens were assessed in other Somerset townships. The assessors for Washington County townships more clearly show that some kitchens of that era were separate. In that county, in addition to regular kitchens, cabin kitchens were noted as well.(35)

The 1798 tax also illustrates the county's commercial/industrial beginnings with the assessment of distilleries, potter shops, hatter shops, etc. This tax indicates that Brothersvalley Township was the most advanced in that respect. The fact that this area around Berlin had a number of men protesting the excise tax on whiskey in 1794 is another indication of the growing importance of commercial farming to the area. The Direct Tax showed that the most common outbuilding in Brothersvalley Township was the stable, but the kitchen was the top contender in Quemahoning, Cambria, Somerset, and Stonycreek townships. Spring houses appeared in all these townships also. Although no milk houses appear on this tax for Somerset, they do appear in other southwestern Pennsylvania counties. In Washington County, milk houses, cabin milk houses and even one "kitchen milk house" appears.(36)

Although not mentioned in the McMurry report, Pennsylvania continued to be a big producer of rye through the mid-nineteenth century. Like most Pennsylvania farmers, Somerset's farmers enjoyed prosperity through the 1860s and into the early 1870s. This is reflected elsewhere in the state by the high number of substantial farmhouses and barns built within this period.

There is little mention of the agricultural press. It was indicated once in connection with the experimentation of different varieties of potatoes. By the 1830s journals and newspapers across the state were carrying information on the latest ways to produce better crop yields as well as what implements would ease the work load of the farmer. Letters to the Pennsylvania Farm Journal indicate western Pennsylvania farmers were reading such journals by the 1850s. (See section on Pennsylvania Farm Journal.) In addition, the Pennsylvania Agricultural Fair shows that many agricultural implements and

innovations were being produced in southeastern Pennsylvania. These would have had an influence on what was being used in Somerset County as well as those in manufacturing centers such as New York and Pittsburgh. (By 1858 the Pittsburgh Agricultural Works put out its own catalogue of implements.) There is no mention of the reaper, considered by some agricultural historians as the most revolutionary of farm machines. By the mid-nineteenth century foundries across southwestern Pennsylvania were producing various agricultural implements. In West Middletown, Washington County, Robert McClure pioneered manufacture of Andrew Ralston's thresher which threshed and cleaned grain in a single operation. Ralston's machine was patented in 1842. David Downs was making threshing machines at New Geneva, Fayette County, by 1850. By 1860 this agricultural implement manufactory was being operated by Alexander Conn. (37)

There is mention of a county fair in 1876. Was it held in connection with the county agricultural society? In 1879 C.C. Musselman of Somerset was listed as a member of the State Board of Agriculture. He had been elected to that position by the Somerset County Agricultural Society. Jeremiah S. Black, as Chief Justice of Pennsylvania, wrote an address in 1854 to the Agricultural Society of Somerset County exhorting Somerset County farmers to join these societies so that they have the opportunity to see the successful experiments going on in agriculture not only in the county but across the state. He remarked that, "A well cultivated soil produces not only grains, grasses and fruits, but another, and far more precious crop--men--men who know their rights, and dare maintain them--". (38)

The surveyors found few new houses were built in the period 1870-80. Farmers in Somerset as elsewhere in Pennsylvania and the United States were improving their lands and buildings. This is evident in the centennial atlases of Greene, Westmoreland, and Washington counties as well as the 1884 History of Somerset County. These references also illustrate how ordered and well maintained the farmscape had become.

The writer questions whether the mid-nineteenth century was the peak of agricultural prosperity for the county? Most of the county's grand "cathedral" barns postdate that period. Probably the statement of prosperity needs to be qualified. Possibly the mid-nineteenth century was the peak of Pennsylvania and Somerset County agricultural prosperity generally, but as farming became more commercialized in the latter half of the nineteenth century the larger farmers continue to do well and were able to build larger houses and barns.

The second period of this study showed the elaboration of old forms of Somerset architecture. While the banked house was retained with its basement kitchen, the upper floors showed refinement and spatial differentiation. A visitor was directed to the first floor where a hall separated public and private spaces, such that rooms were no longer connected only by a door. However, many of these houses retained the double stacked porch or gallery. Somerset houses were increasingly conforming to the Georgian standard of balanced facade and floor plan. During this period, the agricultural press was calling for farm buildings that displayed order, cleanliness, and modernity. Higher values were placed on appearances, and many farmsteads of the period

reflected this.

The surveyors found that the "classic Pennsylvania barn" form is the most common in Somerset, and I assume this means the standard barn. They found a variety of bent forms, but most were reminiscent of Pennsylvania German forms with double tie beams near the plate log and diagonal reinforcements or braces between the ties and structural beams. They found that Somerset barns most often had their granaries on the bank side or rear rather than in the forebay as those in southeastern Pennsylvania. (Most south central Pennsylvania barns have their granaries to the rear also.)

The last phase (1880-1925) in this study showed that although the number of farms in the county only dropped slightly, the farming population dropped considerably. While Somerset farms were characterized as mixed or general, many became increasingly devoted to a specialized product such as dairying, poultry, or corn. The agricultural censuses indicate that the number of milk cows in the county was fairly consistent between 1880 and 1910. The number of sheep rose slowly between 1880 and 1900 but dropped dramatically between 1900 and 1910, and the number of bushels of corn produced doubled between 1890 and 1900.

McMurry states that American agriculture slowly recovered from the depression of the late nineteenth century, and the period 1910 to 1920 is often called the "golden age" of American agriculture. Railroads were built through the county in the 1890s to further develop coal mines, and the county population rose greatly after 1900 with the expansion of coal mining.

Regional specializations grew more pronounced--fluid milk dairying became centered in the East. Somerset was part of this trend. Between 1910 and 1924 the amount of milk sold off the farm more than tripled. However, many Somerset farmers retained cream separators and continued to produce butter. The rise in corn production in the county was associated with increased milk production. Much of the corn was consumed in the form of ensilage. By 1924 Somerset had considerably outdistanced other Pennsylvania counties in use of the silo, where the green corn or ensilage was stored.

One of the changes noted by McMurry was that while dairying and poultry raising was largely still the domain of women in the late nineteenth century, as these aspects grew and became more commercialized in the early twentieth century, they became the domain of men. Of course, the capitalization of these fields and farm profits was significant in this aspect. Also during this period cooperative work among farmers slowly diminished. The report does not indicate there were local farmers' clubs that advanced new farming trends. During this time the people of Somerset became more integrated into the national economy and culture.

The agricultural buildings of the early twentieth century were largely grand barns and modest houses. The team found that more farmhouses were remodelled during this period than new ones constructed. Most homeowners were putting their money into internal improvements. The houses were likely to be standardized balloon-frame structures. However, following the Germanic tradition of space, families fundamentally lived in only half the

available space within a house. Also during this period the summer kitchen came to replace the basement kitchen. They found the term "summer kitchen" first used in the late nineteenth century. The kitchen and summer kitchen continued to be the social center of the house.

Although only five new houses had been built in this period, eighteen barns were built or remodeled during this period. Not only were these barns larger, but the enclosed forebay allowed more space as well. In some cases, the gable-end doors and lengthwise aisles created more efficient use of the ground level. However, most of the Somerset County barns surveyed used traditional ground floor plans with the aisles and stalls perpendicular to the gable ends. I question whether they can be called basement barns? Although the forebay is a diagnostic feature of the type, the fact that they are called enclosed forebay seems to tell the story.

Blair County Vernacular Architectural Resources Survey

An agricultural/vernacular architecture study was conducted in Catharine and Tyrone townships, Blair County in 1993 and 1994 in conjunction with the Somerset County survey. The writer received a draft of this report in February 1995. Basically, the area covered is Sinking Spring Valley. The windshield survey identified 120 resources in Tyrone and 39 in Catharine Township. Of these, nine in Tyrone and one in Catharine were selected for more intensive survey. There was no data analysis to this report. Consequently, no trends in house or barn design were charted. In addition, no overall framework was developed for house and barn types in the area.

Although it is difficult to ascertain the scope of barn types in the area, it appears that several standard barns were surveyed. These include the Isett, Fagan/Fort Roberdeau, and Patterson/Diehl barns, all of which are frame. Those with bent drawings appear similar in form to those found in Bedford, Huntington, and Somerset counties. The Isett barn has double outsheds to the rear. One outbuilding on the Isett farm not usual to central or southwestern Pennsylvania is the weigh shed or scale house. This is a frame building resting on stone piers. Although the report notes that the Fisher/Diebold barn has an enclosed forebay, the ground floor layout is typical of standard barns. It appears to have a late nineteenth/early twentieth century bent form. The 1858 Fort Roberdeau barn has a double threshing floor. The Patterson/Diehl barn, the only property intensely surveyed in Catharine Township, has granaries to the rear. It is located at the foot of Canoe Mountain, just north of Route 22.

The 1811 Breidenbaugh/Hosler barn, built by Casper Weight, is the only one shown as a Sweitzer barn. This stone barn has typically vertical ventilator slits and an early bent form which is typically comprised of posts, tie beams, and long, diagonal braces.

The Pennsylvania Barn

Late eighteenth century travelers and agricultural writers often extolled the large, sturdy bank barns of the Pennsylvania Germans of southeastern Pennsylvania. John Beale Bordley gave brief descriptions of two

Pennsylvania barns, one of which was a stone barn recently built in Philadelphia County, in his 1799 Essays and Notes on Husbandry and Rural Affairs. By the twentieth century the Pennsylvania bank barn was a well-established symbol of Pennsylvania German agricultural success. Folklorist Don Yoder used James Mease's 1804 Domestic Encyclopedia to illustrate the importance of early printed sources to document contemporary agricultural trends. Yoder's 1965 article in Pennsylvania Folklife gives the earliest known floor plans of two-level Pennsylvania barns. In this example, G. Miller's masonry barn in Chester County appeared to have masonry posts beneath the forebay. This single threshing floor barn had an enclosure for corn above the forebay, but the granary was to the rear of one of the mows. (39)

The previously described section on the early 1850s Pennsylvania Farm Journal noted that nationally recognized writers and architects such as Andrew J. Downing and Samuel Sloan were advertizing in that periodical. Downing's 1850 publication provided a plan for a "basement barn." In addition, agricultural reformers such as Frederick Watts provided plans and descriptions of barns in the Journal. Watts, a native of Cumberland County, had a long-time concern with barn design. He wrote of the merits of the Pennsylvania barn in the 1864 Report of the Commissioner of Agriculture. He noted that Pennsylvania farmers have long found the bank barn essential to a profitable farm, and its form and structure was more than a shelter for animals and crops. (40)

Watts claimed that perhaps nowhere in United States was agriculture so profitable as in southeastern Pennsylvania where the barn was the first building in the construction of a farm. Because it has served its purposes so well, no new improvements have been made upon its form in years. He argued that in order to economize the farmer's work, the stabling of animals, storage of crops, wagon shed, corn crib, and root cellar should all be under one roof. Watts advocated the theory that the barn's size should be in its height which should not increase the amount of labor in using it. His design was for a tri-level barn. Another principle used in Watt's barn design was to create the most efficient means to produce manure since farmers believed, "barnyard manure has no substitute of equal value." Another feature outlined in his 1864 report was the placement of the hog pen facing into the barn yard to allow beneficial rooting in manure--both beneficial to the hogs and to the development of good manure. (41)

Like other agricultural reformers of the nineteenth century, Frederick Watts' improvement on the form and function of the barn was the refinement of traditional types of farm structures. Not only was this particular barn designed for function, but its exterior appearance was to be made pleasing to the eye. His design was used in the construction of the 1856 barn, the first building on what became the Pennsylvania State University campus. Although certain elements of Watts' design were used in barn construction across Pennsylvania, the tri-level barn never caught on.

Not all of the praises for the Pennsylvania barn came from within the state. The American Agriculturist, a New York-based periodical 1859-1890, praised Pennsylvania farmers for their wise investment in ample barns for the storage of crops and shelter of stock. Writers for the periodical stated, "This is

better understood in Pennsylvania than in any part of the country, and the barn that bears the name of the State is, in many respects, a model."(42)

By the early twentieth century, some had come to revere and appreciate the architecture of previous generations, including the barns of southeastern Pennsylvania. Some of these barns had already become more than utilitarian in nature. It is reported that some owners of large estates in the Philadelphia region even hired architects to convert their barns for other uses. Others often hired architects to restore or rehabilitate their barns. Colonial Revival architect, R. Brognard Okie and Philadelphia architects, Walter F. Price, and Mellor and Meigs were among those who worked on barns, principally in Bucks, Montgomery, and Chester counties.(43)

In 1940 Charles Dornbusch studied Pennsylvania barns through an American Institute of Architects grant. His research was edited by John Heyl and published in 1956. Many of the barns pictured in this book were along major routes across southeastern Pennsylvania. Basically the territory between Northampton County on the east to Franklin County on the west was covered. However, this was not only a roadside survey of barns, but bent forms and floor plans were drawn of each of the various types. Dornbusch was the first to establish a classification system of Pennsylvania barns. Eleven barn types were developed, largely based on exterior physical characteristics. Although this study laid the ground work for future scholars, it lacked the appropriate amount of fieldwork in Europe and the larger Pennsylvania region to accurately differentiate between barn types and subtypes and place them on an evolutionary ladder. Many of the building trends of the Pennsylvania Germans were noted, but some of this information was obviously based on old traditions which had not been confirmed by field survey. Even at this time, the authors witnessed the passing of many of these great Pennsylvania structures through changing agricultural practices, weather, and neglect.

The first book entirely devoted to the Pennsylvania barn was published in 1955 by the Pennsylvania Dutch Folklore Center. Edited by folklorist Alfred Shoemaker, the book contained articles by Shoemaker, Don Yoder, and others. This book defined the Pennsylvania barn through photographs, drawings, descriptions, and related terminology. In addition, the book laid the ground work for the Pennsylvania barn's morphological history with documented oral and manuscript sources. A simple classification system of barn types was begun, and Shoemaker gleaned data from the 1798 U.S. Direct Tax to provide a size and material context for barns of that period in Pennsylvania.

Eric Arthur and Dudley Witney's 1972 book on the barns of North America lauded the Pennsylvania barn as one of the most distinguished types of vernacular architecture in the world. Even in Ontario, the local examples are known as Pennsylvania barns. They also praised the amount of work that had been written on the state's cultural history, including the origins of its agricultural resources.(44)

Allen Noble and Gayle Seymour wrote an article in the 1982 Geographical Review on the distribution of barn types in northeastern United States. Their typology was not very refined. The Sweitzer type was confused with the

standard Pennsylvania type. Both of course are found in Pennsylvania, but the standard is much more common. The posted forebay barn, a subtype of the standard barn and a descendant of the Sweitzer type, is listed as Pomeranian. This appears to be a misnomer for barns of this type in Pennsylvania. Evidently the Pennsylvania enclosed forebay barns are listed as basement barns. For charting and data analysis convenience, the authors combined their Sweitzer and Pomeranian types as a German bank barn. However, this is not a logical combination. The area charted for this type comprised most of the lower two-thirds of Pennsylvania and a large area down the Shenandoah Valley. (45)

Noble and Seymour believed that English barns continued in areas where agriculture remained marginal and where agriculture is oriented to crop production. What they term the Midwest three-portal barn appears to be a descendant of the English barn. Although their map doesn't indicate it, many of this type were seen by the writer in Greene County. The fact that it is found in southern New England would tend to confirm that it is a derivation of the English barn and did not originate in Appalachia. (46)

They explained that the reason the Pennsylvania German barns didn't expand northeast into New York was the fact that the raised three-bay basement barn was already preferred there. There are large concentrations of this type in New York, New Jersey, and eastern Ohio. Only south central Pennsylvania was not overwhelmed by this type. Their Appalachian barn type appears to have been centered in Somerset, Bedford, Cambria, and Blair counties. The writer has not located this type at all there. The closest barns of this form were seen in Greene County. (47)

Noble and Seymour conclude that barn types are dependant on ethnic heritage as well as on agricultural economics. They state that simple, early barn structures survive where agriculture never advanced. They apparently didn't consider the fact that some barns were more adaptable to change and thus did survive where agricultural conditions changed.

John Fraser Hart's 1994 article in Material Culture on barn classification seems to be oversimplified in his quest for what should be the determinants for classification. He mentions signs of unmodified English or German influence, but what about modified influence? He doesn't seem to take into account that the raised three-bay barn could have been influenced by the Sweitzer or standard Pennsylvania barn. This may be especially true since agricultural literature had touted these. This is confirmed by its appearance in southwestern Pennsylvania, especially Somerset County, along the migration routes to the Midwest. He theorized that practical needs not agricultural journals brought about the adoption of three-bay raised barns. Hart attacks the work of Noble and Seymour as well as the work of Noble and Cleek and doubts whether their maps should be used at all. I agree with Hart that scholars should evaluate and build on the work of other scholars. (48)

Summary of The Pennsylvania Culture Region: A View from the Barn with Commentary

Joseph Glass mapped the Pennsylvania barn region by conducting systematic

field work. His findings were published in 1986 in the above mentioned book. The Pennsylvania barn was defined by its forebay which served the farmer and his animals in all kinds of weather. The lines or borders of this region were drawn where this barn type predominated. He created a grid system with twenty-mile intervals which were superimposed on the barn region map. Fifty-three grid intersections fell within the barn region. At each grid intersection the nearest ten farms were windshield surveyed and data from these collected. This provided the base of information for describing the region's farmsteads. (49)

Eleven percent of the barns in the region had no forebays. Naturally, these were near the borders as this was a defining factor of the region. The highest occurrence of barns without forebays occurs to the west and south of the region.

The fully cantilevered barns occur most frequently in south central Pennsylvania. These "classic" forebays served farming needs more effectively than the closed-end forebay. Glass found it to be twice as numerous in his sample. The closed-end forebay occurs most frequently in the north, east, and southeast fringes of the region. (50)

Glass found that the forebay barns with machinery openings are scattered throughout the west-central portion of the culture region, but they are not the dominant form there. In these types, there is a forebay across the entire front, but it is generally elevated above the wagon shed entrance. Although Glass dates the earliest ones of this type to mid-nineteenth century, Robert Ensminger and I have seen examples dating to the early nineteenth century. Glass found this type most frequently along the border with Maryland. (51)

Glass recorded extended granaries or outsheds on ten percent of his sample. These granaries usually extend six to ten feet beyond the rear wall along the earthen ramp to the threshing floor. These were found principally in the Cumberland Valley and western Lebanon Valley. Glass attributes the fact that they are found in the west central portion of the region to the deduction that they were not an early innovation. An example of this type appeared in the Pennsylvania Cultivator in 1848. Evidently, he wasn't aware of the late eighteenth/early nineteenth century examples found from Lancaster to Washington County. (52)

Certain localities seemed to have a predilection for certain building materials. Although Glass found that 70% of all barns recorded in the 1798 U.S. Direct tax for his study area were log, only seven log barns were found in his sample. These were all located west of Harrisburg. Ninety percent of his sample barns were constructed of wood. While stone barns only represent 10% of the sample, they constitute 35% of the sample east of the Susquehanna. They appear to be concentrated in the southeastern counties of Chester, Montgomery, Bucks, and Berks. The brick barns in his sample were dated from the 1840s through the 1860s. More than 80% of the barns in the region have vertical siding. Barns with horizontal siding are concentrated in north central Pennsylvania especially along the Susquehanna River. As far as color preference is concerned, red barns appear to predominate west of the Susquehanna while white barns are clustered east of the Susquehanna.

Unpainted barns were found to be centered in north central Pennsylvania, largely in the Ridge and Valley region.

Glass found that more than two-thirds of the barn samples faced between southeast and southwest. Barns with a southern orientation comprise 86% of the sample. More than half (60%) the barns surveyed were positioned parallel with a nearby road. Another one third of the barns were aligned perpendicular with the road.

Although this study was a good way of delineating a region by exterior characteristics, it lacks the depth of knowledge that could have been gained through a look inside the barns. Consequently, the writer feels the Pennsylvania Culture Region, based on the Pennsylvania barn as a prominent feature, should be expanded westward. Glass drew the western boundary just beyond Altoona and Bedford. All of Blair and Bedford counties should be included as well as the counties of Somerset and Westmoreland, and at least portions of Fayette and Washington counties. (53)

Summary of The Pennsylvania Barn by Robert Ensminger along with Commentary

This book, published in 1992, is a great contribution in the scholarship of Pennsylvania barns. It raises questions, as it should, about German and other ethnic and religious groups and their role in barn development and distribution. Among the questions to be explored are what other influences, such as regional needs and nineteenth century agricultural literature were influential in the development of the barn? Less survey work has been done by scholars in southwestern Pennsylvania. Therefore, architectural scholars are not as certain as to what types of architecture were dominant there in the late eighteenth and early nineteenth century. The writer has seen early examples of the Sweitzer barn in Bedford, Somerset, Westmoreland, Fayette, and Washington counties, the earliest settled areas of southwestern Pennsylvania. Possibly only later, by the mid-nineteenth century, did regional agricultural needs demand a change in the architecture of southwestern Pennsylvania barns. Ensminger found that the basic morphology of the Pennsylvania barn has remained constant for 200 years.

The forebay bank barn or Sweitzer barn first appeared in southeastern Pennsylvania in the early eighteenth century. The Sweitzer barn characteristically is two-level, is banked, and has a forebay. The cantilevered forebay provides the diagnostic asymmetrical gable end profile of this type. This type of barn was dominant in that area by the end of the century. Henry Glassie is cited for stating that the overhanging loft barn was carried out of Pennsylvania during the first wave of out-immigration in the second quarter of the eighteenth century. The bank barn spread farther south and west during the nineteenth century. By the late eighteenth century it is known that German two-level barns were being built by Englishmen in southeastern Pennsylvania.

The first major change in the Sweitzer type was the recessing of the front stable wall so that the forebay was within the main body of the barn. This created a symmetrical gable end, and this type has become known as the

standard Pennsylvania barn. The earliest examples of this type were constructed of stone and the forebay ends were enclosed. Glass's classic Pennsylvania barn or standard barn had a completely open forebay.

Ensminger noted that forebay log barns are relatively rare. He mentioned Bedford, York, and Adams counties for documented sites. The writer has seen them in Cumberland and Somerset counties as well. Most early log Pennsylvania barns had no specific granary partitions. Log stable walls are rarely seen in America, but the writer has seen examples in Bedford, Fayette, and Somerset counties.

Ensminger surveyed the Pratigau region in southeastern Switzerland, where he located what he feels is the prototype of the Pennsylvania barn. However, whereas early Pennsylvania barns had roof slopes of 40 to 45 degrees, Pratigau barns had slopes of just 15 to 20 degrees. The steeper roof of Pennsylvania barns may reflect a preference for northern Swiss and Black Forest roofing and framing traditions. In addition, the log walls of Pratigau barns extend into the gable above the square and have extended purlins similar to Scandinavian examples. The European examples which Ensminger illustrates show small logs, often round, unlike the squared log examples commonly seen in Pennsylvania. (54)

Ensminger's map of the Pennsylvania barn core region begins in Northampton County on the east and extends west to include the southern half of Cumberland County and the eastern edge of Franklin County. It appears that this should have been extended further north and west.

While Ensminger noted that the forebay of Swiss barns was used as a walkway, it was apparently not used as a granary space. He noted that the granary on Pennsylvania barns was located in the forebay, the warmest and driest side of the barn with fresh air circulation below. However, a 1950 publication of the Lehigh County Historical Society on the Lower Jordan Valley noted that the granary was located "at the overhang end of the barn where the exposed floor helps to cool the grain." However, the only time grain needed to be cooled was when it was green. Another reason for the location of the granaries at the front of the barn was because this was near where the grain was winnowed. (55)

Most south central Pennsylvania barns have their granaries located to the rear. Many Cumberland, Franklin, and Fulton County masonry barns have extended granaries or double-outsheds to the rear. Some frame barns in this area also have brick or stone granaries. Sometimes these are plastered on the inside and stuccoed on the exterior. Occasionally only one of these extensions is actually divided into grain bins. The writer found that often the stone Sweitzers in Fulton, Bedford, Fayette, and Washington counties have a single outshed. After threshing was done mechanically, it would have been easier to store the grain in the outsheds to the rear of the barn. Glass shows the outshed barns concentrated in south central Pennsylvania. While the c.1790 DeHaven barn in Adams County was the earliest example that Ensminger noted with outsheds in his book, he said another early example is located at Ephrata, Lancaster County. The DeHaven barn is a double crib log Sweitzer. Barns with this morphology (outsheds) became the predominant type in the

western core counties of Pennsylvania by the middle 1800s. (56)

Ensminger noted that the open-forebay standard barn built between the years 1810 to 1890 was concentrated in the western part of the Pennsylvania core area or south central Pennsylvania. However, the writer found this type to be fairly common throughout southwestern Pennsylvania, except in Cambria, Indiana, and Greene counties.

The posted-forebay standard barn was described as a late phase in the development of the standard Pennsylvania barn. It became very popular after the Civil War and was widely seen in county histories and atlases of the 1870s and 1880s. The earliest developmental track for the extended supported-forebay barn originated in Chester County. This demonstrated the regional shift from grains to stabled livestock and consequently the increased need for hay and straw storage.

Ensminger described the basement drive-through standard barn as concentrated in south central Pennsylvania, particularly Franklin and Fulton counties. The writer has seen many examples in western Cumberland and Perry counties as well. They were also widely seen in Bedford and Blair counties.

Ensminger noted that the front-shed or three-gable barn became popular after 1850. This front shed greatly increased the barn's storage capacity, which was needed for the large volume of straw produced by machine threshing. The construction of front-sheds corresponds with the increase in the size of cattle herds which occurred later in central Pennsylvania than it did in southeastern Pennsylvania.

Brick end barns are largely found along the southern border of Pennsylvania, extending west from Lancaster to Franklin counties. These barns are attributed to have an English origin, but no credit seems to be given to the ingenuity of later builders. Few of these were ever built in southwestern Pennsylvania and even fewer survive today.

Ensminger noted a Centre County barn which has a wooden bridge similar in form to examples I found in Cambria and Indiana counties. These bridges connected the ramp to the threshing floor. The earliest examples of this form were seen by the writer in Fayette, Somerset, and Washington counties. Otherwise, these barns are generally of the Sweitzer or standard Pennsylvania barn types.

Ensminger seemed to feel that Pennsylvania German farmers gave in to the influence of popular style by replacing their pioneer cabins or Germanic central-chimney houses with larger and more stylish Georgian stone houses. This explains why their large masonry barns had quoined corners and symmetrical ventilator slits. Since they retained the functional Sweitzer barn form as well as the functional floor plan of their houses, the writer would argue that Pennsylvania German farmers did not give into popular styles. Instead they created their own style or plan, e.g. the Pennsylvania barn and the Pennsylvania farmhouse. (57)

Henry Glassie found that the typical bent form of tie beam-over-plate and post framing was used in colonial New England. However, in English examples, the tops of the posts were usually flared for extra support. John Heyl, who composed a classification system of Pennsylvania barns, also documented the use of flared-top posts in early Pennsylvania barns. The tie beam-over-roof plate also has Germanic origins. Most later Pennsylvania barns used the H-bent form. Some Pennsylvania barns used a purlin system supported by queen posts set vertically, which was the usual case in Europe. However, the queen posts in most Pennsylvania barns were set at an angle or canted. These are usually reinforced with angled struts or braces. (58)

Ensminger found that the largest number of new barn types appeared between 1790 and 1840, during the golden age of Pennsylvania agriculture. He feels that maybe this should be called the golden age of Pennsylvania barn development. The writer counters that some of the most magnificent farmhouses and barns were built in the 1860s and 1870s after the agricultural reform movement took hold and farm prices rose significantly during the Civil War period. With what has been learned of vernacular Pennsylvania architecture since publication of Fletcher's work, this golden age statement needs to be qualified. (59)

The writer believes the Somerset County barns are a subtype of the Pennsylvania barn, and they truly dominate the landscape there. Yet this area does not appear to be mapped in the core area. Perhaps these barns need to be re-examined to see if they were adaptations of the Pennsylvania barn to the dairy industry of that region. (60)

Ensminger's research showed that migration patterns correlate closely with the distribution of Pennsylvania barns. The settlements of the Amish, Mennonites, and Brethren all seem to correlate with Pennsylvania barn locations in and beyond Pennsylvania. In some locations, local barn builders appear to have promoted Pennsylvania barns.

The Forbes Road is mentioned as a major route to Pittsburgh, but the Braddock Road and later the National Road from Cumberland, Maryland was an important migration route for southwestern Pennsylvania also. Ensminger states that Pennsylvania barns are frequent along the former route to Pittsburgh but not enough to be included in his core region. However, there are concentrations in heavily Germanic Somerset County. He also mentions the National Road as a connector of Maryland and Ohio. This would seem all the more reason to include southwestern Pennsylvania as part of the core region. Ensminger admitted that Joe Glass's maps should have extended the Pennsylvania barn region further west. Ensminger said that most of the Somerset County barns which he has seen are standard barns which have been adapted with storm sheds. (61)

Summary of Windshield Survey Through the Eleven-County Region during December 1994 and January and February 1995

This survey was conducted to test Glass and Ensminger's theories of the range of barn types found across Pennsylvania. Ten types were listed: Sweitzer, standard, enclosed forebay, posted forebay, ground, extended

forebay, interior wagon shed, outshed extension, gable forebay extension, and gambrel roof. These were chosen because they had been used previously by the above named scholars. Routes were chosen across each county that would optimally yield a cross section of that county. In addition, some routes were chosen because they crossed known or reputedly rich agricultural areas. These routes were mapped. Photos were taken of representative and unusual examples found in these counties. Often these were the same ones which were later examined or surveyed in more detail. Otherwise, only the number was recorded. A total of 743 barns were surveyed over a five-to-six day period. The largest number (142) were surveyed in Bedford County. The second highest number (88) were seen in Greene County. The least amount (40) were surveyed in Cambria County. The other eight counties fell between these last two numbers. (62)

Of the total surveyed, 272 (37%) were of the enclosed forebay type. No other type was even close to this number. Standard barns accounted for another 164 (22%) barns seen. The other types ranged between one and nine percent. The nearest rival was extended forebay barns with only 9%. Posted forebay and ground barns each comprised 7% of the total. Another 6% each had extended forebays or gambrel roofs. However, it needs to be pointed out that five of the types are actually subtypes of the standard barn including posted forebay, extended forebay, gable forebay extension, interior wagon shed, and rear granary extensions (outsheds). If the percentages of these five types are added to the standard barn percentage, a total of 48% or nearly half the barns would be of the standard type. This may be further evidence that more of the western Pennsylvania region should be included in the Pennsylvania barn region. (63)

It was fascinating to see the standard Pennsylvania barn in Cumberland, Franklin, and Fulton counties with its open forebay transformed in Bedford and Somerset counties to the enclosed forebay type. Somerset County appears to have the largest amount of surviving barns, and they appear to be predominantly enclosed. The Allegheny Mountain appears to be the boundary line for these two types. Sweitzer barns extended into Washington County. Could it be that Sweitzer barns were predominant throughout the entire region, but later farming practices and needs demanded a different barn? The fact that Sweitzer barns with outshed granaries were being built in Fayette and Washington in the late eighteenth/early nineteenth century indicates that the prosperous farmers of this region were on the cutting edge of current technology.

In the eastern section of my study, (Fulton, Huntingdon, Bedford and Blair counties) or the Ridge and Valley section, nearly half (49%) of the barns were the unadulterated standard type. (As already mentioned Glass drew the western limits of the Pennsylvania Barn Region to just west of Bedford and Altoona.) A total of 333 barns were looked at in these four counties. The next most common type or subtype was the gable forebay extension at 16% of the total. Only 11% of the barns in these counties were of the enclosed forebay type. Lesser numbers of barns were subtypes of the standard type. These included the posted forebay at 9%, the interior gable-end wagon shed at 7%, and the rear granary extension at 6%. (The next-to-last number appears high since Glass listed south central Pennsylvania as the area where

concentrations of forebay barns with machinery openings could be found.)

Of these four counties, Fulton had the highest percentage of standard barns while Huntingdon had the least. Fulton and Huntingdon counties had the most of the posted forebay subtype. The enclosed forebay subtype was most common in Bedford and Huntingdon counties. Bedford and Blair had the highest number of gable forebay extensions. Fulton County had the highest number of rear granary extensions or outsheds.

The remaining seven counties of my study are part of Allegheny Plateau region. These all have high percentages of enclosed forebay barns, but Cambria and Indiana counties have the highest rates, an average of 72%. These two counties are very similar in barn typology. About 13% of their barns have extended forebays, and another 11% are ground barns. As will be discussed in the individual counties, barns in these two counties have similar internal layout and similar bent forms.

The barns of Somerset and Westmoreland counties are alike in some ways. About half of their barns have enclosed forebays, and about 13% are of the standard type. Another 13% have gambrel roofs. While 20% of Westmoreland's barns have posted forebays, none of this type were seen in the surveyed areas of Somerset County. Fifteen percent of Somerset's barns have gable forebay extensions, but only 2% of Westmoreland's barns are of this type. At least some of this difference may stem from the fact that Somerset continues strong in dairying while Westmoreland has become more urbanized and developed. There are not only fewer working farms in Westmoreland, but those farmsteads that continue to exist have buildings which do not continue to evolve agriculturally.

As could be expected some of the most prosperous farms with the largest barns are to be found in the narrow, limestone valleys of central and south central Pennsylvania. Limestone soils can also be found in Westmoreland, Fayette, Washington, and Greene counties. Prosperous farms could also be found throughout much of Somerset, central and southwestern Westmoreland, along the Monongahela and in central and northwestern Fayette County. Many of the hills and valleys of Greene and Washington counties were highly cultivated or in good pasture land as well. The high, rolling hills of Cambria and Indiana County are not as conducive for intensive farming. Likewise, there is unproductive land throughout the entire region where hills and mountains predominate. (According to the Atlas of Pennsylvania, Cambria County has the least amount of soil preferred for agriculture, and it contained the least amount of improved farmland from 1859 to 1900. Unlike southeastern Pennsylvania, no lands within the eleven-county area are classified as excellent soil for agriculture.) (64)

Standard barns are prevalent as far west as Bedford and Blair counties. This coincides with Glass's marking of these two counties as the boundary of the Pennsylvania Culture Region. Of the counties surveyed, these two counties along with Somerset County sustain the most dairy farms. While the standard type is prevalent in Fulton County as well, it also has a fair amount of a subtype known as the rear granary extension. Fulton and Greene counties appeared to have the largest amount of small barns. Small, unpainted barns

abound throughout all these counties on marginal, hilly farmland. The overwhelming majority of barns surveyed appear to have been built, rebuilt, or remodeled in the late nineteenth and early twentieth century.

As already stated, over half the barns in Greene County had enclosed forebays. Greene County had the largest amount (36%) of ground barns in the southwestern Pennsylvania survey. These barns weren't typical of barns further east in that the floor was not actually on the ground. Most often, the barn was slightly banked, and the sill logs rested on stone piers, allowing a low crawl space on the side opposite the bank. The lithographs of barns pictured in the 1876 Atlas of Greene County indicated that 24% of its barns were ground. (Of course, the Atlas prints would best typify the barns of the more well-to-do farmers, since they would be the ones able to pay to have their farm pictured in the atlas.) Only one standard barn was sighted in Greene County, but 18% of the barns in the 1876 Atlas appeared to be standard. While my survey showed six (7%) barns with posted forebays, 13% of the Atlas barns had posted forebays. Generally, the Greene County barns were small. Sometimes, more than one barn was located on the same farm. These may be located in fields away from the central farm complex. Glassie found these "meadow barns" in the eastern Alleghenies and noted that they were only used for the storage of hay and the temporary stabling of draft animals. This was likely more suitable to the needs of the grazing culture of the area. If the barns in Greene County were painted, most often they were white. (65)

Of the 67 barns surveyed in Washington County, a good majority (66%) were of the enclosed forebay type. This is the highest percentage of any of the counties surveyed except Cambria and Indiana counties. The 1876 Atlas of Washington County had indicated that only 20% had enclosed forebays at that time. No standard barns were seen in Washington during this survey, but the Atlas had indicated 26% were of this type. However, eight barns (12%) had extended forebays and seven (10%) had gambrel roofs. Four barns (6%) were found during this survey with posted forebays, but the Atlas showed 23% of this type. There were only three ground barns (4%) seen in Washington, but 32 (36%) had been seen in Greene County. Only eight barns were surveyed in Preserving Our Past, a book on Washington County architecture. The authors were apparently looking for the earliest or most unusual types in the county. Of this number, four were of the standard type--one stone, one frame, and two log. The remaining four were ground barns, three of which were log. Three of the barns were located in Canton Township. (66)

In all 56 barns were surveyed in Westmoreland County. Of this number 28 or 50% had enclosed forebays. Eleven (20%) had posted forebays and five (9%) had gambrel roofs. Unlike Washington County, Westmoreland had seven (13%) standard barns. A larger survey area may yield more comprehensive results. Glassie noted that as the Pennsylvania barn type traveled west it evolved into a new type. This type, characteristically with two levels, no forebay, and basement entry on the gable ends, became the predominant type in Westmoreland County. (67)

It appears that some of the earliest barns were comparatively large. Examples include the Hunter stone barn in Fulton County, the Weight stone and frame

barn in Blair County, the double crib Moredock barn in Jefferson Township, Greene County, and the McConnell barn in Washington County which had been pictured in the 1876 Atlas. (The McConnell barn burned in 1965.) As agricultural trends changed, the barns in Washington and Greene counties, in particular, became smaller. On the other hand, as areas of Somerset, Bedford, and Blair counties became more heavily involved with dairying, the barns became higher and wider, allowing more space for storage of hay and straw. Few barns, that are still being used for agricultural purposes, have not been changed drastically due to changing agricultural needs and practices. Many have large additions to the front or side or have the ground floor completely opened up for young cattle.

Fulton County had the highest percentage (52%) of standard barns in this survey. The other Ridge and Valley counties of Bedford, Blair, and Huntingdon also had high numbers of standard barns. In fact, these four counties accounted for 87% of the standard barns found in the survey. The interior wagon sheds and rear granary extensions, subtypes of the standard barn, were more prolific where the standard barn was prominent. In fact, these subtypes were not seen west of the Alleghenies as part of this survey.

The enclosed forebay barn accounted for more than 50% of the barns in most of the counties west of the Allegheny Front. The only exception to this was Fayette County at 47%. The highest percentages of this type were found in Indiana and Cambria counties. The ground barn was only found in large numbers in Greene County where it accounted for over a third of the total barns. While Sweitzers were only seen in two counties (Bedford and) during this windshield survey, during other trips and surveys they were noted in all the counties except Cambria, Indiana, and Greene counties.

In conclusion, Fulton, Bedford, Huntingdon, and Blair counties, part of the Ridge and Valley region, do display a barn preference different from those counties of the Allegheny Plateau region. While the standard Pennsylvania barn can be still found prominent in the first four counties, the enclosed forebay type dominates the agricultural landscape in the later counties. In addition, certain areas within these regions show a preference for building forms that may be somewhat different from another area. For example, while many of the Cambria County barns had wooden ramps or bridges, lesser numbers of this type could be found in other counties. Likewise, outshed granaries were more common in Fulton County, while ground barns were important in the Greene County agricultural story. The writer learned that comprehensive surveying is the best tool for the collection and classification that is needed to truly interpret the architectural landscape of an area. Whereas Robert Ensminger, Terry Jordan, and Karen Koegler and others have recently conducted studies that included southwestern Pennsylvania, none have done the detailed survey work necessary to present a clearly defined picture of the agricultural/vernacular architecture of the region.

Settlement Patterns

The lure of unoccupied land was the great magnet that drew thousands into southwestern Pennsylvania. Most settlers kept moving through the mountainous region, having set their goals on the fertile Monongahela or Ohio

Summary Findings of Windshield Surveys

COUNTY	Fulton	Bedford	Blair	Huntingdon	Cambria	Indiana
TYPE						
Standard	39 - 52%	57 - 40%	24 - 44%	22 - 36%	1 - 2%	
Posted Forebay	11 - 14%	4 - 3%	4 - 7%	10 - 16%		
Extended Forebay		8 - 6%		4 - 6%	5 - 12%	6 - 13%
Ground		2 - 1%			3 - 7%	6 - 13%
Enclosed Forebay	3 - 3%	19 - 13%	3 - 6%	12 - 20%	30 - 75%	30 - 69%
Gable Forebay Extension	6 - 8%	24 - 17%	14 - 26%	8 - 13%		1 - 2%
Interior Wagon shed	6 - 8%	12 - 8%	6 - 11%		1 - 2%	
Rear Granary Extension	11 - 14%	6 - 4%	1 - 2%	1 - 1%		
Sweitzer	1 - 1%	3 - 2%				
Gambrel Roof		7 - 5%	2 - 4%	3 - 5%		
Total	77	142	54	60	40	43

Summary Findings of Windshield Surveys

COUNTY	Somerset	Fayette	Westmoreland	Washington	Greene	Total in 11 counties
TYPE						
Standard	9 - 13%	4 - 9%	7 - 13%		1 - 1%	164 - 22%
Posted Fore bay		3 - 4%	11 - 20%	4 - 6%	6 - 7%	53 - 7%
Extended Fore bay	3 - 4%	6 - 13%	4 - 7%	8 - 12%	3 - 3%	47 - 6%
Ground	1 - 1%	3 - 7%		3 - 4%	32 - 36%	50 - 7%
Enclosed Fore bay	36 - 51%	22 - 49%	28 - 50%	44 - 66%	46 - 52%	273 - 37%
Gable Forebay Extension	11 - 15%	1 - 2%	1 - 2%	1 - 1%		67 - 9%
Interior Wagon shed						25 - 3%
Rear Granary Extension						19 - 3%
Sweitzer						4 - 1%
Gambrel Roof	11 - 15%	6 - 13%	5 - 9%	7 - 10%		41 - 6%
Total	71	45	56	67	88	743

Valleys. Therefore, the area that was Bedford County was settled more slowly than parts of Fayette, Westmoreland, and Allegheny counties. (In 1790 Bedford included the future counties of Fulton, Somerset and parts of Cambria and Blair.) The settlers that came into the Bedford area came by way of the Raystown path along the Juniata River or the pack trail (later Forbes Road) that came east through Carlisle and Shippensburg or from the south over the Indian path from Old Town, Maryland. Raystown (now Bedford) was first settled about 1751. (68)

Fulton, Huntingdon, Bedford, and Blair counties are technically part of central Pennsylvania. Most of their earliest settlers came from eastern Pennsylvania. However, there was a large migration of Marylanders into this region. During the late eighteenth and early nineteenth centuries the area had closer trade and cultural connections to Baltimore than Philadelphia. The dominant cultural patterns of this region were established by the Pennsylvania Germans and Scotch-Irish. The vernacular architecture, foodways, and linguistic patterns of the region were set by these two groups. (69)

The religious sect known as the Brethren were among the original settlers west of Allegheny Mountain in what became Somerset County. Brothersvalley, which takes its name from this group, was also the name of the first township between the Alleghenies and Laurel Hill. Other German groups settled in the county throughout the late eighteenth and well into the nineteenth century, and the county has been largely influenced by this Germanic culture ever since. Quite typically, settlement areas first occurred along the rivers, creeks, and trails into the region.

Beyond the Alleghenies, the Monongahela River Valley was the focal point of settlement. The eastern half of Fayette and Westmoreland Counties contain the last ridges of the Appalachian Mountains before the topography breaks away to the rolling foothills which dominate the rest of southwestern Pennsylvania. One stream of settlers came from eastern Pennsylvania and New Jersey by way of the Forbes Road. These entered the region from the northeast and spread southwest over Westmoreland, northern Fayette, and eastern Allegheny Counties. They were of great ethnic diversity and had strong loyalties to Pennsylvania. Another stream of settlers entered the area from the southeast via Braddock's Road. These people came from Maryland and Virginia and entered more directly into the Monongahela Valley. They gave to Washington, Greene, southern Allegheny and Fayette Counties a more homogenous English population with stronger loyalties to Virginia. (70)

Settlement naturally occurred along the rivers first. But in Westmoreland, the threat of Indian raids caused settlement to be heaviest along and to the south of Forbes Road. Historian R. Eugene Harper in his study of southwestern Pennsylvania found the course of settlement to be first centered along the rivers, then moving to the interiors, and lastly to the border regions of each county. This geographical pattern of settlement affected the pattern of land ownership.

According to historian Thomas Purvis, the ethnic breakdown for the region comprising the counties of Bedford, Huntingdon, Fayette, Westmoreland, and Washington in 1790 was as follows: English-34%, Welsh-3%, Scotch-11%, Irish-

11%, Scotch-Irish-23%, and German-16%. The English group was the largest in all of the counties. The Germans had the strongest showing in Bedford County. They also had strongholds in Fayette and Westmoreland Counties. However, the Scotch-Irish had an even higher percentage in Westmoreland, southern Allegheny, and Washington counties. The 1989 Atlas of Pennsylvania shows that the highest proportions of Scotch-Irish in 1790 were in central Pennsylvania (Cumberland and Mifflin counties) and the above mentioned counties in southwestern Pennsylvania. (71)

Agricultural and Social Trends

Most of the settlers living in western Pennsylvania in the 1780s were living at or below the expected subsistence level. The median cleared acreage per farm was 20 acres. (Some studies suggest 40 acres was needed to support an average family.) In Fayette County by 1796, cleared acreage had doubled, enabling median landowners to farm commercially. (72)

The 1790 to 1815 period saw the rapid expansion of commercial agriculture in the southwestern Pennsylvania region. This was especially true of the Monongahela Valley where farmers were providing settlers on down the Ohio River in Ohio, Kentucky, and settlements further south with flour and whiskey. Surplus wheat was gathered at mills along streams and rivers, converted to flour, and then shipped down river. Those settlements in mountainous areas or far removed from rivers and transportation routes developed more slowly. A Swiss farmer looking for land in America wrote in 1804 of his trip between Greensburg and Pittsburgh, "My way led me through a fruitful, well cultivated region which is inhabited by well-to-do, skillful farmers, and where every quarter of an hour another dairy farm appears." On a less favorable note, William Eichbaum wrote in the 1816 Pittsburgh Magazine Almanack that in western Pennsylvania too much grain but not enough stock were raised, and a good barn was a novelty. However, commercial agriculture had reached the maturity necessary to bring investment to the region and support the nascent industries of the region. (73)

As new regions came to be more thickly settled, the percentage of land ownership dropped sharply. By the 1790s there was a marked decline in the size of land holdings. For example, in Fayette County the newly emerged frontier society showed the typical settler already landless by 1796. Similarly, tax records show that the majority of persons in the river townships of Fayette and Washington counties were landless by the 1790s.

The 1790s also showed the spread of non-agrarian occupations, and the class structure of western Pennsylvania had begun to develop a small class of wealthy individuals. The wealthy were becoming entrenched, having a greater percentage of the wealth than they had in the 1780s. James Lemon found a similar trend in his studies of southeastern Pennsylvania. (74)

There were limited tax records from Somerset, Washington, Greene, Bedford, and Fayette counties available to the researcher for the late eighteenth century. Abstracted information from the available extant records showed that the average acreage for those involved in leadership positions, even in a local way, during the Whiskey Rebellion was 267 acres. Of this amount an

average of 55 acres or 20.5% was cleared. This indicates that most of this group were above subsistence level farming. The men of this group owned an average of three horses and five cows. Solon and Elizabeth Buck mention similar statistics of cleared land and number of farm animals for the average late eighteenth century settler in their history of western Pennsylvania. (75)

Among the wealthy and well-connected of the region was entrepreneur, John Neville, who owned about 1000 acres south of Pittsburgh. A distiller, he was also Supervisor of Collection of the excise tax for the four western counties. His house, barn, and outbuildings were destroyed by the whiskey rebels in July 1794. An indication of the extent of his wealth is the description of his barn in the inventory presented to the national government for reimbursement. It is described as "a large frame barn just finished, with first story of stone 80 feet by 30 feet calculated for 50 head of cattle below." Also among the buildings destroyed was, "a large framed granary and corn house, two stories high with garner compleat, to hold 1000 bushels grain," and "a large poultry house, with a shingle roof, in which were a number of ducks, turkies, dunghill fowl, and some fat shoats." No known dimensions from the 1798 federal tax exist for barns in Allegheny and Washington counties. However, the 29 barns listed in the Greene Township, Greene County list have an average measurement of 44.5 X 21.1 feet which is quite a bit smaller than Neville's barn. (76)

Cultural geographer James Lemon noted that the most demanding periods for the typical late eighteenth century farmer were June and July when hay was cut and small grains harvested. The farmers then labored less intensively until the October harvest of Indian corn. Associated with the harvest and hard work was the whiskey distributed to the field hands to ease their pain and fatigue. (77)

According to local histories, the Monongahela Valley was particularly suited to the growing of rye grain. Agricultural historian Stevenson Fletcher noted that rye yields were somewhat higher than those of wheat, especially in light or poor land or land under indifferent management. Fletcher also stated that more rye was grown in the colonial period up to 1840 than barley or oats. This was particularly true during the period when the Hessian Fly was scourging wheat fields. (The Hessian Fly first appeared in Pennsylvania in 1786 and by 1797 had spread west of the Alleghenies.) Fletcher attributes William Strickland to stating in 1801 that all the backcountry of America is very favorable to the growth of rye, and it is entirely consumed in the distillation of whiskey. Political economist Tench Coxe wrote in 1810 that the American manufacture of spirits was principally from rye, apples, and peaches. Very little whiskey or liquor was imported at that time, most being produced in American distilleries. The large amount of rye produced for those distilleries helped keep the price of wheat high because it employed a disproportionate part of the cleared land and labor of the country, keeping wheat production low. Earlier figures were not found, but Pennsylvania in 1840 ranked number one in the United States in the production of rye. (78)

There is no doubt that hauling would be an added expense, but there is little documentation as to how much of the whiskey manufactured in the Monongahela Valley was hauled over the mountains. On the other hand, documents found

in the Thomas Hamilton Collection at the Westmoreland County Historical Society indicate that whiskey, maple sugar, and ginseng were being shipped down the Ohio river by 1793. Likewise, historian Harper had found that by the 1790's the yeoman class or about one third of the western population had developed commercial agriculture based on a growing down-river trade. (79)

The 1798 federal tax was again used to determine architectural characteristics of still houses in southwestern Pennsylvania. As would be expected most were constructed of logs, but some of the larger ones were constructed of stone. Twenty-seven still houses in Bedford, Fayette, Washington, and Greene Counties had dimensions given for them. Their average measurement was 17.4 X 21.5 feet.

Early Architecture--Stotz Summary

Charles M. Stotz, a Pittsburgh architect and architectural historian, published the results of a survey of western Pennsylvania architecture in 1936. The actual survey of historically or architecturally significant buildings built prior to 1860 took place during the years 1932 to 1935 in the 27 western counties of Pennsylvania. The survey found that early transportation routes showed their influence upon architecture. Sectional differences in architectural character was also obvious. Many of the oldest buildings were in a poor or a dilapidated condition. Often the properties appeared to be in the hands of tenants. While the original owners had invested much time and money in the craftsmanship of these buildings, the current owners appeared not to appreciate them. Stotz blamed the lack of concern for these buildings on "new standards of comfort and arrangement." Stotz only used "representative buildings in an unaltered state" in his book. However, many other examples were photographed. (80)

The writer used the Stotz photograph collection in the Art and Music section of the Carnegie Library to get a better idea of the surviving early architecture of western Pennsylvania in the 1930s. There was a wide variety of forms and types in southwestern Pennsylvania at that time. Although the Stotz study emphasized the finer examples of the Federal and Greek Revival styles, vernacular types were more represented in the photographic collection than in the book. (At one point Stotz questioned whether a log building should be considered architecture at all.) What he termed "buildings without traditional style--simple buildings, erected chiefly in rural districts before 1830" were buildings that had been built relying upon traditional methods and using forms and plans that had been used previously. German continental style log houses with central chimneys could be seen as well as one-story, stone Scotch-Irish cottages. The Scotch-Irish had a perceptibly larger impact on the vernacular housing of southwestern Pennsylvania than of southeastern Pennsylvania. There appeared to be a higher number of one-story, early nineteenth-century houses in western Pennsylvania than in eastern Pennsylvania. There was also a variety of stone, brick, and log barns at that time. In the sixty years since that survey few of the smaller vernacular buildings have survived. (81)

I enumerated and abstracted information from photos on these counties: Allegheny, Washington, Greene, Fayette, Westmoreland, Somerset, and

Bedford. Allegheny County, the center of this reconnaissance study, had the most photo documentation. It was followed by Washington, Westmoreland, and Fayette counties in number of photos entries. The counties of this group least documented were Greene and Somerset counties. Therefore, we can generally conclude that this study tells us the least about the counties farthest from Pittsburgh. Bedford was the exception to this rule with almost as many as Fayette County properties documented.

The information abstracted was used to determine if Stotz's surveyors favored a certain type of house or not. Of the houses surveyed in the above counties, 78% were two stories in height and 21% were one-story houses. It would seem the surveyors favored stone houses, for 39% of the houses photographed were of stone construction. Another 32% of the houses were brick, while 15% were log and 12% were frame. The majority of the houses documented were the larger ones of the region. Although 39% of the houses' facades were of three bays, another 38% were of five bays. Only 21% were two bays in width. While 299 houses in the seven-county region were surveyed, only 13 barns and 13 outbuildings were looked at. Seventeen mills were photographed. Of the houses with clear stylistic features, an almost even number displayed Federal or Greek Revival elements.

Methodology in Eleven-County Survey--Bureau for Historic Preservation Files

Seven counties of the eleven-county region had previous historic resource surveys. Regretfully, Fulton, Blair, Washington, and Greene counties have not had surveys. I chose townships in each of these counties which were located along major early routes into the county under study. Townships were also chosen for their proximity to the county seat or their proximity to neighboring counties and the state line. This was done to see if the architecture of those along the southern border differed from that may have been influenced from the east.

The survey files were checked, and any schools, churches, commercial buildings, outbuildings, or any buildings known to be situated in villages, suburban development, or towns, or properties associated with other contexts were eliminated. In other words, properties clearly not associated with the agricultural/vernacular architecture context were not considered. Rural houses and barns were the only types considered. If the age was not given on the survey card, I estimated the date from architectural style or type. In addition, if I felt the surveyor's estimated date was off by more than ten years, I changed the date for my record only.

