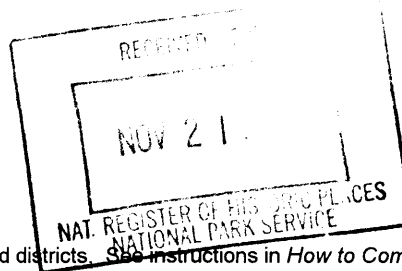


United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable". For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer to complete all items.

1412



1. Name of Property

historic name Terryville Waterwheel

other names/site number N/A

2. Location

street & number 262 Main Street

city or town Plymouth

☐ not for publication
☐ vicinity

state Connecticut code CT county Litchfield code 005 zip code 06786

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, 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. I recommend that this property be considered significant
☐ nationally ☒ statewide ☐ locally. (See continuation sheet for additional comments.)

November 20, 2001

Signature of certifying official/Title

Date

John W. Shannahan, Director, Connecticut Historical Commission

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of certifying official/Title

Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the 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):

Signature of the Keeper

Date of Action

for
Beth Savage

1/4/02

Terryville Waterwheel
Name of Property

Litchfield County, CT
County and State

5. Classification

Ownership of Property

(Check as many boxes as apply)

☒ private

☐ public-local

☐ public-State

☐ public-Federal

Category of Property

(Check only one box)

☐ building(s)

☐ district

☐ site

☒ structure

☐ object

Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing

Noncontributing

_____ buildings

_____ sites

_____ 1 _____ structures

_____ objects

_____ 1 _____ 0 _____ Total

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions

(Enter categories from instructions)

INDUSTRY: energy facility

Current Functions

(Enter categories from instructions)

RECREATION AND CULTURE: monument

7. Description

Architectural Classification

(Enter categories from instructions)

Other: high breast wheel

Materials

(Enter categories from instructions)

foundation STONE

walls N/A

roof N/A

other Arms, shrouds, buckets: WOOD

Axle, gears, fasteners: IRON

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

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National Register of Historic Places
Continuation Sheet

Terryville Waterwheel

Section number 7 Page 1

Plymouth, Litchfield County, Connecticut

The Terryville Waterwheel (Photograph 1) is a large composite wood and iron waterwheel of pitch-back configuration dating to 1851. The factory that it powered was destroyed about 1940, but the wheel occupies its original site on the west bank of the swift-flowing Pequabuck River in the Terryville section of the town of Plymouth. The wheel is protected by a shelter erected in 1956, the roof of which duplicates the curve of the waterwheel (Photographs 2 and 3). The shelter has brick walls on the west and north sides and is open (except for iron railings) on the east side, facing the river, and the south side, facing Main Street. Originally, the wheel was enclosed by a small gable-roofed building attached to the main mill (see Figure 2). The area is one of small-scale commercial and industrial buildings, several of which appear vacant or marginally used. Currently, there is no margin of land around the shelter to provide a larger setting for the wheel.

Overall, the wheel measures 22' in diameter and 7' across. It is set within a wheel pit formed on the north side by cutting away the ledge outcropping of the river bed and on the other sides by fieldstone rubble. The wheel pit walls are capped by concrete poured as part of the protective structure. The wheel has a round iron shaft (Photographs 4 and 5) that measures 12 3/4 " in diameter, with the ends turned down to 9 3/4 " where they rest in simple open cast-iron bearings. Secured to the shaft by numerous iron wedges is a large casting that forms the mortises or pockets for the wheel's 14 sets of wooden arms. The casting takes the form of a 1"-thick disk, 56" in diameter, on the outside face, with the inside divided into 6"-deep mortises each measuring 4 1/2" wide by 11 1/2" long, with a central key on each side to hold the end of the arm. The circumference of the casting is scalloped between each pair of arms, a weight-saving feature. The arms are secured in the mortises by four 7" x 1/2" square-headed bolts.

All the wooden parts of the wheel date from its rehabilitation in 1990-1991 and are formed from pressure-treated yellow pine. The arms are 5 1/2" x 5 1/2" pieces and are 9' 7" long. Each pair of arms on the two sides of the wheel is cross-braced by two 5/8" iron tie rods, threaded at the ends to bear against small cast-iron fittings. The outer ends of the arms are mortised and bolted into the wheel's rims, called shrouds in waterwheel terminology, which are made up of three thicknesses of 1 1/2" x 12" boards bolted together. The buckets along the face of the wheel are formed from 5 1/2"-wide boards a full 1" thick. The buckets are 74" wide and are spaced 15" apart, with their depth tapering from 9" to 4 1/2"; there is a narrow venting space between buckets (Photograph 6). On the outside surface, the buckets are braced at their midpoint by L-shaped cast-iron fittings that bolt to the adjacent buckets (Photograph 7). There are four buckets per segment, for a total of 56.

