

Historic Resource Survey Form

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION
Bureau for Historic Preservation

Key # _____

ER# _____

Name, Location and Ownership *(Items 1-6; see Instructions, page 4)*

HISTORIC NAME Duffy Farm; Greenawalt Farm

CURRENT/Common NAME Lower Farm Ruin (Site 36Da235)

STREET ADDRESS Located on the eastern bank of southern portion of Three Mile Island.

ZIP 17057

LOCATION Located on the old east channel, .5 miles from the southern end of the island.

MUNICIPALITY Middletown, Londonderry Twp.

COUNTY Dauphin

TAX PARCEL #/YEAR _____

USGS QUAD Middletown PA

OWNERSHIP ☒ Private

☐ Public/Local ☐ Public/County ☐ Public/State ☐ Public/Federal

OWNER NAME/ADDRESS Exelon Generation Company, LLC, Route 441 South, P.O. Box 480, Middletown PA 17057

CATEGORY OF PROPERTY ☐ Building ☒ Site ☐ Structure ☐ Object ☐ District

TOTAL NUMBER OF RESOURCES Thirteen

Function *(Items 7-8; see Instructions, pages 4-6)*

Historic Function

Domestic

Agriculture

Agriculture

Agriculture

Subcategory

Single/Multi Dwelling

Agricultural Outbuildings

Processing

Storage

Particular Type

Farmhouse/Bunkhouse

Barns

Curing Sheds, Mill

Tobacco Barn

Current Function

Vacant

Subcategory

Ruin

Particular Type

Architectural/Property Information *(Items 9-14; see Instructions, pages 6-7)*

ARCHITECTURAL CLASSIFICATION

Other Vernacular

Georgian Form House Ruin

Pennsylvania Barn Ruin

EXTERIOR MATERIALS and STRUCTURAL SYSTEM

Foundation Cobble and Cut Sandstone

Walls Cobble and Cut Sandstone

Roof n/a

Other _____

Structural System Stone

WIDTH 32 (feet) or 2.5 (# bays)

DEPTH 26 (feet) or 2 (# rooms)

STORIES/HEIGHT n/a

Key # _____
ER# _____

Property Features *(Items 15-17; see Instructions, pages 7-8)*

Setting Successional Forest, River Island

Ancillary Features

Relic River Channel

Building Sites

Road Traces

Garden and Orchard Sites

Levee

Acreage approx. 8 (round to nearest tenth)

Historical Information *(Items 18-21; see Instructions, page 8)*

Year Construction Began 1772 ☒ Circa **Year Completed** 1930 ☐ Circa

Date of Major Additions, Alterations 1899 ☐ Circa 1904 ☐ Circa _____ ☐ Circa

Basis for Dating ☒ Documentary ☒ Physical

Explain The buildings were reconstructed between 1899-1904 and were damaged in 1904.

Cultural/Ethnic Affiliation(s) _____

Associated Individual(s) James Duffy

Associated Event(s) Construction of the York Haven Dam, 1904 Ice Flood

Architect(s) _____

Builder(s) H.S. Rich conducted the reconstruction.

Submission Information *(Items 22-23; see Instructions, page 8)*

Previous Survey/Determinations _____

Threats ☐ None ☒ Neglect ☐ Public Development ☐ Private Development ☐ Other

Explain The property is a ruin and is not maintained.

This submission is related to a ☐ non-profit grant application ☐ business tax incentive
☒ NHPA/PA History Code Project Review ☐ other

Preparer Information *(Items 24-30; see Instructions, page 9)*

Name & Title William M. Hunter

Date Prepared 10-24-2009

Project Name _____

Organization/Company Heberling Associates, Inc.

Mailing Address 904 Main Street, Alexandria PA 16611

Phone (814) 669-1280

Email whunter@heberlingassociates.com

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National Register Evaluation *(Item 31; see Instructions, page 9)*

(To be completed by Survey Director, Agency Consultant, or for Project Reviews ONLY.)

☒ Not Eligible (due to ☐ lack of significance and/or ☒ lack of integrity)

May be eligible under Criterion D but archaeology will be necessary to confirm this.

☐ Eligible Area(s) of Significance _____

☐ Contributes to Potential or Eligible District District Name _____

Bibliography *(Item 32; cite major references consulted. Attach additional page if needed. See Instructions, page 9.)*

Becker, G. O. 1990. Tobacco Buildings in Lancaster City. *National Register of Historic Places Multiple Property Documentation Form*. Historic Preservation Trust. Lancaster, Pennsylvania.

Duffy v. The York Haven Water and Power Company (Duffy v York Haven) 1906. *Duffy v. The York Haven Water and Power Company* in the Court of Common Pleas of Dauphin County, No. 161, March Term, 1906. Reproduction of manuscript on file with the Dauphin County Prothonotary, Dauphin County Courthouse, Harrisburg, Pennsylvania.

Egle, W.H. 1883. *History of the County Of Dauphin in the Commonwealth Of Pennsylvania: Biographical and Genealogical*. Everts and Peck, Philadelphia.

Hart, J. F. 1991. *The Land that Feeds Us: The Story of American Farming*. W. W. Norton & Company, New York.

Huber, E. 1986. *TMI at the Judge's Bench*. Elaine Huber, Manheim, Pennsylvania. Reproduction of the unpublished manuscript is on file at Heberling Associates, Inc. Alexandria, Pennsylvania.

Huber, E. 1988. Letter from Elaine Huber to Bill Ressler, August 23, 1988. Reproduction of the manuscript is on file at Heberling Associates, Inc. Alexandria, Pennsylvania.

Mangold, W. L. and T. A. Grace. 1987. The Other Side of the Island: Additional Data on the Prehistoric Occupations of Three Mile Island. Paper presented at the Middle Atlantic Archaeological Conference, Lancaster, Pennsylvania.

Rider, C. c. 1980. *Brief Explanation of Lower Farm*. Recorded by Elaine Huber, Manheim, Pennsylvania. Reproduction of the manuscript is on file at Heberling Associates, Inc. Alexandria, Pennsylvania.