The buildings were categorized according to predominant styles, traits, or features. (These styles or types were based on classifications developed by previous surveyors or architectural historians, and the writer is not going to debate their validity as types at this time.) As may be expected, few high style buildings were located in this rural survey. Consequently, the most numerous types included vernacular, bank house, kitchen ell, I house, and cross gable house. (Vernacular was used as a general term to classify houses with no distinctive features other than height, width, and general form.) The barn types were the same as those used for the windshield survey.

Cards without photos, photos of distant buildings, or photos not relevant to the resource were not evaluated. No sites or house ruins were evaluated. Those without any other distinctive features were classified as vernacular. However, a house may be termed vernacular and a two-door house as well. Houses drastically altered in the twentieth century, such that their original form could not be detected, were not evaluated.

The time periods chosen reflect the period of my study 1780-1900 and the breakdowns were made to reflect changes in agricultural or architectural development. If a building was of more than one material, both were entered.

Most surveys did not go into the classification of architectural styles and therefore I had to make the determination on my own. The results of my findings are listed under each county, beginning on page 49.

Computer Check of Bureau for Historic Preservation files

The computer was asked to select by certain criteria: period, either 1780-1840 or 1841-1900; material; and function, either domestic or agricultural. A total of 2,080 properties were recorded for the entire period 1780-1900 in the eleven-county region.

As was done with the survey files, the computer print-out was scanned and all industrial or commercial properties or those situated in boroughs were eliminated. In other words, only rural houses or agricultural related properties were counted. Although data was entered for 632 properties for the period 1780-1840 only an average of 67% of these were rural in nature. Of these rural properties only an average of 46% gave the construction material of that property. The computer showed 1,448 properties constructed in the period 1841-1900. However, only an average of 65% of these were rural or agriculturally related. Of this number (797), only 39% had their materials noted. Therefore, the data yielded appears lopsided and not very trustworthy. For instance, while the hard copies of the survey files showed that Fayette County had a high amount of stone houses (34%), the computer data showed Fayette County with 17% of its housing made of stone. Likewise, Westmoreland County had an average 37% of its historic housing constructed of brick, but the computer showed it with 19%. The hard copies of the survey files showed that 74% of Somerset County's housing was wooden while the computer showed 90%.

Somerset County had the most information entered for the eleven-county region, an average of 76%. Westmoreland County had the least information entered, an average of only 17%. Huntingdon County closely followed Westmoreland at 19%. The average for the region was 42%. Very few (81) agricultural buildings were recorded. Most of these were noted in Somerset (47) and Indiana (24) counties.

Extracting the housing statistics from the 1940 and 1980 census records, Bedford County had the highest retention rate of pre-1939 housing at 74% and Fayette county had the least at 66%. Greene County had the highest percentage of pre-1859 housing at 8% and Washington County had the least at 4%.

Vernacular Architecture of the Southwestern Regions

Central and southwestern Pennsylvania's architecture was influenced by various forces: not only by the builder/architects and the natural environment but by the inhabitants as well. The inhabitants were of various ethnic backgrounds and also former residents of various regions of the United States. The majority came from two basic cultural hearth areas: southeastern Pennsylvania and the Tidewater South. Therefore the architecture reflects the various traditions of these people as well as the ongoing force or process of modernization which means the increasing influence of the Georgian form and national styles.

A Georgian house in its purest form is recognizable by its five-bay facade. Each bay is evenly spaced, and the external expression is one of symmetry. In these houses there is a central passage, and each room is designed with a specific function in mind. In earlier building traditions, such as the hall/parlor plan, entry into the house was directly into the hall, an inclusive term which denoted both kitchen and living space. This hall/parlor served as the social center of the house. In addition, in these earlier building forms, rooms were multi-functional. (82)

Vernacular architecture best describes most of the architecture in central and southwestern Pennsylvania. The vernacular architecture approach to architectural history focuses its study on human communities. Thus, the study of vernacular architecture not only involves the common, the local, and the regional, but also popular, broadly based architecture, as well as the architect designed houses of the elite. Vernacular architecture uses local materials and a technology which is personal to the people for whom the buildings are constructed. This connection between vernacular architecture, its immediate surroundings, and the producer/user populace create a stability that lasts generations. Therefore certain vernacular architectural features often become symbols of a people and their region. (83)

The earliest inhabitants were largely of English or Scotch-Irish ancestry, but it was an open frontier society nevertheless. However, at least by the 1780s and 1790s Germans were leaving southeastern Pennsylvania and taking up lands in Bedford, Huntingdon, Somerset, Fayette, and Westmoreland counties. The various ethnic and individual influences have resulted in a varied architectural landscape, but there are common threads, and trends can be charted. The initial settlement imprint of the builder/craftsmen of this early era was long lasting and affected the building patterns of succeeding generations. Elements of nineteenth-century national architectural movements including Federal, Greek Revival, Gothic Revival, Italianate, and Queen Anne were adopted by the region's builders. However, many homes retained elements or floor plans related to earlier styles and vernacular traditions. Geographical isolation, especially in the Ridge and Valley region, contributed to the retention of previous architectural styles or forms. (84)

Generally, the earliest buildings of southwestern Pennsylvania were constructed of logs. Log construction was best adapted to frontier living as it was relatively simple in form and economical in materials and time. There were some notable exceptions. For example, certain areas of Fayette County

had a higher than usual ratio of stone houses. Examples of these stone houses include the Edward Cook house (National Register, 1978) in Washington Township and the Andrew Rabb house (National Register, 1992) in German Township. Both are believed to have been built in the 1770s. Both Cook and Rabb became large landholders/entrepreneurs and pronounced their success on the frontier through powerful architecture of substance and solid craftsmanship. Brick houses weren't usually built until after 1800. However, Swiss entrepreneur Albert Gallatin chose to build his 26 x 29 foot house (National Register, 1966) of brick in 1789. According to architectural historian Charles Stotz, stone was the choice building material for men of means from the late eighteenth century through the early nineteenth century, but by 1830 brick buildings were overwhelmingly in evidence throughout the region. (85)

To document the kind of housing found in southwestern Pennsylvania in the late eighteenth century, the 1798 Direct Tax was used. The 1798 Direct Tax, a federal tax, often referred to as the glass tax, was enacted to raise resources to strengthen the army and navy in response to an undeclared war with France. Houses and outbuildings were assessed according to size, material, age, number of windows, and apparently sometimes workmanship. It was a progressive tax with the largest levies to be paid by the top percentiles of wealth. There were at least five lists for some but not all counties. List A contained the highest valued buildings within a municipality and also gave the most detailed information on each building including the building material, size, number of stories, number of windows, and number of panes of glass. List B not only described lower valued houses, but also detailed certain outbuildings as well as commercial and industrial buildings. However, the windows of the buildings on this list were not enumerated. Lists lower than B did not give particular details such as the materials or dimensions of the building. (86)

The writer used the 1798 tax in a previous study of the southwestern Pennsylvania counties of Bedford, Somerset, Westmoreland, Fayette, Allegheny, Washington, and Greene. The results showed that 88% of the highest valued houses of the region were built of logs. Just over 5% were built of stone and less than 1% were built of brick. Actually the percentage of stone houses may be even smaller because the majority of dwelling houses of the region were appraised at less than \$100.00, and the building materials for these were not specified. In addition, since log or wood construction was the cheapest construction form in terms of materials and labor, those inhabitants of low or middling income would have lived in small buildings of this type. (87)

Since that study, the townships of Huntingdon, Barree, West, Frankstown, Morris, and Allegheny were looked at in Huntingdon County. Of the 208 houses noted on List #1 of the tax, 95% were constructed of logs. As was found in other counties, the number of barns were considerably fewer. The first three townships mentioned above had 46 barns and 67 stables which is 73% of the number of houses found on List #1. An indication of the early agricultural development of the area are the number of agricultural outbuildings found in these six townships including sheep houses, a hay house, a cow stable, and milk houses.

Again using the 1798 federal tax, 67% of the region's houses were found to be of two stories. Another 13% of the houses were one-and-a-half stories, and 12% were just one story. This illuminates the fact that elites of the region preferred two-story houses, but the more traditional one-story house was still favored by some men of means. (Please note that these percentages are based on the raw data found in the tax records in which there were omissions of information. Consequently, the percentages do not necessarily equal 100 percent.)

The 1798 federal tax was also used to obtain information as to the average size of buildings in this period. List A was used in this exercise. This list assessed all those houses within each township that were valued at more than \$100.00. Consequently, these were the finest houses in the township. A representative township was chosen for each county except Bedford where no lists of this level are extant. Those townships chosen were nearly equal in size in terms of number of properties recorded on the list. The results indicate that Greene County had the smallest houses and Somerset County had the largest. This appears to be logical as Somerset is in the eastern part of the region where settlement should have occurred first, and Greene is in the westernmost part of the region where settlement should have occurred last. The average size house of a person of the upper class at that time was 21.9 feet x 28.4 feet which by today's standards is quite small. This size also indicates that most had one- or two-room floor plans.

This study of building materials, number of stories, and dimensions as provided by the 1798 Direct Tax gave the writer insight into what the typical late eighteenth century house of southwestern Pennsylvania should look like. It also provided a model or standard for comparison when doing the actual field or survey work, and clued the researcher that few of these small wooden structures remained in southwestern Pennsylvania. Similarly, vernacular architecture historian Orlando Ridout had studied the 1798 federal tax for Maryland. He found that large two-and-a-half story stone and brick buildings had a 50% survival rate, while simple frame hall and parlor houses had a 15% survival rate. Those of the smallest size had less than a 1% survival rate. This comparison serves to substantiate the probability that few of the wooden houses of the earliest settlement period in the region have survived to the present. The typical late eighteenth-century house in southwestern Pennsylvania was a small rectangular, wooden two-story house. (88)

Springhill Township, Fayette County and Greene Township, Greene County had been previously studied in some detail. Springhill had six houses in the 1798 Direct Tax measuring 18 x 24 feet. These houses were likely similar in plan and layout to the one architect Benjamin Latrobe described in 1806 for quarrier William Robertson at Acquia, Virginia. This little log house was delineated as "24 feet by 18, two stories high, each [floor] divided into two rooms." Local historian Terry Cole has found several of this type in Greene County. These two-room houses will be discussed in further detail later. Springhill closely followed the regional trend of having about a third (34%) of its best houses built with just one story. (89)

On the other side of the Monongahela, Greene Township only had 28 houses described in List A, and of that number, eleven (39%) had separate or

detached kitchens measured. Five houses measured 20 x 24 feet. Anthropologist/folklorist Henry Glassie felt that the rectangular cabin was most commonly found in those areas where the Pennsylvania influence was greater than that of the Tidewater. This may mean that the Pennsylvania influence was greater in this area than some previous historians have indicated. Ten (35%) of the Greene Township houses were of one story. (90)

Some of the difficulties of building on the frontier can be learned from political economist Albert Gallatin's correspondence. A letter of December 1795 notes the lack of skilled builders. "We are more and more convinced every day that it will be totally out of our power to build houses for other people unless workmen can be induced to settle among us either from New York or Philadelphia." This not only demonstrates the demand for carpenter/builders on the frontier, but the fact that many likely came from earlier settlements on the east coast. (91)

Gallatin entered a contract in September 1795 with Thomas McCleary to construct "two hewn log houses twenty-three by thirty feet in the clear, two stories high to be divided by a hewn log partition and also by plank partitions; the upper stories of each house laid out in the same form, with a door to each room from the landing place and two windows in the long rooms, one in the small ones and one to give light to the Landing places." Each was to have a door opening onto the landing at Georges Creek. McCleary was paid additional money "for making the four doors downstairs fronting the street pannel doors." These may have been the first two-door, two-room houses in the New Geneva area, a type that became a preferred traditional form in that area. (92)

Scholars pinpoint the origins of American log building technology to the Delaware Valley of southeastern Pennsylvania. While discussion continues as to whether the log form was introduced by German/Swiss settlers or by Finnish or Swedish immigrants, it is generally agreed that later immigrants, particularly those of German and Scotch-Irish origin, carried the form further west and south. Although no buildings of the log cabin type (those crudely built of round logs) survive in this study area, some one or one-and-a-half story log houses do remain. A few round log barns survive in the region. (93)

The tax lists from this early period indicate that English and Scotch-Irish settlers predominated in this section of Fayette, Greene, and Washington counties. Likewise, the majority of known carpenter/builders and stone masons appear to have been of English or Scotch-Irish nativity. In addition, Gallatin had Scotch-Irishman Hugh Graham design and build the stone addition to his house in 1823. Carpenter/architect Graham (1796-1879) built some of the finest houses in and around Uniontown. Adam Wilson, also of Scotch-Irish ancestry, designed Isaac Meason's mansion in 1802. Gallatin was not pleased with Graham's finished product. He disparagingly labeled it a "Hyberno-Teutonic style." He said the exterior had the appearance of an "Irish barracks" while the interior finishes were similar to those of a "Dutch tavern." (94)

There are Scotch-Irish antecedents for the two-room type houses found in southwestern Pennsylvania. Henry Glassie has presented the case that

southern mountain log cabins built within the traditions of the north of Ireland were often divided transversely into two rooms. The traditional stone and mud construction of the Scotch-Irish was not practical in the forests of North America and almost from the beginning they adopted the log house of their German neighbors. In Ulster the chimneys were built inside the gable wall, but in America they were built outside in English fashion. The average internal dimensions of this type of log house are 16 x 22 feet which compares closely with an average 15 x 21 feet for the traditional Ulster kitchen. (95)

In 1973 Henry Glassie and other vernacular architecture students conducted a study of log buildings centered in Greene County. They located 26 houses, of which 14 were one-story and 12 were two-story. A vast majority had v-notched corners. While 69% of these houses had interior or exterior end chimneys, only 19% had central chimneys. In addition, 53% of these buildings were only one-room. No historical research was done to date these structures, but they likely dated from the late eighteenth through the mid-nineteenth century. Twelve of these houses were measured and had an average dimension of 25 x 20 feet. This nearly matches the average size of Greene Township houses in 1798 and apparently represents the survival of some of the county's earliest houses and certainly the persistence of their type. This survey conducted throughout the county indicates that the most common pre-1850 type of plan (two-room, central chimney) found in Greensboro is not typical throughout the county. (96)

Another survey, that of Washington County architecture, Greene's neighbor to the north, was completed in 1975. This local study included copious photos but limited the text to description. It illustrates some one- and two-story log houses. Although a few of these had central chimneys, most apparently had interior or exterior gable end chimneys. A third of the examples had exterior chimneys. Over half were two-stories and less than a third had two front doors. Almost two-thirds had asymmetrical fenestration. Again, this work indicates that there are similar house types in this county, but not to the same degree of concentration as those found in Greensboro/New Geneva. (97)

Warren Hofstra's study of the Scotch-Irish settlement at Opequon in the Shenandoah Valley of Virginia found that structures initially were conceived as single units. He also learned that the Ulster vernacular tradition of adding a unit when expansion was needed, was used in America as well. The 1798 tax illustrates that this tradition was being carried on in the Greensboro/New Geneva area as well. One third of the Greene Township/Springhill Township properties on List A were noted with separate kitchens. This practice continued into the nineteenth century with kitchens generally not included in the main block of the house. Instead, they often appear as single-story shed roof additions to the rear of the house. (98)

A local house builder on the west side of the Monongahela was Jacob Dillinger. Of Germanic heritage, Dillinger is believed to have built most of the early log houses in the area. "He was known as the best mechanic west of the mountains." One source notes that Dillinger built the first house at Greensboro, "a two-story log house with an eight foot fireplace on the bank of the Monongahela River." (99)

Fifteen of the earliest known surviving houses from c. 1795 to c. 1850 in

Greensboro, Glassworks, and New Geneva show an average measurement of 22 x 29 feet. Thirty-three percent of these buildings are one- to one-and-a-half-story in height, with the remainder being two-story. The construction materials of these buildings are 80% log and frame while the remainder are of brick and stone. Over half (53%) of these houses have a two-room/central chimney plan. Another 26% have one- or two-room plans with gable end chimneys, and 20% have a two-thirds Georgian plan with back-to-back corner fireplaces.

This in-depth study of architecture in Fayette and Greene counties illustrates that certain building types and characteristics were favored by local builders, but also that these types were among others known to the broader region. Other sections of the study area, had a predilection for certain building forms as well. For example, Somerset County and sections of Bedford, Blair, Huntingdon, and Westmoreland counties favored the bank house. This is typically associated with the German populations of these counties. The bank house form was one characteristic of various German building traditions that became preferred by the carpenter/builders of the area. Other German traditions, such as the central chimney were abandoned. Another example is the massive exterior stone chimneys found in central Pennsylvania, particularly in Fulton and Huntingdon counties of this study, but rarely seen in Fayette and Washington counties. Although this form is believed to be of English derivation, and there was an early English population in the latter counties, this building trait was not found desirable in those counties.

In 1990 vernacular architecture scholar Karen Koegler studied the stone house development of four southwestern Pennsylvania counties, Fayette, Westmoreland, Washington, and Greene. Her study found stone houses clustered in the older settled townships, those containing the county seat, and areas near the Monongahela River. This would correspond with Harper's study in which he found the river townships the most advanced. Redstone Township in Fayette County had 18% of its finest houses built of stone, the highest percentage in the region. It was the elites of the region, no matter their ethnic background or area of origin, who built the stone houses. However, some noted politicians remained in small log buildings in 1798, close to the people they represented. Among these were William Findley of Westmoreland County and John Smilie of Fayette County.

Koegler found that most of the surviving stone houses were situated on a hillside and were built on early roads or overlook them. Men of means such as Isaac Meason, Albert Gallatin, and Edward Cook chose prominent hilltop positions to locate their stone houses. They were also aligned in a southerly direction. Most were also two-thirds Georgian in plan. Another characteristic feature was the matching gable end chimneys built flush with the exterior wall. The writer feels this characteristic of chimney placement appears to be of English/Scotch-Irish influence. Only one massive exterior stone chimney was found among the two hundred stone houses of Fayette and Westmoreland counties. The above mentioned ethnic groups were also likely responsible for the regional characteristic of blank end walls. (100)

Although Koegler found the three bay, side hall plan the most common house plan, my studies show a variety of bays and plans. A common variation was the four-bay house with a generally symmetrical facade and double pile depth.

I found houses ranging from two bays to seven bays, with side halls, central halls, two halls and some with no definite halls at all. (It is meant by "no hall" that a person walked directly into a room upon entering the door.) In fact there is a wide variety of forms found in the region. The greater part of these houses were constructed with plans that show some ethnic influences or retain earlier vernacular features but also display the ever increasing influence of the Georgian plan.

Koegler concluded that most stone houses of southwestern Pennsylvania were the product of ethnically diverse owners and builders and were located in areas of maximum interaction between ethnic and occupational groups--along major roads and river routes. The commonalities of the vernacular stone houses in this four-county area suggest the existence of a seminal historic region of fusion in southwestern Pennsylvania--an American core--where the European moorings of the colonists were finally severed. She also reasoned that these stone houses were individual statements about the owner's status in each settlement area. (101)

As could be expected some building forms reflect the nativity of the settlers. Bedford and Somerset Counties exhibit a high rate of banked houses which may relate to the German influence there. Good examples of these include the Naugle and Dibert houses of Bedford Township. Charles Stotz believed that Virginia exerted a strong influence on southwestern Pennsylvania architecture. One house that is usually named as an example of this influence is the Neville house in Allegheny County. However, the Meason and Manchester houses have the air of gentility typical of southern plantations as well. Lesser known examples, usually masonry and one-and-a-half stories, do exist in southern Allegheny, Fayette, Washington, and Greene counties. If ethnicity is to be a factor in building forms, the scholar must take into account the ethnicity of the carpenter/builders and masons as well as the owners. The known masons and builders of Fayette and Greene counties should provide important keys in this respect. (Some of the Greene County masons are mentioned under the Greene County report.) One thing all of the houses of pretense in the region built in the period 1785-1815 have in common is their Federal style elements. (102)

As previously mentioned, some historians have indicated that southwestern Pennsylvania was largely influenced by people south of the Mason-Dixon line. (Local histories note that central and southwestern Pennsylvania had numerous settlers from Maryland and Virginia.) Therefore, it was necessary to research what type of architecture was prevalent there in the eighteenth century. While the predominant house plan in early eighteenth century Virginia was a traditional English one and consisted of a large hall and a smaller chamber or parlor, by the mid-eighteenth century many new houses built there were showing the Georgian influence with central passages, two-room depth, and back-to-back corner fireplaces. Georgian style houses with back-to-back fireplaces were also built in eastern and central Pennsylvania from the 1750s through the early nineteenth century. My studies showed that this type of house continued to be built in Somerset, Fayette, Washington, and Greene counties into the early nineteenth century as well.

Henry Glassie found the folk house types from the Chesapeake Tidewater area to be one room deep. The most common of these is the two-story I house.

Fashioned after English originals, most have external gable end chimneys, but some do have internal chimneys. In a seminal 1965 article geographer Fred Kniffen labelled two-story, two room per story, one room deep structures as I houses because they were so common in Mid-Western states beginning with the letter I. Hofstra found that this Georgian-inspired house to be the dominant type in the Shenandoah Valley in the nineteenth century as it came to symbolize the economic success and ethnic assimilation of the people there. American antecedents of the I house with its two adjoining rooms can be traced to the seventeenth century Delaware Valley. Georgian influence prompted the insertion of a hall between the two rooms to provide greater control of movement through the house. Numerous examples of the I house with a stair hall survive throughout the region, particularly in southern Fayette and Greene counties.(103)

Various vernacular architecture historians view the two-door house from varying geographic perspectives and attribute it to different ethnic influences as well. Other studies south of the Mason-Dixon line have found examples of this type of house also. Joe Getty in his study of Carroll County, Maryland, attributed this type to the Tidewater influence in central Maryland. Here, the houses were of one-and-a-half stories with a steeply pitched roof, and timber-framed construction. Orlando Ridout of Maryland sees the two-door house as a Pennsylvania characteristic. However, what architectural surveyors see in Carroll and Washington counties have two gable end chimneys. Henry Glassie found the one-story two-room house with two front doors and a central chimney as a common type in the deep south or Lowland South. These had evolved from cabins in the mountains and on the coast.(104)

The four bay/two door house was also a common vernacular form in German/Swiss areas of eastern and central Pennsylvania. However, the chimneys there were placed on the gable ends of the houses. Scholars have theorized that Pennsylvania Germans adopted the outward look of the Georgian type, but retained the familiar traditional configuration of the rooms. In order to do this, they created the four bay, double door version of the symmetrical facade. Each door opened into a separate room, rendered more spacious by the absence of the stair hall. One door opened into the general living space and kitchen, while the other opened into the good parlor, which was often only used on special occasions. (Huntingdon County has a fair number of this type.)(105)

Like the small, rural towns of southeastern Pennsylvania, the rural towns of southwestern Pennsylvania largely reflected the architecture of their country cousins. In other words if bank houses or two-door houses dominated the surrounding country side, they likely dominated the town's architecture also. More one-story houses were seen throughout the southwestern counties of Fayette, Greene, and Washington than are generally seen in central or southeastern Pennsylvania. Therefore, it is not surprising to find that one-story houses can still be seen in small towns such as Fairchance, Hopwood, Paisley, Garards Fort, and West Alexander. Like I found in Greensboro and New Geneva it was still a viable option to build a one-and-a-half story house there until the time of the Civil War. Most towns of eastern and central Pennsylvania consistently display architecture of two-and-a-half stories. When towns were expanding commercially or industrially, it was more practical and financially rewarding to construct buildings of two or more stories.

Therefore, as the nineteenth century progressed, these smaller buildings were replaced with larger buildings not only with additional stories but of better materials and finer details as well. One reason that this type (single story) housing can be found interspersed among the two story buildings in these towns is that a feeling of egalitarianism pervaded the relatively small-scale industries there. Another foundation for the survival of these buildings is that as the industrial and commercial sources for the livelihood of these towns were eliminated, there was no demand for a better use of the land. (106)

As with most of United States, the 1850s through the 1880s was a period of transition in the architectural development of central and southwestern Pennsylvania. In this period some traditional forms were retained, but at the same time national architectural trends were influential, especially in exterior designs. In some areas, extant houses show that the tradition of interior back-to-back fireplaces was retained into the late nineteenth century. In other areas, the bank house was the preferred form well into the nineteenth century. The late nineteenth century brought more clearly recognizable national styles to the region/regions. At that time, continued industrialization and transportation and communication developments allowed more contact with national building trends which increasingly overlaid vernacular building traditions. During this latter period even barns and outbuildings were constructed with elements of the Italianate or Gothic Revival styles. By the early twentieth century many rural areas could boast unadulterated Colonial Revival or Prairie (Four Square) farmhouses.

As stated in the preface of this work, relatively little has been written on the architecture of these eleven counties. Some of the outstanding structures such as the Isaac Manchester House at Avella, the Meason House at Mt. Braddock, and the Lemon House at Cresson were documented in Stotz's work, but few modest buildings were recorded. On the other hand, the unpretentious Nixon Tavern, located on the Hopwood/Fairchance Road at Fairchance in Georges Township, Fayette County, was noted by Stotz as one of two unspoiled examples of log architecture within the survey area. Remarkably, this building was recorded by HABS in 1934, as was the nearby Hayden house in Hopwood. A small vernacular building, this one-and-a-half story, stone house is located on Route 40, the old National Road. The Nixon Tavern also appears in Harold Dickson's 1954 book titled, A Hundred Pennsylvania Buildings. It was among three rural, nineteenth-century, western Pennsylvania buildings to appear in that book. The other two being the above mentioned Manchester and Meason houses. Whereas the log Nixon Tavern and stone Hayden house were more typical than the mansions and large tavern houses of the early nineteenth century, these types still need closer evaluation and study to learn how they fit in the development of vernacular architecture of southwestern Pennsylvania. (107)

In summary, the architecture of central and southwestern Pennsylvania reflects change as well as continuity. Most of the architecture of this area can be characterized as vernacular: local materials and traditional building methods were used to construct houses suited to the area's needs. The designs and plans of late eighteenth- and early nineteenth-century builders were themselves the result of the marriage of various cultural and ethnic backgrounds. Once types agreeable to the needs of the inhabitants were established in this area, they served as models for future building up until

the late nineteenth century. For example, the two-door, central chimney house, introduced to the area by the late eighteenth century, remained a popular design until the 1850s. Similar to areas east of the Susquehanna River, which had distinctive local architecture, central and southwestern Pennsylvania had its own predilection for certain architectural types. The major shift in local architectural trends occurred after 1900 when the coal/coke industry had a tremendous impact on this area. This brought new people into the area, most with few ties to the architectural heritage there. In addition, new rail and communication lines along with gas and electricity helped promote popular national styles, which would soon subordinate most local building traditions.

The Pennsylvania Culture Region--Summary

The Pennsylvania Culture Region has been defined by several diagnostic factors including street patterns, midland speech area, Pennsylvania German hearth area, southeastern Pennsylvania cultural source area, and the Pennsylvania barn. These diagnostic features have been mapped and show a roughly triangular area extending southwest from Philadelphia to Staunton, Virginia, then northeast to the Williamsport area, and then back again southeast to the Philadelphia area. The counties of this study which are included in the Pennsylvania Culture Region are: Fulton, Huntingdon, and most of Bedford and Blair.

The major characteristics of farmhouses include height, width, and depth. A universal characteristic of the Pennsylvania culture region was the two-and-a-half story farmhouse. Only eight of 530 examples were one-and-a-half stories. The other most prominent feature was the paired windows on the gable end indicating a double pile floor plan. Glass found that two-thirds of the houses in his study had this feature. This has been called "a major visual symbol of the Mid-Atlantic Region." This form is less apparent in the southern and western borders of the region where the I house begins to take prominence. However, the I house never really penetrated the Pennsylvania culture region. This was found to be generally true in the surveys where Indiana and Cambria counties had a higher percentage of I houses than Bedford and Huntingdon. However, the I house was only a little more common in Westmoreland County than Bedford. It was rarely seen in Somerset. (108)

Glass's survey showed nearly one half of the farmhouses with three bays. The three-bay farmhouse was most common in the western section of the region and along the border with Maryland. The three-bay house with a central door was found in concentrated numbers along the western flank of the region. The Stotz survey showed just a slightly higher number of three-bay houses over five-bay houses, but as previously stated the Stotz survey focused more on high style buildings which are generally larger.

About 20% of the farmhouses in Glass's sample had five bays. All of these had central doors suggesting the Georgian style influence. A large number of the banked farmhouses in Bedford, Blair, Somerset, and Westmoreland counties were five bays wide.

About 25% of the houses had four bays. Paired center doorways were the most commonly found entrances for this type, but their location is not standardized

like those of the five-bay house. Forty-five percent of the four-bay houses had either of the two centered positions as a doorway. The distribution of the double-doored houses is heavily concentrated in south central Pennsylvania, the very heart of the culture region. Glass feels that this type developed there while a similar vernacular form developed in the south. He feels this house should be termed "Pennsylvanian." The most two-door houses showed up in the Huntingdon County survey, but there are a number in Somerset County as well. No two-door houses were seen in Cambria County. Only a few two-door houses were seen in Bedford, Indiana, and Westmoreland counties. Of course those in Fayette, Greene, and Washington counties are of another ethnic origin. (109)

Over half the houses in Glass's study had paired gable end chimneys. Only thirteen houses had chimneys which were physically outside the walls of the house.

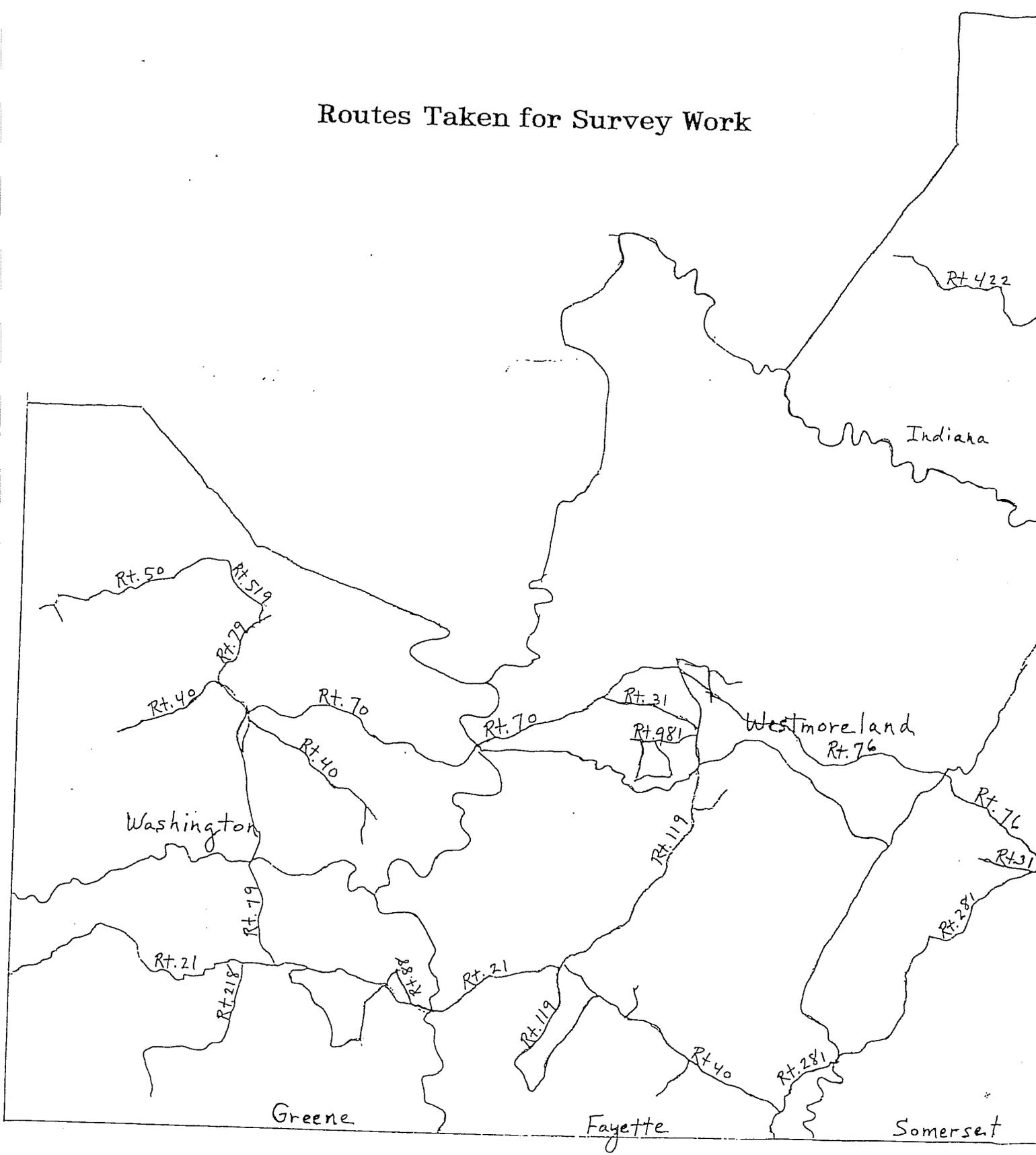
Stone as a construction material is most evident of the houses and barns of southeastern Pennsylvania with Bucks, Montgomery, and Chester on the eastern fringe and Lancaster and Lebanon on the western fringe. Few stone buildings showed up on the western fringe of the region. Glass concluded that stone reached its peak of popularity in the first half of the nineteenth century.

Brick houses were found most common west of the counties mentioned above. The favored use of brick continued across the Susquehanna and southwest through the Cumberland Valley. Glass felt brick reached its peak of popularity between 1850 and 1880.

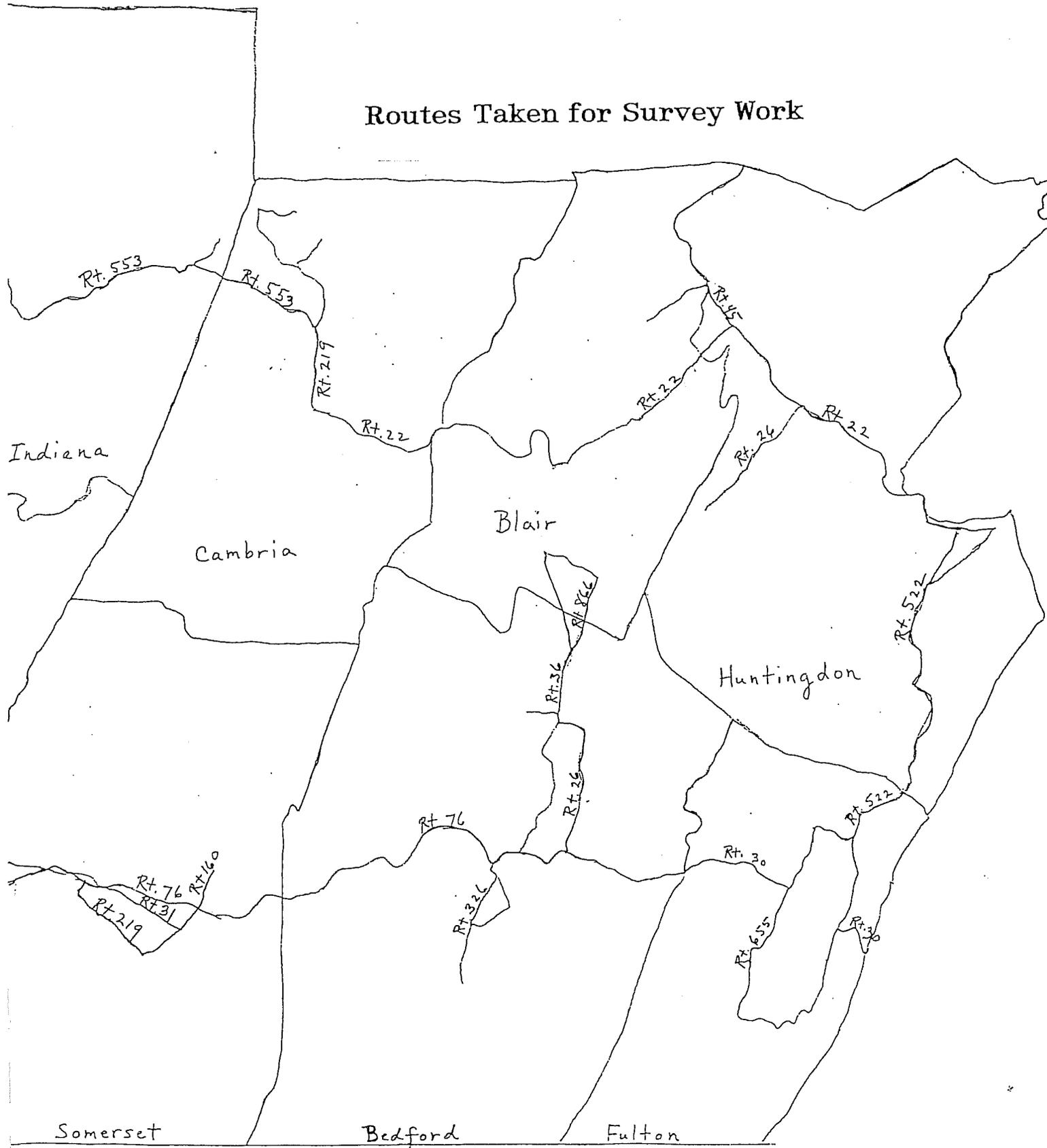
Glass found the west central portion of the region, the area west of the Susquehanna, with the most log houses. Results of the survey showed that the most recent, most common, and most widespread farmhouses are frame. They are most abundant in the northeastern and northwestern sections of the region.

In summary, Glass found that the number of Pennsylvania barns is greater than the number Pennsylvania farmhouses in the region. In addition, the barn is more dispersed throughout the region. This substantiates his theory that the Pennsylvania barn is more standardized within this culture region. In the Pennsylvania culture region cultural forces were derived from two different coastal urban centers and a variety of peoples with diverse beliefs settled, resettled, and moved about freely over a wide area through an extended period of time. The strategic position of this region enabled it to contribute to the language patterns, housing ideas, and other facets of culture for much of the United States. Many of the elements which Glass found characteristic of Pennsylvania farmhouses such as two-and-a-half story in height, paired gable end windows, and a modified Georgian plan had been outlined in Henry Glassie's 1968 Pattern in the Material Folk Culture of the United States. (110)

Routes Taken for Survey Work



Routes Taken for Survey Work



County History/Statistical Information

Bedford County

Sherman Day's 1843 history gave the following statistics for the county. Bedford County was established from Cumberland County in 1771. The county seat is located at Bedford. Length: 44 miles; Breadth: 34 miles; Area: 1,018 square miles. (111)

Gordon's 1832 Gazetteer of Pennsylvania had this to say of Bedford County. "Our buildings are made of hewn logs, on an average 24 feet long by 20 wide; sometimes a wall of stone, about a foot above the level of the earth, is raised as a foundation; but in general four large stones are laid at the corners, and the building raised on them. The house is covered sometimes with shingles, sometimes with clapboards. The ground logs being laid, a saddle shaped A on the upper edge, is cut with an axe, at the ends, as long as the logs are thick, then the end logs are raised and a notch cut to fit the saddle. The logs are run upon the building on skids by the help of wooden forks. The most experienced axe men are placed on the building as corner men; the rest of the company are on the ground to carry the logs and run them up. In this way a building is raised and covered in a day, without a mason, and without a pound of iron. The doors and windows are afterwards cut out as the owner pleases." (112)

The following is a description of the county's land. "The country is much broken and stony, and a great proportion of its soil is ungrateful to the cultivator. But, between these lofty ridges are delightful valleys, in which are large and fertile farms, comfortable houses. In many of these valleys there is fine limestone land, well cultivated. Those in which is McConnellsburg, Friends cove, and Morrison's Cove are particularly rich and fertile. The latter more especially, in the vicinity of Martinsburg, is said to be one of the richest districts in the state. The average price of improved lands of the best quality in the county is \$30 per acre. A turnpike road runs west across the mountains from Chambersburg by Bedford to Somerset Borough." (113)

The industries in 1832 were--grist & merchant mills, 70--saw mills, 80--fulling mills, 25--distilleries, 150--furnaces, 3--forges, 6.

Ralph Stone's 1932 book noted that stone buildings are rare within the county. He stated that there are limestone quarries in many parts of the county, opened for flux, lime, and agricultural uses. Limestone has been used for house and barn foundations where it outcrops. (114)

Population:

1790: 13,124	1860: 26,736
1800: 12,039	1870: 29,635
1810: 15,746	1880: 34,929
1820: 20,248	1890: 38,644
1830: 24,502	1900: 39,468
1840: 29,335	1910: 38,879
1850: 23,052	

Township Survey--West Providence, Napier, and Cumberland Valley were the townships of the Historic Resource Survey looked at in Bedford County. The surveyors of this county took many long shot photos making it difficult to determine the characteristics of some buildings. Napier Township seems to have a good number of gable-end bank houses. Most of the houses (70%) were built of frame in this township. Over half (57%) of the houses here were constructed between 1860 and 1900. Bedford had the highest average number (15%) of kitchen ell houses in this study. It also had the highest average number (15%) of bank houses next to Somerset County. Next to Cambria County it had the largest (75%) average number of frame houses. It also had the lowest average number (1%) of stone buildings in this study. Bedford had the highest number (82) of barns surveyed, almost half the number found in the seven previously surveyed counties. Over half of these were in Cumberland Valley Township. On average a third of these were the standard type. A quarter of the barns had a forebay extension. Forebay gable additions were shown on 14% of the barns, the highest average for the seven-county study. Nearly a third of the barns in Cumberland Valley had a forebay extension and 21% had an enclosed forebay.

Farm survey--Very few barns survive along Route 30 between Everett and Bedford. Among those that do are the stone Hartley barn and the log Defibaugh barn. A township road was taken north from Route 30 through Snake Spring Valley into Morrison Cove (South Woodbury Township), one of the limestone valleys of the county. Here was found much prosperous looking farmland. Although most of the barns in the area are of the standard type, there are a good many barns with gable forebay extensions. The sides of these gables open into the barnyard. (Glass found ell shaped barns most frequently in north central Pennsylvania and southeastern Pennsylvania.) Among the religious groups in the area are the Mennonites and Amish. Traveling through Loysburg some good mid-to-late nineteenth century-buildings were seen. Some examples of barns with star ventilators in their gable were observed also. I took a photo of one such barn, a red, standard barn, south of Loysburg. In fact, most of the barns here are painted red. (115)

North of Loysburg is a huge stone, bank house. Built in 1812 by I. Smith, the house is massive--three bays in depth, five bays wide, and four and a half stories tall. The current owner said that the house was built by a Snyder, who went broke from the building's cost. "He had four sons and each had a floor to live on." She has lived there for 45 years, and her husband's family (Sell) owned it before then. Previously there were stacked porches on both the north and south sides of the house. There are two front doors, one of which opens into an abbreviated hall. An enclosed dogleg stair goes up from the hall. (116)

Route 326 was taken south from Route 30 into Friends Cove (Colerain Township) as far south as Rainsburg. The Greek Revival Allegheny Seminary was a highlight in this village. This narrow valley is fertile and evidently was settled early by Germans. The Friends Cove Lutheran and Reformed Churchyard contains some fine, elaborately decorated tombstones of the early settlers there.

Although a survey had been done of Bedford County the previous month,

additional barns were surveyed along the Pennsylvania Turnpike (Route 76) from Bedford west to the Somerset County line. Eighteen barns were registered. A third of these were of the standard type. One of these was the double crib log barn in Harrison Township near Heirline's Covered Bridge. Although a ground barn, it did have forebays. Located about two miles from this barn are ruins of another double crib log barn, which can be seen just northwest of the Bedford entrance to the Pennsylvania turnpike. (117)

I also took a photo of the large red, standard barn in Juniata Township, just north of the turnpike. It features a raised, five-point star and raised cut-out Gothic ventilators in the gable ends. Both the house, with its double stacked porch, and the barn are quite typical of what is found in Somerset County.

Almost half (47%) of the Bedford County barns were of the standard type. Other types represented there include the gable forebay extension (21%), interior gable-end wagon shed (10%), and enclosed forebay (7%). Half the Blair County barns were standard. Another quarter (26%) of the barns there had gable forebay extensions, and 15% had interior gable-end wagon sheds. (This last number seems high since Glass listed south central Pennsylvania as the area where concentrations of forebay barns with machinery openings could be found.)

Building Survey--South Woodbury Township around New Enterprise and Salemville was vigorously surveyed. The land in this locality is limestone and remains intensely farmed. Not only are many of the houses in the countryside banked but those in New Enterprise as well. The agricultural prosperity of the area is reflected in its large barns, many of which are dated on the exterior. Quite a few have star shaped ventilators. Many also are painted red with white trim. Many of the houses are of masonry construction and banked. Sometimes the fenestration is asymmetrical. In the center of New Enterprise is an 1875 frame standard barn and corresponding two-and-a-half story, banked limestone house. Southwest of Enterprise on the way to Salemville is the large standard Miller/King barn, surrounded on all sides by fields. Painted red with white trim, it is no longer associated with a house and outbuildings. This barn has classic Gothic ventilators on the gable ends and a lunette ventilator in the apex of the gable. In addition, each of the three sets of rear barn doors have painted arches. On the road northwest from Salemville an 1888 standard barn with a star ventilator and interior wagon shed was photographed. Just north of this farm was an 1863 standard barn with a lunette ventilator.

I surveyed the Benjamin/Hull farm just southeast of New Enterprise. The most distinguished building on this property is the gambrel roof barn built in 1914 to replace a standard barn there. A gable extension stretches along the southwest part of the barn. It has three barn floors or threshing floors, mows on each gable end and was one of the largest in the area at the time of its construction. Chalmer Detweiler, who constructed other barns in the area, was the builder. The framing is based on earlier building techniques with vertical posts, tie beams, and diagonal braces. Clay Hull, whose grandfather Herbert Benjamin had the barn built, said the timbers were sawn from trees on their woodlot. Hull believes that Detweiler stopped building barns in the area in the 1920s. He said barns of post and beam construction stood well until combines came into use. After that time the large spaces to

store grain sheaves were no longer needed. The horizontal German drop siding was from the Everett planing mill. While all the framing members were sawn, they were put together in the traditional way with mortises, tenons, and pegs. The sawn rafters butt on a board. Star shaped ventilators highlight the gable ends. The star shape had no particular meaning to Hull. It was just a form of decoration. (118) (see p. 141)

In the early twentieth century, this farm consisted of 166 acres, which was pretty big then. Wheat was the area's cash crop until the 1920s when dairying became their primary money maker. Clay's father paid the farm off by huckstering farm goods to Altoona. The other buildings which survive on the farmstead include a cement block milk house, silo, hog pen, frame and stone shop/ice house, frame main house, and frame tenant house. The large frame hog pen also has a gambrel roof matching that of the barn.

The Snyder/Muntain property, just east of New Enterprise, was also surveyed. The house and barn here are no longer part of an agricultural complex. The house is a five bay, double pile, two-and-a-half story, limestone bank house. The house has late Federal style details including a multi-paned transom and a sawtooth cornice. The double front porch is similar to what is found in Somerset County. A spring flows underneath the house. A feature of many of the earlier houses in the area. There are entrances at either end of the basement level. The frame barn has rear granary extensions and a pent-like forebay, which is apparently not typical of the area. However, Clay Hull believes this is the result of the removal of the original forebay.

The Fetter/Mountain farm is located just northwest of Salemville. This farm has a standard frame barn built in 1868. This barn has double threshing floors, and all the timbers are hewn except the braces. The rafters are butted together at their apex. The granaries are located to the rear of each mow. There are no ventilators in this barn, but there are three circular holes at the apex of the gable ends. The exterior is covered with vertical boards painted red. The barn is trimmed in white, and a white star is painted in the apex. The barn rests on a low rubble foundation of limestone and sandstone. (119)

The house on this farm is a three-bay, two-story frame bank house built in 1888. It had its kitchen in the basement. Robert Mountain, present owner of the property, remembered taking the cook stove apart each spring and fall to move from the basement kitchen of their house to the first floor kitchen or vice versa. (120) (see p. 141)

The other buildings on the property include a banked summer kitchen, cellar vault, frame wood shed/garage, frame shed-roof chicken coop, and cement block milk house. There is a shed-roof wagon shed/corn crib built onto the north end of the barn.

A photograph was taken of a three-bay, double pile, two-and-a-half story, sandstone, banked house southeast of Salemville. Known as the Adam Stayer house, it appears to date from the early nineteenth century. Steps lead from the basement level to the first floor porch. The asymmetrical window placement indicates a German builder. The opposing front and back doors

open into the kitchen.

The Ober/Sollenberger barn was also examined. Built in the Sweitzer form, it appears to be one of earliest surviving barns in the area. With a steeply pitched roof, it has a principle rafter system connected with staggered purlins. The principles are cambered and are bird-mouthed over the plate log. It is somewhat unusual to see the double plate logs. The bent is typical with posts, tie beams, and diagonal braces. The timbers are all hewn and numbered with Roman numerals. The barn has a single threshing floor, and there is a single, frame granary added to the rear. Another steeply pitched roof barn was seen south of Loysburg. (see p. 140)

The farmhouse associated with this barn is a four bay, double pile, two-and-a-half story, stone house. A banked house built c. 1842, it has a double stacked porch in front.

The Heirline log barn was also examined in Harrison Township. Located just south of the Raystown Branch of the Juniata River, this double crib ground barn appears to be one of the earliest survivals of this type in the area. The cribs are twenty foot square with a twenty-four foot space between. The squared logs are v-notched. An opening or door opens from each crib into the forebay area as well as into the threshing floor area. There are also horizontal openings higher up on the cribs which open onto the threshing area. A timber frame shed roof addition was made to the rear of each of the cribs. Much of the standing seam metal roof has blown off, and the barn is gradually deteriorating. (see pp. 140, 175)

Historic Resource Survey Analysis--Surveys were conducted in Bedford County from 1979 to 1980 and 1982 to 1983. Napier Township had a concentration of pre-1800 buildings, but the highest number of pre-1900 buildings were from the period, 1851-75. The Forbes Road went through Napier.

--Cumberland Valley Township had few pre-1800 buildings and again its highest number of pre-1900 buildings were from the period 1851-1875.

--West Providence Township appeared to have very few buildings until the 1826-50 period, and its most abundant pre-1900 period was 1875-1900. Rainsburg Borough was on an early settlers path from Maryland and Virginia.

--South Woodbury Township--The survey found a significant collection of stone country houses built in the Federal style, representative of the wealth of Morrison Cove. It also noted a group of agriculturally related structures significant to the farming economy of Morrison Cove.

--Woodbury Township--The survey noted an impressive number of five bay, double pile, banked houses in various materials. These buildings used the Federal style features along with practical features such as the large exposed basement and milk cellar.

--Summary--In the Morrison Cove area (Bloomfield, South Woodbury, and Woodbury townships), which is largely a farming community, large three-story, banked homes are prevalent. Although this style of structure was found in rural areas throughout the county, the largest concentration was in the Morrison Cove region.

Agricultural Statistics

1798 Direct Tax

Barns: 685

Tench Coxe's 1810 Census statistics

wheat mills: 32 saw mills: 9 flax mills: 1 fulling mills: 9
 distilleries: 80 No. of neat cattle: 11,777 No. of common sheep: 30,742

Dwellings

1850: 3,896

No. of farmers	% of Population	% of Listed Occupations
1840: 2,251	7%	71%

No. of farms

1870: 2,372

1880: 3,240

1890: 3,220

1900: 3,615

1910: 3,627

Improved Acres

1850: 148,299 1890: 252,332

1860: 177,917 1900: 268,514

1870: 197,250 1910: 264,814

1880: 252,659

Value of Farms

1850: \$3,962,047 1890: \$9,223,864

1860: \$6,324,760 1900: \$9,127,435

1870: \$9,495,119 1910: \$10,877,954

1880: \$9,975,163

Milk Cows

1850: 7,296 1890: 11,323

1860: 7,815 1900: 11,301

1870: 8,079 1910: 13,013

1880: 9,563

Sheep

1850: 19,027 1890: 26,508

1860: 18,268 1900: 30,999

1870: 21,746 1910: 22,112

1880: 16,868

Wheat (bushels)

1850: 248,302 1890: 378,088

1860: 159,837 1900: 461,520

1870: 338,074 1910: 333,871

1880: 304,168

Corn (bushels)

1850: 206,344 1890: 770,594

1860: 328,376 1900: 931,490

1870: 405,261 1910: 855,100
 1880: 876,451

Blair County

Area: 530 square miles Presently, 64% of the county's land is forested, while another 29% of the land supports agricultural use.

The following is abstracted from Africa's 1883 History of Huntingdon and Blair counties. Blair was formed from parts of Huntingdon and Bedford counties in 1846. The crest of the Alleghenies is its western border with Cambria County. The principal waterways of the county are the Little Juniata, Beaver Dam, and Frankstown branches of the Juniata River. Hollidaysburg is its county seat. The Huntingdon, Cambria, and Indiana turnpike goes through this borough. The Blair County Agricultural Association was chartered in 1873. (121)

The surface of Catharine Township, although broken by mountains and ridges, affords a considerable scope of good farming lands, which are utilized successfully, well cultivated fields and handsome farm buildings dotting a landscape most picturesque.

With Tussey's Mountain on the east, North Woodberry Township embraces a portion of the beautiful and fertile region known as the Great or Morrison Cove. Fine farms and farm buildings are seen on every side, and many evidences of prosperity and contentment prevail.

Taylor Township was formed from Huston and North Woodberry townships in 1855. Part of the Great Cove, it is drained by Plum and Halter Creeks and the stream which, having Roaring Spring as its source, unites with Plum Creek. The undulating surface of the township generally affords prosperous communities and fine farming lands.

Tyrone Township embraces Sinking Valley, a pleasant vale of limestone land lying between the Canoe ridge on the southeast and Brush Mountain on the northwest, and having for its northeast boundary the Little Juniata River.