The east side of the wheel has an iron external ring gear attached to the shroud by countersunk rectangular-headed bolts. The teeth are set 3" on center and measure 2" high and 1 7/8" at the base, narrowing in a reverse curve toward the top. The ring gear was cast in segments of 20 teeth. The ring gear originally engaged a pinion at the north end of the east side of the wheel. The pinion (Photograph 9) is a six-spoked gear with 1 1/2" x 2" teeth along its circumference. The pinion is keyed onto a 4" shaft supported on cast-iron split bearings with bronze sleeves; there is a large grease opening on the top of each bearing. The wheel and pinion are no longer in engagement; as part of the restoration, the wheel's main bearings were placed on short piers in order to raise the wheel above the high-water level.

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Continuation Sheet

Terryville Waterwheel

Section number 7 Page 2

Plymouth, Litchfield County, Connecticut

Two components of the wheel are no longer in place. The wooden flume that conveyed the water from the dam upstream (no longer in place) is also missing; Figure 3 shows its appearance in 1951. Also, the north side of the wheel pit would have been planked to follow the curve of the wheel, creating a "breast" that would serve to hold the water in the buckets for as long a time as possible.

The name of the property, Terryville Waterwheel, was chosen because it best reflects its overall historical significance. Formerly, the wheel was known as the Eli Terry, Jr. Water Wheel, in the belief that it dated from the construction of Eli Terry, Jr.'s clock factory on the site in 1824. That factory, then in the ownership of the Lewis Lock Company, was completely destroyed by fire on September 21, 1851, and immediately rebuilt, presumably including the wheel. Two years later, in January of 1854, the Lewis Lock Company was merged with the James Terry & Company lock company to become the Eagle Lock Company, a company that remained a major employer in Terryville for more than a century. The name "Terryville Waterwheel" appears in the title of an explanation of these circumstances by the country's foremost historian of the lock industry (Bailey and Hennessy 1997).

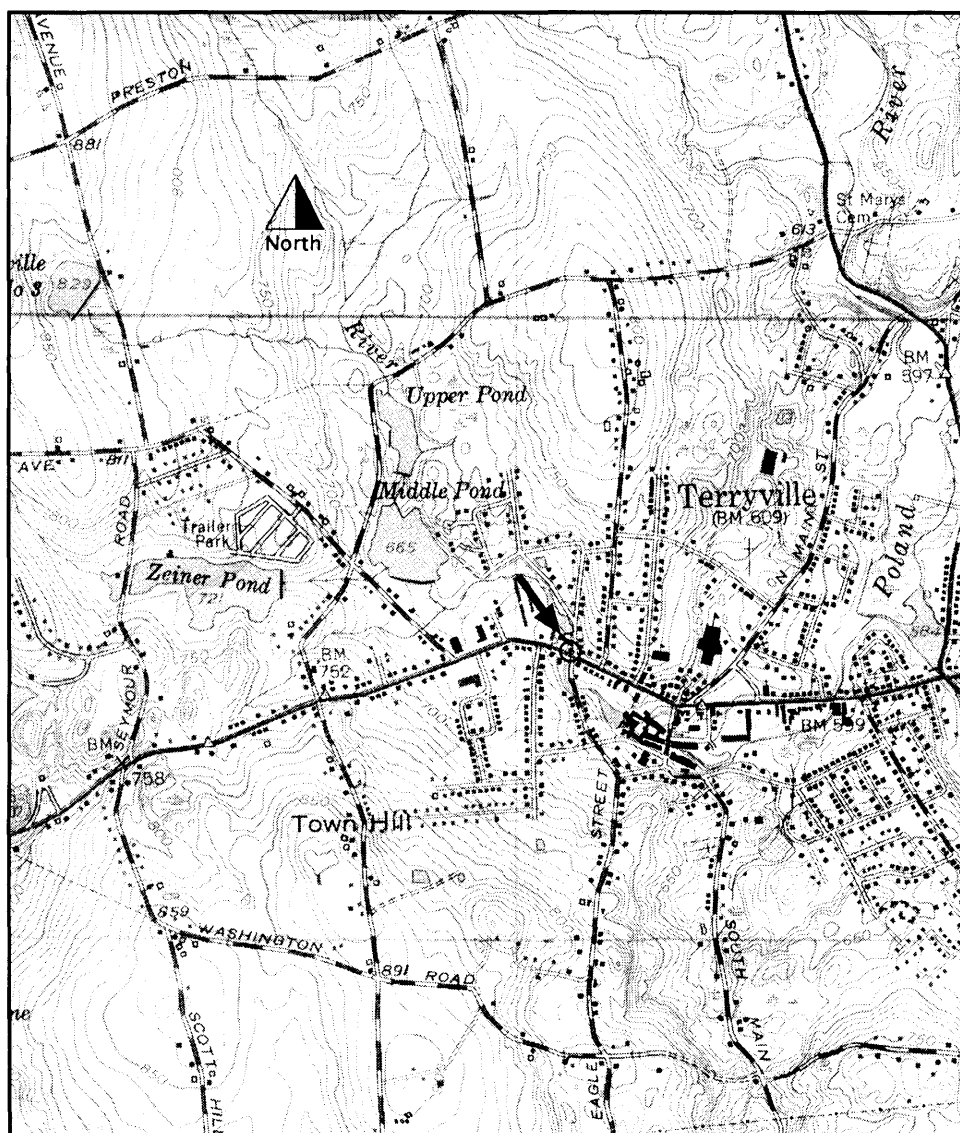
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National Register of Historic Places Continuation Sheet