Stranahan, S. Q. 1995. *Susquehanna, River of Dreams*. Johns Hopkins University Press, Baltimore.

Pennsylvania Historical and Museum Commission (PHMC). 2005. *Historic Agricultural Resources of Pennsylvania c. 1700-1960*. Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation and the Pennsylvania State University, Harrisburg.

Additional Information

The following must be submitted with form. Check the appropriate box as each piece is completed and attach to form with paperclip.

☒ Narrative Sheets—Description/Integrity and History/Significance (See Instructions, pages 13-14)

☒ Current Photos (See Instructions, page 10)

☒ Photo List (See Instructions, page 11)

☒ Site Map (sketch site map on 8.5x11 page; include North arrow, approximate scale; label all resources, street names, and geographic features; show exterior photo locations; See Instructions, page 11)

☐ Floor Plan (sketch main building plans on 8.5x11 page; include North arrow, scale bar or length/width dimensions; label rooms; show interior photo locations; See Instructions, page 11)

☒ USGS Map (submit original, photocopy, or download from TopoZone.com; See Instructions, page 12)

Send Completed Form and Additional Information to:

National Register Program
Bureau for Historic Preservation/PHMC
Keystone Bldg., 2nd Floor
400 North St.
Harrisburg, PA 17120-0093

Physical Description and Integrity (Item 38)

Provide a current description of the overall setting, landscape, and resources of the property.

The remnants of the Duffy Farm are located on Three Mile Island, Londonderry Township, Dauphin County, Pennsylvania. The oblong 2.5 mile long island traditionally supported two separate farms. There is no trace of the upper farm on the contemporary landscape, the buildings and farm site being obliterated during the development of the Three Mile Island nuclear power plant. The lower farm was originally built on a terrace edge on the eastern end of the island, facing the Dauphin County shore and the “eastern channel” of the river. Over the course of the last two centuries, the island and channel have shifted dramatically in response first to the pulse patterns of the annual spring floods, and then, to the less frequent but more dramatic floods of the modern era. The ruins of the lower farm now face a highly dissected secondary channel and are now over 500 feet west of the eastern edge of the island.

The lower farm was the larger of the two farms on the island, with 246-acres of tillable land divided into three or four principal fields. The balance of the property was in woodlot, including stands of locust used for durable fence posts and willows planted along the western shore to help stem erosion. Although most of the island was cleared field – considered some of the richest soil and most productive agricultural fields in the region, the island was also scattered with large rocks and boulders. The ruins of the lower farm consist of a series of cut stone and cobble foundations, building remnants, and landscape features. The current collection of ruins includes the remnants of a house, bank barn, basement barn, wells, smokehouse, engine house, washhouse, tobacco sheds, and associated landscape features, such as levees, road traces, and a barnyard. These ruins reflect the early development of the island by the Elliott and Greenawalt families, the aggressive redevelopment of the island’s farms by the Duffy family, the ruinous flood events of 1904, and the benign neglect of the complex in the modern era (Huber 1988).

Although part of an integrated farming system, the house yard, located north of the barnyard, is a distinct cluster of resources. Although initially serving a domestic function, the elements in this cluster reflect its conversion and use as an office and bunkhouse, supporting the workers who operated the labor-intensive tobacco farm. The fully excavated foundation, a mix of larger filler stones and dressed dry laid horizontal stone, is between 3 and 5.7 ft deep (Photos 1-2). The cellar is now filled with dirt, rubble, and other fill (Photo 3). The extant foundation, 32 ft wide and 26 ft deep, outlines what was the core of the original mansion house. Collapsed in the southeastern corner and compromised elsewhere, it is pierced on the southern side of the western elevation by a cellar door, a broken lintel stone being one of the only intact architectural elements aside from a poured concrete porch stair that once served a shed porch, found amid the ruins (Photo 4-5). A rubble pile at the northern end of the cellar may have served as a hearth foundation. There is no trace of a rear wing foundation.

The ruins of a stone smokehouse are located at the western edge of what was the house yard (Photo 6). The 9.3 ft square structure was, like the other buildings, constructed of an array of cobblestone, with cut stone lining the 3 ft wide central portal and small flue portal on the rear (western) elevation (Photo 7). The walls, 1.5 ft thick, extend approximately 7 ft from ground level. Decayed and collapsed roof joists that once supported a gable front roof rest on the top of the extant walls. A second major element, the ruins of a washhouse, is located at the northern edge of the house yard (Photo 8). The ruined structure, filled with rubble, features a 1.5 ft wide stone foundation that is 10.5 ft long, 7.4 ft deep, and opens on the south side (Photo 9). A ruin of undetermined function is located in the center of the house yard. The roughly 6 ft square pile of stone, soil, and other fill is located between the ruins of the smokehouse, well, and washhouse.

A collapsed well depression is located immediately (10 ft) to the north of the smokehouse (Photo 10). This well is 8 ft in diameter and lined with 8 courses of flat stone. The depression is 3.8 inches deep at its center, and inset with a single 1-inch metal pipe, entering into the well from the northeast. A second well is located to the southeast of the house yard. Smaller than the other wells on the site, the depression is 4.5 ft in diameter and 4 ft deep (Photo 11). This well site is not lined with stone or brick, and there is no evidence of piping.

A low foundation ruin is located to the north of the house, retaining only three of its foundation walls. The 6.5 ft wide and 10 ft deep footprint was constructed out of dressed and coursed stone, with some heavy bricks and poured concrete (Photo 12), and may have been a remnant of one of the tobacco barns. Several other low brick foundations, typically 1.5 ft wide and exposed to a depth of 8-10 inches, are found on both the north and south sides of the house yard. An 8 ft long low brick retaining wall, constructed of five courses of brick, was built parallel to a large trough in the ground to its south, serving as a shed foundation, loading platform, or walkway (Photo 13). A pair of large rectangular low brick and concrete foundations are located south the southern elevation of the house foundation. The first, a low wall (20 ft x 60 ft), likely contained the garden (Photo 14), the second, slightly offset and wider (10 ft x 35 ft), may have supported a structure (Photo 15). Neither appears to have been excavated or displays any elements of a superstructure.