Ralph Stone's 1932 book noted the following of Blair County. Lying east of the Allegheny Front, Blair is geologically much like Huntingdon County. The population is largely in the limestone valleys. The only building stones being quarried in 1929 were hard sandstones.

Farm Survey--Route 36 was taken north through Waterside, Woodbury and Route 866 into North Woodbury Township, Blair County. At Curryville, I took a photo of a medium sized, white, standard barn. Continuing north to Martinsburg, much good farmland was seen. The same kind of concentrated farming can be seen here as in the Lebanon Valley or Lancaster County. Nice farms surround Roaring Spring as well. The earliest gambrel roof barn there was dated 1899. (122)

Blair County was also entered from the west by way of Routes 45/453 into Sinking Valley, Tyrone Township. This area continues to be a rich farming area. Some standard, posted forebay, and enclosed forebay barns were seen

in this area. The standard barn was the most common.

Of the fifty barns surveyed in Blair County, almost half (24/48%) were of the standard type. Eleven (22%) had gable forebay extensions, six (12%) had interior wagon sheds, and four (8%) had posted forebays.

Building Survey--The David Smith farm was surveyed in Huston Township. Located along Route 866 in the upper portion of Morrison Cove, this farm contains a gambrel roof barn with double threshing floors. Apparently this barn was a standard type until the early twentieth century when it was converted to a gambrel type. The forebay was enclosed sometime in the early twentieth century as well. The upright posts were heightened about five feet with spliced additions. This allowed for greater space in the mows for storage. The original timbers in this barn were hewn, but the new timbers are sawn. There is a single granary over the forebay. The sawn common rafters butt on a ridge board. The barn is covered with vertical siding and is painted white. (see p. 142)

The square, brick farmhouse on the property was built in the 1890s with Victorian architectural elements. Other buildings on the property include a frame dry house, a frame smoke house, a chicken coop, a pump house, a frame apple house/storage shed, a pig pen, an equipment shed, a wagon shed/corn crib, and two silos. A milk house was built perpendicular to an addition to the barn, and a sheep stable faces into the barnyard.

Similar to what was found in the lower Morrison Cove, the rich agricultural land here showed prosperous looking farmsteads with large banked farmhouses and neatly painted barns. A two-and-a-half story, five-bay, banked, stone house was photographed in Huston Township. Similar to houses found in Bedford and Somerset counties, this house had a double stacked porch. There were entrances at either end of the ground level, but the main entrance on the first floor was by a central flight of stairs.

The Breidenbaugh/Hosler farm in the Arch Spring area of Tyrone Township was surveyed. The earliest building on this property is a stone and frame barn built by Casper Weight in 1811. The east mow is enclosed in stone, but the west mow is frame. According to tradition, the east half was built by Casper, but his death prevented his completion of the project. While the east and west bents for the barn are similar in form, the west bent has an extensive numbering system while the eastern bent does not. Built of limestone and sandstone, the eastern gable wall is pierced with vertical slit ventilators and an arched ventilator at the apex. There are rectangular louvered ventilators in the western end. This barn has the typical double tie beams and angled braces, but the end posts have flared tops which has been termed "gun stock posts." These are fairly rare in central Pennsylvania. All of the framing members are hewn. The barn has double threshing floors and a granary is located to the front of the west mow. There is a loft above the west mow. The hewn, tapered rafters are mortised, tenoned, and pegged at their apex. On the ground level, the floor joists, hewn on two sides, rest on two summerbeams between the front and rear walls. Apparently in the late nineteenth century the extension of the forebay was more than doubled to make it a posted forebay barn. There are several barns with posted forebays in the immediate area. (see pp. 142, 181)

The two-and-a-half story, five-bay, double pile, brick house on the farm was built in 1866. The front elevation is Flemish bond while the other elevations are common bond. A banked house, the facade is entered by steps up to the first floor as well as with a ground level entrance at the west corner of the house. The basement was partitioned into three rooms by plastered brick walls. These masonry room divisions continue up through the rest of the house. The west front room on the ground floor, or first room entered, served as the kitchen and contains a large open fireplace. The east room served as storage space for potatoes and apples. It is unknown what use the room behind the kitchen served. The first floor front door has narrow sidelights and a multipaned transom. A short stair hall separates the front parlors. The open stair has a turned newel post, but the spindles are rectangular. The door and window surrounds are plain with square, raised corner blocks. (123)

The Patterson/Diehl farm in Catherine Township was also surveyed. The 60 x 80 foot frame barn on this property has a typical bent form of posts, double tie beams, and braces. The granaries are located to the front of this double threshing floor barn. All of the framing members are hewn except the purlin posts and braces. The 28-foot rafters are only hewn on their top side and are butted at their apex. There is only a loft over the west threshing floor, and the bent on this side has notched ties and is reinforced with iron bolts and straps. On the ground level, three sets of summerbeams support the floor joists, most of which are hewn on all four sides. The forebay of the barn was enclosed in the twentieth century and the configuration of the floor plan changed so that the stanchions and aisles run parallel to the front of the building. (124)

The five-bay, double pile, two-and-a-half story, frame and log house on this farm was originally built as a two-thirds Georgian plan house c. 1820. The two-bay addition to the west side of the house appears to have been built soon after the original section. The woodwork, window and door surrounds, and doors appear to be early nineteenth century. There is a double stacked porch to the rear of the addition. The main entrance doors as well as the door onto the balcony are eight-panelled while most of the interior doors are five-panelled. The house retains overall good integrity with many of the original cupboards and closets intact.

Other buildings on the Patterson/Diehl farm include the one-and-a-half story stone spring house, the one-and-a-half story, frame summer kitchen, the concrete block milk house, frame chicken house, and a pole wagon shed/corn crib.

The large stone standard barn on the Etna Furnace property was also looked at. Built entirely of limestone, the sides of the forebay are enclosed to form a pellereck. This three threshing floor barn has its granaries to the rear of each mow. There is an exterior door to each of the granaries from the rear. Evenly spaced rectangular louvered ventilators pierce the gable walls as well as the frame forebay section. It has the post and double tie beam bent form typical of central Pennsylvania. The central section of the barn is carried by three summerbeams. The ends of the joists at the forebay are tapered upward as is seen often in Centre County. (125) (see p. 181)

Population:

1850: 21,777	1890: 70,866
1860: 27,829	1900: 85,099
1870: 38,051	1910: 108,858
1880: 52,740	

Agricultural Statistics**No. of Farms**

1880: 1,536
1890: 1,490
1900: 1,726
1910: 1,865

Improved Acres

1850: 80,033	1890: 114,459
1860: 88,379	1900: 122,276
1870: 98,285	1910: 117,669
1880: 128,068	

Value of Farms

1850: \$3,869,205	1890: \$6,732,620
1860: \$4,995,315	1900: \$6,888,440
1870: \$8,098,146	1910: \$9,095,466
1880: \$8,895,772	

Milk Cows

1850: 3,768	1890: 6,819
1860: 4,379	1900: 7,050
1870: 4,242	1910: 7,878
1880: 5,638	

Sheep

1850: 10,227	1890: 9,219
1860: 7,710	1900: 9,768
1870: 8,372	1910: 6,731
1880: 7,843	

Wheat (bushels)

1850: 267,349	1890: 293,837
1860: 189,072	1900: 258,610
1870: 259,599	1910: 225,646
1880: 272,296	

Corn (bushels)

1850: 145,851	1890: 481,113
1860: 399,510	1900: 532,410
1870: 339,922	1910: 405,207
1880: 474,297	

Cambria County

Cambria County was taken from Somerset and Huntingdon counties in 1804. Ebensburg has been its county seat since 1805.

The 1832 Gazetteer of Pennsylvania gave the following statistics: Length: 35 miles; Breadth: 19 miles; Area: 692 square miles. "The whole county is a mountain, the great Allegheny being on the eastern border, and the Laurel hill on the west. A portion of the Allegheny is arable, and some well cultivated farms may be seen on its top. The exports consist of livestock principally, and of timber, among which the excellent cherry plank and boards are the most valuable."(126)

Sherman Day noted in 1843 that the principal occupation of the inhabitants was in agriculture, lumbering, and transportation. Being the head of navigation for the western waters, it became a place of shipment for Huntingdon iron. Juniata iron was hauled over the old Frankstown Road. The portage railroad, connecting the eastern and western divisions of the Pennsylvania Canal, crosses the mountain in the southern part of the county, and communicates with the slackwater navigation of the Conemaugh River at Johnstown. The northern turnpike from Hollidaysburg to Pittsburgh, crosses the county. At Ebensburg a branch turnpike runs to Indiana and Kittanning.(127)

Ralph Stone's 1932 book noted that Cambria lies just southwest of center of the state on the western slope of the Alleghenies. It is rather rough country, much of the surface is above 2000 feet. Building stone quarries are rare in the county, partly because large blocks of float rock are so abundant along the outcrop of the more massive sandstones that in some places all the building stone and rubble needed for miles around can be had by breaking up these blocks. Suitable stone for local use is available throughout the county. (no mention of limestone)

Population:

1810: 2,117	1870: 36,569
1820: 3,287	1880: 46,811
1830: 7,076	1890: 66,375
1840: 11,256	1900: 104,837
1850: 17,773	1910: 166,131
1860: 29,155	

Historic Resource Survey--Cambria Township had fifteen resources which met my qualifications. Nearly all of the houses in this township were frame. A couple of possible log buildings and two brick houses were seen. Most of the houses were of the Pennsylvania farmhouse type with two symmetrical pairs of gable end windows. However, there was a good representation of I houses. A few bank houses were shown. No barns were surveyed in this township. Upper Yoder, Richland, and Black Lick townships were the other municipalities chosen for study. Few resources, a total of 33, were surveyed in these three townships. Consequently, it is hard to know how representative the surveyed properties are. All of the buildings were of frame construction. Most (76%) were built during the period 1860-1900. Nearly a quarter (22%) of the houses were of the I house type. The county had the highest average amount (14%) of cross gable houses in the study. Only five barns were identified in these three townships. Over half of these were of the standard type. This indicates that the surveyors were picking

the unusual rather than the common type.

The entire county was surveyed between 1979 and 1982. The survey analysis of the northern section of the county including Susquehanna, West and East Carroll, and Barr townships, reported that early development was centered around the lumber industry with limited farming. The development of coal, particularly in Barr and Susquehanna townships, had a great influence in early twentieth century housing development there. In the higher elevations of this region agriculture has remained strong.

The analysis report noted that many of the early farmsteads in Cambria Township were still in existence. Although log construction was common in Cambria during the 1800-1830 period, relatively few have survived. Stone and brick were not common building materials in Cambria until after 1900. There are only four known stone houses built before 1880 in the county. Most farm sites have retained the barn but the outbuildings generally associated with farming either were never constructed or have been removed. The earliest surviving buildings date to c. 1810. Several vernacular farmhouses were seen with the double stacked porch along the front. (128)

Only one barn was among the sites selected by the Cambria County survey group as the most significant within the county. This was a standard barn. Located in Allegheny Township, it was noted as an uncommon type. This particular example had a wide forebay and was covered with unpainted, vertical boards. Only a cross shaped hole pierced the apex of the gable end.

Farm Survey--Route 22 was taken west from Duncansville into Cambria County to Ebensburg. There were few barns seen along this route. I took Route 219 north from Ebensburg and from there took rural side roads through Cambria, West Carroll, Elder, and Barr townships as far north as Susquehanna Township. I travelled through the towns and villages of Carrolltown, St. Benedict, Spangler, Barnesboro, Plattsville, and Emeigh. The area is largely rolling hills, and it appears most of the agricultural land is used in hay, grass, or grain production. A large majority (75%) of the barns have enclosed forebays. Another 12% of the barns have extended forebays, and 7% are ground barns. Most are unpainted, poorly maintained, and will not last long. The most prosperous and productive farms have barns with many additions. There are quite a few patch mining towns sited among the farms.

A medium sized, enclosed forebay barn (Westrick barn) between Hastings and Barnesboro was photographed. Typically, this barn had gable end entrances. The building was covered with vertical siding, had no ventilators, and had a single cross shaped hole, "crusader's cross," in the apex of the gable end. The foundation consisted of large, cut sandstones. The owner said that it was over 100 years old.

The most unusual barn (Slavik barn) found in Cambria County was located near an intersection between Emeigh and Plattsville. It had a drive-through wagon shed along the west gable end and entrances into the east gable end along both sides of the barn wall as well. This single threshing floor barn was covered with vertical siding. Another nearby barn was photographed. A frame ground barn, it rests on poured cement piers. Large, unmortared rocks fill the spaces between the piers. A red, five pointed star was applied

to the south gable end of the barn which is otherwise covered with vertical board painted white. Another barn, dated 1911, had a rear gable extension built over the barn wall. Four Cambria County barns were noted with wooden bridges connecting the barn wall with the threshing floor. Although one of this type (the Perry barn in Green Township) had been seen in Indiana County on a previous tour, none were seen in Indiana this time. (see p. 176)

Photographs were taken of the Harabaugh barn in West Carroll Township. The Harabaugh barn appears to have been an enclosed forebay barn which had an extension built to it in the twentieth century. Typically, it has gable end entrances on the ground level. This double threshing floor barn has rectangular louvered ventilators in its gable ends and is covered with vertical siding. There is a shed roof extension behind the east mow.

A photo was also taken of an open ramp barn in Barr Township. While wooden ramps were found in several counties of this study, they were never as long as this one. This enclosed forebay barn has the typical gable end entrances at ground level. The vertical wooden siding of this barn is painted red which is offset with the white trim of the barn as well as the door braces and scalloped barge board in the gable ends.

Building Survey--The Westrick barn on Highland Farm in Elder Township, which had been previously photographed, was surveyed. Built in the 1890s, this frame, enclosed forebay barn has double threshing floors, a single granary behind the south mow, and a full earthen ramp. The bent form, a variations on the H-bent form, appears to be typical of northern Cambria and Indiana counties. Instead of the usual double tie beam found further east, these barns have single tie beams. In addition, the typical canted purlin post is braced by another post to form an inverted V. In the Westrick barn, the purlin posts and the upright posts were notched into the tie beam. The tie beam is also notched into the end posts. All of the framing members except the braces are hewn. There are loft spaces to the rear of each threshing floor. The sawn, common rafters are butted on a board. (129) (see p. 144)

The ground floor plan is divided into three basic sections. There is a feed entry along the rear wall. There are two stairs from the threshing floor into this walkway which can also be entered from the south gable end. Stalls and pens fill the central section of this level, and the remaining third was the shed area. The horses were stabled on the south side or the side nearest the house, and the cows were stabled along the north end of the barn. (130)

Also examined was the Slavik barn in Susquehanna Township. This frame barn was mentioned earlier as the most unusual seen in Cambria County. A low dirt bank or bridge (about three feet in height) leads to the short wooden bridge and to a narrow threshing floor area. Actually this area was probably more like the cutting room found in Greene County barns. This threshing area is supported by log cribbing resting on a low rubblestone foundation. The shed areas on the ground level can be entered on either side of the bridge wall. These walls are also supported by a shallow rubblestone foundation. There is a granary in the northeast corner of the barn. The mow areas surrounding the threshing floor are raised about two feet above this floor. There is a loft above the threshing floor. The major framing elements of this barn are hewn, and some of these are reused.

The previously mentioned barn with the large, open wooden ramp was also briefly examined. Located in Barr Township near the Indiana County line, this frame, enclosed forebay barn has a bent form typical of the area. A single tie beam is connected with five upright posts and braces. A stocky, canted purlin post supports the purlin. The major timbers are hewn. The sawn common rafters are butted at their apex. This barn seems lower in height than the other barns surveyed in the area.

The Harabaugh barn in Barr Township, previously mentioned as photographed, was quickly looked at. Similar to others in the area, this frame enclosed forebay barn has a single tie beam. In this case, it is spliced. Instead of the canted purlin post, this bent features upright purlin supports similar to queen posts. These are further supported with angled posts and braces. Unlike most barns in the area, all of the framing members were sawn. There is an outshed extension behind the east mow.

The 1890 Kirkpatrick barn in West Carroll Township was examined. The north gable end is inscribed, "J. Kirk 1890." Beneath the "crusader's cross" is a fading Mail Pouch sign. This double threshing floor barn has a short wooden bridge connecting the floors with the earthen ramp. This frame enclosed forebay barn has lofts above each threshing floor. Granaries are located to the rear of each mow. It displays a variation of the typical bent form in the area. A single tie beam connects the end posts, and the large purlin posts and their braces form an inverted V. These are further braced with a short tie beam to the end post. All the major timbers of this barn are hewn, but the braces are sawn. The rough sawn rafters are butted at their apex. On the ground level, a single, centrally located summerbeam supports the larger than usual, hewn floor joists. Most of these only extend from one of the end walls to the summer. Although the ground level has been altered in the late twentieth century, the remaining posts marked the lines of the typical tripartite division of this level. (see p. 143)

Also located on the Kirkpatrick farm is a two-and-a-half story frame house built in the late nineteenth century. It has a kitchen ell to the rear. There is a large frame and cement block garage between the house and barn. An early twentieth century brick milk house stands to the south side of the barn. A cement block slaughter house is located at the southwest corner of the barn, and a cement tile silo is to the north side of the barn. A late twentieth century milk house/milking parlor is located to the east of the barn in the location of the former barnyard. A late twentieth century pole barn/equipment shed stands across Route 219 from the main farm complex.

Agricultural Statistics

Tench Coxe's 1810 Census statistics

wheat mills: 12 saw mills: 9 flax mills: -- fulling mills: --
distilleries: 7 No. of neat cattle: 4,032 No. of common sheep: 1,400

No. of Farmers	% of Population	% of Listed Occupations
1840: 1,729	15%	72%

No. of Farms

1880: 2,437

1890: 2,241
 1900: 2,566
 1910: 2,761

Improved Acres

1850: 51,021 1890: 128,534
 1860: 72,311 1900: 140,180
 1870: 93,438 1910: 130,410
 1880: 148,050

Value of Farms

1850: \$1,352,343 1890: \$6,852,230
 1860: \$2,827,438 1900: \$8,440,410
 1870: \$4,834,076 1910: \$11,967,092
 1880: \$6,213,058

Milk Cows

1850: 4,551 1890: 8,280
 1860: 6,056 1900: 8,279
 1870: 6,537 1910: 8,434
 1880: 7,899

Sheep

1850: 13,267 1890: 14,130
 1860: 12,413 1900: 13,465
 1870: 16,389 1910: 4,410
 1880: 14,725

Wheat (bushels)

1850: 42,898 1890: 74,840
 1860: 23,289 1900: 114,470
 1870: 56,938 1910: 48,996
 1880: 336,113

Corn (bushels)

1850: 58,947 1890: 212,467
 1860: 81,244 1900: 262,420
 1870: 153,252 1910: 273,346
 1880: 117,099

Fayette County

Fayette County was abstracted from Westmoreland County in 1783.

The 1832 Gazetteer of Pennsylvania noted that the soil of Fayette County is various; that of the east part, on the mountains, of slate and gravel; in the western part it consists of loam, composed of the debris of sandstone, slate, and limestone. In some of the townships extensive veins of limestone are found near the surface, but in others, it lies deep. The national turnpike enters the county at Smithfield. "The state of agriculture is in a very respectable condition; large quantities of grains are raised, and much wheat manufactured into flour, and sent to Baltimore and Washington by the national pike, and to New Orleans by the Monongahela and Ohio rivers. The best land

southwest of the Laurel hill and Youghiogheny River, sells for 20 to 60 dollars per acre; in the latter case the tracts are small, with good buildings, and the lands in a high state of cultivation." Statistics from the same source: Length: 30 miles; Breadth: 27 miles; Area: 802 square miles--grist mills, 75--saw mills, 30--fulling mills, 21--furnaces, 12--forges, 4.(131)

Rupp's 1849 History of Western Pennsylvania noted that the portion of the county west of Chestnut Ridge, is of good quality and well adapted to agricultural purposes. Many of the valleys are fertile and highly productive. The chief productions are cereal grains, livestock, etc. The National turnpike from Cumberland to Wheeling passes for a distance of thirty miles through the whole breadth of the county. statistics from history included: grist mills, 61--flouring mills, 16--saw mills, 139--fulling mills, 4--woolen manufactories, 6--oil mills, 4--distilleries, 17--dairy products, \$65,263--houses built: brick, 70--wooden, 102.(132)

Ralph Stone's 1932 work stated that for the most part, the native sandstone is used only locally, but some is shipped out of the county. Most weathers to a brownish color. The old sandstone houses in Hopwood are believed to have been constructed from large blocks lying on the mountain east of town. Four of the stone buildings in Hopwood are mentioned. Among these is the 1818 Morris/Hair Tavern and the 1839 Hayden house, whose front has upright panels 18 inches wide and eight feet long, and other blocks dressed smooth on the margins and ornamented in the corners with fan-shaped tooling.(133)

Population:

1790: 13,043	1860: 39,909
1800: 20,067	1870: 43,284
1810: 24,714	1880: 58,842
1820: 27,285	1890: 80,006
1830: 29,172	1900: 110,412
1840: 33,574	1910: 167,449
1850: 39,112	

Historic Resource Survey--A Historic Resource Survey was conducted in Fayette County from 1979 to 1982. Among the criteria set by the survey organizers was that the sites selected were to be 100 or more years of age. All stone and brick structures of this age were to be surveyed unless integrity was completely lacking. All completely modernized log buildings were excluded. I looked at the survey forms from Jefferson, North Union, and Georges townships. Fayette County appeared to have few active farms in these townships. Only four barns appeared on survey forms or photo cards. However, the surveyors in their final analysis felt that barns were locally widespread and generally lacking in architectural detail. Consequently, only representative and unusual styles were selected for data analysis. There are quite a few abandoned houses in these townships, especially the earliest examples. On average, 40% of the buildings surveyed in this county were built in the period 1780-1840. Another 24% were built between 1841 and 1859. Only a third of the buildings were constructed between 1860 and 1900.

--The only known limestone house in the county is the Edward Cook House.
 --Among the barns shown in the analysis is a frame standard barn on the Cochran Fairgrounds property in Lower Tyrone Township and a frame, gambrel roof barn in German Township. The log barns are represented by a

double crib log barn in Perry Township without a forebay, a single crib log barn in North Union Township, and two log barns in Georges Township, one of which is a bank barn. There was also shown a highly deteriorated stone barn with a single rear granary in Bullsken Township and a round barn in Franklin Township. A look through the Franklin Township survey revealed the walls of a small stone barn with vertical slit ventilators, a rectangular stable-like, stone, ground barn, a barn with stone rear walls with square ventilators, and the stone Sweitzer barn on the Galley/Shallenberger farm. --The analysis found that the most common barn was the gable or gambrel roofed post and beam barn. The second most numerous type was the bank barn. The surveyor felt that these represented the earliest type in the area. They inventoried ten log barns, most of which had exposed v-notched logs. In a few cases squared and round logs were incorporated in one structure. Stone barns were found least frequently.

Although Denise Grantz found in her survey of Fayette County that early frame buildings had virtually disappeared there, at least two are located in the New Geneva/Greensboro area, one, the Davenport house and store building in New Geneva, and the other, the Fetterman/Herrington house in Greensboro. The core of this last house measures 25 x 15 feet, corresponding with what Gallatin's friend John Badollet owned in 1798.

Farm Survey--At Confluence, the Youghiogeny River was crossed into Henry Clay Township, Fayette County. Here the terrain became more rugged, and the farms were few and far between. The surviving barns were even scarcer. I followed Route 281 south to where it intersected Route 40 and then continued south on the same route after a short jog on Route 40. I passed through Markleysburg and south toward Friendsville until I hit the Maryland state line. The barns here were generally small. I then went back and continued west on Route 40 into Wharton Township until I came to Farmington where I took Route 381 south to Forbes State Park. As along Route 40, there were few barns here. A good number of tavern and commercial properties survive along Route 40, but many are in poor condition. Continuing on Route 40, I traveled northeast on a rural road from Chalk Hill toward Ohioptyle. I took a photo of a gambrel roofed stone barn along this road in Wharton Township. The owner said it was built by Bill Black c. 1900. (see p. 177)

Continuing west on Route 40 to Hopwood, I then turned southwest on Route 857 through Brownfield, Oliphant Furnace, Fairchance, and Haydentown in Georges Township. There has been much random development along this road as well as some company housing here and there, apparently the result of local industries and mining. At the southern edge of Fairchance are two, one-story, four bay houses which I photographed. Their doors are not centered, and the foundation of one is rubblestone. Further south on the border of Georges and Springhill townships is the ruin of a two-story, log saddlebag house which I photographed. There were fireplaces on either side of the central chimney. I continued east on this dirt road passing a two-story log house with asymmetrical fenestration to a small, three-bay, stone cabin which I also photographed. This cabin appears to have had Irish antecedents. It has a porch along the entire front which is filled with wood, etc. There are a number of saddlebag type houses along Route 857, of both one- and two-story height.

South of Haydentown and White House, I took a road northwest toward Gans in Springhill Township. South of this road is located a small, stone Sweitzer barn with wooden horizontal ventilators which I photographed. (It is within two miles of the West Virginia border.) Although deteriorating, it is a fine example of that common type found in southeastern Pennsylvania. The farmhouse associated with the barn is a five-bay, two-story, brick Italianate, in the process of being plundered. (see p. 177)

I then headed north through Smithfield and took Route 43 to Uniontown. From there I took Route 21 west. There has been suburban and commercial development along Route 21 through McClellandtown and on to Masontown, but there are a number of small farms and barns surviving along this route.

Although many roads were taken in the southern half of Fayette County, only 45 barns were surveyed there. Nearly half or 47% had enclosed forebays. Another 13% had gambrel roofs, and 13% had extended forebays also. Although outside what is considered the standard or Pennsylvania barn region, 9% of the barns were standard. This county would appear to mark the boundary of any quantitative influence of this type.

Building Survey--The Neumeyer/Mucha farm was surveyed just north of Pennsville in Bullsken Township. The stone Sweitzer barn on this property is an uncommon type in western Pennsylvania and is one of a few barns pictured in Stotz's work. It has a single threshing floor, and there is a single, stone out-shed granary behind the north mow. The barn has a simple bent form with upright posts and double tie beams. All of the framing members are hewn. Random, unhewn logs were placed between the tie beams to create a loft above the threshing floor. The roof system consists of six sets of cambered principal rafters connected with staggered butt purlins and braces. These support the common rafters. The stone walls have vertical ventilator slits which are splayed. There is a small, diamond shaped slit at the apex of each gable end wall. (see p. 146)

There is also a two-and-a-half story, five-bay, double pile, brick house on the property. This banked house has a Federal style arched front door surround and a sawtooth cornice. Other outbuildings include a stone smoke house, a brick summer kitchen, a frame coal shanty, a frame wheat shed, a cement block milk house built onto the south gable of the barn, a corn crib, and a frame straw/hay shed. The spring behind the house flows through underneath the house.

Within a mile of the Neumeyer/Mucha farm is another stone Sweitzer barn. The Whipkey barn is located on Spruce Hill Road also in Bullsken Township. (According to the 1872 Atlas of Fayette County, it appears that J. Lickliter owned the farm.) Although greatly deteriorated, it retains much of its original form. Like the Neumeyer barn, it has a single threshing floor, and a single, stone out-shed granary. However, this granary is on the opposite side of the barn. While the Neumeyer barn faces west, this barn faces north. The bent form of the Whipkey barn is simple with upright posts and double tie beams. These posts and tie beams are massive, about ten inches square. The framing members of this barn are hewn and numbered as well. Although this barn has a principal rafter system with staggered butt purlins and braces similar to the Neumeyer barn, these principals are not cambered. The

principals are bird-mouthed over the plate logs. (see p. 147)

The Griffith/Grimm barn in Georges Township was surveyed. This double crib log barn had been surveyed in 1982, but its roof collapsed in 1992. This allowed some inspection not previously possible. Its identical rectangular cribs are separated by a single threshing floor. A small wooden bridge connected the earthen ramp to the threshing floor. Vertical wooden siding covered the exterior of the barn despite the fact that the log ends were not sawn off evenly. The ground level is low and a central summerbeam supports the massive floor joists. The barn faces southeast and timber frame, ground level additions were made to the south gable end as well as to the front. These not only protected entrances into the barn but served as feeding and loafing areas as well. Harry Grimm, the present owner, said that the ground level was divided for use by sheep, calves, and cows. Only a ladder along the eastern wall connects the ground level with the threshing floor. (134) (see p. 145)

As previously mentioned, Hopwood has a goodly number of one-story houses, many of which are constructed of stone. Just northwest of the village in North Union Township is the Beeson farm with a frame, early twentieth-century farmhouse, a one-story, 17 x 31 foot stone house, and a frame bank barn among other outbuildings. The early nineteenth-century stone house contains two rooms with a loft above. There are opposing doors into the larger of the two rooms. Each room has a fireplace centered along the gable wall. The 1820 standard barn has a three-foot wooden ramp to the single threshing floor. This barn has the double tie beam typical of earlier barns. All of the major framing members are hewn. A single outshed granary was added to the rear of the east side later.

The 1892 posted forebay barn on the J.M. Thompson farm in South Union Township was photographed. This barn has some architectural pretension in its cross gable facade and the enclosure of its forebay at both ends. There is also an earlier posted forebay barn on the farm. The older barn, which is unpainted, has a rear extended granary. This is the largest intact farm complex, in terms of number of outbuildings, seen in Fayette County. (The Springer Farm in North Union Township, listed on the National Register in 1982, had at least eleven outbuildings. All but one were gone by the late twentieth century.) J.M. Thompson was the father of J.V. Thompson, the coke baron. This part of the estate was given to Will Thompson, and a granddaughter presently occupies the property. She could see no benefit to my documenting the farm by doing a site plan.

Agricultural Statistics

1798 Direct Tax

Barns: 359

Tench Coxe's 1810 Census statistics

wheat mills: -- saw mills: 82 flax mills: 7 fulling mills: 8

distilleries: 103 No. of neat cattle: 18,693 No. of common sheep: 21,847

No. of Farmers	% of Population	% of Listed Occupations
1840: 4,405	13%	64%

No. of Farms

1880: 3,231
 1890: 3,320
 1900: 3,783
 1910: 3,818

Improved Acres

1850: 178,397 1890: 245,811
 1860: 196,394 1900: 262,720
 1870: 235,006 1910: 211,519
 1880: 286,606

Value of Farms

1850: \$7,369,275 1890: \$19,795,250
 1860: \$9,794,617 1900: \$21,313,620
 1870: \$18,250,958 1910: \$22,413,023
 1880: \$20,270,434

Milk Cows

1850: 8,735 1890: 10,420
 1860: 9,636 1900: 10,030
 1870: 8,404 1910: 9,909
 1880: 10,040

Sheep

1850: 38,278 1890: 35,287
 1860: 39,094 1900: 31,238
 1870: 65,261 1910: 10,448
 1880: 58,472

Wheat (bushels)

1850: 304,102 1890: 405,477
 1860: 81,562 1900: 505,920
 1870: 302,536 1910: 186,944
 1880: 381,810

Corn (bushels)

1850: 696,092 1890: 799,487
 1860: 523,764 1900: 897,620
 1870: 824,268 1910: 717,620
 1880: 920,889

Fulton County

Area: 435 square miles

Fulton County was formed in 1850 from that section of Bedford County east of Ray's Hill. It is separated on the east from Franklin County by Cove and Tuscarora mountains. Sideling Hill basically forms the western boundary of the county. The soil varies greatly in different parts of the county. In the limestone regions of the coves it is highly productive and very valuable. Other valleys have a mixed soil of average fertility.

In a phone interview with architectural consultant, Paula Reed, she related that the entire Great Cove has fine early farms along the Route 522 corridor from the Maryland line to Burnt Cabins. She remarked that there is nice log house just north of McConnellsburg, and there is a brick farmstead a little further north. She also said that there is a fine stone house (the Akers house at Akersville) dated 1816 south of Breezewood with wonderful interior woodwork. (135)

Ralph Stone's 1932 book noted that stone buildings are rare within this county except in the county seat. Log buildings still stand on the main street. The Fulton House, built in 1793, is the oldest house there built of limestone. (136)

Population:

1850: 7,567	1890: 10,137
1860: 9,131	1900: 9,924
1870: 9,360	1910: 9,703
1880: 10,149	

Farm Survey--Cove and Tuscarora mountains were crossed on Route 30 into the Big Cove of Fulton County. Route 522 was taken south out of McConnellsburg down Big Cove Valley through Ayr Township. There were quite a few barns with rear granary extensions near McConnellsburg. Immediately outside of McConnellsburg is a small log and stone grist mill. There is a nice early nineteenth-century settlement at Webster's Mills. The main farmstead there consists of a stone end barn, stone I house, stone cabin-like house, and stone spring house. South of Websters Mills, Route 928 was taken south through Big Cove Tannery and continued south to Damascus Christian Church, about a half mile from the Maryland state line. East of Needmore I took Route 655 north through Licking Creek Valley (Belfast Township) to where it intersects with Route 30 at Harrisonville. Outside of Ayr Township the hilly, shale ground was only able to support small farms with small standard barns. Usually these barns were unpainted. There were two posted forebay barns at Harrisonville.

Over half (52%) the barns in Fulton County were standard. Other types found there were the rear granary extension (13%), posted forebay (14%), and the gable forebay extension and interior wagon shed types each at (8%). Many of the outbuildings have exterior stone chimneys in the north/south corridor between Dickey's Mountain and Burnt Cabins. A photo was taken of a white standard barn south of Knobsville in Todd Township. The ventilators and cupola were trimmed in black. Few early buildings appear to have survived in the village of Ft. Littleton, and there are quite a few of abandoned buildings in the village of Burnt Cabins. There are also a number of abandoned farms north of the turnpike along Route 522. (137)

Building Survey--I surveyed the Hunter Farm, now owned by Ralph Glenn and sons, at Websters Mills, Ayr Township. Cove Spring runs through the property. The original buildings include an 1806 bank barn, a c. 1820 I house, a one-and-a-half story tenant house, and a cantilevered spring house. All are constructed of native limestone.

The farm had been in the Hunter family since early settlement of the area. This family had built the stone mill just southwest of these buildings in 1812.

Henrietta Hunter Carson sold the farm out of the family in 1914 to a Bivens. A.J. (Jack) Craig was a tenant farmer for the Hunter family. Mr. Glenn's father, born in 1878, worked for Craig, dropping corn for 25 cents a day. (138)

The five-bay, two-and-a-half story, stone house has a one-story kitchen ell built to the rear. Each gable end features large, stone, interior chimneys. A Federal style detailed cornice and pilastered door surround highlight the facade of the house.

The three bay, one-and-a-half story tenant house is a single room with a fireplace at the south gable end. According to tradition, it was built for a maiden daughter. There is a low loft room above with small windows on the west wall and a single window on the south wall. There are single stone lintels placed above the windows and door. This building retains its original quarter round window and door surrounds as well as chair rail. Three steps in the southeast corner of the room lead to the dogleg stair there. A small closet is located beneath the stair and beside the fireplace. There is a small cupboard in the southwest corner of the room. (see p. 150)

The stone barn was originally built in the Sweitzer form but now has large additions to the front and west side. The barn is 116 feet long, one of the longest in the county. This allows for three threshing floors which are entered through three sets of barn doors. Its south gable end and rear or northwest side has horizontal, wooden louvered ventilators. There is a frame granary extension to the northeast end of the barn. The rear wall behind the threshing floors appears to have been extended about three feet later to give protection to the barn floors. (see p. 150)

The three bay, one-and-a-half story, stone spring house has a large cantilever on its northern face. It was used for cooling milk as well as a place to butcher farm animals. There is an interior stone chimney on the west gable end. There is a wide door into the loft on the east end of the building.

The Logan farm is located on Big Cove Creek just southwest of McConnellsburg in Ayr Township. The property consists of a 1798 stone house, frame kitchen with a brick addition to the rear, a combination wagon shed and corn crib, a frame pig pen, a frame garage, and a large frame bank barn.

Built of local limestone, this five bay, two-and-a-half story, double pile house has a circular dateboard between the attic windows on the east gable end. Inscribed on the date board are the words, "built 1798 repaired 1859." The central doorway has a multi-paned transom, and the cornice displays punch and gouge work typical of the Federal period. There is a frame kitchen ell to the rear of the main house as well a frame addition to the west side of the house. The latter addition is set back from the front of the main block. The interior stone chimney on the west side of the house is noticeably larger than the one on the east end.

The frame bank barn on the property has the two rear granaries typical of this area. Actually, there are only granary bins on the west side of the barn; the area on the east side evidently was used for other storage. There are

gable end entrances to storage areas beneath the granaries, but the one on the west side has a hinged door and is lower than the one on the east end. This barn is more intact on the lower floor than most. It retains its Dutch doors, stable partitions, and hay racks. The floor joists are supported on two summerbeams. The timbers in this barn are hewn, but the rafters are only hewn on their top side. The purlins supporting the rafters rest upon queen posts. (see pp. 151, 180)

Agricultural Statistics

No. of Farms

1880: 1,294
 1890: 1,305
 1900: 1,451
 1910: 1,424

Improved Acres

1850: 50,613 1890: 95,675
 1860: 73,999 1900: 105,420
 1870: 86,955 1910: 107,037
 1880: 95,890

Value of Farms

1850: \$1,145,960 1890: \$2,237,545
 1860: \$1,175,609 1900: \$2,182,930
 1870: \$2,565,042 1910: \$2,994,459
 1880: \$2,486,621

Milk Cows

1850: 1,841 1890: 3,603
 1860: 2,882 1900: 3,659
 1870: 3,200 1910: 4,049
 1880: 3,295

Sheep

1850: 4,896 1890: 6,898
 1860: 4,460 1900: 9,010
 1870: 6,879 1910: 8,353
 1880: 6,591

Wheat (bushels)

1850: 83,758 1890: 116,497
 1860: 59,309 1900: 162,080
 1870: 102,144 1910: 188,323
 1880: 87,560

Corn (bushels)

1850: 50,835 1890: 295,782
 1860: 88,660 1900: 329,110
 1870: 142,176 1910: 300,849
 1880: 243,644

Greene County

Greene County was formed from Washington County in 1796.

Length: 32 miles; Breadth: 19 miles; Area: 578 square miles

The 1832 Gazetteer of Pennsylvania stated the surface of the county is greatly diversified by hill and valley, and the soil varies from the richest river bottoms to the poorest gravelly ridges. "The northern sides of the hills have a deep, rich soil adapted to corn and grass, and the south, though generally less fertile, produce wheat and rye abundantly. The western part of the county is deemed too hilly for agriculture, but one day may be profitable to the herdsman and vine dresser. The breeding of horses, cattle, sheep and swine, is deemed the most advantageous mode of employing lands, and immense droves are sent annually into the eastern part of the state and into Maryland. Large quantities of flour and whiskey are also taken by the Monongahela River to Pittsburgh and New Orleans. There are no turnpike roads within the county." Statistics abstracted from this work include: grist mills, 40--saw mills, 40--fulling mills, 20--oil mills, 6.(139)

Rupp's 1849 History of Western Pennsylvania noted that many of the cattle raised in Indiana, Kentucky, and Ohio, are grazed here (Greene County) before driving to the eastern markets. Much attention is paid to feeding stock. Statistics abstracted from this book include: flouring mills, 4--grist mills, 207--saw mills, 607--oil mills, 5--dairy products, \$82,180--houses built: brick, 94--frame, 251.(140)

Sherman Day's 1843 history stated that Greene County farmers have turned their attention to the raising of sheep, which, until within a year or two past, proved a profitable stock, and will probably always pay as well in this region, or better, than any other department of farming. It also noted that, "There is a layer of limestone, the most extensive and valuable deposit of such in the western counties, consisting of beds from 7 to 20 feet in thickness. It is of incalculable value to the agriculture of the southwestern counties; but it is to be regretted that the importance of lime, as a fertilizer, has been hitherto so much overlooked."(141)

Ralph Stone's 1932 book remarked that sandstone has been raised for building purposes in most of the county's townships. This was largely between 1830 and 1880, and many of the places were worked for only one house or a barn foundation. Limestone occurs throughout the county but mostly in thin beds, not suitable for building purposes. Old stone houses, like that on the Throckmorton farm west of Rogersville, built in 1823, are not numerous in Greene County, but the few seen bear evidence of the suitability of the common sandstone for building blocks.(142)

Population:

1800: 8,605	1860: 24,343
1810: 12,544	1870: 25,887
1820: 15,554	1880: 28,273
1830: 18,028	1890: 28,935
1840: 19,147	1900: 28,281
1850: 22,136	1910: 28,882

Farm Survey--The Monongahela River was crossed on Route 21 into Greene

County, and at the intersection of Routes 21 and 88 at Paisley, Route 88 was taken north to Carmichaels. At Paisley there is a small, one story log/frame house, which log house historian Terry Jordon claims is a saddlebag, but the present owner indicated that there is not a second fireplace in the house. It appears that the log, single room section was built first. Just north of this intersection is the Rea House, a small, one-and-a-half story, stone house. This three bay, I house appears to have had back-to-back fireplaces according to the fieldwork of local historian David Lesako. Also along Route 88 is the Paul Rea farmstead which I had photographed in November. This two-story, brick I house has two rooms on each floor. (143)

Just southwest of Carmichaels is a three-bay, two story brick house with asymmetrical fenestration. With a datestone inscribed "CMS 1832," the house has a kitchen ell to the rear. The asymmetrical placement of the door and windows along with its double pile form seem to indicate its construction before architectural standardization within the county. Two photos were taken of this house. These buildings are all in Cumberland Township.

Just west of Carmichaels, I took the road southwest through Greene Township to Garards Fort. Although the farms and barns are small, they are generally well-kept. Also along this road is the John Corbley house, which I had previously surveyed, as well as its adjoining frame barn. From Garards Fort I headed northwest on Route 2011 toward Waynesburg. A well-maintained farm complex was sighted and photographed along this route. Among the buildings is a small, white barn with a ventilated cupola along the top. This complex appears out of place since there is no farmhouse associated with it. I noted a small, log barn with an extended ramp at the village of Fordyce. Another small enclosed forebay barn there had a jerkinhead roof. I photographed a small, white, enclosed forebay barn, built on a steep hill, along this route. Located in Whiteley Township, this barn was built c. 1890 by Arli Murdock according to the present owner. (see p. 179)

Often the barns I found in Greene County had narrow gable ends with steep pitched roofs. Many times they had cut stone foundations or stood on cut stone piers. I had previously photographed one of these with a posted forebay on the road from Mapletown toward Garards Fort in Monongahela Township. Quite a few of the barns also have roof extensions at the apex of the roof, evidently to facilitate storage on the loft and protect the openings on that end from bad weather. (144)

Further survey in the county was accomplished by going east on Route 21 to its intersection with the road to Garards Fort. At Khedive there is a small ground barn, dated 1908, with two cupolas. On a side road, Route 1019, north of Route 21 and heading north toward Carmichaels is an unpainted, extended forebay barn, which I photographed. It has a cut stone foundation and a cupola with ventilators. On the north side of Route 21, just east of the Baptist Church in Jefferson Township, is a white, posted forebay barn which I photographed. Its size and roof pitch indicate that it may be older than it first appears. A jaunt up a side road south of Route 21 turned up a single log crib, ground barn (Cumberland Township). It has a frame addition.

Another side road going southwest from Route 21 revealed a double crib log barn. Located in Jefferson Township, this enclosed forebay barn has had

most of its exterior sheathing removed along with its roof. This barn may be a prototype of the enclosed forebay barn which dominates the Greene County landscape. (Of the 88 barns surveyed in Greene County 46 or 52% were of this type.) Besides not having the forebay extension typical of the Pennsylvania barn, the ground floor of this barn was laid-out differently also. There are opposing wide entrances in each gable end which opened into the shed area. A walkway or entry extended along the entire back wall of the barn. Immediately in front of the walkway are the stalls with feeding troughs and hay racks. The front foundation wall is a compromise, neither solid nor just stone piers. (145)

From Waynesburg, Morgan Street was taken south. This became Route 218 and entered Franklin Township. South of the village of White Barn, I veered southwest into Center, Wayne, Jackson, and Gilmore townships and through the villages of Bluff and Pine Bank. North of Pine Bank (Jackson Township) I photographed the scale house and barn of a farm complex. Once a highly productive farm, three of the frame buildings (barn, grain house, and scale house) each have cupolas. The house associated with the complex has a cross gable facade. From Pine Bank I headed northwest to the village of Buzz and then northeast on Route 3011 back into Center Township. In Center Township, I photographed a one story, two-bay, log house, known as the Fordyce property. Along this same route I photographed a small unpainted enclosed forebay barn with a gable roof extension (pulley shelter) on the Smith Farm. I continued on Route 3011 until it connected with Route 18 and then onto Route 21. (see p. 179)

Route 21 was taken west through Center, Gray, and Rich Hill townships to the West Virginia border. This whole area of western Greene County is dominated by high, rounded hills which appear suited for grazing. A majority of the farms appear neat and well cared for. Rich Hill was disappointing in the number of agricultural related resources found there. More was expected there because the 1876 Atlas of Greene County had indicated that this was an agricultural rich area. I did photograph the enclosed forebay Rizzi barn on the south side of Route 21 in that township.

As already stated, over half the barns in Greene County had enclosed forebays. Greene County had the largest amount (36%) of ground barns in the entire survey. These barns weren't typical of barns further east in that the floor was not actually on the ground. Most often, the barn was slightly banked, and the floor rested on stone piers, allowing a low crawl space on the side opposite the bank. The 1876 Atlas had indicated 24% of its barns were ground. Only one standard barn was sighted in Greene County, but 18% of the barns in the 1876 Atlas appeared standard. While this survey showed six (7%) barns with posted forebays, 13% of the Atlas barns had posted forebays. Generally, the Greene County barns were small. Sometimes, more than one barn was located on the same farm. These may be located in fields away from the central farm complex. Small, multiple barns suited the needs of the grazing culture of the area. If the barns in Greene County were painted, most often it was white. (146)

Although there are some double pile houses such as the Corbly House, most often, the houses took the I form. This is unlike south central and southeastern Pennsylvania where double pile houses predominate. In

addition, there were a greater number of one-story houses than is found in southeastern Pennsylvania. As already mentioned, there are saddlebag type houses found at Paisley. It is known from a previous study that these exist further south at Greensboro as well. In addition, Preserving Our Past, shows a good two-story brick example in Morris Township, Washington County. Although the author of this work notes that central chimney houses are rare in the county, another example, a two-story log house is shown in North Strabane Township. A brick two-story, two-door, four bay house was noted in Peters Township as well. A one-story frame example of this type was pictured from West Finley Township.

Building Survey--The frame Rea/Hart barn was surveyed in Cumberland Township. This double threshing floor barn has a simple post and beam bent form. It is a medium sized barn, measuring 40 feet x 60 feet. The framing members are hewn, and the numbered rafters are mortised and tenoned at their apex. There are two sets of rafters, with one set extending from the apex to the purlin and a second set from the purlin to the plate log. Although pictured in the 1876 atlas as a posted forebay barn, a new cement block foundation was installed in the late twentieth century which encloses the forebay. In 1876 Paul Rea had 60 sheep on this 115 acre farm. (see p. 157)

Previously, the Crawford/Rea barn in Cumberland Township was surveyed. This timber frame standard barn has a forebay extension. A single threshing floor barn, it has a somewhat atypical feature for Greene County, a wooden bridge connecting the earthen ramp to the threshing floor.

The Ralph Adamson farm located off Tustin Run Road north of Kuhntown in Wayne Township was surveyed. This farmstead retains many of the buildings and structures typical of Greene County agriculture of the late nineteenth/early twentieth century. Besides the frame house and barn, there is a smoke house, a stone and frame cave house/summer kitchen, a frame shed-roof chicken house, a frame grain house/storage shed, a frame hog pen, a garage/grain house, and a tractor shed. There is a frame loafing barn for sheep, with a central walk-through opening, located on a hill east of the house. The owners presently keep about 500 sheep on the 400 acre farm. (see p. 155)

Terry Cole, local building historian, guided me to his home in Wayne Township. The original house here was a one-and-a-half story, three-bay, 18 x 24 foot, log house. This v-notched house, formerly known as the Shriver house, has a single room on the first floor and a loft above. There are opposing central doors flanked by windows on either side. There is a fireplace along the south wall. The south wall between the fireplace and front of the house is filled with built-in cupboards. Between the fireplace and the rear wall are steps leading to the dogleg stairs. There is a closet beneath the stairs. The original wall sheathing in this room is walnut. He has added to this house by dismantling and re-erecting his ancestor Peter Cole's house next to the Shriver house. This house had been further north in this valley drained by Hoover's Run. It was a full two-story log house with a single room up and down. The cut stone fireplace was reconstructed as well. Typical of the area, the fireplace lintel measures seven feet in length.

Cole remarked that typically houses in the area had doors which opened

directly into the room. Often, if there were two rooms, there were two front doors. Often the kitchen was in a shed-roof addition to the rear of the house. Sometimes, the roof slope of the main block of the house was retained so that a salt box shape was created. Some houses in the area had double stacked porches. Cole said that some of these had been used for sleeping. (147)

Going north from the Shriver house, a two-and-a-half story, three bay, ashlar stone house with an 1851 dated door lintel was passed. This lintel was incised with a sun and two moons. A one-and-a-half story, two bay, log house, known as the Higgins house, was sighted in Franklin Township. It measures 18 x 24 feet. Reportedly, it had an 1811 datestone in the gable end. The house has a single room up and down and has an exterior stone chimney. Cole said that three quarters of the log houses he has examined in western Greene County had a measurement of 18 x 24 feet.

The Sellers/Orndorff farm on the north side of Route 21 in Center Township was surveyed. The two-and-a-half story, three-bay, stone house on the property was built in 1823. The datestone on the west gable wall notes it was built for George and Mary Sellers by William Blair, William Wood, and Perry A. Bayard. This was the 450 acre farm of Samuel Throckmorton in 1876. The first floor plan consists of a central hall flanked by two parlors each of which had a fireplace along the gable wall. The front windows are splayed. There is a kitchen ell to the rear of the house. (148)

Located east of the house, the double crib log barn has a frame extended forebay and an enclosed shed-roof addition to the rear as well. The cribs are twenty foot square. The v-notched white oak logs appear to have been originally exposed only on the rear side. There is a partial stone foundation under the log cribs providing a crawl space. The north crib is somewhat unusual in that it is divided with floor joists creating a hay loft and a stable section below. These joists are only hewn on their top side. The massive plate log extends out over the log wall of the forebay section. Underneath the forebay extension is a loafing area for cattle or sheep. The rear of this section is lined with troughs. The entire barn is sheathed with vertical siding. (see p. 152)

Other buildings and structures on this property include a frame meat house, a frame chicken house, a timber frame grain house/barn, a frame wagon shed/corn crib, and a shed-roof calf shed. There is a dug well behind the house, and the ruins of a spring are located in the hollow between house and barn.

The two-and-a-half story, four bay, single pile, brick Hoge house in Center Township was examined. It has two front doors and a kitchen ell to the rear. Although this house appears to have been built in the early nineteenth century, the stone spring house (measuring 14 x 14 feet) to the north of the main house, was reportedly built in the late eighteenth century. The first floor of this small, square building contains a small corner fireplace which is not typical of the area. Two windows on opposing sides light this room. The basement is entered by going down steps beneath the cantilevered roof. There is a door beneath the cantilever which would enable storage in the loft. The loft was likely entered via a wooden stepladder similar to that shown for the 1822 Sayer smokehouse as pictured in Stotz. (149)

The Thomas Eddy barn on Warrior Trail Ridge in Wayne Township was also surveyed. The gable end of this c. 1900 timber frame barn faces the road. The barn was built in typical three-bay fashion with stall areas on either side of the "cutting room." However, the eastern bay does not have the typical opening on the front, and it is not certain what the historic use of this section was. All of the framing members are sawn. The rafters of this steeply pitched roof are butted at their apex. The tie beam has a complex splice. The horse stalls in the western bay are virtually intact. There are small ventilators/windows throughout the barn which is covered with novelty siding. (150) (see p. 153)

A double crib log barn, in the process of being dismantled, was surveyed. Located on the southwestern border of Jefferson Township, the 1876 atlas indicates it was located on a 300 acre tract owned by John Moredock. The v-notched logs are hewn on two sides, and the barn appears to have been covered since its construction with vertical boards. Typically, it is banked to the rear providing access to the threshing floor. It never had a forebay, but there was a single story, timber frame addition to the front of the barn. There are opposing gable end entrances into the low ground level. The massive floor joists are only hewn on their top side. The front plate log is tilted out, and the rafters were cut out over it. The rafters are only hewn on their top side and mortised and tenoned at their apex. (151) (see pp. 154, 178)

The White/Minor farm was surveyed in Franklin Township. Located off Sy Huffman Mill Road, this farm appears to have been owned by William Gordon in 1876. An early stone house on this property later served as a smoke/spring house. The datestone on this house notes that it was built for Isaac and Jane White in 1803 by William Blair & Son. A single-room house, its floor joists extend to the outer wall. According to the owner, it has a fireplace with a keystone lintel. The fireplace support was seen in the cellar on the east gable end wall. Evidently there was a cantilever along the west gable end which was enclosed with a timber frame addition. This frame section was used as a smoke house. (152) (see p. 156)

The c. 1845 main house on the property is a two-and-a-half story, five bay, brick, I house. It has a double stacked portico. Front doors on the first and second floors have sunburst fanlights and rectangular paned sidelights. A wide hall separates the two twenty foot square rooms on the first and second floors. The room partitions are brick walls from basement to attic. There is a kitchen ell to the rear of the house.

The timber frame barn is unusual in its massive posts and beams and originally may have been a mill building. It is believed to have been converted into a barn by Harry Orndorff in the early twentieth century. Half the ground floor is divided for horse stalls and calf pens. The rear half is open with a feed box along the south wall. A wooden shoot extends from the feed box to the first floor. The floor joists are hewn on two sides. An addition was made in the twentieth century to the north side of the barn to house cows for milking. A cement block milk house was added to the west side of the barn during the twentieth century as well. The main block of the barn is covered with vertical siding.

Other buildings on the farm besides the already mentioned spring house and

milk house include a frame wash house/summer kitchen, a frame wagon shed/corn crib, and a frame chicken house. A sheep barn located on a hill west of the other buildings collapsed after a snow storm some years ago.