Section number 7 Page 3

Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Figure 1: Location of Terryville Waterwheel, plotted on U.S.G.S. Thomaston
Quadrangle, 1:24000



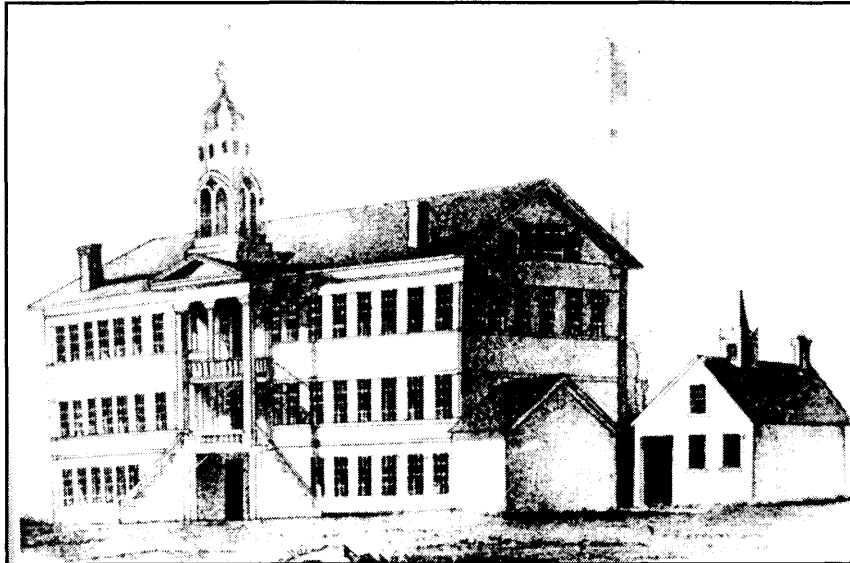
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National Register of Historic Places Continuation Sheet

Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Section number 7 Page 4

Figure 2: Lewis Lock Company factory, as shown on the Clark map of 1852. The waterwheel is located within the small windowless addition on the end of the main factory building.



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Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Figure 3: Terryville Waterwheel in 1951 (Harte 1956). The partial brick wall is a remnant of the brick basement story of the mill.



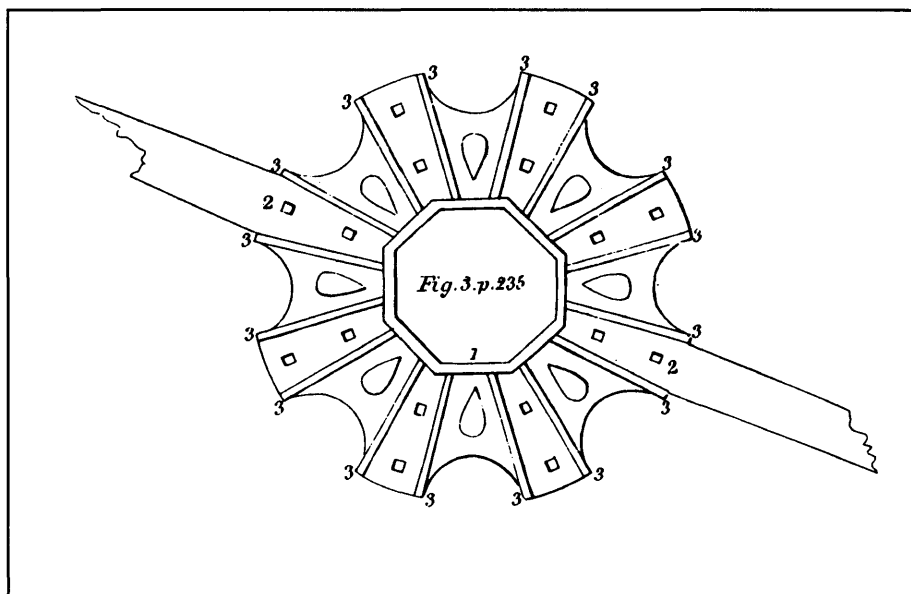
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Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Section number 7 Page 6

