

### **III. Background Research**

#### **A. Physical Environment**

The Weldin Plantation Site (7NC-B-11) is located in Brandywine Hundred, New Castle County, Delaware. It is situated in the rolling uplands associated with the Piedmont Upland Section of the Piedmont Physiographic Province at about 360 feet above mean sea level. The Piedmont Upland Section is characterized by broad rolling hills and is dissected by valleys (Plank and Schenck 1998). The Weldin Plantation Site is drained by Matson Run, which is a tributary to Brandywine Creek, which drains into the Delaware River.

##### **1. Climate**

New Castle County has a humid continental climate that is altered by the nearby Atlantic Ocean. Generally weather systems move from west to east in the warmer half of the year, but during the colder half, alternating high and low pressure systems dominate the weather. Winds from the west and northwest are associated with high pressure systems, and bring cooler temperatures and clear skies. Easterly winds caused by low pressure systems are affected by the Atlantic, providing higher temperatures, clouds, and much of the precipitation to the county (Mathews and Lavoie 1970).

The average annual temperature in New Castle County is 54 degrees Fahrenheit, with an average daily temperature of 33 degrees in January (the coldest month) and 76 degrees in July (the warmest month). The County averages about 45 inches of annual precipitation, which is fairly evenly distributed throughout the year. In Wilmington, the growing season lasts from the middle of April to the end of October, but this varies in other parts of the county. In the western and northwestern parts it is 175 to 185 days, while it is 195 to 205 days in the eastern and southeastern parts of the county. Annually, Wilmington receives 21.4 inches of snow, but this varies greatly from year to year (from as little as 1 inch up to as much as 50 inches). Elevations range from sea level to about 400 feet above sea level in New Castle County (Mathews and Lavoie 1970).

##### **2. Geology and Soils**

The Weldin Plantation Site (7NC-B-11) is located on the Piedmont Upland Section of the Piedmont Physiographic Province, near the Fall Line marking the transition from the Piedmont to the Coastal Plain. The Weldin Plantation Site is located in the Piedmont Upland Section of the Piedmont Physiographic Province. The section extends from northern New Jersey through the most northern portion of Delaware, across Maryland, and to Alabama. Piedmont comes from the French and means "foothill." Its soils have a high clay content and are considered to be moderately fertile. They may be subject to over-cropping and erosion if not managed properly. The most fertile portion of the Piedmont Upland Section is located at the northern extent, including Delaware. The U.S. Geological Survey indicates that Piedmont soils in the northern area can be used for general farming, dairying, and orchards (Fenneman and Johnson 1946).

The site is underlain by the Bryn Mawr Formation (*Figure 15*), which is characterized red and brown quartz sand with silt, clay and fine gravel Rockford Park Gneiss (Orpg), an Ordovician age rock composed of medium aged felsic gneisses, is located mostly within the northern and western portions of the APE. These sands and gravels are poorly sorted and erratically distributed. They typically overlay the gneiss at depths of up to 5 or 10 feet (Ramsey 2005). The soils mapped within the Weldin tract are Talleyville silt loam, 3-8 percent slopes (TaB) (*Figure 16*), a well drained soil that is excellent for farming (USDA 2012, Mathew and Lavoie 1970: 37).

### **3. Flora and Fauna**

New Castle County was a densely forested region before Euro-American settlement. Hardwoods such as oak were the most popular tree. Tulip poplar, gum, and yellow pine were also present, but true stands of pine were probably few in number. The stands of pine that exist today were made possible by a change in the composition of soils, due to clear-cutting and farming. Only a small part of New Castle County remains wooded today, with a higher ratio of pines to hardwoods, as compared to the time before deforestation (Mathews and Lavoie 1970).

Pre-contact faunal resources within New Castle county were numerous with a wide variety over a small area. Although no megafauna remains, such as mammoth and mastodon, have been found in New Castle County, faunal remains from the submerged Continental Shelf and the Coastal Plain of New Jersey serve as evidence of the distribution of these animals into the Delaware Coastal Plain during the Pleistocene (Custer and DeSantis 1986). Deer, elk, bear, turkey, rabbits, squirrels, and other small mammals were prevalent, as well as migratory birds, fish, and shellfish (Mathews and Lavoie 1970).

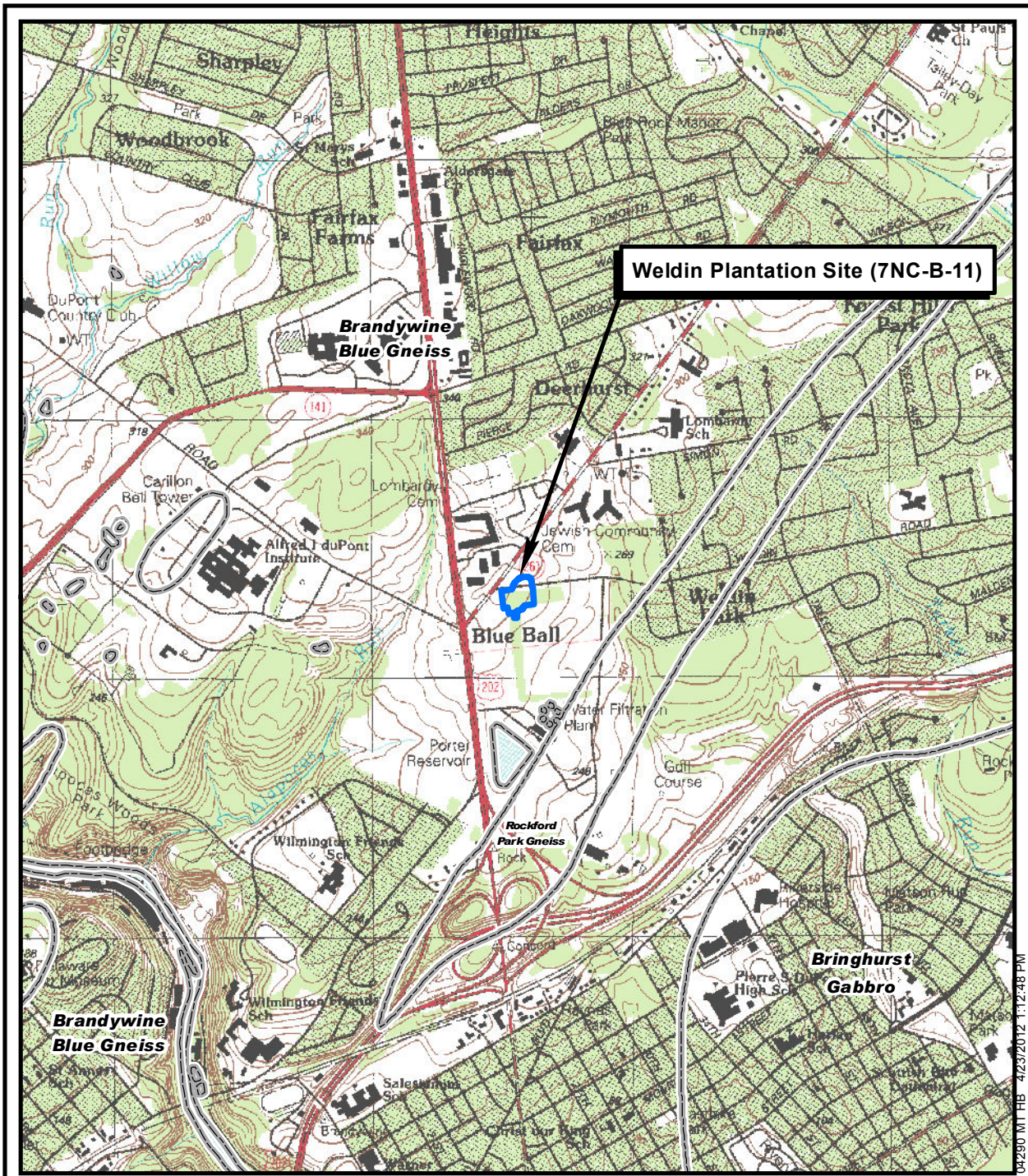
### **B. Cultural Context**

The cultural context will begin with a general overview of the significant trends, including those related to agriculture and transportation, in the region. It will be followed by a more in-depth discussion of the Weldin Plantation Site.

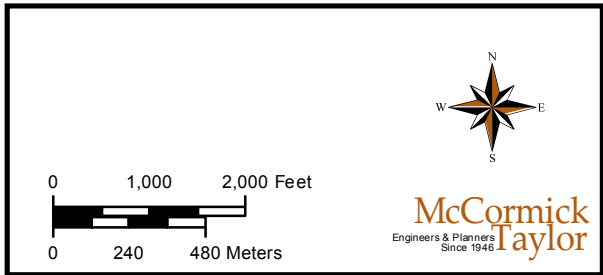
#### **1. Overview**

##### **a. Exploration and Frontier Settlement (1630 to 1730)**

Several European countries explored the east coast of North America in the sixteenth and seventeenth centuries. The native Delaware recalled that the Spanish or Portuguese were the first to come to their country. This likely occurred prior to the 1580s. Nevertheless, the Dutch claimed the Delaware River region based upon Henry Hudson's explorations of 1609. The Dutch referred to the Delaware as the "South River" and used it on a seasonal basis for trading with the native Minquas, also known as the Susquehannock. The Susquehannock were a powerful inland tribe, linguistically and culturally distinct from coastal native groups. Explorer Henry Hudson, working for the Dutch East India Company, traded with the Indians in Sandy Hook Bay in 1609 (Handbook 1978: 220). Hudson also made a quick trip to the Chesapeake that same year. He evidently found the entrance to the bay based upon information from prior explorations by the English or Dutch (Hunter 2009: 122).

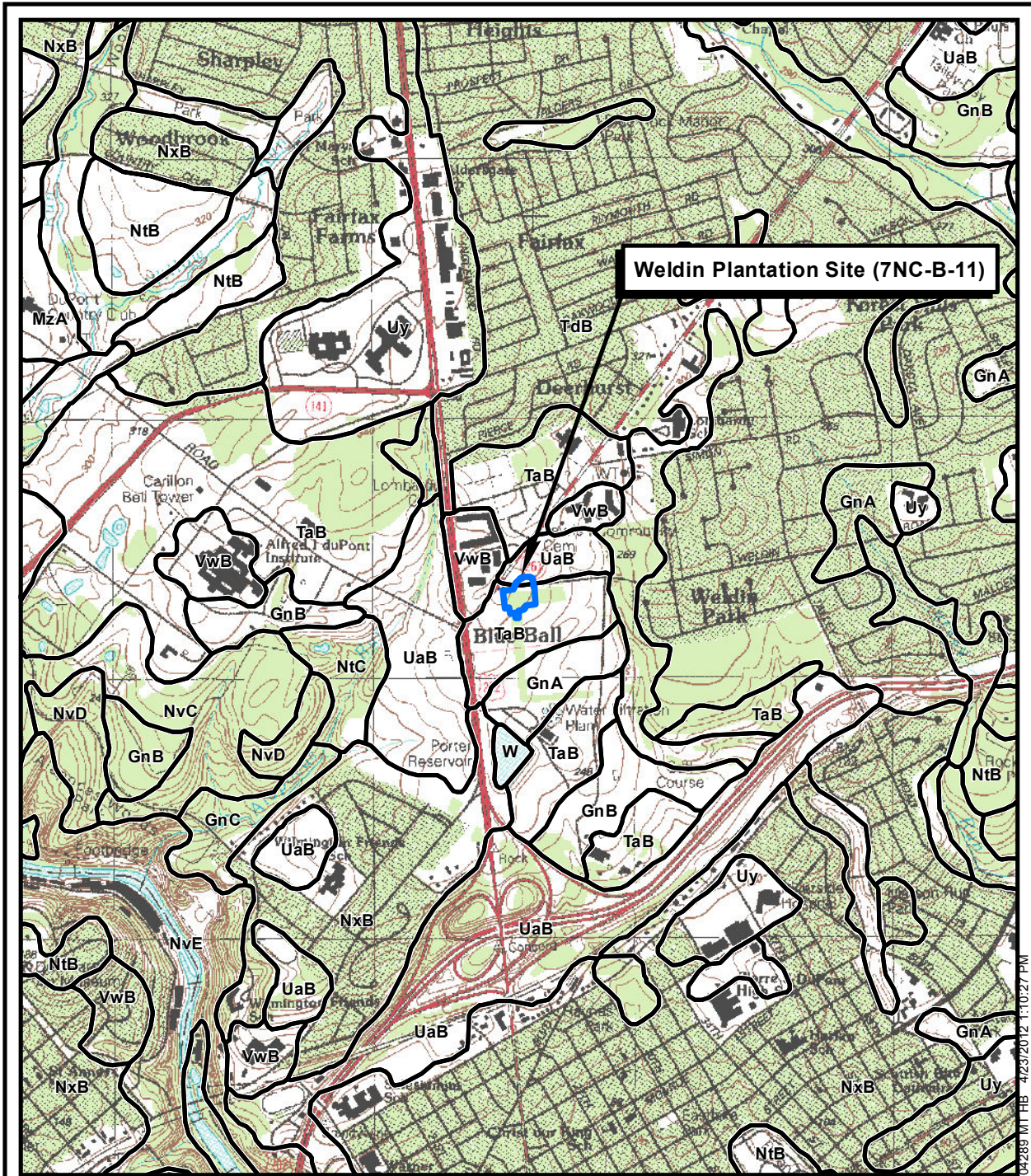


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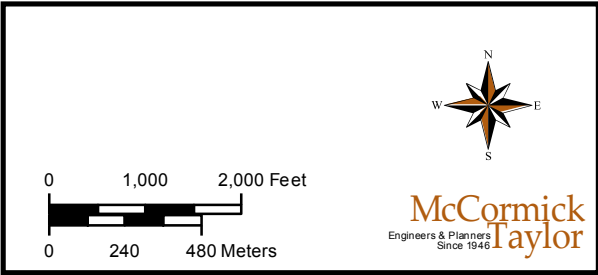


**Figure 15**  
**Bedrock Geology Associated with the**  
**Weldin Plantation Site, 7NC-B-11**  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware

(Delaware Geological Survey, Newark, DE, 2002  
 Wilmington North, DE 7.5' USGS Quadrangle, 1993)



**Weldin Plantation Site (7NC-B-11)**



**Figure 16**  
**Soil Mapping Units Associated with the**  
**Weldin Plantation Site, 7NC-B-11**  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware

(USDA SSURGO for New Castle County, DE, 2010  
 Wilmington North, DE 7.5' USGS Quadrangle, 1993)

In 1626, Isaack de Rasiere wrote to the Amsterdam Chamber of Commerce that Susquehannocks had come to Manhattan to open trade relations. He also noted that previously they had not been able to get in touch with the Susquehannock because they were evidently prevented from doing so by the Delaware (Lenape). The Susquehannock were warring with the Delaware at that time likely because of trade issues (Jennings 1968: 17). However, in 1626 the Dutch set up a trading post on the Delaware opposite the mouth of the Schuylkill (near present-day Camden, New Jersey) where they traded with the Delaware as well as the Susquehannocks (Kent 1993: 34). The Dutch's first attempt at permanent settlement on the Delaware didn't occur until 1631 when the whaling station "Swanendael" was established near present-day Lewes. Sanctioned by the Dutch West Indies Company, the Swanendael settlement was destroyed by the local "Ciconsin" tribe in 1632 (Weslager 1961).

The Dutch on the Delaware received more competition for the fur trade when the Swedish under Peter Minuit established Fort Christina, where the Christina River empties into the Delaware River, present-day Wilmington, in 1638 (Kent 1993: 35). The Swedes were the first European settlers of what became northeastern Delaware. They located on Vertrecht Hook the first desirable fast land on the Delaware above Fort Christina. Vertrecht Hook Marsh later became known as Cherry Island Marsh (Scharf 1888: 898). Eshleman states that the Swedes hired out three of their soldiers to teach the Susquehannocks the use of firearms (Eshleman 2000: 18). Swedish historian Israel Acrelius noted that the Swedes went to the Minquas (on the Susquehanna) once or twice a year. "They went thither with cloth, kettles, axes, hatchets, knives, mirrors and coral beads, which they sold to them for beaver and other valuable skins" (Murray 2008: 70-71). In the period 1626-1645 the Delaware and Susquehannocks warred over the fur trade, and by 1645 the Delaware had become tributary to the Susquehannocks (Kent 1993: 35). Eshleman claims that the Susquehannocks had superiority over the other tribes because the Dutch had provided them with firearms (Eshleman 2000: 16-17).

The Swedes expanded their operations under Johan Printz who arrived in 1643. Printz built a series of forts to intercept Susquehannock furs that would have gone to the Dutch. In an attempt to retain the fur trade, the Dutch built Fort Beversrede at present-day Philadelphia in 1648 and Fort Casimir in 1651 at present-day New Castle, Delaware (Schwartz & Erhenberg 2001: 113; Kent 1993: 37-38). The Dutchman Jacob Claeson (Jacob Young), also known as "Jacob, My Friend," traded heavily with the Susquehannock from his base at the head of the Chesapeake Bay although he continued to live on the Delaware (Handbook 1978: 365). In 1653 Governor Johan Printz noted that there is no profit in the fur trade since the Iroquois and Susquehannock have begun making war on each other (Kent 1993: 38). The Swedish colony flourished for a short time, but in 1655 Peter Stuyvesant sent a Dutch force, and New Sweden quickly fell (Klein and Hoogenboom 1973: 10-13).

Soon after Charles II was restored to the throne of England in 1660 he moved toward war with Holland. In 1664 he declared war on Holland and granted to his brother, James, the Duke of York, all of the North American territory between the Connecticut and Delaware rivers. An English fleet arrived at New Amsterdam in 1664, and Director-General Peter Stuyvesant surrendered without a fight (Schwartz & Ehrenberg 2001: 113; Kent 1993: 43). The Dutch appear to have dominated the North American Indian trade in the period from about 1624 to 1664 when the English forced their surrender.

By 1675 the Susquehannock Indian tribe had been virtually exterminated by a combination of forces, either by disease (small pox), by other tribes (Iroquois) fighting over the fur trade, and/or by colonial English (Maryland and Virginia) militia forces. Although there is contradictory evidence, it appears the Susquehannock's demise as a tribe came when they were first attacked by a combined extra-legal military force from Maryland and Virginia with the final blow being struck by the Iroquois (Seneca) who caught them retreating (Hunt 1940: 142-143).

In taking over the Dutch claim to the Delaware, the English crown claimed their prior discovery by John Cabot in 1497 of the Northeast coast superseded Henry Hudson's 1609 discovery. As noted above, James, Duke of York, was ceded all lands between the Connecticut and Delaware rivers in 1664. In 1681 William Penn received a charter from King Charles II for land west of the Delaware to be called Pennsylvania, and in 1682 he received another grant for what became known as the lower counties, later Delaware (Kline & Hoogenboom 1980: 22-23).

Penn actively sought settlers for his lands and accordingly there was a rush of English, Welsh, Scottish, and Scotch-Irish settlers, not only into the upper counties, but also into the lower counties of New Castle, Kent, and Sussex. These new settlers caused the earlier settlers of Dutch, Swedish, and Finnish descent to move further inland and seek tracts along the tributaries of the Delaware (Scharf 1888). Under Penn's proprietorship, a system of "hundreds" was established. These hundreds consisted of tracts of land roughly equivalent to townships in other states (Siders et al 1991: 6). Penn diplomatically tried to purchase all of his land from the native peoples. What became Brandywine Hundred was part of the tract purchased in December 1683 and included present-day Chester and Delaware Counties, Pennsylvania (Miller and Pencak 2002: 66).

The colonial period was characterized by the transfer of the agricultural practices common to seventeenth century Europe to the New World and how these practices were modified by the new environments the settlers found themselves in. The earliest settlers learned much from the Native Americans, but they were often isolated from the revolutionary changes taking place in English agriculture of the eighteenth century (Rasmussen 1960: 60).

The influx of new settlers stimulated an economic shift in the region. The Delaware Valley became more fully integrated into the economic network of the British Empire whereby the region's farmers shifted from a primarily subsistence production to a market oriented agriculture. The principal Swedish/Dutch grains of rye and barley were replaced with Indian corn and English wheat. Previously, tobacco had been the cash crop, but now wheat became the crop sold or traded for other goods (Pursell 1958).

Even during this early settlement period there was a demand for roads and highways in order for farmers to get their grains and produce to mill and market. For example, in nearby Chester County, Pennsylvania, there was a petition in 1687 for a highway from Birmingham to Concord (Futhey & Cope 1881: 351). Likewise, there was a road from Wilmington to Concord, later known as the Concord Pike. Concord Township was described as watered by Chester Creek, a stream studded with mills and with both a Quaker meetinghouse and an Episcopal Church on the road leading to Chadd's Ford on the Brandywine (Gordon 1832: 144). Concord Township

became a part of Delaware County in 1785. The lower three counties denied the right of Pennsylvania's government to rule over them and protested by noncooperation. Finally, in 1704 the lower counties were separated from Pennsylvania (Klein and Hoogenboom 1986: 32).

Regarding architecture of this early period, the lower Delaware Valley comprises parts of three states, Pennsylvania, Delaware, and New Jersey, and from the earliest settlement period this region exhibited wide cultural diversity. This wide cultural diversity was illustrated in the mosaic of its built landscape. The region exhibits imprints from the early Swedish and Dutch as well as English Quaker, Welsh, Scotch-Irish, and Pennsylvania German settlements (Lanier 2005: xiv-xv).

Vernacular architecture best describes most of the architecture of the Delaware Valley. 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 (Carter and Herman 1991: 4-5).

From the late seventeenth century through the mid eighteenth century, the initial housing of the northern part of Delaware took advantage of the huge trees there and largely followed the log housing tradition begun by the Swedish, British, and Scotch-Irish settlers of the region. Sometimes the spaces between the logs were filled with stone. The origins of American log construction have been long debated. However, whether it is of Swedish origin or Central European, the apparent overwhelming majority of English settlers of northern Delaware at that time favored log construction for their houses (Glassie 1972: 49).

In the southern part of the state, whose settlers were often from the Chesapeake region, houses with braced timber frames became the typical form. The timber frames were filled with brick and mortar nogging. Early houses of this period in both the northern and southern sections of the state were usually quite small with one or two rooms on the first floor and were only one or one-and-a-half stories in height (Sheppard 2009: 24).

In 1678, Jasper Danckaerts, a Dutch traveler, stayed over night in a Delaware Valley log house. He noted that it was made in the "Swedish mode," and that the chimney stood in the corner. The one exception to the small wooden buildings typical of northern Delaware of this early period was Holy Trinity (Old Swedes) Lutheran Church first constructed from 1698 to 1699 in Wilmington. This edifice, measuring 66 feet x 36 feet, was constructed of local granite and brick. However, both the stone masons and the carpenters were from Philadelphia. The plain rectangular church with a hipped roof of shingles was consecrated in 1699 (Bennett 1985: 19-24).

The Peterson and Empson families owned the land known as Chestnut Hill during this early period, but it is unclear whether any of the family members actually lived on the land. However,

in all likelihood there was an early, small, one-and-a-half story log or earth-fast structure of one or two rooms at Chestnut Hill built prior to Cornelius Empson's 1710 will when he mentions that his wife has a choice of living there or not. There would have been a sleeping loft above the one or two rooms on the ground floor as will be discussed in more detail later.

**b. Intensified and Durable Occupation (1730 to 1770)**

Most discussions of eighteenth century urban development in Delaware and Southeastern Pennsylvania draw on the seminal work of geographer James T. Lemon (1967). Advocating a central-place model of urban development for Philadelphia and its "hinterland," Lemon defined a hierarchy of urban "types" to characterize the variety of communities that emerged across the region from the late 1600s to 1800. Based on economic and population trends, he divided this timespan into five periods: 1652-1680, 1681-1700, 1701-1729, 1730-1770, and 1766-1800. Since the bulk of his discussion deals with developments that took place after the 18th century, we have not used it as a reference in the preceding section.

As noted above, the first quarter of the eighteenth century witnessed an increase in the settlement of inland areas and an attendant growth in the network of connecting roads. To a great extent, the period 1730-1770 represented an intensification of this trend, driven by a second influx of immigration. Farms emerged across the interior, extending Philadelphia's farming hinterland across northern Delaware and into Maryland (Lemon 1967). Because of its excellent soils and access to markets, New Castle County evolved into a commercial farm community, characterized by its growing affluence and the numbers of artisans, professionals and merchants in its population (Main 1973).

During this period, Delaware, like Pennsylvania, was not only involved in a subsistence economy, but also in an Atlantic trading economy which was centered in London. Rural farmers, merchants, and millers were connected by a chain of credit through Philadelphia merchants with London merchants. The Atlantic trade also included trade with other mainland colonies such as in New England and the West Indies and southern Europe. After about 1740, farmers of middling status were selling from a third and one half of their grain production. This would have likely gone to Philadelphia, but from there it may have ended up in the West Indies or Europe (Lemon 1972: 27-29).

The first market house, known as the Fourth Street Market, was erected in Wilmington in 1736, three years before the town was incorporated. Market days were established to be held on Wednesday and Saturday. A year later a second market house was built on Second Street (Scharf 1888: 672-673). The establishing of a market house enabled local farmers to bring in their produce for local merchants and residents to purchase or trade.

During the middle of the eighteenth century, "hamlets" began to emerge at transportation junctures. The largest of these communities had grown from early mill stations along waterways and were typically located at a point where a major road crossed a tributary stream. The first merchant mills, those which bought wheat and sold flour, were built along the south bank of the fast-flowing Brandywine River (which runs to the southwest of the project area) prior to 1750. Conestoga wagons came to the Brandywine mills, loaded with wheat from southeastern



Pennsylvania. In addition, shallops brought wheat from landings along Delaware's coastal creeks (Passmore 1978: 23). The Brandywine boasted over eight large commercial mills by the 1770s (Cooper 1983: 31-32). Connected to the interior farms by a nexus of new roads, similar mill stations in Newport, Wilmington, and the surrounding area drew grain from as far away as Maryland and Pennsylvania (Lemon 1967).

Accompanying the growth and spread of the internal road system, hamlets also emerged at major road crossings. Generally comprised of no more than a handful of dwellings, these marginal communities thrived because they offered necessary services to travelers in remote areas. Typically, they centered around taverns and blacksmith/wheelwright shops (Lemon 1967).

The changes that took place in the economy and settlement pattern of New Castle County during this period was driven by a wave of English and Scotch-Irish immigrants who arrived in the region between 1725 and 1755. Most of these immigrants were indentured servants, contracted to local farmers for a period of 3 to 7 years of service (Munroe 1978: 196). In addition to these laborers, some Delaware farmers also owned African slaves (Catts and Kellogg 2000: 12). Slave holding was more common in southern Delaware than in northern region (Garrison 1988: 31). There is no evidence that slaves were ever owned by anyone residing at Chestnut Hill, or that any of its residents were indentured servants. However, it cannot be conclusively stated that none the occupants of Chestnut Hill ever had slaves or indentured servants. By 1740, the county's population had ballooned to 6,000 people, 80-90% of whom were involved in some form of agriculture (De Cunzo and Catts 1990: 42; Egnal 1975).

Farm practices of the period took the form of mixed husbandry, typically combining grain cultivation with livestock raising (Bidwell and Falconer 1941: 84). Land use is described as "extensive," meaning that crop fields were not rotated, nor fertilized with manure or lime. When soils became exhausted, new areas were opened up for cultivation. Though soil conservation and crop rotation were practiced in Europe at this time, Delaware farmers clung to older techniques because they lacked adequate labor to clear areas for rotation and also because the market demand for wheat discouraged the use of other crops to replenish fields (Lemon 1972: 179).

In the mid-1700's, the average size of a New Castle County farm was about 200 acres. By extrapolating from a study of farms in southeastern Pennsylvania (Lemon 1972: 167), we can estimate land-use on an average local farm. Typically, 40 acres (20%) were sown in wheat; 22 acres (11%) in meadow for hay; 32 acres (16%) for pasture; and 14 acres (7%) for flax, hemp, roots, other vegetables, fruits, and tobacco. The remaining acreage - roughly half of the total - was left to woodlot.

The average farmstead occupied a little less than half an acre and was comprised of a domestic structure as well as six to eight outbuildings. Outbuilding types included: detached kitchens, corn cribs, stables, meat or smokehouses, barns, and tenant houses (in descending order of appearance). Domestic-oriented outbuildings and gardens were located in proximity to the house, while agricultural buildings were closer to fields. Gardens contained the draw-well, and were fenced to keep out farm animals (Herman *et al.* 1989: 63-65).

Peter Kalm, who went through the region in 1748, noted that the Swedish settler's houses were very bad with chimneys built in the corner, either of gray sandstone or of thick clay (Schiffer 1976: 228-229). Although the residences in rural areas of northern Delaware were still generally small and constructed of wood, by the pre-Revolutionary period, residences in towns such as New Castle and Wilmington were being constructed of brick in the Georgian style (Bennett 1985: 95-101).