The ruins of the barn show that the structure was a bank barn, likely a standard Pennsylvania barn, with a large basement space and a pair of out sheds flanking the broad (40ft wide) earthen ramp (Photos 16-17). The foundation reveals that the basement of the barn was 81 ft wide and 53 ft deep including the out bin granary foundations. The pattern of rubble suggests the northern exterior wall once was a “stone ender,” a wall of structural stone that supported the roof. The distance from the front of the foundation to the bank face is 47 ft., and the depth of the foundation at that face is 7.5 ft. The barn superstructure was larger, extending and overshot at least 6 ft over the foundation on the barn’s face. The front (eastern) face of the foundation, opposite the bank, was inset with four bays that served as cattle doors, including a large central bay opening into a large recessed barnyard that spanned the width of both the principal barn and the adjoining barn to the south (Photo 18).

A second structure, a small basement barn, was set back 8.5 ft to the east from the rear of the principal barn (Photos 19-20). The structure, with some extant foundation walls that average approximately 5.4 ft tall, is 44 ft deep and 50 ft wide. Condition of the foundation is irregular, particularly on the south side, which was pierced at its center with a 10 ft wide runway bay that ran parallel to the roofline. The rear (eastern) face was inset with several cattle doors. The interior of the foundation walls was unfinished and unlined, with no evidence of any poured concrete or sanitary stucco, suggesting the absence of a dairying function. This barn was likely constructed in relationship to the principal barn, with which it shared a common southern wall, and the other elements of the complex. Currently, the modern silo was built in relation to this structure, its outflow facing a doorway built into the west basement foundation, immediately north of the large earthen bank.

The large tile silo, 13 ft in diameter, was sold as a prefabricated kit patented in 1911 and thought to have been built on the site c. 1930 (Rider c. 1980; Photo 21). Like the other structures, the silo was fitted with an outflow pipe inset into its base. A recessed 18 ft wide roadway, located immediately north of the principal barn, is flanked by two parallel layers of stone, each 2 ft wide. A cut and rough stone foundation with some concrete inset with a pebble aggregate is located off the northeast corner of the principal barn. Located north of a recessed roadway, this structure may have been a retaining wall, shed foundation, or loading platform.

The cistern is a 14.9 ft square structure excavated into the ground between the barn and the mill (Photos 22-23). Constructed of two courses of the familiar cut stone and cobble (with a brick section on the eastern elevation), the interior is lined with two bands of common bond bricks covered with cement stucco. The stonework features a more careful dressing than on the adjacent engine house and mill. The extant foundation wall extends 3.2 ft. above the ground surface, and the walls are 2 ft wide. A 3-inch-diameter glazed terra cotta outflow pipe is inset in the southwest corner of the structure approximately 6 ft above the current bottom. A second outflow pipe is inset on the east side, 4 ft above the bottom. An outflow sluice is cut into the southeastern corner of the exposed brick face. The 7.7 ft deep interior of the cistern is filled with debris, including a 12 ft long section of 3-inch metal pipe.

The one and a half story tall engine house structure is roughly 17 ft square. The building ruin rests on an excavated foundation. Like most of the structures on the property, the engine house and mill was constructed of a mix of rounded cobble and cut sandstone, built to a depth of 20 inches (Photo 24 and 25). The stone is set in an irregular arrangement between the heavier dressed cornerstones. The building is pierced on the south side by a large (6.3 ft x 3.5 ft) doorway topped with a heavy wooden lintel. There are two extant window bays, a bay on the first story of the west elevation, retaining a now decayed lintel, and a bay on the south elevation on the second floor (Photo 26). The west side of the second floor retains the outline of a door entry. The interior of the structure reveals something of its use: the interior is ringed by three bands of wood and small shelves built into the wall and the anchors for 11 joists that once ran from east to west. The northern corner of the eastern elevation is pierced by a brick lined portal that vented what may have been a boiler used to power a steam engine on the ground floor. Only the first floor of the interior was finished with cement stucco. Notably, piping built into a brick lined portal into a now collapsed cellar is located at the base of the southern elevation, in a relationship with a nearby well.

The adjoining brick chimney (3.3 ft x 3.5 ft x app. 40 ft) is offset slightly to the north (Photo 27). The chimney is constructed of heavy machined glazed brick (7 in x 3 in x 1.5 in) set within a heavy cement mortar. The chimney tapers slightly at a point 6 ft from the ground level and is corbelled at the top. A metal stove door enters into the face of the chimney on the east side, suggesting that it may have been once covered with a structure.

Although the most of the walls of the adjacent well have collapsed, the approximately 6.3 ft deep depression is roughly 12 ft in diameter (Photo 28). The northern portion of the interior is ringed with five courses of stone and some bricks and is inset with a 1-inch modern metal pipe, which extends three feet from the northern edge of the depression. A second 4 ft tall pipe extends from the center of the bottom of the well.

Of the three known tobacco sheds on the property, only the ruin of the massive “cellar barn” remains, located well to the north of the house and barnyard (Photo 29). Excavated into a slope west of a compacted earthen levee and the original eastern channel, this massive structure is open on the river side (east). The ruin consists of three basement walls, all 1.5 ft wide and constructed of

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the cut stone and cobble mix (Photo 30). The outline of the structure is truly massive, 106 ft in overall length with southern and northern wing walls extending east for 17 ft and 16 ft respectively (Photo 31). A wall extends at a right angle from the southern wing wall for 13 ft to the south. The wall is 6 ft tall at its greatest depth in the southwestern corner, although stone, earth, and debris have filled much of the cellar.