Figure 4: Cast-iron hub casting for arm mortises, 1826, Plate 28, *Young Mill-Wright* (Evans 1850). The Terryville wheel's mortises have straight sides and the arms are secured with four bolts, but the principle is the same, including the use of curved areas between arms to save weight.



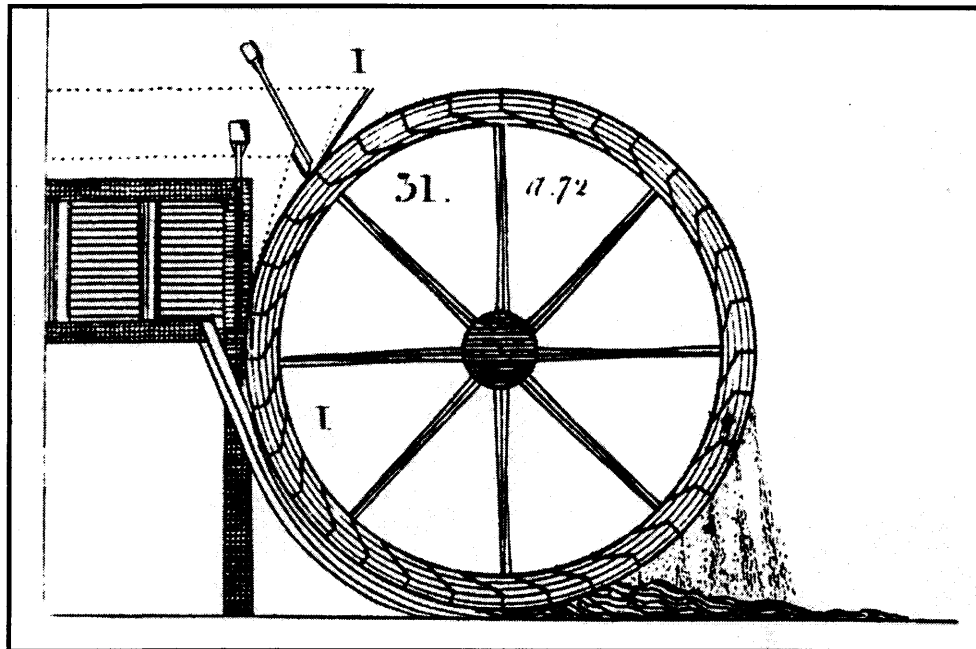
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Section number 7 Page 7

Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Figure 5: Illustration of a high-breast wheel, from Oliver Evans's *Young Mill-Wright*. The wheel becomes a pitchback wheel when the flume is positioned higher, as shown by the dotted lines, a design that Evans particularly recommended when conditions allowed and very close to the configuration of the Terryville Waterwheel.



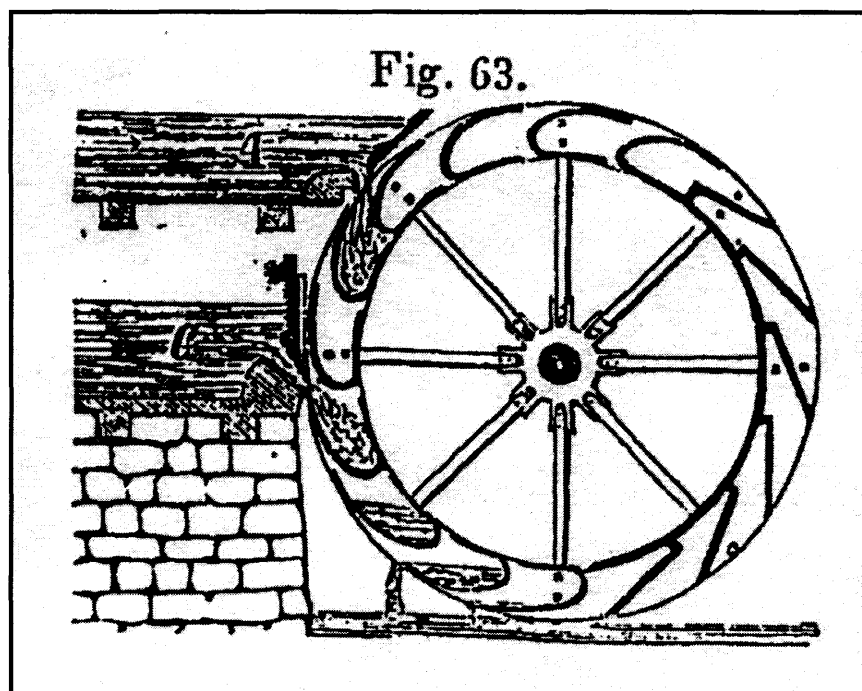
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Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