Farmhouses of the period averaged 16 to 20 feet (~5 to 6 meters) square. Typical construction was log or frame (or stone depending on locality) on a one-room plan, and either one or two stories high. The ground-floor room was accessed directly from the outside, with windows on either side of the entrance as well as a window in the gable opposite the chimney. If it was a two-story structure, the second floor was usually accessed by a spiral staircase in the corner adjacent to the hearth. This "hall-plan" style house afforded scant privacy within the family and little separation between it and the outside world. While New Castle farmsteads typically had either a separate or adjoining kitchen, most domestic and social interaction took place within the ground-floor room of the main house (Herman *et al.* 1989: 14-19).

The Swedish naturalist, Peter Kalm, in traveling through the Delaware Valley between 1748 and 1751, noted that neither the English nor the Swedes had any stables. However, he did find that the Dutch and the Germans kept their cattle in barns during the winter months, and the Swedes confessed that their cattle suffered due to the lack of shelter. Kalm also mentions in his travels of the Delaware Valley that farmers stored their hay in haystacks and barracks as well as in their barns. In the region around Philadelphia he found the haystacks to have moveable roofs, and there were poles to keep the hay off of the ground. The cattle could stand around these and eat the hay which would remain relatively dry (Schiffer 1976: 207).

As will be discussed further later, Israel Peterson likely lived on Chestnut Hill farm, beginning in 1722/23. Peterson's house would have been a small, one-and-a-half story log house with one to two rooms on the first floor. There would have been a one-to-two-room sleeping loft above those rooms. In addition, there likely would have been a detached kitchen associated with the house.

### **c. Early Industrialization (1770 to 1830)**

Delaware's first farms ranged in size from a few acres to thousands of acres, but the more typical farm consisted of between 100 and 150 acres. The first large-scale changes in land ownership took place during and after the American Revolution. In 1793 and 1794 the legislature abolished laws which tied land inheritance to certain family lines as well as first son privileges (Passmore 1978: 5-6).

Agriculture in Delaware was generally divided into four major zones, of which the Upland Piedmont Section in northern New Castle County was one. Farms in this area generally contained more durable structures, were more intensely cultivated, and focused on a mixed strategy with wheat and butter being the main products. This small area in northern New Castle County was more similar to southeastern Pennsylvania in its agricultural practices and was the first to adopt progressive farming strategies (Garrison 1988: 28).

Farms of only a few acres with a single cow and a few swine would be considered subsistence whereby anything produced would be used by the farm family itself. However, middling sized farms of 75 to 100 acres with more than two milk cows and more than eight swine would have sufficient butter and grain to be sent to market. Farms of this size would also have at least one horse and a cart or wagon to haul the grain and butter to the nearest mill. The miller was not only able to convert the grain to flour or feed but also often acted as an agent in buying local produce such as butter and eggs. Often times there were stores at the mills where various items of produce could be sold or traded (Kennedy 2000: 606).

Because there was increased availability of land in the Delaware Valley as opposed to what was found in Europe, settlers developed farming patterns which were markedly different than those of the Old World. Here farmers would clear plots of their land and farm intensively until production dropped, then more of their acreage would be cleared, and the cycle would continue until much of the farmer's land was exhausted. The abundance of land also explains why lime and gypsum and other fertility restoring measures were not used at first. The first great American push westward in the early 1800s came just as Delaware soils were at their lowest fertility level ever (Passmore 1978: 6; Schneider 1994: 7-8).

During much of Chestnut Hill's eighteenth century occupation, northern Delaware agriculturalists, primarily English and Scotch-Irish settlers and descendants of the early Swedish settlers, participated in the region's first phase of commercial agriculture. Wheat, the primary crop grown during this period, was shipped to regional mill stations. As previously noted, the region was part of the Atlantic trading system. Therefore, from these mill stations it was sent, via New Castle and Philadelphia merchants, to the West Indies, southern Europe, and other North American colonies.

Following years of extensive single-crop farming, agricultural lands in the region became exhausted, and, by the late eighteenth century, local farming appears to have entered into a period of decline. Economic crises in the early years of the nineteenth century combined to force many farmers to abandon their lands and settle elsewhere. At this time, many small farm holdings were bought up by wealthy landowners. Workable farms were tenanted, while more marginal properties were left fallow or put in pasture for livestock (De Cunzo and Catts 1990; Munroe 1978).

These large scale economic events are reflected in the occupation history of Chestnut Hill. Following about sixty-five years of owner-occupancy, in 1785, the farm was sold to a wealthy absentee landowner named John Dickinson, who resided in Philadelphia. Like roughly half of the farms in the state, Chestnut Hill was rented and farmed by a string of tenant farmers during the late eighteenth and early nineteenth centuries (Siders et al 1991).

The Fall Line marks the edge of the Piedmont Plateau which separates the northern section of New Castle County from the rest of Delaware. Garrison, Herman, and Ward note that "Residents of the piedmont area in northern New Castle County identified with cultural traits similar to those in southeastern Pennsylvania (1988: 2)." The topography of this northernmost region of the state is characterized by steeply rolling hills which are bisected by a series of southerly flowing creeks feeding into the Brandywine Creek and the Christina and Delaware

rivers. An abundance of rocks and trees had to be removed from the land to enable tillable fields. The trees could be converted into timbers for erecting log houses, stables, barns, and various outbuildings. The field stone and quarried rock was used to construct fences as well as houses, barns, and outbuildings during the region's second wave of construction in the late eighteenth and early nineteenth centuries (Sheppard 2009: 37).

The soils of this area were fertile, but once tilled, they easily eroded. The hilly terrain made the plowing of fields difficult. The hilly Chester-gneiss soils of Brandywine Hundred were particularly well suited for grass. Consequently, farmers in the Piedmont region would pasture their cattle and sheep on the hillsides. Here, farmers often turned more than half of their tilled lands into hay fields. In this area, feeder cattle were brought in to serve the demand of the Wilmington and Philadelphia markets (Michel 1984: 1). Farms in this region ranged greatly in size, and the amount of cleared or improved acreage of the individual farm shaped the options of that particular farmer. Subsequent to the early settlement period of this area, the farmers focused their operations on dairying and beef cattle production which served nearby urban markets (Sheppard 2009: 37, 40, 42).

During the late eighteenth and early nineteenth centuries, the Piedmont region of northern New Castle County remained predominately agricultural in character. Directly to the south and east of the project area, in the valley communities of Brandywine Village and Wilmington, respectively, nascent industries emerged and began to re-shape the economic and social landscape of the lower Brandywine and Christina Rivers (Catts and Kellogg 2000: 14; Blume *et al.* 1990: 14, 44).

These shifts in the region's mode of production occurred against a backdrop of fluctuating agricultural markets and periods of conflict with England over taxation and trade-restrictions against American farm-products in the British West Indies. Both the Revolutionary War and the War of 1812 resulted in boycotts of American goods and blockades of American shipping centers by British forces (Lindstrom 1978: 20). These political and economic conflicts resulted in profound changes to the cultural fabric of the entire Delaware region (Catts and Kellogg 2000).

In 1774 Samuel Bush established a trading and freighting business between Wilmington and Philadelphia. When first established, his 30-ton sloop, on a weekly basis, carried the produce collected by Wilmington's storekeepers to Philadelphia and on the return trip brought back the filled orders of Wilmington merchants. Prior to this time there was no regular trade between the two locations. During the American Revolution, Bush carried stores and produce for the army. After Bush's enterprise became established, Lancaster and Chester County, Pennsylvania, millers and distillers, found it to be cheaper to send their produce to Wilmington, than to send it directly to Philadelphia by wagon. To provide them easier access to Wilmington, turnpikes were built in all directions to the Pennsylvania state line (Scharf 1888: 756-757).

Bush soon had competition from another sloop that docked at the French Street wharf, in Wilmington, but Bush bought out his competitor's business in 1790. Bush then had a sloop built that was about double the size of the original. The new boat was fitted out to carry passengers as well. Bush also bought all kinds of produce which he not only shipped to Philadelphia but also

to New York and the West Indies, whichever he considered the best market at the time. The Bush shipping business continued to expand in the early 1800s (Scharf 1888: 758).

Two episodes of military activity occurred in New Castle County during the Revolutionary War. During the “Philadelphia Campaign” of 1777-1778, General Howe’s troops marched from the Chesapeake, through northern Delaware, en route to battles in southeastern Pennsylvania. After routing a far smaller Continental force at the Battle of Cooch’s Bridge at Akins tavern (Glasgow), British troops captured and occupied Wilmington for a month (Munroe 1954:92-93). In 1781, General Lafayette reversed this route on his way to face Benedict Arnold in northern Virginia.

The most significant and enduring effect of the Revolutionary War on Delaware was the British blockade of the Delaware and Chesapeake Bays. The blockade forced regional manufacturers and agriculturalists to shift from ocean-based international trade to land-based regional trade in the Philadelphia - Delaware - Baltimore corridor. The emergence of this trade network facilitated the growth and diversification of manufacturing and agricultural goods throughout the region. In northern Delaware, much of this growth was localized to the Piedmont region, where commercial growth surged from 1790 through 1810 (De Cunzo and Catts 1990: 58-59; Shaffer *et al.* 1988; Welsh 1956).

Delaware became the first state to ratify the United States Constitution in 1787, and in the post-war economy, Wilmington emerged as northern Delaware’s most important and diverse urban / manufacturing community. Classified by Lemon (1976) as a “processing town,” a 1791 report of Wilmington’s industry’s reported, “12 flour mills, 6 saw mills, 1 paper mill, 1 slitting mill [metal cutting], and 1 snuff mill” (Shaffer *et al.* 1988; Hancock 1947). At Brandywine Village, paper, powder, and textile mills were added to the existing conglomeration of grain-processing mills, which had appeared during the previous period. Quite different from earlier “custom mills,” the mills of this period were larger and far more commercialized (Munroe 1954: 28-29).

After the Revolution, the country began a long period of internal improvements meant to assist in trade and an increase in manufactures. The first turnpike, the Philadelphia & Lancaster Turnpike, was begun in 1792. It extended 62 miles from Philadelphia to Lancaster City and more fully opened up the rich interior of Pennsylvania to trade. The success of this turnpike spurred work on smaller turnpikes, including the 1809 Gap & Newport Turnpike, which ran from Gap, Lancaster County, Pennsylvania, to Newport, Delaware. The Philadelphia, Brandywine & New London Turnpike was begun in 1810 to connect villages in Chester County with Philadelphia (Gordon 1832: 36). As noted previously, Delaware had turnpikes constructed in all directions from the Wilmington area to the Pennsylvania state line to meet the demand of farmers and millers of that state (Scharf 1888: 756-757).

Canals were also begun during this period to promote commerce. The Delaware & Schuylkill Navigation was chartered in 1792 to connect Philadelphia with Reading. The following year the Brandywine Canal & Lock Navigation was chartered in Chester County, Pennsylvania. In 1801 the Chesapeake & Delaware Canal was chartered. Actually begun in 1809, the Chesapeake & Delaware was not completed until 1829. Although this canal was not in Pennsylvania it enabled

the merchants of that state to carry a large portion of its produce of the Susquehanna Valley to the markets served by the canal (Gordon 1832: 41, 45).

In contrast to the strides being made in local industry, agriculture was beset by crises. Following a century of extensive farming, farm productivity dropped dramatically during this period. Across New Castle County, eroded and exhausted fields failed to produce significant yields, and as a result, many smaller, marginal farms were abandoned or left fallow. A great many such properties were consolidated into large estates by wealthy landowners.

John Beale Bordley, a Maryland farmer who moved to Philadelphia, wrote in 1799 that farmers in Pennsylvania have a commendable spirit for building good barns which are mostly of stone. The stalls on the ground floor hold their horses and oxen, and the second floor contains their sheaves of grain, which are thrashed on that floor (Schiffer 1976: 198-199). A similar trait could be found for the farmers of the northern tier of New Castle County hundreds as tax records will reveal further on in this narrative.

In the early 1800s, national financial crises worsened prospects for local farmers. Hard-pressed to support themselves even on a subsistence level, a considerable portion of the working agrarian population either moved west to clear new areas or was absorbed into the emergent industrial sector in and around Wilmington (De Cunzo and Catts 1990: 52-53, 59; Herman *et al.* 1989; Lindstrom 1979: 300; Hancock 1947: 374). While population and agricultural growth leveled in the period between 1810-1830 (Hancock 1947: 374), by the end of the period, some local agriculturalists had made productive in-roads by diversifying crop species. The popularity of this technique increased during the following period (Lindstrom 1978: 20).

In the fourth quarter of the eighteenth century, Delaware saw a new wave of more durable construction, and it is likely that the original section of the two-story stone house at Chestnut Hill was constructed during the last quarter of the eighteenth century. In the Piedmont region of the state, the northern one third of New Castle County, saw log houses being replaced with stone houses, and in the Atlantic Coastal Plain region, brick or more complex braced frame houses were constructed. The size of these houses didn't increase much, generally remaining at one to two rooms per floor. However, the interior finishes of these houses were more elaborate than previously seen (Sheppard 2009: 24).

What is now known as the original section of the main block of the house at Chestnut Hill, which was the focus of our data recovery excavations, appears to have been built in the late eighteenth century. This section apparently faced east with the kitchen wing attached to the north gable end. Remains of a cobbled roadway were found along the east side of the house and may have been part of what was the original course of the Concord Pike. The Wilmington & Great Valley Turnpike Company was incorporated in 1811. It ran along the line of the Old Concord Road on the east side of Brandywine Creek through to West Chester, Pennsylvania (Scharf 1888: 418). (Apparently, the road was officially known as the Wilmington & Great Valley Turnpike, but it was locally known as the Concord Pike.) This area between the house and barn and corn cribs was described by a Weldin descendant as a "courtyard" where by the early twentieth century cars were parked (W. Weldin 2012).

The foundation of the existing original main block appears to have been a two-story, two-room, stone, hall and parlor type house, constructed prior to 1799. This house's size and material is why it is felt it was likely not the first one erected on the Chestnut Hill farm. The original main block of the house likely had little stylistic embellishment but may have been stuccoed as some tax records seem to indicate. The dimensions of this part of the house along with the kitchen matches what was described in the 1799 tax record, the period when William Little lived there as a tenant of John Dickinson.

As stated previously, early kitchens were often detached from the main house. Although the kitchen at Chestnut Hill may have been a separate building at one time, by the late eighteenth century it was attached to the north gable end of the original main block of the house. During the re-building of the main house at Chestnut Hill the kitchen was incorporated into the main block of the house.

The 1797 tax assessment provides a snapshot of the type of structures in Brandywine Hundred at that time. The hundred had 149 properties with buildings or structures noted on them. There were a total of 187 houses on those properties illustrating that some properties (21%) had multiple houses. Of those houses that building material was given, 109 (62 %) were constructed of logs and 53 (30%) were constructed of stone. In addition, five (3%) houses were constructed of both stone and log, seven (4%) houses were constructed of brick, and only two were noted as frame houses. Forty-one of the log houses and twelve of the stone houses were described as small. Twenty-seven of the log houses were also noted as "old." Two of the stone houses were described as "unfinished," but no stone houses were noted as old. There were also two kitchens taxed, one stone and one log. Since the kitchen at Chestnut Hill was attached to the main block of the house, it would not have been taxed separately.

Nearly similar to the Brandywine Hundred statistics, the number of houses in adjoining Chester County, Pennsylvania, in 1798 was more than twice the number of barns found there. Of the 3427 houses recorded in the county, 1863 (54%) were constructed of log and 1124 (33%) were constructed of stone. Another 188 (5%) were constructed of brick, and 156 (4%) were constructed of frame. In addition, twenty-seven houses were constructed of brick and stone, and thirty-six were constructed of stone and log. This demonstrates that Chester County had moved more rapidly by about 8% to more durable housing material (stone and brick) than was found in Brandywine Hundred (Schiffer 1976: 235-239). The relative rarity of stone houses at that time is noted by John Hill Brinton's diary which noted that there was only one stone house (1704 Brinton House) along the road between West Chester and Wilmington in 1797 (Schiffer 1976: 244).

Not only was log the most common material of Chester County houses in 1798, but log houses were the smallest on average in size, 418 square feet. The county's frame houses of that same year had a mean size of 583 square feet, and brick houses were considerably larger at 685 square feet. As expected, stone houses were the largest with an average of 781 square feet (Schiffer 1976: 240, 243-244, 249).

As previously noted, the period architecture of Delaware shared much in common with that of the Piedmont Region in the neighboring states of Maryland, Pennsylvania, and New Jersey. The

housing found in northern Delaware retains many characteristics of the dwellings built by the English and Scotch-Irish Quakers who settled southeastern Pennsylvania (Sheppard 2009: 28). There were decades of gradual change occurring from the first period of durable architecture in the early 1800s on through to more radical transformations in architecture and agriculture during the middle decades of the nineteenth century (Herman 1987: 2).

In his study of southern New Castle County, professor and architectural historian, Bernard Herman, interpreted the changes of the area's architecture as archaeological layers which can be used to determine meaning. The first extended cycle of development ran from about 1700 to about 1820. The beginning date coincided with the first intensive occupation of the land, and the end date marked the last period of radical formal change of interior layout. During this period dwellings developed from impermanent housing to more durable buildings. In addition, houses of one- and two-room plans began to develop into stair-passage-plan dwellings. Lastly, during this period builders began incorporating service functions into the house (Herman 1987: 11-12).

The 1828 tax for Brandywine Hundred shows a considerable shift in the building materials of the hundred's housing a little over 30 years later. Although some of the buildings were only labeled as "houses," there were 209 houses that year with building material given. While the two most common building materials remained log and stone, by 1828 the number of stone houses, 109 equaled 52% of the total, and the number of log houses, 70 equaled 33%. In that 30-year span, the percentages had nearly reversed. Another eleven (5%) of the houses were described as frame, and nine (4%) were noted as brick. The tax assessment that year showed 38 tenements. (It is understood that these tenements were buildings leased or rented to tenants.) Of that number, the material was given for 18. Half of those 18 were log, eight were stone, and one was frame. Only one frame kitchen was noted in the hundred's assessment for 1828.

Rebecca Sheppard found in her study of Central Delaware a strong correlation between the building material of the house and the amount and quality of the land associated with that dwelling. For example, properties with brick houses had 25% greater acreage associated with them than their log counterparts. In addition, the land associated with a brick house was valued more than twice that of land associated with a log dwelling (Sheppard 2009: 133-134). During the early 1800s, Chestnut Hill, according to various deed and tax records, ranged between 103 and 150 acres, placing it in the category of a mid-sized farm.

The 1797 tax assessment for Brandywine Hundred recorded 94 barns or about half the number of houses in the hundred that year. There were also 18 stables, one hay shed and two hay houses noted. Of those barns, 49 (57 %) were constructed of logs, 18 (21 %) were constructed of stone, and 17 (20 %) were constructed of frame. In addition, two were described as built of log and frame. Sixteen of the log barns and two of the frame barns were described as "old," but none of the stone barns were described as old. The material was given for fourteen of the stables; four were of stone and five each were of log and frame construction.

The building material for barns is comparable to what was found in adjoining Chester County in 1798. Of the 1426 barns described there, 725 (51%) were constructed of logs, 340 (23%) were constructed of stone, and 242 (17%) were constructed of frame. There were also 35 stone & frame barns and 82 log & stone barns making up another 8% of the total (Schiffer 1976: 201-



202). Again, Chester County may have been slightly more advanced in the process toward more durable building material for barns. In 1798 there were also 16 “cow houses” in Chester County. Of those 16, seven were constructed of stone, five were of frame, and one of stone and log (Schiffer 1976: 226). The Direct Tax also noted 33 granaries, 69 hay houses, and two stone hog houses in Chester County that year (Schiffer 1976: 232-233).

Agricultural tenancy played a role in the shift to more durable building material for housing. Large land holders soon realized that they were more likely to attract reliable and productive tenants if they offered a farm with a sturdy house in good condition. The farmer’s wife likely participated in the decision to rent a prospective farm, and the condition of the farmhouse would have played a key role in the ultimate decision to rent a particular farm (Sheppard 2009: 167).

Similar to the large shift in housing materials between 1797 and 1828, there was a large shift in the materials used in constructing barns. The 1828 tax assessment for Brandywine Hundred listed 132 barns. Of that number, 86 were noted with building material. While over half the barns in 1797 were constructed of logs, in 1828 only 14 (16%) were constructed of logs. In 1797 only 20% were constructed of frame, but now 42 (48%) were of frame construction. The change in stone construction was less dramatic but showed an increase from 21% in 1797 to 28 (32%) in 1828. The 1828 tax also noted 27 stables. The material was given for only ten of these. Nine were constructed of frame and one of logs.

In the 30-year period between 1797 and 1828 there was a 29% increase in the number of barns in the hundred and a 34% increase in the number of stables. The increasing presence of barns, stables, and horses is an indicator of the shift to a plow-based agriculture. Stables appeared more often on farms of more than 100 acres with multiple teams of horses or mules (Sheppard 2009: 196).

Margaret Schiffer’s study of Chester County, Pennsylvania, 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. This 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 main house, not a separate building (Schiffer 1974: 188-190).

By the late eighteenth century milk houses had already become a common outbuilding of Lancaster County, Pennsylvania, farmsteads. This may indicate that dairying developed earlier in Lancaster County than other areas of Pennsylvania (Schneider 1994: 67). The 1798 Direct Tax for Chester County, Pennsylvania, showed 145 milk houses there at that time. Almost half of those were constructed of stone (Schiffer 1976: 272). Few milk houses appeared in tax records for Brandywine Hundred, but they were likely similar in form and number to those found in southeastern Pennsylvania.

Although the agricultural reform movement began in the late eighteenth century, it wasn’t until the early nineteenth century that its effects became widely noticed on the architectural landscape. One of the goals of the movement was for well ordered agricultural complexes whereby new or remodeled farmhouses incorporated hall passages to separate public and private spaces. In

addition, service wings were designed to contain the work of cooking, laundry and food preservation. These new features reflected both convenience and progressive advice. The upgraded buildings had amenities that both owner-occupants and tenants desired. Farm complexes with such features attracted higher quality tenants, and the landlords could receive higher rents and greater profits. In addition, they indicated that the inhabitants of these dwellings were members of a particular group in society (Sheppard 2009: 68, 178, 180). This group would maintain that their progressive farming methods sustained and expanded their wealth.

Although little information can be found on outbuildings in tax records for Brandywine Hundred, Orphans Court records often do mention outbuildings and their condition. (Unfortunately, there are no known Orphans Court records pertaining to Chestnut Hill farm.) During the period of agricultural reform 1790-1850, which will be discussed in more detail later, farmers across Delaware focused on rebuilding their farms in a more orderly manner. During this period farmhouses were also often re-built or reoriented to identify the owners as participants in the movement. Reform-minded farmers pursued efficiency in their building types and farmstead layout. The number and size of outbuildings reflect the increasing commercial orientation of both tenant and owner-occupant farms. In addition, outbuildings played a critical role in the successful and profitable operation of a farm (Sheppard 2009: 189).

Rebecca Sheppard in her studies of the region found the landscape typically included a banked barn, larger than the house, as was the case at Chestnut Hill. The barn could be sited on a hillside higher than the house but not in a direct line with the house so as not to contaminate the house's water supply. These banked barns had an earthen ramp to the rear allowing wagons filled with hay or grain to access the threshing floor or first floor of the barn. Sometimes the houses were banked as well. The farm's dwelling could have begun as a one-room log house. After a new stone house was constructed on the property sometimes these earlier log houses became the kitchen. In addition to the house and barn on the Piedmont farmstead, a springhouse was the other essential component. The springhouse not only protected the farm family's water supply, but also cooled their dairy products (Sheppard 2009: 39-43).

The very eastern part of northern Delaware is a separate region. Here, the eastern edge of Delaware's Atlantic Coastal Plain consists of tidal marshes that vary in salinity and the extent to which they penetrate inland. Resident farmers of this coastal region extracted waterfowl and fishes from the marshes and river to supplement their incomes on a seasonal basis. The marsh lands were basically only used for pasturing cattle and harvesting salt hay (Sheppard 2009:51). Nevertheless, large bodies of marsh along the Delaware were well known for their remarkable fertility, especially in grasses (Gordon 1832: 26). From the time of John Dickinson's ownership of Chestnut Hill, the owners of the property also had marsh land, particularly that in Cherry Island, located approximately three and a half miles from Chestnut Hill.

By the late eighteenth century Delaware farms had been largely deforested and very densely settled. Agricultural products, such as wheat, beef cattle, and butter, allowed farmers to participate in a market economy to varying degrees. Statewide the average farm in the period 1790 to 1850 consisted of approximately 150 acres. Average sized farms allowed their owners to diversify production strategies to accommodate for their particular soil variations, access to domestic markets, etc (Sheppard 2009: 67).

In March 1789, James Tilton commented that the reduced productivity of the land was becoming a serious problem. He wrote that “Hitherto we have depended chiefly on the freshness and richness of our soil, but manure is now more necessary and more used than formerly (Garrison 1988: 25).”

A period of agricultural reform occurred from about 1790-1850. Progressive farming is largely the result of practice and research. A progressive farmer is one who strives for reform and advancement in agricultural methods; one who is willing to try new ways or practices in order to improve the soil’s fertility and produce greater yields in farm products. As with most farmers, Delaware Valley farmers tended to be conservative, often unwilling to try new methods and new products for fear of failure which would translate into a loss of money they could ill afford. Consequently, much of the late eighteenth/early nineteenth century progress in farming was made by gentleman farmers who could afford to take chances. After methods and products became more 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. The Philadelphia Society for Promoting Agriculture was founded in 1785. The society offered premiums to stimulate the discovery of new and better methods of farming (Fletcher 1971: 347).

By 1800 most of Delaware’s original land grant farms had been subdivided numerous times, and most farms were no longer large enough to be divided further. As fertile soil became increasingly valuable, Delaware farmers adopted inheritance strategies that protected family assets as well as conserved the land. Reform farm methods or progressive farming was spurred by the loss of soil fertility. When the organic material in soil becomes depleted, the ground is set up for easy erosion. One remedy for this is to apply manure to the land, which was employed to rejuvenate the land (Sheppard 2009: 67). Manure was a double blessing because it not only fertilized the land, but it was free to the farmer as well. Having dairy cattle was important in this equation, because the average dairy cow produced two and a half times its weight in manure each year. This is twice the amount of manure as a horse or other large animal would produce (Grettlar 1992: 8).

One early method of maintaining soil fertility was through crop rotation. In about 1790 the most common crop rotation 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. The grass mixture was commonly timothy or red clover (Memoirs 1808: 93, 119).

The Memoirs of the Philadelphia Society illustrate how far reaching its influence was. Although the majority of members were from southeastern Pennsylvania, members could be found in New York and Virginia as well as more closely in New Jersey, Maryland, and Delaware. The Delaware members included John Dickinson (who owned Chestnut Hill from 1785-1808), James Tilton, M.D., John Shallcross, Daniel Cowgill, Caleb Kirk, and J. M’Intire. There were also writings and letters from Delaware farmers found in the society’s publications. There was an article titled, “Smut in Wheat” by William Young of Brandywine (Memoirs 1808: 47-53). Young traced the smut from seed gotten in New York State, and concluded that washing the seed

prior to planting would prevent smut in the future. Men like Young used this society and county agricultural societies to discuss their problems and seek solutions through scientific agriculture (Sheppard 2009: 117). The second founding of the New Castle County agricultural society in 1819 was a central influence on the county's farmers (Herman 1987: 8).

As part of the reform movement well ordered and efficient landscapes were called for. Model agricultural complexes included a place for every function such that several buildings, including granaries, corn cribs, and hog pens, would be clustered around the barn and barnyard. Also during this period farmers continued to reclaim marshland for agricultural use, became more integrated into the market economy, and expanded their use of the goods supplied by that economy (Sheppard 2009: 68).

The first agricultural society in New Castle County was organized in 1804 with Henry Latimer as president and William Young as secretary. (This is likely the same William Young who read his paper about "Smut in wheat" to the Philadelphia agricultural society in 1806.) Great improvements in farming were being made at this time including the use of gypsum as a fertilizer. The gypsum was shipped from the coast of Maine to Wilmington. In addition, native grasses were being replaced by clover and timothy hay (Scharf 1888: 433).

The first county agricultural society did not operate long, and a second society was incorporated in 1818 as a result of an act of the legislature. It too soon died out, but it did instill some scientific and systematic agricultural practices into the local farming population prior to its cessation.

A 1799 tax document for John Dickinson shows that a two-story stone house was located on the Chestnut Hill farm during this period. It was evidently a hall and parlor type house with an attached kitchen to the north gable end. This has been confirmed by the archaeological excavations done on the property. William Little was the tenant farmer at this time. Little does not appear in the 1790 or 1800 census for Brandywine Hundred. However, he does appear in the 1810 census when it is believed he was no longer a tenant at Chestnut Hill. In 1810, Little, aged 45 or older, has two males aged between 10 and 15 years. This indicates that he would not have had the sons to assist in the operation of Chestnut Hill in the late 1790s and early 1800s during his tenancy.