Many buildings and landscape features are now missing from the scene, although archaeological evidence of them may survive. The tenant house, on the opposite side of the island, was destroyed. Several of the shed buildings on the property were founded on platforms or on posts, and therefore there are no visible surface remains of them. For example, a frame corncrib, referred to as a corn shed or corn barn, was located west of the engine house adjacent to a large tobacco shed, of which no trace remains. There is no trace of the experimental tobacco plant. Further, important landscape features such as the large garden, orchard, berry patches, and small arbor were all destroyed during the 1904 ice flood or subsequently abandoned. Additionally, the original circulation network is obscure, seen only in the graded way near the barn, in a slight depression near the house yard and along the compacted top of an earthen levee near the ruin of the cellar tobacco barn (Photo 32). The site is now covered with successional forest cover, with a high canopy and patches of dense undergrowth. The eastern channel, once a main course of the river, is now a deeply recessed relict channel (Photo 33).

History and Significance (Item 39)

Provide an overview of the history of the property and its various resources.

To gather information concerning settlement and use of Three Mile Island during the historic period, we performed research at the Dauphin County Historical Society and Dauphin County Public Libraries and examined land, court, and tax records at the Dauphin County Courthouse. We also interviewed Dr. Elaine Huber, a local expert on the history of the island who graciously shared her impressive collection of archival material relating to the subject, and whose insight shaped our investigation. Finally, we are grateful for the insight of Gary Prinkey, amateur historian and archaeologist who guided us through the site.

Land surveyor Thomas Cookson initially claimed the island in 1749, a choice tract on what was then the western edge of the inhabited areas. In 1762, as the French and Indian war was drawing to close, the island was subdivided into two separate tracts, one encompassing the northern one-third of the island and the other the southern two-thirds. Contested ownership resulted in a lengthy period of litigation (Huber 1982). By 1790, the northern tract was first developed as a farmstead by Jacob Metzger and was later owned by the Shireman family (Everts and Stewart 1875). This smaller 126-acre “upper farm” became known as the Shireman estate, a farmstead that included a house, summerhouse, tenant house, barn, corn barn, and hog pen.

The southern two-thirds of the island was developed as a farm by Daniel Elliott as early as 1772, establishing the family as stewards of the “lower farm” for several generations. In 1839, Daniel Elliott Jr. occupied the farmstead, practicing mixed agriculture as well as managing “its three unusually productive shad fisheries,” a lucrative adjunct to general agriculture (Huber 1982). After Elliot’s death, his stepfather, Abraham Greenawalt, acquired the farm, leasing to tenants who were engaged in growing tobacco and mixed agriculture, beginning a long period of tenancy. The island, known for its unusually productive soils, was easily adapted for tobacco culture and was therefore under extensive cultivation throughout the nineteenth century (Egle 1883).

Tobacco is a regionally specialized and localized crop, and the island tobacco culture was on the northern edge of the Lancaster tobacco region (Becker 1990). Tobacco was a favored crop in the region because it was well suited to the climate and soils and fit into the farmer’s standard crop rotation scheme (Becker 1990). Although labor intensive, and requiring extensive maintenance of the soil, the cultivation of Havana tobacco emerged as a mainstay of this regionally popular crop as early as 1837. The popularity of the crop is evidenced by the arrangement and type of farm buildings in the countryside as well as the quality and extent of associated warehouse structures in market towns such as Marietta and Lancaster (Becker 1990).

In 1879, Marietta entrepreneur James Duffy acquired the lower farm from the Greenawalt heirs, retaining the tenants with the intent of developing the tract as a gentleman farmer. Duffy’s 269-acre tract was centered on the old Greenawalt plantation, centered on what was then considered a “comfortable two-story house, roomy barn, and four tobacco sheds” (Huber 1982). This farmstead was arranged in linear fashion along the southeastern edge of the island. James Duffy, his tenant, or the farm manager constructed some of the buildings after the 1879 acquisition of the lower farm and rehabilitated others in a piecemeal fashion. It was not until 1899 that workers employed by the Duffy family completely reconditioned the buildings, especially the tobacco facilities, into a “practically new” condition, beginning a discreet era of extensive redevelopment of the island into an integrated farming system, specializing in the cultivation and processing of high-grade tobacco. The island, long known as Musser’s, Greenawalt’s, or Elliot’s Island, became known as Duffy’s Island on March 18, 1900, with the family’s purchase of the upper farm, drawing the former Shireman estate into the integrated farming system and unifying the island into a single property (Dauphin County Deed Book M4:447 and S5:614).

From 1899 to 1904, the Duffy family worked with agronomists, local farm managers, and agricultural extension services to diversify the agriculture of the island and developed specialized niche crops, namely several varieties of shade-grown Havana and Sumatra tobacco. The Duffy family hired experienced farm manager H.S. Rich, who over the course of five years rehabilitated existing farm buildings on both the upper and lower farms, expanded and rehabilitated agricultural outbuildings, constructed an array of specialized tobacco facilities, and applied tons of manure and phosphate fertilizer to select areas of the “Sumatra tobacco plant,” an experimental tobacco facility.

The tobacco plant was one several experimental state extension projects in the region in which the experimental strains were not initially for sale, but rather were used for comparison with other strains developed in the hearth tobacco areas, particularly in Connecticut and Florida (*Duffy v York Haven* 1906b Docket Book 191:219). Further, the family employed two specialists, Mr. Shields and Mr. Metzger, to work with Mr. Rich to farm the tobacco crops on the island and prepare the soils for more extensive cultivation (*Duffy v York Haven* 1906a Docket Book 161:231).

According to farm managers, the quality of the soil, a loose loam, allowed for the successful cultivation of the tobacco plant regardless whether the season was wet or dry. Tobacco was started in special seedbeds, requiring many hands during transplanting time (Hart 1991:282).

Tobacco also required attention to ward off pests. In the fall, crews of primers, stringers, handlers, and helpers brought in the crop for storage and curing, often in late July and August. Unlike most agriculture, tobacco resisted mechanization, with much of the work requiring a delicate hand and good judgment. The tobacco barns on the property served as sites to both cure and warehouse the tobacco.

