

CHAPTER 3

RESEARCH DESIGN

WAGAMON'S Mill Pond holds a central position in the landscape of the town of Milton, and has been the focus of several interesting historical events. Its exact position in the history of Delaware, and its significance in the planning process, are less easily refined by general statements.

Because this site has been professionally documented, it was not necessary to compile the exhaustive historical background that usually is part of a cultural resources survey. Chapter 2, above, is a summary of existing research provided by C. Russell McCabe of the Delaware Archives. This material was supplemented by a detailed title search, presented here as an appendix, and by oral history.

It remained for the author to compile, present, and acknowledge the historical work compiled by others.

Preservation planning in Delaware

The Division of Historical and Cultural Affairs, Bureau of Archaeology and Historic Preservation, is charged with historic preservation planning in Delaware. This agency has recently produced a statewide historic preservation plan.

As outlined in the state plan, the planning process involves three steps: identification, assessment of significance, and protection of significant resources in accordance with pre-determined categories of significance. Because the real authority and responsibility for protecting resources is a site-specific matter, the statewide plan is but an overview and an advisory framework.

Through the state plan, the National Register program has created criteria for identification and assessment of significance. While the Register provides a measure of protection of resources from federal activities, many losses occur because of activities that are not subject to federal or state laws and regulations. Indeed, local land-use regulations are recognized by the state plan as a key to effective preservation planning.

Historic resources in Delaware are divided by the Bureau of Archaeology and Historic Preservation into ten categories:

- Historic structures
- Historical archaeology
- Prehistoric archaeology
- Historic structure and historical archaeology
- Historic structure and prehistoric archaeology
- Historical archaeology and prehistoric archaeology
- Submerged historic site
- Submerged prehistoric site
- Submerged both prehistoric and historic
- Multiple resource

About 95% of Delaware's entries in the National Register are grouped in the first category, historic structures alone, even though a significantly large percentage of the identified cultural resources in the state are archaeological.

The National Register, however, considers four criteria for significance, against each of which every surveyed property must be evaluated. All four criteria must be separately considered before any site can be determined to be eligible or ineligible for the Register:

The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, *and*:

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history.

Archæological sites, or sites with purely historical and associational significance, which are classified in criteria A, B, and D, are not readily evaluated without extensive research. cursory “windshield” surveys are effective for applying criterion C, but virtually useless for the other three criteria.

To correct this natural imbalance in favor of the easily-distinguished criterion C, quantitative and statistical planning regimes must be imposed upon the survey activity. Unfortunately, the quality of “historical significance” remains anecdotal in most surveys, when it should be readily quantifiable.

Historic themes, or contexts, are important in evaluating historic properties as candidates for preservation or recordation in lieu of preservation.

To this end, the state plan develops historic contexts and property types. Historic movements, geographical context, and chronological periods, are used to classify historic sites in a “matrix” that could be employed as a first step in the process of quantifying the quality of significance.

Milton is geographically classified in the state planning documents in Zone IV, the coastal of Delaware, at its junction with Zone III, the lower peninsula/cypress swamp zone.

It is never easy to divide history into periods that can be applied everywhere. Unfortunately, such divisions of periods seldom are valid outside a very narrow zone where they are written. The state plan (Herman and Siders 1989) uses five broad historical periods for purposes of statewide planning:

1630-1730±	Frontier Settlement
1730-1770±	Frontier to durable occupation (and early urbanization)
1770-1830±	Transformation from colony to state
1830-1880±	Industrialization and capitalization
1880-1940±	Suburbanization

In each community, local conditions will affect the exact specifications for the historical planning matrix. For Milton, the period 1800-1840 is a period of waterborne industrial commerce, characterized by development of the bog ore, lumber, and grain trades, supported by shipbuilding. During this period Broadkill Hundred was among the most intensively cultivated areas in the state, producing grain and grain products for export, as well as forest products from the interior.

Water power and navigability of the Broadkill conspired to make this one of the leading towns of the state, even before its incorporation at mid-century. This period was the heyday of water powered milling in the drainage. The Wagamon pond came into being at this time.

From the middle of the nineteenth century to the beginning of the present century, Milton's canning activity helped it maintain a central position in the state's industrial economy. The large Draper-King Cole cannery, which dominates the community today, is merely the last survivor of a series of similar industrial enterprises that began during the earliest days of canning in America.

The industrial period in Milton, therefore, spans a longer range than the one defined in the state plan, since Milton participated in the "heavy" iron and forest products industries on a major scale before 1830, and continued to be economically dependent upon industry long past 1880.

Only since World War II has Milton experienced suburbanization, most recently adding bedroom subdivisions to serve as suburbs to more distant centers, and as resort or retirement housing.

A realistic approach to dividing Milton's history into periods would be the following:

1670-1800±	Frontier resource exploitation and settlement
1800-1840±	Community building and early industrialization
1840-1950±	Industrial, political, and commercial dominance
1950± -	Suburbanization

A management plan for historical archaeological resources (DeCunzo and Catts 1990) identifies seven property types in Delaware: Agricultural, Industrial, Commercial, Maritime, Residential, Public/Religious, and Urban. These divisions clearly are not easily determined, since any of the first six types could also be urban.

The mill, the miller's house, and the bridge/dam structures fall into the middle two periods of Milton's history. While it was operable, the mill's power system was a direct tangible link with the early industrialization period. Those parts of the site that now are visible all belong to the third period, Milton's era of dominance in the affairs of eastern Sussex County.

Application of National Register criteria

The first objective of any cultural resource survey is to identify sites that might prove to be eligible for the National Register. In assessing the significance of a site, all four criteria must be considered. At the outset, two of the four criteria could be eliminated from consideration.