#### **d. Industrialization and Capitalization (1830 to 1880)**

The years between 1830 and 1880 encompass the most complex and dynamic period of social and economic development in the history of northern Delaware. Improvements in local and regional transportation, the continued expansion and diversification of industrial activities in the Wilmington and Brandywine Valley, the rise of Baltimore as a trading center, and the revolution in agriculture taking place across the region all contributed to a shift away from market-dependence on Philadelphia and a movement towards a more locally-based economy (Lindstrom 1978: 122).

Improvements in regional transportation routes had begun in the first quarter of the century with the completion of a number of interstate turnpikes. One local example was the Wilmington and

Great Valley Turnpike, commonly called the Concord Pike, known today as Route 202. Completed in 1811 this road provided local farmers with a dependable overland route to markets in Wilmington as well as Pennsylvania.

These early road works were the first stage in a campaign of internal transportation improvements that reached its zenith with the completion of the Philadelphia, Wilmington, and Baltimore Railroad in 1839. Competing with the Chesapeake and Delaware Canal, which was begun in 1809 but not completed until 1829, the Philadelphia, Wilmington, and Baltimore Railroad soon handled the bulk of transportation and shipping across the state (Potter 1960; Dare 1856). After its completion, a number of other railroads soon connected northern Delaware to the Pittsburgh area and the Ohio River Valley.

By 1848 there were two lines of steamboats running between Wilmington and Philadelphia. Due to heavy competition, the passenger fare was put down to 25 cents. Then the railroad cut its fare to 12 ½ cents, and as a result, the steamboats only charged ten cents (Scharf 1888: 659). Weldin family inventories and family histories indicate that the Weldins continued to have a strong relationship with the Delaware River in the first half of the nineteenth century. The connection that the Weldins had with the Delaware is important because it enabled them to be part of the “water network” that connected them with the rest of the Delaware Valley and its continual social and cultural exchange (Lanier 2005: 116).

Bolstered by new transportation routes, a large native and immigrant labor pool, and a ready supply of raw materials, northern Delaware’s industries grew and diversified at an unprecedented rate during this period. Having devoted much of its resources to industrial development, by the start of the Civil War, New Castle County boasted a total of 380 manufactures (De Cunzo and Catts 1990: 73; Lindstrom 1978: 122). Local facilities included grain mills, textile mills, paper mills, powder mills, ironworks, slitting mills, wheel wrights, cooperies, and tanneries. In the vicinity of the Brandywine, scattered industrial enclaves evolved into full-fledged company towns. By the 1860s, Wilmington emerged as the state’s most densely settled urban region. In addition to its textile mills, the city was also becoming a leading manufacturer of transportation-related equipment such as carriages, railroad cars, and iron ships (Hoffecker 1977).

These dramatic changes in industry were paralleled by important shifts in agricultural practices in the region’s hinterland. After abandoning its market reliance on wheat exports to Philadelphia during the first quarter of the century, the farm economy of northern and central Delaware restructured itself around a diversified and locally consumed produce base in the middle of the century. By providing fruits, meat and dairy items to the new urban markets in Wilmington, farmers in New Castle County rebounded from the stagnancy of the past decades. In the Piedmont region, dairy farming supplanted livestock raising as the principal agricultural activity (Bidwell and Falconer 1941: 427).

Progressive or reform minded farmers found that soil additives was a supplemental method to increase fertility. In the first half of the nineteenth century gypsum or land plaster was in competition with lime, but eventually lime became known as the best way to improve land. By about 1850 the most usual method of increasing the fertility of the soil was through a

combination of manure, lime, and plowing down clover or other green or dry crops. Lesser numbers of farmers used guano and plaster to help with fertility (Fletcher 1971: 407).

A third and lasting county agricultural society was established in 1836 for New Castle County during a meeting held at Wilmington. It was noted that the society was organized by “active and aggressive men who took measures to gain information and disseminate it throughout the county” (Scharf 1888: 433-434).

The society grew in size and importance, attracting visitors from adjacent counties and surrounding states to listen to addresses given by distinguished agriculturalists, such as former Senator Jonathan Roberts of Pennsylvania, and John S. Skinner, founder and editor of the *Baltimore American Farmer*. The changes in New Castle County were marked by a speech given at the 1843 county fair when C. P. Holcomb stated that, “the husbandry, the stock, the buildings and appearance of farms had improved and that the price of land had advanced” (Scharf 1888: 434, 436).

In 1800 New Castle County, although comprising the smallest land area of Delaware’s three counties, contained 40% of the state’s population. The heaviest populated area of New Castle County was the northeast section comprising Christiana, Brandywine, and New Castle hundreds. This area grew largely because of water-powered, industrial enterprises that attracted immigrant laborers. The population of Brandywine Hundred increased more than 50% between 1800 and 1840 (Sheppard 2009: 70-73).

During the first half of the nineteenth century, the ownership of farmland in Delaware was increasingly in the hands of an elite group who treated farms as an investment rather than a livelihood. As the years progressed, a smaller percentage of the taxable inhabitants owned and occupied the farms across the state. As these rural elite became entrenched in the market economy they consolidated their control over most of the land. Consequently, both the landowners and their tenants became more conscious of the productivity of the soil. This motivated better care of the soil as well as the construction of new agriculture-related buildings (Sheppard 2009: 119-120). It was only natural that every tenant farmer would seek to gain as much profit as fast as he could while every landowner would try to maintain the value of his land through fertilization/manuring and crop rotation (Sheppard 2009: 131).

Farmers who wanted to maximize their production preferred horses and mules over oxen. Although more expensive to purchase and maintain than oxen, horses were faster in the plowing and planting of the fields. Multiple teams of horses enabled large farm owners to work more than one field at the same time. This maximized the use of their land and increased their ability to produce greater quantities of cash crops, such as wheat and corn (Sheppard 2009: 132). Of course in order to use multiple teams of horses the farmer had to have the man-power or labor to do so. He had to have either sons or hired help to provide the needed labor. The availability of labor determined whether a farmer provided only for his household or produced a surplus for market (Sheppard 2009: 212).

From a productivity standpoint, the most important change to local agriculture was the adoption of progressive farming techniques. Local farmers incorporated modern farm machinery,

fertilization, and drainage measures to significantly increase productivity while simultaneously employing less human labor. These methods also helped to bring marginal regions that had been abandoned during the last period back under cultivation. By the end of the period, New Castle farmers had managed to cultivate over ninety percent of the county's total acreage (De Cunzo and Catts 1990: 67-70).

The farmer's income was not only dependent upon soil fertility, rainfall, and hard work, but also on the demand for his produce and competition, local and distant. The failure of the Philadelphia banking house of Jay Cooke and company initiated the Panic of 1873 which eventually plunged the nation into a long and serious depression. The overexpansion of the railroads, manufacturers, and agriculturalists caused the depression, and any over-expanded farmers who had contracted large debts at high rates of interest were particularly hard hit (Klein & Hoogenboom 1986: 337).

During this agricultural revolution, roughly half of the farms in New Castle County were worked by tenant laborer families. Tenancy took many forms, but it can be defined generally as the working of a plot of land in exchange for a rent and/or a portion of the yield. Begun in the late-eighteenth century, its practice became pervasive after the crop disasters and economic crises of the previous period concentrated large tracts of land into the hands of wealthy landowners who were either unable, or disinclined, to work the land by themselves (Siders *et al.* 1991).

While tenancy left no clearly recognizable farm "type," its effects upon the agricultural landscape of the late nineteenth century were profound (Siders *et al.* 1991: 22). Most notably, tenancy, or rather, the concomitant rise of an agricultural class-system, led to a rebuilding of the local landscape that reflected the ideas, values, and beliefs of the landed elite. By examining the layout of farms of this period, researchers have demonstrated that while the size of the average farm in northern New Castle County shrank to 79 acres during this period, farmhouses and outbuildings virtually doubled in size (Siders *et al.* 1990; Herman *et al.* 1989: 146). This was especially true for old "landed" families, whose rebuilt or remodeled hall and parlor homes, stone bank barns, and corn cribs communicated, "the new values of the agricultural reform movement" (Herman *et al.* 1989: 200-202).

Building types associated with agricultural reform and architectural renewal include granaries or crib barns, bank barns, livestock barns, carriage houses, threshing barns, and cart sheds (Herman 1987: 199). A substantial number of northern Delaware farmers participated in the field reforms or the mid-nineteenth century and sowed clover and grasses (Michel 1984: 4).

Frederick Watts, progressive farmer, founder of the Farmer's College (Pennsylvania State University), and the second U.S. Secretary of Agriculture, claimed that perhaps nowhere in the United States was agriculture so profitable as in southeastern Pennsylvania where the barn was the first building in the construction of a farm. He noted that Pennsylvania farmers have long found the bank barn essential to a profitable farm, and the barn's form and structure was more than a shelter for animals and crops. 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 provided a barn plan in the 1864 United States *Report of the Commissioner of Agriculture*. A principle used in Watt's design was to create the most efficient means to produce manure. Therefore, his design placed the hog pen facing into the barn yard to allow the

beneficial rooting in manure; both beneficial to the hogs and to the development of good manure (Watts 1865: 297).

In his study of the farmsteads of southern New Castle County, Dr. Herman found that in the period from 1870 into the early twentieth century that few building projects took place on farms. Contrary to this, it would appear that the construction of outbuildings and ancillary structures connected to the barn continued at Chestnut Hill during this period. Any farmhouses built during this period largely mirrored those of the past along with modern stylistic updates. However, he did find that local people of substance during the 1880s gave attention to documenting their past by sponsoring local histories (Herman 1987: 12). This roughly mirrors the ambitions of the Weldin family who had biographies published in the *Biographical and Genealogical History of Delaware* in 1899 as well as in *A History of the Talley Family on the Delaware and their Descendants* published that same year. Both writings tell how the Weldins improved their farmland, were active in progressive societies such as the Grange and the Cherry Island Marsh Company, as well as had an active role in their local church organizations.

Up to this point, the architecture of the Delaware Valley was influenced by various forces: not only by the builders and the natural environment but by the inhabitants as well. As noted above, the inhabitants were of various ethnic backgrounds. However, they came together to form one basic cultural hearth which is centered in southeastern Pennsylvania. Consequently, the Delaware Valley's architecture reflects the various traditions of its people as well as the ongoing force of modernization which means the increasing influence of the Georgian form in the late eighteenth and early nineteenth centuries and the proliferation of national architectural styles from the mid nineteenth century through the mid twentieth century. (A significant aspect of the Georgian form was symmetry such that the central hall had to be flanked by an equal number of rooms and this was mirrored in an equal number of windows flanking the central front door (Harris 1998: 148-149)). Georgian symmetry signaled to the traveling public and the land owner's neighbors that the owner was following modern building methods.

Sometime in the first half of the nineteenth century during the Dickinson and Logan ownership of the property, the main house at Chestnut Hill appears to have been reoriented to face north onto Weldin Road. At approximately the same time, a large, two-bay, two-room deep, stone addition was made to the west side of the main block, more than doubling the size of the house. The addition appears to have been built in the side-hall or two-thirds Georgian plan with the hall adjoining the rear of the original main block (*Photograph 17*). The hall at this location provided for a nearly central front door, giving the appearance of symmetry to the front of the house. The double chimneys at the west gable end indicate that both the front and rear parlors of this section had fireplaces (*Photograph 18*).

The farmstead called Chestnut Hill, now known as the Weldin Plantation Site, developed over many years with various owner/occupants. The materials of stone and wood used in its buildings were those locally preferred and sufficiently durable to last generations. The house evolved from a two-room, hall and parlor plan dwelling with an attached kitchen to a center-passage plan house which incorporated the kitchen into its main block. The "new house" now had the appearance of other up-to-date symmetrical residences of the region. Not only was the kitchen incorporated into the main block, but there is evidence that the basement of the addition was





Photograph 17: Looking north at an early twentieth-century view of the rear of the main house showing the small central back porch and the symmetrical configuration of the windows. Note the wood drop siding.



Photograph 18: Looking northeast at the west gable end of the main house showing the large gable end chimneys at that location.

used as laundry. There were molds in brick flooring indicative of heavy use. The possibility of this was confirmed through a site visit by Dr. Herman (Herman 2003).

An early twentieth-century photograph of the rear of the house shows a single chimney on the ridgeline at the line where the addition was made (*Photograph 19*). The photograph also indicates that by this time the house was updated with wooden German siding, and the windows were fitted with shutters. A painted picket fence enclosed the backyard. A full-width front porch resting on brick piers united the sections of the house giving the appearance that the entire house was constructed at one time.

The Vegetation Survey for the Weldin Plantation site shows at least two shrubs or bushes which may have adorned the yards at Chestnut Hill (*Appendix C*). These include Rose of Sharon and Sweet Mock-orange. In addition, the agricultural landscape of the nineteenth and early twentieth century typically was marked with fences of various types. For example, a picket fence surrounded the yard at Chestnut Hill in the early twentieth century. As noted previously, wood was a scarce commodity even during John Dickinson's time. In the southeastern counties of Pennsylvania and northern Delaware there was much interest in "live fences" or hedges of thornapple, privet, and other species. A hedge of privet is still found at Weldin. Between 1850 and 1880 the Osage Orange was highly recommended by period agricultural literature as a hedge plant (Fletcher 1971: 70). The above referenced study notes that an allee of Osage Orange remains on Chestnut Hill. It was likely first planted during the Weldin ownership.

Aaron Pierce was a tenant on Chestnut Hill during the Logan ownership. The 1840 population census shows that the three males in his household were employed in agriculture. Pierce did have the additional labor available to be able to commercially operate Chestnut Hill. Likewise, John Bradford, also a tenant during the Logan ownership period, had additional manpower through his sons and hired help. Bradford had the most known help, through a combination of sons and hired help, and the agricultural statistics document his high production rates.

By the mid-nineteenth century the farming practices at Chestnut Hill coincided with what some authors have termed a "revolution" in Delaware agriculture. Beginning in the 1830s, local farmers started to incorporate crop-rotation, soil-fertilization, drainage measures, and modern farm machinery in their operations. In tandem with this technological progress, the region had also shifted away from its economic dependence on exports to Philadelphia wholesalers. Following the completion of a number of transportation improvements (overland turnpikes in the early nineteenth century, the Chesapeake and Delaware Canal in 1829, and the Philadelphia, Wilmington, and Baltimore Railroad in 1839), local farmers abandoned wheat as their staple crop and began to diversify their produce to include other grains, fruits, dairy products and other perishables. These goods were distributed to regional markets, particularly the emerging urban/industrial centers in and around Wilmington (De Cunzo and Garcia 1992; De Cunzo and Catts 1990).

Rebecca Sheppard in her study of Kent County found that 80% of non-landowners fell into the self-sufficient group of farmers with 25 or fewer animals. However, some owned as many as 78 animals identifying them as tenant farmers fully engaged in market production. At the same time 39% of landowners had 25 or fewer animals. It appeared that it took a farm of at least 70 acres



Photograph 19: Looking northeast at the rear of the main house. Note the chimney nearly centrally located where the two sections of the house were joined. The back yard is surrounded with a wooden picket fence.

to support 15 to 20 animals. This might include 6 to 8 cows, 3 to 5 horses/mules, some pigs, and possibly 6 to 8 sheep. To raise substantially larger numbers of livestock, farmers needed approximately three times as much acreage (Sheppard 2009: 133).

Farms with 6 to 10 cows were considered medium-sized dairy operations in 1850. Farms with two cows produced sufficient milk and butter for a large family of the time, and any farmer with more than two cows was very likely selling or trading their surplus milk and butter (Grettler 1992: 2-3).

The 1850 agriculture census for Brandywine Hundred, called First Division in this census, noted 256 farms in the hundred. The average farm had 56.6 improved acres and 19 acres unimproved land. Therefore, the average farm in the hundred contained about 75 acres, and the average farm had two horses to plow and work the fields as necessary. Although the number of milk cows in the hundred ranged from a high of 26 on a single farm, the average farmer only had 5.5 milk cows. While some farmers had a great number of “other cattle” on their farms, as high as 60, the average for the hundred was 3.8 other cattle. Clearly some of the farms with high numbers of “other cattle” were in the beef cattle business. The maintenance of large herds of either dairy cattle or beef cattle required large pasture areas as well as hay fields in addition to the traditional cash crops of wheat and corn (Sheppard 2009: 132). We know that John Bradford, farming at Chestnut Hill, had above average hay production and that he had access to the marsh hay on Cherry Island.

In addition to the horses and cattle, the average Brandywine Hundred farmer in 1850 also raised swine. The numbers of swine for a single farm went as high as 26, but the average farm had 5.2 swine. Although some farms had sheep, these were found on less than one percent of the farms. The number of livestock on the average Brandywine Hundred farm would have totaled about 16.5 animals which is within the range estimated by Sheppard’s study. In 1850, John Bradford had 35 animals on Chestnut Hill, or double the average in the hundred. Jack Michel found in his study that the northern tier hundreds had the highest density of animals per improved acre in the state. In this section of the state, hay and oats was the primary diet for farm animals, making them the fattest and most productive in the state (Michel 1984: 12-13).

While a few Brandywine farms produced as much as 700 bushels of wheat and 800 bushels of corn, the average farm in the hundred in 1850 only produced 99 bushels of wheat and 178 bushels of corn. This illustrates the disparity between the farms of only a few acres with those of over a hundred acres. The northern tier hundreds, those bordering the Pennsylvania state line, grew lesser amounts of wheat than the hundreds immediately below. Brandywine Hundred farmers concentrated on hay production (Michel 1984: 9). The farmers took their harvested wheat to local mills to be ground into flour. The farmer would have retained a small amount for home use, and rest was likely brokered to the local miller to be sold to dealers and merchants in nearby Wilmington.

The 1870 agriculture census for Brandywine Hundred illustrates some of the changes occurring to the agricultural landscape since 1850. There are only five additional farmsteads in the hundred by this time, but the improved acreage per farm has increased by about ten acres. Consequently, the amount of unimproved land, now called the “wood lot,” has decreased to

about 13 acres per farm. The overall size of the average farm has grown from 75 acres to 80 acres. Although the number of milk cows on a single farm ranged from a high of 42, there were 8.5 milk cows on the average farm. The average was up by three from 1850. The average farm produced 584 pounds of butter and sold 1731 gallons of milk in 1870. This shows that Brandywine farmers were increasingly oriented to dairy production.

In addition, the number of “other cattle” on a single farm ranged from a high of 89, but there were only two “other cattle” on the average Brandywine farm. This number was down by about two from 1850. The average number of horses per farm now was almost three (2.7). This number likely reflects the increased mechanization of farms requiring horses to operate that machinery as well as some farmers having multiple teams enabling concurrent plowing or harvesting of their fields. In addition to horses and cattle, the typical Brandywine Hundred farm had swine. Although the number of swine ranged from a high of 19 on a single farm, the average farm had 3.5 swine. The average number of swine had decreased by one and a half in the twenty-year span. The average wheat production only increased slightly from 99 to 102 bushels per farm, but the average corn production increased about 15% from 178 to 207.6 bushels per farm. The average Brandywine Hundred farm also produced 20 tons of hay.

The 1880 agriculture census notes a 12% increase in the number of farms to 295 in the Hundred. However, the size of the average farm has dropped about 20% from 80 acres in 1870 to about 64 acres in 1880. Of that 64 acres, about 52 acres on average are improved, and 12 acres are wood lot. The average number of horses increased slightly to 3.1 per farm. Again, this reflects growing commercial agriculture with the need for multiple teams to work the fields. The average number of milk cows per farm dropped slightly to seven, down from 8.5. The average number, two, of “other cattle” remained roughly the same as in 1870. The amount of butter produced dropped about 24% from an average of 584 pounds in 1870 to about 446 pounds in 1880. This drop not only reflects smaller dairy herds but also the fact that more farmers were selling their milk directly to markets. The average number of swine per farm rose slightly to 3.7, up from 3.5 in 1870. The average wheat production increased slightly from 102 bushels in 1870 to about 107 bushels in 1880. During that same period corn production showed a sizeable increase by about 22% to 264 bushels per farm.

Although begun outside what is considered the period of agricultural reform (1790-1850), the Grange followed through on some of the initiatives begun under the reform movement. The Grange, also known as the Order of Patrons of Husbandry, was organized in 1867 in Washington, D.C. The Grange enjoyed a phenomenal growth, and by 1875 there were over 400 subordinate groups with 18,000 members. The goal of the organization was to educate farmers as to what has been learned through the science of agriculture. In addition, the Grange provided opportunities for farmers to discuss current studies in agriculture (Fletcher 1971: 411-412).

#### **e. Urbanization and Suburbanization (1880 to 1940)**

General census figures from the turn of the century show that, for the first time in its history, agriculture ceased to be the predominant occupation in the state. While a number of trade occupations rose in importance during the years between 1870 and 1900, the largest shift occurred between industry (rising from 23.5% to 31% of the state’s work force) and agriculture

(declining from 39.5% to 26%). Since the majority of industrial and trade jobs would have been centered around Wilmington, these numbers would have been even more skewed towards industry in New Castle County (De Cunzo and Catts 1990: 77-78).

Nonetheless, agriculture continued to play an important role in the regional economy. The trend towards non-staple crops, perishables, and truck farming initiated in the second quarter of the nineteenth century continued in much of New Castle County, as new transportation routes connected the region to emerging urban areas throughout the northeast. Wilmington's continued growth insured continued demand for dairy products from the Piedmont, allowing this form of agriculture to thrive well into the twentieth century. Agricultural tenancy and share-cropping also held even, with over half of all farms engaged in some form of tenant arrangement at the turn of the century (De Cunzo and Catts 1990: 78-80; Shannon 1945: 418).

Between the mid-nineteenth century and 1900 a combination of factors shaped Delaware farmers' responses to changing markets. Two of the largest factors was the rapid growth of urban centers along the east coast, and the agricultural expansion of the Midwest which flooded markets with cheap wheat. In 1840 Wilmington was a town of 8,367, but by 1920 it had grown to over 110,000. Philadelphia rose by nearly the same percentage, from 155,000 in 1840 to over 1,800,000 in 1920 (Sheppard 2009: 232-233).

The rapid growth of urban populations spurred the rise in demand for fluid milk. There had been a previous desire for milk in the cities but prior to the opening of the rail line between Philadelphia, Wilmington, and points south in Delaware in the 1850s, there was not a rapid or easy access to the city markets. Transportation improvements along with better refrigeration methods encouraged the growth of fluid milk production. New Castle County cows produced more than 750,000 gallons of milk in 1870, but by 1890 milk production in the county had risen to 6.3 million gallons (Sheppard 2009: 280). This rise in fluid milk production coincided with the large population growth in nearby cities. By 1890, neighboring Chester County was sending 20,000,000 gallons of milk to Philadelphia (Fletcher 1971: 195).

By the 1870s dairymen living within driving distance of the city would retail their milk to consumers in horse-drawn vehicles. (The 1892 inventory for Jacob R. Weldin notes that he had a milk wagon as well as other items used in fluid milk production.) As the fluid milk industry grew, a corporate structure emerged to handle its delivery system. Milk companies acted as middle men, gathering the bulk milk from the farmers, having it bottled at creameries, and then transporting it to cities in the Northeast. The milk companies wielded great power over the industry, determining whether a particular farmer's milk was accepted or not. Mechanized bottling enabled the processing of more milk daily at creameries. The increased bottling capabilities encouraged farmers to produce more milk, and larger milking herds meant that the dairy farmer would seek specific barn designs tailored to the dairy industry (Sheppard 2009: 284).

The nearly 15-foot square, stone, milk house at Chestnut Hill (*Photograph 3*) appears to have been constructed in the late nineteenth century during the Jacob R. Weldin ownership. Located northeast of the main house, it would have been considered within the "house yard" of the property. (The milk house was also referred to as a spring house by a Weldin descendant (W.

Weldin 2012). A mid-twentieth-century photograph shows that the granite, gable end walls were stuccoed both inside and out. The processing of milk and butter was traditionally the work of the women of the household (*Photograph 20*). The Chestnut Hill milk house was updated with a concrete floor in the early twentieth century. The concrete was poured over the original brick flooring. Wells were located on either side of the entrance on the west gable end of the milk house, and the water from these would have been used to cool the milk (*Photograph 21*).

The large Weldin barn with its long earthen ramp (30 x 18 feet) with stone retaining walls was built to serve the burgeoning dairy industry of northern Delaware in the mid to late nineteenth century. Believed to have built or greatly enlarged during the Jacob R. ownership, the barn had multiple threshing floors and storage areas at each gable end for hay and straw, and the lower level served to house a large herd of dairy cows and multiple teams of horses or mules. Built to complement the barn, various outbuildings were constructed either in close proximity to the barn or were constructed as part of the surrounding barnyard. These served as additional space for animals, crops, and equipment.

The barn foundation measures 60 x 38 feet, but there was a long addition along the north side of the barn and extending the length of the barnyard. The addition measured 20 x 135 feet, but it was divided into three separate structures. The area immediately adjoining the gable end of the barn, measuring 20 x 38 feet, would have served as a storage area for equipment. The next section, measuring 20 x 84 feet, faced onto the barnyard. The ground level of this section, apparently opened into the barnyard, likely served as housing for heifers and calves. The upper level of the addition may have served as a chicken house. At the northeast corner of the barnyard, a stone wall separates the heifer/calf section from what could have been the pig pen. The pig pen area measures approximately 30 x 27 feet. There was an approximately 10-foot space between the end of the ramp and the west wall of the barn which also could have been used as a storage space for wagons or other machinery. The effort to consolidate various activities and uses into one complex is part of the farm reform movement.

An early twentieth century photograph, taken during the Weldin ownership of Chestnut Hill, illustrates how the reform movement as well as the dairy industry had affected the farm's layout. The centerpiece of that layout was the large banked barn (*Photograph 22*). The Weldin's large dairy herd and horses would have occupied the barn's ground level. Since the Weldins were actively involved in the Cherry Island Marsh Company, the barn's mows would have had to be sufficiently large to house marsh hay as well as hay grown on fast land. Wagons and other equipment could be stored on the barn's multiple threshing floors. Like similar marsh companies, Cherry Island Marsh Company, stabilized the marsh land by providing embankments that prevented erosion and by enhancing channels that allowed the tides to more easily rise and fall through the marsh land. A well diversified farmer with both hay pasture on fast land and on marsh land meant that should the hay fail due to an unusually wet season on the marsh land, he'd still have his hay pasture on his fast land. Conversely, if it was an unusually dry year, the marsh land would still supply a sufficient amount of hay for his livestock. Traditionally, it was the well diversified farms that succeeded despite natural disasters or economic downturns (*Photograph 23*).



Photograph 20: Looking southwest at the milk house ruins after restoration by DeIDOT in the early 21<sup>st</sup> century. Note the lines on the gable end where nailers would have supported a shed roof at this location.



Photograph 21: Looking east toward the rear of the barn. Note the sliding doors to the threshing floor. An equipment shed is in the left foreground and the combination corn crib/wagon shed is to the right foreground.





Photograph 22: Looking northeast at a corner of the stone wall to the barn ramp. Behind the ramp is the entrance to an equipment shed incorporated into the main block of the barn. The main house is to the left.



Photograph 23: Looking south at the frame, two-story, combination corn crib/wagon shed with board and batten siding. To the right is a frame equipment shed with an attached animal pen. To the left beside the barn ramp is a frame shed covering the cistern and topped with a frame water tank and windmill.

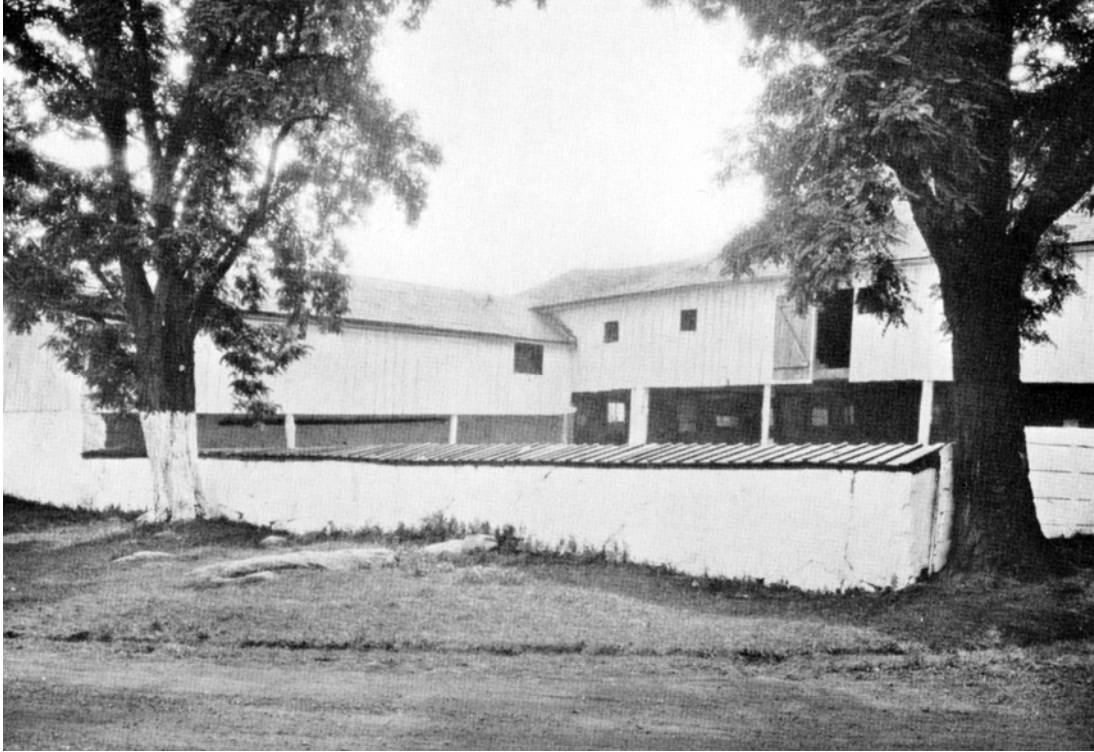
There are various frame buildings clustered near the barn. These include a banked, frame equipment shed directly behind the barn with an attached animal pen. Jacob R. Weldin's inventory notes various wagons and machinery which would need proper storage space (J. R. Weldin Inventory, 1892). There is also a two-story, frame, drive-through wagon shed and corn crib. The second floor of this building likely also served as a granary. In addition, a windmill and frame water tank rested atop a frame shed located on the south side of the barn ramp. Evidently, the windmill pumped water from a well or cistern into the tank. (There is archaeological evidence of a cistern next to the barn ramp.) A large dairy operation required a good supply of water not only to water the herd but also to help cool the milk (*Photographs 24, 25, and 26*).