- Figure 6** Illustration of a pitchback/high breast wheel, from Frederick Overman's *Mechanics for the Millwright* (1851). The upper flume represents the pitchback configuration and resembles the flume that formerly was in place in Terryville. The hub is also similar to that used in Terryville, as are the scoop-shaped buckets on the right side of the wheel (the left side illustrates the more efficient curved buckets that could be accomplished with iron construction).



Terryville Waterwheel
Name of Property

Litchfield County, CT
County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark an "X" in one or more boxes for the criteria qualifying the property for National Register listing.)

- ☒ **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ **B** Property is associated with the lives of persons significant in our past.
- ☒ **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☒ **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "X" in all the boxes that apply.)

Property is:

- ☐ **A** owned by a religious institution or used for religious purposes.
- ☐ **B** removed from its original location.
- ☐ **C** a birthplace or grave.
- ☐ **D** a cemetery.
- ☐ **E** a reconstructed building, object, structure
- ☐ **F** a commemorative property.
- ☐ **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

INDUSTRY

ENGINEERING

Period of Significance

c. 1851

Significant Dates

c. 1851

Significant Person

(Complete if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

N/A

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographic References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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 Building 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

Name of repository:

Connecticut Historical Commission,
59 South Prospect Street, Hartford, CT 06106

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**National Register of Historic Places
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Section number 8 Page 1

**Terryville Waterwheel
Plymouth, Litchfield County, Connecticut**

Summary Statement of Significance:

The Terryville Waterwheel is the most nearly intact of the three known 19th-century wooden waterwheels* remaining in Connecticut. There are three interrelated components to its significance:

- It is an evocative monument to Connecticut's early years of industrialization (Criterion A), when industries from clocks to firearms to textiles relied in whole or in part on waterpower. The consumer-oriented manufacturing that transformed Connecticut from a mostly agricultural state to one of the country's most industrialized and urbanized societies had many roots: technological innovation, market savvy from the pedlar trade and from connections to the New York City-based wholesale sector, and a goodly amount of capital from the state's successful merchant families. One other factor was essential: the state's many fast-moving streams and rivers provided sufficient power, at least in the early years, to operate the various innovative machinery that allowed quantity-production to take place. In many cases, the early factories took over sites that had powered the mills of the agrarian economy--grist, saw, and fulling mills--but even when entirely new sites were exploited, the state's early manufacturing enterprises relied on the waterwheel technology that was developed by small-scale traditional mills.
- It is a rare surviving example of a once-common type of construction, the wooden waterwheel, that was important not only for powering industry but also for advancing the knowledge and practice of civil and mechanical engineering (Criterion C).
- Because so few survive, every remaining example has information value (Criterion D). Although it is known from published technical works (e.g., Buchanan 1841; Evans 1850; Overman 1851) what the period's leading authorities thought about the issues surrounding the efficient exploitation of waterpower, it can only be known what occurred in practice by studying actual examples.

Historic Context:

For Connecticut's Western Uplands, as well as the other regions in the state, the formation and growth of manufacturing industries was one of the major developments in the period between the Revolution and the Civil

* Although the term "waterwheel" as used in the 19th century also included turbines, here it is used in the more limited sense of the traditional large wheel with buckets revolving on a horizontal axle. The other two Connecticut wheels, both composite wood and iron wheels dating from the mid-19th century, are in the Gillett Gristmill in New Hartford and at the site of the Maltby-Stevens coconut-dipper factory in North Branford. Both are part of National Register-listed properties and both are in ruins.

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Continuation SheetSection number 8 Page 2Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

War (Rossano 1996: 31). These nascent industries--clocks, locks, buttons and other brass items, and rubber products--were characterized by local specialization and exploitation of the larger waterpower sites in the area, such as the Pequabuck River. Terryville is a good example. The village takes its name from Eli Terry, Jr., son of the pioneer clock manufacturer, who in 1824 set up his own clock factory at this site. In addition to being able to exploit a substantial fall in the Pequabuck River for waterpower, the Terry factory also benefitted from its location on the Middle Road Turnpike, chartered in 1803 to improve the road between Hartford and Danbury (later, in the 1850s, the construction of the Hartford, Providence, and Fishkill Railroad through Terryville assured that the village's transportation advantages would continue). Terry built many houses to accommodate workers, and he also gave generously to establish a Congregational Church within the village.