The form of the reconstructed mansion house revealed something of its function as a tenant house and bunkhouse for the workers who reconstructed and then managed the Duffy interests from 1900 to 1904. Period photographs, copies of which were supplied by local historian Elaine Huber, show a well-designed and modern farm operation. The reconstructed house rested on the full cut-stone and rubble foundation, which originally featured a large chimney hearth on the northern end and a cellar door at the southern edge of the rear (western) side. The large rear addition, a bunkhouse and office, rested on a platform foundation. The core of the house was a variation on the 3/5 Georgian form, five units wide and two units deep, two and a half stories tall. The core featured a moderately pitched side gable roof pierced at the each of the gable ends by brick stove chimneys.

The southern elevation of the house featured irregular fenestration on both the first and second stories, with pairs of windows set into the eastern side and single windows on the western side, as well as a pair of small attic windows under the gable peak. The rear wing, which projected off the center of the core, was a four unit long, one unit wide, two-story I-house addition, raked with four symmetrical bays and featuring a full length shed porch on its southern elevation. The addition, slightly lower than the core, was covered with a low-pitched gable roof, with no roof chimneys, the end gable instead featuring a small bell tower. The first floor served as a kitchen and dining area, centered on a sawbuck table that could seat eighteen workers, and the second floor housed bedrooms (Rider c. 1980). Both the smokehouse and the washhouse, located behind the wing, were frame-roof structures resting on the structural stone of the walls and foundation.

The standard Pennsylvania barn rested on a large stone foundation and featured a single stone end (southern); two large out sheds (grain bins, which also served as a pigpen) flanked the runway and entry bay into the main floor. The rear featured a large fore bay extension and a flush exterior on the main floor, pierced only by a pair of threshing doors. The stone basement walls opened on the ground floor to allow cattle to access the recessed and stone lined barnyard, which served both barn structures. The long moderately pitched roof, then covered in wooden shingles, was topped with a tall vent-cupola. The Pennsylvania barn adjoined a taller, yet smaller, structure, which was recessed on the western side but flush with the Pennsylvania barn on the eastern side. The excavated stone cistern, lined with bricks covered with concrete, held water drawn from the barn spouting, and the well was located between the barn and engine house. The water was then piped downhill into a trough built into the basement of the barn.

The stone engine house was covered with a low-pitched side gable roof, accessed through a second floor doorway set opposite the large brick exterior chimney. The first floor held an upright boiler fired by both wood and coal, used to produce steam to turn a flywheel and transfer power via an external belt to a second floor chop mill, a "French stone" inset on a heavy frame, built into the walls.

The three tobacco barns were similar in their large size and function but were different in construction, the one structure built on a massive excavated "cellar" (32 ft x 108), the Sumatra barn (36 ft x 108 ft) and the Red barn (28 ft x 108 ft) being built on posts (*Duffy v York Haven* 1906a Docket Book 161:3). The sheds were arranged along the east bank of the island, in relationship to what was then the east shore but is now the relict channel. The Sumatra shed was farthest upriver from the house and barn, followed by the Cellar shed and the Red tobacco shed, which was several hundred feet upriver. Of the ancillary structures, the hay pen was the most valuable and therefore likely the most well built (valued at \$750), while the corn barn, hog pen, shed, and tenant house were of meaner construction. The hog pen was a rectangular frame and shingle roof building (20 ft x 40 ft).

The Sumatra tobacco plant was a state of the art facility at the time of the 1904 flood, with an estimated value of \$2,500. The Duffy interests had invested considerable time and resources (valued at over \$1,000) to develop the soils to support three acres of Sumatra tobacco, 2 acres of shade grown Havana tobacco, six acres of sun grown Havana tobacco, and four acres of seed tobacco of various varieties. The tobacco operation was a supplement to the overall mixed agriculture of the island, which also produced hay, corn, and oats. The farm produced more conventional crops and fodder, including 20 tons of hay, 400 bushels of oats, and an impressive output of 2,000 bushels of corn (*Duffy v York Haven* 1906a Docket Book 161:3). There is no trace of a frame tenant house, the orchard, fences, garden area, or original road network, all of which were altered or destroyed. As reflected in the reconstruction of the buildings, integration of the two farms into a single operation, and the development of the experimental plant, the integrated farming system prospered until destroyed by an unnatural disaster, the dramatic flood event of March 1904.

Between 1902 and 1903, York Haven Water and Power Company constructed a solid masonry wing dam from the western shore of the Susquehanna River east and diagonally above Conewago Falls to a point beyond mid-stream, a short distance from the southern point of Duffy's Island. Eventually, the power company extended the wing dam with a less durable log and stone crib dam.

The construction of the dams naturally changed the dynamic of the river flow and diverted a significant amount of the current to the eastern channel of the river, changing the morphology of the channel and eastern shore, which became the default rafting course. This section of the river was well known to rafters, who had to navigate the Swatara Riffles and Conewago Falls. A necessarily seasonal endeavor, some rafters testified that during high water, the principal course for rafts was to make use of the slower east channel, and during low water, the rafters paralleled the western edge of the island along what was known as "Bateman's Rafting Course" (Henry Mattis testimony, *Duffy v York Haven* 1906a Docket Book 161:42 A-B).

At the time of the flood, the farm was diversified, as reflected by the number and type of buildings on the property. Although many details of the flood event were contested, a cold winter, rapid spring thaw, and the construction of the York Haven Dam caused huge sheets of ice to be "diverted and gorged" as they backed up behind the dam, resulting in a rapid rise in water that flooded the entire island. Ordinarily, ice would accumulate in the river and then would "gorge" or move downriver, not affecting the level of the water beyond that of the normal spring freshet. With the winter freeze and ice floe, the changes in the channel would have serious implications.

On March 8, 1904, the flood of the accumulated water and large quantities of ice swept over the island and destroyed or seriously damaged the two farms, sheared trees, and scoured the carefully managed soils on which the island agriculture depended (*Duffy v. The York Haven Water and Power Company* 1906a). Most of the buildings of the lower farm were surrounded with ice – the first floor of the farmhouse and the entire basement of the barn were obscured by ice sheets and shoved off of their foundations as the ice broke and carried some buildings downriver, scattering other elements throughout the southern portion of the island. In the estimation of a worker on the island, 200 acres of topsoil was scoured off the island.