There should have been a hog or pig pen on the property to house the large amount of swine that the 1880 agriculture census and the 1892 Jacob R. Weldin inventory shows. However, Willis Weldin said that he does not recall seeing one on the farm (W. Weldin 2012). The 1918 inventory for J. Atwood Weldin shows a single hog with six pigs. So possibly the Weldins ended pork production on the farm in the early twentieth century, and consequently the hog pen was demolished. The census records and inventories also indicate that the Weldins had a fair amount of winged fowl including chickens, ducks, and geese. By the late nineteenth century each of these groups of fowl would have a required a separate building or buildings.

As will be discussed in more depth later, the Weldin family's farm displayed the improvements of nineteenth century progressive farming, but they were also involved in the social and educational aspects of the improving farmer. The West Brandywine Grange, No. 13, Patrons of Husbandry, was organized in 1874 at Sharpley's schoolhouse. The Weldin family were active in this particular grange, and it was noted that it was "comprised of the best citizens of the western part of the hundred" (Scharf 1888: 910). In 1886, a new hall for this grange was erected at Talleyville, which is about two miles north of Chestnut Hill. J. Atwood Weldin was among those on the building committee.

While the latter decades of the nineteenth century witnessed growth in New Castle's industries, Wilmington's industrial prominence began to diminish during the early years of the twentieth century. Still one of the most diverse industrial districts in the nation, upper Delaware, "fell behind" industrial sectors in the rest of the nation (Hoffecker 1977). In the early twentieth century, many of Wilmington's firms were purchased by national conglomerates or went bankrupt trying to compete with companies located in the emergent industrial cities of the Midwest (Shaffer *et al.* 1988: 29). Nonetheless, Wilmington continued to attract a large population of European immigrants, especially from eastern and central European countries (De Cunzo and Catts 1990: 85).

The rise of suburban development outside of Wilmington was initiated in the early decades of the twentieth century (Catts and Kellogg 2000: 18). Quite unlike any settlement pattern then seen in the state, the settlement of areas north of Wilmington was initially tied, as it is still today, to the spread of light industries outside of the traditional urban industrial core of the city. Both in and around the city, transportation networks were expanded or rerouted to accommodate increased automobile traffic. While New Castle's population declined almost 13 percent in the years between 1920 and 1960, formerly rural New Castle County saw a population gain of an



Photograph 24: Historic view of a barnyard in Brandywine Hundred with a similar layout to the one at Chestnut Hill (from Bennett 1985: 155).



Photograph 25: At right is the modest marble tombstone for Jacob Weldin (1760-1844) in the family plot in Newark Union Cemetery.



Photograph 26: The column style memorial monument for Jacob R. Weldin, his wife, and family in the Newark Union Cemetery. The polished gray granite monument is topped with an unpolished urn and is one of the largest in the cemetery. Note the native stone fence erected in 1845 to enclose the cemetery.

incredible 455.9 percent (Hoffecker 1977: 60). Indeed, the effects of this shift in settlement pattern continue to be manifest throughout the state up to the present time.

The period from 1914 to 1928 was a good one for the dairy industry in Delaware. Trucks could quickly haul milk to Wilmington or refrigerated railroad cars could take milk to Philadelphia. By 1928 over 95% of Delaware's milk was sold as fluid milk. Most of the dairy cows were grade Holsteins fed on home-grown grain and roughages. During this period the state Board of Agriculture, the University's Extension Service, and the state Board of Health educated the dairy farmer on ways to even out seasonal milk production, improve cow nutrition, and clean and sanitize their dairy barns (Passmore 1978: 42).

The prosperity that farmers enjoyed immediately following World War I soon ended, and the Great Depression struck in 1929. By 1931 the prices of farm products were the lowest since before the Civil War. It wasn't until 1936 that the purchasing power of the farmer began to rise again. During this period, many heavily mortgaged farmers were forced to sell their farms. The outbreak of World War II in Europe in 1939 restored a measure of prosperity to the American farmer (Fletcher 1971: 375-376).

#### **f. 1940-1960 Suburbanization and Early Ex-urbanization**

After World War II Brandywine Hundred experienced significant development as a suburban community for Wilmington. Brandywine Hundred includes the communities of Arden, Bellefonte, Claymont, Edgemoor and Talleyville. Many of these communities were established prior to WWII, but expanded in the post-war era. The post WWII era suburban development contributed to the increase in New Castle County growth from a population of 218,879 in 1950 to 307,446 by 1960.

North Wilmington, formerly part of Brandywine Hundred, during the mid to late twentieth century became home to a number of important businesses and community resources, including various DuPont interests, AstraZeneca, A.I. DuPont Hospital, Widener School of Law, and Alapocas Woods Park. Industrial operations were established at Edgemoor which included chemicals and steel manufacturing. Major transportation projects, including Interstate 95 and Interstate 495, improved commerce and encouraged development of suburban communities surrounding Wilmington. I-95 served to connect Baltimore and Philadelphia. I-495 served as a bypass of Wilmington. Interstates 95 and 495 were planned during the mid 1950s and major construction was completed during the early 1960s. Established routes, including US 202/Concord Pike, Route 13/Philadelphia Pike, witnessed increased commercial development as heavily travelled corridors through the increasingly suburban setting.

Farming at Chestnut Hill ceased during this period and the main house, barn, and outbuildings fell into disrepair. A gas station was built on part of the property adjoining Concord Pike, US Route 202, as part of the commercialization of the area during this time (W. Weldin 2012).

## 2. The Weldin Plantation Site/Chestnut Hill

To assist with understanding the various individuals and events mentioned during the test, *Table 1* a list of ownership and tenants throughout the history of the property. *Table 2* is a time line of Chestnut Hill, noting ownership changes and other events relative to the history of the property, followed with individual sections on the documented history of the property during a particular family's ownership.

**Table 1: Weldin Plantation Site/Chestnut Hill Ownership and Occupancy**

Historic Context	Owner	Ownership Period	Occupant	Occupation Period
Contact, Exploration and Frontier Settlement (1630-1730)	Hans Peterson	1680-1685	unoccupied	-
	Cornelius Empson Family	1685-1722	Cornelius Empson Family or unknown tenants	1685-1722
	Israel Peterson	1722-1745	Israel Peterson	1722-1745
Intensified Occupation (1730-1770)	Israel Peterson	1722-1745	Israel Peterson	1722-1745
	Joseph Mortonson and Regina (Peterson) Mortonson	1745-1771	Joseph Mortonson and Regina (Peterson) Mortonson	1745-1771
Early Industrialization (1770-1830)	Joshua Mortonson	1771-1785	Joshua Mortonson	1771-1785
	John Dickinson	1785-1808	Henry Baast	1786-1794
			William Little	1794-1800
			Daniel Chapman	ca. 1803-ca. 1813
	Albanus C. Logan and Maria (Dickinson) Logan	1808-1862	Daniel Chapman	ca. 1803-ca. 1813
			uncertain	ca. 1813-ca. 1831
Jonathan Peirce			1831-1838	
Industrialization and Early Urbanization (1830-1880)	Jacob R. Weldin	1862-1912	Aaron Peirce	1838-ca. 1849
			John Bradford	1849-1862
			Jacob R. Weldin	1862-1912
Urbanization and Early Suburbanization (1880-1940)	Jacob R. Weldin	1862-1892	Jacob R. Weldin	1862-1912
	J. Atwood Weldin	1892-1914	J. Atwood Weldin	1912-1914
	Weldin family	1914-1934	Weldin family	1914-1942

**Table 2: Weldin Plantation Site/Chestnut Hill Time Line**

<b>Date</b>	<b>Event</b>
<b>1680-1722</b>	<b>Peterson/Empson Family owners</b>
1680	103-acre Chestnut Hill first survey by Ephraim Herman for Hans Petersen
1700	Cornelius Empson (Q1: 598) purchases property
1710	Empson will (B1: 224) property to son Charles (notes a house)
<b>1722/3-1785</b>	<b>Peterson/Mortonson Family owner occupants</b>
1722/3	Ebenezer/Charles Empson sells property to Israel Peterson (Deed G1: 225)
1749	Israel Peterson dies
1749	Peterson heirs to Joseph Mortonson & wf. Regina Peterson (Deed F2: 297-298)
1771	Joseph Mortonson dies, ( L1: 140) son Joshua inherits 103-acre farm
<b>1785-1862</b>	<b>Dickinson/Logan Family owners with tenants</b>
1785	Joshua Mortonson (F2: 294) sells farm to John Dickinson
1796	fire blotter (Ins. Co. of N. America) describes a two-story stone house
1796-1799	William Little, tenant
1798	Direct Tax
1803	Daniel Chapman, tenant
1808	John Dickinson (Will Q1: 298) dies, daughter Maria and husband Albanus C. Logan inherits 103-acre farm
1838	Aaron Pierce, tenant
1849-61	John Bradford, tenant on farm, listed in 1850 agriculture census
1854	Maria Logan dies (Will Y1: 84), farm to son Dr. John D. Logan
<b>1862-1934</b>	<b>Weldin Family owner occupants</b>
1862	Logan heirs sell 193-acre property (Deed P7: 449) to Jacob R. Weldin
1862	Camp Smithers/Camp Bradford established at Weldin's woods
1891	Jacob R. Weldin (6/12/1821-12/24/91) dies
1892	Hannah Talley Weldin (7/25/1816-1/5/1892) dies
1896	J. Atwood Weldin receives "Chestnut Hill" portion of estate (Deed C17: 109)
1918	J. Atwood Weldin (1/31/1855-2/21/1918) dies (Will I1: 233), real estate to son Jacob R. Weldin
1934	Farm conveyed to St. Johns River Development Co. (Deed B39: 104)
1942	Last known date occupied by Weldin family

**a. Chestnut Hill under ownership of the Petersen & Empson families, 1680-1749**

Originally part of the massive proprietary holding called "Rockland Manor," the 103 acre tract called "Chestnut Hill" was first surveyed in 1680 for Hans Peterson. Peterson was resident of the area that became part of Delaware prior to his association with Chestnut Hill. Peterson, a Dutch mercenary and native of Holstein, was a large land owner in what became known as Brandywine Hundred. By 1668 Peterson was co-owner with Anders Mattson of a 207-acre tract,

called Wild Hook or Indian Hook, located at the mouth of Shellpot Creek, and by 1674 he was owner of the entire tract (Craig 1999: 38; New Castle County Deed A-1:: 331-332). At the time of the 1671 census Peterson's household included his wife Anna and three sons, Carl, Peter, and Paul.

In addition to owning a large plantation at the time, Peterson was noted as a grist mill operator. The mill was located at the confluence of Turkey Run and Shellpot Creek, located about two miles southeast of Chestnut Hill. Shellpot Creek evidently received its name from the large quantity of tortoises found there. According to the travel journal of Jasper Danckaerts, he crossed the "Schilpads Kill" in November 1679 and found the miller to be a Swede or Holsteiner who is called "Tapoesie." (Historian Stebbins Craig states that Peterson's nickname was "Patascus" not "Tapoesie.") He was described as a short but friendly man who entertained Danckaerts and his party according to his "circumstances" (Craig 1993: 115). The 78-acre "Shellpot Mill Lands" tract was re-surveyed in 1680 by Ephraim Herman for Peterson and eleven others (Scharf 1888: 905). Peterson eventually became the sole owner of the mill tract.

As noted above, Peterson also had a tract of 103 acres, called Chestnut Hill, surveyed by Ephraim Herman in 1680. It was described as 2 ½ miles behind Skilpot Kill (New Castle Court Records 1: 507). In addition to the deeds Peterson obtained from European sellers, he also obtained a deed from the Native American owners of his land. In May of 1681 Peterson obtained the signatures or marks of nine Lenape for a tract that stretched from the western branch of the Shellpot Creek to the banks of the Brandywine River. The signatures exhausted the Lenape's right to use the land. The sale price was, "twoo halfe anckers of licquor and twoo matscoats" (Dunlap & Weslager 1961). This is the first record of the property that is the Weldin Plantation Site; however, no documentation has been found to indicate that there were any buildings on the property during Peterson's ownership.

A history of Holy Trinity Lutheran Church, in present-day Wilmington, approximately three miles from Chestnut Hill, shows that the Peterson/Piettersson family was among the devoted and prominent members there. Hans Piettersson gave 10 pounds, the second largest amount, toward the building of the church in 1697. The congregation chose him to oversee the construction of the stone church, and he was also one of those who gave days work as a "free will gift to the church building" (Records of Holy Trinity 1890: 44, 46, 62). In 1698 Hans gave over and above the money he had subscribed to the church in the form of rye, malt, and oats (Records of Holy Trinity 1890: 50-51). However, in 1699 he was accused of having "maliciously" taken the church bell. He evidently repented and subsequently conveyed land to the church for a parsonage (Craig 1993: 116). Just prior to his death in 1720, Hans Peterson gave 200 acres of land on Shellpot Creek to his youngest son Israel.

In 1685 Peterson conveyed the 103-acre Chestnut Hill tract to Cornelius Empson as part of 600 acres he sold for 625 pounds. (Peterson owned various tracts of land, including the mill tract noted previously, not all of which were contiguous.) The tax and deed records variously note the size of Chestnut Hill; sometimes it is 103 acres, other times it is 150 acres, or other variations of these numbers. It is not believed Chestnut Hill was actually ever reduced in size over the years, but the acreage listed in the records depended upon the various assessors and the fact that Chestnut Hill's owners held multiple properties. Nevertheless, there appears to have been some



dispute between Peterson and Empson which was apparently resolved in 1700 when Empson purchases the property for 550 pounds (New Castle Deed Book Q1: 598).

The Chestnut Hill portion of Empson's land remained in his hands until 1708/09 when he conveyed the western half, including Chestnut Hill, to his son Ebenezer Empson. The December 1710 will written by Cornelius Empson was witnessed by Charles Springer, Israel Peterson, and Sarah Goodman. (The fact that Israel Peterson witnesses Empson's will indicates that the previous dispute has been resolved.) Cornelius's wife was to have the choice of living on either Chestnut Hill or Horse Hook, and he devised the eastern half of his 400-acre plantation (one half of Chestnut Hill) to his son Charles (New Castle County Will Book B: 224-227). The fact that Cornelius's wife has the choice of living at Chestnut Hill indicates that there was a house on the property by this time. It would likely have been a small one-and-a-half story log house with one or two rooms. This half of Chestnut Hill, the half that contains the Weldin Plantation Site, was sold at sheriff's sale in 1720 to Joseph Wood, who in turn sold it to Ebenezer Empson (New Castle Deed Book X-1: 469-473).

Cornelius Empson was evidently a well-to-do Quaker from Goole Grange, Yorkshire, England, and had settled in the Brandywine region by 1684. He was part of the great influx of English Quakers after William Penn took control of the region in 1683. Between the Swedish censuses in 1671 and 1693, the area of Brandywine Hundred saw an approximate six-fold increase in population from 14 to 84 families, and the number of taxables in New Castle County tripled in that same period (Scharf 1890: 611-612; Craig 1993:). Empson along with Valentine Hollingsworth was among those who settled on the east side of the Brandywine. Hollingsworth received a survey for 986 acres on Shellpot Creek, and in 1687 he gave half an acre of that for a meetinghouse and graveyard. The location became known as Newark Meeting, located about one and a half miles east of Chestnut Hill (Scharf 1888: 710-711).

Empson was elected to the Provincial Assembly in 1685, and he was also elected as a Justice of the Peace (Scharf 1890: 623). Evidently later the Empsons became members of Holy Trinity (Old Swedes) Lutheran Church for Ebenezer was buried by the minister of the church December 18, 1726, and his widow Susanna was buried the following January 2, 1727 (Records of Holy Trinity 1890: 300). The records of Holy Trinity indicate that many of the English settlers married into Swedish families and became members of Holy Trinity. No documentation has been found that Empson ever lived at Chestnut Hill.

In 1722/23 Ebenezer Empson traded the Chestnut Hill tract for a 200-acre tract on Skilpot Creek to Israel Peterson (New Castle Deed Book G-1: 225-226, 245). Even though the Chestnut Hill property was about 100 acres less than the "old mill land" on Skilpot Creek, it must have been considered as of equal value. Israel Peterson may have been the first owner/occupant of the farm at Chestnut Hill. (Although Ebenezer's mother had the choice of living at Chestnut Hill, it is unknown whether she actually lived there or at Horse Hook. As noted above, the house at Chestnut Hill would likely have been a small, one-and-a-half story log house. The two-story stone house, the focus of the data recovery excavations, was not yet constructed at this time.) The assumption that Israel may have been the first owner/occupant is based upon the fact that although Israel had additional holdings, these were small and would not have provided much support or income. As a yeoman farmer, Israel would have likely taken his crops to the mills

near Brandywine Ferry. The Concord Pike was the principal road from Wilmington to Chester County, Pennsylvania, and one of the main roads from the Delaware River to the Brandywine was the highway leading from Shellpot Creek to the Concord Pike (Scharf 1888: 904).

The Holy Trinity Lutheran Church records also show that Israel Peterson and his wife Margaretta had ten children baptized there from 1714 through 1734. In 1724 Israel paid five pounds for a pew room for himself and wife at Holy Trinity. In that same year, Israel presented as a free gift to the church a pair of brass candlesticks (Burr 1890: 284-285). Israel is one of those who signed the 1729 letter to Bishop Swedberg that Rev. Samuel Hesselius is a good pastor and that his reputation has been maligned (Records of Holy Trinity 1890: 328-329). That same year Israel was one of two men chosen unanimously as church wardens (Records of Holy Trinity 1890: 310).

Chestnut Hill remained under Israel Peterson's ownership until his death in 1749 (Craig 2003). Israel died intestate leaving two children Ann and Jonas under the age of 21. In that same year five of Israel's heirs sold the Chestnut Hill tract to their sister Regina Peterson and her husband Joseph Morton/Mortonson (New Castle County Deed F 2: 297-298).

#### **b. Chestnut Hill under the Mortonson family tenure 1749-1785**

Although five of Regina Mortonson's siblings had deeded Chestnut Hill to the the Mortonsons in 1749 (NC Deed Book F2: 297-298), it wasn't until 1755 that the youngest brother Jonas sold his share to them. Apparently, Mortonson's primary occupation was a tavern or innkeeper as he operated the nearby Blue Ball Tavern as early as 1755 (*Figure 17*). The tavern was well sited at the intersection of Foulk Road and the road to Brandywine Ferry. Evidently, the Mortonsons were also members of Holy Trinity Lutheran Church for their oldest children were baptized there beginning in 1745 (Records of Holy Trinity 1890: 395, 408). Since two of Israel Peterson's heirs were under 21 years at his death in 1749, it is possible that the Peterson heirs continued to live on and farm the Chestnut Hill farm, likely in the small log house previously mentioned.

Joseph Mortonson wrote his will in March 1771 and died soon thereafter. His wife was to have the "present dwelling house" with three acres of land "to be laid in some convenient manner." The "present dwelling house" is thought to refer to the Blue Ball Tavern as it is known that Regina continued to operate the tavern after her husband's death. In addition, his son Joseph was to have "all the said house and lot of three acres with 27 acres to be laid of as adjoining." Furthermore, his son Joshua was bequeathed "all the residue and remainder of real estate" (NC Will Book L1: 140). However, according to cemetery files at the Delaware Public Archives, Joseph Mortonson, Jr., apparently died five days previous to his father in March 1771, and consequently, Joshua inherited all of his father's property. A statement, dated February 20, 1787, attached to the Mortonson estate by William Forwood of Brandywine Hundred, noted that "Mortonson lived on the west side of Concord Pike and in which his widow Regina Mortonson now dwells." This confirms that Regina remained as tavern keeper of Blue Ball.

In all likelihood Joshua Mortonson lived at Chestnut Hill during the years between when he inherited the farm in 1771 and when he sold it in 1785. John Dickinson's papers note that the two-story house was formerly occupied by Joshua Mortonson. This indicates that this is the

same two-story stone house noted on the property in the 1799 tax record. (Other Brandywine Hundred tax records of the 1780s and 1790s do not note the type of buildings or the material for structures on Chestnut Hill.) As will be discussed further, the 43 x 19 foot dimensions of the house given in the 1799 record match the dimensions of the foundation walls of the original main block at Chestnut Hill. The main block at that time consisted of a hall and parlor type plan with an attached kitchen. This is likely the house mentioned in Joseph Mortonson Senior's 1771 will that was to go to Joseph Junior. However, as stated above, Joseph Junior died five days prior to his father. Consequently, Joshua inherited the house and land known as Chestnut Hill. Prior to the Mortonson ownership, it is believed Chestnut Hill contained a small, one-and-a-half story log structure.

Joshua Mortonson was a member of Holy Trinity (Old Swedes) Lutheran Church, and in 1773 contributed three pounds toward the erection of a gallery to the church (Records of Holy Trinity 1890: 504). In 1781 Joshua was elected a church wardman, and in 1782 was elected a vestryman (Records of Holy Trinity 1890: 511, 513). In 1785 he resigned his positions, likely because he had moved to Philadelphia (Records of Holy Trinity 1890: 516). When Mortonson and his wife Anne deeded Chestnut Hill to John Dickinson in 1785, they were listed as residents of Northern Liberties in Philadelphia. Mortonson was noted as a shallopman (NC Deed Book F2: 294). A shallopman operated a shallop, which is the Dutch term for a sloop, a single-masted, fore-and-aft-rigged, sailing boat. As noted earlier, shallops were used to haul farm goods and other products from wharves or loading docks along the Delaware and its tributaries to ports of relative short distance, such as Philadelphia.

### **c. Chestnut Hill under the ownership of John Dickinson, 1785-1808**

Dickinson never lived at Chestnut Hill, but he had residences in both Philadelphia and Wilmington. Dickinson died February 14, 1808 in Wilmington. John Dickinson was born November 8, 1732 in Talbot County, Maryland, a son of Samuel Dickinson and his wife Mary Cadwalder. Samuel Dickinson became a wealthy tobacco farmer with thousands of acres of land in Maryland and Delaware. His son, John Dickinson, who earned his law degree in England, became a leader in the American Revolution. In response to the British Townshend Acts, he wrote a series of tracts titled, "Letters from a Farmer in Pennsylvania," an examination of the tax policies of the British Empire which spurred the resistance movement against these taxes. By protesting against arbitrary British measures, he became America's first native political hero. Described as a moderate or conservative revolutionary, Dickinson began his political career by being elected to the Assembly of the Lower Counties (Delaware) in 1759 (Flower 1983: viii). Dickinson served in the Second Continental Congress, and in 1782, he was elected President of Pennsylvania (Klein & Hoogenboom 1986: 84, 88, 107, 250).

In private business life, John Dickinson had a long interest in agriculture, and he made a point of carefully supervising all of his land holdings. For example, he signed an agreement in 1781 to lease a farm in Kent County for six years, in return for annual payments to be made in crops and livestock. Most often crops being shared meant a combination of wheat and corn, but landlords such as Dickinson also took a share of the wool, butter, honey, and hay that the tenant produced. Dickinson's tenants had to transport their crops to market either in Wilmington or Philadelphia. Their rent was not considered paid without a confirmation of delivery. Dickinson also limited

the acreage his tenants could crop in a year and required them to plow and plant their fields in some form of rotation (Sheppard 2009: 144, 147-148). The high standards set by Dickinson meant that his tenants not only had to maintain high animal and crop production, but that they also had to be keenly aware of market trends in order to assure them that they were growing the highest valued market crop at that particular time.

By the late eighteenth century trees were becoming scarce on the Delaware landscape. As a result, Dickinson required that all the building repairs on his properties and any fence building be completed with timber from dead trees. Types or styles of fencing and ditching efforts to better utilize marsh land were two components of agricultural reform that Dickinson carried out. Dickinson retained detailed records of his farms which included the repair and construction of buildings on those properties (Sheppard 2009: 151).

John Dickinson acquired Chestnut Hill in 1785 but never lived on the tract; instead he rented the property to tenants. The 1786 tax for Brandywine Hundred shows John Dickinson's Chestnut Hill estate valued at 20 pounds, and by 1789 it is assessed at 22 pounds. The 1798 tax shows John Dickinson, Esquire, with 282 acres valued at \$1128.00. The 282 acres includes both the Chestnut Hill and Blue Ball tavern properties. The tax and deed records variously note the size of the Chestnut Hill farm; sometimes it is 103 acres, other times it is 150 acres, or other variations of these numbers. It is not believed Chestnut Hill was actually ever reduced in size over the years, but the acreage more likely depended upon the various assessors and the fact that the Chestnut Hill's owners held multiple properties. His tenant that year, William Little, has personal property valued at \$412.00. (Unfortunately, William Little does not appear as a head of household in either the 1790 or 1800 census for Brandywine Hundred which prevents us knowing his age and the number and sex of his household.)

Insight into the buildings on Chestnut Hill at this time is provided by the insurance policies Dickinson held on the property. His policies were with the Insurance Company of North America with headquarters in Philadelphia. A fire-blotter record from 1796 indicates that there was a two-story stone house, insured for \$1000, located on the east side of Concord Road, occupied at that time by tenant, William Little (Taylor et al 1989: 206). Additional information is gained on Dickinson's properties through a list titled, "John Dickinson's List of Property in 1799 for Taxation According to Acts of U.S. Congress." This list shows three parcels of Dickinson's lands leased to William Little. Two of the parcels, one of 23 acres, and one of 7 acres are for meadow land in Cherry Island. The third tract of about 200 acres, through which Concord Road runs, was largely tenanted by Little, but the remainder was under the tenure of Lancelot Law Smith. The two-story stone dwelling house of Little measured 43 feet by 19 feet. The house had 14 windows of various dimensions. The 43 x 19 foot dimensions match the dimensions of the foundation walls of the original main block at Chestnut Hill. The main block at that time consisted of a hall and parlor type plan with an attached kitchen. The remaining buildings on the property consisted of a stone granary, 16 feet square; a log and frame barn and cow house, 80 feet by 20 feet; and a hay house in ruin.

The two-story, log and stone house of Lancelot Law Smith was also noted. The stone section measured 24 feet by 13 feet, and the log section 20.6 feet by 24 feet. This house appears to have been on the Chestnut Hill farm as well, and it may have been on or near the location of a later

frame tenant house, known to have been on the property during the Jacob R. Weldin ownership. This section of the parcel also contained a stone stable measuring 25 feet by 14 feet. There was also on the 200-acre tract “a ruinous log house” 22 feet by 18 feet, “inhabited by poor persons who pay no rent.” It is unknown where this last log house may have stood.

The 1804 tax for Brandywine Hundred shows John Dickinson with five tracts there. The first tract of 157 acres with 87 acres improved has a house of part log and part stone, a stone stable, and a horse shed. The second tract contains 145 acres, of which 140 acres, are improved. This tract appears to be the Chestnut Hill tract and contains a stone house, a log barn, and a stone granary. The third tract of 75 acres only contains an old log house, and the fourth tract, likely the Cherry Island marsh tract, has 30 acres with no buildings. The fifth tract contains 485 acres with 300 acres improved, a brick house, an old log barn, and a stone tenement. Daniel Chapman, one of Dickinson’s tenants, was assessed that year with three horses, one of which was a year old; 23 cows of which four were a year old; 16 spring calves; and four pigs of 100 weight.

Farm tenancy allowed landowners such as Dickinson to acquire multiple parcels of farm land and obtain income from it by leasing properties to individual tenants such as William Little. Good landlords would invest in buildings geared to support commercial levels of production and that would attract responsible tenants. Both landlords and tenants sought to produce high crop yields, and their further involvement in the commercial agricultural market led to their greater awareness about the types of crops that would generate the highest profits (Sheppard 2009: 230).