In 1833 Eli Terry, Jr. branched out beyond clock production by bringing English lockmaker Stephen G. Bucknall to the village. In partnership with William E. McKee, his brother-in-law and a fellow clockmaker, and John C. Lewis, the local postmaster, Terry formed a company to manufacture cabinet and trunk locks using Bucknall's expertise and space made available in one of Terry's buildings. The upper factory, where the present Terryville Waterwheel remains to mark the spot, was used for clockmaking until 1846, when it was purchased by the lock manufacturing firm of Lewis and Gaylord. Lewis and Gaylord was the successor (via several permutations of partners and buy-outs) of Terryville's original lock enterprise and was incorporated in 1851 under the name of Lewis Lock Company. Shortly thereafter, the company merged with the James Terry & Company lock business (James Terry was the son of Eli Terry, Jr., who had died in 1841) to become the Eagle Lock Company. With its substantial head start in the market, as well as access to power, transportation, and a local pool of skilled labor, the Eagle Lock Company remained one of the industry's leaders throughout the 19th century and well into the 20th century. In 1862 the company had the most complete line of cabinet and trunk locks in America, offering more than 500 different locks in its 30-page illustrated catalogue. In 1845 Terryville's two lock companies had a total of 38 employees; by 1900, employment at the Eagle Lock Company had reached 1,000 and Terryville had become a thriving industrial town. After 1936, interests from outside Terryville owned and operated the factory, but production continued at Eagle Lock until 1975. Although most of the company's growth occurred at the next mill privilege downstream, where James Terry had his lock factory, the so-called "Upper Shop" and its waterwheel remained a part of the Eagle Lock complex until it was taken down in the early 1940s.

Technological Significance:

The Terryville Waterwheel in many ways represents the pinnacle of wooden waterwheel technology, before the smaller, enclosed, and more efficient turbine rendered the form obsolete, first for industrial-scale enterprises and then even for small waterpowered grist, saw, and cider mills. Prior to the Civil War, however, most of the state's waterpowered factories were using some variant of the traditional horizontal-shaft waterwheel. Foremost among the defining characteristics that make this wheel an exemplar of its period is the extensive use of iron for its critical components. Wood was always a problem-ridden material for waterwheels because of its decay potential and the difficulty of securing the various parts together in a way that did not come loose when the wheel was turning and carrying a heavy load of water. Mortising the arms to a wooden axle was particularly difficult, since the very things that would make the arms secure, such as deep key-shaped mortises, inherently made the shaft itself less strong,

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Continuation Sheet

Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Section number 8 Page 3

especially with regard to resisting twisting forces. Starting in the late 18th century in England, and somewhat later in America, millwrights began substituting iron parts for wood. Iron gudgeons were placed on the ends of wooden axles so they could run in cast-iron bearings, and cast hubs of various types were devised to hold the arms onto the shaft. The shafts themselves increasingly came to be made of iron, first in a polygonal cross-section mimicking that of wooden axles and then in cylindrical form. Power take-off and transmission, which formerly had resembled wooden clock works on a huge scale, increasingly relied on cast and machined iron gearing. As one authority summed it up in 1841, "the introduction of cast iron, then, may be considered as a kind of new era in the history of mills" (Buchanan 1841: 177).

In almost every respect, the Terryville wheel reflects the best practice of its day. Lathe-turned cylindrical shafts appeared in England about 1820 and were valued because they had good balance and the shape provided the best strength-to-weight ratio. The Terryville wheel's hub casting is similar to that shown in Cadwallader and Oliver Evans's revisions of 1826 (Evans 1850: 367-68, Plate 28; see Figure 4); Overman (1851) shows a similar detail in his depiction of the pitchback wheel (Figure 6). The Terryville Waterwheel also has the scooped-shaped buckets that were found to be preferable compared with the traditional radial paddles (Evans 1850: 173; Overman 1851: 108). Such a shape, if provided with a venting space to avoid trapping air, was found to quickly fill with water when coupled to an appropriate flume and, if the breast and wheel were aligned well, to retain the water for a long time. The midpoint bucket stiffeners, while not specifically found in a review of contemporary technical works, addressed the belief that wooden buckets wider than about 4' were not practical; the stiffeners represent a simple solution that allowed wide buckets (74") without resorting to the more usual practice of adding a third set of arms in the middle of the wheel.