Agricultural Statistics

1798 Direct Tax

Barns: 191

Tench Coxe's 1810 Census statistics

wheat mills: 25 saw mills: -- flax mills: 1 fulling mills: 1

distilleries: -- No. of neat cattle: 6,000 No. of common sheep: 5,003

No. of Farmers	% of Population	% of Listed Occupations
1840: 3,812	19%	80%

No. of Farms

1880: 2,900

1890: 2,924

1900: 3,294

1910: 3,282

Improved Acres

1850: 161,612 1890: 288,470

1860: 201,413 1900: 306,334

1870: 230,594 1910: 306,584

1880: 271,049

Value of Farms

1850: \$4,447,781 1890: \$15,652,320

1860: \$7,442,626 1900: \$17,213,230

1870: \$13,554,374 1910: \$23,874,765

1880: \$13,748,657

Milk Cows

1850: 6,431 1890: 10,093

1860: 7,700 1900: 9,831

1870: 7,369 1910: 9,076

1880: 9,216

Sheep

1850: 54,978 1890: 172,517

1860: 55,121 1900: 175,833

1870: 121,135 1910: 158,275

1880: 158,372

Wheat (bushels)

1850: 189,149 1890: 300,921

1860: 88,416 1900: 262,920

1870: 255,584 1910: 176,346

1880: 317,890

Corn (bushels)

1850: 556,684	1890: 989,803
1860: 555,457	1900: 971,530
1870: 749,520	1910: 982,709
1880: 1,083,255	

Huntingdon County

Huntingdon County was created from the northeastern section of Bedford County in 1787. This included land drained by the lower part of the Raystown Branch of the Juniata River as well as the Frankstown Branch of the Juniata River. All three branches of the Juniata meet in Huntingdon County including the Little Juniata which come down from Tyrone. The 1792 Reading Howell map shows few settlements in the northwestern part of the county at that time.

Until 1846 Huntingdon also included what is now Blair County.

According to the 1832 Gazetteer of Pennsylvania, "The trade of the county, formerly by the Juniata River, and now by the river and the canal, is very considerable, in iron, grain, flour, whiskey, and lumber. The markets at Harrisburg, Middletown, York Haven, Marietta, and Columbia, and intervening depots between the Juniata, and Philadelphia and Baltimore, afford great facilities to the western trader." Statistics from this source include: grist mills, 62--saw mills, 120--fulling mills, 11--oil mills, 5--powder mills, 3--distilleries, 84--furnaces, 8--forges, 11--slitting 7 rolling mill, 1.(153)

Ralph Stone's work located Huntingdon County in the Vallemont region of the state, geologically much like Blair, Bedford, and Centre counties. As is common in this region, the ridges are made up of hard massive sandstones, and the lowland areas are limestone. The principal area of Trenton limestone is the broad valley in the northwest part of the county between Bald Eagle and Tussey mountains. He saw no building stone quarries within the county at that time. He listed several locations throughout the county where sandstone or limestone buildings and structures were erected. Among these were the old stone house at Water Street, limestone houses in Spruce Creek Valley, and single houses in Broad Top City and McConnellstown.(154)

Length: 38 miles; Breadth: 31 miles; area: 894 square miles

Population:

1790: 7,568	1860: 28,100
1800: 13,008	1870: 31,251
1810: 14,778	1880: 33,954
1820: 20,142	1890: 35,751
1830: 27,145	1900: 34,650
1840: 35,484	1910: 38,304
1850: 24,786	

Nancy Shedd, local historian and former project director of the Historic Resource Survey of Huntingdon County, was interviewed. She said that the survey found a barn type in southeastern Huntingdon County that had a small pent roof on the gable end. Otherwise it is not seen or rarely seen in the county. She agreed that the exterior stone chimney (bottle shaped) is often

found in that area. She is from the northeastern part of Huntingdon, and natives of the area always refer to Huntingdon County barns as opposed to Centre County ones which are noticeably different. The Centre barns often have a gable forebay extension and sometimes a rear gable extension as well. This is confirmed by Sara Hess's work on Centre County barns. Otherwise, the Centre County barns are of the standard type. (155)

Shedd noted that there was a special type of barn which was constructed to enable a horse wagon to turn around in it. She believed there was an example of this in the Trough Creek Valley. She directed me to several farmsteads which she felt were good, intact examples.

Township Survey--Dublin, Henderson, and Shirley townships were the Huntingdon County townships looked at. From the information garnered from these three townships, Huntingdon County appears to have a lot of active farms, but there are abandoned houses and farms near the mountains. Of the 23 barns surveyed in some manner there, most were of the standard type. Of the counties with previous surveys, this county had the lowest percentage (7%) of I houses. A majority (62%) of the houses were of frame construction, but the county also had next to the largest amount (25%) of log buildings. A majority (56%) of the buildings surveyed in these townships appeared to be built in the period 1860 to 1900.

Farm/Building Survey--Huntingdon County was entered from the south on Route 522 through Shade Gap in Dublin Township. Route 522 was continued through Black Log Valley to Orbisonia and through Cromwell Township to Shirley Township. Northeast of Shirleysburg, Germany Valley was surveyed. This has been a rich farming area for many years. Banked houses and houses with double stacked porches are located here. Situated in the midst of the valley is the 1836/1911 stone Church of the Brethren, built in meeting house fashion. This was a religious center for the German people of this valley. Stone, exterior chimneys can be found throughout this area on log/frame houses as well as on outbuildings.

Just east of the church, the Welch/McMath farm with a stone house and frame barn was surveyed. The south gable end of this four-bay house is banked into a hill. The windows of the second floor are shorter than those on the first floor. The barn on this property is a large example of the gable forebay extension type. Built c. 1919 by A.S. Welch, the large upright timbers are taller than most earlier barns and allow more space for hay and straw storage. The yellow pine flooring came from the ruins of the local powder mill. All the timbers in this barn are sawn except the jack pine rafters and some of the reused diagonal braces. These braces appear to have been part of the lehnstuhl truss system of an earlier barn. The timbers are not only pegged but braced with iron straps as well. At the apex of the roof the rafters face onto a ridge board. The granaries are located to the rear of the hay mows in each gable end. Apparently, there never were den walls in this barn. Originally painted red with white trim, the present owner painted the barn white with green trim because his father's barn was painted that color. (156) (see p. 161)

A large stone barn and stone farmhouse were also surveyed in Shirley Township. Located just east of where Aughwick Creek empties into the

Juniata River, this is one of the few farm complexes in the county to have both a stone house and barn. This three-bay house, built in the two-thirds Georgian plan, appears to have been built in the early nineteenth century. It has an uncommon window configuration with the first floor having 8/12 panes and second floor having 6/9 panes. The double threshing floor, standard barn is constructed of sandstone and limestone rubble and faces the Juniata River. The ends of the forebay are enclosed in peilereck fashion as found on some southeastern Pennsylvania barns. The gable end walls as well as the rear walls have rectangular, wooden, louvered ventilators. The round posts beneath the forebay appear to have been a later addition. (157) (see p. 180)

Route 522 was continued to its intersection with Route 22. Then Route 22 was taken north through Huntingdon. Only one barn was seen between Mt. Union and Huntingdon. This area along the Juniata River is covered with housing and commercial and industrial development.

Route 26 was followed southwest from Huntingdon into Penn Township. This narrow valley, whose western border is the Tussey Mountain, is drained by the Crooked and James creeks. Most of the township's houses appear to be wooden and double pile. There are a few stone and brick houses. Many are banked, and a few have central chimneys. Exterior stone chimneys are seen on outbuildings. A couple of two-front door houses were spotted in the township. The Brumbaugh homestead, located in this township, was destroyed by arsonists in recent years. Listed on the National Register in 1979, this house was a three-bay, stone, bank house built in 1804 with a brick addition built to the east gable end in the mid-nineteenth century. A large frame standard barn had stood on the property as well as numerous other domestic and agricultural outbuildings. The large barns in this valley attest to its rich agricultural heritage. A number of limekilns were also recorded in the township. The names of the farmsteads and the nearby Lutheran Church indicate that the area was settled by Germans. There had been a Church of the Brethren adjacent to the Brumbaugh house until it was demolished through the Raystown Dam project.

The c. 1890 Geisinger/Lynn barn, located just east of Route 26, is a large, posted forebay barn. There is also a shed-roof wagon shed on the north side of the barn. The entrance to the wagon shed is arched in the front. All the timbers are sawn and pegged together. Three sets of barn doors led to the triple threshing floors. The central bents were designed so that a wagon with its team of horses could enter the threshing area, turn around on the floor, and return out the doors. The granaries are located in front of each hay mow. The rafters are only flat on their topside and butt each other at the apex of the roof. Logs, hewn on two sides, have been added above the threshing floor on the west side to enable the storage of hay above that floor. Originally painted yellow, the barn now appears largely black. However, the three cupolas with Gothic ventilators on the roof are painted white. Large Gothic ventilators highlight the walls of the barn. Originally built on a cut limestone foundation, the barn was moved back from the Raystown Lake area and set upon a concrete block foundation. (158) (see p. 159)

The Bowers/Householder farm was also surveyed. It consists of a two-bay, banked stone house, a banked timber-frame and log tenant house, a stone and

frame spring house, ruins of timber-frame summer kitchen/wash house, combination wagon shed/corn crib, milk house, hog pen, and standard frame barn. The Historic Resource Survey had found this to be one of the most complete groups of early domestic buildings in the county. (see p. 160)

The main house, constructed of a brown sandstone, was built in rubblestone fashion with a double stacked porch on the south elevation. There is an entrance into the basement on this side also. The stone section of the spring house as well as the lower part of the house were whitewashed.

The timber-frame tenant house or "grandmother's house" has brick nogging on the lower part of the building and stone in the upper sections. It was sheathed with weatherboards which have deteriorated. At the east gable end of the building was an exterior stone chimney which is now surrounded by the shed roof, corner post log addition on that side. The double stacked porch on the south side of this building was enclosed on the first floor level but open on the ground level.

The barn, located across a dirt road from the house, dominates the agricultural segment of the complex which consists of frame structures except the concrete block milk house. The barn appears to date to the late nineteenth or early twentieth century.

The Harnish/Keller barn in Morris Township was surveyed. This frame, double threshing floor barn has the typical bent form of posts, double tie beams, and angled braces. All of the major framing members are hewn. Somewhat atypically, queen posts support the purlins which in turn supports the three sets of rafters. The first set extends from the purlins to the apex. These are mortised, tenoned, and pegged. The other sets extend from the purlins to the eaves. The shaped rafter tails indicate an early detail. There is a frame granary extension built to the rear of the west mow. About two feet in height was added to the front plate in order to extend the forebay.

Also associated with this barn is five-bay, two-and-a-half story, frame house with a kitchen section built to the side of it. The kitchen has an exterior stone and brick chimney. In addition, there is a three-bay, frame house with a steeply pitched roof and a small central chimney. This last house is evidently not as old as it looks.

The Caldwell stone house in Water Street was observed as well as the stone Kinkead/Shaffer house in Shaffersville. This last house has the hipped roof similar to those found on taverns in southwestern Pennsylvania. Some small Craftsman type houses survive in Shaffersville, but most of the buildings in Water Street have been demolished.

Survey Analysis--Historic Resource Surveys were conducted in Huntingdon County from 1978 to 1980 and in 1985. The 1873 Pomeroy's Atlas was used as the data base for rural areas in the county since population tables showed a county-wide peak in agricultural development prior to 1873. According to 1798 Direct Tax, Huntingdon, Barree, and West townships had the most buildings constructed of another material other than log, but nevertheless, there were very few of these. Shirley, Dublin, and Springfield townships only had a stone mill house while Tyrone, Franklin and Warriors Mark

townships had a stone grist mill.

According to the 1840 census, more wheat was raised in Huntingdon County than any other western Pennsylvania county except Washington. More rye was raised in the county than in any other western Pennsylvania county except Bedford. It ranked fourth in Indian corn production behind Fayette, Washington, and Westmoreland. In that year 51 brick and stone and 207 wooden houses were built in county.

The region of Warrior's Mark had early buildings, and the prosperity of the area's farms continues. This area served as a transportation corridor to and from Centre County since that county was more remote from early transportation routes.

Shirley Township retains the signs of prosperous early farming interests. Shirleysburg is the oldest town in the region. Germany Valley was settled by Germans in the early nineteenth century who pursued extensive farming and milling interests. The area where Aughwick and Licking creeks meet the Juniata River was a milling center.

Agricultural Statistics

1798 Direct Tax
Barns: 518

Tench Coxe's 1810 Census statistics
wheat mills: 30 saw mills: 50 flax mills: 1 fulling mills: 1
distilleries: 7 No. of neat cattle: 8,023 No. of common sheep: 11,000

No. of Farmers	% of Population	% of Listed Occupations
1840: 3,431	9%	59%

No. of Farms
1880: 2,579
1890: 2,391
1900: 2,425
1910: 2,285

Improved Acres
1850: 146,863 1890: 198,852
1860: 168,662 1900: 199,020
1870: 186,818 1910: 188,897
1880: 201,699

Value of Farms
1850: \$5,147,005 1890: \$7,410,865
1860: \$6,570,952 1900: \$6,220,930
1870: \$9,445,678 1910: \$6,899,152
1880: \$8,936,461

Milk Cows
1850: 6,227 1890: 8,416
1860: 7,254 1900: 7,907

1870: 7,120 1910: 8,325
 1880: 7,703

Sheep

1850: 19,636 1890: 18,847
 1860: 17,865 1900: 23,526
 1870: 17,780 1910: 14,505
 1880: 16,373

Wheat (bushels)

1850: 365,278 1890: 350,511
 1860: 267,663 1900: 339,920
 1870: 388,859 1910: 273,868
 1880: 353,934

Corn (bushels)

1850: 221,392 1890: 721,196
 1860: 486,432 1900: 831,210
 1870: 503,807 1910: 602,961
 1880: 759,237

Indiana County

From Sherman Day's 1843 history it is learned that Indiana County was separated from Westmoreland and Allegheny counties in 1803. The county statistics at that time were: length: 33 miles; breadth: 23 miles; area 825 square miles. The turnpike from Kittanning to Ebensburg passes through Indiana, the county seat of Indiana. "A very considerable quantity of agricultural products are sold in Blairsville, the surrounding country being very productive. Quite a number of houses are largely engaged in the pork business."(159)

The 1832 Gazetteer of Pennsylvania stated that the soil of the county is loam, varied by commixture with sand, gravel and clay; with these, vegetable mould is blended in the valleys, in various proportions, producing in many places exuberant fertility. The Mahoning and the Conemaugh are the only streams that are navigable within the county. The turnpike road from Ebensburg to Kittanning crosses the county from east to west running through the borough of Indiana. The chief exports are horses, neat cattle, sheep, swine, and salt. Statistics from this source include: grist mills, 22--saw mills, 30--fulling mills, 14--woolen manufactory, 2.(160)

Ralph Stone's 1932 book noted that the Mahoning sandstone was quarried extensively for the canal along the Conemaugh River and about 1900 two quarries, north of Tunnelton, of this sandstone produced bridge piers and abutments. He found that stone buildings are rare in the rural districts of Indiana County and not numerous in the towns.(161)

Population:

1810: 6,214 1870: 36,138
 1820: 8,882 1880: 40,527
 1830: 14,252 1890: 42,175
 1840: 20,782 1900: 42,556

1850: 27,170 1910: 66,210
 1860: 33,687

Township Survey--Pine, Burrell, and White townships were the municipalities whose survey forms were looked at in this county. Indiana County has had a lot of mining activity, and the survey reflects this in coal patch towns and industrial structures. This county had the largest average (29%) of the I house type. Over half (56%) of the buildings were of frame construction. Most of the surveyed buildings (67%) were constructed between 1860 and 1900. While only 10% of the buildings were constructed between 1780 and 1840, this is higher than Huntingdon and Bedford counties. Only 23 barns were shown in these townships. Of this number, 9 or 39% were of the enclosed forebay type. Only 4 or 17% were of the standard type. Another 4 had forebay extensions.

Historic Resource Survey--Indiana County had a survey conducted in the years 1979-80, 1985-86, and 1988-89. Cherryhill Township--The 1989 survey showed a c. 1910 bank barn there which was unusual because of its size (one of the largest in the county), and because there was a cellar vault beneath the ramp. This barn had a double set of threshing floors with corresponding sliding doors. The form noted that although this barn had horizontal siding, most within the county had vertical siding. Actually, this appears to be an enclosed forebay barn with ground level entrances near the center of each gable end. The survey cards from this township show a wide range of architecture from a one-and-a-half story log house with an exterior stone chimney, a corner-post log house, a couple of stone houses to late nineteenth century Victorian style houses. Only the McCrea barn in Burrell Township warranted an individual survey card. The surveyors noted that this standard barn with a wide forebay was "extremely rare in Indiana County." Therefore, it would appear that the standard type was over represented in the survey.

--Pine Township--Agriculture was the dominant activity in this township from the mid-to-late nineteenth century. However, the early twentieth century saw the rapid increase of the coal industry within the township, and the population increased almost 200% between 1900 and 1910. The surveyors identified, in some manner, twelve barns in the township. Forty-one percent of these were of the enclosed forebay type. Another 25% had gambrel roofs, and 16% of the barns were ground. The ruins of a log, single crib barn was shown on the Howard Gaydash property.

--White Township--Farming dominated the early history of the township, and coal mining was never significant in this township. The Kittanning-Indiana-Ebensburg turnpike intersected with the Northern turnpike in this township. The only barn that the 1988-89 surveyors evidently felt merited an individual survey card in White Township was the Clark barn just northwest of Indiana. This frame enclosed forebay barn had vertical board and batten siding of uniform width and long ventilators with arched heads. Although this barn had a typical form for the area, it was selected because it had the most architectural details. The surveyors found that in addition to the barn the most common agricultural/vernacular structure in the county was the corn crib. They identified the Lower corn crib in White Township as a good example. This crib rests on piers, has splayed sides, and a gable roof.

--Rayne Township--Farming was prevalent throughout the nineteenth century, but as was typical of the county, the population of the township greatly increased with the coal industry boom of the early twentieth century.

The best example of the dominant type of barn in the township, the enclosed forebay, was the c. 1865 G.H. Ream barn. This name was inscribed on one gable end. Other examples within the township showed the typical ramp to the rear, opposing doors on the gable end at ground level, vertical siding without ventilators, and a low masonry foundation at the front of the barn.

Farm Survey--Route 533 was taken west into Pine Township, Indiana County. It was difficult to find much farmland there. As in Cambria County, many of the farms are either no longer being worked, mining operations have disrupted farming operations, or farms have been consolidated, reducing the need for separate farm related structures. Most barns in the area are not embellished in any way. One gambrel roof barn there in the township was dated 1913.

The Dunlap/McGuire barn, an enclosed forebay barn in Green Township, near the McDowell Cemetery, was photographed. Typically, it has the gable end entrances at ground level. It has a star and two half-moon cutouts in the apex of the gable end. Instead of any ventilators, small holes were drilled in the vertical boards at certain heights across the barn. (This was the only example of this modification found during this survey.)

I took a photo of another barn (Griffith/Smith barn) in Pine Township. The gable end entrance showed a low, interior stone wall clearly delineating the entry way from the "storm shed" area and the animal stables. This barn was covered with unpainted vertical boards. It appears to have good integrity and would make a good example for a floor plan study.

Route 533 was continued west through Heilwood and Penn Run until it connected with Route 422. Route 422 was taken into Indiana and then west through White and Armstrong townships to near Shelocta where state and township routes were taken southeast. Here there were good, large farms in well-watered, limestone valleys. As was found in Cambria County, Indiana County had a large majority (69%) of enclosed forebay barns. Indiana also had the highest percentage (13%) of ground barns found up to this point in the survey. Another 13% had extended forebays.

Building Survey--The Dunlap/McGuire barn, mentioned above, was surveyed. This frame enclosed forebay barn has a single threshing floor. There is a granary to the rear of the north mow and one to the front of the south mow. The bent form is more typical of what is found in central Pennsylvania. It has double tie beams connected with posts notched into the tie beams. The purlin posts are erected in queen post fashion. All of the major framing members are hewn. Some of these have been reused. The shallow pitched roof on this barn is supported with sawn common rafters butted at their apex. The ground floor is laid out in typical enclosed forebay barn form. The front third of the barn was used as a storm shed area and was separated from the stall and feeding areas by a post and beam wall with Dutch doors opening into stalls and feed entries. Approximately the top half of this wall is ventilated with horizontal wooden slats. There are sliding doors into the gable end entrances. (see p. 162)

The previously mentioned Griffith/Smith barn was built in 1912 by Ebby Smith, the current owner's grandfather. Most of the hewn framing members

of this 50 x 80 foot enclosed forebay barn were reused. However, the purlin posts and braces were sawn. This double threshing floor barn has no granaries. (The granary is located in the loft of the wagon shed adjacent to the barn.) This barn displays the typical bent form of the area with a single tie beam, connected with end posts and angled braces. The purlin posts and braces are also in the inverted V form, typical of the area. The roof system is made up of three sets of sawn common rafters. The central set extends from the purlins to the apex where they butt. The other sets extend from the purlins to the eaves ends. (see p. 162)

The ground floor of the Griffith/Smith barn with its tripartite form remains largely intact. It has the typical rear stone wall of full height, and there is a low stone wall separating the shed area from the stall area. Gable end sliding doors open into the shed area as well as into the rear feeding entry. Spliced, sawn summerbeams rest on top of the posts which delineate the areas and support the summerbeams through the center of the barn. A similar beam or plate runs along the front of the barn and supports the ends of the floor joists. The cow stalls were located nearest the house and the horse stalls the farthest. Two sets of stairs come down from the first floor on either side of the threshing floors into the feeding entry. There is a large, wooden feed box against the rear wall. Mr. Smith described the front area of the barn as the "shed for cows to run in." (162)

The Haagen barn on Hillcrest Farm in Green Township was surveyed. Although the barn has 1913 written on it, the owner said it was built in 1923. Elmer Haagen and his neighbors were the builders. This enclosed forebay barn with its gambrel roof was built on the foundation of an earlier barn. Most of the hewn framing timbers in the barn are reused. The braces are sawn. The bent form is fairly typical of gambrel roof barns with posts and angled braces. As is typical of this region, the Haagen barn has a single tie beam. This double threshing floor barn has a partial loft over the north floor. There is a frame granary outshed to the rear of the north mow. The sawn common rafters are butted on a board. (163) (see p. 163)

Although most of these enclosed forebay barns only have a low wall separating the stall area from the shed area, the Haagen barn has a partial wall of full height at either gable end. In addition, there is a partial front stone wall of full height. As in other examples, this barn is supported with large posts along the division lines between walkway, stalls, and shed area. In this case, the partitions have been removed in the stall and walkway area and was used as a holding area for cattle before they were milked. The shed area was converted into a milking room by installing stanchions parallel to the front wall.

A cement block milk house was added to the north side of the barn and a pole barn was added to the south side of the barn. This was used for silage storage among other things. The stone foundation for an earlier round silo remains in front of the barn. A frame corn crib with angled sides has a narrow center with space above for corn as well. The frame spring house was expanded for use as a tenant house. The frame, two-and-a-half story, main house has a kitchen ell to the rear.

Northeastern Indiana County along with northwestern Cambria County is the

area where I concentrated my survey effort. The enclosed forebay barn is found consistently throughout the area and is the dominant type there. All of those surveyed were built as that type. However, most had been built of reused timbers and at least one was built on a former foundation. All of this indicates a rebuilding of the agricultural landscape as farmers adapted to changing agricultural needs and trends. The floor plans and bent forms show a shared knowledge and preference for a type that was used by the farmer/carpenter builders of the area. Most had a single tie beam and a variation of the canted purlin post. At least four Cambria County barns were noted with wooden bridges connecting the barn wall with the threshing floor. Three of these were actually surveyed. Although one of these types (the Perry barn in Green Township) had been seen in Indiana County on a previous tour, none were seen in the county this time.

Agricultural Statistics

Tench Coxe's 1810 Census statistics

wheat mills: 16 saw mills: 17 flax mills: 0 fulling mills: 3
distilleries: 27 No. of neat cattle: 5,995 No. of common sheep: 6,432

No. of Farmers	% of Population	% of Listed Occupations
1840: 4,536	21%	79%

No. of Farms

1880: 4,438

1890: 4,644

1900: 4,475

1910: 4,459

Improved Acres

1850: 157,655 1890: 335,257

1860: 223,544 1900: 337,635

1870: 256,023 1910: 315,480

1880: 312,321

Value of Farms

1850: \$3,118,954 1890: \$15,068,660

1860: \$6,847,960 1900: \$14,618,510

1870: \$12,945,069 1910: \$19,602,989

1880: \$13,553,842

Milk Cows

1850: 8,998 1890: 14,214

1860: 12,627 1900: 13,918

1870: 12,061 1910: 13,172

1880: 14,118

Sheep

1850: 46,345 1890: 50,744

1860: 39,917 1900: 47,709

1870: 44,054 1910: 16,069

1880: 61,732

Wheat (bushels)

1850: 209,763	1890: 286,678
1860: 50,867	1900: 334,520
1870: 308,183	1910: 220,951
1880: 309,752	

Corn (bushels)

1850: 213,636	1890: 672,545
1860: 241,039	1900: 829,130
1870: 652,263	1910: 740,879
1880: 914,695	

Somerset County

The following was abstracted from Sherman Day's 1843 history. Somerset County was created out of the western part of Bedford County in 1795. Among its statistics then were: length: 38 miles; breadth 28 miles; area: 1,078 square miles. The state's highest peak is in the county, and the mountain climate is unusually cool, with short growing seasons. The citizens of this county are chiefly of German descent, and German is the prevailing language. (164)

"The county is composed of a high and rather level table-land, between Allegheny Mountain on the east and Laurel Hill on the west. It abounds in what is called glades--level wet lands, about the headwaters of the numerous streams that rise in the county. The climate of this elevated region is too cold, and the summers too short for raising corn, and the land is generally too wet for raising for wheat. Oats, rye, hay, and potatoes are the principal crops." The principal business of the county is grazing. The raising of sheep, with a view to wool growing, for the last few years, has claimed the attention of the farmers. (165)

The National Road passes through the southwestern part of the county. The Glade turnpike, from Bedford to Washington, passes through the center of the county. The Chambersburg and Pittsburgh turnpike passes ten miles north of Somerset and goes through Stoystown. The Cumberland and Somerset turnpike opens a communication with the Baltimore Railroad at Cumberland. (166)

The Gazetteer of Pennsylvania had this to say of Somerset County. "The soil, generally of loam, is well adapted to grain, and the clayey portions particularly fitted for meadow grasses. Three turnpike roads pass through the county. Upon these, and on the principal country roads, good bridges, generally of stone, are erected. Large quantities of wheat, rye, and oats are raised, the latter of which is uncommonly heavy. But the chief rural business is grazing. The breed of cattle is somewhat peculiar, being very small horned, and is much esteemed. The butter is of excellent quality, and is exported in large quantities. Much attention is also given to the breeding of sheep. The chief manufactures are of flour, iron, and whiskey." The statistics taken from this source include: grist mills, 65--saw mills, 90--fulling mills, 12--carding machines, 25--distilleries, 20--furnaces, 3--forges, 3. (167)

Rupp's History of Western Pennsylvania noted this of the county. "The southern part of the county is best adapted to the raising of corn and wheat; the middle and northern portion produce good crops of oats, potatoes and grass; and if ever, scarce any corn crops that repay the labor bestowed, tilling the ground. The whole county is well adapted to grazing, keeping and feeding cattle, sheep, hogs, and livestock in general. The products of the dairy are profitable; from \$65,000 to \$75,000 annually. The finest butter in the world is made in this county; and there are extensive dairy farms which produce it in large quantities for exportation. The county abounds in what are known by the name of glades, low, level, wet lands. The dairies kept here produce the well-known 'glades butter,' sought after so much in the Baltimore markets." Statistics from this source include: grist mills, 64--flouring mills, 2--saw mills, 141--fulling mills, 13--woolen manufactories, 2--oil mills, 4--dairy products, \$56,550.(168)

Ralph Stone's work had these remarks on Somerset. "Somerset contains the highest land in the state. Stone suitable for building is widespread in this county. Some of the sandstones are not only durable but massive enough to yield sizeable blocks. The limestones are hard to work and break with irregular fractures. Most of the building stone produced in this county is gotten out by farmers for their own use or on demand when a mason has an order for stone construction. Limestone is quarried in several places in the county and burned for lime and soil sweetener, but I do not know of its being used for building stone."(169)

Population:

1800: 10,188	1860: 26,778
1810: 11,284	1870: 28,226
1820: 13,890	1880: 33,110
1830: 17,741	1890: 37,317
1840: 19,650	1900: 49,461
1850: 24,416	1910: 67,717

Township survey--The townships selected in Somerset County were Stonycreek, Elk Lick, and Jenner. The Historic Resource Survey of the entire county was conducted from 1984 and 1987. This county's survey team appeared to be looking for the oldest representatives of various buildings. They also seem to have a predilection for log buildings. This county had the largest amount (54%) of buildings constructed between 1780 and 1840 and the lowest average percentage (19%) of houses built between 1860 and 1900. Somerset also had the largest average percentage (41%) of log buildings in the seven counties. Only a third of the buildings surveyed were frame. This county also had the highest number (35%) of bank houses and the highest number (50%) of houses listed as vernacular in this study. The barns included in these three townships showed that the large cathedral style barn was not only found in the eastern and central townships but the western (Jenner) as well. Jenner even had an example of the Sweitzer type which is uncommon this far west in the state. Of the five barns surveyed in Elk Lick, three were log and one of these was a ground barn. Ground barns are relatively rare in Somerset. Unlike most surveys, the Somerset Survey actually showed an interest in determining what were representative or rare examples of barns throughout the county.

Farm Survey--In Somerset County, barns were surveyed along the north side of the turnpike. At Somerset, I took Route 31 east passing from Somerset Township to Brothersvalley Township to Brotherton. At Brotherton I headed south to Berlin, passing the white, standard barn on Pike School Road which had been photographed previously. Then Route 219 was taken northwest back to Somerset. Few farms exist along this route. Next I went west through Somerset and took Route 31 west beyond Lavansville or just inside the Jefferson Township line.

Route 281 was taken southwest through the villages of New Centerville and Kingwood and Milford, Middlecreek, and Upper and Lower Turkeyfoot townships to Confluence. A highly embellished (Carpenter Gothic) enclosed forebay barn in Middlecreek Township was photographed. Barns in this area are similar to what I had seen in Stoneycreek and Brothersvalley townships. They tend to be rather large barns, sometimes painted red with white carpenter Gothic ventilators. This route passes through much beautiful rolling farmland, and this is where most of my farmsteads in Somerset County were recorded. Of the 71 barns surveyed in Somerset 36 or 51% had enclosed forebays. Another 11 had gable forebay extensions, and 11 had gambrel roofs. This is the easternmost county with a concentration of enclosed forebay barns, and the first county west of the Susquehanna not dominated by the standard barn type.

Building Survey--Mark Ware of the Somerset Historical Center and Calvin Will of the Berlin Historical Society greatly facilitated my entry into Somerset County's barns and shared their knowledge of them. This area is widely known for its great barns, most of which have enclosed forebays. These were either built as standard barns and enclosed later or built as enclosed barns. I was particularly interested in learning how these enclosed forebay barns differed structurally from the standard Pennsylvania barn. The ground levels of several barns were checked. Among these was the Good/Cober farm in Brothersvalley Township. This barn had the typical low foundation wall in the front. Three summerbeams carried the weight of the central part of the barn. Although there was horizontal division of space in this barn, it could not be ascertained whether this was the original layout.

The Landis/Hickle barn, also in Stonycreek Township, was examined. This barn appeared to have been built in the early twentieth century. A smaller barn than the Glessner barn (described below), it only had two summerbeams. Apparently retaining its original layout, the Landis barn's ground level gable end entrances led to a horizontal plan with stanchions and walkways. It also had interior silos, a somewhat unusual feature. In these examples, there was a long, spliced timber resting on top of posts which were supported by the low, front wall. No longer was an internal cantilever used.

The 1890 Heffley/Sherbine standard barn on the Highland Farm was surveyed. It was built for Peter Heffley, perhaps the area's best known agricultural reformer. Heffley was known throughout the state for his experimentation with new farming methods. He tried new varieties of wheat, rye, oats, and potatoes, and new breeds of horses, cattle, sheep, swine, and poultry. The barn, measuring 90 x 100 feet, on this farm was built by Josiah Werner. It was the largest of its type in Somerset County and was raised with the assistance of 100 men in the fall of 1890. Evidently it had been begun in

August and was finished in November. It appears that a large gable forebay was added later. This barn was built of sawn timbers. The interior presents a refined sleek appearance and a feeling of height and roominess which the old massive timbered barns lack. This is one of the great "cathedral" barns of Somerset County. (170) (see p. 164)

Another of the great "cathedral" barns is the 1889 J.M. Glessner barn. Located in Stonycreek Township, this barn was built by Ed Landis, another local barn builder. This large barn (48 x 136 feet) has five threshing floor spaces and four sets of rear barn doors. The Glessner barn is one of the largest and most highly decorated in the area. It has the great applied five-pointed stars in the gable ends and Gothic ventilators across the front and sides. The white stars and ventilators painted on the red vertical boards as background presents a majestic statement about Somerset's agricultural landscape. (171)

The Glessner barn's hewn framing timbers with posts, double tie beams, and angled braces is typical of the area. Also typical of enclosed forebay barns, it has a full height stone wall to the rear and a low foundation wall along the front. The heavy floor joists, hewn on two sides, are supported through the center of the structure by three unevenly spaced summerbeams. There are opposing gable end entrances near the front of the barn. To enclose the "storm shed" area at the front of the ground floor, heavy plank studs support a spliced plate on which the ends of the joists rest. There is a small enclosed room in the southeast corner possibly associated with the dairy operation. The original ground floor plan appears to have been altered in the mid-to-late twentieth century for a large dairy operation. (see pp. 165, 181)

The Good/Cober barn in Brothersvalley Township was also examined. Its framing members are all sawn and again has a typical bent with posts, tie beams, and braces. This enclosed forebay barn has three summerbeams supporting the floor joists. While there is a stone wall of basement height on the rear, there is only a low stone foundation in front, typical of this type of barn. (see p. 165)

Another research question I tried to solve was whether the log barns of Somerset had definable differences from those observed in other counties. On previous jaunts through Somerset I had examined at least three log barns. These included the Weighley, the Yoder/Knepper, and the Ringler/Snyder barns. The 21 x 30 foot Ringler/Snyder barn is different from the others in that it is a ground barn and consists of a single crib. The extensions of the floor joists on the front seems to indicate that there was a forebay originally. Therefore, this barn may have been similar to the Heirline barn in Bedford County.

The c. 1843 Weighley/Wegerline barn in Brothersvalley Township is a double crib log barn. A Sweitzer type, it is constructed of v-notched logs covered with vertical boards. This barn has a somewhat unusual floor plan in that there is a separate enclosed area along the north and west sides of the barn separate from the foundation that supports the log cribs. This enclosed area is of timber frame construction resting on a low rubblestone foundation. The western crib is twenty-four foot square while the eastern crib measures 20 x 24 feet. The roof extends out over the rear of the barn in shed-roof fashion

creating space for a granary and additional storage. This single granary is located behind the eastern crib. The narrow, sixteen-foot threshing floor is entered across a narrow wooden bridge from the bridge wall. The flooring is puncheon style with wooden pegs. Loose logs of various widths were placed between the cribs about nine feet off the threshing floor to create a loft area. Currently, these only exist at either end of the cribs. (172) (see pp. 164, 180)

The roof structure is composed of three sets of common rafters; the one set is above the log cribs, while the other two extend from the plate logs over the rear shed and forebay sections. Some of the rafters are hewn on two sides and some only on their top side. They are mortised and tenoned at their apex. The rafter tails extend out over the plate log.

A single summerbeam supports the floor joists which extend out over the front wall to support the forebay. The ground level contained horse and cow stalls, feeding entries, and a milking area beneath the main block of the barn. The area between the main foundation walls and the outer foundation served as a wagon shed, storage, and a place where young cattle and chickens were housed.

The c. 1841 Yoder/Knepper barn, in Stonycreek Township, is a double crib, v-notched, log barn covered with vertical siding. It is similar to the Weighley barn in that it is built in the Sweitzer style. Each crib of this barn measures 24 x 30 feet. A ten-foot shed roof extension to the rear allows for granaries there. With a double threshing floor of 36 feet, the total length of the barn is 84 feet, the largest of the log barns surveyed. The members of the central bent between threshing floors consists only of posts and angled braces which are numbered. Unlike other roof systems on log barns within the county, this barn's roof system is supported on queen posts which rest on the tie beam connecting the plate logs. The queen posts have tenons to catch the underside of rafters and notches to carry the through purlins.

The double crib log Smith/Rapp barn was surveyed in Somerset Township. The threshing floor of this barn is almost twice the size of most log barns surveyed in southwestern Pennsylvania. Similar to the Weighley barn, it has a low rubblestone foundation wall, and its log walls extend up from the stable area into the mows. Consequently, while the logs are not chinked (chunked) on the first floor, they are filled with long planks and mud on the ground floor. In addition, the cribs of this barn are of unequal size similar to the Weighley barn. This barn has a pent roof on its east side instead of the more usual forebay. The pent roof is created by the extension of the massive floor joists which are hewn on two sides. The joists are supported on a single summerbeam through the center of the barn. (see p. 166)

Posts and a tie beam separates the two threshing floors. The large plate log is spliced at the central bent. The larger of the two cribs had a large opening near the square on the exterior side. This was evidently used to unload hay. Subsequently, it was covered over with boards. This crib has two horizontal openings on the threshing floor side.

Two other log barns were recorded in the Historic Resource Survey for Somerset County. The Hay/Croner barn in Brothersvalley Township is also a double crib log barn with cribs of equal size measuring 20 x 19 feet. Like

the Smith/Rapp barn it has a double threshing floor. This one is larger at 40 feet. The overall dimensions of this barn are 35 x 80 feet. The eight foot shed-roof extension to the rear provided space on either side of the threshing floor for granaries.

The Knepper/Croner barn, also in Brothersvalley Township, is a double crib, v-notched, log barn. Its cribs measure 22 x 21 feet (north bay) and 18 x 21 feet (south bay). The threshing floor measures 33 feet, so that the overall barn measures 40 x 73 feet. The forebay measures nine foot. This one is also similar to the Weighley barn with log stable walls resting on a low foundation. The granaries to this barn are located in front of the mows in the forebay. In addition to the above mentioned three barns with log stable walls was the Israel Shockey barn in Greenville Township on the southern border of the county. It was replaced in 1904 with an enclosed forebay barn built by Josiah Werner. This type of bank barn with the crib walls extending down into the stable area appears to be peculiar to Somerset County, but the general Sweitzer form is seen in log barns of central and southeastern Pennsylvania. (173)

Besides these log Sweitzer barns, it is known that there was at least one stone Sweitzer barn within the county. This barn was situated on the Lewis Miller farm just northwest of the borough of Somerset. Supposedly built by Harmon Husband, the barn was demolished in 1920. (Harmon died in 1795, and his family was not taxed with a stone barn in 1798.) Instead of the usual vertical slit ventilators, numerous square holes filled the gable end. There appears to have been a circular niche in the apex of the gable for a datestone or board. (174)

Agricultural Statistics

1798 Direct Tax
Barns: 434

Tench Coxe's 1810 Census statistics
wheat mills: 40 saw mills: 44 flax mills: 2 fulling mills: 5
distilleries: 80 No. of neat cattle: 14,908 No. of common sheep: 13,469

No. of Farmers	% of Population	% of Listed Occupations
1840: 3,556	18%	76%

No. of Farms
1880: 3,393
1890: 3,471
1900: 3,782
1910: 3,933

Improved Acres
1850: 165,824 1890: 280,875
1860: 302,670 1900: 279,970
1870: 249,615 1910: 258,154
1880: 298,300

Value of Farms

1850: \$3,874,520	1890: \$11,726,250
1860: \$8,764,526	1900: \$12,914,240
1870: \$12,043,715	1910: \$19,153,864
1880: \$11,858,391	

Milk Cows

1850: 11,651	1890: 14,655
1860: 18,916	1900: 13,936
1870: 13,811	1910: 14,725
1880: 15,151	

Sheep

1850: 28,306	1890: 30,832
1860: 38,620	1900: 34,444
1870: 32,343	1910: 14,499
1880: 26,063	

Wheat (bushels)

1850: 92,136	1890: 241,785
1860: 52,998	1900: 395,300
1870: 134,631	1910: 180,097
1880: 192,870	

Corn: (bushels)

1850: 31,166	1890: 306,779
1860: 155,851	1900: 637,140
1870: 92,277	1910: 658,945
1880: 323,367	

Washington County

Sherman Day's history stated that Washington County was created from the area of Westmoreland County west of the Monongahela River in 1781. This book gave this statistics for the county: length: 31 miles; breadth: 28 miles; area: 857 square miles. (175)

The Gazetteer of Pennsylvania had this to say of the county's agriculture. "The surface has a rolling character, and in some places may be termed hilly. The chief business of the county is agriculture, breeding and grazing cattle. There are three small manufactories of wool. The market for grain in the county having been overstocked, the inhabitants have devoted their attention for some years past to the breeding of horses, cattle, and sheep, in which they have been eminently successful. Many fine horses are annually sold for the eastern and southern markets, and large quantities of stock cattle are exported on the hoof; whilst the sheep have increased in the ratio of 20% per annum, until they amount to 200,000, and occupy a fourth of the cultivated lands of the county, producing annually 600,000 pounds of wool. About one half the number of sheep are full blood and mixed merinos. There are, however, notwithstanding this attention to sheep, considerable quantities of wheat, rye, and whiskey exported." There are three turnpike roads in the county. (176)

Rupp's History of Western Pennsylvania noted this of Washington. "The soil is very fertile, and highly productive when carefully cultivated; as an agricultural district it is not much inferior to any in the state." Among Rupp's statistics pertinent to the county: grist mills, 66--flouring mills, 25--saw mills, 72--fulling mills, 3--woolen manufactories, 3--distilleries, 18--dairy products, \$75,937. (177)

Day also noted that the soil is exceedingly fertile, producing abundant crops of grain and fruits. "Luxuriant meadows are found along the streams, and pasturage on the hillsides. The principal river is the Monongahela, which flows through a deep valley along the eastern boundary. The center of the county is a summit level, from which flow in various directions, the sources of Chartiers Creek, Buffalo Creek, Ten Mile Creek, and lesser streams." (178)

"There are 15 or 20 steam mills in the county, for making flour and carding wool. The predominant business is agriculture, especially the departments of breeding and grazing cattle, and the raising of wool. Within the last 20 years the attention of the farmers has been directed to the latter product, until it has become the staple commodity of the county. In 1830, the estimate was made that there were in the county 145,000 sheep; the census of 1840 shows 222,631, yielding annually from 500,000 to 700,000 pounds of wool." (179)

At that time the county was intersected by three excellent turnpikes; the National Road, passing through the center, the Washington and Pittsburgh turnpike, and the Washington and Williamsport, or Monongahela City turnpike, passing on towards Somerset and generally known as the Glades Road.

Day also commented on the origins of the settlers. "The county was originally settled by Scotch-Irish from Bedford and York counties, from the Kittatinny Valley, from Virginia, and directly from Ireland; and although Germans and other races have since come in, the descendants of the original settlers still predominate, and their influence prevails in the manners and religious and literary institutions of the county." (180)

Tench Coxe advocated the theory that manufactures facilitate the development of agriculture. He used the 1810 census figures for Washington County as an example. He noted that interior settlements such as Washington County on the western border of Pennsylvania illustrated the favorable effects of manufacturing. While its population was inconsiderable compared to more eastern counties, it had the highest number of sheep, the second highest number of horses, and the highest amount of meal produced in the state. Washington County's manufactures in mills and shops, exclusive of flour, amounted to 1.6 million. This was a hefty amount considering that there were no iron works in the county. (181)

Ralph Stone's book provided a good insight into the early building history of the county. Washington and Greene counties are very similar geologically. Although some of the limestone beds are several feet thick, the individual layers may be thin, or where thick enough, are difficult to dress. Therefore, the use of native limestone for building purposes is rare. Two of the earliest buildings in Washington, the c. 1788 Bradford House (National Register 1973)

and the c. 1793 administration building at Washington and Jefferson College (National Register 1977) are the only known examples of limestone buildings in the county. Rarely is the bedding of sandstone sufficiently massive and regular for dimension stone. Many small openings have been made for stone to use in rough masonry foundations for houses and barns, but whole buildings of native Washington County stone are rare. Farm buildings of locally made brick are common. The river towns of the county contain few stone buildings. The rare stone houses in the country are of local Coal measure sandstone, an example of this is the Century Inn (Hills Tavern National Register 1974). The oldest house in the Monongahela Valley was the c. 1783 Andrew McFarlane house near Elrama. (182)

Population:

1790: 23,866	1860: 46,805
1800: 28,293	1870: 48,483
1810: 36,289	1880: 55,418
1820: 40,038	1890: 71,155
1830: 42,860	1900: 92,181
1840: 41,279	1910: 143,680
1850: 44,939	

Farm Survey--From Waynesburg, Route 79 was taken north through Washington Township into Washington County. Route 79 passes through Amwell Township, and in this township Route 19 was traveled north. At this intersection a white enclosed forebay barn was photographed. It was inscribed, "Pine Grove Farm 1857." Route 40 was journeyed west after it intersected with Route 19. Route 40 was continued west through Washington and Buffalo Township and just into Donegal Township. One of the barns I noted was a enclosed forebay barn (Buffalo Township) on the south side of the road dated 1876. Route 40 was again taken back to Washington. Unlike the section of Route 40 which I traveled in Fayette County, this section in Washington County had a good number of farms located along it. Just northeast of Washington on Route 19 is the well-known octagonal barn built in 1888 for Robert Wylie. Although unpainted and covered with vertical board and batten siding, it appears in good condition. It had been previously photographed. (183)

Route 79 was continued north to Canonsburg. At Canonsburg I took Route 980 northwest into Cecil Township. Along Route 980 was a small enclosed forebay barn dated 1907. At Venice Route 50 was traveled west into Mount Pleasant and Cross Creek townships, through the villages of Hickory and Rea and as far west as Avella. The travel through this area was a little disappointing in the number of farms seen. The 1876 atlas had indicated that Cecil, Mount Pleasant, and Cross Creek townships were good agricultural areas.

After traveling back to Washington, I took Route 70 east through South Strabane, Somerset, and Fallowfield townships. The barns along this route attest to the fact that this was a good farming area.

Of the 67 barns surveyed in Washington County, a good majority (66%) were of the enclosed forebay type. This is the highest percentage of any of the counties surveyed except Cambria and Indiana counties. The 1876 Atlas of

Washington County had indicated that only 20% had enclosed forebays at that time. No standard barns were seen in Washington during this survey, but the Atlas had indicated 26% were of this type. However, eight barns (12%) had extended forebays and seven (10%) had gambrel roofs. Four barns (6%) were found during this survey with posted forebays, but the Atlas showed 23% of this type. There were only three ground barns (4%) seen in Washington, but 32 (36%) had been seen in Greene County. Only eight barns were surveyed in Preserving Our Past, a book on Washington County architecture. The authors were apparently looking for the earliest or most unusual types in the county. Of this number, three were of the standard type--one frame, and two log. The stone Sweitzer barn was very similar to the two Sweitzers found in Bullsken Township, Fayette County. The remaining four were ground barns, three of which were log. Three of the barns were located in Canton Township. (184)

It would appear the I house is not as significant to the architectural landscape here as it is in Greene County. However, based on the survey in Preserving Our Past, the I house runs a close second to double pile houses. The houses pictured in that book show that the one-story house was more favored here than in the eastern part of the state. This book shows about 21% of the houses as one or one-and-a-half story. This compares to 2% found in the Pennsylvania Culture Region of southeastern and south central Pennsylvania. As already mentioned, Charles Stotz surveyed southwestern Pennsylvania in the 1930s. Of the houses his team surveyed in Washington County, 31% were of one or one-and-a-half stories. Of the Washington County houses surveyed, 53% were three-bays in width and another 38% were two-bays. Nearly half the houses surveyed in the Pennsylvania Culture Region were three bays. Few two-bay houses were found there.

The Stotz survey of Washington County only showed three barns, two log and one stone. The log ones were dated 1794 and 1805 while the stone one was dated 1820. One of the log barns was the double crib log McConnell barn in Cecil Township. The Baker stone barn, near West Brownsville, had frame granary extensions to the rear and a raised, enclosed roof or porch over part of the bridge wall in line with the rear granary extensions. This barn is now part of the California University campus. The rear frame extensions have been removed. There is currently a concrete bridge connecting the ramp and the threshing floor. The forebay has enclosed ends with the peilereck which is more commonly found in southeastern Pennsylvania. (185) (see p. 171)

A previous survey of Washington County for Whiskey Rebellion related buildings had revealed that the Huffman farm in Somerset Township was well preserved. This farm boasts a timber frame Sweitzer barn, a four-bay, brick, banked house typical of Pennsylvania German areas, and a great array of outbuildings. Although the outbuildings of the Huffman farm are located at various positions following contours of the land between the house and barns, the Hawkins farm, also in Somerset Township, consolidated many of its outbuildings into a single five-room building. This brick, one-story building contains a wash house, summer kitchen, and a spring house.

Building Survey--The Manchester/Painter farm in Independence Township was surveyed. This is an amazing complex of agricultural buildings, some of which date to the early nineteenth century. Descendants of the original

developers of this tract still own and operate the farm. The 1812 two-and-a-half story, five bay, brick house on this property was distinguished enough to be featured in Stotz's 1936 study of architecture. Federal style details are manifested in the door surround and cornice moldings.

Many of the original fences and fence lines remain also. These include the picket fences around the house and the stone fences on all sides of the barnyard with gates at certain locations. These delineate the house yard, garden, paths/roads, work areas, and the barnyard.

To the rear of the house is a 1925 brick garage. Also behind the house is a one-story, frame wood house. It was constructed from timbers of the original log house on the property and is presently covered with vertical, beaded siding. Perhaps the earliest building in the complex is the still house. A timber frame building, it is covered with German drop siding. The brick carriage house/spring house is built into the bank with the carriage house on the upper level and spring house on the lower. On the surface, the granary building appears to be a two-story timber frame "pinned oak" building covered with vertical siding. However, beneath the building is the chicken house which is entered from the barnyard. The top floor extends out over the first floor about a foot on all sides. The shed-roof calf pen is located along the west wall of the barnyard and is surrounded by a cement block wall. What is presently called the work shop or carpenter shop was formerly a combination blacksmith shop, butcher shop, and cider mill. In the twentieth century this building was completely renovated. The present frame building is covered with German drop siding and rests on a cement block foundation. An early twentieth-century silo and milk house are located between the workshop and the barn. (see p. 168)

The 1803 Sweitzer barn appears to have been renovated and updated in the late nineteenth century. The posted forebay and gable end lattice work ventilators are indicative of progressive farming trends of that period. In addition, the interior was reworked to provide more storage space. In the location of a central threshing floor, timbers were framed to support a second floor above the threshing floor. The joists for this floor are sawn. In addition, the den walls were raised to about eight feet, almost twice their usual height. A stair was constructed in the southeast corner of the threshing floor area. The tapered, hewn oak rafters are supported with collars and birdmouthed over the plate log. They are numbered and mortised and tenoned at their apex. (see p. 167)

Eugene Painter, the present owner, noted that the barn was converted for sheep about 1860, when there were about 1000 sheep on this farm. A frame sheep barn is located east of the complex, off the road going past the still house. The 1876 atlas shows the property as owned by Col. A. Manchester and containing 400 acres. In 1936 concrete flooring and stanchions for dairying were installed in the barn. The farm was generally a mixed livestock farm and was one of the first with Devon cattle. (186)

The Nesbitt/Walker barn west of Route 18 in Canton Township was surveyed. A double crib log barn, it is unusual in that it has a cantilevered forebay as well as a cantilever to the rear which would provide a protected outside work space. While the extension of the floor joists provide the support for the

forebay, the extension of logs at the top of the forebay provide support for the rear cantilever. Although it now has a cement block foundation, it retains overall good integrity. Its original barn doors are intact with their wooden hinges. Many of the original logs survive with their bark in place. They appear to be white oak. Although the plank ramp is not of original material, it is in the same position of the original. As is typical of log barns, this barn has three sets of rafters. The set over the cribs extends from the apex to the plate logs. This set is half lapped and pegged at their apex. The other sets extend from the plates on either side of the cribs out over the forebay and rear cantilever respectively. The 1876 atlas shows John Nesbit with 71 acres on Chartiers Creek. (187)

The Kinder/Appel farm in Deemston Borough was also surveyed. The two-and-a-half story, four-bay, double pile stone house reportedly was built in the late eighteenth century. It's four-bay appearance with the front door opening into the kitchen may indicate the Germanic origin of the builder. Back-to-back fireplaces on the opposite gable end provide warmth to the parlors there.

The standard barn on the property has a single tie beam, typical of Washington County. Its tie beam is mortised and tenoned directly into the end posts. The tie beam is supported with a series of posts, and the plate logs rest on top of the end posts. The tapered common rafters are birdmouthed over the plate log and mortised and tenoned at their apex. The hewn timbers in this barn are massive. Unlike the Manchester barn, the rafters here do not have collars. The mows are separated with a single threshing floor, and there is a granary to the front of the south mow. A single massive summerbeam (14 inches in height) supports the floor joists. (188) (see p. 169)

Other buildings and structures on this farm include a cement block spring house which replaces an earlier spring house at the same location and a cement block garage behind the house. The twentieth-century milk house is built to the front of the barn. There is a wooden silo to the rear of the barn. The frame wagon shed/tractor shed rests on cement block piers. A wire corn crib is situated between the tractor shed and the frame pig house. A cement block poultry processing house is located southeast of the pig house.