#### **d. Chestnut Hill under the ownership of Albanus C. and Maria Logan, 1808-1861**

Upon the death of John Dickinson in 1808, the 103-acre Chestnut Hill farm becomes the property of his daughter Maria Dickinson and her husband, Albanus C. Logan. (Maria Dickinson, born in 1785, was a granddaughter of Sarah Logan and her husband Isaac Norris.) Albanus Charles Logan was born at the family home, Stenton, near Philadelphia in 1785, the son of George Logan and his wife Deborah Norris. A medical doctor, George Logan devoted himself to agriculture and the improvement of Stenton, the Logan family home. Albanus C. also was a physician and succeeded his father as Trustee of the Loganian Library. Albanus and Maria Logan resided at Stenton where their five children were born (Jordon 1911: 33). Their son John Dickinson Logan was born in 1817 and became an eminent physician of excellent standing. He was for many years in charge of the Pennsylvania Hospital at Philadelphia (Logan-Home 1934: 220-224).

The 1816 tax for Brandywine Hundred notes two tracts as part of the Logan Estate. The first tract of 183 acres of which 150 acres are improved with what are described as “middling buildings,” and the second tract of 87 acres of which 60 acres are improved, contained a tavern house (Blue Ball Tavern). As noted previously, the tax assessors for the hundred make it difficult to trace a particular property due to the inconsistent acreage given in various years. However, the 183-acre tract with the “middling buildings” would have been Chestnut Hill. The two tracts contained two stone dwellings, one stone barn and one frame barn. A William Little is taxed that year in Brandywine Hundred, but it is unknown if he is one of Logan’s tenants. According to the 1823-24 tax the two tracts are combined as one for a total of 270 acres of which

200 are improved. The tax collector then only noted the property with a “tavern and good improvement.”

It would appear that the Logans operated the Chestnut Hill farm and the Blue Ball Tavern property much as John Dickinson had, carefully searching for good tenants who would not only retain the fertility of the land, but also operate the farms to yield commercial agriculture profits. Therefore, it would not be surprising to find William Little as one of their tenants, or John Bradford, another long-term tenant, later in the nineteenth century, who had good management and production skills.

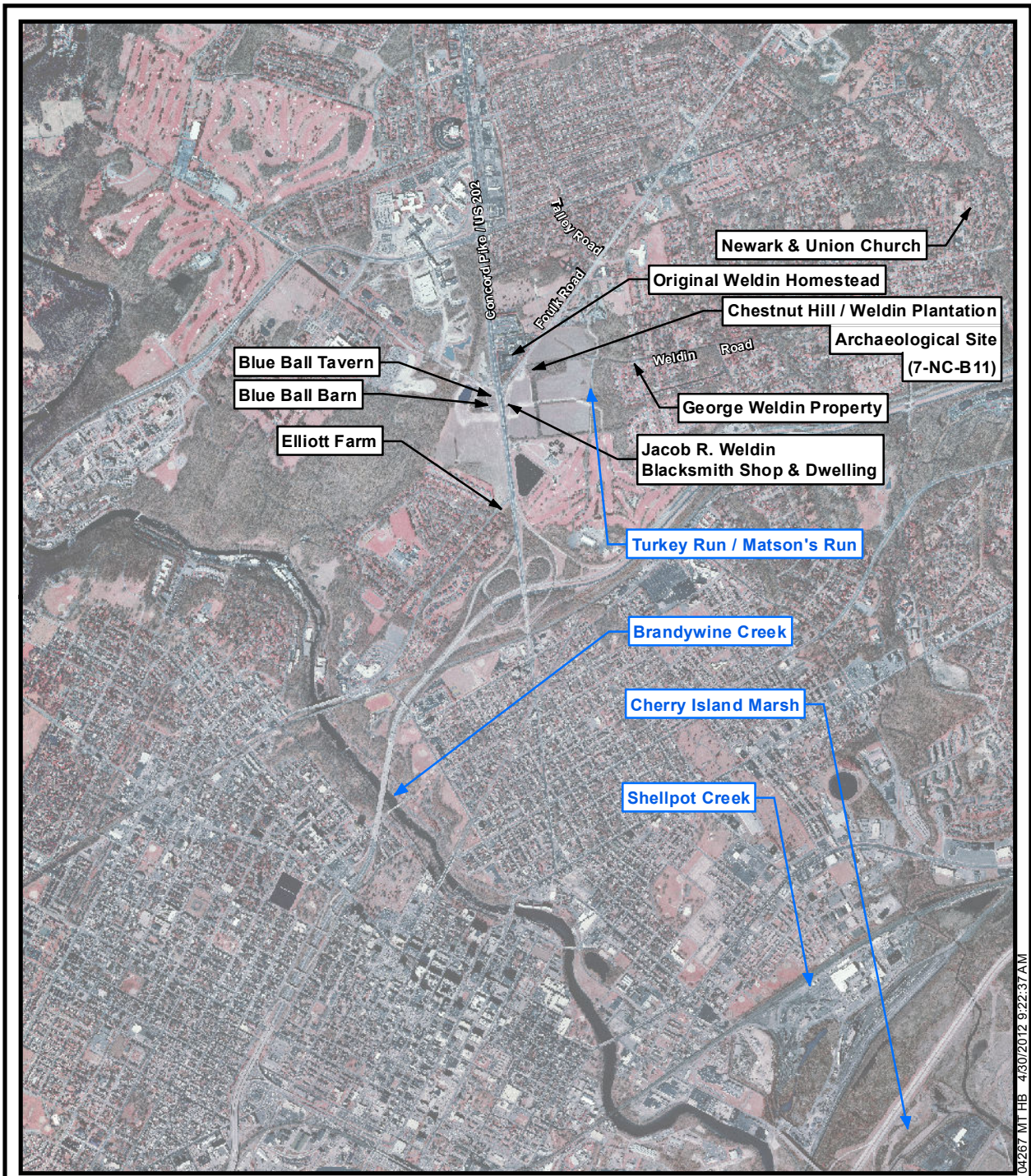
The 1828 tax for Brandywine Hundred lumps all of Logan’s land together as 377 acres containing two houses, one barn, a tenement, a stable, and sheds. The 1837 tax list for the hundred shows the Logan estate with two tracts of 150 acres each. One is the “Stone Tavern” property (Blue Ball) of 150 acres valued at \$4500.00, and the other is the Chestnut Hill property of 150 acres with a stone house and a log barn, also valued at \$4500.00. This confirms the stone house on Chestnut Hill farm which was constructed there in the late eighteenth century. The estate is also taxed with 30 acres of marsh land valued at \$600.00. The 1852 tax list shows that there is now a frame barn on the Chestnut Hill property.

Apparently, Chestnut Hill was tenanted in the 1830s and 1840s by the Pierce family. Jonathan Pierce appears in the Logan account books by 1831, but he dies in 1838. Then Logan secures a contract with Aaron Pierce, evidently Jonathan’s brother (HSP Loudon Papers, Logan Section: Box 43F). Aaron Pierce appears as the head of household in the 1840 population census for Brandywine Hundred. There are nine persons in the household that year, five male and four female. Three persons, likely the three oldest males, are employed in agriculture. Both Albanus C. and his wife Maria died in 1854, but the Chestnut Hill portion of their estate isn’t sold until 1862 (Jordon 1911: 33). Despite extensive research, our researchers were unable to obtain additional information concerning the Pierce family.

#### **e. Chestnut Hill under the Tenancy of John Bradford 1849-1861**

John Bradford and his wife Rebecca were natives of Pennsylvania and had lived briefly in New Jersey before moving to Delaware in about 1840. The tax records for Brandywine Hundred in 1849 show John Bradford with 3 horses, 1 colt, 1 yoke of oxen, 11 cows, and 3 pigs. The 1850 population census notes John, aged 40, and wife Rebecca Bradford, aged 38, had nine children in their household, aged 18 to less than one year. The Bradfords had two sons, John, aged 18, and William, aged 15, who could have assisted in operating a team of oxen or horses. Their household also contained a 12-year old male who also likely assisted in farm labor.

The 1850 agriculture census shows John Bradford with 150 acres of improved land and 8 acres of unimproved land valued at \$6000. Bradford’s farm was about 75 acres larger than the average farm in the hundred, but his unimproved land was much less than the average in the hundred. Bradford’s unimproved land was only 5% of his total compared to 25% which was the average amount of unimproved land for Brandywine Hundred and Little Creek, Kent County, farmers in 1850 (Sheppard 2009: 118). Bradford’s farm value is almost twice the value of his neighbor Jacob R. Weldin’s (*Figure 17*), who was living on the original Weldin homestead and later



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**Natural Features** →

**Historic Properties** ↙

0 1,500 3,000  
Feet

**McCormick Taylor**  
Engineers & Planners  
Since 1946

**Figure 17**  
**Map Depicting Relative Locations of Places Discussed**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware

(Source: Delaware DataMIL, 2002)

purchased the Chestnut Hill property, and his implements were valued at \$400 or twice that of Jacob's. That year Bradford had 3 horses, 15 milk cows, 2 working oxen, 4 other cattle, and 11 swine with a total value of \$925 or over three times the value of Jacob's livestock. Bradford's number of milk cows was almost triple the average for Brandywine Hundred, and his number of swine was about double the average for the hundred. As noted previously, Chestnut Hill was located in the Piedmont within the Brandywine River region and was tied very closely with the Piedmont in southeastern Pennsylvania, rather than central or southern Delaware (*Figure 18*).

The 1849 Price and Rea atlas of Delaware contains the first depiction of the property, labeled "A. Logan" for Albanus, John Dickinson's son-in-law (*Figure 19*).

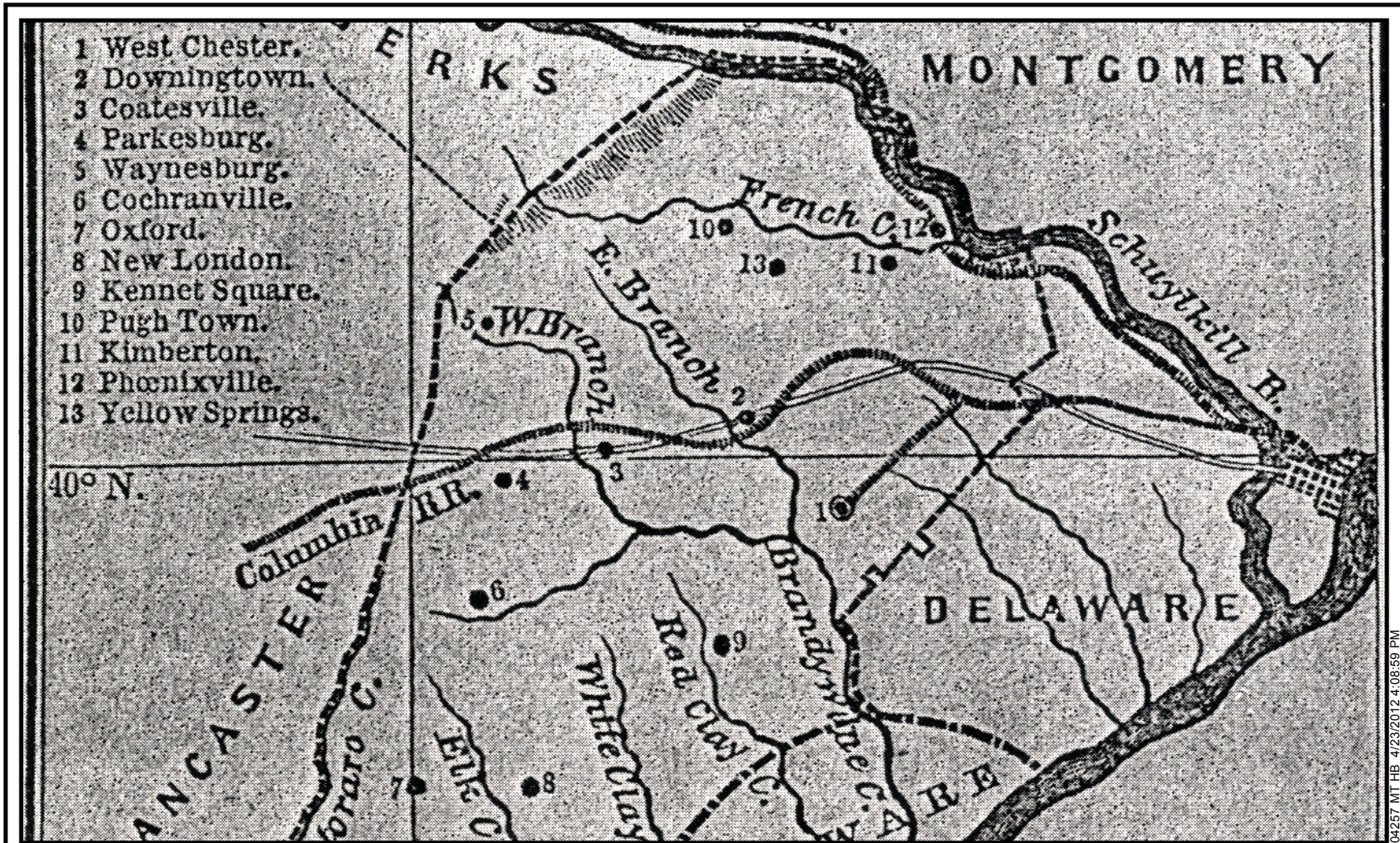
In 1850, John's milk cows produced 2000 pounds of butter. This amount of butter was over 50 times the amount of butter a family of four could consume in a year. Its value was more than \$500, and that dollar figure was roughly half the going price for a farm in southern Delaware at that time (Gretler 1992: 5). The value of animals slaughtered on Bradford's farm was \$50.00. John's crops included wheat, 250 bushels; Indian corn, 300 bushels; oats, 250 bushels; potatoes, 500 bushels; buckwheat, 30 bushels; and clover seed, 10 bushels. Bradford's wheat production was about 50 bushels above the average for the hundred, and his corn production was over a hundred bushels above the average. He also produced vegetables (market garden), including potatoes, peas, and beans valued at \$100. The census clearly shows Bradford's emphasis on dairying but also that he was well diversified in his crop production. He also evidently conveyed some of his vegetables to one of the farmer's markets in nearby Wilmington.

The 1850 agriculture census shows that John Bradford had a substantial investment in livestock and farming equipment. Not only was his animal and crop production among the highest in Brandywine Hundred, but also the high number of farm animals would have insured a high output of manure. Manure spread over the crop fields was instrumental in maintaining the farm's fertility. Landlords sought prospective tenants not only on the basis of their owning the means of production (livestock and machinery) but also on their past performance as generators of agricultural products (animal and crop) as well as the by-product of manure (Sheppard 2009: 149, 160, 162).

It has been stated that to profit from dairying, farmers had to raise the proper feed crops which meant an investment in land, machinery, and labor. If the family didn't have sufficient labor within its members, outside help had to be sought. Most farmers in the Wilmington area kept a herd of more than five dairy cows which produced more than 350 pounds of butter in 1849 (De Cunzo 2004: 127). The census information indicates that John Bradford produced about three times the average amount for the area. Until 1880, the farmers of the Piedmont area of New Castle County maintained the state's largest dairy herds.

Dairying was a capital intensive venture, but it met the demands of the region's growing cities, in particular Philadelphia and Wilmington. In addition, the dairy industry provided a ready source of cash for farmers who had few alternatives at that time (De Cunzo 2004: 127). An advertisement for the farm sale of Thomas Talley in nearby Kennett Township, Chester County, Pennsylvania, illustrates what utensils were required for a large dairy operation of the period. The dairy utensils at this sale consisted of 14 large milk cans, holding from 35 to 40 quarts each;





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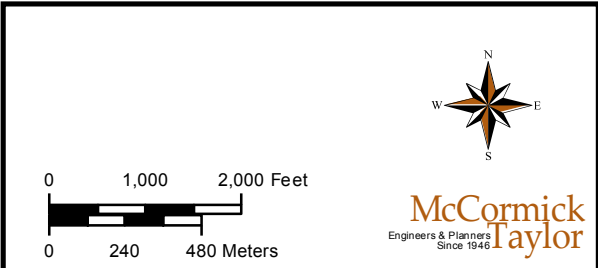
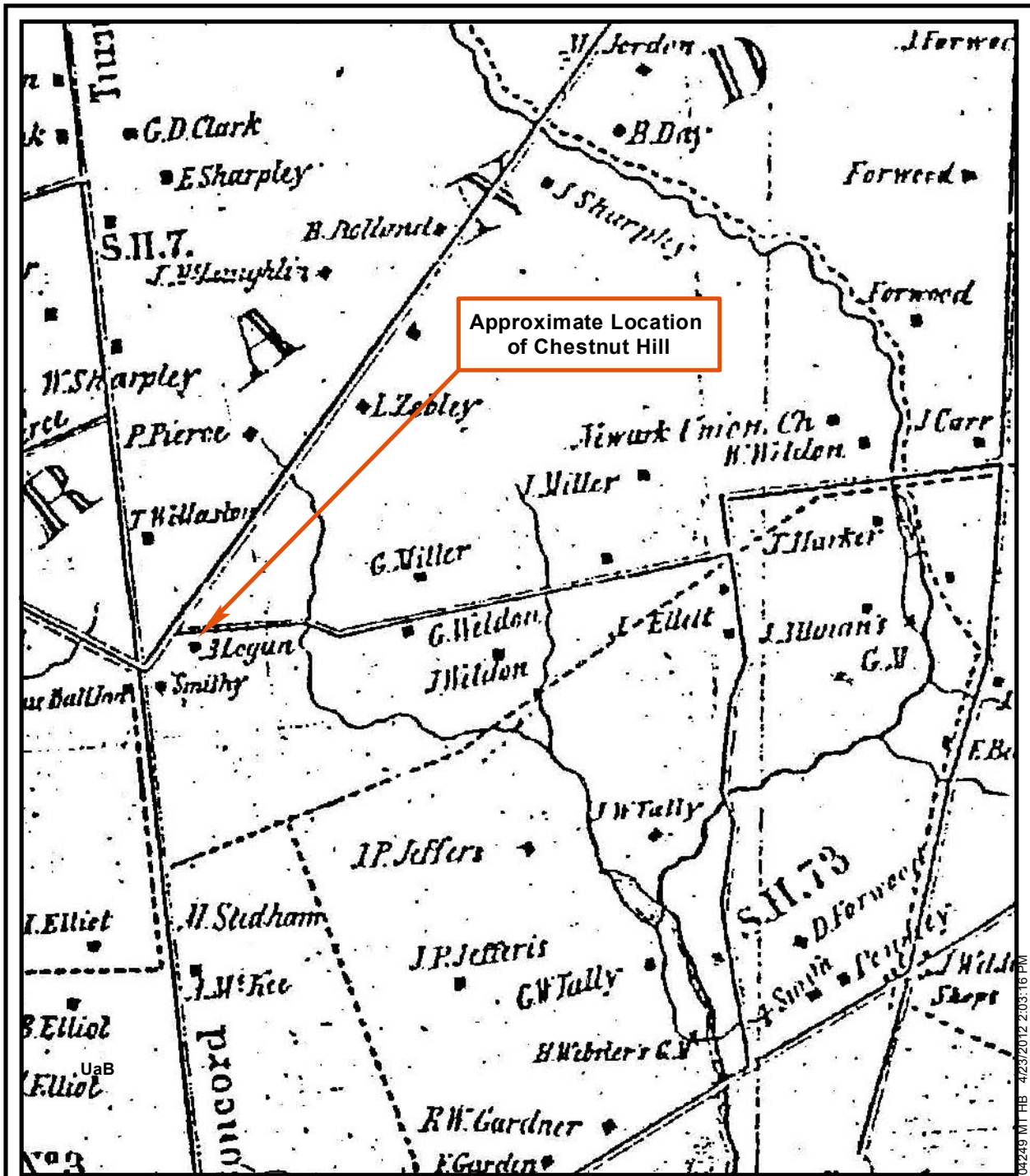


Not to scale

**McCormick  
 Taylor**  
 Engineers & Planners  
 Since 1946

**Figure 18**  
**Map of Brandywine Region in 1842**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation Improvement Project  
 Brandywine Hundred, New Castle County, Delaware

(Source: Baldwin, 1977)



**Figure 19**  
 Approximate Location of Chestnut Hill in 1849  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware  
 (Source: Price and Rea, 1849)

3 cream cans, holding from 12 to 16 quarts each; a large butter tub, holding about 100 pounds, and a small butter tub, holding about 30 pounds; a churn and stand; 3 dozen milk pans, nearly new; and 3 milk buckets (*The Delaware Republican*, February 20, 1862).

The 1857 tax for Brandywine Hundred shows John Bradford as a farmer with stock valued at \$880.00. His taxes place him in the top 10% of the hundred. The 1860 population census for Brandywine Hundred notes Bradford, aged 51, as a farmer with personal estate valued at \$2500.00. In addition to his wife and six children, there is a female domestic servant and two farm laborers. The female domestic servant along with wife and seventeen-year old daughter would have provided the work force necessary to run a good sized dairy. His estate value and the fact that he has hired help indicates that he was successful as a farm tenant. Bradford does not appear on the 1860 agriculture census for Brandywine Hundred, and his name is crossed out for the 1861 tax indicating that he has moved to another location.

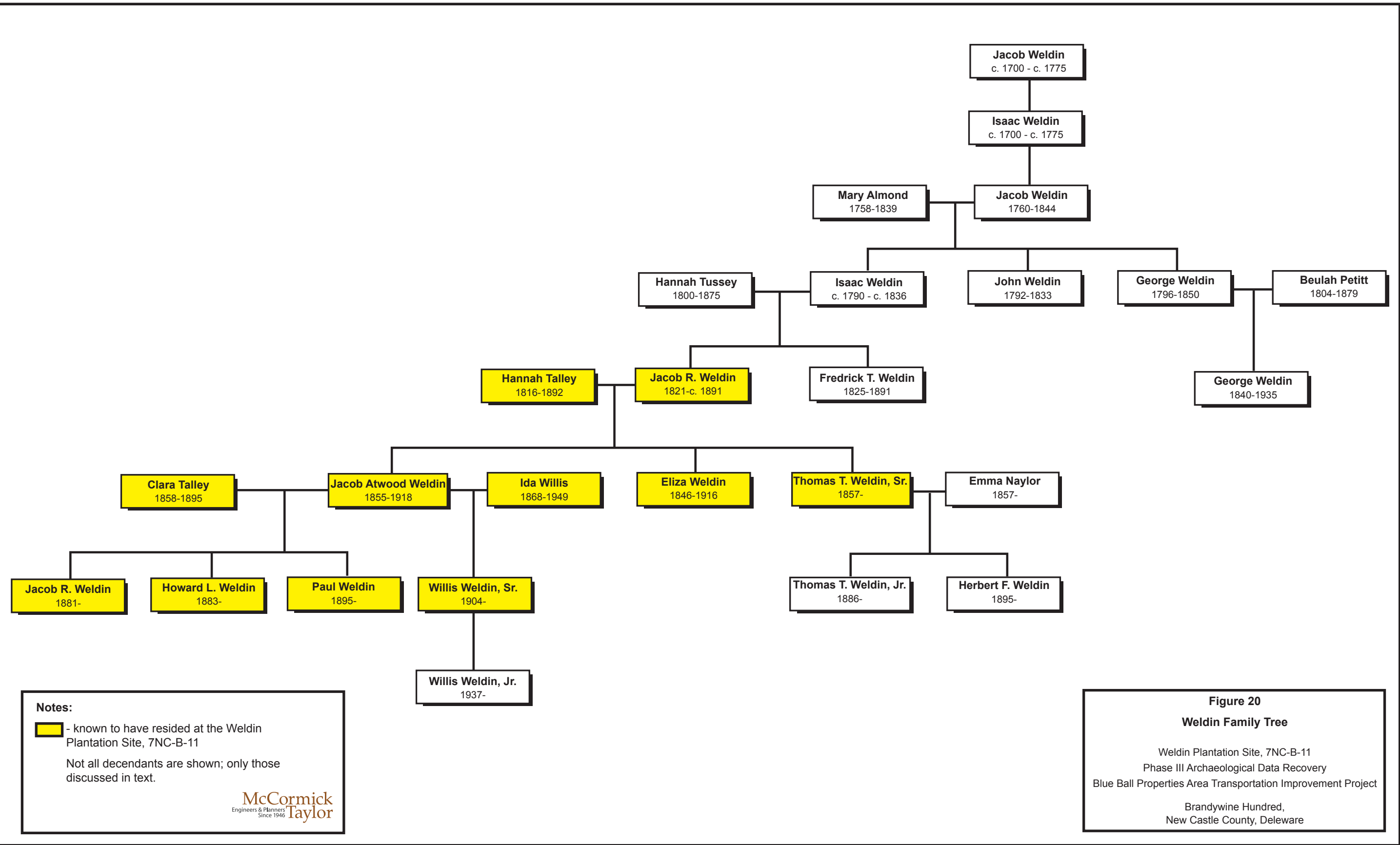
A study of Delaware's agricultural landscape shows that both landlords and tenants possessed a degree of power as each strove to maximize their production and profit. Landlords valued tenants who cared for and nurtured the land's productive qualities, and tenants sought the most productive land such that they could pay their rent and make a reasonable profit. Leasing land allowed the tenant farmer to invest more of his profit in the means of production, such as livestock or farm implements, that would provide the opportunity for greater yields in crops and animals (Sheppard 2009: 139). Evidently, John Bradford was doing quite well on the Chestnut Hill farm, and his only motivation for moving in 1861 was because the landlord had plans to sell the farm.

#### **f. History of the Original Weldin Homestead, adjoining Chestnut Hill**

In 1862 Jacob R. Weldin purchased the Chestnut Hill Farm, known in the late twentieth century as the Weldin Plantation Site, from the Mary Dickinson Logan estate. However, Jacob R. and previous generations of the Weldin family were longtime resident farmers of this section of Brandywine Hundred. Prior to his purchase of the Chestnut Hill farm, Jacob would have been considered a small to middling size farmer. The following is a history of the Weldin family's occupation of the land immediately adjoining the Weldin Plantation site to the north, on the other side of Weldin Road (*Figure 17*). The land which Jacob R. Weldin inherited was just one section of the original Weldin tract. Additional segments of the original Weldin tract extended to the east of Chestnut Hill. This history provides some additional context on how one family worked its way into the burgeoning commercial agriculture of northern Delaware.

A Weldin family tree has been created (*Figure 20*) which contains Weldin family members who are discussed in the text. Not all of the Weldin descendants are shown on the figure due to space constraints, but the tree is helpful in demonstrating the relationships of those who lived on the property.

Jacob R. Weldin was born June 12, 1821 on a section of the original Weldin family homestead in Brandywine Hundred, New Castle County, the eldest son of Isaac Weldin and his wife Hannah Tussey. His father, Isaac Weldin was born October 17, 1790 in Brandywine Hundred, a son of Jacob and Mary (Almond) Weldin. Isaac was a carpenter by trade, and the contents of a



**Notes:**  
 [Yellow Box] - known to have resided at the Weldin Plantation Site, 7NC-B-11  
 Not all decendants are shown; only those discussed in text.

**McCormick Taylor**  
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**Figure 20**  
**Weldin Family Tree**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation Improvement Project  
 Brandywine Hundred,  
 New Castle County, Delaware

cabinetmaker's shop was listed among the inventory of his estate. However, a later history notes that Isaac acquired land near the Blue Ball Hotel and devoted the remainder of his life to farming and stock raising (Biographical 1899: 501). Isaac died May 23, 1836, prior to the death of his father, and is buried in Newark Union Cemetery.

Jacob's grandfather Jacob was born December 14, 1760 and died November 26, 1844 on part of the original Weldin family homestead. The elder Jacob was a son of Isaac Weldin who also lived on the original homestead. (Photograph 11: At right is the modest marble tombstone for Jacob Weldin (1760-1844) in the family plot in Newark Union Cemetery.) Isaac died there in 1788, and Jacob acted as his executor. Isaac Weldin, husbandman, of Brandywine Hundred wrote his will September 5, 1788 and bequeathed to his son Jacob "all my present Dwelling House & plantation (Subject to my wife her thirds in the same during her natural life) it being situate & lying in the Hundred & County aforesaid & bounded by lands of Nicholas Moore, John Dickinson, Esq. (Chestnut Hill), Joseph Jackson, and Andrew Gibson and supposed to contain one hundred and twenty acres" (Isaac Weldin Will, 1788).

Isaac's inventory was taken October 11, 1788 and indicates that he was a prosperous farmer with a personal estate valued at 212 pounds, excluding his real estate and buildings. He had flax, 83 bushels of corn, 7 ½ bushels of wheat, and hay in his three bay barn. He also had a variety of farm animals including: a grey mare, a young mare, a yoke of oxen, five cows of various descriptions, a yearling heifer, a heifer calf, a pair of young steers, 14 sheep, eleven swine, two sows, and six pigs. His variety of animals indicates a well diversified farm that not only had milk cows to produce butter but also steers that could be slaughtered either on the farm or at market for their beef. In addition, the sheep would produce wool as well as meat, and the swine could provide meat for home consumption or could be sold at market.