The pitchback form, called a breast wheel when used with lower heads, became firmly established in the first half of the 19th century as its many advantages became appreciated. By holding the water in for as long a time as possible, the wheel achieved a relatively high efficiency. Moreover, its "backward" revolution allowed the bottom of the wheel to go with the flow in times of backwater, when the stream would rise and partly submerge the wheel. Overshot wheels, in contrast, suffered from great turbulence in times of backwater. Both Evans (1850) and Overman (1851) recommended pitchback wheels wherever the available head would allow it (Figures 5 and 6).

The rim gear on the Terryville Waterwheel also marks a great improvement over the earlier practice of taking off the power close to the center of the wheel, if not actually from the main shaft itself. Waterwheels rotated too slowly for any practical mechanical purpose and thus required some method of increasing the shaft speed. A rim gear and pinion effectively turns the wheel itself into a speed-increasing mechanism, eliminating or reducing the amount of gearing needed to use the power. Moreover, the technique greatly reduces the forces at work on the main shaft and bearings, which have only to support the weight of the wheel itself. Rim gearing is shown on depictions of waterwheels as early as 1580, but the practice did not become widely accepted because of the problem of maintaining numerous wooden teeth in a high-stress location. Once again, cast-iron provided the answer. At least in the later editions, Oliver Evans's *Young Mill-Wright* favorably reported on experiments by Jacob Perkins in Newburyport, Massachusetts, and George Manwaring in Sussex, England, in which cast-iron rim gears attached to pitchback wheels proved highly satisfactory (Evans 1850: 377-79).

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Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Section number 8 Page 4

The use of iron is so extensive in the Terryville Waterwheel that it raises the question of why any wood at all was used; all-iron wheels were in use in England at the time and were discussed in the technical literature of the period. In addition to their promise of durability, iron wheels allowed for continuously curved buckets, which were known to offer a higher degree of efficiency. Wood was much less expensive than iron and more easily worked, but circumstances suggest that the lower cost of wooden components may not have been a determining factor. The factory that was destroyed by fire in 1851 was insured, and the Lewis Lock Company rebuilt almost immediately on an even larger scale. The tall chimney behind the factory (see Figure 3) suggests that the rebuilt works had a steam engine to supplement waterpower; such an interpretation is substantiated by census reports for 1860 and 1870, which indicate the Eagle Lock Company operated two steam engines, presumably one for each of its locations. It might be concluded that a company able to afford a steam engine could have invested in an iron wheel.

Evans suggests that the availability of iron in suitable form was in some cases a limitation (pp. 370, 381). However, there were a number of forges, foundries, and other iron works in western Connecticut in the period, such as Andrew Terry's malleable iron foundry in Terryville, started in 1847, and the Herman Baldwin foundry in Washington, Connecticut, which advertised "furnace castings of every description, consisting of waterwheels, over shot and pitch back" in the *Litchfield Enquirer* on February 27, 1851. Given all the circumstances, then, it would not be unreasonable to conclude that a composite wheel, with wooden arms, shrouds, and buckets and iron for the high-stress components, was not a second-rate compromise but rather a reasonable choice for the Lewis Lock Company. Overman, a proponent of all-iron wheels, noted that under a certain size and horsepower, the increased efficiency of the iron wheel would be outweighed by a wooden wheel's lighter weight and consequent decrease in friction and, despite their greater durability, iron wheels were difficult to repair when a part did need to be replaced, as might occur from the impact of a drifting log or ice (pp. 304-307).

Information Potential:

The Terryville Waterwheel has significant information potential because it provides a method of supplementing what is known about 19th-century technology through period technical works such as Evans's *Young Mill-Wright*, Buchanan's *Practical Essays on Mill Work*, and Overman's *Mechanics for the Millwright*. These works are in part proscriptive, recommending what the authors thought was the best practice rather than what actually was being done in the countryside. Actual examples such as the Terryville wheel show what was done in practice and under particular circumstances. A large sample of surviving 19th-century wheels would allow a comparison between the experts' recommendations and what actually was done, but lacking such a sample, individual survivors such as the Terry wheel are invaluable. The Terryville wheel also presents a greater degree of detail than most of the contemporary published illustrations. Small details, such the keys cast into the side of the arm pockets, the tie rod cross-bracing, the recessed bolts holding the rim-gear segments to the shroud, and the clever cast-iron bucket stiffeners, show that period millwrights were both aware of the general problems of construction raised in works such as the ones cited above and able to come up with ways of addressing those problems without having them explicitly laid out. Finally, actual waterwheels such as the one in Terryville allow the assessment of contradictory recommendations in the technical literature. For example, Thomas Ellicott's "Plans for Building Mills," published as part of Evans's *Young Mill-Wright*, was dismissive of the claims made for the pitchback wheel by "some

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Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Section number 8 Page 5

mechanical philosophers" (Evans 1850: 294). The Terryville wheel and other examples suggest that practical millwrights believed Evans, Perkins, and Overman rather than Ellicott. Similarly, Overman completely contradicts Evans regarding the efficacy of rim gearing, proscribing it for both wooden and all-iron wheels (Overman 1851: 305). The evidence of the Terryville wheel, as well as that of numerous photographs of wheels no longer extant, indicates that Overman was probably alone (and probably mistaken) in his belief that rim-gear wheels would not stay aligned.

