

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

1. Name of Property

historic name: Boyd's Windmill

other name/site number:

2. Location

street & number: Prospect Avenue, near Paradise Avenue

not for publication: N/A

city/town: Middletown vicinity: N/A

state: RI county: Newport code: 005 zip code: 02842-0196

3. Classification

Ownership of Property: Private

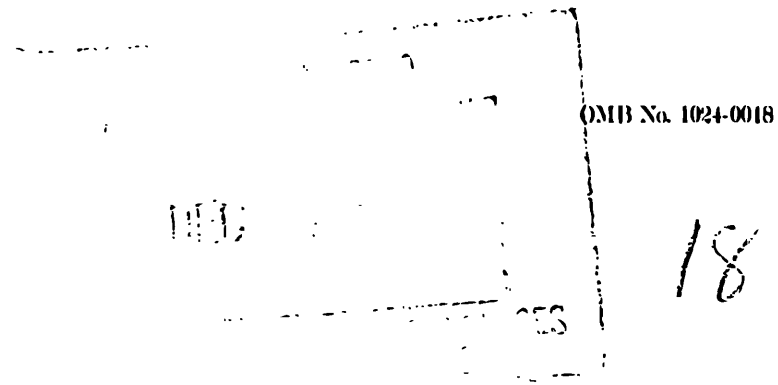
Category of Property:

Number of Resources within Property:

Contributing	Noncontributing	
_____	_____	buildings
_____	_____	sites
<u>1</u>	_____	structures
_____	_____	objects
<u>1</u>	_____	Total

Number of contributing resources previously listed in the National Register: 0

Name of related multiple property listing: N/A



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4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register Criteria.

See continuation sheet.

Fulgent W. Manser
Signature of certifying official

19 Dec 2000
Date

State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria.

See continuation sheet.

Signature of commenting or other official Date

State or Federal agency and bureau

5. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register See continuation sheet.
- determined eligible for the National Register See continuation sheet.
- determined not eligible for the National Register
- removed from the National Register

other (explain): _____

Ethan H. Beall

1-26-01

be
Signature of Keeper

Date of Action

6. Function or Use

Historic: INDUSTRY/PROCESSING/
EXTRACTION

Sub: manufacturing facility

Current: RECREATION & CULTURE

Sub: museum

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7. Description

Architectural Classification:

NO STYLE

Other Description:

Materials:	foundation	<u>concrete</u>	roof	<u>wood/shingle</u>
	walls	<u>wood/shingle</u>	other	

Describe present and historic physical appearance.

X See continuation sheet.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties: locally

Applicable National Register Criteria: A

Criteria Considerations (Exceptions): B

Areas of Significance: AGRICULTURE

Period(s) of Significance: 1810-1943

Significant Dates: 1810 1901

Significant Person(s):

Cultural Affiliation:

Architect/Builder:

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

X See continuation sheet.

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9. Major Bibliographical References

See continuation sheet.

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

Primary Location of Additional Data:

- State historic preservation office
- Other state agency
- Federal agency
- Local government
- University
- Other -- Specify Repository: Middletown Historical Society archives

10. Geographical Data

Acreage of Property: less than one

UTM References: Zone Easting Northing			Zone Easting Northing		
A	<u>19</u>	<u>310600</u>	<u>4596620</u>	B	_____
C	_____	_____	_____	D	_____

See continuation sheet.

Verbal Boundary Description: See continuation sheet.

Boundary Justification: See continuation sheet.

11. Form Prepared By

Name/Title: Norman W. Hall, Director

Organization: Middletown Historical Society, Inc. Date: 3/2000

Street & Number: P.O. Box 4196 Telephone: 401-846-2186 (H) 401-849-1870 (W)

City or Town: Middletown State: RI ZIP: 02842-0196

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Description

Boyd's Windmill (1810, 1901) is a timber-framed octagonal smock mill with a rotating hemispherical cap and eight vanes. The shingled mill tower is thirty feet tall; the cap is eight feet high; the tower is eighteen feet wide at the base and fifteen feet at the top. The mill has three levels. Two plain doorways provide access to the lower level. Small windows light the first and second levels. A narrow interior stair leads from the lower level to the middle; a ladder provides access to the upper level.

The mill sits on a high fieldstone and concrete foundation. It is a tapered tower, framed with a post at each of its eight corners, extending from foundation to cap. Diagonal braces on each level supplement horizontal and vertical members.

The mill has eight vanes, framed in mahogany; each vane is twenty-eight by seven and a half feet. Each vane carries a canvas sheet, which can be reefed or removed when needed. Each vane is bolted to a pine stock, and each stock is, in turn, secured to the windshaft with a steel canister.