Another indication of Isaac's wealth is his household items which included a clock, "a box of money weights & scales," a case of drawers, two walnut chairs, a pine table & table cloth, four pewter dishes, two pewter basons, thirteen pewter plates, "sundrys of stone & queensware plates & bowls," and "all the tea equipage in the cupboard." Except for poplar and walnut, tables made of pine were more common in the 1780s, than later in the 18<sup>th</sup> century and the early 19<sup>th</sup> century (Schiffer 1974: 277-278, 281). The stoneware, queensware, and tea equipage suggests that the Weldin family was keeping pace with current middle class fashion. Isaac's larder included, casks with salt, two casks of herring, and a tub with shad. This may not only indicate the family's proximity to the Delaware River, but also that they also were plying the river for a portion of their food.

The inventory notes, "two candlesticks, decanter & sundrys on the shelf." These items were typically found on the fireplace mantle. A study of Chester County, Pennsylvania, inventories found that mantelpiece items were mentioned more often in the period after 1750 (Schiffer 1974: 176).

Isaac lived on or near the family homestead and was early associated with the New Wark, sometimes referred to as the New Ark, Society of Friends, located approximately one and a half miles east of Chestnut Hill. However, records of some his children are recorded in Holy Trinity (Old Swedes) Church (Weldin 1939: 12). A group of Friends in Brandywine Hundred were

given permission to build a meeting house in 1685 (Zebley 1947: 112). Accordingly, the New Wark meeting house was constructed of logs in 1687. It was named after Valentine Hollingsworth's property because he had donated land for the meetinghouse. Weekly meetings of the Friends were held there until 1754. Evidently, the location was changed about 1760, and the name was changed to Kennett Meeting.

In the early to mid nineteenth century there was a movement by residents of central Brandywine Hundred to restore New Ark. (By the nineteenth century the name was changed to one word, "Newark.") In 1845 a stone wall was erected around the burying ground and a Union meeting house was built adjoining the cemetery. Among those active in raising money for the work was George W. Weldin (1796-1850), uncle to Jacob R. Weldin (Scharf 1888: 910-911). The church was constructed by Lewes Zebley and John Sharpley on a bid of \$800.00 (Zebley 1947: 112). The 1850 Map of the State of Delaware shows the "Newark & Union Church" located northeast of Chestnut Hill off of Weldin Road (*Figure 17*).

The 1797 tax for Brandywine Hundred notes the second Jacob Weldin with 105 acres of which 65 acres were cleared and 40 acres were unimproved. This was part of the original Weldin homestead. He was also assessed that year with a log house and barn. Jacob Weldin was a prominent resident of Brandywine Hundred, and there was a stone in the front gable of the Shellpot public school inscribed simply, "Jacob Weldin." Jacob resided on a section of the original tract of land located on Turkey Run that was purchased by his grandfather Jacob in 1722 from Thomas Hollingsworth (Weldin 1939: 5, 15).

The grandfather's lengthy will, written June 7, 1836, provided for the care of his wife Mary on part of the original Weldin homestead. Among other things, she was to have two rooms "in the House where I now live," one upstairs and one downstairs, her choice. She was also to have half the garden, free use of the well of water, all of the cellar, and the spring house.

Jacob's will describes in detail how his real estate was to be divided. (Although the will reads as if the land remains to be divided, tax records indicate Jacob's land has already been divided, with each of the three sections having their own buildings.) His son George was to receive a tract of 36 acres bound by Weldin Road, Albanus C. Logan, and the land to be given to grandson Jacob R. Weldin. Another tract of 36 acres was devised to Hannah Weldin in trust for her son Jacob R. Weldin until he arrived at age 21 years. In addition, Jacob devised another three sections of the homestead farm of unspecified acreage to his son George and grandsons Jacob R. and Frederick T. Weldin respectively. His son George and grandsons were also given his "lot of Marsh containing 5 acres in Cherry Island." Lastly, Jacob's one half ownership of an additional 53-acre farm in Brandywine Hundred was devised to George, Jacob R. and Frederick T. Weldin (Jacob Weldin Will, 1844).

Jacob also bequeathed to his daughter-in-law Hannah her choice of half the house where she currently lived, "from the cellar to the garret." Further information regarding the use of the house is provided by the inventory of Hannah's husband, Isaac Weldin, which was taken June 13, 1836. That inventory is only for two rooms on the first floor (southeast and northwest rooms) and one room (northwest room) on the second floor. This may indicate that the inventory was only for the half of the house not taken by the widow or it may indicate that the house was a

hall and parlor plan house. Isaac died May 23, 1836 leaving children Jacob R. and Frederick T. Weldin. Isaac's widow Hannah was remarried to Jacob Zebley on September 8, 1842. Hannah and her husband Jacob Zebley quit claimed their right to the land bequeathed to Jacob R. Weldin by a deed dated March 24, 1862 (NC Deed Book P7: 448). Hannah Weldin Zebley died April 14, 1875 (Cheyney 1943: 12).

The 1828 tax records for Brandywine Hundred indicate that Jacob's land was already divided at that time. Jacob himself is assessed with 43 acres, a log house, and a stone barn. His sons Isaac and George are each assessed with 33 acres and a stone house. By the time of the 1832-34 tax assessment additional improvements have been made to their properties. Jacob continues to be assessed with 32 acres, 9 acres marsh land, a log house and a stone barn. However, now his son George is assessed with 30 acres, a stone house, and a stone barn, and his daughter-in-law Hannah is also taxed with 30 acres, a stone house, and a stone barn. The probate records along with tax records illustrate that by the 1830s the 120-acre Weldin homestead was well developed with three separate sets of farm buildings including a complement of outbuildings.

During the eighteenth and early nineteenth centuries, the farm household was the center of production where everyone worked together to maintain the family. There was an exchange of labor and goods among neighbors to supply any missing necessities. This created a close interdependence and a high degree of local self-sufficiency. When people traded or sold surpluses, it was for a particular need, not necessarily to accumulate capital (McMurry 1988: 57).

Upon his 21<sup>st</sup> birthday in 1842 Jacob would inherit a portion of the original Weldin family homestead, or approximately 40 acres. He supplemented his farm profits by shad fishing on the Delaware River. The 1836 inventory of his father Isaac noted a "batteau, sail & old net." This indicates that his father too may have supplemented his income by fishing on the Delaware. In 1845 Jacob married Hannah Talley, a daughter of Thomas Talley and his wife Mary Weldin. Hannah was born July 25, 1816, and she was instrumental in marketing the fish which Jacob caught. After some time had passed, profits from the small farm and from fishing accumulated to a point whereby Jacob and Hannah could loan out their money to others (Talley 1899: 66, 177; Biographical 1899: 501).

The connection that the Weldins had with the Delaware River is important because it enabled them to be part of the "water network" that connected them with the rest of the Delaware Valley and its continual social and cultural exchange (Lanier 2005: 116). An 1862 deed lists Jacob's brother Frederick as a ship's carpenter. A biography of Jacob notes that he was always fond of the sea, "having sailed in his youth in the coasting trade from Boston to Southern ports" (Talley 1899: 178). In later life he never lost his attachment for the ocean and made annual visits to the shore to enjoy the old sights.

The 1849 tax for Brandywine Hundred shows Jacob with the following livestock, 3 horses, 1 colt, 4 cows, 3 heifers, 4 shoats, and 1 sheep. The 1850 population census shows Jacob and Hannah with two small children, Eliza aged 4 and Isaac aged 1.

The 1850 agriculture census lists Jacob Weldin with 40 acres of improved land and 20 acres of unimproved land. The 60-acre farm was about 20% below the hundred's average of 75 acres.

Part of the unimproved land was likely a wood lot. Jacob's mother was directed by the will of her late husband's father, "the timber she is to take care of, and not suffer it to be wasted while under her care" (Jacob Weldin Will, 1844). In his study of southern Delaware, Bernard Herman found that the process of clearing land was not always seen as an improvement in the value of the property. The loss of timber meant the depletion of the land's intrinsic worth (Herman 1992: 93). Jacob's marsh land acreage may also have been considered unimproved. Jacob's farm was valued at \$3500, and his implements were valued at \$200. Jacob that year was noted with 3 horses, 4 milk cows, 5 other cattle, and 5 swine with a total value of \$305. Jacob's land on the original Weldin homestead also produced 150 bushels of wheat and 150 bushels of corn that year. Despite the below average farm size Jacob's livestock numbers and crop production numbers were average or just above average.

As noted previously, Jacob's neighbor, John Bradford, was renting the Chestnut Hill Farm. This 150-acre farm was valued at \$6000, almost twice the value of Jacob's, and Bradford's implements were valued at \$400 or twice that of Jacob's. That year Bradford had 3 horses, 15 milk cows, 2 working oxen, 4 other cattle, and 11 swine with a total value of \$925 or over three times the value of Jacob's livestock.

Weldin's milk cows produced 400 pounds of butter, while Bradford's cows produced five times that amount or 2000 pounds. Dairying and butter production was a very labor intensive operation, and most often this work fell on the female members of the household. That is why it is important to know that in addition to his wife, John Bradford had three daughters who could have assisted in that work.

The 1856 tax list notes that marsh land was transferred from the David Penney estate to Jacob Weldin. Weldin purchased  $2\frac{3}{4}$  acres of Cherry Island marsh land from the Penny heirs for \$792.18 (NC Deed Book V6: 79). This tract was bound by Marsh Road, Todds Marsh, Edward Besson, Widow Weldin's Marsh, an old canal, and John Forword's Marsh, etc. As stated previously, Jacob inherited a portion of the family's marsh land in Cherry Island from his grandfather Jacob. A biographical sketch of Jacob notes that he was a "Director in the Cherry Island Marsh Company" and that by the time of his death had accumulated 50 acres in Cherry Island (Talley 1899: 178-179).

In her study of Delaware Valley architecture and landscapes, Gabrielle Lanier found that marsh landowners in southwest New Jersey often banded together in local marsh companies in order to pool reclamation costs. She noted that the reclamation of marshes marked one of the most significant and lasting landscape changes in that part of New Jersey. While many marsh land companies on both sides of the Delaware began and flourished in the nineteenth century, an era of widespread agricultural reform, some had been founded earlier. These kind of land improvements were generally characteristic of elite farmers who belonged to agricultural societies, read agricultural literature, and had money to invest in those projects (Lanier 2005: 119, 124-125).

The 1860 population census for Brandywine Hundred notes Jacob R. Weldin, aged 38, with real estate valued at \$8000 and personal estate at \$3500. He and his wife Hannah, aged 43, now had three children: Eliza, aged 14; J. Atwood, aged 5; and Thomas T., aged 2. (Their son Isaac,



listed in the 1850 census, had died November 5, 1853 and another son Lewis, aged two years, died two days later, November 7, 1853. Both were buried in the Newark Union Cemetery.) Others listed in the household were: Simon Bargeley, aged 11, likely a farm laborer, and Eliza Day, aged 15, noted as a domestic.

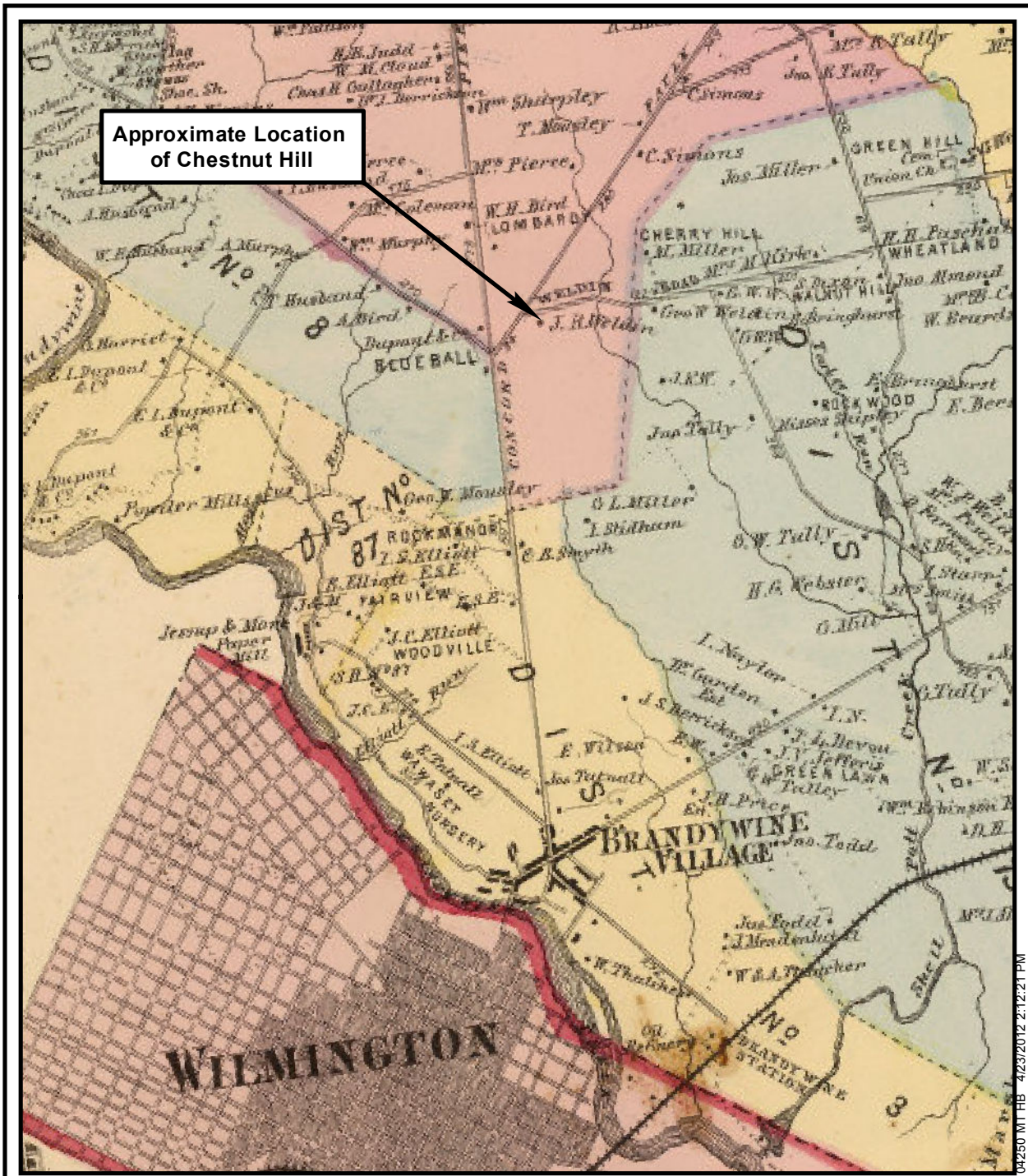
The 1860 agriculture census shows that Jacob R. Weldin's improved acreage at the original Weldin homestead had doubled to 80 acres. His unimproved acreage had dropped to 10 acres, and his farm value had more than doubled to \$9000. Not only had Jacob acquired additional farm land, but he had also had some of his wood land cleared. The value of his implements had increased 34% to \$300. His livestock now numbered 6 horses, 8 milk cows, 2 oxen, 15 other cattle, and 4 swine for a total value of \$1185. This was more than triple the 1850 value of his livestock. While the number of Jacob's cows had doubled from 1850, his butter production more than tripled to 1500 pounds. This large increase in butter production would have allowed Jacob wider profit margins that in turn would allow him the opportunity to expand his dairy operation even further. The value of animals slaughtered on the farm that year was \$80 which represents about 6% of the value of his livestock.

Jacob's crop production in 1860 included, 150 bushels of wheat, 250 bushels of Indian corn, 15 bushels of potatoes, 30 tons of hay, and three pounds of hops. In addition, his bees produced two pounds of bees wax and 15 pounds of honey. The 1860 census shows that Jacob's farming operation continued to be diversified but was increasingly focused on dairy farming. The 1861 tax for Brandywine Hundred notes Jacob R. Weldin with 60 acres on which there is a R[ough cast] house, 2 Fr[ame] Barns, and a R[ough cast] tenant [house]. He is also taxed that year with 37 acres of marsh land.

**g. Jacob R. Weldin becomes owner of Chestnut Hill**

The 1862 tax shows the transfer of 160 acres with a St[one] H[ouse] and fr[ame] Barn from Mary D. Logan to Jacob Weldin. This is the Weldin Plantation Archaeological Site, which was the focus of our data recovery excavations. Logan also transferred 23 acres of marsh land to Weldin that year, located in Cherry Island. The actual deed, dated March 24, 1862, states that John Dickinson Logan and wife Susan W. of Philadelphia deeded the tract 193 acres to Jacob R. Weldin of Brandywine Hundred for \$14, 200.00. (It can be seen once again that the assessor's figures for the acreage of Chestnut Hill do not agree with those of the deed.) Microfilm of *The Delaware Republican*, a Wilmington newspaper, was searched from November 1861 through March 1862 to locate an advertisement of Chestnut Hill's sale to no avail. The deed notes that the farm lies on the east side of the Wilmington & Great Valley Turnpike, locally known as the Concord Pike, and was surveyed in 1858 by Daniel Farra. The description notes that the land crosses Foulk Road and extends to the middle of Weldin Road and is bound by Martin Miller, Beulah Weldin (Jacob's aunt), George Miller, and Mary Stidham among others (NC Deed Book P7: 449). The 1868 Beers atlas shows the property as belonging to "J.R. Weldin" (*Figure 21*).

Weldin is also taxed in 1862 with the original Weldin homestead of 60 acres with a St[one] H[ouse], St[one] Barns, and a Fr[ame] tenant [house] and 7 acres of marsh land. Evidently, Jacob deeded 14 acres of the homestead to his cousin George W. Weldin that year. A family history describes the property Jacob purchased from the Logan family as a "very large but



Approximate Location of Chestnut Hill



Not to scale

**McCormick Taylor**  
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**Figure 21**  
Approximate Location of Chestnut Hill in 1868  
Phase III Archaeological Data Recovery  
Blue Ball Properties Area Transportation  
Improvement Project  
Brandywine Hundred, New Castle County, Delaware

(Source: Beers, 1868)

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impoverished farm.” It reportedly was called “Chestnut Hill,” consisted of 220 acres, and was located near the Blue Ball estate. The property was offered for about \$75.00 per acre which seemed to be a small price at the time, but the farm looked “dilapidated” (Talley 1899: 178).

The 1865 tax record shows Jacob with 46 acres on which there is a St[one] H[ouse] & [Stone] Barn, and Fr[ame] tenant [House]. He is also taxed that year with 200 acres on which there is a St[one] House and Fr[ame] Barn. He continues to own 37 acres of marsh land. The Brandywine Hundred tax records into the early 1870s maintain the same description of the Weldin properties.

The 1870 population census shows Jacob R. Weldin, aged 48, as a farmer with real estate valued at \$24,400 and personal estate valued at \$5,400. He and his wife Hannah have three children: Eliza, aged 24; Atwood, aged 14; and Thomas, aged 12. Also in the household are Lewis Squibb, aged 27, a farm laborer, and Matilda Squibb, aged 26, a domestic servant. Rebecca Hand, aged 22, is another domestic servant in the Weldin household.

The 1870 agriculture census for Brandywine Hundred notes Jacob with 222 acres of improved land and 24 acres wood land. Jacob has about three times the amount of improved land that the average farmer in the hundred has. His farm land is valued at \$24,400 which matches exactly that stated in the population census. The value of his implements that year is \$400, and his livestock is valued at \$2180. His farm size and its value have more than doubled since the 1860 census. The value of his implements has risen about 25%, and the value of his livestock has nearly doubled. The apparent lopsided rise in the value of Jacob’s livestock versus the value of his implements indicates that he was able to substantially increase his dairy operation without much further investment in farming implements at that time. Jacob R. also paid out \$1000 in wages to his hired hands in the previous year which was about three times the average in the hundred. (It is likely those wages would have been paid to the above mentioned Squibbs and Rebecca Hand in addition to any day laborers hired during harvest season.)

Weldin’s livestock now numbered, 5 horses, 25 milk cows, 10 other cattle, 20 sheep, and 4 swine. His number of milk cows had more than tripled since 1860, and that number is about three times that of the average farm in the hundred. The amount of butter produced, 11,250 pounds, was more than seven times that which his family had produced in 1860. In addition, his cows produced 11,250 gallons of milk. (It seems odd that the cows produced exactly the same number of pounds of butter and gallons of milk. Possibly this was an error on the part of the census taker.) The value of animals or livestock slaughtered on the farm that year amounted to \$320 which represents about one seventh of the total value of his livestock.

Jacob’s crop production in 1870 included, 200 bushels of winter wheat, 600 bushels of corn, 200 bushels of oats, 50 bushels of Irish potatoes, and 65 tons of hay. His wheat production was up by about 25% from the 1860 figures, but his corn production was up about 41%. Jacob’s wheat production was double the average in the hundred, and his corn production was triple the average. In addition, the amount of hay produced had more than doubled since 1860. The additional hay, corn, and oats production would have been used to sustain the increased dairy herd, and conversely the large dairy herd would have produced abundant manure to fertilize the grain and hay fields. The wheat crop would have likely been sold as a cash crop in the

Wilmington market, and the potatoes in addition to feeding the family and hired help would also have been sold in the local Wilmington produce market.

The 1870 agriculture census illustrates that Weldin's farming operation was now almost entirely focused on dairying. This conclusion is based not only on the amount of milk and butter produced but also on the fact that his main crops of corn, oats, and hay would have been used to help fuel his dairy herd to higher production levels. In addition, women continued to play an important role in dairying at that time, and Jacob had, in addition to his wife and daughter, two female servants that would have assisted in the dairy operation.

The increase in the size of Weldin's dairy herd by 1870 would have meant that he needed to increase the size of the location where he maintained and milked the herd. He would have also needed larger storage spaces for the hay and grain needed to supply the herd. No documentary evidence has come to light thus far to indicate that Jacob constructed a new barn at this time, but at the least an addition to the barn already on the farm would have been required. Thirdly, the increased size of his herd would have required increased watering capability, possibly in the form of a new well or cistern. (The large banked barn and the adjoining large, mounted wooden water tank shown in early twentieth century photos were likely to have been built on the farm by this time---see photograph 8.) Lastly, the increased milk and butter production would have required a larger processing location. This is likely when the stone milk house was constructed. (There is archaeological evidence that previously milk was cooled and stored in the cellar of the original section of the stone house at Chestnut Hill.)

The 1880 population census shows Jacob R. Weldin, aged 58, as a farmer. He along with his wife Hannah, aged 63, have two children at home, Eliza, aged 34, and Thomas T., aged 22, who works on the farm. Annie Harkins, aged 26, is listed as a housekeeper for the Weldins that year. Jacob and Hannah's oldest son, Jacob Atwood Weldin, had married in 1879 Clara V. Talley, and they went to housekeeping on the portion of the Weldin homestead, north across Weldin Road, that Jacob R. Weldin had inherited in 1844 at his grandfather's death. Atwood had been born on this farm January 31, 1855. The 1880 census indicates that only he and his wife were in their household at that time.

The agriculture census for Brandywine Hundred in 1880 notes Jacob R. Weldin with 160 acres of tilled acreage and 21 acres of forested land. This is nearly three times the size of the average farm in the hundred. His farm is now valued at \$13,575, his implements at \$600, and his livestock at \$1600. Since 1870 his farm size has dropped 28%, but its value has dropped 45%. During that same period the value of his implements has risen 33%, and the value of his livestock has declined 27%. The loss in farm value may not only reflect the reduction in size but also a slow recovery in values after the Panic of 1873. Farm values in the East were also affected by the competition of the West where almost 300,000 more acres of land was being cultivated (Fletcher 1971: 367).

The rise in implement value may not only reflect a heavier reliance on machinery as the farmer ages, but also the fact that more modern and technologically advanced machinery is costlier. In addition, the fact that Weldin had six horses and two mules indicates that multiple teams could work his large farm concurrently.

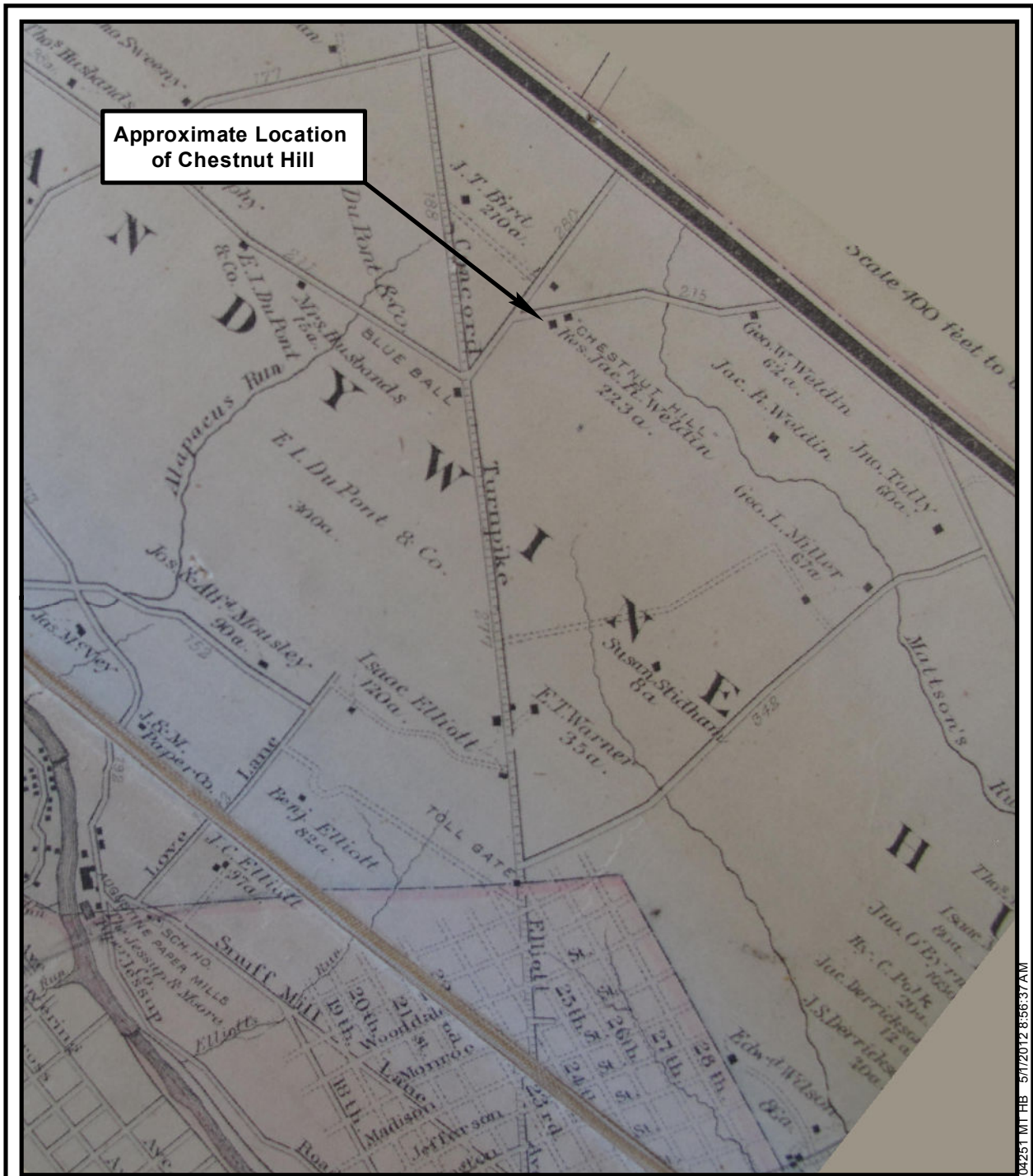
The 160 tilled acres is further broken down into 40 acres of mown grass, 70 acres of grass not mown, and 49 acres of crop land. The crop statistics included: 25 acres of corn produced 1200 bushels; 8 acres of oats produced 225 bushels; 15 acres of wheat produced 300 bushels, 40 acres of mown grass produced 60 tons of hay; 3/8 acre of potatoes produced 30 bushel; and ½ acre of apples produced 50 bushels. The forest land produced 10 cords of wood valued at \$50. The corn crop was the most productive at 48 bushels per acre, and wheat was least productive at 20 bushels per acre. The corn crop was also over four times greater than the average in the hundred, while the wheat crop was almost three times the hundred average.

In 1880 Weldin's livestock numbered: 6 horses, 2 mules, 16 milk cows, 14 other cattle, 6 swine, 60 barnyard poultry, and 14 other poultry. This shows a drop of about 36% in the number of milk cows and a 29% increase in the number of other cattle. The cows produced 7300 gallons of milk and 300 pounds of butter. The 7300 gallons of milk represents a 35% decrease from 1870. The drop in the number of Jacob's milk cows nearly corresponds with the drop in his milk and butter production. Nevertheless, Weldin's number of cows is over double the average in the hundred. However, as noted above the unusually large 11,250 gallons of milk may have been an error on the part of the census taker.

In addition, agricultural researcher and Professor at the University of Delaware, Rebecca Sheppard, has found in her studies that it was increasingly difficult for older families to maintain high dairy production. Remember, Jacob Weldin in 1880 is now 58 and his wife Hannah is 63. Therefore, the changes in production from 1870 to 1880 may be more indicative of life cycle changes than market changes (R. Sheppard 2011).