Little in the site's history could justify criterion A, sites associated with events that have made a significant contribution to the broad patterns of our history. The dam site could have significance under criterion B, sites associated with the lives of historically significant persons. However, the people associated with the site are represented by more intimately associated sites.

Consideration of the four criteria permitted narrowing the research focus to two aspects of the site that might render it eligible: archaeology under criterion D, or as a distinctive representative of its type under criterion C.

Fortunately, the site was so well documented in advance of the project that it was possible to assess not merely probable property types, but specific buildings, that had stood on the site during the past two centuries. These consisted of four successive mills and their associated granaries, as well as ice houses, which stored the mill pond's ice for the summer months. These

could all be considered ancillaries to the main function of the site, which was water-powered grain milling. Since identification and location were unnecessary, the entire purpose of the project was to determine integrity, an issue that is central to consideration of all National Register criteria.

Research methods and objectives

The site is blessed with ample and accurate documentation in the form of maps and surveys back to the eighteenth century. When approaching the micro-geography of such a well-documented site, a researcher's first task is to draft a database of comparable cartographic evidence (FIGURES 2, 3, 6, 7) that shows the site's evolution through time. Since 1853, maps of the site have accurately shown the locations of succeeding structures.

By comparing the historic maps, it was possible to demonstrate that the roadway has varied little, if any from its original eighteenth-century course. The present dam and roadway certainly are the same as the structure built in 1815. Examination of the maps also revealed that the entire project area is either cut or filled land, where prehistoric sites are unlikely to have survived. The south end of the dam, around the mill site, was cut away as a borrow pit. The rest of the project area consists of the dam structure built in 1815. Prehistoric sites were therefore not considered at all likely to exist intact.

It was possible, with a high degree of confidence, to determine that the road reconstruction will not affect sites of the known historic structures north of the spillway, since the road will stay within its historic right-of-way. Fieldwork north of the bridge would therefore be redundant.

The existing 1917 waste gate and penstock bridges have been photographically recorded for the Historic American Engineering Record by Tim O'Brien, staff photographer of the Delaware Department of Transportation (PLATES 2, 4, 7, 8, 11, 14, 15-22). The text of the documentation is found in Appendix 2 of this report.

In connection with the current study, copies of historic pictures of former structures were collected for deposit with the site record at Island Field. The waste gate spillway has been documented in detail by Thomas Tyler Moore Associates, consultants working for the Corps of Engineers (Philadelphia District 1979).

This data, together with the information gathered for the reconstruction project, constitute a virtually complete engineering record of the existing structures.

Archæological investigation was restricted to eight machine cuts to determine the extent of below-ground features associated with the mill. The objective of this subsurface survey was limited to determining the integrity of the buried mill ruins.

It was never intended to open artifact-bearing deposits or to recover artifacts that might be uncovered, since the purpose of the study was to determine the integrity of a well known and profusely documented site, for which abundant photographic evidence survived. Since the fill to be removed was less than twenty years old, there was no need to analyse it further.

Integrity was the most important consideration in assessing the eligibility of the mill, since three different structures, constructed in four stages, are known to have stood on the same site. Because there are abundant mill sites with high integrity in the immediate vicinity, any compromised integrity would disqualify the site for listing under criterion D.

CHAPTER 4

DESCRIPTION OF FIELD WORK

EXCAVATION WAS RESTRICTED to machine-cut trenches through the vicinity of the mill, in order to determine if the site possesses integrity. Ten trenches, beginning at the south end of the project area, were cut June 26 and 27, 1990. No artifacts were collected, and the trenches were backfilled as soon as they were measured. Loose sandy fill and a high water table rendered hand work in the trenches unsafe.

All the work was performed with a Gradall, equipped with a bucket two feet wide. Virtually all the cutting consisted of digging away fill that had been placed over the site after the last fire, within living memory. There was, therefore, little need to be concerned with dating layers of material.

Trenches south of Mill Alley

Trenches 1-5 were perpendicular to the street (FIGURE 8, FACING PAGE) south of the main activity area of the Wagamon Mill complex. These tests were sunk to determine the presence or absence of earlier remains, such as a prehistoric site or an undocumented early domestic site.

In all four trenches, the thin topsoil overlay a stratum of clean white sand fill, which in turn capped a yellow sandy subsoil. The street and sidewalk elevations in all three locations were considerably higher than the surrounding ground surfaces. In trenches 3 and 4, the slope was filled with brick rubble. Lenses of hard, shelly, sand in trenches 1 and 2 may have resulted from compaction under a roadway.

A deposit of brick rubble in trench 4 may be a robbed footer or demolition waste. Overall, these four trenches appear to confirm reports that this area served as a borrow pit before the twentieth-century buildings were erected. Across the street, the steep sides and flat bottom of the former pit are more obvious.

Mill Alley

Mill Alley intersects Mulberry Street at an angle. As the name suggests, it originally connected the mill with the center of town, up hill to the east. Today it is still open, as a mere trace. When the mill was standing, a blacktop driveway at the loading bays covered part of the alley. Immediately south of the alley was a warehouse building, with gas pumps to fuel company vehicles.

Trench 5 was cut parallel to the alley and slightly to the south of its present trace. The old tarred surface of the street was encountered below a thin layer of sand fill. Below the tar, the soil was striped gray and smelled of petroleum products.

Trench 9, along the sidewalk, contained the blacktop driveway apron, under which was a pipe that also was identified in Trench 6. Brick rubble under the blacktop on the north end of the trench appears to be demolition debris. This trench filled quickly with water at about thirty inches below grade, at which point the soil appeared to be fill.