On May 1, 1905, faced with the loss of a massive investment to buildings and soils, the Duffy family sold both of the devastated tracts on the island to Philadelphian Henry W. Stokes, secretly in league with York Haven Water and Power Company, the defendant in the Duffy lawsuit (Dauphin County Deed Book E12:214). Fourteen days later, Stokes sold the island to the power company (Dauphin County Deed Book M16:558; Huber 1986).

The Duffy family claimed that the construction of the 5,000-foot long diversion dam and hydroelectric station from 1901 to 1904 led to the catastrophe and sued the York Haven Water and Power Company, resulting in litigation that eventually resulted in the Pennsylvania Supreme Court's decision in the Duffy family's favor. The initial verdict, signed on April 24, 1908, found in favor of the Duffy family and awarded \$13,785 in damages, leading to a series of aggressive appeals by Walfe and Bailey, attorneys for the York Haven interest, that would extend the litigation until 1913, eventually finding in the Duffy family's favor, but limiting the amount of the damages.

With the case settled, the island land use changed to adjust to the post-flood physical reality. Some of the damaged buildings were reconstructed and used by tenants or farm managers and some of the fields were brought back into active cultivation. The York Haven Water and Power Company retained Jacob Landis as tenant in 1908. Landis and his large family reconditioned and occupied the upper farm but made use of the fields and remnants of the lower farm. The extensive damage to the lower farm prevented its use as a farmstead until 1910, when tenants briefly occupied the site.

In 1924, York Haven Water and Power sold the island and other holdings to the Metropolitan Edison Company. With the southern portion of the island unoccupied and no longer in extensive cultivation, the land use subtly shifted in the twentieth century, with recreational use of the island's shoreline gaining in popularity despite the continuing lack of bridge access and electrical service (Mangold and Grace 1987:7). Between 1957 and the start of construction of the Three Mile Island Nuclear Power Plant, 270 acres of the island were leased for farming of corn and tomatoes while other area reverted to woodlot. In the modern era, prior to the development of the plant, the western shore was lined with seasonal cabins, and picnic facilities, restrooms, a drinking water well, and a boat ramp were added as recreational amenities.

The farmstead ruins, in their material qualities and arrangement on the landscape, reflect the reconditioning of a regional mixed agricultural farm into a modern tobacco oriented farming system within the *River Valleys Tobacco Region* (PHMC 2005). The property has a documented connection to the tobacco culture in both its general and specialized form. The ruins constitute a farmstead, the associated farm lands altered through flooding and the creation of borrow pits during the development of the power plant on the northern portion of the island.

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The ruins convey the relationship between the house, general barn adapted for tobacco, tobacco sheds, and associated structures. The farmstead's conversion to a modern facility, operated by a manager and worked by laborers, is reflected in the arrangement of the structures on the site. Several of the structures, namely the engine house, the cistern, and the ruins of the cellar barn reflect exceptional workmanship, the use of local materials, and the reconstruction of the property under the Duffy family ownership and the development of specialty buildings. Important elements of the farmstead that reflect the truly significant development of the property as an experimental facility, including the land itself, was lost in the calamitous flood.

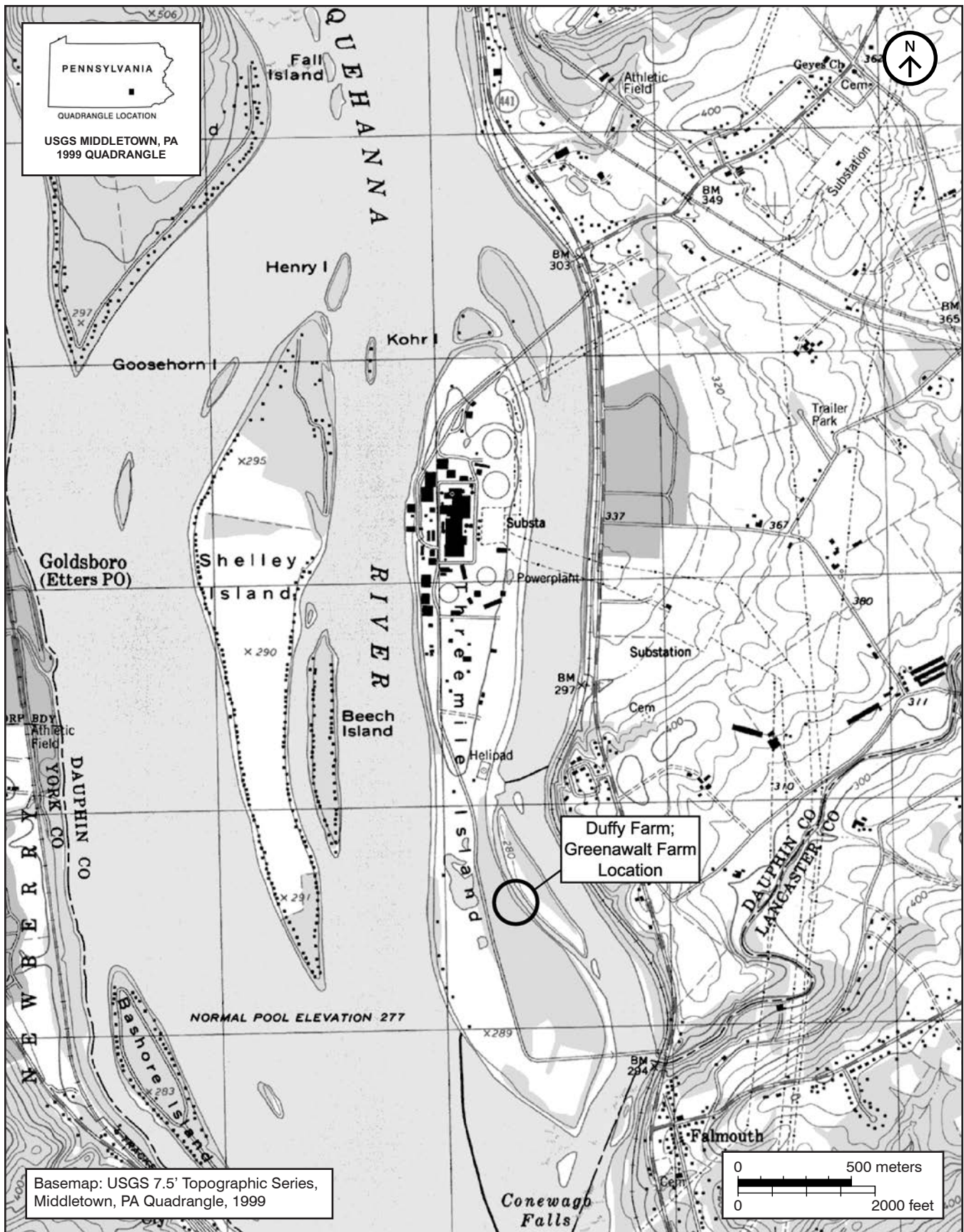
The property is significant under Criterion A for its association with the regional tobacco culture, its redevelopment as an experimental farming system, and its association with the dramatic flood event of 1904, which reflects the damming of the Susquehanna and alteration of both the river and island ecology. The property is also significant under Criterion C, for its construction as an early plantation farm and its subsequent conversion into a modern farming system, with the accordant construction and reconstruction of the buildings using locally specific materials. However, although the extant structures – all ruins – can convey important aspects of the farm's operation and the extensive damage caused by the 1904 event, the above-grade components of the property do not retain integrity of design, materials, workmanship, and feeling. The loss of key buildings, the extensive damage to the extant elements, and the extensive alteration of the associated tract through the construction of roads and creation of borrow pits during the construction of the Three Mile Island Nuclear Station in the 1970s have cost the property its ability to convey its significance under Criteria A and C.