In addition, the Wonsettler farm in North Bethlehem Township was surveyed. This complex consists of a two-bay, two-and-a-half story log house, a frame Sweitzer barn, and nine ancillary farm related buildings and structures. This farm has remained in the Wonsettler family since it was settled in the early nineteenth century. (189)

The Sweitzer barn type is relatively rare in southwestern Pennsylvania, and this is an intact example. Other significant features of this barn include the vertical siding attached with wooden pegs and intact wooden horse stalls in the lower level. A single threshing floor barn, it has a single granary to the front of the north mow. There is a partial loft above the threshing floor. Like the other Washington County barns surveyed it only has a single tie beam which is connected to posts and braces. There are no ventilators, but there is a single decorative circle in the apex of the gable end. The rafters are hewn on two sides and are butted at their apex. (see p. 170)

The log house has two rooms up and two down. To the north side of the house there is a timber frame addition sheathed with brick. The single exterior chimney has been removed.

Other buildings associated with the Wonsettler farmstead include a glazed tile spring house, a two-story, timber frame stable/hog pen, two timber frame corn cribs, a concrete block milk house, a frame coal house/chicken house, a frame shed-roof chicken house, a pole barn equipment shed, and a concrete tile silo.

Agricultural Statistics

Tench Coxe's 1810 Census statistics

wheat mills: 110 saw mills: 65 flax mills: 4 fulling mills: 12
distilleries: 301 No. of neat cattle: 34,985 No. of common sheep: 46,836

No. of Farmers	% of Population	% of Listed Occupations
1840: 6,667	16%	75%

No. of Farms

1880: 4,481

1890: 4,514

1900: 4,742

1910: 4,733

Improved Acres

1850: 344,046 1890: 442,942

1860: 371,829 1900: 451,705

1870: 409,863 1910; 432,001

1880: 446,463

Value of Farms

1850: \$14,943,048 1890: \$34,093,540

1860: \$20,937,686 1900: \$34,436,070

1870: \$39,015,006 1910: \$35,742,845

1880: \$35,284,957

Milk Cows

1850: 12,284 1890: 20,762

1860: 13,308 1900: 21,107

1870: 12,280 1910: 22,961

1880: 16,248

Sheep

1850: 370,944 1890: 321,033

1860: 351,252 1900: 277,268

1870: 426,621 1910: 196,005

1880: 461,120

Wheat (bushels)

1850: 558,182 1890: 561,280

1860: 138,993 1900: 495,030

1870: 451,828 1910: 409,111

1880: 614,260

Corn (bushels)

1850: 804,540	1890: 1,476,835
1860: 628,113	1900: 1,609,290
1870: 1,467,904	1910: 1,666,881
1880: 1,308,294	

Westmoreland County

Sherman Day's history stated that Westmoreland County was created from Bedford County in 1773 and included the entire southwestern section of Pennsylvania, all of the territory west of the Alleghenies. Statistics from this book include: length: 37 miles; breadth; 29 miles; area: 1,024 square miles. Westmoreland is separated from Somerset and Cambria on the east by lofty Laurel Hill. From the summit of Chestnut Ridge the country seems to spread out into a vast verdant plain. The soil except in the mountainous regions, is very fertile; limestone and coal are accessible in nearly all parts of the county. The Kiskiminetas River flows along the northeast boundary, and the Youghiogeny crosses the southwest corner.(190)

"The county was originally settled by Irish and German immigrants, whose descendants still occupy the soil. The German population is gradually augmenting in numbers. The appearance of the farms exhibits the industrious and thriving character of the people. Wheat and livestock are the principal exports."(191)

The Gazetteer of Pennsylvania noted this of Westmoreland. "Three turnpike roads cross the county. The chief business of the inhabitants is agriculture, breeding cattle and sheep, the manufacture of salt and some iron. Their exports are wheat, rye, corn, and live stock. There are 24 salt works in the county in operation, which are competent to produce 2000 barrels of salt per annum. There is one furnace and one forge within the county and a small manufactory of woolens. The chief market for the surplus produce of the county is at present Pittsburgh."(192)

Rupp's History of Western Pennsylvania stated that Westmoreland produces wheat of superior quality, and all other cereal grains are successfully cultivated. Statistics from that source included: grist mills, 6--flouring mills, 70--saw mills, 86--fulling mills, 6--woolen manufactories, 2--oil mills, 3--distilleries, 53--dairy products, \$4,000.(193)

By the 1840s three turnpikes crossed the county. The Bedford and Pittsburgh turnpike passed through the center of the county while the Northern turnpike extended from Pittsburgh to Blairsville. Another pike passed through Mt. Pleasant on its way from Somerset to Washington.

Ralph Stone's work noted that Westmoreland has similar geologic formations as Fayette County. Limestone beds have been used for building roads and burned for agricultural lime. Limestone has been rarely used for building stone. A hard Saltsburg sandstone has been quarried southeast of Hunkers for many years. It is light tan but weathers gray. Stone mentions no nineteenth-century stone houses, although the Historic Resource Survey

shows a goodly number, especially in the central and southern sections of the county. (194)

Population:

1790: 16,018	1860: 53,736
1800: 22,726	1870: 58,719
1810: 26,492	1880: 78,036
1820: 30,540	1890: 112,819
1830: 38,500	1900: 160,175
1840: 42,699	1910: 231,304
1850: 51,726	

Township Survey--Ligonier, East Huntingdon and Hempfield townships were the municipalities looked at in this county. Although these townships had the largest amount of houses surveyed in the seven counties, only 16 barns were shown. The Ligonier Township survey shows the influence of wealthy resort people in larger, restored homes. Hempfield Township is in the heart of one of the earliest settled areas of southwestern Pennsylvania, including the Hannastown area. This township had the second largest amount of surveyed buildings in the county, and the surveyors felt that over a third of these were eligible for the Pennsylvania or National Register. The survey turned up a high percentage (30%) of log buildings there. It also noted a log still house and one or two large brick distillery complexes. Only 8% of the housing stock in East Huntingdon Township was log. Almost half (49%) of East Huntingdon's building stock was brick. Ligonier had a high percentage (42%) of brick buildings as well. Except for Georges Township, Fayette County, these two townships had the largest amount of brick houses in the seven county study. The largest percentage (46%) of Hempfield's building were frame.

Historic Resource Survey--The entire county was surveyed from 1979 to 1981. Mt. Pleasant Township--A good many of the cards from this township lacked photos. Several barns were shown in the township including the large Byers/Gettemy barn, of the posted forebay type. Also shown was the Kintigh-Fruchenicht barn. The Steele/Wilkins property shows a gable front barn. The Christner barn had louvered vents.

--East Huntingdon Township--Again many of the cards had no photos. However, there appears to be quite a few more barns here than in Mt. Pleasant, but this may have been a result of the surveyor. There were substantial masonry outbuildings pictured in the township. At least three of the surveyed farms (Loucks/Gaut, Stoner/Kintigh, and Dillinger/Adams) had been pictured in the atlas. The Stoner/Murray farm (LR 64224) has a three bay Federal style brick house and a brick barn that had been pictured in Stotz. Two rubblestone houses (Lane/Komenda--LR 64224) and (Loucks/Hyskell) were built c. 1840. The Lane/Komenda farm also has a stone barn. The Copeland/Morgan (LR 64167 & T-323) farm had a five-bay I house and a log cantilevered barn (not pictured). The Fox barn (T-742) was an unusually large frame barn with three extended gables on the front. (195)

A type that appears recognizable in Westmoreland is the square brick farmhouse, often with Italianate details and a hipped roof. Houses on the Zaffey farm (PA 981) and the Null/Buttermore property are examples. Likewise, the Wertz/Kim farm has a square brick house with brick

outbuildings to the rear. The Hutchinson/Lehman farm has a five-bay brick I house and a posted forebay frame barn. Of the townships in which survey cards were looked at, this was the one with the most barns (13) and agricultural outbuildings. A good many of the farmhouses were constructed of brick.

The survey indicates that the Hyndman Barn, in North Huntingdon Township, is a good example of a Sweitzer barn.

Farm Survey--Westmoreland County was entered via Route 70 from Washington County. Route 51 was taken north where it intersected Route 70 into Rostraver Township. Salem Church Road was traveled east, and Route 51 was re-entered at the Allegheny County line. I took Route 51 south until it intersected with Route 70 again. Route 70 was continued east until it intersected with Route 31 in South Huntingdon Township. Route 31 was taken east through East Huntingdon Township to Mount Pleasant. At Mount Pleasant Route 119 was taken north to New Stanton. Barns were enumerated along the Pennsylvania Turnpike (Route 76) to the Somerset County line.

As part of the continued survey of Westmoreland County, local roads were taken from New Stanton east into Mt. Pleasant Township. Then Route 119 was taken south until it intersected with Route 981. Route 981 was followed east in East Huntingdon Township almost to Reagentown where township roads were followed south. Various local roads in East Huntingdon township were surveyed south to the Fayette County line. Quite a few brick houses were seen in this area, and many of these were banked. A four-bay, banked stone house was photographed on Martin Road.

In all 56 barns were surveyed in Westmoreland County. Of this number 28 or 50% had enclosed forebays. Eleven (20%) had posted forebays and five (9%) had gambrel roofs. Unlike Washington County, Westmoreland had seven (13%) standard barns. A larger survey area of course may yield more comprehensive results. Glassie noted that as the Pennsylvania barn type traveled west it evolved into a new type. This type, characteristically with two levels, no forebay, and basement entry on the gable ends, became the predominant type in Westmoreland County. (196)

Building Survey--The Kindig/Fruchenicht barn (A. Ruff? in 1876 & Daniel Ruff in 1882) in Mt. Pleasant Township was photographed. The owner could not be contacted in order to look inside. According to a neighbor, this barn is the oldest in the area and is a double crib log type. According to Albert's History of Westmoreland County, Reformed Church services were held in this barn before a church was erected. This Sweitzer type barn has vertical board siding and rests on a foundation of mixed limestone and sandstone. (197)

The Poole/Farlow farmstead on the eastern edge of New Stanton Borough was surveyed. (Historically, it was located in Hempfield Township.) The 1876 atlas showed S. Pool owning the 199 acre farm. The frame standard barn on the property has double threshing floors. It has a somewhat unusual layout in that there is one granary in the northeast corner of the forebay and another in the southwest corner. The framing consists of massive, hewn posts and beams. The barn is covered with vertical siding. There are no ventilators, but there are single circular holes in the apex of the gable

ends.(198)(see p. 173)

The three-bay, double pile, two-and-a-half story, brick house on the property appears to have been built about 1850 and has an 1870 addition to the rear. It has a hipped roof, but cross gables appear to have been added at the time of the rear addition. The first story of the addition consists of open brick arches which support the second story. The house has single cut stone lintels and sills throughout.

Other buildings on the property include a frame wagon shed/corn crib, a brick storage shed, a brick wash house/bake oven/smoke house, a brick cantilevered spring house, and a brick privy. All of the brick buildings have slate roofs, but some are in a highly deteriorated state.

I traveled west from Route 119 on Route 981 in East Huntingdon Township. A good many brick houses were noted. Many of these were banked. The Daniel B. Stoner barn was photographed. This posted forebay barn had been pictured in the 1876 atlas. The barn has deteriorated since that time. A two-and-a-half story, five-bay, double pile, brick, banked house is also situated on the property.(199)(see p. 174)

The patterned brick end barn along Route 981 was also photographed (owned by Robert Zaffey in 1980). There is a large frame gable forebay addition, and a new ramp has been added to the east gable end of this double threshing floor standard barn. A two-and-a-half story, four-bay, double pile, stone, banked house was photographed. Located off Martin Road, this house has two front doors opening into the ground level.

The barn on the Beck/Nanstiel farm was also surveyed, west of Mt. Nebo and northwest of Scottdale off LR 64124. This barn appears to be late nineteenth/early twentieth century. All of the posts and beams of this double threshing floor barn are sawn. The extended forebay appears to have been added later. The two granaries are located to the front and rear of the north mow. Reused hewn logs were inserted above the tie beam to create additional storage above the threshing floor. The sawn common rafters are butted together at their apex. Horizontal siding, painted white, covers the exterior. Also on the property is a two-and-a-half story, five-bay, double pile, brick, banked house. Two entrances into the basement flank where the stairs went up to the first floor entrance.

The largest, most complete farm complex in East Huntingdon Township is the Overholt farm at West Overton. The large brick end barn there has three threshing floors. However, only two of these have thick planks to handle wagons and machinery. Kimberly Bringe, site director of West Overton, said that the barn was built between 1840 and 1870. All of the framing members are sawn. Among the things that set this barn apart from the average are the plastered interior walls and the cast iron sills and lintels for all the ventilators. The rectangular ventilators have wooden louvers. Three rows of these ventilators cross the gable ends of the barn, and two rows extend across the front. The forebay is supported with a series of brick arches. Besides having a greater interior height than usual, the two central bents are trussed up to increase mobility on the threshing floor. The sawn common rafters are butted at their apex. The ground floor of the barn was renovated

for a twentieth-century dairy operation. (200) (see p. 172)

The 1838 Abraham Overholt brick house on this property is typical of the area with a two-and-a-half story, five-bay, double pile, banked facade. The main entrance on the first floor leads into a hall which opens into four rooms all of which have fireplaces. However, the large fireplace in the rear north room was a cooking fireplace and is not on the gable wall. Instead, this fireplace is located on the wall between the kitchen the front parlor and faces the rear window instead of the door. The open stair goes up from the rear south corner of the hall.

Other buildings on the property include a stone spring house, a brick summer kitchen, a stone smoke house, a brick carriage house, a brick horse barn and an associated brick outbuilding, a frame, banked tenant house, a brick livestock barn. The horse barn has a brick-arched forebay similar to the large barn, but the ventilators have a sheaf-of-wheat design. The small outbuilding or shed associated with the horse barn also has sheaf-of-wheat design ventilators.

Agricultural Statistics

1798 Direct Tax
Barns: 1,262

Tench Coxe's 1810 Census statistics
Wheat mills: 71 saw mills: 68 flax mills: 4 fulling mills: 9
distilleries: 76 neat cattle: 22,899 common sheep: 12,509

No. of Farmers	% of Population	% of Listed Occupations
1840: 4,948	11%	74%

No. of Farms
1880: 5,389
1890: 5,339
1900: 5,402
1910: 5,512

Improved Acres
1850: 364,203 1890: 402,817
1860: 348,457 1900: 397,385
1870: 342,083 1910: 369,635
1880: 421,440

Value of Farms
1850: \$12,576,343 1890: \$33,481,515
1860: \$16,036,203 1900: \$29,314,390
1870: \$28,210,826 1910: \$32,272,781
1880: \$30,550,823

Milk Cows
1850: 16,650 1890: 20,599
1860: 19,024 1900: 21,424
1870: 16,349 1910: 20,743

1880: 19,221

Sheep

1850: 61,344	1890: 24,149
1860: 45,590	1900: 24,742
1870: 47,938	1910: 14,764
1880: 46,386	

Wheat (bushels)

1850: 668,476	1890: 903,241
1860: 133,104	1900: 758,370
1870: 676,699	1910: 396,357
1880: 721,907	

Corn (bushels)

1850: 839,711	1890: 1,047,978
1860: 737,795	1900: 1,438,810
1870: 1,168,498	1910: 1,410,787
1880: 1,670,943	

End Notes

(1) David J. Cuff, William J. Young, Edward K. Muller, Wilbur Zelinsky, and Ronald F. Abler, eds., The Atlas of Pennsylvania (Philadelphia: Temple University Press, 1989), p. 24.

(2) Ibid., p. 26.

(3) Ibid., p. 29.

(4) Ibid., p. 30.

(5) Ibid., p. 32.

(6) Ibid., pp. 48-50; Ralph L. Watts, Rural Pennsylvania (New York: The Macmillan Co., 1925), pp. 57-58.

(7) The Atlas of Pennsylvania, p. 93.

(8) Steve Miller, conversation at Landis Valley Museum, February 9, 1995.

(9) Wayne D. Rasmussen, ed., Readings in the History of American Agriculture (Urbana, Il.: University of Illinois Press, 1960), pp. v-vi, 60.

(10) Steve Miller, conversation at Landis Valley Museum, February 9, 1995.

(11) Although more Pennsylvanians were involved in agriculture in this period and production in certain areas peaked during this time, the industrialization and commercialization of Pennsylvania farming through the late nineteenth and early twentieth century produced other great achievements in Pennsylvania agriculture. Consequently, I feel the term "golden age of Pennsylvania agriculture" is deceptive in that it would indicate everything has been downhill since that time. I like Kuan Chen's phrase, "a period of agricultural

awakening," better.

(12) Stevenson W. Fletcher, Pennsylvania Agriculture and Country Life 1840-1940 (Harrisburg: Pennsylvania Historical & Museum Commission, 1955), pp. 23-25.

(13) Fletcher, p. 59; Robert L. Ardrey, American Agricultural Implements; A Review of Invention and Development in the Agricultural Implement Industry of the United States (Chicago, 1894), pp. 27, 78. Moses and Samuel Pennock, of East Marlboro, Pa., made substantial improvements to the grain drill with patents in 1841 and 1849. Peter Gaillard of Lancaster patented the first mower using horse power in 1812. Jeremiah Bailey of Chester County also patented a mower in 1822.

(14) Fletcher, pp. 54-55. Obed Hussey patented his reaper in 1833, and Cyrus McCormick patented his the following year. Frederick Watts conducted the first Pennsylvania trial of the McCormick reaper on his Cumberland County farm in 1840. Only after improved versions came out in the 1850s did they find favor with Pennsylvania farmers.

(15) Fletcher, pp. 180, 182.

(16) Fletcher, p. 119.

(17) Fletcher, p. 123; Rasmussen, pp. 60-62.

(18) Fletcher, pp. 133-134, 144, 149, 163.

(19) The Seventh Census of the United States, 1850 Agricultural Returns, Census of 1840 (Washington: Robert Armstrong, Public Printer, 1853), p. lxxxv; George Fiske Johnson, "Agriculture in Pennsylvania: A study of Trends, County and State Since 1840," Pennsylvania Department of Agriculture, General Bulletin No. 484, November 1929, p. 55.

(20) Fletcher, pp. 277-278.

(21) Fletcher, pp. 265-267; Conversation with Greene County historian Terry Cole, February 22, 1995.

(22) Fletcher, p. 485; Charles H. Dornbusch and John K. Heyl, "Pennsylvania German Barns," The Pennsylvania German Folklore Society Vol. 21, (Allentown, Pa.: Schlecter's, 1958), p. XIII; Also see Catherine M. Rhoads, Country Carpenter: Josiah E. Werner 1863-1926 (Baltimore: Gateway Press, 1991).

(23) Fletcher, p. 407. The Philadelphia Society for Promoting Agriculture was established in 1785 and was the dominant educational organization of Pennsylvania farmers until 1851.

(24) Memoirs of the Philadelphia Society for Promoting Agriculture Vol. I (Philadelphia: Jane Aitken, 1808), pp. 93, 119, 156, 193, 281, 310. Seven articles appeared in this book explaining various uses of lime, gypsum, and manure as fertilizers for the improvement of farmland. There was even

elevations and a description of a stercorary (structure for holding and fermentation of manure).

(25) S. S. Haldeman, ed., Pennsylvania Farm Journal (Lancaster: A.M. Spangler, 1851), April 1851, p. 7.

(26) Pennsylvania Farm Journal, September 1851, p. 174 and September 1852, p. 172.

(27) Pennsylvania Farm Journal, September 1851, p. 188.

(28) Pennsylvania Farm Journal, March 1853, p. 367.

(29) David B. Schneider, Foundations in a Fertile Soil: Farming and Farm Buildings in Lancaster County, Pennsylvania (Bird-in-Hand, Pa.: Village Press of Bird-in-Hand, 1994), pp. 7, 10.

(30) Schneider, pp. 40, 48.

(31) Schneider, pp. 52-54.

(32) Schneider, pp. 41, 64.

(33) Margaret B. Schiffer, Chester County, Pennsylvania Inventories 1684-1854 (Exton, Pa.: Schiffer Publishing, Ltd., 1974), pp. 188-190.

(34) Tench Coxe, A Statement of the Arts and Manufactures of the United States of America, for the Year 1810 (Philadelphia: A. Cornman, Jr., 1814), p. 44.

(35) 1798 Direct Tax, List 2, Somerset and Stonycreek townships, Somerset County and List A, Amwell, Cross Creek, East Bethlehem townships, Washington County.

(36) 1798 Direct Tax, List 1, Brothersvalley Township and List A, Quemahoning, Cambria, Somerset, Stonycreek townships.

(37) Pittsburgh Agricultural Works, Wardrop, Stout & Williams, Pittsburgh, Manufacturers of Improved Rail Road Horse Powers, Threshers with Vibrating Separators, Mowing & Reaping Machines (Pittsburgh: W.S. Haven, 1858). The advertisement in this booklet for the thresher and separator boasted that it was adapted for the farmer, "requiring little help." Other implements included a large variety of corn planters, Rice's patent grain fan, a butter worker, and a dog power for churning, driving grindstone, etc.; George R. Beyer, Guide to the State Historical Markers of Pennsylvania (Harrisburg: Commonwealth of Pennsylvania, PHMC, 1991), p. 120.

(38) Jeremiah S. Black, "Address Delivered Before the Agricultural Society of Somerset County," October 6, 1854 (Pittsburgh: Keenan & Co., 1854), p. 16.

(39) Don Yoder, "The 'Domestic Encyclopedia' of 1803-1804," Pennsylvania Folklife Spring 1965, Vol. 14, No. 3, pp. 20-21; J.B. Bordley, Essays and

Notes on Husbandry and Rural Affairs (Philadelphia: Budd and Bartram, 1799), pp. 158-165.

(40) A.J. Downing, The Architecture of Country Houses (New York: Dover Publications, Inc., 1969), pp. 217-222; Henry F. Withey and Elsie Rathburn Withey, Biographical Dictionary of American Architects (Deceased) (Los Angeles: Hennessey & Ingalls, Inc., 1970), p. 558.

(41) Frederick Watts, "The Pennsylvania Barn," Report of the Commissioner of Agriculture, 1864 (Washington, D.C.: Government Printing Office, 1865), p. 297.

(42) Richard Rawson, Old Barn Plans (New York: Bonanza Books, 1982), p. 55.

(43) Bruce Laverty, comp., Catalog of Architectural Drawings: The Athenaeum of Philadelphia (Boston: G.K. Hall, 1986), pp. 272-273.

(44) Eric Arthur and Dudley Witney, The Barn: A Vanishing Landmark in North America (Greenwich, Ct.: New York Graphic Society Ltd., 1972), p. 15.

(45) Allen G. Noble and Gayle A. Seymour, "Distribution of Barn types in Northeastern United States" Geographical Review Vol.72, No. 2, p. 156.

(46) Noble and Seymour, pp. 158, 163-164.

(47) Noble and Seymour, pp. 156, 162-163.

(48) John Fraser Hart, "On the Classification of Barns," Material Culture Fall 1994, pp. 39, 42-43.

(49) Joseph W. Glass, The Pennsylvania Culture Region: A View From the Barn (Ann Arbor: UMI Research Press, 1986), p. 40. Glass's sample size was 530 farms which he used as his database. He augmented this base with information gathered by criss-crossing the region from more than 1,000 additional farms.

(50) Glass, pp. 53-54.

(51) Glass, pp. 55-57.

(52) Glass, pp. 62-66; Robert Ensminger, telephone conversation, March 6, 1995.

(53) Glass, Map of the Pennsylvania Barn Region, p. 23.

(54) Robert F. Ensminger, The Pennsylvania Barn: Its Origin, Evolution, and Distribution in North America (Baltimore: The John Hopkins University Press, 1992), pp. 14-15, 25.

(55) David G. Williams, The Lower Jordan Valley: Pennsylvania German Settlement (Allentown, Pa.: Lehigh County Historical Society, 1950), p. 167.

(56) Ensminger, p. 135; Robert Ensminger, telephone conversation, March 6, 1995.

(57) Ensminger, p. 113.

(58) Ensminger, pp. 117-118; Dornbusch and Heyl, pp. 294-295.

(59) Ensminger, p. 146; During a telephone conversation with Ensminger, March 6, 1995, he said he finds Fletcher pretty reliable and holds that this period may be more aptly called the golden age of barn development.

(60) Robert Ensminger, telephone conversation, July 20, 1995. Enclosed forebay barns, in particular, those of Somerset County were discussed at this time. He agrees that enclosed forebay barns are derived from the Pennsylvania barn. (He prefers the term basement barn.) A farmer in Somerset county told him that his enclosed forebay barn was built in 1852, the earliest example he knows. This early date adds more credence to the fact that they developed from the Pennsylvania barn and not from those of New York.

(61) Ensminger, telephone conversation, July 20, 1995.

(62) The low number of barns in Cambria and Indiana counties can be accounted for in part due to the mining operations there. In addition, of the eleven counties, Cambria has the soil least suitable for agriculture. The low number (45) of Fayette County barns may be attributed to the mountainous routes taken as well as to the loss of farms due to mining operations. The number of Somerset County examples (71) would easily have risen if more time was spent there. It was felt sufficient time had been spent there by the Somerset survey team. The number of barns for counties not previously mentioned are: Fulton, 77; Blair, 54; Huntingdon, 60; Indiana, 43; Washington, 67 and Westmoreland, 56.

(63) Please note that the percentages of barn types are based on my survey and are subjective because of the routes chosen. I believe this survey was useful in diagraming rough regional building trends, but as my later survey proved, building trends can be more accurately charted by going inside the structures.

(64) The Atlas of Pennsylvania, pp. 50, 93.

(65) Henry H. Glassie, "The Pennsylvania Barn in the South," Pennsylvania Folklife Vol 15, Winter 1965/66, pp. 10-11; Caldwell's Illustrated Historical Centennial Atlas of Greene County (Condit, Ohio: J.A. Caldwell, 1876). The farms of 45 men were pictured in this atlas. Their farms averaged 278 acres, and they owned an average of 182 sheep per farm. Both of these numbers are above average for the state. Over half the farms pictured were located in Center, Cumberland, and Rich Hill townships.

(66) Caldwell's Illustrated Historical Centennial Atlas of Washington County, Pennsylvania (Condit, Ohio: J.A. Caldwell, 1876). There were 110 farmsteads pictured in this atlas. Although they appear more evenly spread across the county than in Greene, there are higher numbers in Cecil, Mt.

Pleasant, North Strabane, Hopewell, Robinson, and Cross Creek townships. Although the average acreage of these farms (227 acres) was lower than Greene, the average number of sheep per farm was higher (300).; Preserving Our Past: Landmark Architecture of Washington County, Pennsylvania (Marceline, Mo.: Walsworth Publishing Co., 1975), pp. 37-40, 52, 157, 170.

(67) Glassie, pp. 8-9.

(68) Solon J. and Elizabeth Buck, The Planting of Civilization in Western Pennsylvania (Pittsburgh: University of Pittsburgh Press, 1939), p. 150.

(69) Don Yoder, Discovering American Folklife: Studies in Ethnic, Religious, and Regional Culture (Ann Arbor: UMI Research Press, 1990), p. 190; Don Yoder, "The Middle Atlantic Region," Encyclopedia of American Social History (New York: Charles Scribner's Sons, 1993), p. 946.

(70) Buck and Buck, pp. 149-151.

(71) Thomas L. Purvis, "Patterns of Ethnic Settlement in Late Eighteenth-Century Pennsylvania," The Western Pennsylvania Historical Magazine April 1987, Vol. 70, No. 2, p. 115; The Atlas of Pennsylvania, p. 88.

(72) R. Eugene Harper, The Transformation of Western Pennsylvania 1770-1800 (Pittsburgh: University of Pittsburgh Press, 1991), pp. 28-35.

(73) John W. Harpster, ed., Crossroads: Descriptions of Western Pennsylvania, 1720-1829 (Pittsburgh: University of Pittsburgh Press, 1938), p. 246.

(74) James T. Lemon, The Best Poor Man's Country: A Geographical Study of Early Southeastern Pennsylvania (Baltimore: Johns Hopkins University Press, 1972), pp. 225-227.

(75) Buck and Buck, pp. 266-271.

(76) Oliver Wolcott, Letter from the Secretary of the Treasury Accompanying His Report on the Petition of Benjamin Wells, referred to him 1st ultimo: and the Counter Petition of Sundry Inhabitants of Fayette County (1800), Transappalachian Room, Waynesburg College, pp. 6-12.

(77) Lemon, pp. 177-178.

(78) Stevenson W. Fletcher, Pennsylvania Agriculture and Country Life 1640-1840 (Harrisburg: Pennsylvania Historical & Museum Commission, 1950), p. 151.

(79) Agreement date April 6, 1793 between William Bartlett of Westmoreland County and Abraham Whipple of Marietta County, Northwest Territory, Thomas Hamilton Collection, Westmoreland County Historical Society, Greensburg.

(80) Charles M. Stotz, The Architectural Heritage of Early Western Pennsylvania (Pittsburgh: University of Pittsburgh Press, 1966), p. xii.

(81) Stotz, pp. 12, 17.

(82) Henry Glassie, Pattern in the Material Folk Culture of the Eastern United States (Philadelphia: University of Pennsylvania Press, 1968), pp. 48-55; Nancy Van Dolsen, Cumberland County: An Architectural Survey (Ephrata, Pa.: Science Press, 1990), pp. 1-4; Catherine W. Bishir, North Carolina Architecture (Chapel Hill: University of North Carolina Press, 1990), pp. 9-12.

(83) Lynne Richards, "Dwelling Places: Log Homes in Oklahoma's Indian Territory, 1850-1909" Material Culture Vol. 25 (Summer 1993), p. 1; Thomas Carter and Bernard L. Herman, eds., Perspectives in Vernacular Architecture, IV (Columbia, Mo.: University of Missouri Press, 1991), pp. 4-5.

(84) Fred B. Kniffen, "Folk Housing: Key to Diffusion," Common Places: Readings in American Vernacular Architecture (Athens, Ga.: University of Georgia Press, 1986), p. 5.

(85) Stotz, p. 26.

(86) Lee Soltow, Distribution of Wealth and Income in the United States in 1798 (Pittsburgh: University of Pittsburgh Press, 1989), pp. 49-50; Nancy Van Dolsen, unpublished paper "An Act to lay and collect a direct tax": The Federal Direct Tax of 1798, April 1993; In order to place the greater financial burden on those who could best be able to pay, dwellings valued at less than \$80 were to be excluded from the tax. First class houses were those valued from \$80 to \$200, and these were largely what was found on List A.

(87) This study was used in the Multiple Property Documentation Form for "Whiskey Rebellion Resources in Southwestern Pennsylvania.

(88) Orlando Ridout, conversation, November 22, 1989.

(89) The study of Springhill and Greene townships was done by the writer as part of the context for the National Register multiple property form titled, "Greensboro/New Geneva Multiple Property Submission."; Edward C. Carter, II, John C. Van Horne, and Lee W. Formwalt, eds., The Journals of Benjamin Henry Latrobe 1799-1820: From Philadelphia to New Orleans Vol. III (New Haven: Yale University Press, 1980), pp. 78-79;

(90) Although the assessors measured the kitchens separately, this may be an indication that they perceived the kitchen as separate when it was actually attached to the main house. Vernacular architecture historian, Bernard Herman, in his work has found most to be attached to the main house.; Henry Glassie, "The Types of the Southern Mountain Cabin," The Study of American Folklore: An Introduction Jan Harold Brunvand, ed., (New York: W. W. Norton & co., 1968), p. 355.

(91) Letter December 8, 1795, Albert Gallatin & Co. to Albert Gallatin, The Papers of Albert Gallatin, microfilm (Philadelphia: Rhistoric Publications, 1969) sponsored by New York University and the National Historical Publications and Records Commission.

(92) Historic Resource Study: Friendship Hill National Historic Site (Denver: Denver Service Center Branch of Historic Preservation, NPS, 1981) pp. 279-280.

(93) Fred B. Kniffen and Henry Glassie, "Building in Wood in the Eastern United States: A Time-Place Perspective" Common Places: Readings in American Vernacular Architecture pp. 172-175; See Terry G. Jordan, American Log Buildings: An Old World Heritage (Chapel Hill: University of North Carolina Press, 1985).

(94) Raymond Walters, Jr., Albert Gallatin: Jeffersonian Financier and Diplomat (Pittsburgh: University of Pittsburgh Press, 1969), p. 317; Franklin Ellis, ed., History of Fayette County, Pennsylvania with Biographical Sketches (Philadelphia: L.H. Everts & Co., 1882), pp. 656, 669, 728-729, 731; The assessment lists for the Fayette County townships of Wharton, Union, and Menallen consistently show English, Scotch-Irish, or Welsh masons or stone cutters during the 1820s; Ronald L. Michael and Ronald Carlisle, "The Peter Colley Tavern, 1801-1854," Pennsylvania Folklife, Autumn 1973, pp. 41-42. The authors found stone masons with British Isles surnames in the period 1801-1805 in Redstone Township, Fayette County.

(95) Glassie, "Types," pp. 353-355; E. Estyn Evans, "The Scotch-Irish: Their Cultural Adaptation and Heritage in the American Old West," Essays in Scotch-Irish History (London: Routledge & Kegan Paul, 1969), pp. 78-79.

(96) Henry Glassie, "Log Buildings of Greene County, Pennsylvania" Ulster-American Folk Park, 1973; Local historian David Lesako in his study of Greene County log buildings found that generally the one- and two-room plan houses there had interior or exterior gable end chimneys. In addition, if the house had more than two bays, the door was centrally located.

(97) Preserving Our Past: Landmark Architecture of Washington County, Pennsylvania (Marceline, Mo.: Walsworth Publishing Co., 1975), pp. 10-32.

(98) Warren R. Hofstra, "Adaptation or Survival?: Folk Housing at Opequon Settlement" Ulster Folklife, Vol 37, 1991, pp. 41-42.

(99) W.F. Horn, The Horn Papers: Early Westward Movement on the Monongahela and Upper Ohio 1765-1795 (Waynesburg: Herald Press, 1945), pp. 395, 541-542.

(100) Karen Koegler, "Building in Stone in Southwestern Pennsylvania," Gender, Class, and Shelter: Perspectives in Vernacular Architecture, V Elizabeth Collins Cromley and Carter L. Hudgins, eds., (Knoxville: The University of Tennessee Press, 1995), p. 201-202; While houses with blank end walls are found in eastern and central Pennsylvania, they appear more numerous in southwestern Pennsylvania from the late eighteenth century into the early nineteenth century. Many of the buildings associated with the early National Road era have this characteristic as well.; See Glassie, Patterns, p. 49.

(101) Koegler, pp. 193, 206.

(102) Stotz, p. 43.

(103) Kniffen, "Folk Housing: Key to diffusion," pp. 7-10; Warren R. Hofstra, "Adaptation or Survival?: Folk Housing at Opequon Settlement," Ulster Folklife, vol. 37, 1991, pp. 42-43; Glassie, Pattern, pp. 64-67.

(104) Joe Getty, Carroll's Heritage (Westminster, Md.: Johnson Graphics, 1987), p. 81; Glassie, Pattern, pp. 101-104; Conversation with Orlando Ridout, May 14, 1994.

(105) A good example of town architecture and rural architecture reflecting each other is in northern Bedford County. Many of the farmhouses of South Woodbury Township, Bedford County were banked and New Enterprise, a village within that township, was lined with a large number of banked houses.

(106) Glassie, Patterns, pp. 54-55. The Pennsylvania farmhouse is characterized by a symmetrical facade, internal gable end chimneys, a two-bay depth, and often two front doors.

(107) Stotz, pp. 36-37; Built c. 1800 by William Nixon, this two bay, two-and-a-half story house had its first floor divided into three rooms. Its gable end was dominated by a large stone chimney with an enclosed stair winding up beside it. A one-and-a-half story log tavern section was connected to the south end, and a shed-roof addition was made to the north end.; Jean Brnich, interview, August 16, 1995. Mrs. Brnich, a Nixon descendant, stated that the tavern was demolished between 1950 and 1952; List B of the 1798 direct tax for Georges Township shows William Nixon with a 20 x 18 foot, one-story cabin and a 25 x 20 foot, unfinished house. These house dimensions are a little smaller than what Stotz shows on his drawings; Benjamin Hayden built this five-bay house c. 1823. The two front doors of this house are separated with a window. The gable end walls are blank except for small attic windows.; Historic American Buildings Survey: Catalog of the Measured Drawings and Photographs of the Survey in the Library of Congress, March 1, 1941 (Washington: United States Government Printing Office, 1941), pp. 317, 320; Harold E. Dickson, A Hundred Pennsylvania Buildings (State College, Pa.: Bald Eagle Press, 1954), p. 38, Although Dickson had noted that previous studies had omitted material on Central Pennsylvania; he failed to adequately represent that area in his book.

(108) Glass, pp. 39-40, 112, As previously mentioned Glass had established a grid system across the Pennsylvania Culture Region. Fifty-three points were established within the region at twenty-mile intervals. Ten farms were surveyed at each point, making 530 farmsteads as samples; Richard Pillsbury, "Patterns in the Folk and Vernacular House Forms of the Pennsylvania Culture Region," Pioneer America Vol.9, No. 1, July 1977, pp. 21, 30. Pillsbury found that one-room-deep housing dominated the area surrounding the Monongahela River, including parts of Greene, Fayette, Washington, and Westmoreland counties. Pillsbury concluded that the western Pennsylvania area is generally characterized by a mixed housing landscape indicating an acculturation of the region. In other words, the builder's choice of housing was not based on his ethnic heritage.

(109) Glass, pp. 115-121, 124-126; Glassie, Pattern, p. 55; Dennis Domer,

"Genesis Theories of the German-American Two-Door House," Material Culture, Vol. 26, Spring 1994, pp. 6, 16, 26.

(110) Glassie, Pattern, pp. 54-55.

(111) Sherman Day, Historical Collections of the State of Pennsylvania (Philadelphia: G.W. Gorton, 1843), p. 114.

(112) Thomas F. Gordon, A Gazetteer of the State of Pennsylvania (Philadelphia: T. Belknap, 1832), pp. 34-35.

(113) Gordon, pp. 31-32.

(114) Ralph W. Stone, Building Stones of Pennsylvania (Harrisburg: Commonwealth of Pennsylvania, 1932), pp. 50-51; Nevertheless, the Morrison Cove area has some fine stone buildings including the unusual Snyder/Sell house. Other well known stone buildings within the county including the Espy House, National Register 1974 and Bonnet's Tavern, National Register 1979.

(115) Glass, pp. 90-91, 95. Glass found that white barns predominated in southeastern Pennsylvania while red barns predominated west of the Susquehanna and in north central Pennsylvania; Don Yoder and Thomas E. Graves, Hex Signs: Pennsylvania Dutch Barn Symbols and Their Meaning (New York: E.P. Dutton, 1989), pp. 15, 58. Yoder and Graves in their study of hex signs found that red barns were giving way to white. They also determined that barns were first painted in Pennsylvania in the early 1830s.

(116) Mrs. Harold Sell, conversation, December 13, 1994.

(117) Glassie, "Pennsylvania Barn in the South," pp. 12, 16. Glassie states that this type of barn is no longer common in Pennsylvania and mentions the Heirline barn as an excellent example of that type.

(118) Clay Hull, interview, New Enterprise, February 16, 1995 and telephone conversation, March 15, 1995.

(119) Ronald W. Brunskill, Traditional Farm Buildings of Britain (London: Victor Gollancz, Ltd., 1987), p 43. Brunskill noted that round holes near the apex of the barn's gable wall are owl holes, intended to allow this friend of the farmer to come freely in and out; Alfred L. Shoemaker, ed., The Pennsylvania Barn (Lancaster, Pa.: The Pennsylvania Dutch Folklore Center, 1955), pp. 52-53; Other cutouts seen in this survey included the "crusader's cross" or Maltese cross on the Westrick and Kirkpatrick barns in Cambria County, the star and half-moon on the Dunlap/McGuire barn in Indiana County, and the flat heart in Somerset County.

(120) Robert Mountain, conversation, Salemville, February 16, 1995.

(121) J. Simpson Africa, History of Huntingdon and Blair counties (Philadelphia: Louis H. Everts, 1883), pp. 3, 5-6, 25.

(122) Glass, p. 66. Glass found less than 6% of barn roofs in the Pennsylvania

Culture Region to be gambrel.

(123) Mrs. Robert Hostler, conversation, April 19, 1995.

(124) Dimensions for the barn were provided by the owner, Mark Diehl, April 19, 1995.

(125) Study of Alternatives: Mount Etna Iron Furnace Complex (Washington, D.C.: America's Industrial Heritage Project, U.S. Dept. of the Interior, 1990), pp. 52-59. These pages show scaled drawings of various elevations of the mule barn.

(126) Gordon, pp. 83-85.

(127) Day, pp. 179, 181.

(128) Two of the well-known stone houses in the county are the c. 1834 Noon House at Ebensburg (National Register 1984) and the c. 1830 Lemon House at Cresson (National Register 1966); Paul A. Chew, George Hetzel, and the Scalp Level Tradition (Greensburg, Pa: Westmoreland Museum of Art, 1994), p. 95. Another indication of the presence of the double stacked porch in Cambria County is the painting by Joseph Ryan Woodwell (1842-1911) titled "Farmhouse at Scalp Level" which shows a three-bay house with an off-center door and double stacked porch.

(129) Ensminger, pp. 117-118.

(130) Conversation with Mr. Westrick, April 19, 1995.

(131) Gordon, pp. 167-168.

(132) I.D. Rupp, Early History of Western Pennsylvania, And of the West, and of Western Expeditions and Campaigns from 1754-1833 (Pittsburg: A.P. Ingram, 1849), pp. 282-283.

(133) Stone, pp. 156-158.

(134) Harry Grimm, conversation, February 22, 1995.

(135) Paula Reed, telephone conversation, January 25, 1995.

(136) Despite Stone's warnings of the scarcity of stone buildings, several were sighted and a few surveyed south of McConnellsburg in Ayr Township.

(137) Glass, pp. 95, 129. Glass found that one of the areas the I house was concentrated in the Pennsylvania Culture Region was along its western border. He found a high frequency of unpainted barns in north central Pennsylvania.

(138) Ralph Glenn, interview, Webster's Mills, February 2, 1995.

(139) Gordon, pp. 183-184.

- (140) Rupp, pp. 335-336.
- (141) Day, pp. 358-359.
- (142) Stone, pp. 166-170. Stone also mentions the 1835 stone house on the Hook farm south of Waynesburg.
- (143) The drawings of the Rea house sent to the writer by Dave Lesako, January 1995, show the nearly central chimney just south of the opposing doors on the first floor. The plan was similar to the previously mentioned Beeson house, but in the Beeson house the central chimney was replaced with interior gable end chimneys. A single window is centered on the gable ends of the Rea house.
- (144) Noble and Seymour, pp. 162-163. Noble and Seymour call this barn with the large hayloft opening and hay hood, "the Appalachian barn."
- (145) Although changes were made to the ground floor to the Moredock barn, it appears to have been laid out in tripartite form like the Westrick barn described in the Cambria County section.
- (146) Caldwell's Illustrated Historical Centennial Atlas of Greene County (Condit, Ohio: J.A. Caldwell, 1876). The findings determined from studying the barns pictured in this atlas may not only indicate the loss of certain types of barns due to changing agricultural trends which resulted in renovations and demolitions, but also may indicate the writer's misperception of what the artist intended to portray. The Paul Rea barn was pictured in the atlas as a posted forebay barn, but its late twentieth-century renovations make it appear to be an enclosed forebay barn; Glassie, "Pennsylvania Barn in the South," pp. 10-11. Glassie found these "meadow barns" in the eastern Alleghenies and noted that they were only used for the storage of hay and the temporary stabling of draft animals.
- (147) Terry Cole, conversation, February 22, 1995.
- (148) Perry Bayard was also one of the masons for the 1822 Ephraim Sayer house in Franklin Township.
- (149) Stotz, p. 149.
- (150) Terry Cole, conversation, February 22, 1995. A cutting room was so-called because it was here that hay was cut to feed the cattle or horses.
- (151) The addition to the front of this barn likely served the same purpose as the similar addition to the Griffith/Grimm barn described in the Fayette County section.
- (152) This datestone indicates that William Blair, who also built the 1823 Sellers house, was one of the earliest masons in Greene County; Evelyn Minor, conversation, February 23, 1995.
- (153) Gordon, pp. 209-210.

(154) Stone, pp. 170-171.

(155) Nancy Shedd, telephone interview, January 19, 1995; Sara E. Hess, A Celebration of Barns (State College: Centre County Historical Society, 1992); This area was also likely influenced by Frederick Watts' 1856 barn on the campus of the Pennsylvania Agricultural College, later Pennsylvania State University. Agricultural reformer, Watts advocated the tri-gable, multi-level barn for its labor saving ability.

(156) James McMath, conversation, February 2, 1995.

(157) Robert Ensminger, telephone conversation, March 6, 1995. He remarked that this was an early type to be found that far west in the state.

(158) The Overholt barn (National Register 1985) and the 1868 Steel barn (National Register 1994) in Westmoreland County were also trussed to allow more maneuverability on the threshing floor.

(159) Day, pp. 374, 378-379.

(160) Gordon, p. 212.

(161) Stone, pp. 172-173; An exception to Stone's premise is the Lewis/McCormick house (National Register 1974) in South Mahoning Township.

(162) Mr. Smith, conversation, April 20, 1995.

(163) J. Rex Haagen, conversation, April 20, 1995.

(164) Day, pp. 615-616.

(165) Day, pp. 615-616.

(166) Day, p. 616.

(167) Gordon, pp. 422-423.

(168) Rupp, pp. 331, 333.

(169) Stone, pp. 266-268.

(170) Mark Ware, conversation, November 16, 1994; Catherine M. Rhoads, Country Carpenter: Josiah E. Werner 1863-1926 (Baltimore: Gateway Press, 1991), pp. 69-70.

(171) The 1985 Historic Resource Survey stated that at least three other barns in the township were built by Landis. The survey found the five-point star on fifteen other Stonycreek barns.

(172) A log Sweitzer in Perry County was similar in floor plan except in the area of the bridge to the threshing floor. In the Perry County example the granary areas to the rear were outsheds and didn't continue in a single line as the Weighley barn.

(173) Rhoads, p. 72; Robert Ensminger, telephone conversation, March 6, 1995. He has found a similar example with log crib walls near Accident, Maryland.

(174) Sketches of Somerset (Somerset: Somerset Sesqui-centennial Association, 1954), p. 73; This barn was located near the present Somerset interchange of the Pennsylvania Turnpike.

(175) Day, p. 658.

(176) Gordon, pp. 569-470.

(177) Rupp, pp. 268-269.

(178) Day, p. 658.

(179) Day, p. 658.

(180) Day, p. 659.

(181) Coxe, pp. v-vii.

(182) Stone, pp. 284-286; Although there are fewer stone taverns along the National Road in Washington County than in Fayette, the Owens Tavern and the Malden Inn (National Register 1974), just west of Brownsville, are good examples. Other good examples of rural stone buildings included the c. 1787 Joseph Dorsey House (National Register 1974) and the 1805 Alexander McConnell house. However, the Dorsey House burned in the winter of 1993-94. The McFarlane house was demolished c. 1920.

(183) Rawson, pp. 100-104; The Wylie barn was designed by John Vester and built by the McPeak brothers. It was HABS documented in 1962.

(184) Caldwell's Illustrated Historical Centennial Atlas of Washington County, Pennsylvania (Condit, Ohio: J.A. Caldwell, 1876). Many of the differences between the percentage figures of 1876 and 1995 can be accounted for in changing agricultural needs and uses and the demolition of outdated buildings. The Bureau for Historic Preservation survey files showed the 1844 Clokey barn in North Strabane Township as a Sweitzer with its forebay having closed ends. It has the typical close double tie beam found further east in Central Pennsylvania. Queen posts support the roof structure.

(185) Stotz, pp. 146-147. Stotz pictured the 1805 Crumrine barn near Zollarsville and the 1820 Baker barn near West Brownsville; The 1794 McConnell burned March 16, 1965 according to Irk McConnell; Caldwell's Atlas, p. 144. The lithograph of the McConnell barn showed the forebay sheathed with vertical boards and supported with square posts. The logs of the gable end were exposed; The Baker barn was surveyed June 29, 1995. This single threshing floor barn has a bent form composed of posts, a single tie beam, and canted purlin posts. The numbered, hewn framing members have peck marks indicating a German builder. On the ground level the joists are numbered where each bent crosses above.

- (186) Eugene Painter, conversation, February 23, 1995.
- (187) Laura and Wickliffe Walker, conversation, February 23, 1995.
- (188) Ensminger pp. 112-118; The four Washington County barns surveyed had single tie beams. Ensminger found the single tie beam common in early Sweitzer barns of southeastern Pennsylvania. However, in Washington County the tie was not fitted over the roof plate as in the former area. Two of the Washington barns were closer to Ensminger's H-bent barns.
- (189) Charles Wonsettler, conversation, May 4, 1995.
- (190) Day, p. 680.
- (191) Day, p. 680.
- (192) Gordon, p. 483.
- (193) Rupp, p. 256.
- (194) Stone, pp. 291-292; Stotz, pp. 49, 156, 158. Stotz showed the three-bay, single pile, one-and-a-half story, stone Samuel Ludwick house near New Kensington; The Westmoreland Museum of Art, Greensburg, conducted "A Photographic Survey of Westmoreland County Architecture" in 1979. Among the stone houses shown was the 1804, four-bay Lobinger-Van Dyk House at Laurelville, the c. 1790, three-bay Eicher House in Hempfield Township, the c. 1824, four-bay Leighty-Aiken House in East Huntingdon Township, and the c. 1820, five-bay Congruity Tavern in Salem Township. A c. 1857 stone barn, built by Samuel Brechbill near Latrobe, was also shown; Good examples of nineteenth-century rural stone houses in Westmoreland included the 1815 Alexander Johnston House (National Register 1983) in Derry Township and the 1844 John Stewart House near Schenley. The 1798 John Irwin House (National Register 1975) is likely the largest early surviving stone house in the county.
- (195) The Fox barn is very similar to the c. 1876 Weller barn in Somerset Township, Somerset County. The Somerset survey reported four of that type in central Somerset County.
- (196) Glassie, "Pennsylvania Barn in the South," pp. 8-9.
- (197) George Dallas Albert, ed., History of the County of Westmoreland, Pennsylvania, with Biographical Sketches (Philadelphia: L.H. Everts & Co., 1882), p. 538.
- (198) Jack Farlow, conversation, February 17, 1995. He said Norman Farlow bought the farm in 1920 from Mary Poole.
- (199) S.N. Beers, Atlas of Westmoreland County, Pennsylvania (Philadelphia: A. Pomeroy, 1867), p. 66.
- (200) Kimberly Bringe, conversation, February 17, 1995.

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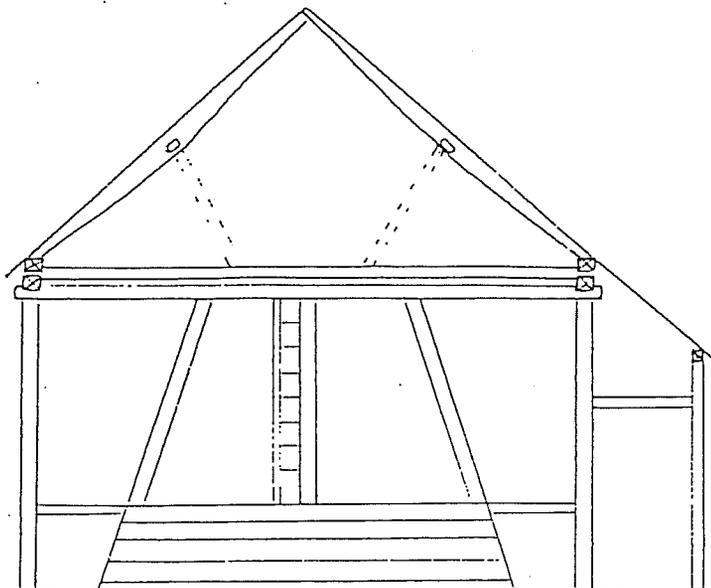
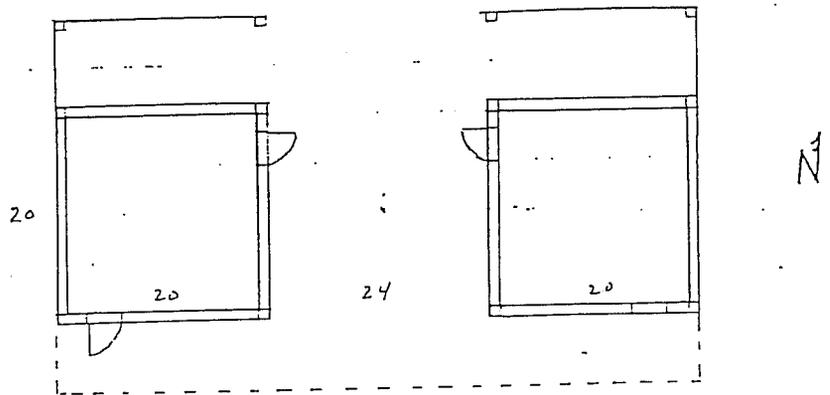
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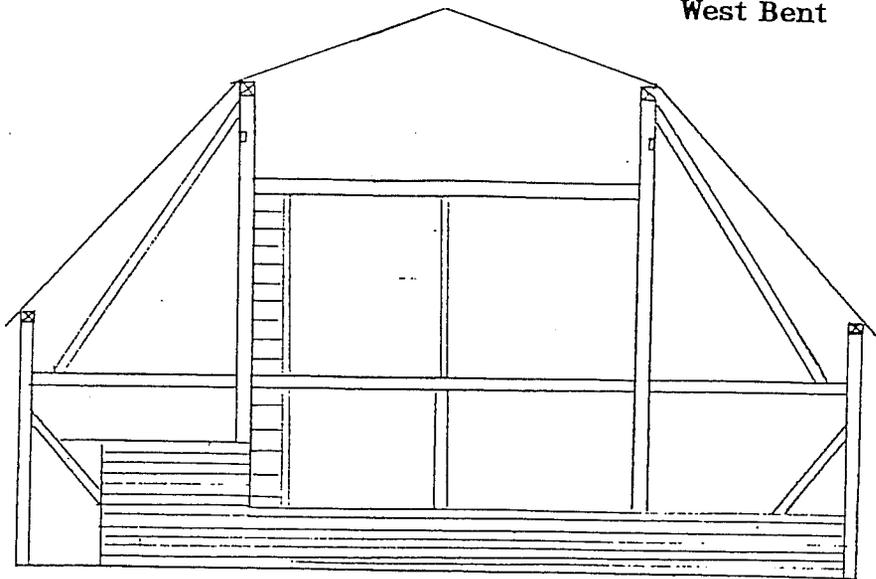
Appendix: Drawings, Floor Plans, Photos, Etc.