The 1881 *Map of New Castle County (Figure 22)* shows that Jacob R. Weldin was among the largest landowners in Brandywine Hundred. This map provides the acreage for most, if not all, of the landowners in the hundred. While the average farm only contained 73.8 acres, Weldin's farm was 223 acres. Only the E. I. Dupont farm was larger at 300 acres. The only other farm at or near the same size of Weldin's was A. T. Bird's at 210 acres.

The 1881 map (*Figure 22*) also shows three houses on the Weldin property, one on the north side of Weldin Road on the original Weldin homestead and two on the south side. One of the houses on the south side is the stone house which was the focus of our archaeological investigations (labeled "Res. Jac. R. Weldin 223a.") and the other was likely a tenant house (labeled "Jac. R. Weldin"). Willis Weldin, a grandson of J. Atwood Weldin, recalled that his parents first went to housekeeping in a frame house, located on his grandparent's farm next to the Concord Pike. His grandmother Ida and Uncle Jake lived in the main house. Willis didn't know whether this house was otherwise used as a tenant house or not. A frame blacksmith shop had been located to the north side of this house (W. Weldin 2012). The frame house and blacksmith shop were likely destroyed by the twentieth-century widening of Concord Pike as archaeological testing did not identify any resources associated with them, probably because they were destroyed by subsequent widening of Concord Pike. In addition, this map depicts George W. Weldin, Jacob's cousin, as having 62 acres to the east, as also shown on *Figure 17*.



Approximate Location  
of Chestnut Hill

Not to scale

**McCormick Taylor**  
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Since 1946

**Figure 22**  
**Approximate Location of Chestnut Hill in 1881**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware

(Source: G. M. Hopkins, Map of New Castle County, 1881)

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As noted above Jacob Atwood Weldin had moved north across Weldin Road to the former Weldin family homestead by 1880. (He was referenced and known as “Atwood” or “J. Atwood” in all likelihood to differentiate him from his father.) The 1880 agriculture census indicates that he was renting that farm from his father. The 40-acre tract consisted of 25 acres tilled, 5 acres of permanent meadow, and 10 acres of wood land. The farm was valued at \$4000. Atwood was noted with 3 milk cows, 2 swine, and 30 barnyard fowl. However, the census provides no production numbers for any of his livestock.

As noted previously, Jacob R. Weldin died December 24, 1891. His death notice recorded in the December 26 edition of *The Morning News* of Wilmington states, “Died in Brandywine Hundred, on the 24<sup>th</sup> instant, Jacob R. Weldin, in his 71<sup>st</sup> year. Relatives and friends are respectfully invited to attend the funeral from his late residence on Monday, December 28. Leave the house at 11 o’clock. Interment at Newark Union Cemetery.” Jacob R. and his wife were members of the Mt. Pleasant Methodist Episcopal Church. The plain stone church edifice was constructed in 1838, and Jacob Weldin and Eliza J. Talley and their families were listed among the early members. In 1888, the trustees of the church included: Jacob R. Weldin, George W. Weldin, George W. Talley, and J. Atwood Weldin (Scharf 1888: 913). (Photograph 12: The column style memorial monument for Jacob R. Weldin, his wife, and family in the Newark Union Cemetery. The polished gray granite monument is topped with an unpolished urn and is one of the largest in the cemetery. Note the native stone fence erected in 1845 to enclose the cemetery.)

Jacob R. Weldin’s inventory taken just after his death in December 1891 and filed in July 1892 provides some insight into his farming operation at that time (*Table 3*). It illustrates that he was using both old and relatively modern tools and implements. Among the old type of tools were 9 hay forks and two hay wagons, one with an iron axle, and an old horse rake. The newer type implements included a mowing machine, cultivators, a hay tedder, a raking machine, and a “market Dearborn,” evidently a wagon used to haul farm goods to market.

Implements specific to the dairy industry included a milk wagon, lot of milk cans, 4 milk buckets, and 3 dozen milk pans. Also indicative of the farm’s dairy industry are the 7 sacks of feed, 4 sacks of screenings, 600 bushels of corn, a stack of fodder, 10 tons of marsh hay, 10 tons of bran, and 35 tons of hay. The amount of corn and hay in stock corresponds pretty well with the time of year when the inventory was taken, approximately four to five months after harvest. The inventory also included 275 bushels of wheat and 25 acres of wheat in the ground. However, it is unknown whether this would be used in the cattle feed or would be sold for cash.

The farm animals at Jacob’s decease included 25 cows, 4 steers, 1 bull, 1 calf, 3 horses, 1 black mare, 50 pairs of chickens, 7 turkeys, 4 geese, and 6 ducks. Although the total number of cows has dropped by five since 1880, a bull and a calf are included in the mix. In addition, the 4 steers indicates that Jacob is diversifying his farm operation. The steers are also less labor intensive than dairy cattle. Jacob would have been looking at ways to save labor as he and his wife aged. The number of chickens and other fowl on the farm has increased since 1880. Apparently at this time, there are no longer any swine on the farm.

**Table 3: Categorized Items from Jacob R. Weldin's Inventory (1892)**

<b>Domestic Items</b>	<b>Value</b>
25 yards carpet	7.50
1 stove, pipe & fixtures	5.00
6 cane seated chairs	3.00
1 camp chair	.25
1 lounge	2.00
2 tables	4.50
Looking glass	.75
1 secretary	3.00
2 parlor lamps	1.00
1 telescope	9.00
5 books	13.75
20 yards ingrain carpet	8.00
1 set of parlor furniture	30.00
1 parlor rocker	6.00
1 marble top table Italian	3.00
1 marble top table Tennessee	3.00
1 buffalo robe	4.00
1 horse blanket	2.00
5 silver spoons & knife	1.50
½ dozen silver spoons	1.50
1 dining table	5.00
Silver spoons & knife	1.00
3 chests	1.50
1 bench	.25
3 bureaus	6.00
1 dozen chairs	3.60
1 high bedstead	1.00
2 bedsteads	2.00
Wash stand bowl & pitcher	3.00
Quilts, blankets, etc.	9.00
Goose feather bed	10.00
Hen feather bed	3.00
1 mattress	3.50
1 settee & cushion	1.00
1 cook stove & fixtures	5.00
1 trunk	2.00
1 commode	.50
1 wash stand	.50
2 clocks	2.00
1 case of drawers	.50
3 rocking chairs	.95
3 stoves, 1 wood, 1 steel	3.50
1 bench table	.50

1 desk	.50
Carpets, various sizes	7.75
3 tables	2.00
Miscellaneous covers, etc.	3.50
2 cane seated chairs	2.00
Book & map	1.00
Baskets & 6 lamps	2.50
<b>Total value</b>	<b>193.30</b>
<b>Tools/Implements: General</b>	<b>Value</b>
1 Germantown carriage (Old)	1.00
Wood saw & axe	.25
4 shovels, 1 scoop	1.00
Pick & hoe	.30
Maul & wedges	.20
Broad axe	.25
2 log chains	1.00
2 sets single & double trees	1.00
1 boring machine & auger	1.00
1 cart (old)	5.00
1 Germantown carriage & harness	40.00
1 carriage	20.00
Harnesses, double, cart, wagon, etc.	25.00
1 cider mill	5.00
1 roller (old)	1.00
1 grindstone	1.00
2 block & falls & ropes	2.00
2 sleds	1.00
3 wash tubs	1.00
1 washing machine & wringer	6.00
<b>Total value</b>	<b>113.00</b>
<b>Tools: Agriculture</b>	<b>Value</b>
Corn marker	2.00
9 hay forks	1.50
<b>Tools/Implements Agriculture</b>	<b>Value</b>
4 sets of plow harness	2.00
3 cultivators	5.00
1 mowing machine	10.00
2 harrows	3.00
1 wagon (no top)	10.00
2 hay wagons	40.00
1 manure wagon	25.00
1 hay tedder	15.00
1 grain drill (old)	15.00
1 horse rake (old)	1.00

1 platform scales	5.00
1 grain fan (very old)	2.00
1 reaping machine	25.00
1 hay cutter	1.00
1 milk wagon	25.00
1 market Dearborn	10.00
2 plows	10.00
3 old plows	1.00
Lot milk cans	3.00
4 milk buckets	1.50
3 dozen milk pans	1.25
2 churns	1.00
2 butter tubs	1.50
<b>Total value</b>	<b>213.25</b>
<b>Animals/Livestock</b>	<b>Value</b>
50 pairs of chickens	37.50
7 turkeys	7.00
4 geese	4.00
25 cows	625.00
4 steers	100.00
8 hogs	60.00
5 hives of bees	2.00
1 bull	20.00
1 calf	10.00
3 horses	300.00
1 Black mare	15.00
6 ducks	2.40
<b>Total value</b>	<b>1,182.90</b>
<b>Crops/Feed</b>	<b>Value</b>
35 tons hay	350.00
10 tons marsh hay	60.00
600 bushels corn	240.00
275 bushels wheat	220.00
50 bushels oats (damaged)	10.00
5 tons straw	35.00
10 tons bran	150.00
75 bushels potatoes	30.00
7 sacks feed	5.00
4 sacks screenings	2.00
25 grain bags	2.50
1 stack fodder	10.00
25 acres wheat	100.00
<b>Total value</b>	<b>1,214.50</b>



The inventory provides some indications of the Weldins' end-of-life prosperity. Their parlor or sitting room contained a set of parlor furniture, a parlor rocker, an Italian marble top table, and a Tennessee marble top table. The parlor also evidently contained, 20 yards of "ingrain" carpet, two parlor lamps, a telescope, a buffalo robe, a horse blanket, and a secretary. Apparently, the secretary held these books: a two-volume History of Delaware, a History of the Army & Navy, a History of the Civil War, a History of the United States, and a History of Methodism. The Weldin dining room contained a dining table, a settee & cushion, two sets of six chairs, a clock, 5 silver spoons & knife, and a half dozen silver spoons. The kitchen was furnished with a cook stove & fixtures, a bench table, a desk, a rocking chair, a clock, 6 lamps, and a kitchen carpet.

Jacob's total inventoried estate was valued at \$5850.73. Of that amount, nearly half was \$2832.48 held in his bank account, indicating that his farm production was sufficient for him to maintain a savings account in addition to having a well furnished home. In addition, some of the items such as the marble top tables, silverware, telescope, buffalo robe, and books appear to have been luxury items, another indication of Weldin's successful farming operation. Numerous items in his inventory, items not produced locally, such as the marble top tables, buffalo robe and other luxury goods such as the telescope, attest to an above-average lifestyle and some degree of education (Taylor et al 1989: 208).

Jacob's inventory was broken down into five categories: crops/feed, animals/livestock, agriculture tools/implements, general tools/implements, and domestic items. Of those five items, his most valuable asset was his crops at \$1,214.50. His animals/livestock came in at a close second at \$1,182.90. His agriculture tools/implements were more valuable (\$213.25) than his general tools/implements (\$113.00). The domestic items in Jacob's inventory were valued at \$193.30. This all indicates that even though there were some luxury items among his household goods, these were relatively minor in the overall value of his wealth.

#### **h. Camp Smithers/Camp Bradford 1862-1865**

Part of Chestnut Hill may have been used as a training ground during the Civil War. Research indicates that Camp Smithers/Camp Bradford was established in 1862 in Brandywine Hundred near the Blue Ball Tavern at Welden's Woods. Although it is not positively established to have been located on the Chestnut Hill tract, it is documented that the camp was the main cavalry training site for the state of Delaware and operated as such until the end of the war in 1865.

During the course of the Civil War (1861-1865) several encampments and fortifications were established in Delaware, used for training, barracks, defensive fortifications, and prisoner of war camps. According to available records six camps were established in Delaware:

1. Camp Brandywine, at the at Wilmington Fair Grounds in New Castle County;
2. Camp Brandywine, along Kennett Pike near Greenville;
3. Camp DuPont, on Faulkland Road in Brandywine Springs Park;
4. Camp Andrews, at Hare's Corners in New Castle County;
5. Camp Fisher, located in Kent County near Camden;
6. Camp Smithers/Camp Bradford (6), located near Blue Ball Tavern in Brandywine Hundred, New Castle County (Wilson ca. 1972, United States War Department 1902).

Camp Brandywine appears to have been the principal training center for infantrymen recruited in Delaware. Camp Smithers/Camp Bradford was used as a training site for cavalry and artillery (Wilkinson 1966: 13). During the course of the Civil War the State of Delaware provided 12,280 men to the Union army. The Delaware contingent to the Union forces included one regiment cavalry, one independent company of cavalry, one heavy artillery company, light artillery battery, and nine regiments and one independent company of infantry.

United States War Department, Adjutant General's Office's *List of Military Posts Etc. Established in the United States from its Earliest Settlement to the Present Time* indicates that Camp Smithers was located near Wilmington, Delaware (United States War Department 1902: 92). The exact location of Camp Smithers/Camp Bradford has not been positively established, but all accounts note its location along the Concord Pike near the Blue Ball Tavern in Brandywine Hundred, New Castle County. Scharf described the training camp as being "at Welden's Woods, near Blue Ball Inn," in Brandywine Hundred (Scharf 1888: 372). The camp along Concord Pike was noted as the main cavalry training site in Delaware (Wilkinson 1966: 13). George Weldin, who served with the 5<sup>th</sup> Delaware Volunteer Infantry during the Civil War, noted in his personal remembrances of the period that "When the Civil War broke out in 1861, the First Delaware Battery was formed under Captain Benjamin Niels, and was encamped in our woods" (Weldin 1939: Appendix I, 17). The wooded areas were most likely east of the Chestnut Hill farmhouse along Turkey Run. George Weldin owned the property immediately east of Turkey Run. The Weldin family properties south of Weldin Road and abutting Turkey Run appear to be the approximate site of the Civil War era encampment, but this has not been conclusively established.

The Concord Pike was an important and heavily travelled corridor between the City of Wilmington and Pennsylvania. The Blue Ball Inn was a prominent site along Concord Pike and close to the City of Wilmington. The site was in close proximity to the DuPont powder mills along Brandywine Creek and the Philadelphia, Wilmington & Baltimore Railroad, both important military resources during the Civil War and required security to prevent sabotage. A military encampment near the Blue Ball Inn was provided with a good transportation infrastructure. The Weldin property abutted the Concord Pike and possessed flat, open farmland which would be useful for the training of military recruits. The property also benefited from the presence of Turkey Run, a tributary of the Shell Pot Creek, which presumably provided ample water for the large number of horses required for cavalry and artillery units, which were trained at Camp Smithers/Camp Bradford.

The Union camp established in Brandywine Hundred, New Castle County appears to be known as both Camp Smithers and Camp Bradford. Camps were frequently named in honor of prominent political or military leaders. Edward Bradford and Nathaniel Smithers were both prominent Delaware politicians during the Civil War. Nathaniel B. Smithers was a native of Kent County and lawyer from Dover (Hancock 1961:137). In 1860 he was a delegate to the Republican Party national convention in Chicago which nominated Lincoln for president. Smithers, along with Edward Bradford, George P. Fisher, Jacob Moore and others, were among the leaders of the Peoples' Party, or Unionists, in Delaware. The Peoples' Party was composed of Republicans, Abolitionists, former Whigs, and discontent Democrats (Hancock 1961: 18). He

served as the Delaware Secretary of State in 1863 and was elected to the United States Congress in November 1863 to fill a vacancy, but was defeated for re-election in 1864. On September 5, 1862 he was appointed as provost marshal for the State of Delaware by Secretary of War Stanton (Miscellaneous Correspondence, 1862). Bradford, another prominent Peoples' Party leader, served as the United States District Attorney for Delaware from 1861 to 1866. He was appointed to the position by President Lincoln.

In 1862 Benjamin Niels recruited a battery of artillery for service with the Union. Niels had served as a lieutenant with the McLane Rifles, a local militia unit formed in Wilmington prior to the Civil War. The battery was known variously as Benjamin Niels' Independent Battery, Niels' Battery, and 1<sup>st</sup> Delaware Independent Battery (Fallon 1885: 10). The unit was also designated as 1<sup>st</sup> Delaware Artillery. Niels' Battery/1<sup>st</sup> Delaware Artillery was formally organized and its members enlisted at Wilmington, Delaware on August 30, 1862. The original roster of Niels' Battery/1<sup>st</sup> Delaware Artillery listed 178 officers and men with the unit (1<sup>st</sup> Del. Cavalry and Artillery (Niels' Independent), 1862-1865). The battery was first equipped as a four-gun battery, but was later increased to a six-gun battery. The typical six gun battery also required twelve caissons, one travelling forge, one battery wagon, and six gun carriages with ammunition chests, plus sufficient number of horses to draw the battery equipment (United States Army 1860: 7). The unit remained at Camp Smithers/Camp Bradford until December 20, 1862 when it was ordered to Washington, D. C. The battery was attached to provide protection at Camp Barry as part of the defense of Washington, D. C. The battery served in Virginia until June, 1863 and in West Mississippi and the Department of Arkansas during 1864 and 1865. The battery was discharged from service July 5, 1865 (Dyer 1908).

In 1862 President Lincoln called upon the Northern states for additional troops to aid in the suppression of the rebellion. Each state was given a quota to meet as part of their contribution to the enlistment request. The State of Delaware was requested to provide 3,440 soldiers (Hancock 1966: 105). The State of Delaware was compelled to request two extensions in order to meet its quota (Miscellaneous Correspondence, 1862). The 5<sup>th</sup> Delaware Infantry, 6<sup>th</sup> Delaware Infantry, and 1<sup>st</sup> Delaware Cavalry were recruited as part of Lincoln's 1862 call for troops.

The 1st Battalion, Delaware Cavalry was organized at Wilmington, Delaware, on January 20, 1863. The battalion originally included four companies recruited by Napoleon B. Knight. Knight's battalion of cavalry was incorporated into the 1<sup>st</sup> Delaware Cavalry Regiment, under the command of Colonel George P. Fisher. Records indicate that Major Knight inducted 368 officers and men as companies A, B, C, and D and the unit was assigned to Camp Smithers/Camp Bradford (1<sup>st</sup> Del. Cavalry and Artillery (Niels' Independent), 1862-1865). George P. Fisher, a prominent Delaware politician who served as a United States Congressman from Delaware until March 3, 1863 and was then appointed to the United States District Court for the District of Columbia on March 12, 1863. Napoleon Knight was appointed Lieutenant Colonel of the unit and most likely served as commanding officer in Fisher's absence (Delaware Cavalry 1862-1865). The 1<sup>st</sup> Delaware Cavalry remained at Camp Smithers/Camp Bradford until June 1863, when the unit was attached to 8th Army Corps. The unit served as part of the defensive system surrounding Washington, D.C. and Baltimore and was later assigned to the Army of the Potomac until July, 1864.

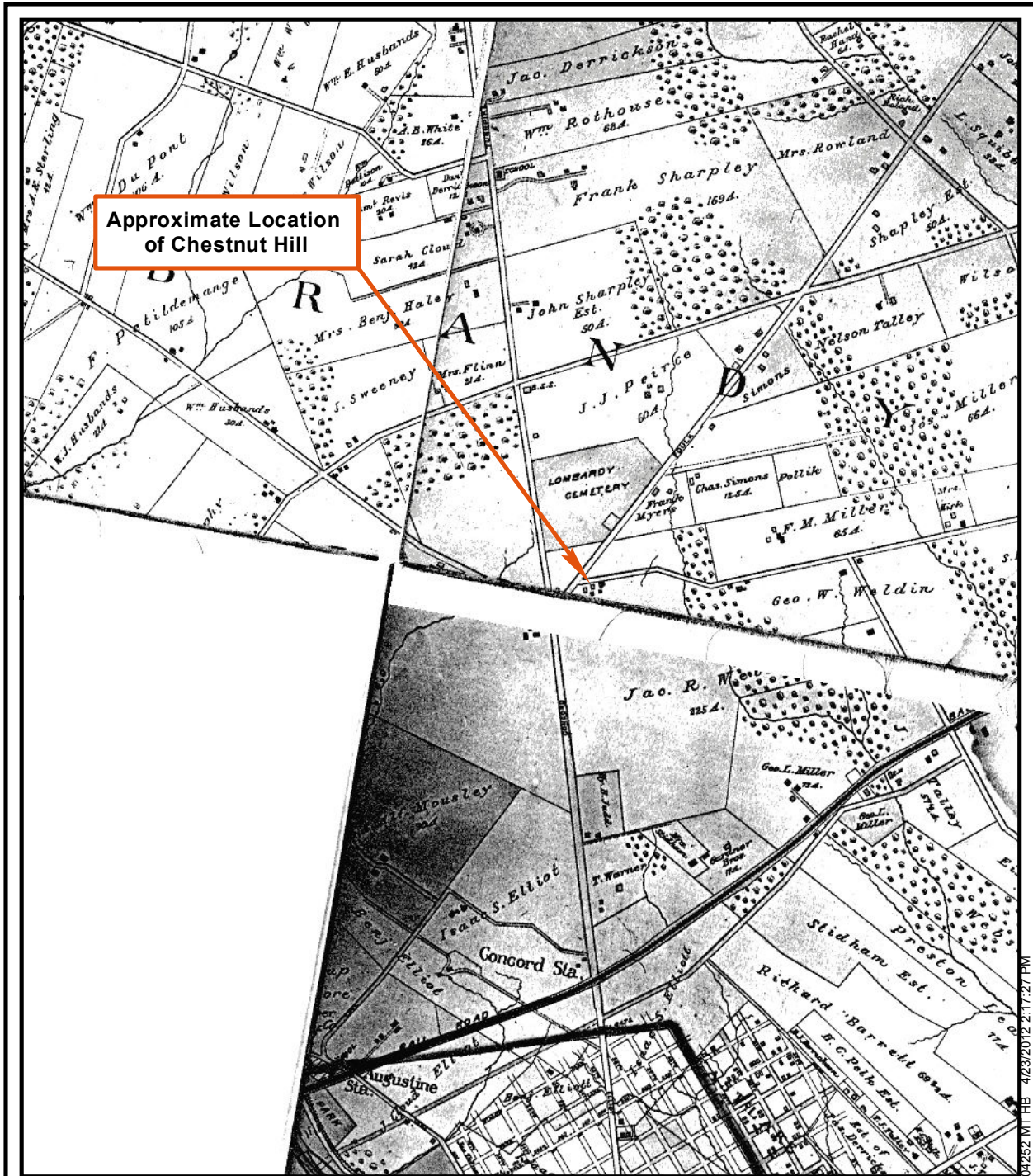
During the course of the war additional units were stationed at Camp Smithers/Camp Bradford during emergencies and to provide additional security. Lieutenant John Muir, with Company E 144<sup>th</sup> Ohio Infantry Regiment, was stationed at Camp Smithers/Camp Bradford for a three month period in 1864. Muir, in letters to relatives, noted that he was stationed on part of a farmstead owned by members of the Elliott family. The 1868 *Map of Brandywine Hundred (Figure 21)* notes several properties owned by the Elliott family along the west side of Concord Pike and south of Blue Ball Tavern. Muir recorded that: “There is some very old farms here. The place where Capt. got his supper is 80 years old. That is a very old farm, they go from one generation to another. One of these farms is the Elliott farm, it is the same farm that we camp on and we have nice barracks here and plenty to eat and drink.” (John D. Muir Correspondence 1864). According to historic maps and atlases from the mid nineteenth century, the Elliott family owned several farmsteads along the west side of Concord Pike less than one mile southwest of the Chestnut Hill property.

The 1st Battalion, Delaware Cavalry, Niels’ Battery/1<sup>st</sup> Delaware Artillery, and 8th Regiment Delaware Infantry were units known to have trained or occupied Camp Smithers/Camp Bradford during the between 1862 and 1865. During the course of the conflict other units were stationed at Camp Smithers/Camp Bradford to provide security for the Wilmington area, including the 144<sup>th</sup> Ohio. It is most likely that additional units were stationed at the camp between 1862 and 1865, but these have not been identified. Camp Smithers/Camp Bradford would most likely have been dismantled by state authorities at the conclusion of the Civil War.

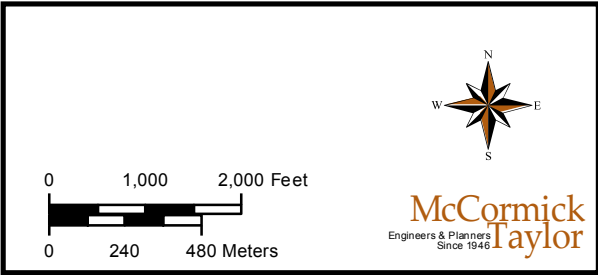
#### **i. Jacob Atwood Weldin becomes owner of Chestnut Hill**

Jacob R. and Hannah’s son, Jacob Atwood Weldin, was born on his parent’s farm, the original Weldin homestead, January 31, 1855. He was known as “Atwood” or “J. Atwood” likely to differentiate him from his father. In all probability, he moved to Chestnut Hill when he was seven years old. He married Clara V. Talley in 1879, and they moved to the Weldin homestead north of Weldin Road. Nevertheless, Atwood continued to assist his father in the operation of both Chestnut Hill and the other associated farm tracts and marsh land (Talley 1899: 207). After his parents’ death, he removed to Chestnut Hill with its “fine, old and commodious mansion, with all the surrounding barns and outbuildings.” The mansion is the stone house which is the focus of our data recovery excavations. It was stated in 1899 that this farm constituted one of the excellent farming plants of Brandywine Hundred (Talley 1899: 207). The property is shown on the 1892 Baist *Atlas of New Castle County, Delaware* as having five buildings, two of which appear to be dwellings and three of which appear to be farm buildings (*Figure 23*). These are more buildings than are depicted for any of the other farms in the area.

Jacob R. and Hannah Weldin left three heirs, Eliza, Jacob Atwood, and Thomas Talley Weldin. The Equitable Guarantee and Trust Company of Wilmington was appointed the trustee for the estate of Eliza Weldin, who was declared a lunatic. The Trust Company had sale of Eliza’s share in the Jacob R. Weldin estate on April 4, 1896. J. Atwood and Thomas T. Weldin were the highest bidders for that share at \$9,050.00. The estate consisted of a 182-acre tract and a 45-acre tract in Brandywine Hundred, four tracts of marsh land totaling about 33 acres in Cherry Island, and two lots in Wilmington with a brick house each (NC Deed Book C7: 117). Through deeds dated April 11, 1896, J. Atwood and Thomas T. Weldin divided the real estate amongst



Approximate Location of Chestnut Hill



**McCormick Taylor**  
 Engineers & Planners  
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**Figure 23**  
**Approximate Location of Chestnut Hill in 1892**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware  
 (Source: G. W. Baist, Atlas of the New Castle County, DE, 1892)

themselves. J. Atwood received a 95-acre tract and a 37-acre tract in Brandywine Hundred and two tracts of marsh land of about 19 acres (NC Deed Book C7: 109). Thomas T. received a 10-acre tract and a 84-acre tract, two tracts of marsh land totaling about 14 acres, and the lots with brick houses in Wilmington (NC Deed Book C7: 113).

As noted above, Atwood's brother Thomas T. Weldin received a portion of the Chestnut Hill farm, but it did not include the mansion house. A family history noted that Thomas lived with his parents until he married Emma Naylor. He and his wife then moved to their new home at the intersection of Foulk Road and the Concord Turnpike (*Figure 17*). After acquiring his land, he immediately constructed near his house an excellent barn, with all the necessary appliances. The biography also stated that Thomas favored public improvement, and "is quick to see the value of his land for farm use and its value for building purposes." He recognized that the City of Wilmington was reaching out in his direction (Talley 1899: 220). A biography of Thomas's son Herbert, stated, "for several generations the Weldins were identified with agriculture, stock-raising, and dairying, accumulating properties including, incidentally, the farm where the Porter Reservoir is now situated" (Delaware 1947: 162).

Atwood's wife Clara died in August 1895, less than two weeks after their son Paul was born. A biography in 1899 describes Atwood as "one of the most extensive dairy farmers in the Hundred" (Runk 1899: 501). The 1900 population census shows Atwood as a widowed farmer. His son, Jacob R., aged 19, is a farm laborer, and his son Howard L., aged 17, and daughter, Hannah E., aged 15, are listed as "at school." The youngest son Paul, is aged 5 years. His sister, Eliza, aged 54, is living in the household. Also living in the household was Annie M. Spigle, aged 19, a servant who performed general house work, and Louis Sugarbabe, an African-American aged 24, a servant who was a farm laborer. By 1905, the property included a blacksmith/wheelwright shop, two tenant houses, and stables (Taylor et al. 1989: 208). The 1904 USGS 15' Quadrangle depicts only two residences: the one which is the focus of our excavations, and the one associated with the blacksmith shop adjacent to Concord Pike (*Figure 24*).

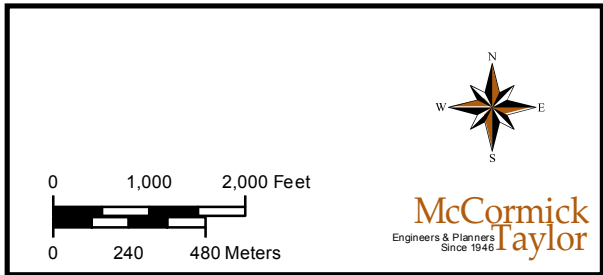
By 1910 Atwood is still living at Chestnut Hill, but he was remarried to Ida J. Willis. The 1910 population census shows him as a farmer of a "general farm." His son Jacob R., aged 28, is a farm laborer on the home farm, and his son Howard S., aged 25, is the driver of a milk wagon. His sons Paul, aged 14, and Willis, aged 6, are also at home. His sister Eliza, now aged 63, continues in the household. In addition, John Henry, an African-American hired man, aged 23, is a farm laborer for the Weldins.