Based on cursory previous survey data, the lower farmstead was identified as an archaeological site and designated as Site 36Da235 in the State Museum of Pennsylvania's PASS files. However, to date there has been no archaeological investigation of the property, and the Bureau for Historic Preservation specifically stated that no archaeological testing should be performed as part of the present documentation and evaluation since there are no foreseeable threats to the site that might impact archaeological resources. Since this farmstead was occupied for nearly 200 years and contains numerous visible ruins and landscape features dating to the late 19th/early 20th century (and possibly earlier), there is high potential for significant archaeological features and deposits associated with the historic domestic and agricultural use of the site, including resources related to its redevelopment as an experimental tobacco farm at the turn-of-the-century. Significant resources might include the below-grade remains of outbuildings, privies, livestock pens, fence lines, roads, drainage features, additional cisterns and wells, activity areas, and sheet refuse and trash dumps. It is likely that archaeological evidence survives for the ephemeral tobacco sheds that did not have substantial foundations. Chemical analyses of soils could provide information concerning activity areas (i.e., privies and livestock pens) and soil enrichment practices. In conjunction with the above-ground ruins, these archaeological resources could provide important information relating to lifeways and farming techniques, including market access and consumer behavior, diet, animal husbandry, tobacco processing, and organization of domestic and agricultural space. However, the existence and integrity of these archaeological resources have not yet been demonstrated. The property may be eligible for the National Register under Criterion D, but archaeological testing based on a well-defined research design would be necessary in order to confirm this.

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Location Map



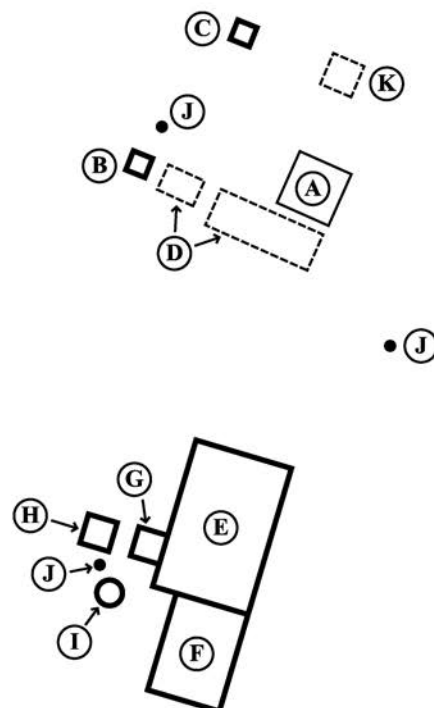
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Site Plan

KEY

- A House Foundation
- B Smokehouse Ruin
- C Washhouse Ruins
- D Undetermined Foundations
- E Pennsylvania Barn Ruin
- F Basement Barn Ruin
- G Cistern
- H Engine House
- I Silo
- J Wells
- K Possible Tobacco Shed Foundation
- L Cellar Tobacco Barn Ruin



not to scale

Photo List (Item 33)

See pages 10-11 of the Instructions for more information regarding photos and the photo list. In addition to this photo list, create a photo key for the site plan and floor plans by placing the photo number in the location the photographer was standing on the appropriate plan. Place a small arrow next to the photo number indicating the direction the camera was pointed. Label individual photos on the reverse side or provide a caption underneath digital photos.

Photographer name William M. Hunter

Date September 19, 2009

Location Negatives/Electronic Images Stored Heberling Associates, Inc.

- Photo 1: View of the house foundation, facing north.
- Photo 2: View of the house foundation, facing south.
- Photo 3: Detailed view of the house foundation, facing northwest.
- Photo 4: Detailed view of the stone lintel, facing west.
- Photo 5: View of the porch step and house foundation, facing northwest.
- Photo 6: View of the smokehouse, facing east.
- Photo 7: View of the smokehouse, facing south.
- Photo 8: View of the washhouse and smokehouse, facing southwest.
- Photo 9: View of the washhouse, facing southeast.
- Photo 10: View of the house yard well, facing northwest.
- Photo 11: View of the front yard well, facing east.
- Photo 12: View of a concrete foundation, facing north.
- Photo 13: View of a retaining wall, facing southwest.
- Photo 14: View of a foundation, facing west.
- Photo 15: View of a foundation, facing northwest.
- Photo 16: View of the Pennsylvania Barn, facing south.
- Photo 17: View of the Pennsylvania Barn, facing west.
- Photo 18: View of the Pennsylvania Barn, facing southwest.
- Photo 19: View of the basement barn, facing west.
- Photo 20: View of the basement barn interior, facing southwest.
- Photo 21: View of the silo, facing southwest.
- Photo 22: View of the cistern, facing south.
- Photo 23: View of the cistern, facing northwest.
- Photo 24: View of the engine house, facing north.