Heirline Log Barn
Harrison Twp., Bedford Co.
Crib Floor Plan

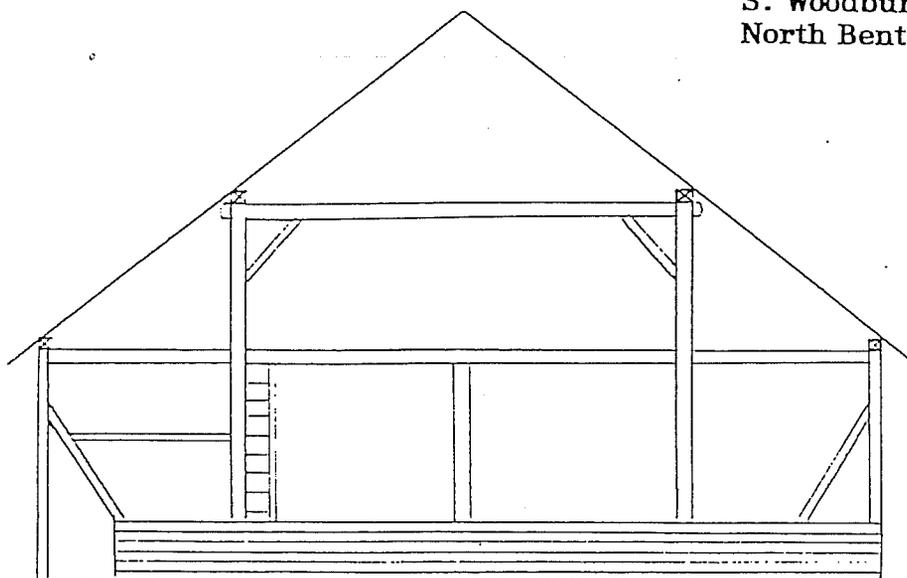


Ober/Sollenberger Barn
S. Woodbury Twp., Bedford Co.
North Bent

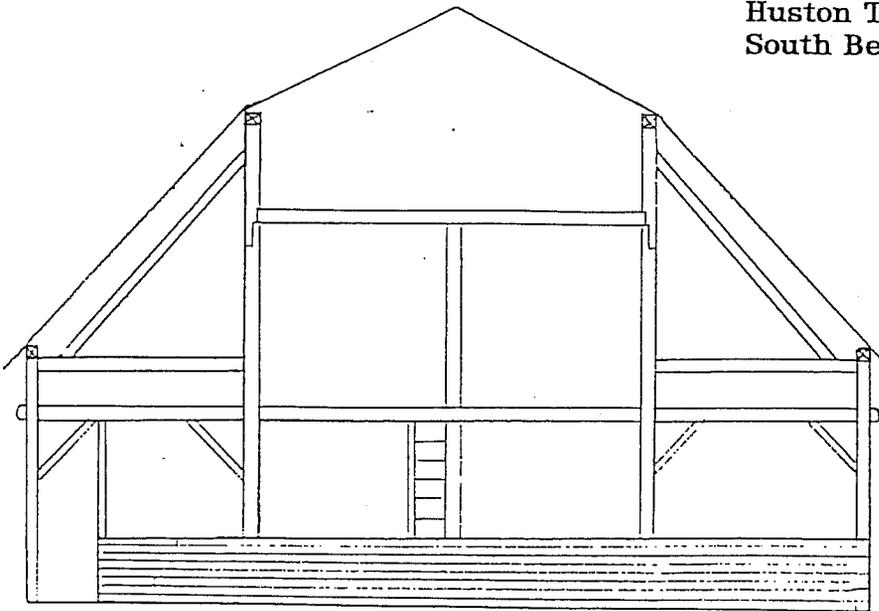
Benjamin/Hull Barn
S. Woodbury Twp., Bedford Co.
West Bent



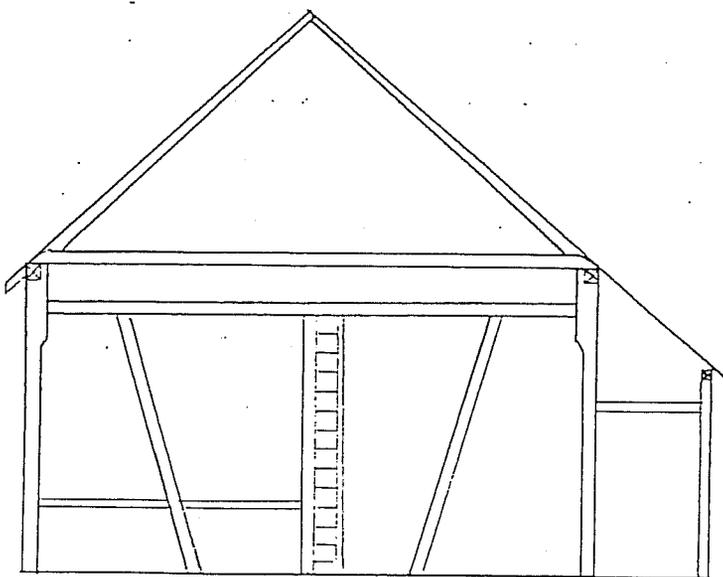
Fetter/Mountain Barn
S. Woodbury Twp., Bedford Co.
North Bent



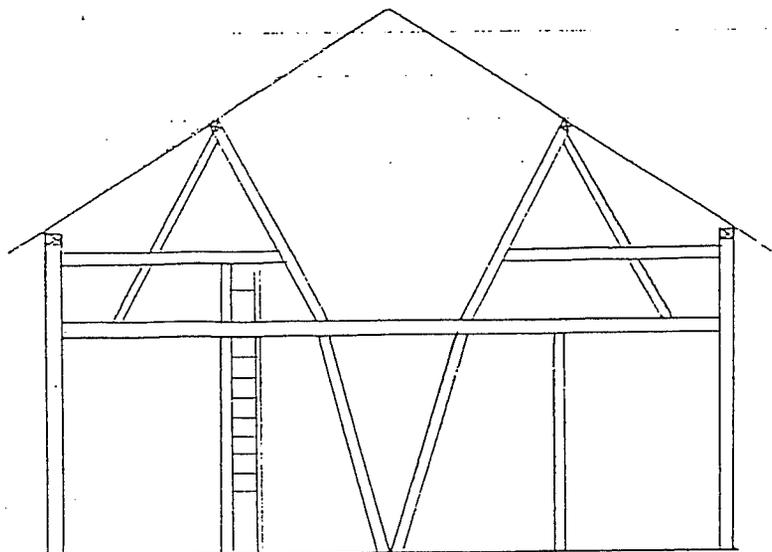
David Smith Barn
Huston Twp., Blair Co.
South Bent



Weight Barn
Tyrone Twp., Blair Co.
East Bent



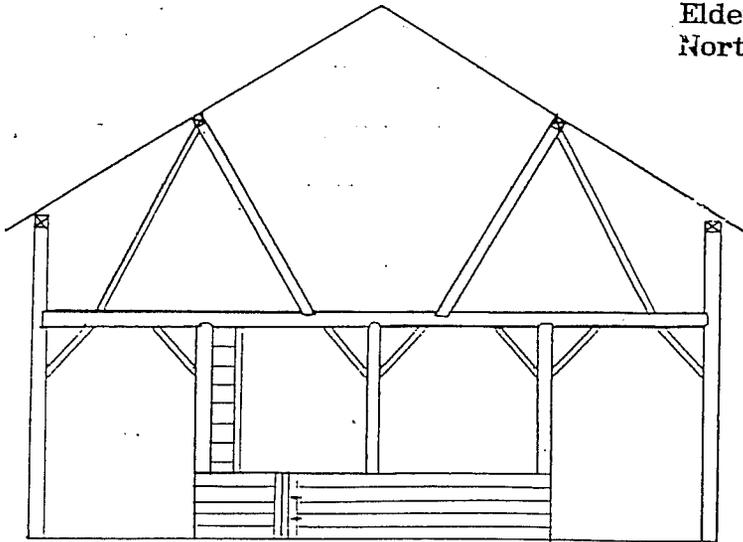
Kirkpatrick Barn
W. Carroll Twp., Cambria Co.
South Bent



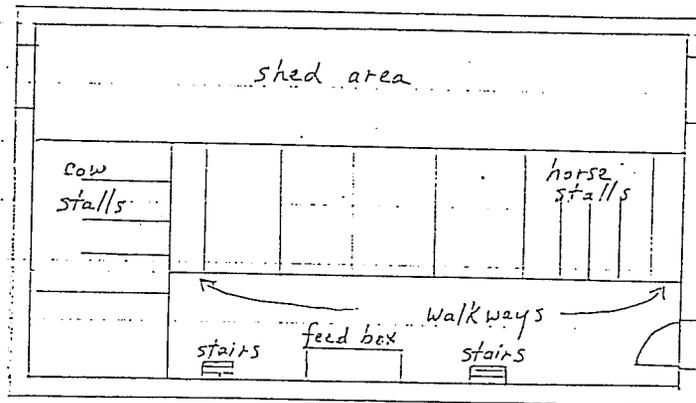
Current View



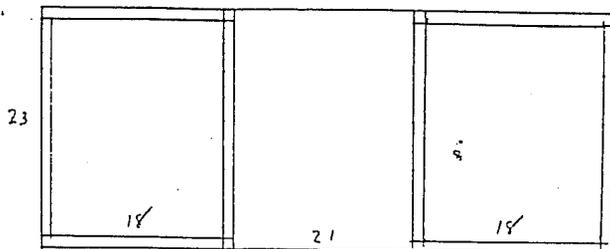
Westrick Barn
Elder Twp., Cambria Co.
North Bent



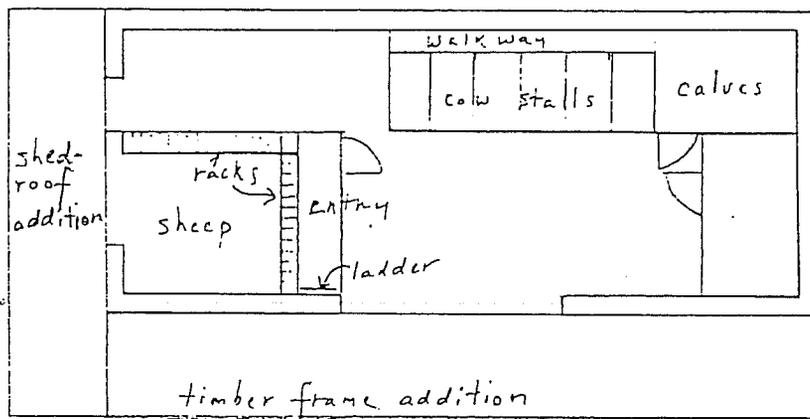
Westrick Barn Ground Floor Plan



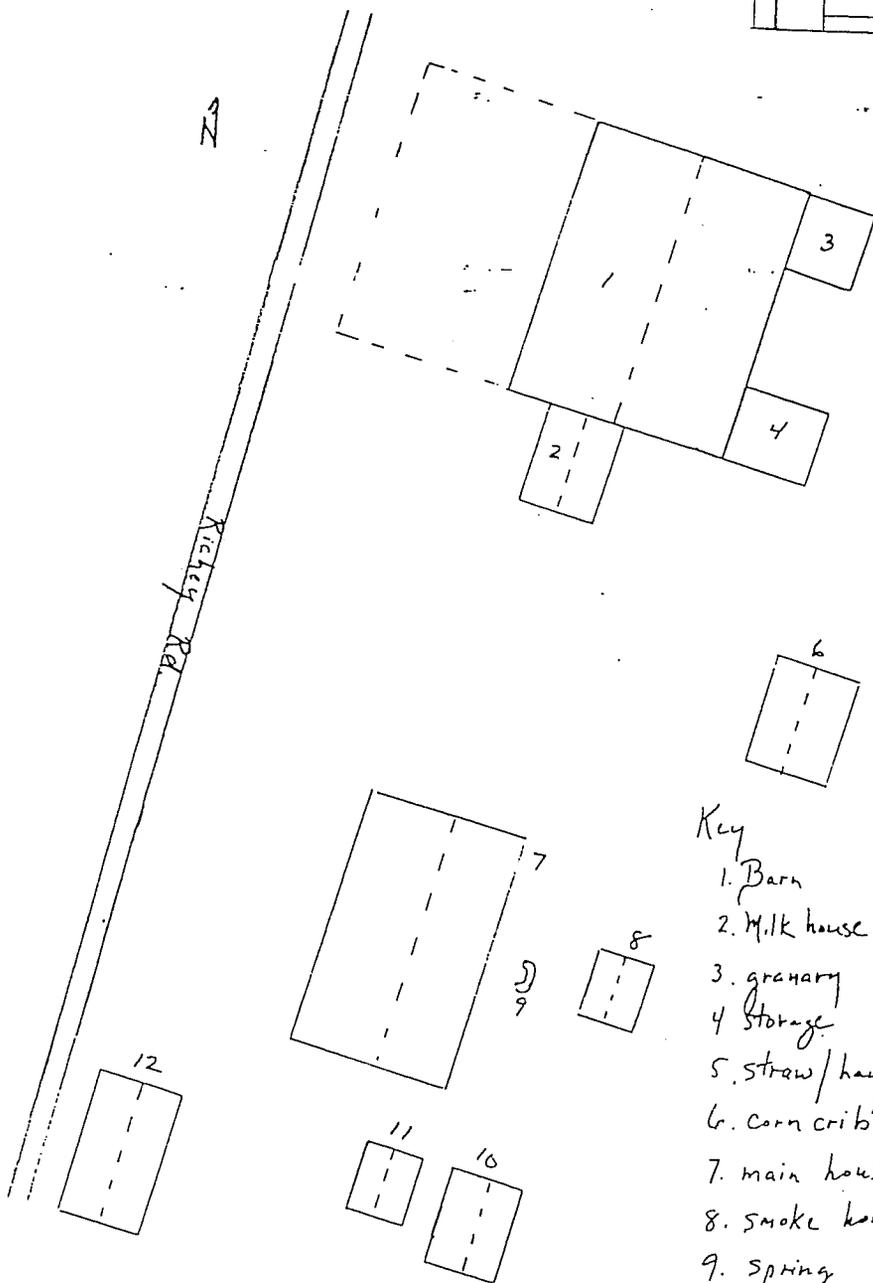
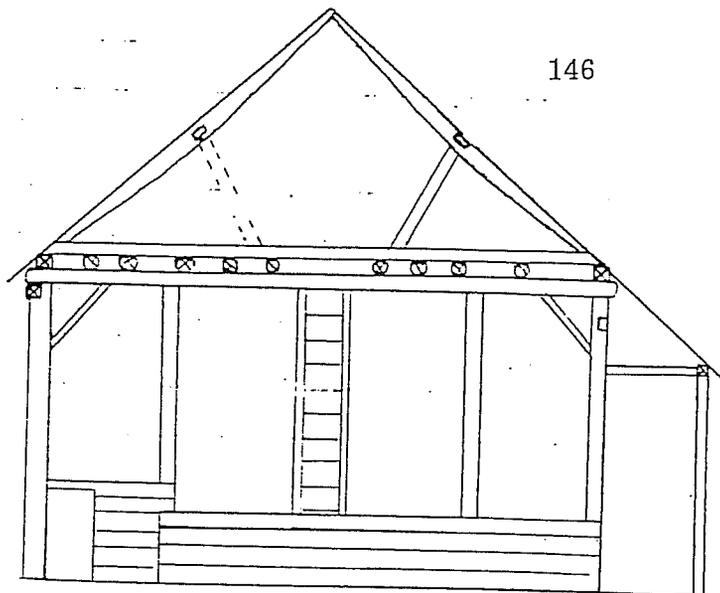
Griffith/Grimm Log Barn
Georges Twp., Fayette Co.
Crib Floor Plan



Ground Floor Plan



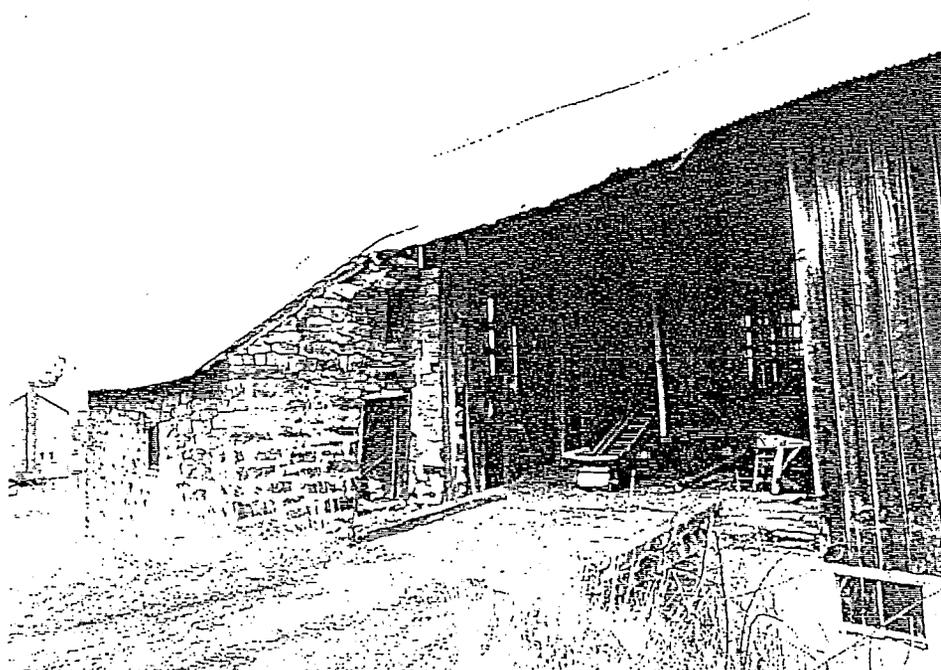
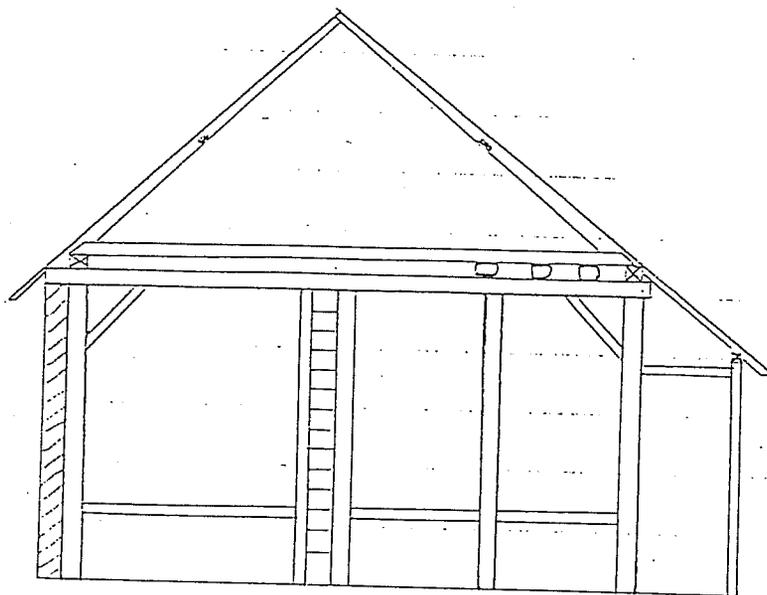
Neumeyer Barn
 Bullskin Twp., Fayette Co.
 South Bent



Neumeyer/Mucha Farm Plan

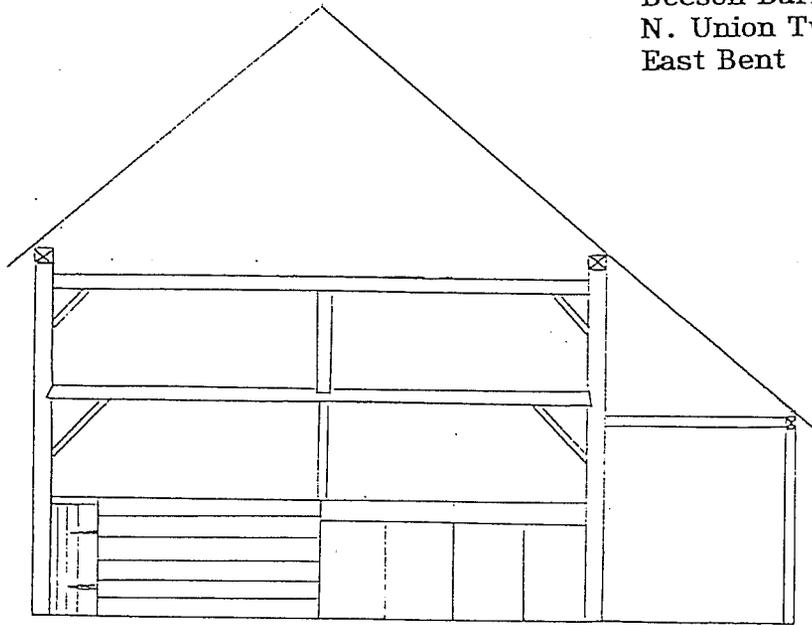
- Key
- 1. Barn
 - 2. Milk house
 - 3. granary
 - 4. Storage
 - 5. straw/hay shed
 - 6. corn crib
 - 7. main house
 - 8. smoke house
 - 9. Spring
 - 10. coal shanty
 - 11. wheat shed
 - 12. tenant house

Whipkey Barn
Bullskin Twp., Fayette Co.
North Bent

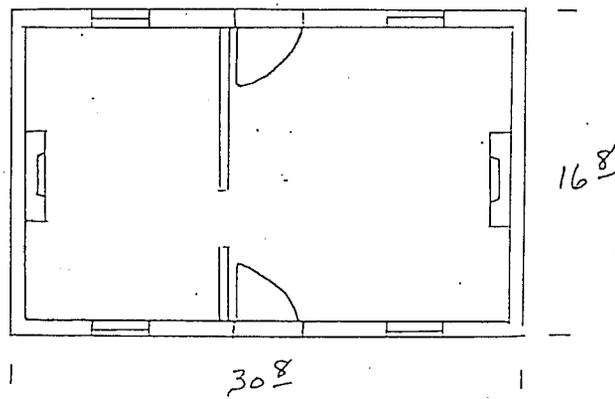


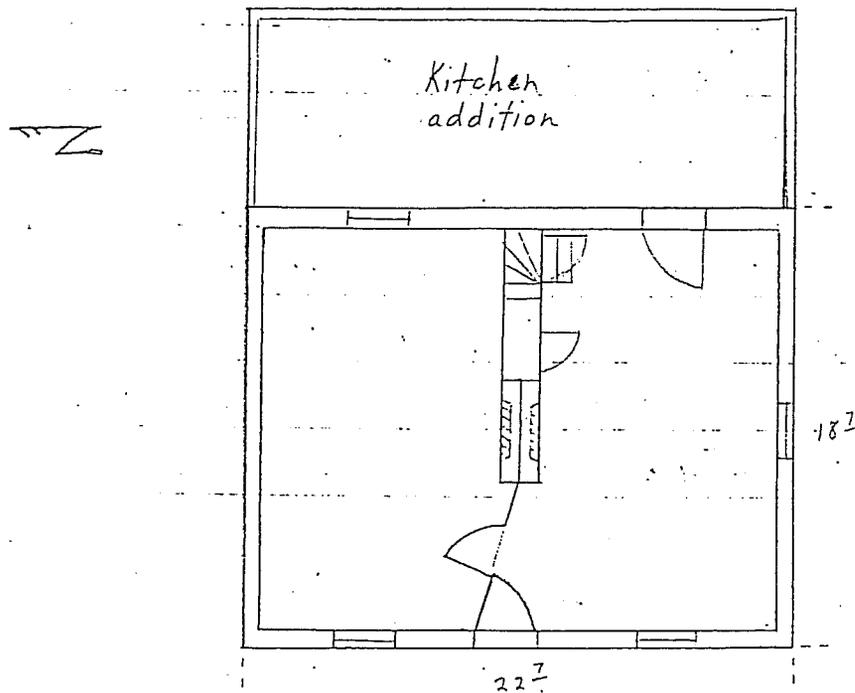
View from the Barn Wall
Showing the Single Outshed
Granary

Beeson Barn
N. Union Twp., Fayette Co.
East Bent



Beeson House
First Floor Plan



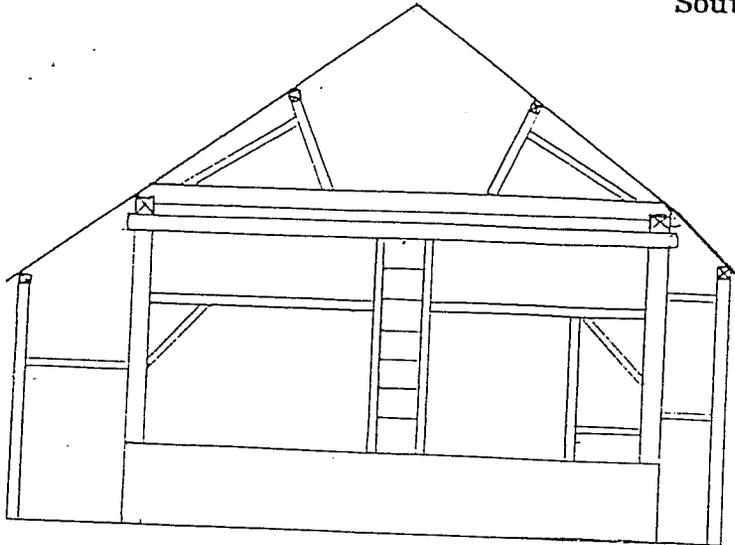


Bothwell House
New Geneva, Fayette Co.
First Floor Plan
Saddlebag Type

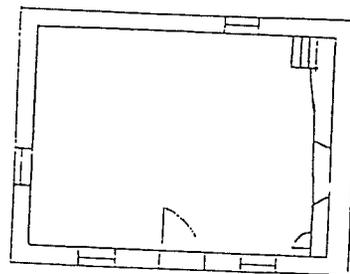


Saddlebag House
Georges Twp., Fayette Co.

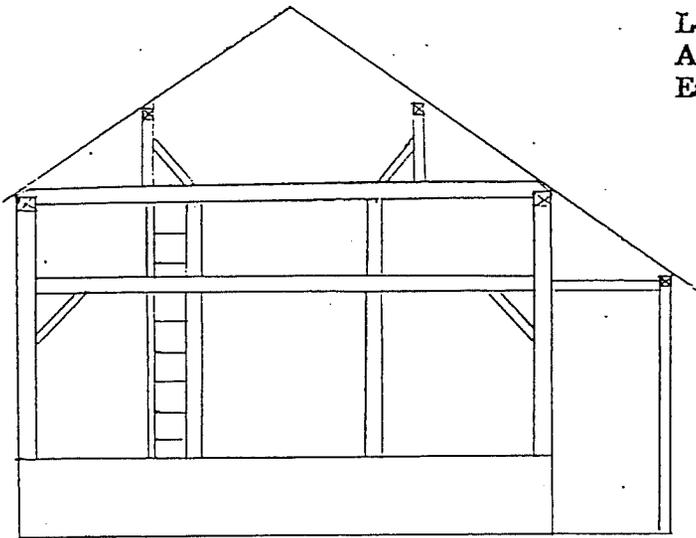
Hunter/Glenn Barn
Ayr Twp., Fulton Co.
South Bent



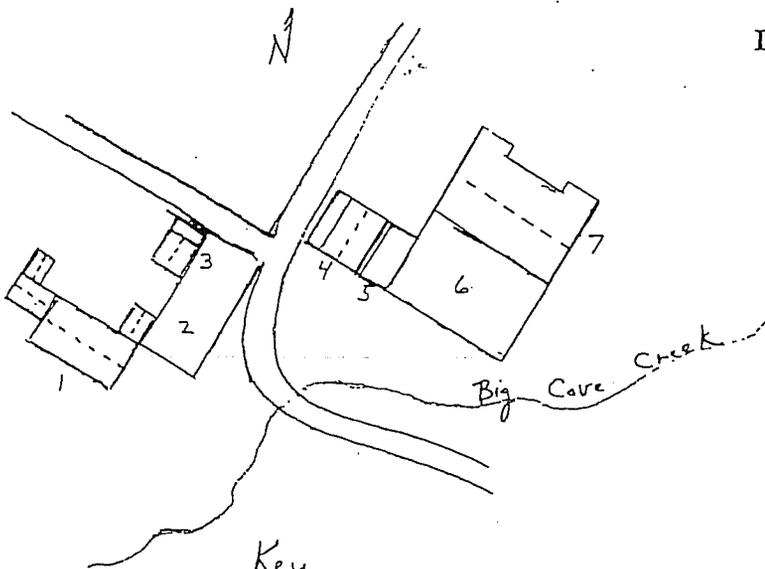
Hunter/Glenn Cabin/House
First Floor Plan



Logan Barn
 Ayr Twp., Fulton Co.
 East Bent



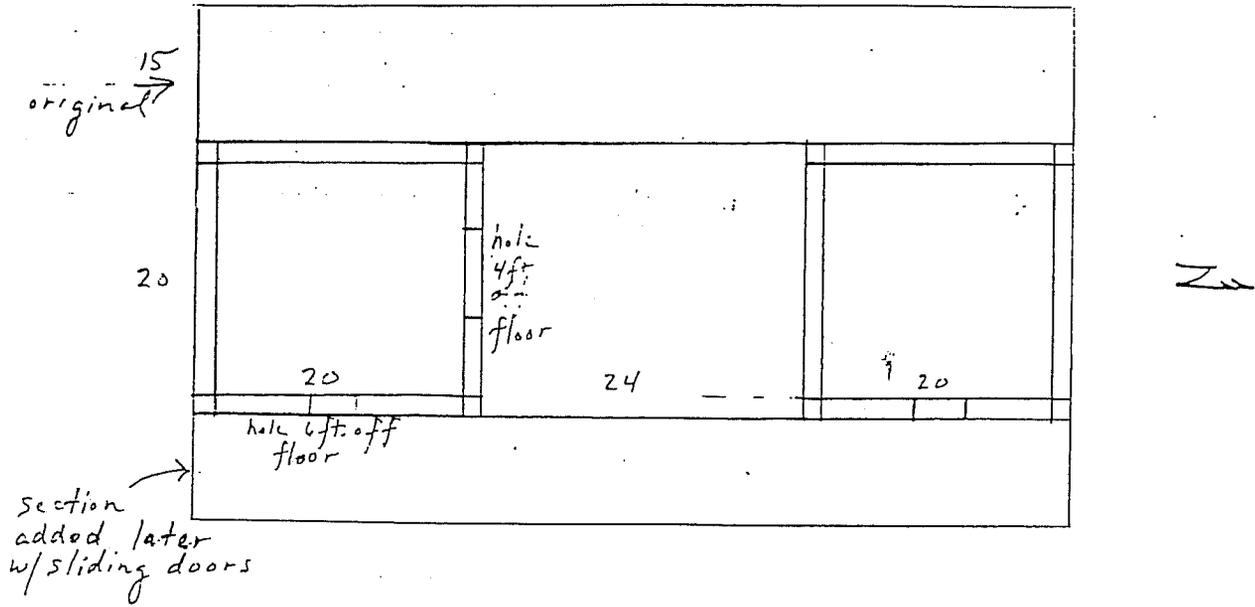
Logan Farm Plan



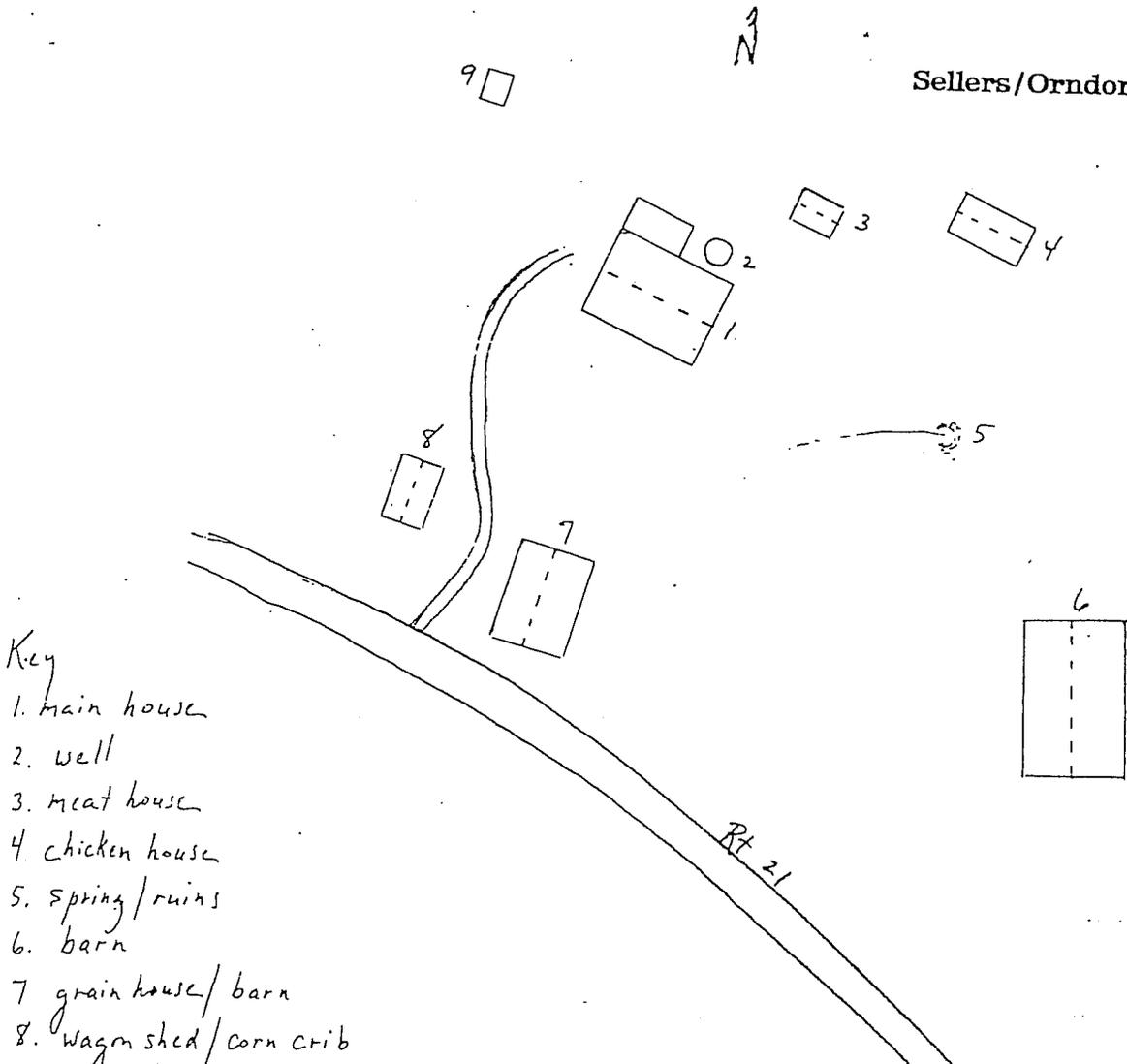
Key

- | | |
|------------------------|------------|
| 1 main house | 5 pig pen |
| 2 garden | 6 barnyard |
| 3 summer kitchen | 7 barn |
| 4 wagon shed/corn crib | |

Sellers/Orndorff Log Barn
Center Twp., Greene Co.
Crib Floor Plan

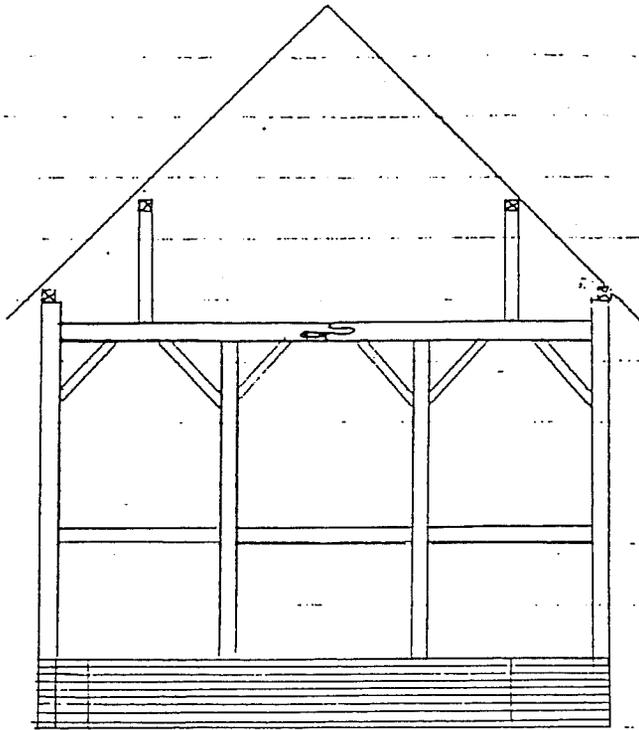


Sellers/Orndorff Farm Plan

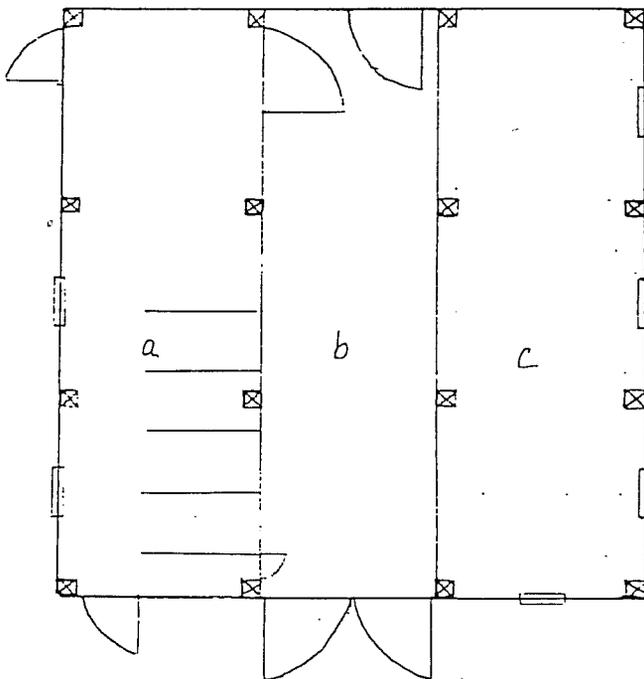


- Key
- 1. main house
 - 2. well
 - 3. meat house
 - 4. chicken house
 - 5. spring/ruins
 - 6. barn
 - 7. grain house/ barn
 - 8. wagon shed/ corn crib

Thomas Eddy Barn
Wayne Twp., Greene Co.
East Bent

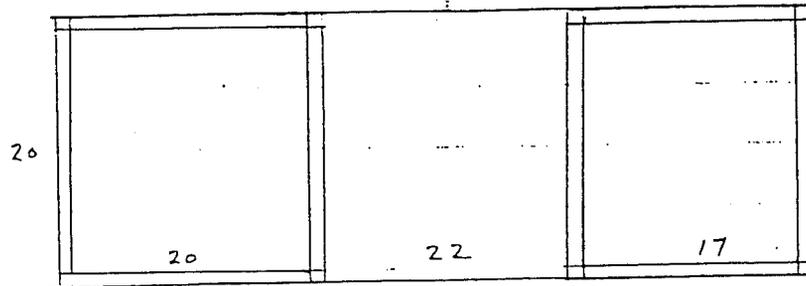


Eddy Barn First Floor Plan

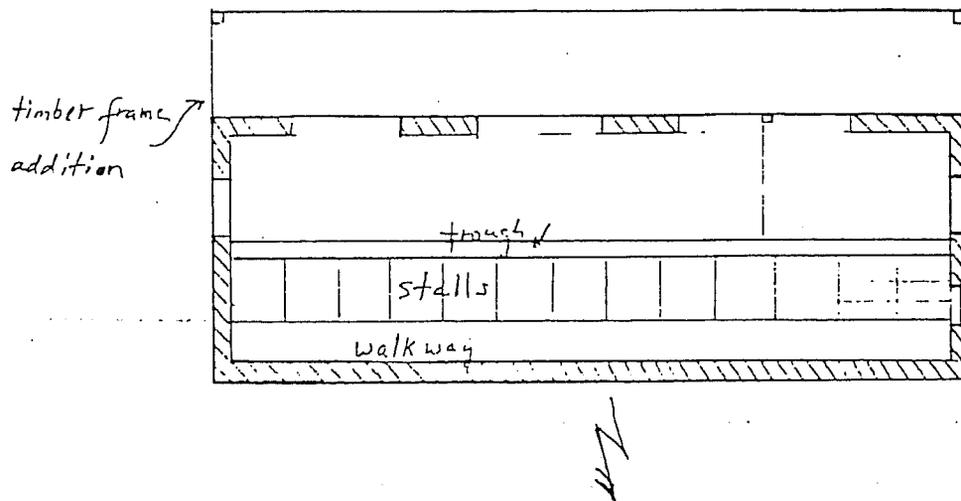


Key
a. horse stalls
b. cutting room
c. storage

**Moredock Log Barn
Jefferson Twp., Greene Co.
Crib Floor Plan**



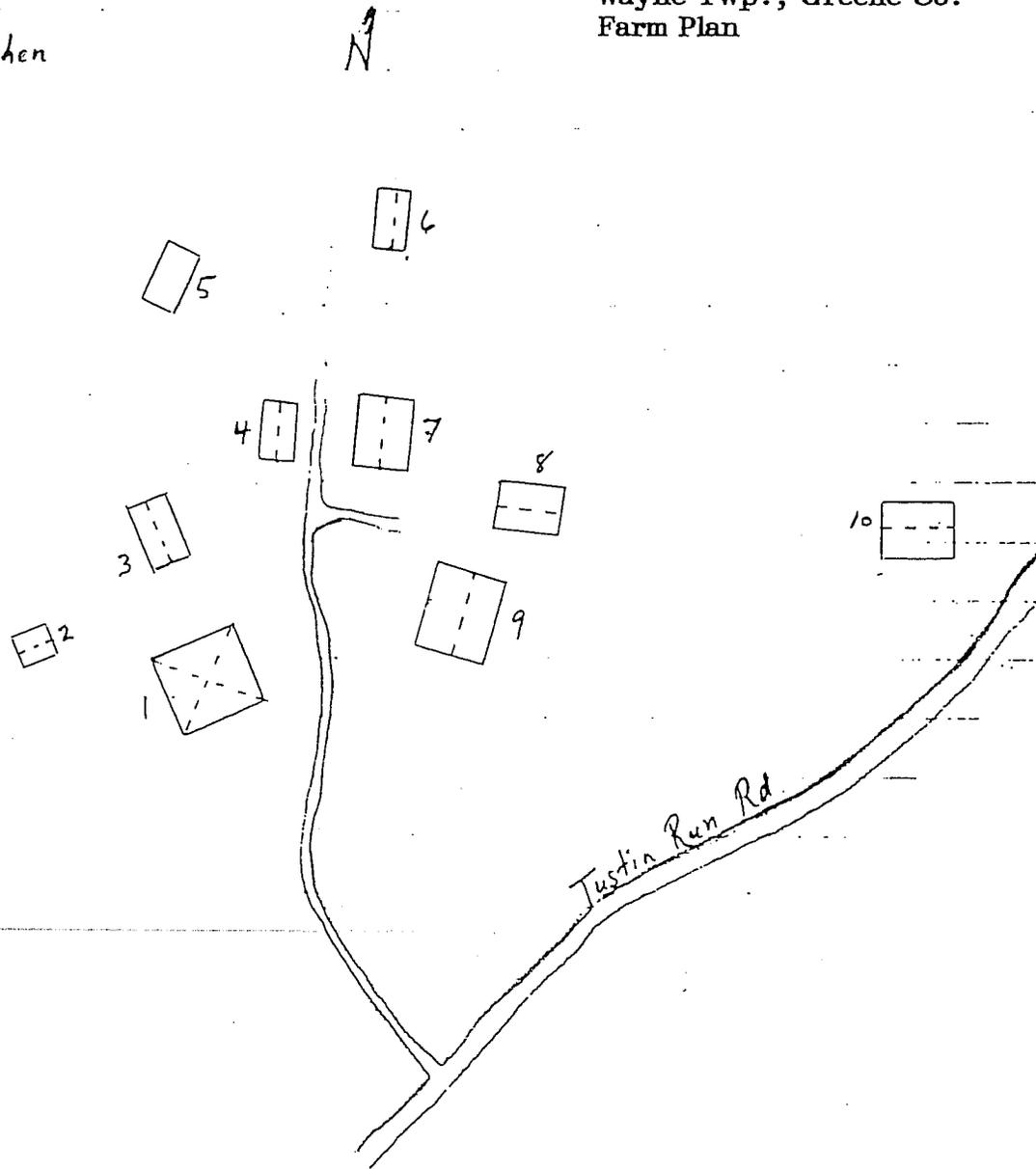
Moredock Barn Ground Floor Plan



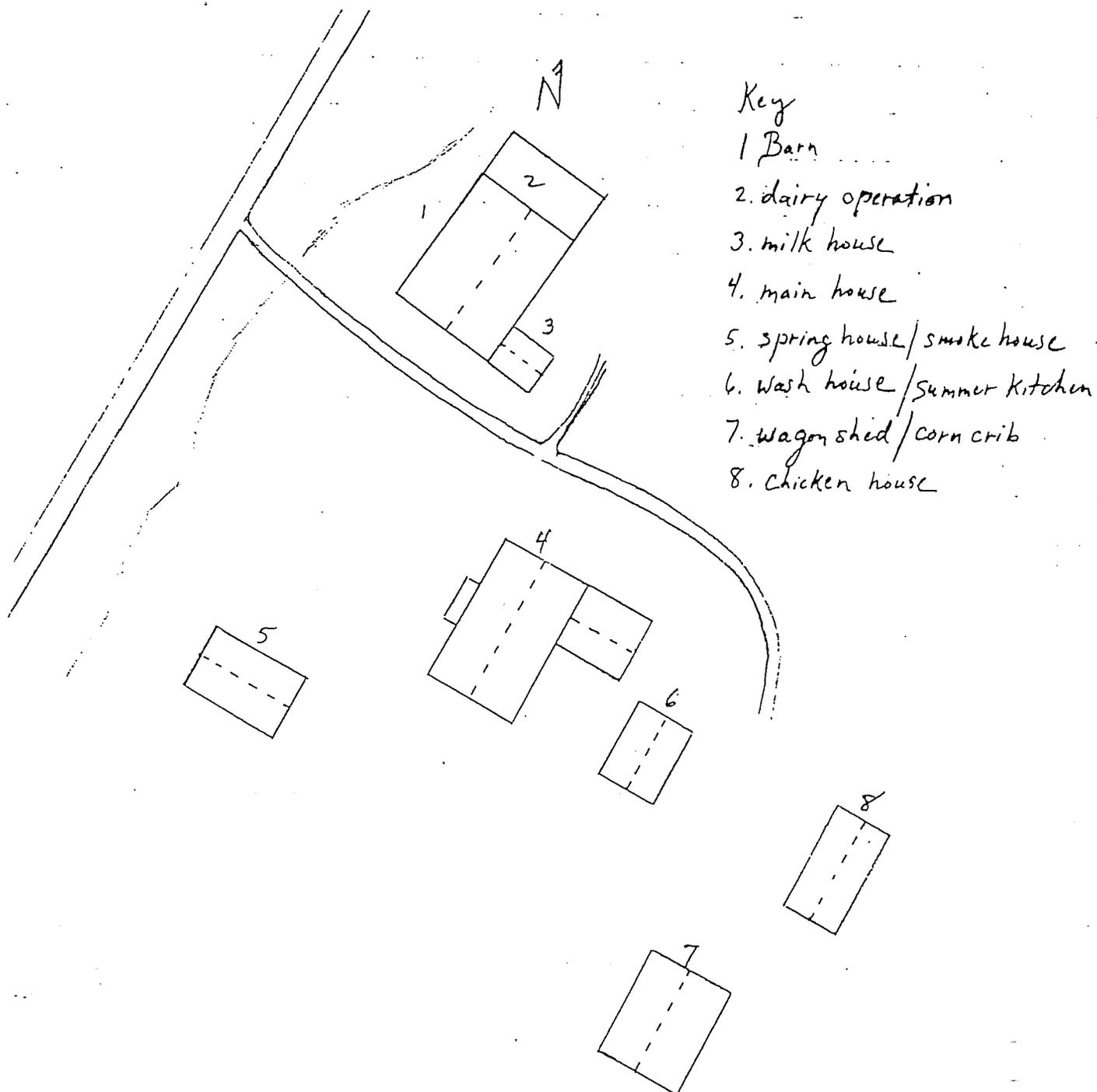
Key

- 1. house
- 2. smoke house
- 3. cave house/summer kitchen
- 4. grain house/storage
- 5. chicken house
- 6. hog pen
- 7. garage/grain house
- 8. tractor shed
- 9. barn
- 10. sheep barn

Ralph Adamson Farm
Wayne Twp., Greene Co.
Farm Plan

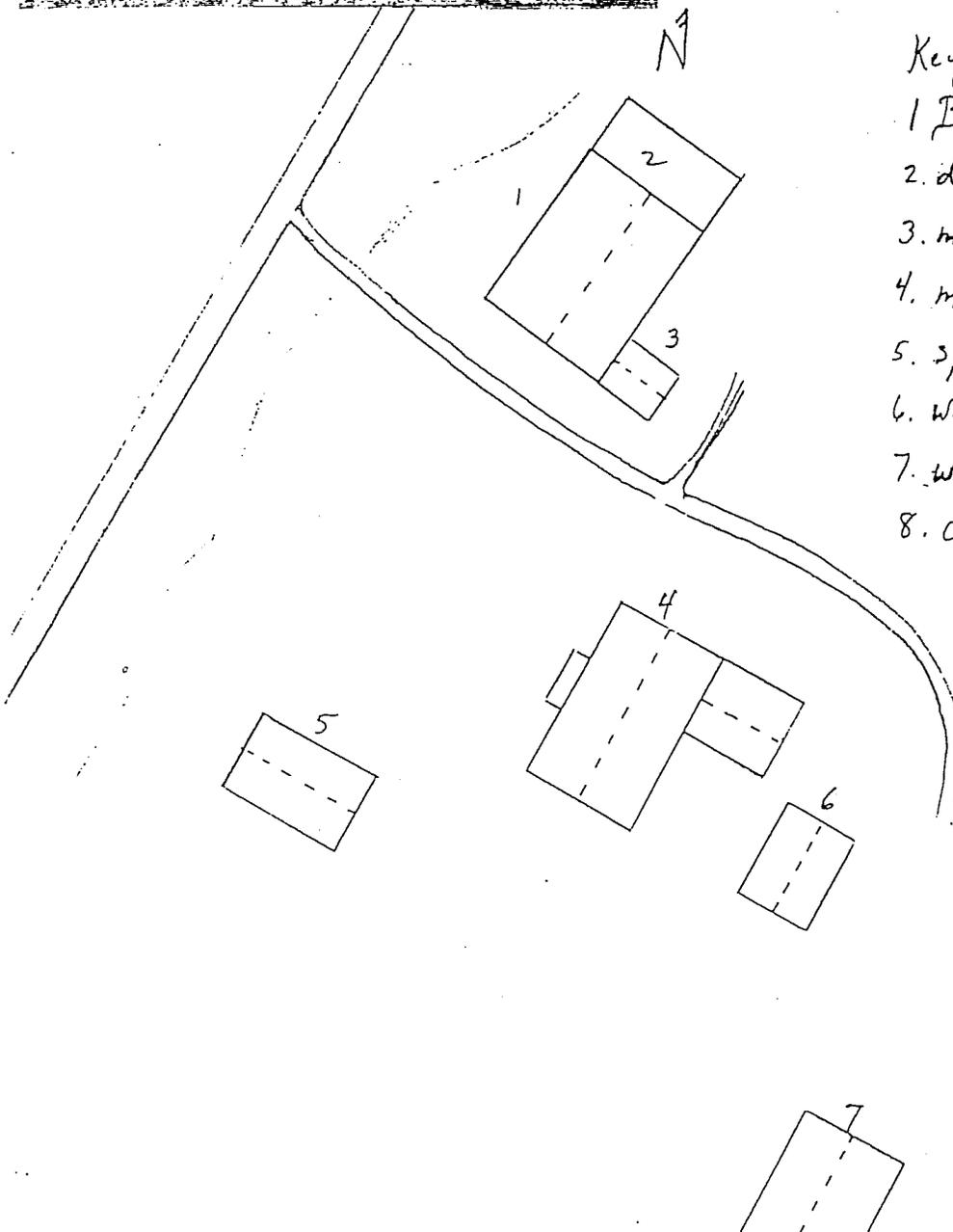
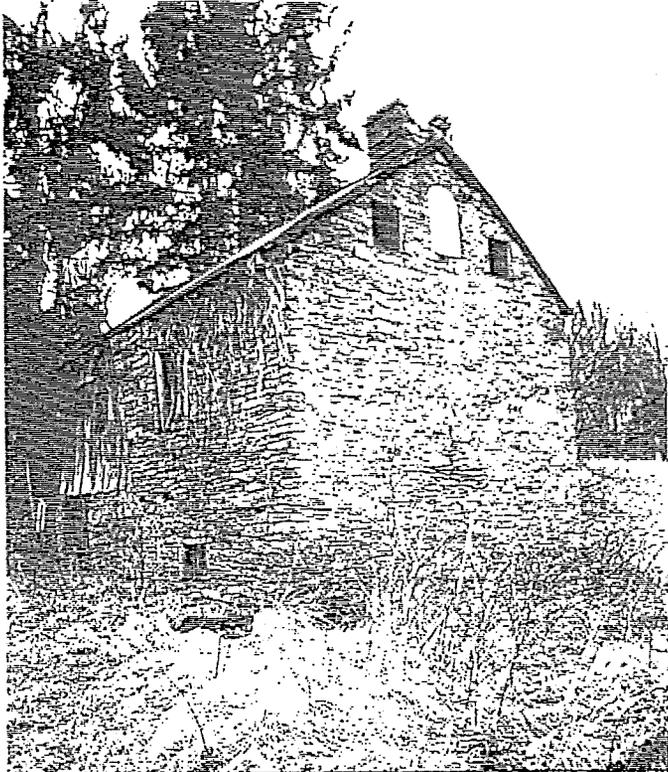


White/Minor Farm
 Franklin Twp., Greene Co.
 Farm Plan



1803 White House/
Spring House

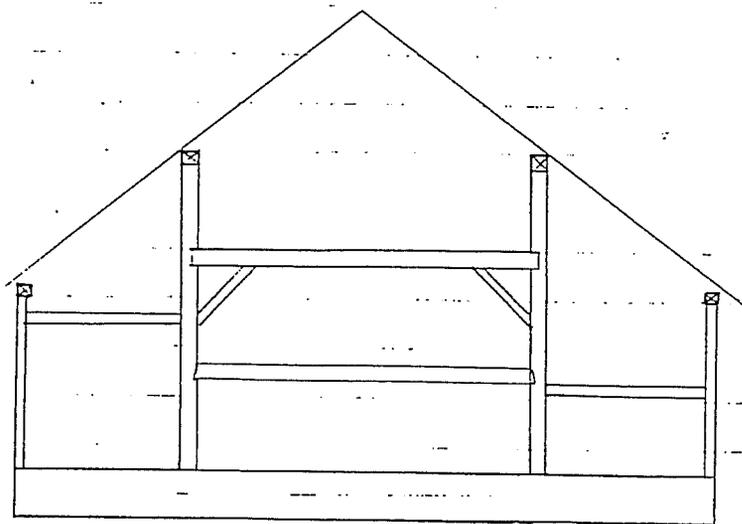
White/Minor Farm
Franklin Twp., Greene Co.
Farm Plan



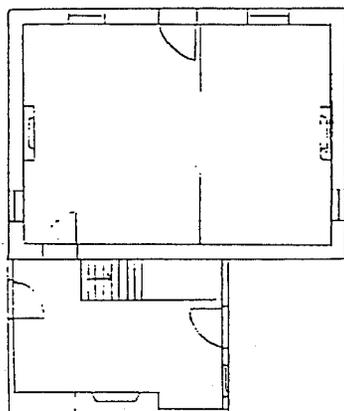
Key

- 1. Barn
- 2. dairy operation
- 3. milk house
- 4. main house
- 5. spring house / smoke house
- 6. wash house / summer kitchen
- 7. wagon shed / corn crib
- 8. chicken house

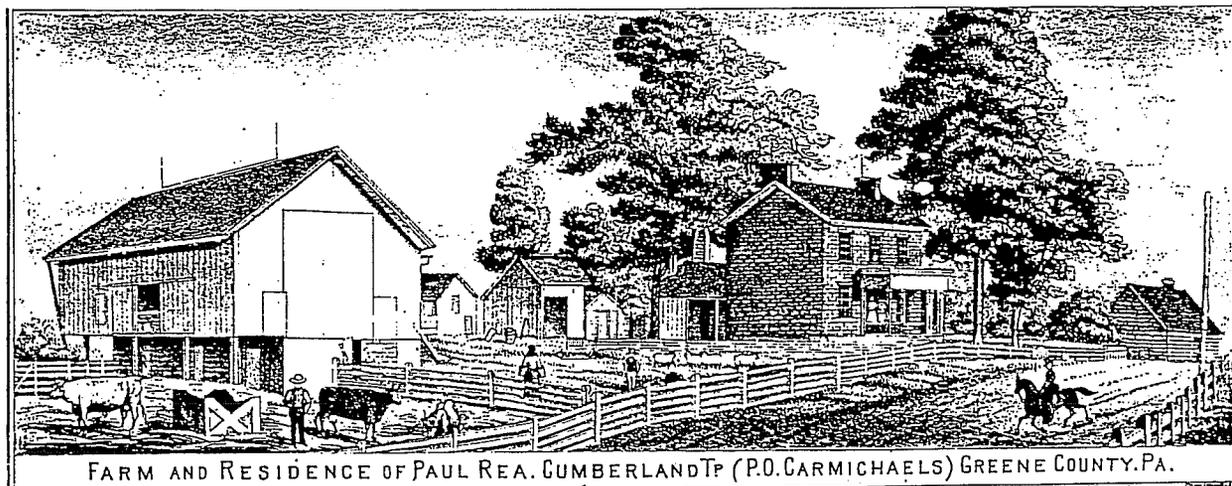
Rea/Hart Barn
Cumberland Twp., Greene Co.
East Bent



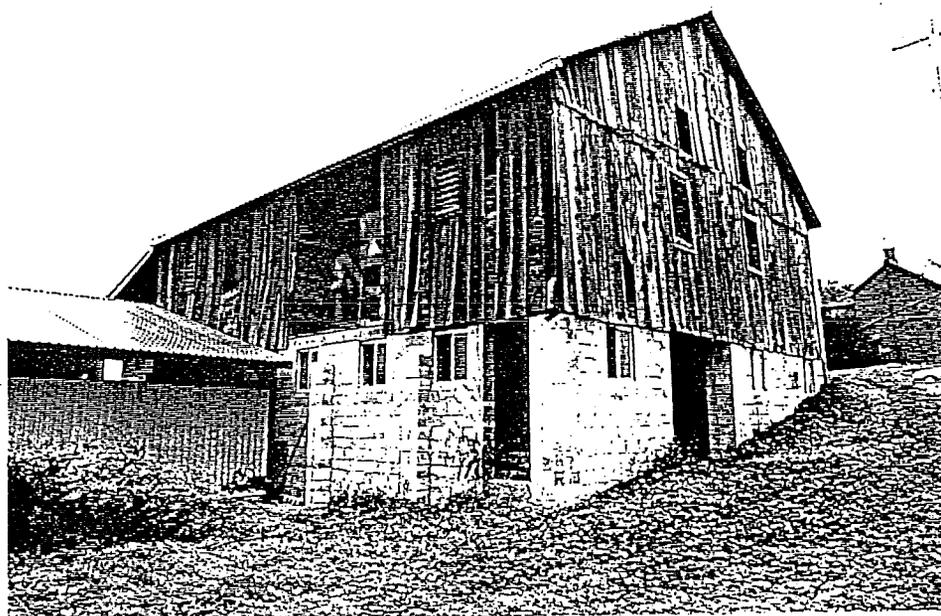
Rea/Hart House
First Floor Plan



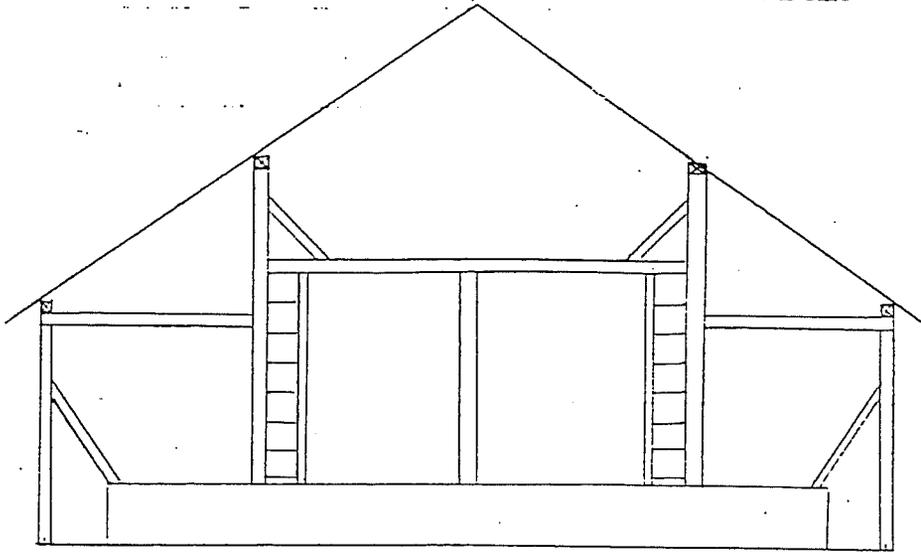
Rea Barn
from 1876 atlas
Cumberland Twp., Greene Co.