The upper level of the mill is covered by the cap and houses the windshaft and brake. The windshaft is inclined slightly upward from the horizontal and turns against a curb (or track) which runs around the circumference of the cap. Iron cogs on the outside of the curb mesh with a worm on an axle. The axle is connected to a chainwheel mounted on the outside rear of the cap. An endless chain, mounted on the wheel, reaches to the ground and, when pulled, turns the chainwheel, the worm, and the entire cap to orient the vanes to the wind. The oak brakewheel encircles the windshaft, its cogs meshing with the wallower, a smaller wheel set horizontally below the brakewheel and axled into the shaft of the upper millstone, located on the level below. Grain flows from the upper level to the middle level from a large hopper through a wooden feed shoe.

The middle level of the mill contains the grinding mechanism, two round stones of gray Fall River granite, each five feet in diameter and twenty-two inches thick, set horizontally. The lower (or bed) stone is level and stationary. The upper (or runner) stone is suspended over the bed stone from a central vertical iron spindle which is attached to the bridgetree, a crossbeam. Each turn of the windshaft turns the upper millstone six times. The space between the stones is adjusted using the tenting staff, a large wooden lever. The entire grinding mechanism is

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set in a large circular wooden vat. As the grain is ground between the stones, it drains off the outer edges of the stones into the vat and is carried into a chute leading to the lower level of the mill.

The lower level of the mill contains storage and workspace. As the flour or meal comes down the chute from the second level, it is bagged and stored here.

Boyd's Windmill was moved and restored in the 1990s by the Middletown Historical Society. The mill now sits on a concrete foundation; its visible surface is covered by fieldstones from the mill's original foundation. The canister, windshaft, and vertical shaft had deteriorated during a long period of disuse and were restored with well documented and carefully crafted replacements, as were some rotted corner posts, floorboards, and plank sheathing. The mill was constructed in 1810 with four vanes; in 1901 four additional vanes were added. In 1916 Benjamin Boyd removed the 1901 vanes and operated the mill with a gasoline engine. The Middletown Historical Society used photographic evidence to restore the eight-vane configuration.

Now located near the intersection of Paradise and Prospect Avenues, Boyd's Mill is set in a small town park. The new location is just south of the site of the last of Middletown's six windmills and is an appropriately rural setting, opposite the William Peckham House (1750), adjacent to the Paradise School (1875, National Register), and overlooking several historic farms on Paradise Avenue.

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Photographs

For View 1

- #1 Photographer: Unknown
Date: 1990
Negative: Middletown Historical Society

View: Boyd's Mill before restoration (1990); on original Portsmouth site, facing north.

For Views 2-9

Photographer: Stanley Grossman
Date: March 3, 2000
Negative: Middletown Historical Society

- #2 View: Boyd's Mill, Paradise Valley Park, a distant view of its new setting, facing south.
- #3 View: Boyd's Mill with full sails, facing south.
- #4 View: South side of mill; the "chain wheel" used to turn the cap.
- #5 View: Interior of cap: Oak horizontal windshaft, brake wheel, wallower and vertical drive shaft.
- #6 View: Interior: Vertical oak drive shaft, grain hopper, feedshoe, and quant (steel fork) let into the upper grind stone and encased in the stone case or tun.
- #7 View: Interior: Staircase leading from 1st to 2nd floor.
- #8 View: Interior: One of eight oak braces, mortised and pegged tgo each of the eight corner (cant) posts

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#9 View: Interior: A corner (or cant) post showing mortise and tenon construction.

For Views 10-12:
Architect's drawings (1994), by Richard Long
Negative: Middletown Historical Society

#10 View: Cut-away of cap, showing windshaft and brakewheel.

#11 View: Looking down through cap to curb, showing windshaft and brake wheel.

#12 View: Southeast side of mill showing interior construction.

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Significance

Boyd's Windmill (1810, 1901) is significant for its ability to document important patterns of Aquidneck Island's agricultural history. In its physical form and function, the windmill preserves information about an important aspect of Rhode Island's agricultural history: the milling of grain. Further, the windmill, built in Portsmouth and now located in Middletown, has significance as a rare survivor. It is typical of a once-numerous class of resources, now much diminished in number. At least thirty other windmills once operated on Aquidneck Island; only two still remain.

Agriculture was the dominant economic activity in most of Aquidneck Island in the eighteenth and nineteenth centuries and the first half of the twentieth century. In the eighteenth century, Portsmouth and the area of Newport set off in 1743 as Middletown were an agricultural hinterland outside the center of the great colonial city. Aquidneck Island farms supplied food for Newport's tables as well as produce carried by Newport's ships. By the end of the eighteenth century and throughout the nineteenth, most of the land in Portsmouth and Middletown was under cultivation.

While much of Rhode Island's landscape was modified by nineteenth-century changes in industry and transportation, Middletown and Portsmouth remained agricultural, as they had no substantial streams to power mills. Their rolling terrain and rich soils were valuable farmland, producing vegetables, grains (including oats, barley, rye, and corn), dairy and poultry products (milk, cheese, and eggs), and livestock (sheep, swine, and horses; later, chickens and some cattle).