A 1910 agriculture census found that New Castle County had 2,208 farms with an average value of \$11,084.00. Just over half of the farms in the county were owner operated. There was a total of 25,211 cattle in the county that year or an average of 11 per farm. The writer also noted that New Castle County was the most progressive as well as the most prosperous county in the state (Farm Directory 1914: 6).

Atwood Weldin died February 21, 1918 at Chestnut Hill, aged 63 years, a victim of the influenza that year. A biography of Atwood notes that he used his powers for the good of himself and others of his community and belonged to and held official position in all beneficial societies such



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**Figure 24**  
**Approximate Location of Chestnut Hill in 1904**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware  
 (Source: West Chester, PA and Wilmington, DE15' USGS Quadrangle, 1904)

as the Grange, the Order of United Workmen, and the Knights of Pythias. The history of the West Brandywine Grange noted that a fine, two-story hall was constructed in 1886 at Talleyville. The building committee included J. A. Weldin, and he was also one of three trustees of the new Grange Hall (Scharf 1888: 910).

Atwood's biography also stated that he was past Master of the West Brandywine Grange and a member of the State Grange, a member of Industrial Lodge, A.O.U.W., Wilmington, and past Chancellor of the Knights of Pythias, No. 19, Talleyville. He had also served as school director (Biographical 1899: 501). He was for many years a director of the Cherry Island Marsh Company of which his father had also been a director. He was also Treasurer of the Board of Trustees of the Mt. Pleasant M.E. Church, having succeeded his father in that position of trust (Talley 1899: 207).

Atwood had written his will in 1914 and specified that his wife Ida was to have \$900 annually. He bequeathed to his son Jacob R., his auto, gasoline engine & mill, hay-press, hay bailer, fodder cutter, wood saw, gold watch & chain, and all of the old silver coins in his desk. In addition, he bequeathed Jacob an additional \$5,000, "on account of his having given me at least ten years of the best period of his life since he came of age." He specified that his son Howard L. was to have his milk wagon, milk separator, cans, bottles and other articles pertaining to his dairy. His son Paul was to have his silver watch. It is assumed that the milk wagon would have been stored in one of the equipment sheds at Chestnut Hill, but the milk separator, cans and bottles would likely have been stowed in the stone milk house. By the time of his death in 1918, the dairy farm appears to have been thoroughly modernized.

The will stipulated that the Equitable Guarantee & Trust Company of Wilmington was to invest all bonds, mortgages, stocks, and securities in order to pay the \$900 annually to his wife Ida. The same Trust Company was ordered to invest \$1000, and the interest from that was to go to the Mt. Pleasant Methodist Episcopal Church. Atwood added a codicil to the will in January 1918 stating that son Jacob R. Weldin was to have, "absolutely all of my livestock, hay, grain, provender and farming machinery of every kind." Finally, Atwood directed that at the expiration of 10 years after his death that all of his real estate was to be sold by his trustees (J. Atwood Weldin Will, 1918).

Atwood's will also described his real estate at the time just prior to his death. It consisted of the farm of about 100 acres (Chestnut Hill) where he then lived which was described as bound by Concord Road, Foulk Road, and the Porter Reservoir (*Figure 17*). The farm not only included the farmhouse and buildings but also a blacksmith shop and two frame dwelling houses on the Concord Road at the Blue Ball Corner. His real estate also included the "old Weldin homestead" of about 35 acres which adjoins Talley Road and the John Talley estate. There were also two lots with brick houses in Wilmington and 18 ½ acres of "filled land" in what is known as Cherry Island Marsh (J. Atwood Weldin Will, 1918).

Some items as noted in Atwood's inventory and appraisal (for Chestnut Hill) taken in October 1918 shows that the farm was operating much as it had been under the management of his father Jacob (Jacob R. Weldin's inventory had been taken in 1892) (*Table 4*). The highest valued single item was Atwood's 700 bushels of corn noted at \$1,260.00. His ten tons of hay



**Table 4: Categorized Items from Jacob Atwood Weldin's Inventory (1918)**

<b>Agriculture Implements</b>	<b>Value</b>
Engine, scales, mill & truck	60.00
2 farm wagons	35.00
Implements in barn shed	42.00
Drill, fodder cutter, corn planter	85.00
Milk wagon, separator, etc.	20.00
Farm & carriage harness	25.00
Hay tedder, 2 carts, hay rake	50.00
Gasoline engine & pump	100.00
Wagon scales	50.00
<b>Total value</b>	<b>467.00</b>
<b>Domestic Items</b>	<b>Value</b>
Front room & contents	100.00
Parlor	75.00
Hall rack & table	11.00
Contents of Mrs. Weldin's room	50.00
Front spare room, 2 <sup>nd</sup> floor	60.00
2 <sup>nd</sup> floor suite	25.00
2 <sup>nd</sup> story room N.E. corner	25.00
Dining room contents	50.00
Kitchen contents	20.00
Cook's bedroom	15.00
Contents of attic	10.00
Contents of cellar	20.00
<b>Total value</b>	<b>461.00</b>

<b>Animals/livestock</b>	<b>Value</b>
Lot of chickens & ducks	125.00
12 cows	800.00
9 cows	360.00
2 bulls	140.00
2 heifers	40.00
2-year colt	75.00
Old bay mare	10.00
Gray mare	100.00
Gray colt	100.00
Gray horse Sam	50.00
Black mare Star	200.00
Old bay horse & old black mare	30.00
Hog & 6 pigs	61.00
<b>Total value</b>	<b>2,091.00</b>
<b>Crops/Feed</b>	<b>Value</b>
700 bushels corn	1,260.00
10 tons hay	200.00
3 tons bran	97.50
Rick of straw & corn fodder	100.00
<b>Total Value</b>	<b>1,657.50</b>
<b>General items/Mixed use</b>	<b>Value</b>
Hupmobile	800.00
Ford car	75.00
One seated carriage	10.00
Lot of lumber	20.00
<b>Total Value</b>	<b>905.00</b>

was valued at \$200.00, and three tons of bran was appraised at \$97.50. Whereas, there was more corn in Atwood's inventory than that of his father's, his inventory showed considerably less amounts of hay and bran. In addition, there is no indication that Atwood grew wheat as his father had. It is unknown how much a "rick of straw & corn fodder" contained, but it was valued at \$100.00.

Atwood's inventory lists a total of 21 cows valued at \$1160.00. His father's inventory showed 25 cows valued at \$625.00. So while the number of cows had dropped by four from that of his father, their value had almost doubled. In the early 1900s the dairy herd size in Delaware could be expected to be in the range of 15 to 20 cows (Sheppard 2009: 298). Atwood's stock also included two bulls and two heifers. Items relating to dairy production included a "milk wagon, separator, cans, & bottles" valued at \$20.00. A milk wagon alone in Jacob's inventory was valued at \$25.00. This may indicate that these items were out of date and not highly valued.

Unlike Jacob's inventory, no items related to butter making are found in Atwood's inventory. This shows that the farm was now only geared toward milk production.

Whereas, there were three horses and a mare in Jacob's inventory, Atwood's inventory shows six horses and two colts. Two of the horses had specific names, "Sam," and "Star." The increased number may indicate that the horses were used for recreational purposes in addition to farm work. His stock also included a hog and six pigs. A "lot of chickens and ducks" were valued at \$125.00. (Jacob was listed with 50 pairs of chickens and six ducks with a total value of \$39.90.) It can be concluded that likely, both the number and value of the chickens on the farm had increased since 1892. Unlike his father's inventory which listed the furniture in each room, Atwood's inventory only named the furniture in Mrs. Weldin's room. Ten rooms of the house were named including the "cook's bedroom." In addition, the "contents of attic" and contents of cellar" were appraised. The contents of the "front room," obviously the best room in the house, were the most highly valued at \$100.00 while the contents of the kitchen were least valued at \$20.00 (Jacob Atwood Weldin inventory, 1918).

Atwood's "Hupmobile" was his single most valuable item at \$800.00. This seems extraordinary in comparison to his "Ford car" appraised at \$75.00, but also in its consideration as a luxury item it represented about 14% of his appraised goods. His household goods, farming implements, and livestock were valued at \$5,571.50, and his real estate was valued at \$42,200.00. Another indication of Atwood's wealth was the loans valued at \$10,100.00 he had made to four individuals and the \$11,619.47 that he had in cash, stocks, and bonds.

Atwood Weldin's will and inventory illustrates that he remained very much interested in his farming operation, and that he wanted his son Jacob R. to continue in that tradition. Atwood's livestock was now more highly valued than his crops which was opposite that shown in his father's inventory. It also shows that Atwood had modernized his farm operation considerably from that of his father. For example, the gasoline engine and mill would have been likely used to grind the feed for his dairy cattle right on the farm. The truck would have been used to perform all kinds of farm chores. Atwood's modern implements were valued more than twice the amount of his father's. The will also demonstrates that Atwood's operation had become more specialized in the dairy industry, and that they were delivering their milk individually to a creamery or a milk processing plant in Wilmington.

What the will and inventory do not show is whether Atwood has upgraded his farming operation with modern buildings such a new barn and milk house. Studies show that by the late 1910s milk companies imposed increasingly rigorous sanitary regulations for the areas where farmers milked their cows and processed the milk. New barn designs and equipment that appeared about that time responded to these needs (Sheppard 2009: 289).

The 1920 population census shows Atwood's oldest son Jacob R. Weldin, aged 38, as a farmer (on Chestnut Hill farm) living on Weldin Road in Brandywine Hundred. He is listed as the head of household which includes his brother Paul, aged 24, his step-mother, Ida. J., aged 51, and his half-brother Willis, aged 16. Also included in the household is Charles Black, aged 64, a hired man. Jacob's brother Paul is noted as a fireman for a railroad, and his brother Howard L. Weldin, aged 36, was living next door. Howard also was listed as a farmer on a general farm.

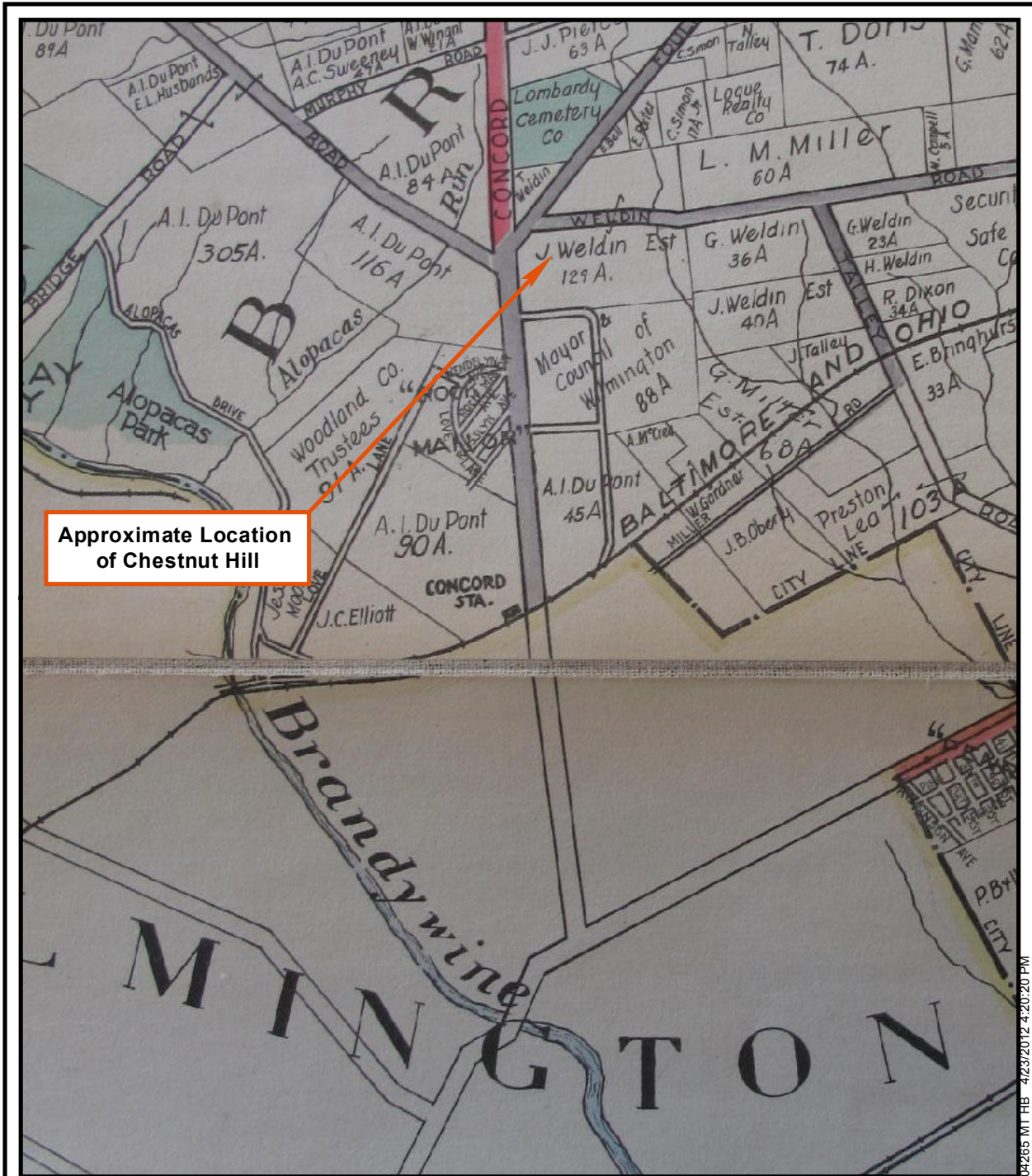
Howard's wife Sidney, aged 33, and children, J. Atwood, Frances, and Howard L., Jr. were living with him.

In 1930 the population census notes 48-year old Jacob R. Weldin as a single man head of his household. His step-mother Ida, aged 62, continues to live with him at Chestnut Hill, along with his half-brother Willis, aged 25, who is a truck driver for New Castle County. Harry Zinnel, aged 52, is their hired man on the farm. Jacob's brother Paul, aged 33, is living next door, likely in the tenant house on Chestnut Hill, with his wife Elva, and their three children, Esther, Phyllis, and Paul, Jr. Paul is now a greens keeper for a golf course.

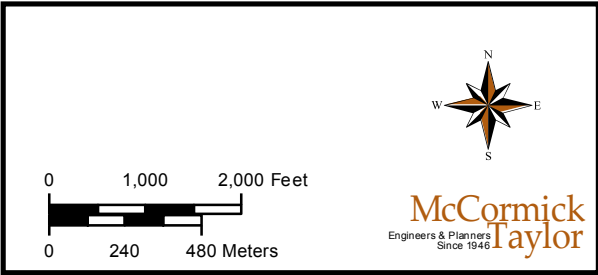
Staff at the Delaware Public Archives, Hall of Records, were questioned about additional agricultural censuses, other than those for 1850 through 1880. Apparently, no twentieth century agricultural censuses were taken in Delaware. Based upon the census information above, it would appear that the Weldin farm was not as intensively farmed as had been the case in previous generations of Weldins. In addition, it appears that most of the greater Weldin kinship is now working off the farm in other occupations. It appears that only Jacob R. Weldin and his hired man are actually doing work on the Weldin farm itself. The 1930 map shown above shows the J. Weldin Estate lands totaling 169 acres, not including the marsh land in Cherry Island (*Figure 25*).

Deed records show that Chestnut Hill was sold in 1934 to a development company. However, Weldin descendants have stated that some of the Weldin heirs continued to live and work on Chestnut Hill until about 1942. A 1937 aerial photograph shows that the property appears to be maintained at that time (*Figure 26*). Willis Weldin, Jr. indicated that he spent time on the property as a child in the early 1940s and he prepared a sketch of what the property looked like at that time (*Figure 27*).

After the Weldins left, the Chestnut Hill farm property began a long, slow period of deterioration. By 1958, the buildings were almost completely in ruins (*Figure 28*). Part of the property was later purchased by DelDOT as part of an intersection improvement project. Ruins of the milk house, barn and outbuildings are now part of Alapocas Run State Park. Alapocas Run State Park began with 123 acres deeded to the City of Wilmington in 1910. By 1996 it had grown to 145 acres. Alapocas Run, formerly known as Blue Ball, has been developed by the Delaware Division of Parks & Recreation as additional recreational area for walking, jogging and hiking. The former 1914 A. I. DuPont (Blue Ball) dairy barn was converted to meeting space for rent and houses the Division's Folk Art collection.



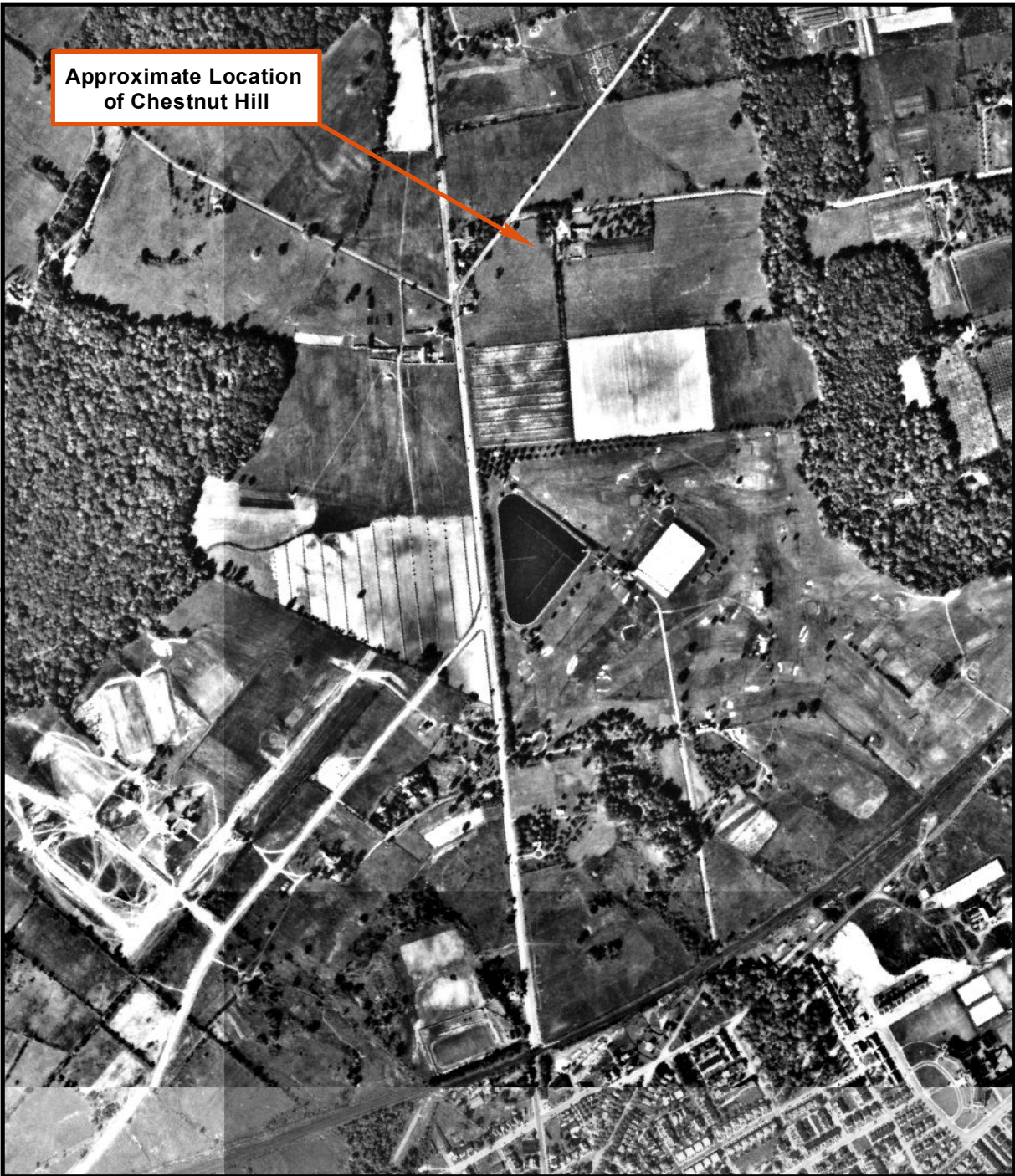
Approximate Location of Chestnut Hill



**Figure 25**  
**Approximate Location of Chestnut Hill in 1930**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware

(Source: 1930 Map of Northern New Castle County, Delaware, Franklin Survey Co.)

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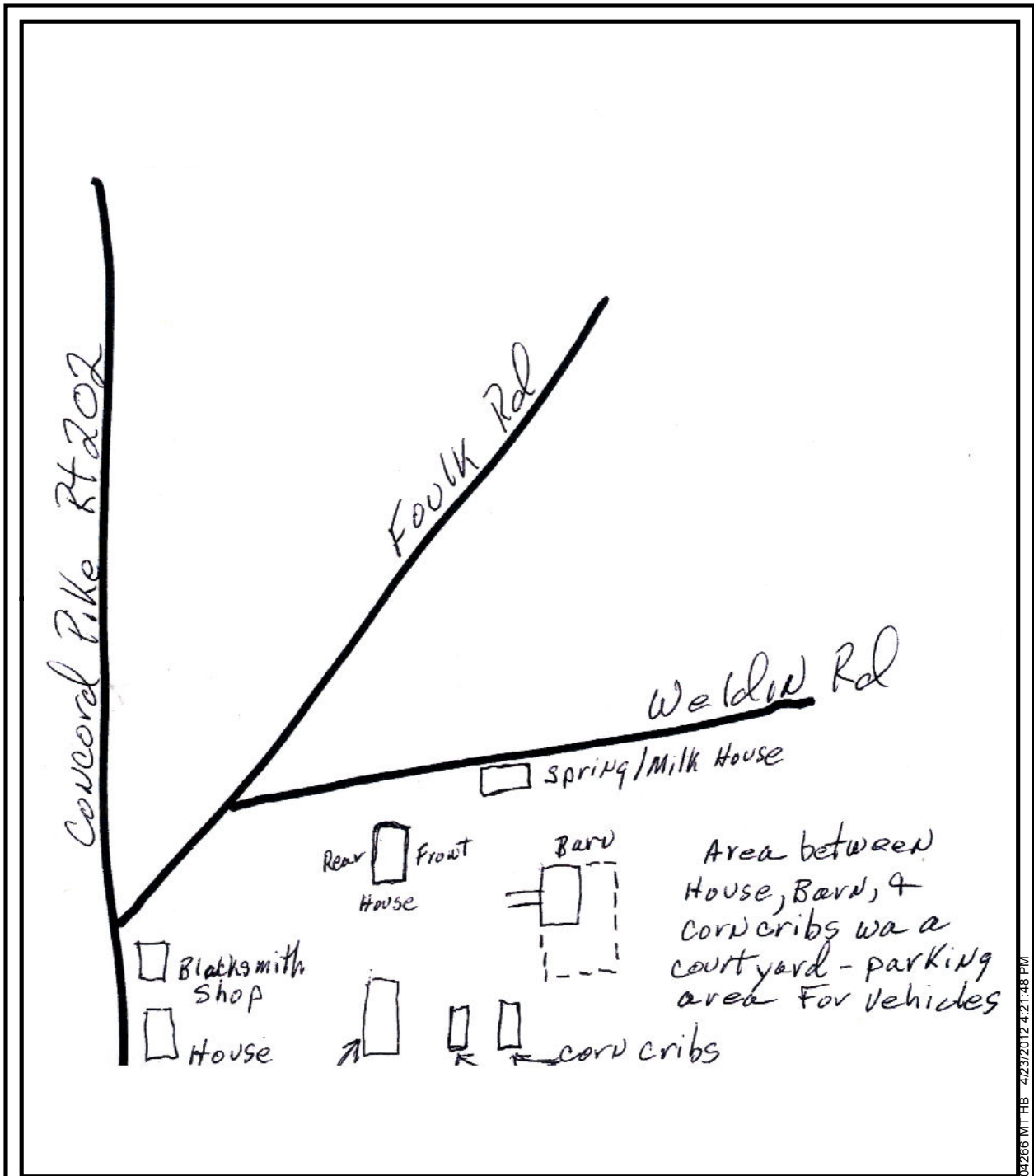


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0 500 1,000 Feet  
0 120 240 Meters

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Engineers & Planners  
Since 1946

**Figure 26**  
**Approximate Location of Chestnut Hill in 1937**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware  
 (Source: Delaware DataMIL)

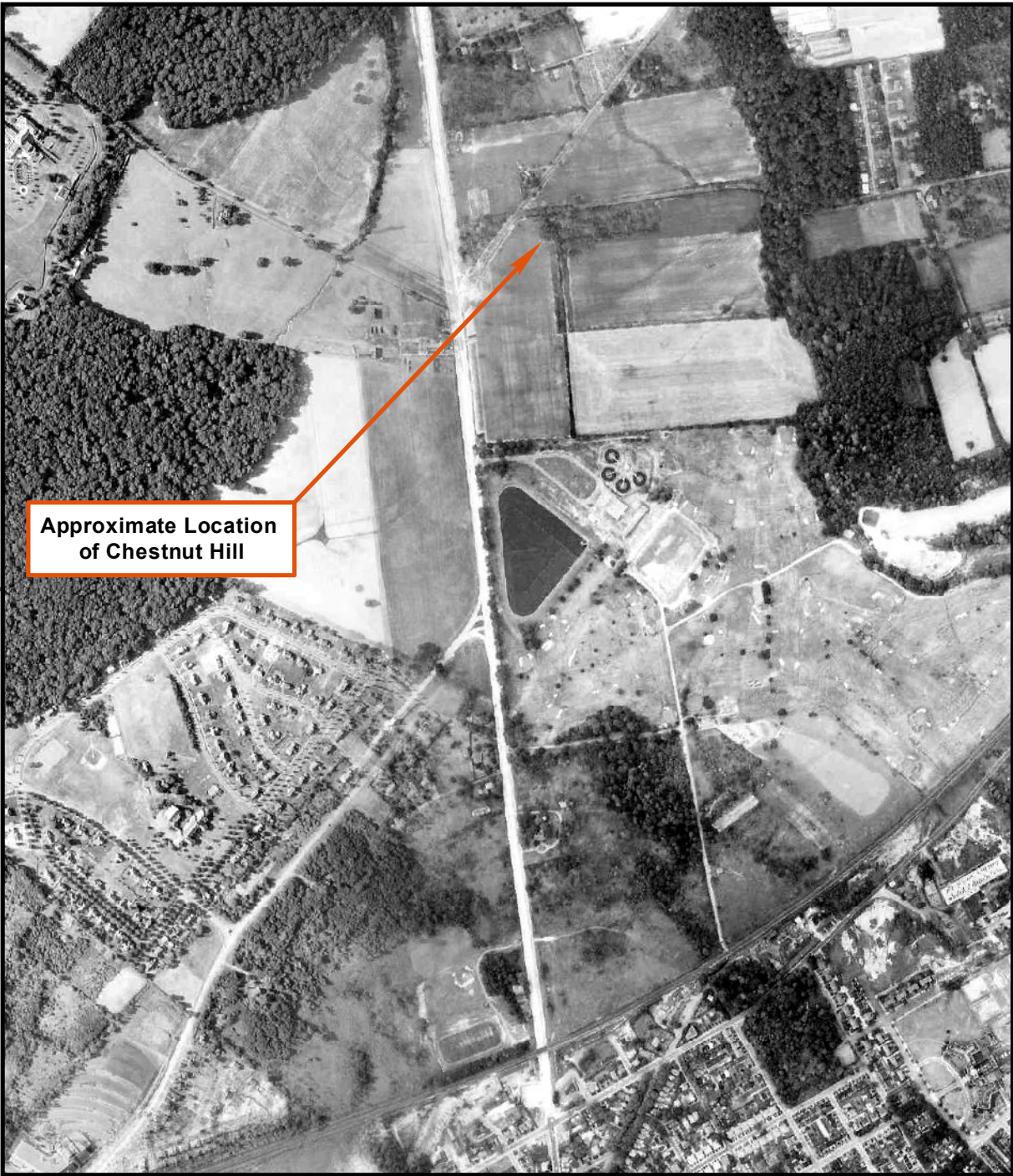


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Not to scale

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**Figure 27**  
**Willis Weldin, Jr. Sketch Plan**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware  
 (Source: Willis Weldin, Jr., 2012)



Approximate Location  
of Chestnut Hill

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0 500 1,000 Feet  
0 120 240 Meters

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**Figure 28**  
**Approximate Location of Chestnut Hill in 1954**  
 Weldin Plantation Site, 7NC-B-11  
 Phase III Archaeological Data Recovery  
 Blue Ball Properties Area Transportation  
 Improvement Project  
 Brandywine Hundred, New Castle County, Delaware  
 (Source: Delaware DataMIL)