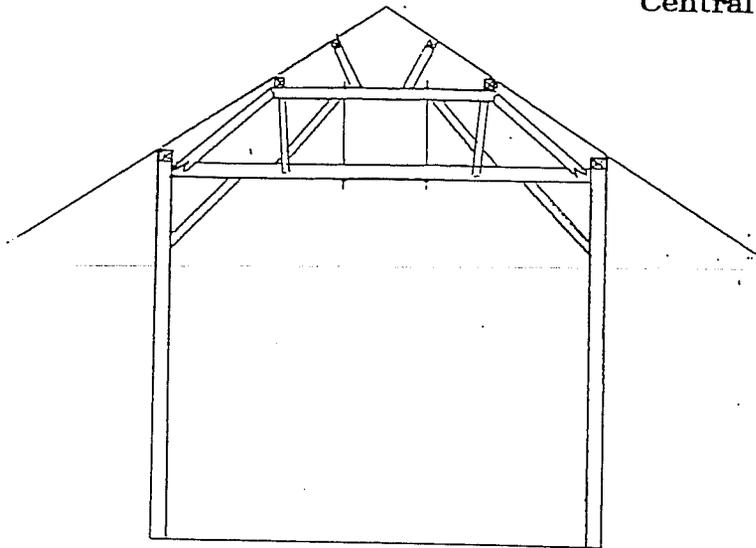
Current View

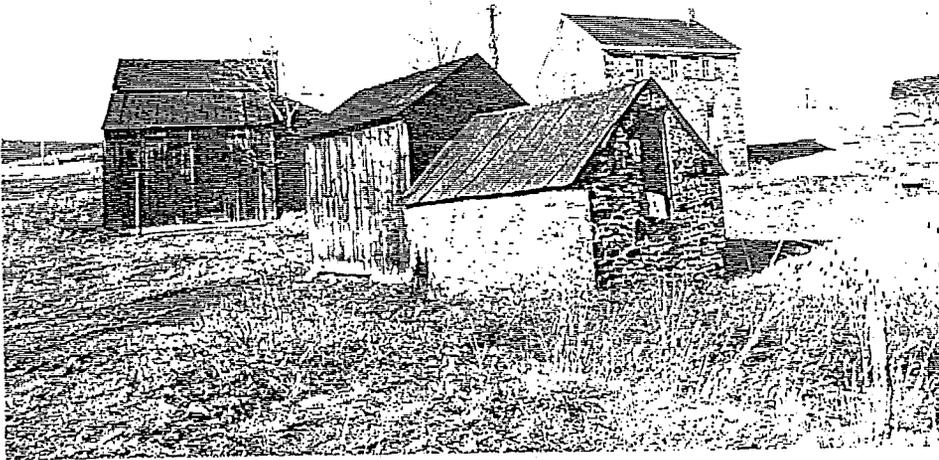


Geisinger/Lynn Barn
Penn Twp., Huntingdon Co.
East Bent



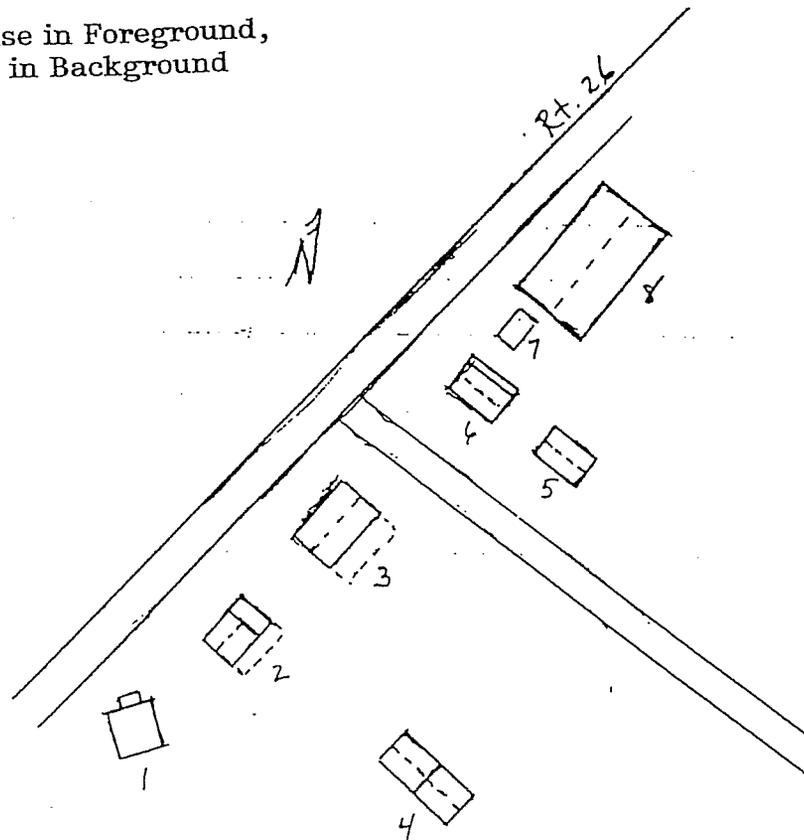
Geisinger/Lynn Barn
Central Bent





Spring House in Foreground,
Main House in Background

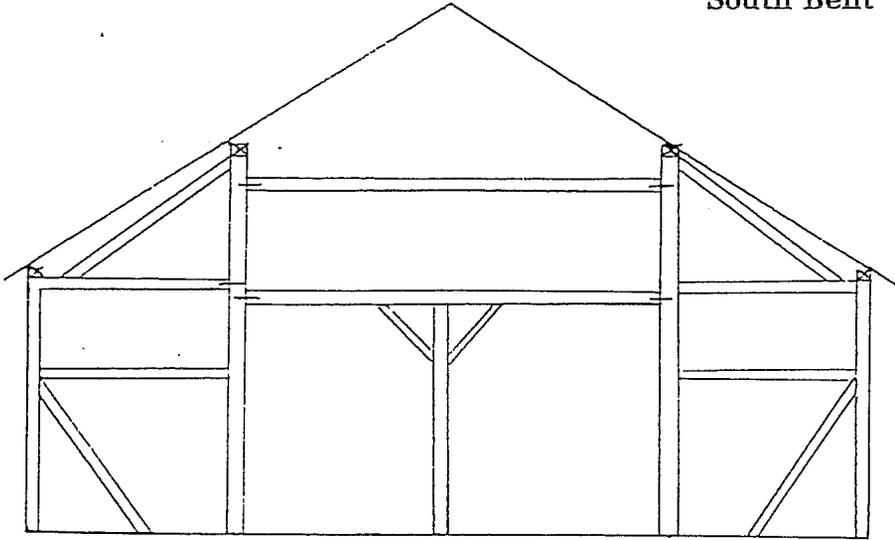
Bowers/Householder Farm
Penn Twp., Huntingdon Co.
Farm Plan



Key

- | | |
|------------------------------|-------------------------|
| 1. Summer Kitchen/wash house | 5. hog pen |
| 2. tenant house | 6. wagon shed/corn crib |
| 3. main house | 7. milk house |
| 4. spring house. | 8. barn |

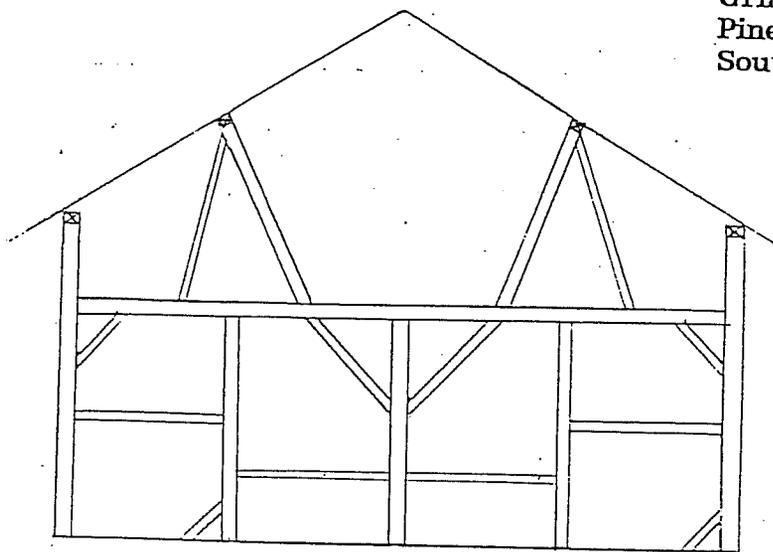
Welch/McMath Barn
Shirley Twp., Huntingdon Co.
South Bent



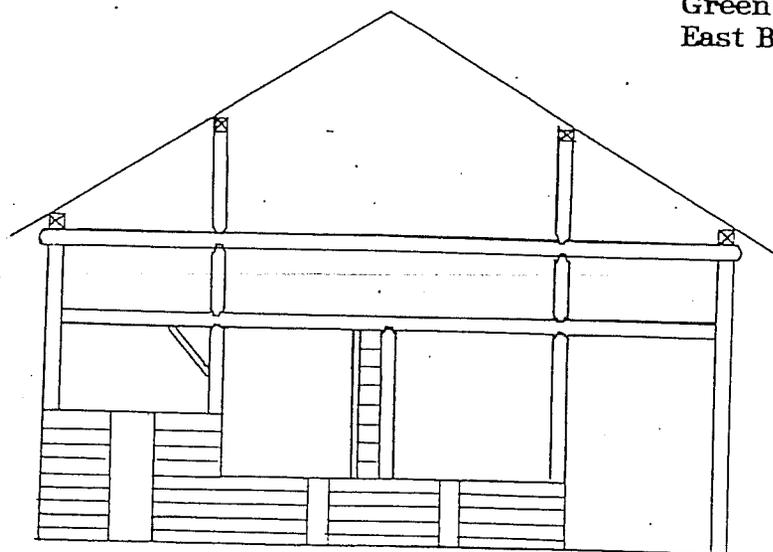
Current View



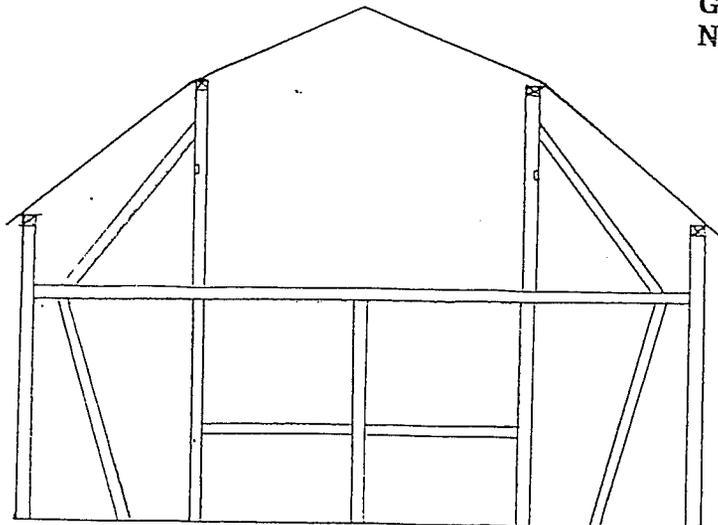
Griffith/Smith Barn
Pine Twp., Indiana Co.
South Bent



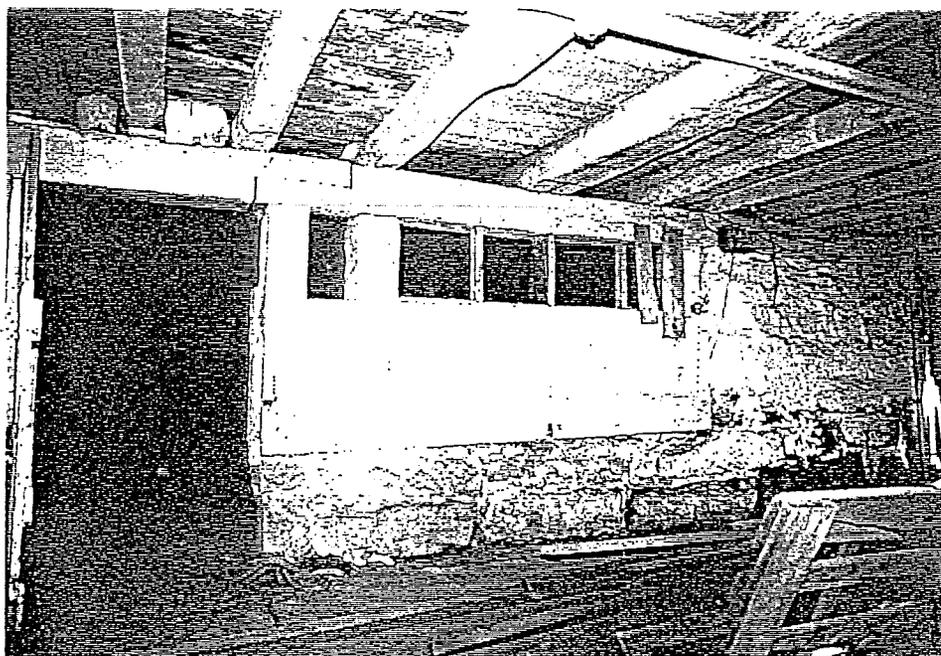
Dunlap/McGuire Barn
Green Twp., Indiana Co.
East Bent



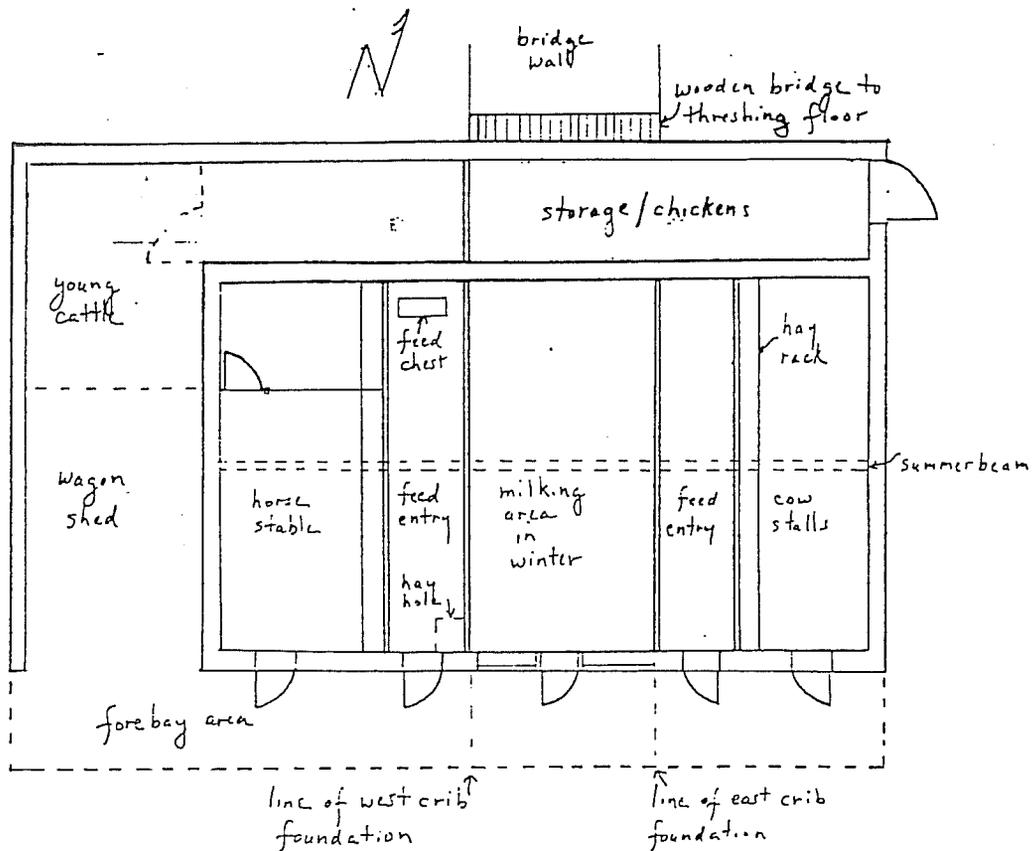
Haagen Barn
Green Twp., Indiana Co.
North Bent



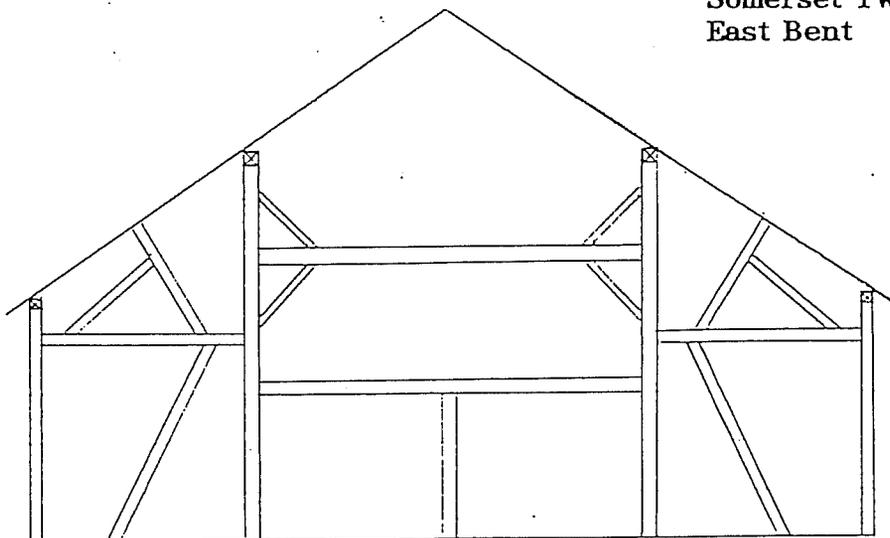
Looking from Shed Area
into Stall Area



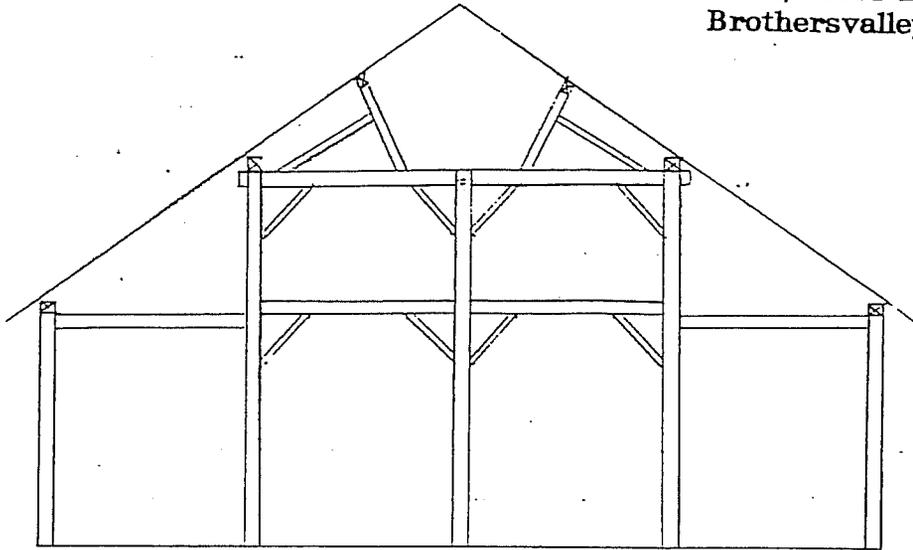
Weighley Log Barn
Brothersvalley Twp., Somerset Co.
Ground Floor Plan



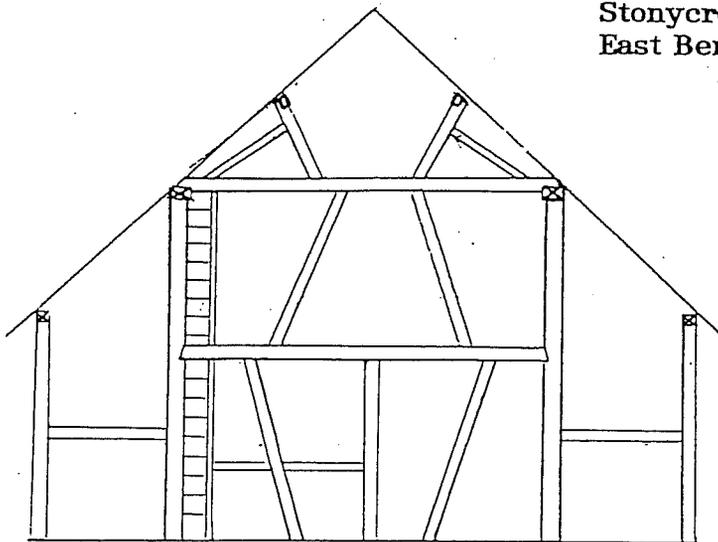
Heffley/Sherbine Barn
Somerset Twp., Somerset Co.
East Bent



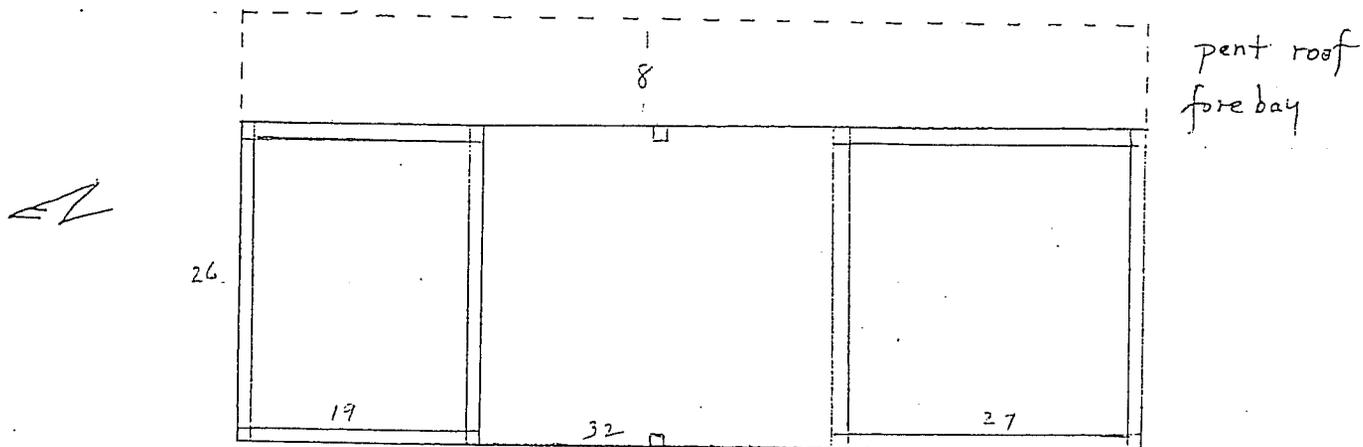
Good/Cober Barn
Brothersvalley Twp., Somerset Co.



J.M. Glessner Barn
Stonycreek Twp., Somerset Co.
East Bent



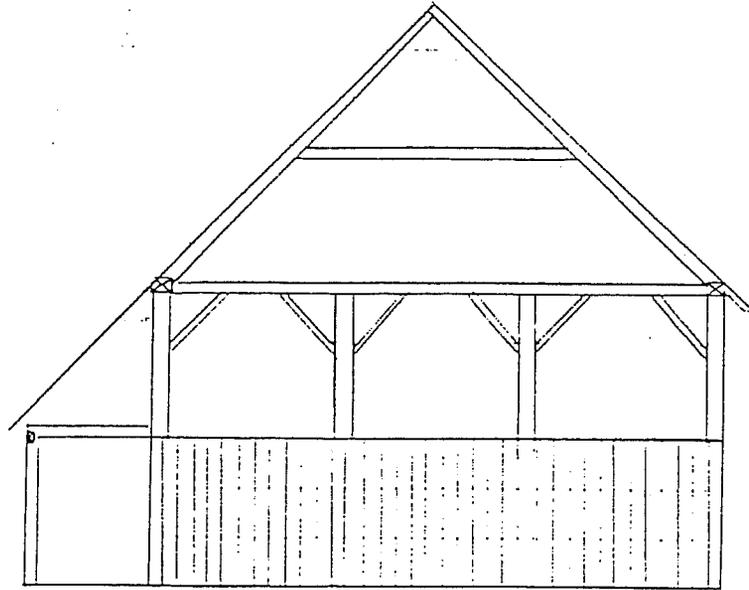
Smith/Rapp Barn
Somerset Twp., Somerset Co.
First Floor Plan



North Gable End
Showing Log Gable Walls



Manchester/Painter Barn
Independence Twp., Washington Co.
East Bent

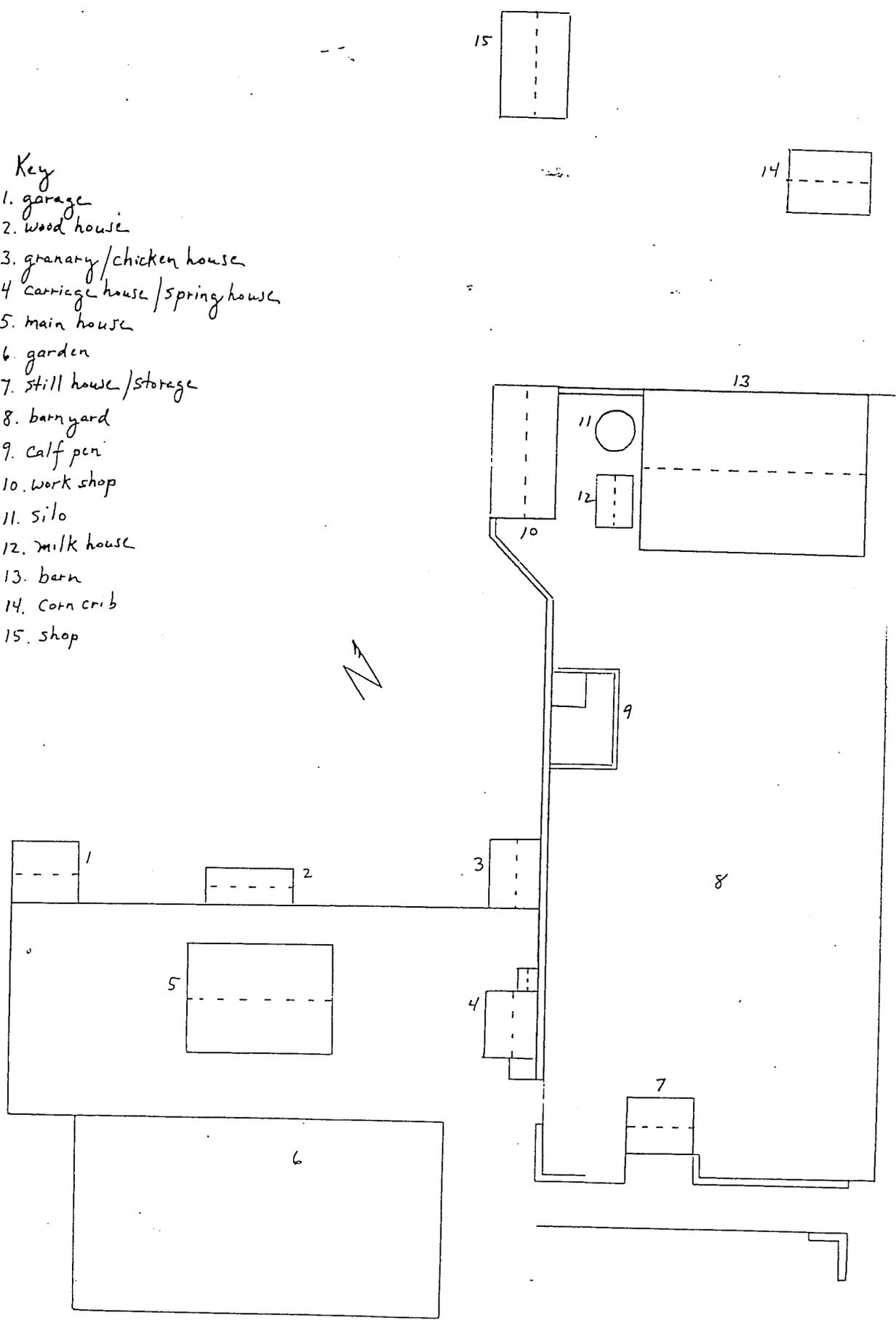


View from the Barnyard

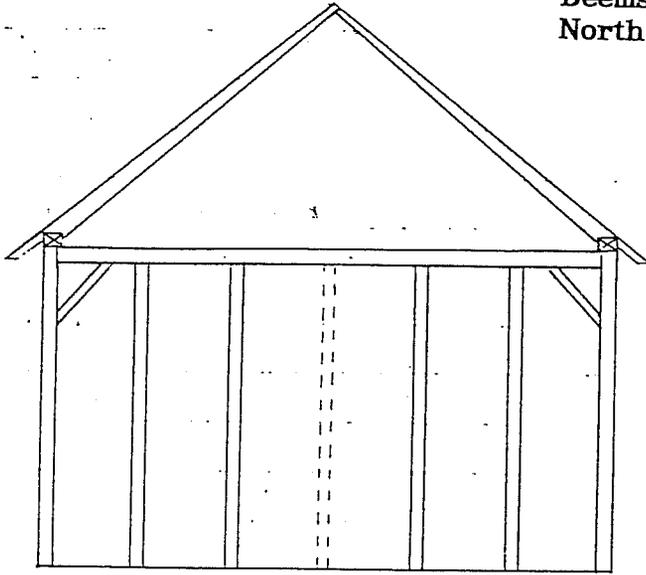


Manchester/Painter Farm Plan

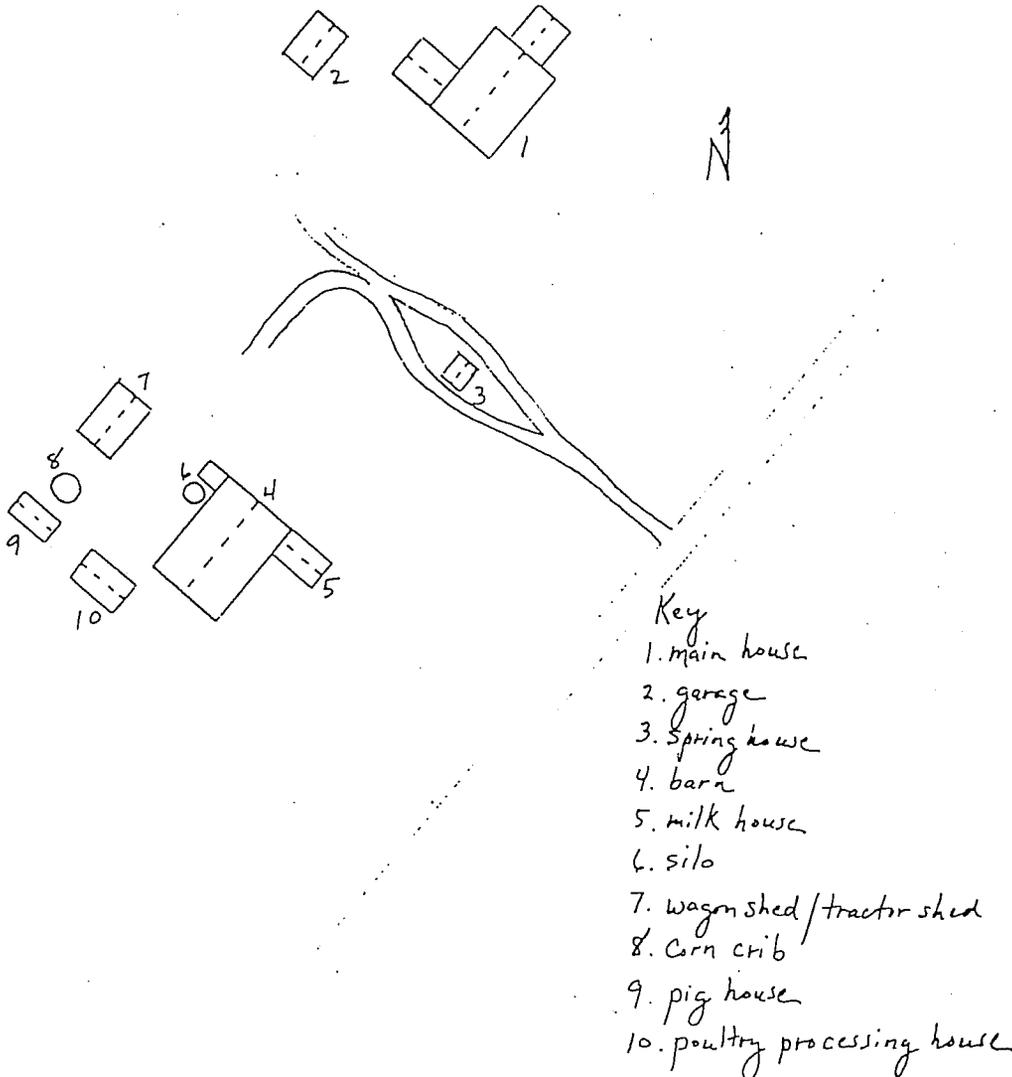
- Key
- 1. garage
 - 2. wood house
 - 3. granary/chicken house
 - 4. carriage house/spring house
 - 5. main house
 - 6. garden
 - 7. still house/storage
 - 8. barnyard
 - 9. calf pen
 - 10. work shop
 - 11. silo
 - 12. milk house
 - 13. barn
 - 14. corn crib
 - 15. shop



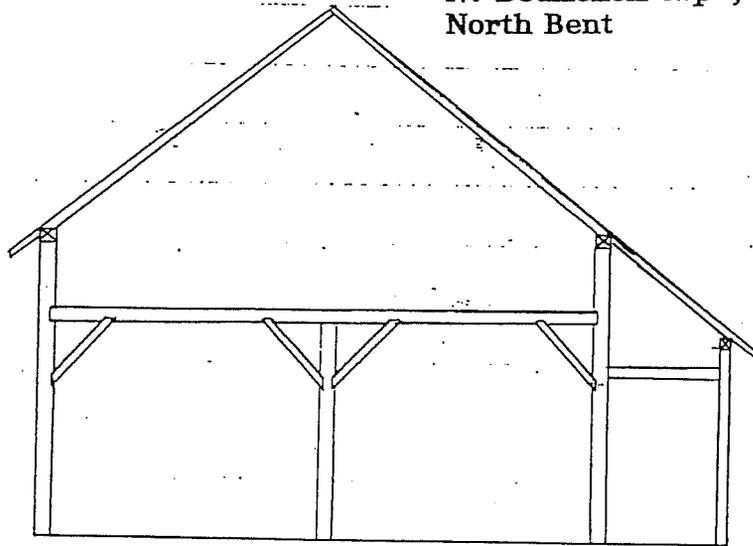
Kinder/Appel Barn
 Deemston Boro., Washington Co. 169
 North Bent



Kinder/Appel Farm Plan



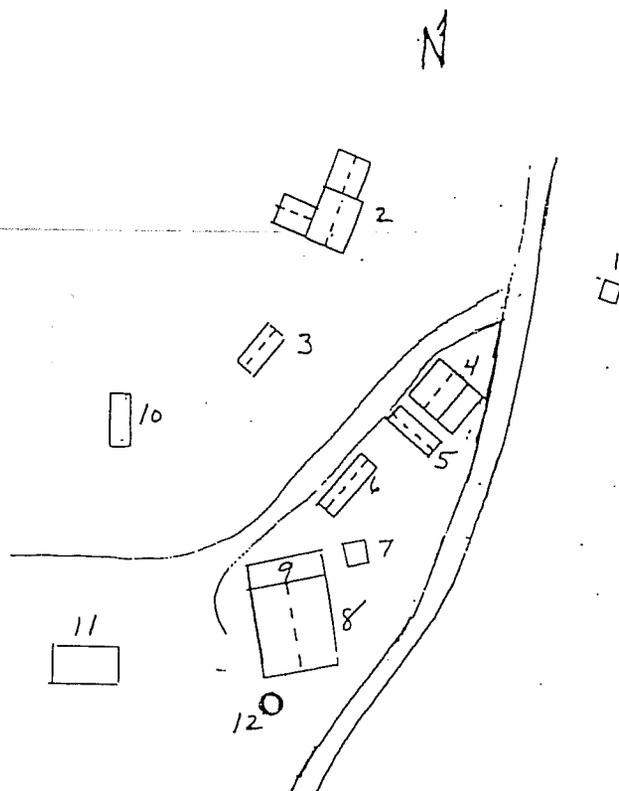
Wonsettler Barn
 N. Bethlehem twp., Washington Co.
 North Bent



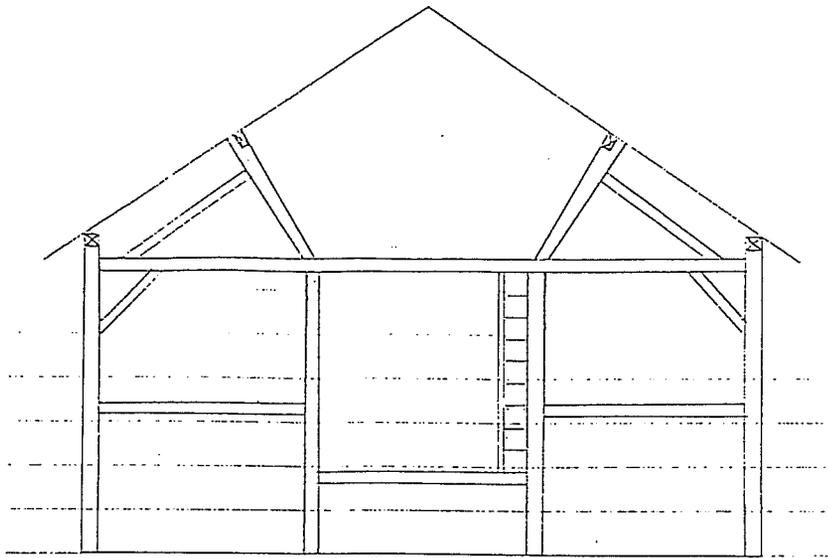
Wonsettler Farm Plan

Key

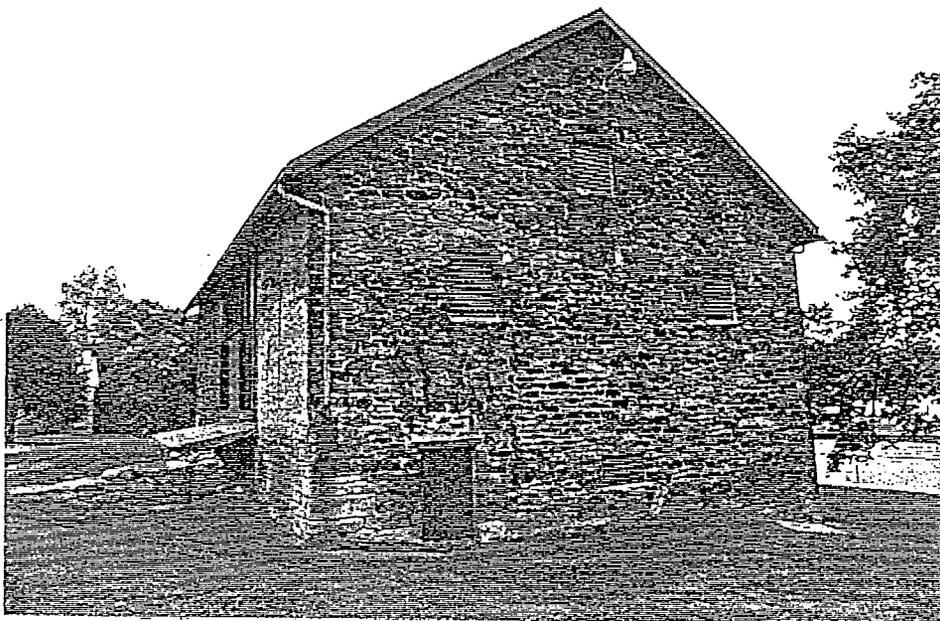
- 1. Spring house
- 2. main house
- 3. coal house / chicken house
- 4. stable / hog pen
- 5. corn crib
- 6. corn crib
- 7. milk house
- 8. barn
- 9. Wagon shed
- 10. chicken house
- 11. equipment shed
- 12. silo

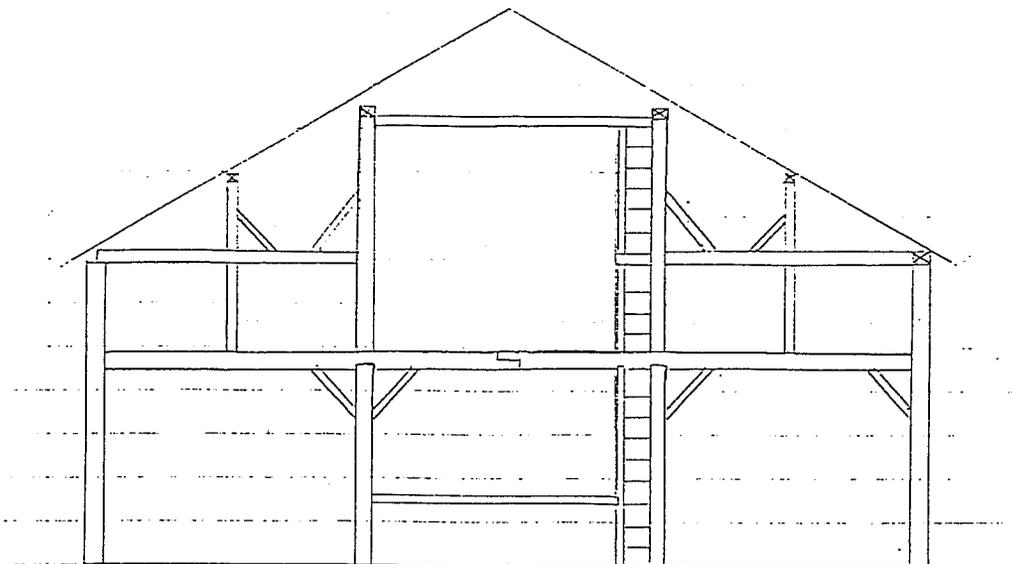


Baker Barn
E. Pike Run Twp., Washington Co.
East Bent



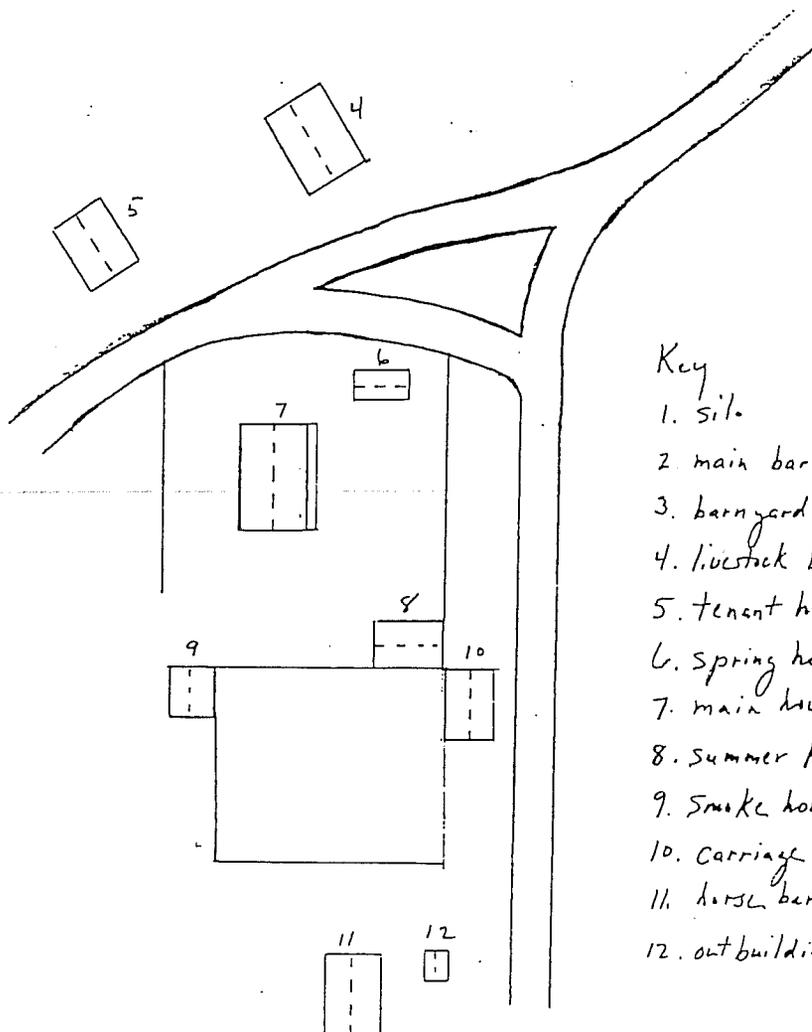
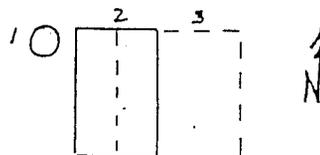
Current View



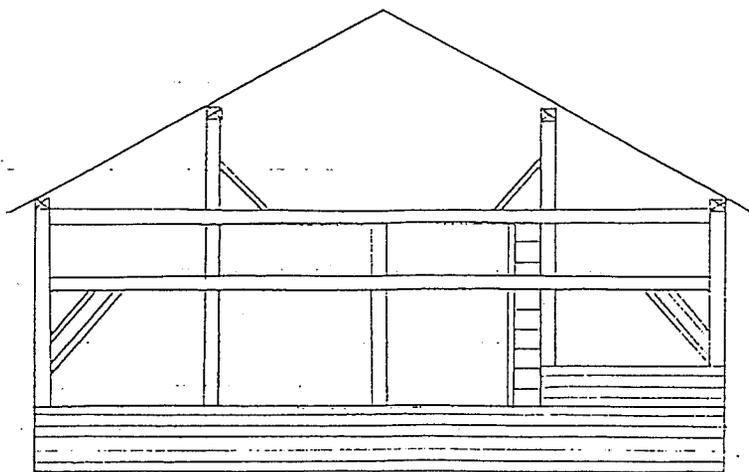


Overholt Barn
East Bent

Overholt Farm Plan
E. Huntingdon Twp., Westmoreland Co.