The population grew steadily throughout the nineteenth century. Farms grew in number and size, and the number of summer visitors, drawn by the beautiful landscape of seaside farms, increased. By the end of the century, Aquidneck Island had its own agricultural society, fairs, and a grange. Over the course of the second half of the twentieth century, Portsmouth and Middletown have been increasingly developed, as military bases were expanded in Newport and suburban homes consumed former farmland. Nevertheless, agriculture remains an important part of the island's economy and its landscape. The specialized crop of nursery shrubs and trees has largely replaced the general farming of previous centuries.

The first gristmill on Aquidneck Island was constructed in Newport in the 1660s; since then, at least thirty different mills have operated on the

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island. All were windmills, in contrast with other areas of the state where small early mills were water-powered. Set on high locations to catch the wind, these mills were essential adjuncts of Aquidneck Island's agriculture, processing locally grown grains into flours, meals, and feeds. Several dozen windmills have operated on Aquidneck Island over the past three centuries. Seven were in use as late as 1900. Of these, only two survive, the Sherman Mill at Prescott Farm in Portsmouth and Boyd's Windmill in Middletown.

Always highly visible elements of the community, windmills have become the symbol of an older Aquidneck, representing a time when the island was characterized by open fields and scattered farmhouses. Though many of the farm fields of Middletown and Portsmouth have been overtaken by new housing developments, the windmills remain an icon. Middletown's coat of arms depicts a windmill.

Boyd's Windmill was constructed by John Peterson in 1810 on Windmill Lane in Portsmouth. In 1815 it was leased (and later sold) to William Boyd and was operated by succeeding generations of Boyds. The mill's principal product in the nineteenth century was animal feed, but there was also a small but consistent demand for finer meals as well. In the twentieth century, as grains from the west replaced locally grown animal feed, the Boyds focused on the production of corn meal. Their own brand, Boyd's Famous Johnny Cake Meal, was used to prepare the celebrated Rhode Island food specialty. In 1943 milling ceased. The mill was abandoned and became dilapidated until it was donated to the Middletown Historical Society which moved it to Middletown in 1995. The society has since restored the mill to its early twentieth-century appearance and operation.

Criteria Consideration B: Boyd's Windmill is a moved building and thus is typical of Aquidneck Island windmills. Though not specifically designed for portability, the windmills were moved frequently, so often that the original location of many mills is no longer known. The only other surviving windmill on the island, Sherman's Mill, now located at Prescott Farm in Portsmouth, has been moved no fewer than four times in its history.

Period of Significance: Boyd's Windmill dates from 1810 and, so far as is known, operated continuously until 1943. The design and construction are consistent with what is known of early nineteenth-century windmills, but the materials date to several periods of the structure's history.

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As with all operating industrial facilities, it has been necessary over time to repair, replace, and reconfigure the physical elements of the mill. The changes made through time to Boyd's Mill fall into two categories. Some give evidence of being carried out in a manner consistent with the historic plan and configuration of the mill, but nevertheless reflect a change in materials, such as the replacement of the grinding stones in 1885 and the replacement of the windshaft, vanes and sails, and canister in the 1990s. Other well-documented alterations to the configuration of the mill, most notably the change in the number of vanes in the early twentieth century, represent changes in the technology of small-scale milling.

The period of significance for the windmill is defined as 1810 to 1943 for two reasons. First, the mill was an important part of the island's agricultural life from its construction until it ceased operations in 1943. Secondly, the mill's physical materials have been replaced, repaired, and reconfigured over the course of two centuries.

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Major Bibliographical References

Boyd, Benjamin F.C. "Wind Grist Mills of Rhode Island. Story of a Bygone Era." A series of five articles. *Fall River (MA) Herald-News*, February 10-14, 1942.

The Bristol (RI) Phoenix, May 8, 1942 et seq.

The Bulletin of the Society for the Preservation of New England Antiquities, "Old Time New England: The Boyd Windmill," v. XXI, no. 3, Serial 63, January 1931.

"Historic U.S. Windmills," ECNS Video, Box 819, Exmore, VA 23350

Providence (RI) Sunday Journal, September 14, 1941.

The Sakonnet Times (Portsmouth, RI), Historical Page. "Boyd's Mill: today and yesterday," January 19, 1979.

Wind Grist Mills on Aquidneck Island. Middletown Historical Society, 1992.

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Geographical Data

Verbal Boundary Description:

The boundary of Boyd's Windmill is defined as the land which the resource occupies. The mill is located on Middletown Tax Plate #121 (1989), lot #3A, a 3600 square foot area leased by the Town of Middletown to the Middletown Historical Society.

Verbal Boundary Justification:

As a moved structure, Boyd's Windmill is no longer associated with its original site. Its current site, while appropriately rural, does not wholly replicate all of the conditions of the original site. Boyd's Windmill is one of a class of resources which were frequently moved and does not derive its significance from a particular location.