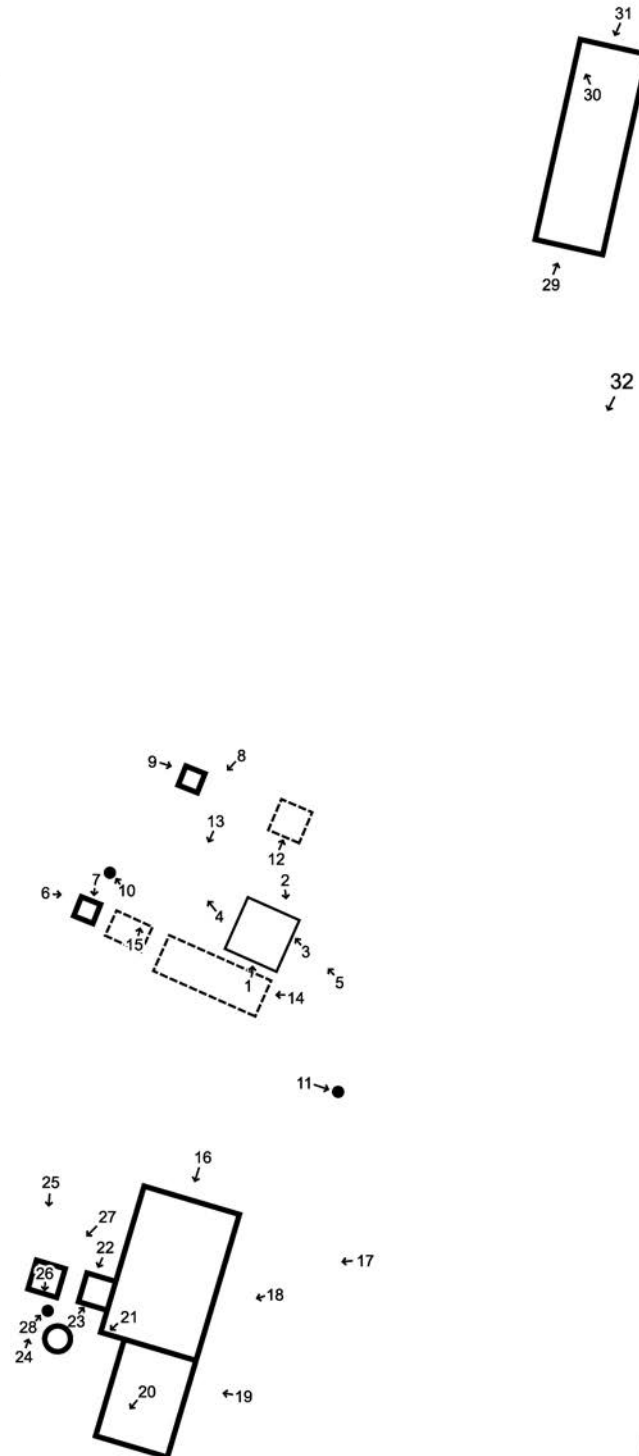
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- Photo 25: View of the engine house, facing south.
- Photo 26: Detail view of the engine house interior, facing south.
- Photo 27: View of the engine house and chimney, facing southwest.
- Photo 28: View of the barnyard well, facing northeast.
- Photo 29: View of the cellar tobacco barn, facing north.
- Photo 30: View of the cellar tobacco barn, facing northwest.
- Photo 31: View of the cellar tobacco barn, facing south.
- Photo 32: View of the levee and roadway, facing south.
- Photo 33: View of the eastern channel, facing north.

Photo Key

KEY

33 Photo Number, Location,
↙ and Direction of View



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Photo 1: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the house foundation, facing north.



Photo 2: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the house foundation, facing south.



Photo 3: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. Detailed view of the house foundation, facing northwest.



Photo 4: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. Detailed view of the stone lintel, facing west.



Photo 5: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the porch step and house foundation, facing northwest.



Photo 6: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the smokehouse, facing east.



Photo 7: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the smokehouse, facing south.



Photo 8: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the washhouse and smokehouse, facing southwest.

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Photo 9: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the washhouse, facing southeast.



Photo 10: Duffy Farm; Greenawalt Farm, Middletown, Lond., Dauphin County. View of the house yard well, facing northwest.

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Photo 11: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the front yard well, facing east.



Photo 12: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of a concrete foundation, facing north.

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Photo 13: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of a retaining wall, facing southwest.



Photo 14: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of a foundation, facing west.

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Photo 15: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of a foundation, facing northwest.



Photo 16: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the Pennsylvania Barn, facing south.

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Photo 17: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the Pennsylvania Barn, facing west.



Photo 18: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the Pennsylvania Barn, facing southwest.



Photo 19: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the basement barn, facing west.



Photo 20: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the basement barn interior, facing southwest.

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Photo 21: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the silo, facing southwest.



Photo 22: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the cistern, facing south.



Photo 23: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the cistern, facing northwest.

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Photo 24: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the engine house, facing north.

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Photo 25: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the engine house, facing south.

Key # _____

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Photo 26: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. Detail view of the engine house interior, facing south.

Key # _____

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Photo 27: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the engine house and chimney, facing southwest.

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Photo 28: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the barnyard well, facing northeast.



Photo 29: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the cellar tobacco barn, facing north.



Photo 30: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the cellar tobacco barn, facing northwest.



Photo 31: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the cellar tobacco barn, facing south.



Photo 32: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the levee and roadway, facing south.



Photo 33: Duffy Farm; Greenawalt Farm, Middletown, Londonderry Twp., Dauphin County. View of the eastern channel, facing north.