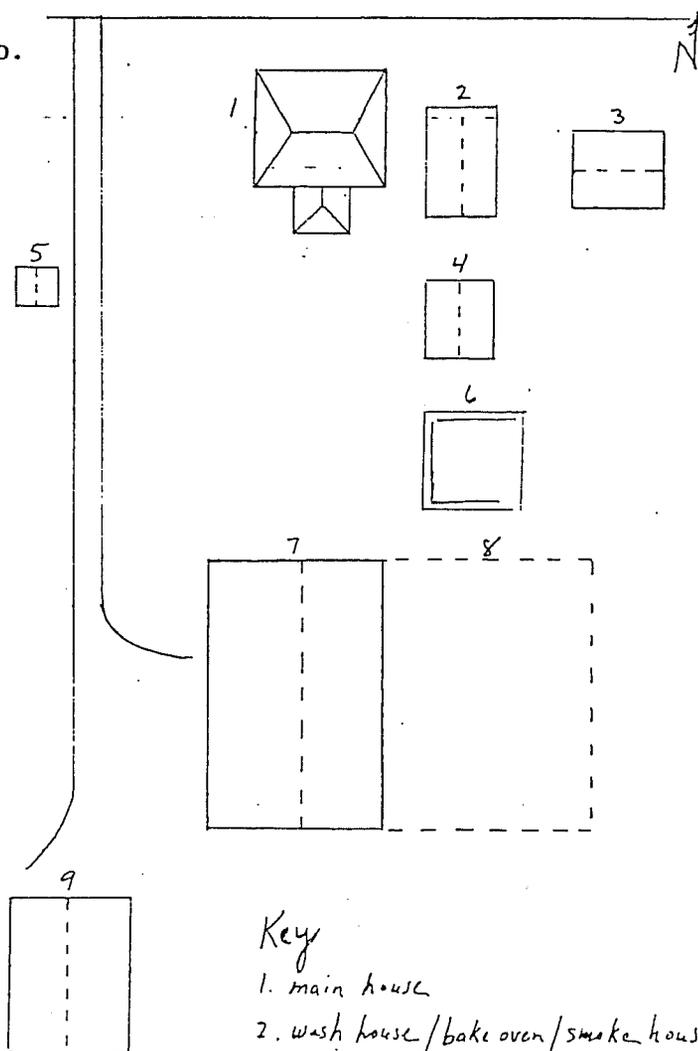


- Key
- 1. silo
 - 2. main barn
 - 3. barnyard
 - 4. livestock barn
 - 5. tenant house
 - 6. spring house
 - 7. main house
 - 8. summer kitchen
 - 9. smoke house
 - 10. carriage house
 - 11. horse barn
 - 12. out building

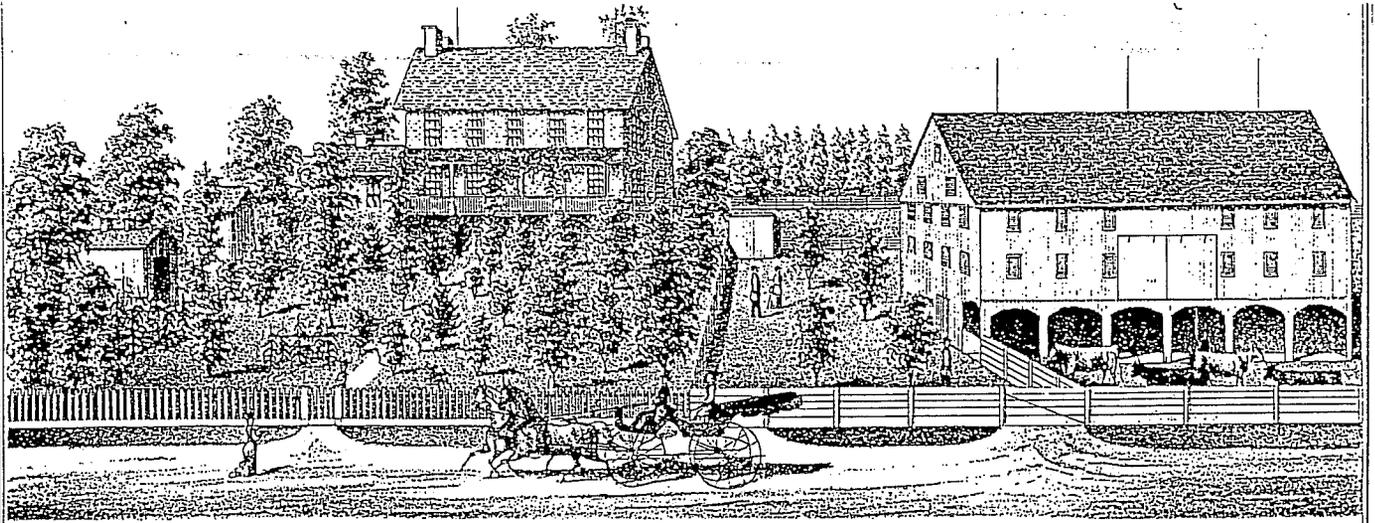


Poole/Farlow Farm Plan
Hempfield Twp., Westmoreland Co.

Poole/Farlow Barn
Hempfield Twp., Westmoreland Co.
South Bent

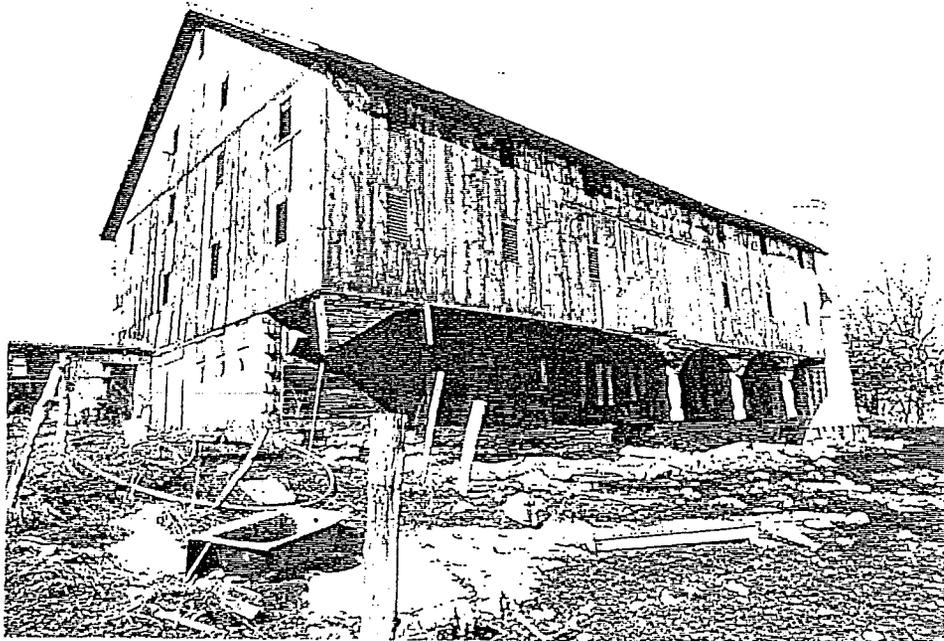


- Key
- 1. main house
 - 2. wash house / bake oven / smoke house
 - 3. springhouse
 - 4. storage shed / granary
 - 5. privy
 - 6. pattern shop / buggy shed ruins
 - 7. barn
 - 8. barn yard
 - 9. wagon shed / corn crib

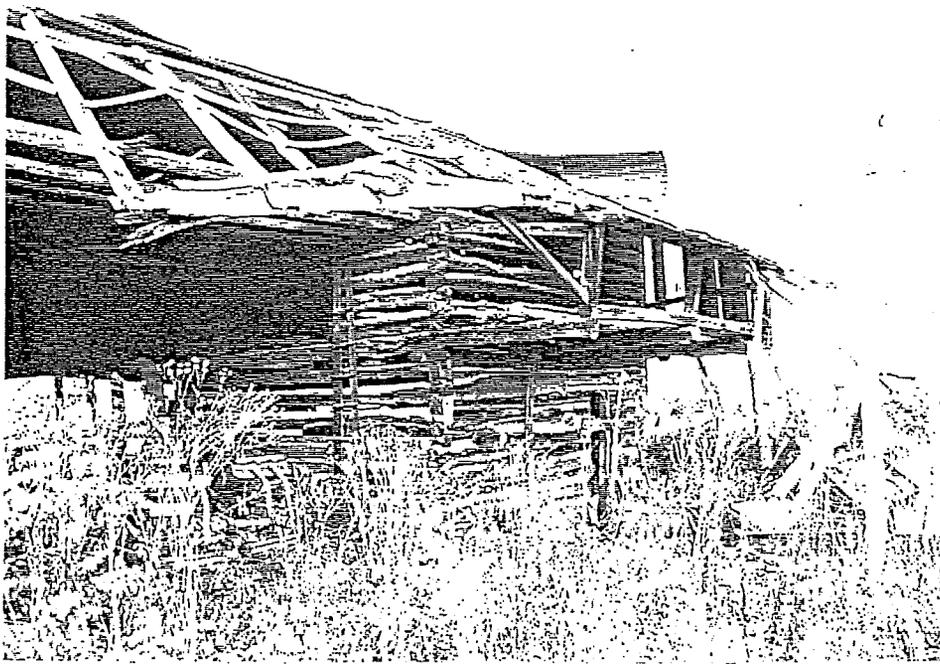


RES. OF DANIEL B. STONER, STONERVILLE, WESTMORELAND CO., PA.

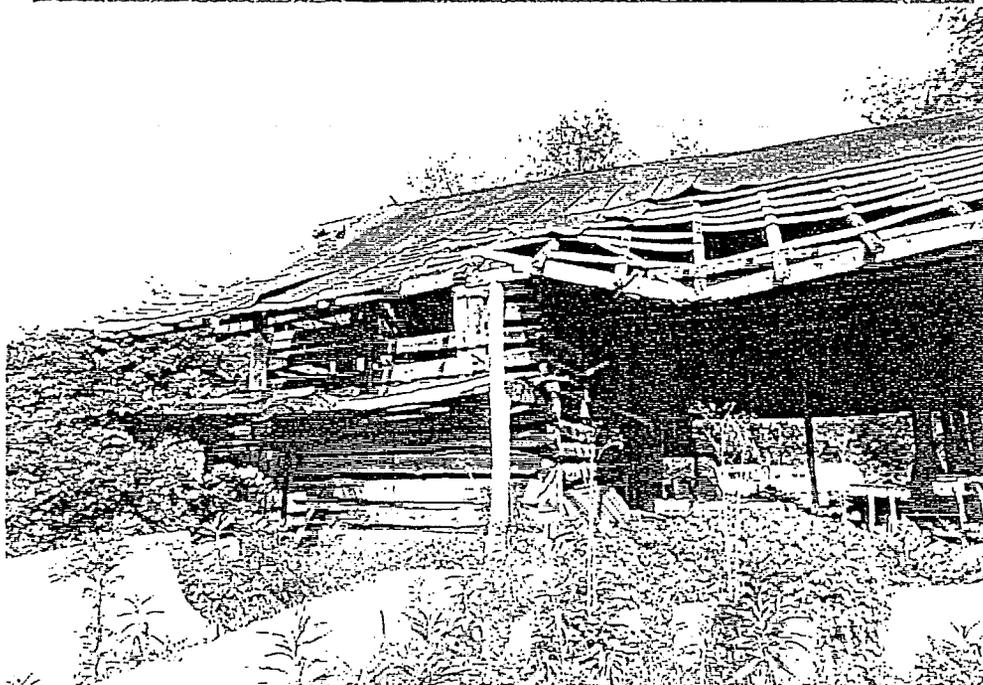
Daniel Stoner Barn
from 1876 atlas
E. Huntingdon Twp., Westmoreland Co.

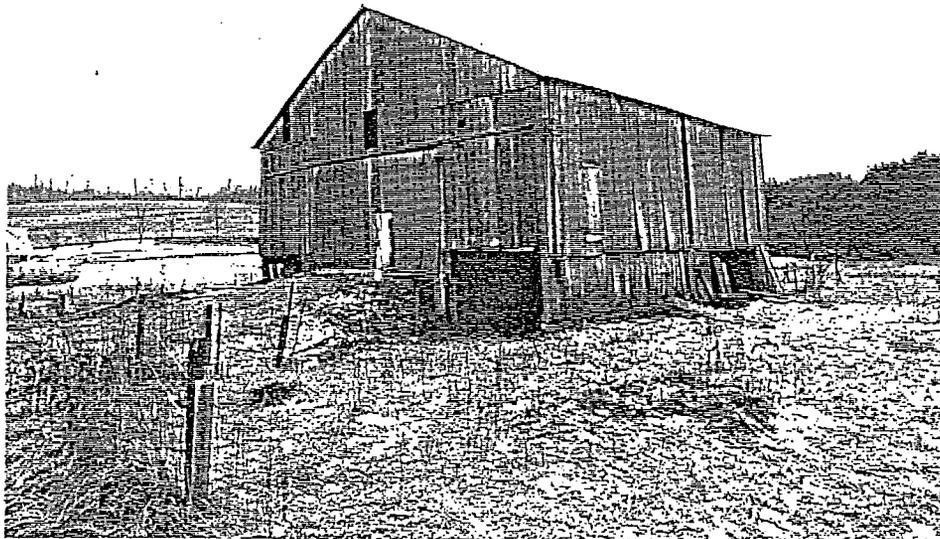


Current View

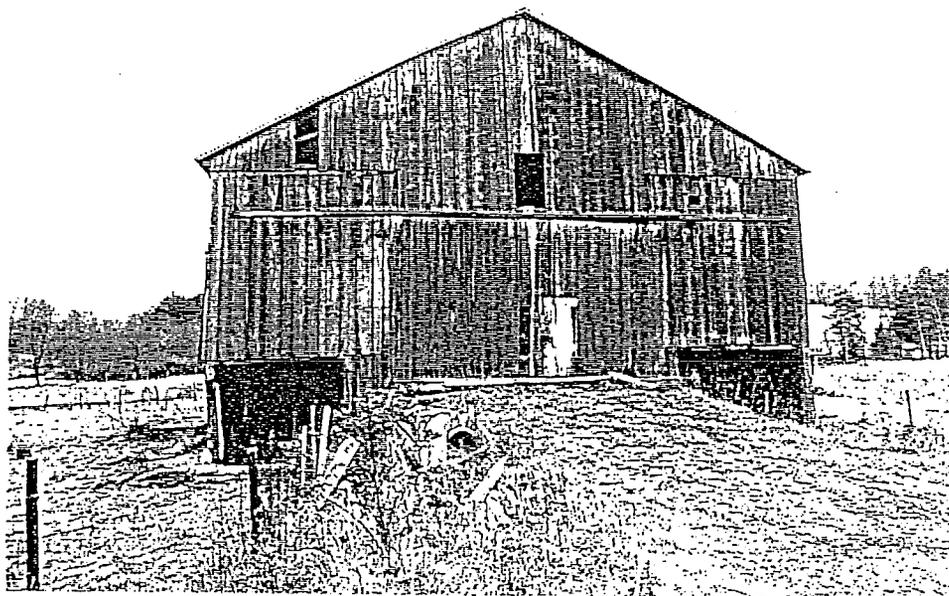


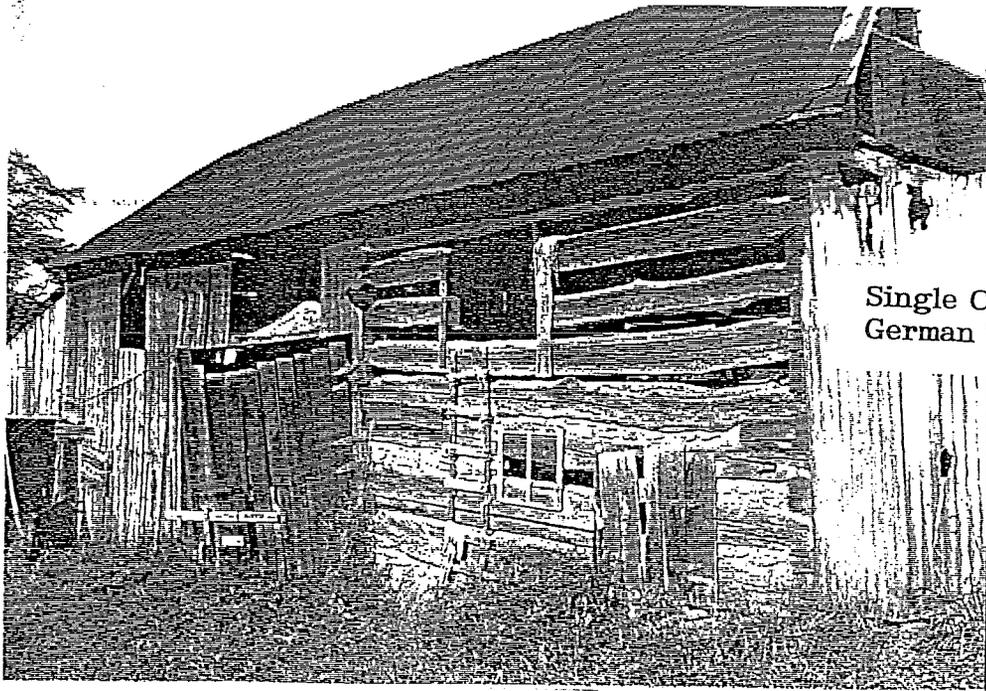
Heirline Log Barn
Harrison Twp., Bedford Co.



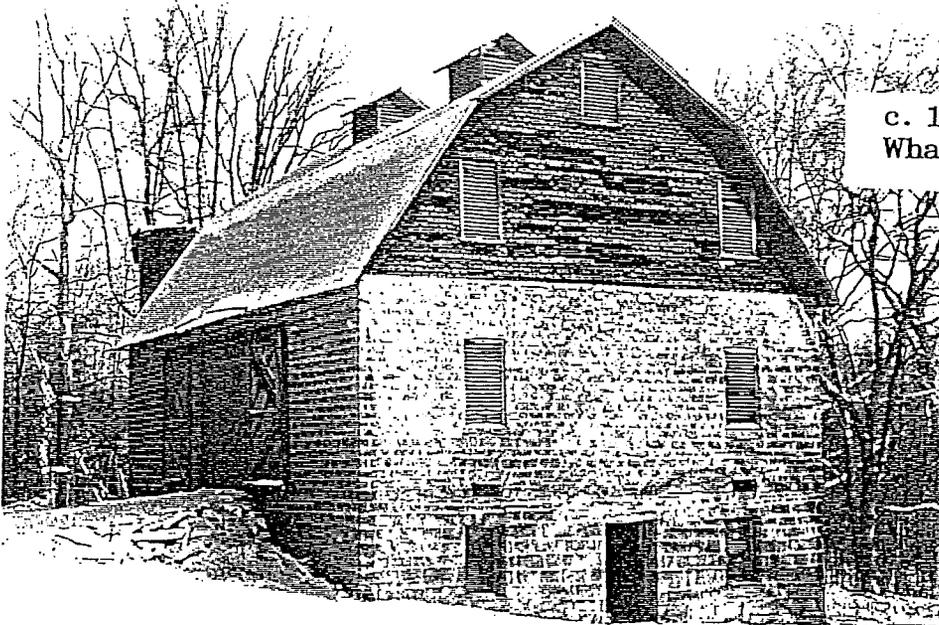


Slavik Barn
Susquehanna Twp., Cambria Co.

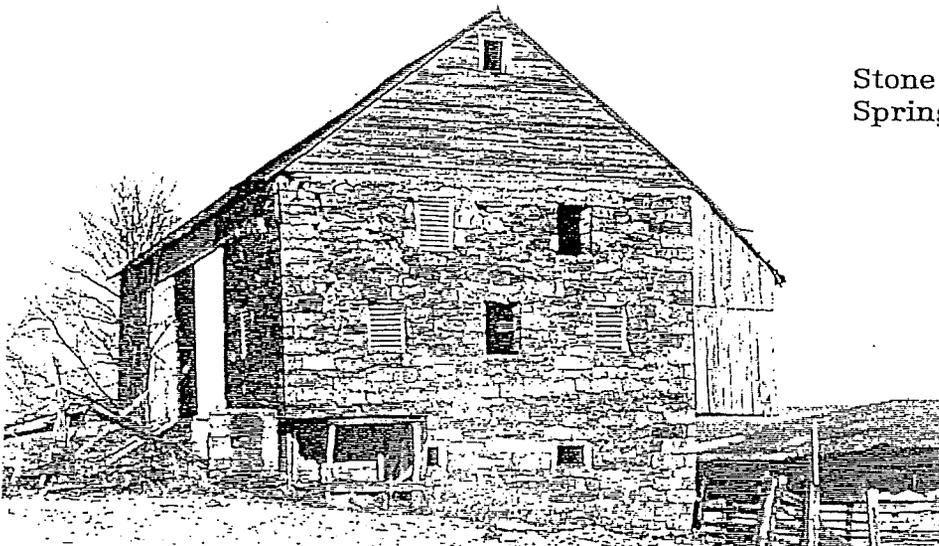




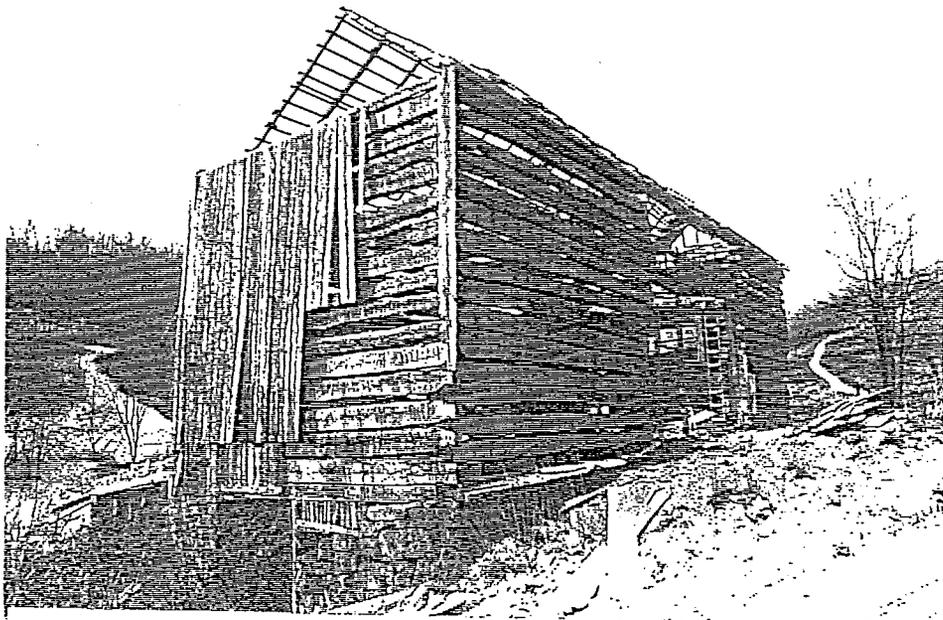
Single Crib Log Ground Barn
German Twp., Fayette Co.



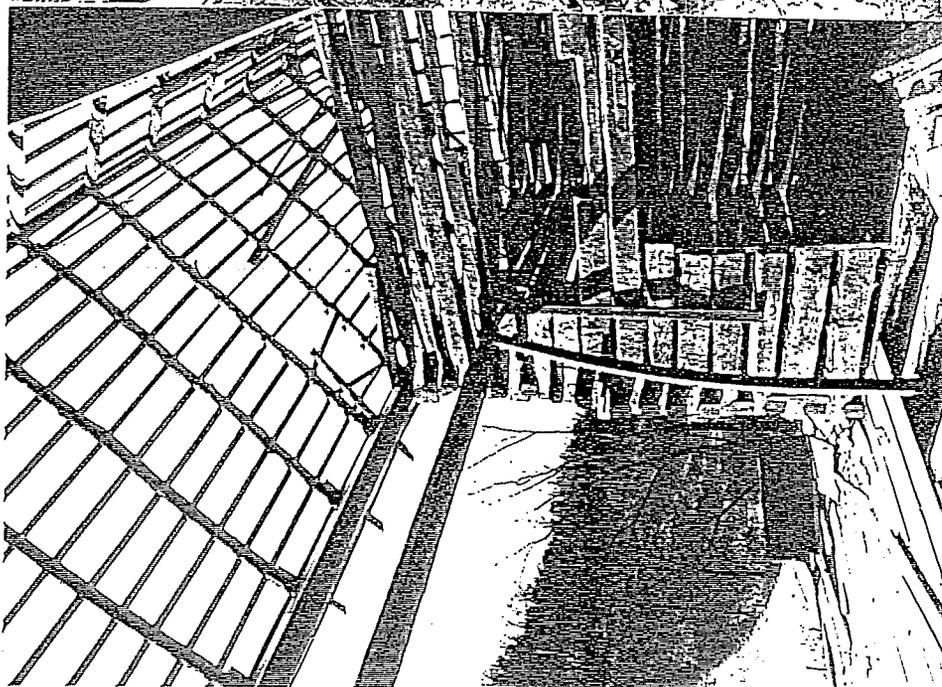
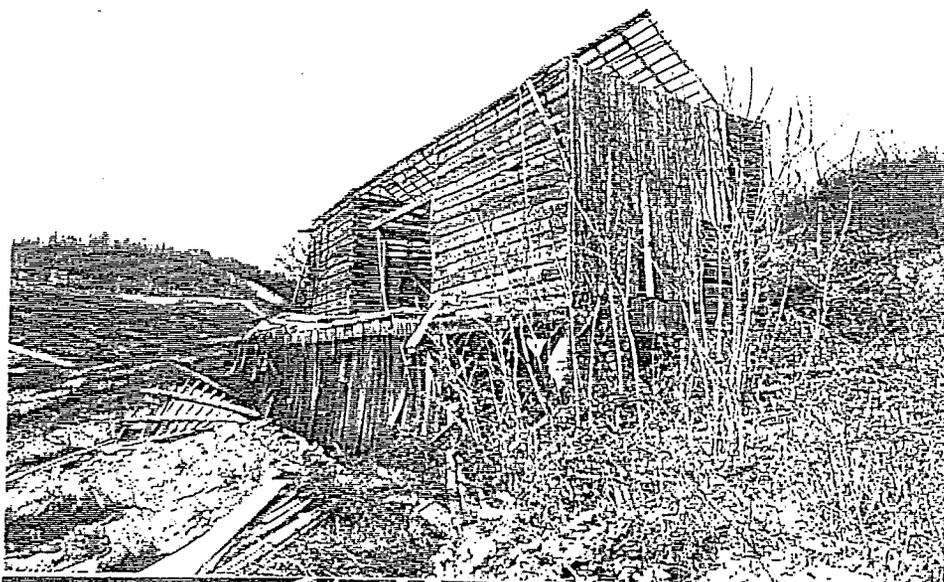
c. 1900 Stone (Black) Barn
Wharton Twp., Fayette Co.

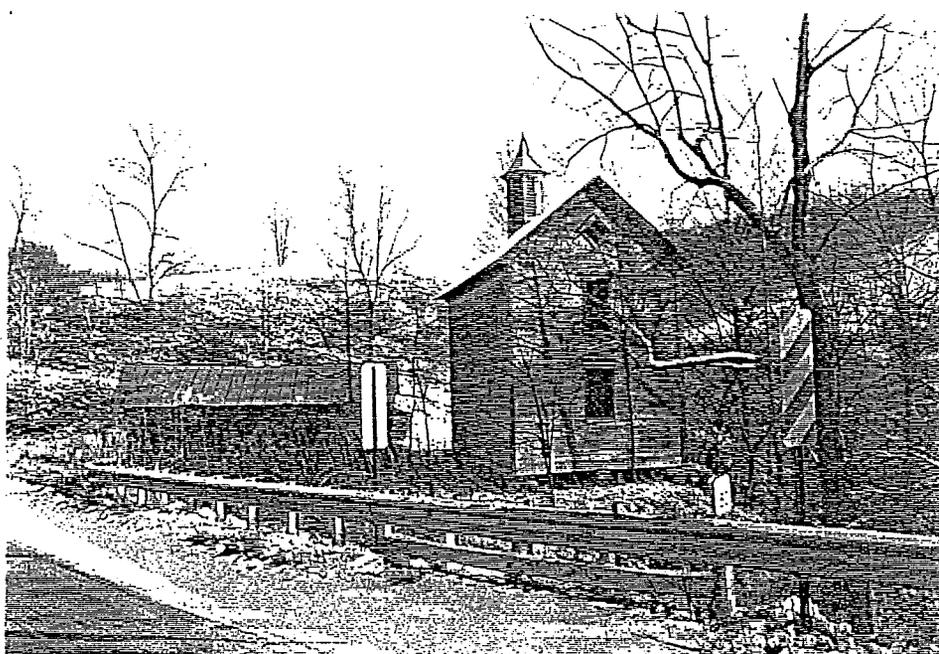


Stone Sweitzer Barn
Springhill Twp., Fayette Co.

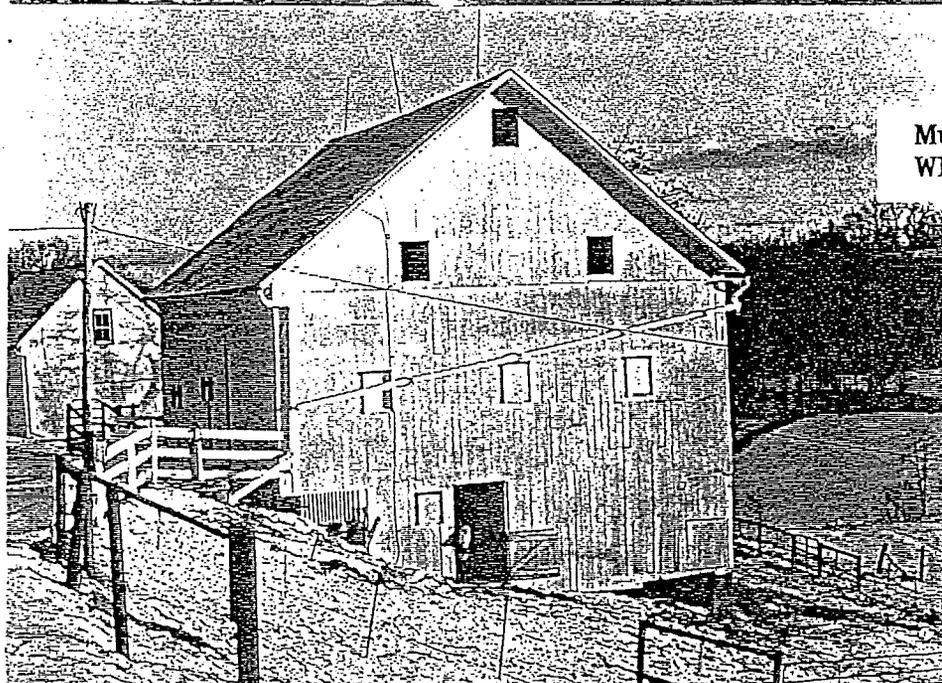


Moredock Log Barn
Jefferson Twp., Greene Co.

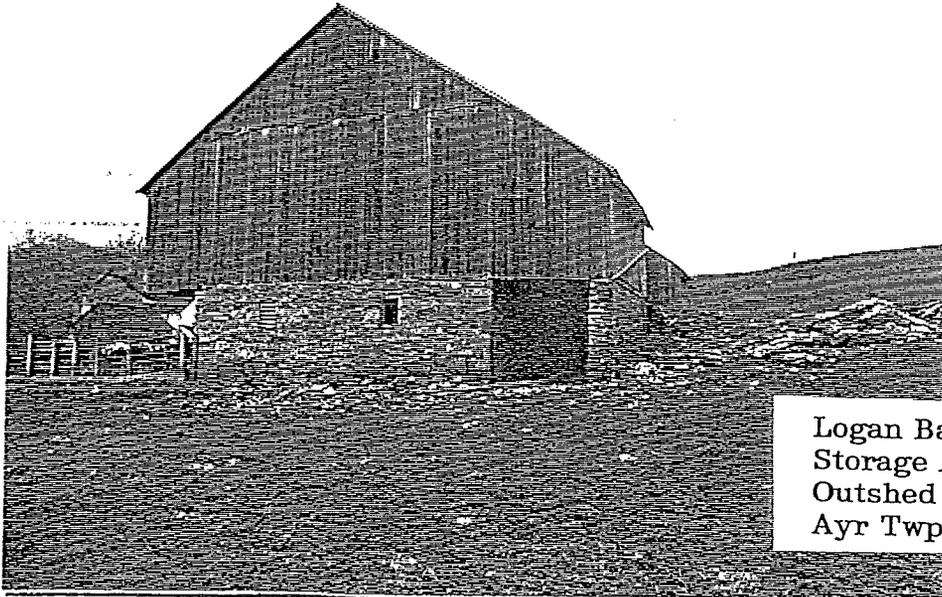




Grain House and Barn
Jackson Twp., Greene Co.



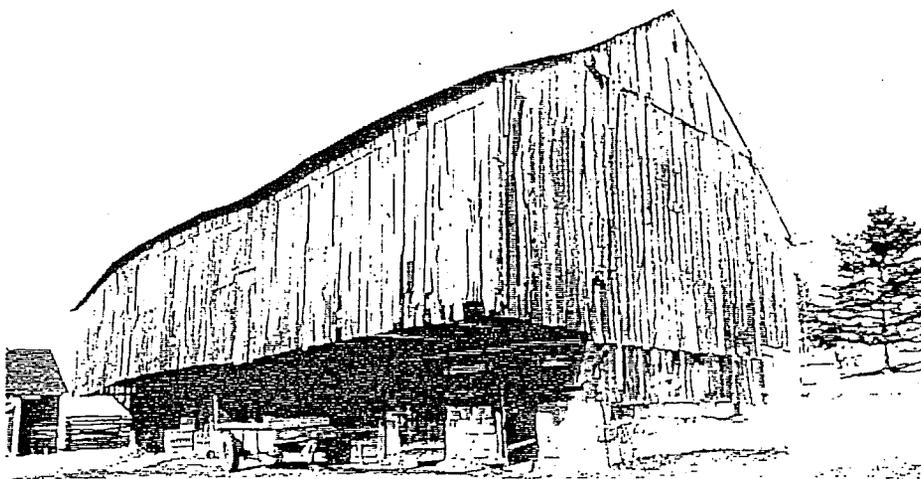
Murdock Barn
Whiteley Twp., Greene Co.



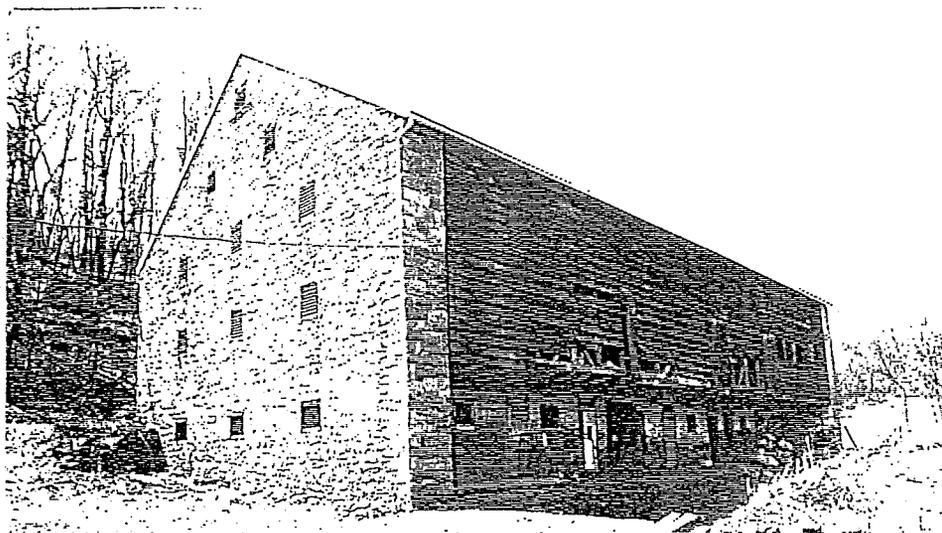
Logan Barn, Showing
Storage Area Beneath
Outshed Granary
Ayr Twp., Fulton Co.



Stone Sweitzer (McNite) Barn
Shirley Twp., Huntingdon Co.



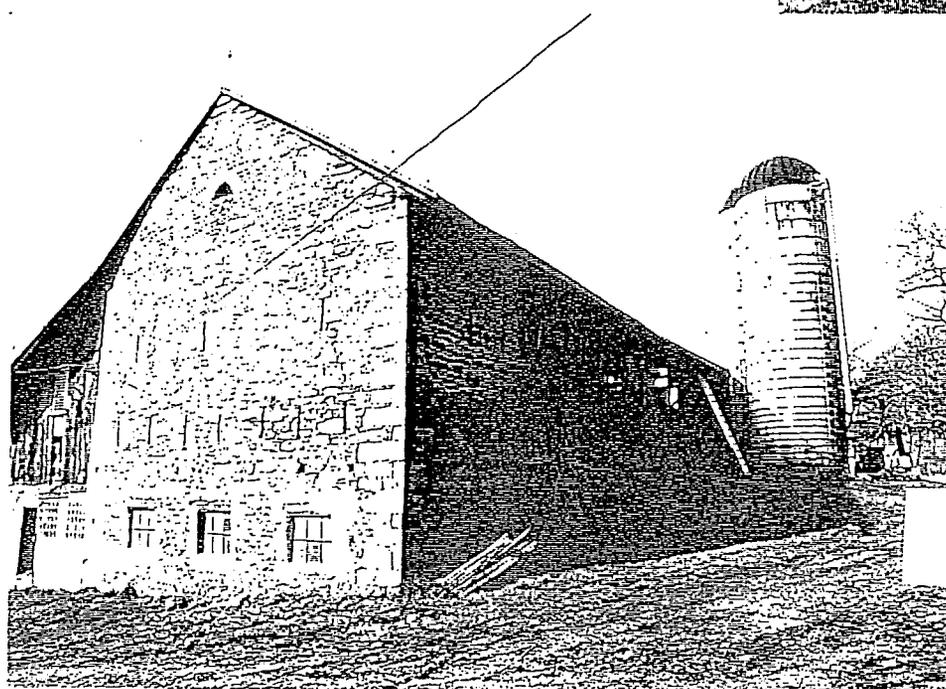
Weighley Log Barn
Brothersvalley Twp., Somerset Co.



Etna Furnace Barn
Catherine Twp., Blair Co.

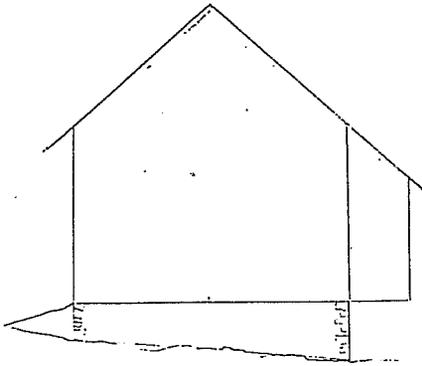


Glessner Barn
Stonycreek Twp., Somerset Co.

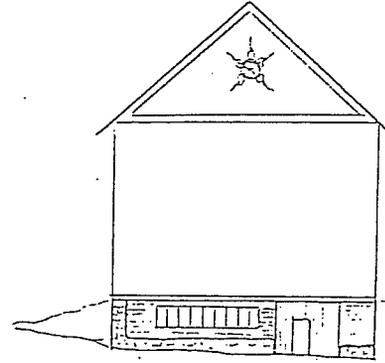


Weight Barn
Tyrone Twp., Blair Co.

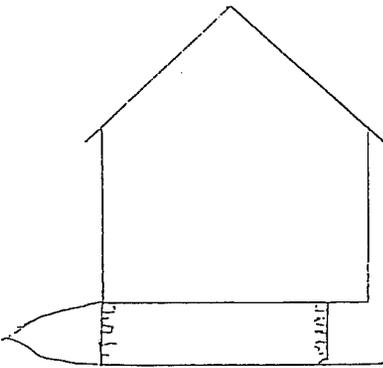
Barn Types



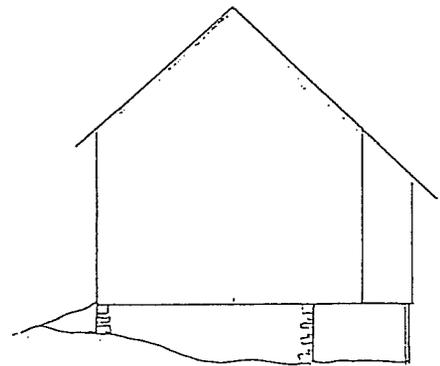
Sweitzer



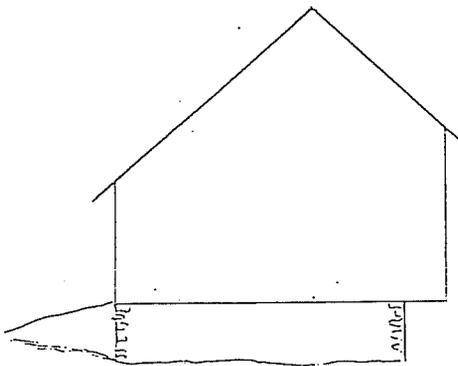
Enclosed Forebay



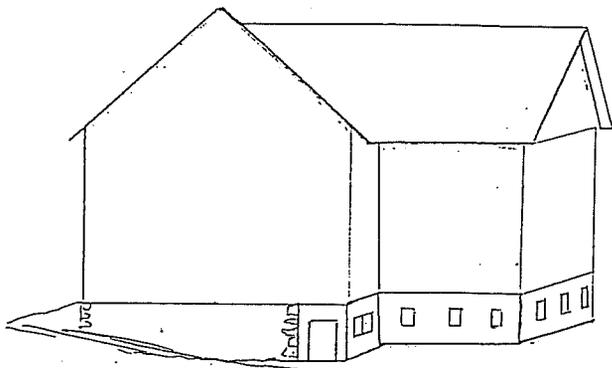
Standard



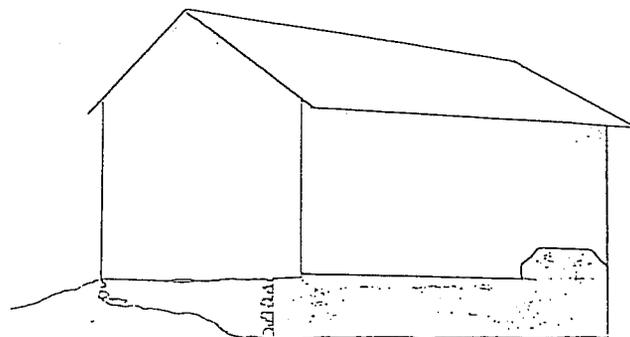
Extended Forebay



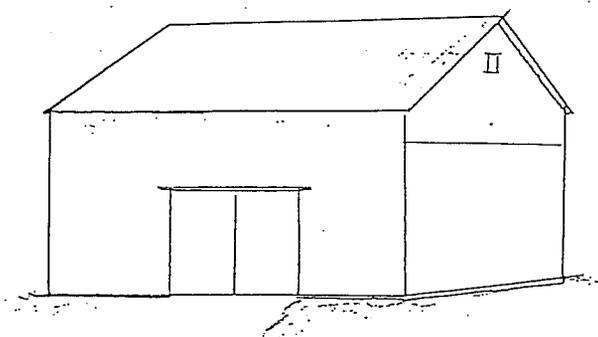
Outshed Extension



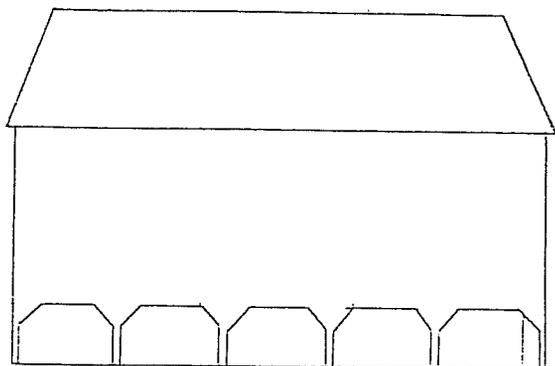
Gable Forebay Extension



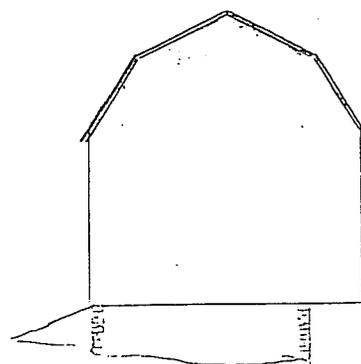
Interior Wagon Shed



Ground

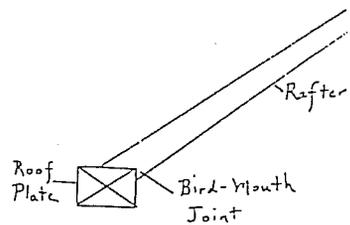
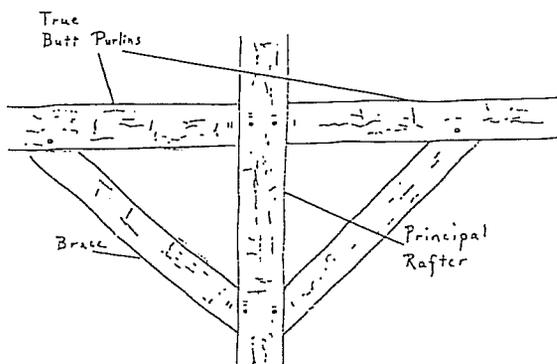
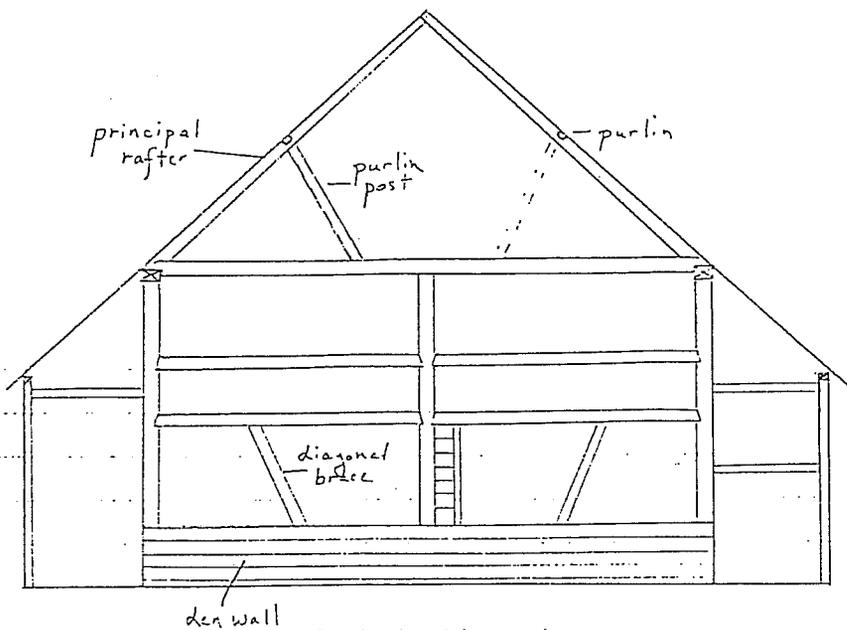
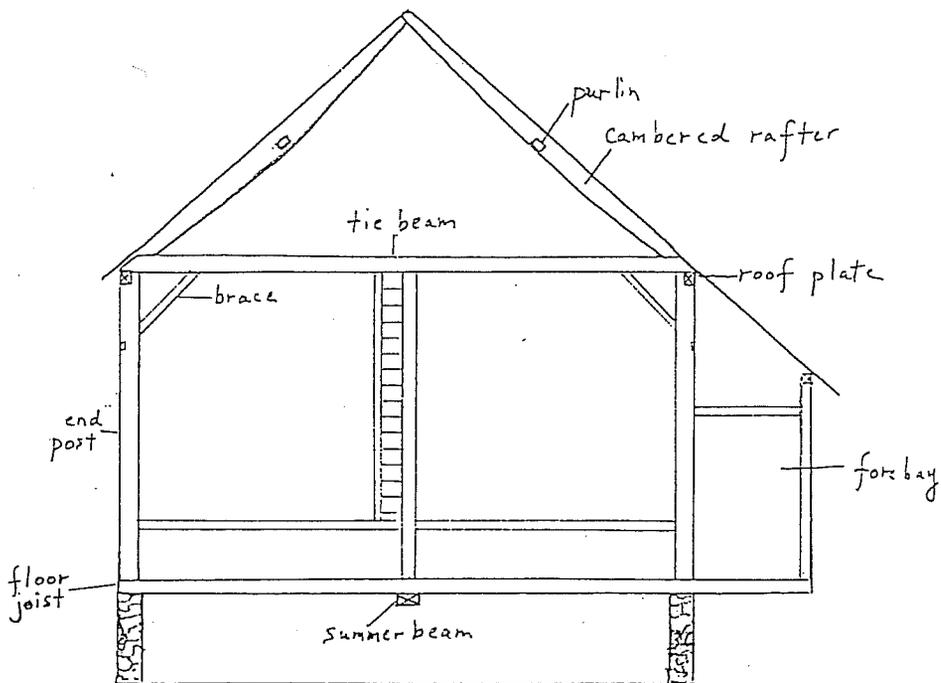


Posted Forebay

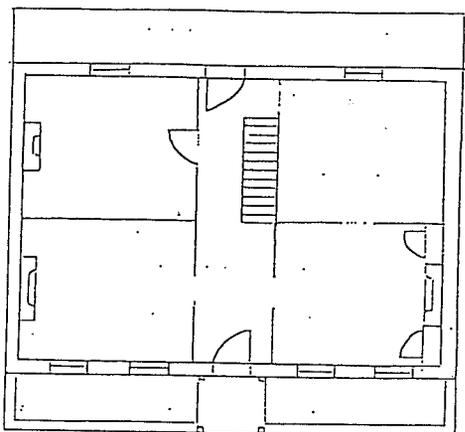


Gambrel Roof

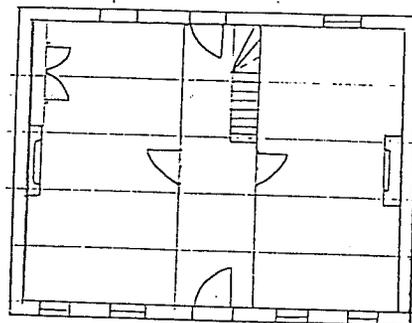
Framing Members



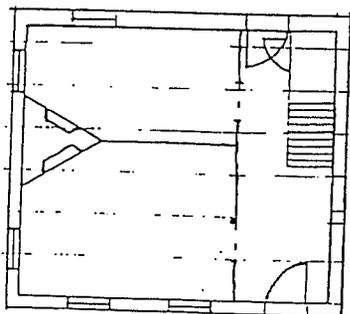
House Types



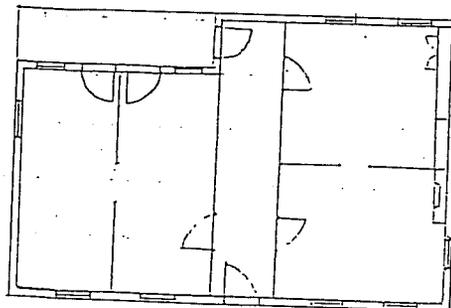
Full Georgian
Johnson/Hatfield Tavern
Redstone Twp., Fayette Co.



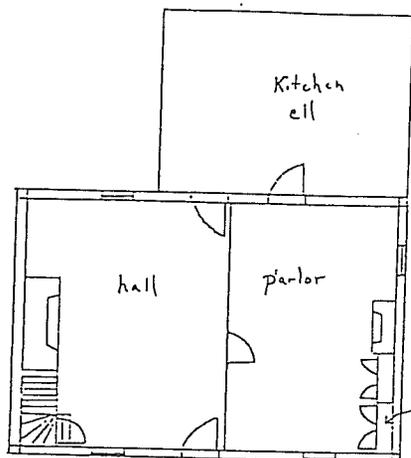
Single Pile or I House
Samuel Jackson House
Jefferson Twp., Fayette Co.



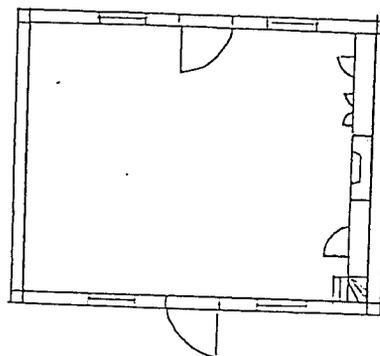
Two Thirds Georgian
Gabler House
Greensboro, Greene Co.



Double Pile House (right side)
Patterson/Diehl House
Catherine Twp., Blair Co.



Hall and Parlor
William Crawford House
Cumberland Twp., Greene Co.



Single Pen House
Shriver/Cole House
Wayne Twp., Greene Co.

Saddlebag House
(see p. 149)

Glossary of Terms

- bent**--a section of the heavy timber framework of a barn's superstructure
- bird-mouth joint**--splaying of the rafter tail to fit over the roof plate
- cambered rafter**--a rafter with a slightly arched underside
- corner post log**--log construction technique in which the horizontal logs are fitted into corner posts instead of being fastened with notches
- double pile house**--a house usually constructed on the Georgian plan, generally having two gable end windows per floor
- forebay**--the eave side overhang of the upper level of a Pennsylvania barn
- grundscheier**--Pennsylvania German term for ground barn
- I house**--a single pile house with a narrow gable end, usually with no windows or a single gable window per floor
- lehnstuhl truss**--a Germanic roof framing system
- outshed**--rear extension to a Pennsylvania barn, usually housing the granary
- peilereck**--Pennsylvania German term for the alcove between the masonry pier that strengthens the barn wall and the front wall of the stable
- pentroof**--a shed roof, generally above the ground level of a house or barn
- principal rafter**--generally a heavy, hewn rafter connected with purlins and collars to form a system to support the common rafter system on its back
- puncheon floor**--a floor composed of broad, heavy timbers fastened with wooden pegs
- purlin**--horizontal framing member beneath the rafters to provide support
- purlin post**--a post extending from the tie beam to support the purlin
- queen post**--a vertical post extending from the tie beam to support the purlin
- rafter tail**--the part of the rafter which extends beyond the roof plate
- saddlebag house**--a two-room house with a central chimney, usually with a fireplace in each room and with two front doors
- standard Pennsylvania barn**--a class of barns characterized by their symmetrical silhouette