Integrity:

The replacement of the waterwheel's wooden parts with modern lumber is not an alteration that seriously affects the resource's integrity. The wooden portions of waterwheels were constantly subject to wear, ice damage, and water-related deterioration. Contemporary commentators estimated that the ongoing replacement-in-kind of wooden components would result in complete turnover of the wood within five to ten years (Reynolds 1983: 287). In other words, not only was the wood replaced in 1990-1991 probably not original, it is likely that it was at least the third set of wooden parts to have been installed. As Oliver Evans noted, one of the great advantages of this type of composite wheel was that the wooden parts **could** be replaced relatively easily (Evans 1850: 368). The historically correct method of treating wood to be used for waterwheel parts, boiling it in coal-tar (Overman 1851: 307), would not be considered environmentally responsible today.

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Continuation Sheet

Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Section number 9 Page 1

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National Park Service

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Terryville Waterwheel
Plymouth, Litchfield County, Connecticut

Section number 9 Page 2

Overman, Frederick
1851

Mechanics for the Millwright, Machinist, Engineer, Civil Engineer, Architect and Student. Philadelphia: Lippincott, Grambo.

Reynolds, Terry S.
1983

Stronger Than a Hundred Men: a History of the Vertical Water Wheel. Baltimore: Johns Hopkins University Press.

Rossano, Geoffrey L.
1996

Historic Preservation in Connecticut. Volume IV. *Western Uplands: Historical and Architectural Overview and Management Guide.* Hartford: Connecticut Historical Commission.

Roth, Matthew W.
1981

Connecticut, An Inventory of Historic Engineering and Industrial Sites. Washington, D.C.: Society for Industrial Archeology.

Ryan, J. Francis
1976

Plymouth, Connecticut, 1776-1976. No publisher or place of publication listed.

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Woodford, E. M.
1852

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Zimiles, Martha and Murray
1973

Early American Mills. New York: Clarkson N. Potter, Inc.

Terryville Waterwheel
Name of Property

Litchfield County, CT
County and State

10. Geographical Data

Acreage of Property approx. 1/10 acre

UTM References

(Place additional UTM references on a continuation sheet.)

1 18 665190 4615940
Zone Easting Northing

3
Zone Easting Northing

2

4

☐ See continuation sheet

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Bruce Clouette, Historian

organization Public Archaeology Survey Team, Inc. date May 25, 2001

street & number P.O. Box 209 telephone 860-429-1723

city or town Storrs state CT zip code 06268

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional Items

(Check with SHPO or FPO for any additional items.)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name Plymouth Historical Society

street & number 705 Main Street telephone N/A

city or town Plymouth state CT zip code 06782

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Terryville Waterwheel

Section number 10 Page 1

Plymouth, Litchfield County, Connecticut

Verbal Boundary Description:

The nominated property consists of the small parcel of land known as 262 Main Street, recorded in the Plymouth assessor records as Map 39, Block 34, Lot 44A.

Boundary Justification:

The boundary embraces the wheel, its wheel pit, and the protective shelter erected over it.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Section number Photographs Page 1 **Terryville Waterwheel
Plymouth, Litchfield County, Connecticut**

All photographs:

1. Terryville Waterwheel
2. Plymouth, Litchfield County, Connecticut
3. PAST, Inc. Photograph
4. April 2001
5. Negative filed with PAST, Inc., Storrs, Connecticut

Captions:

1. South (downstream) face of wheel, camera facing north
2. Overview of site, showing east side of wheel, rubble wheel pit wall, and enclosure built over wheel, camera facing northwest
3. South side of enclosure, camera facing northeast
4. Detail of east shaft bearing and casting holding arms to shaft, camera facing southwest
5. Detail of inside of casting, west end of shaft, camera facing northwest
6. Detail of buckets, south face, camera facing east
7. Detail of center bucket bracing, south face, camera facing northwest
8. Detail of ring gear and outer arm connection, south face, camera facing northwest
9. Detail of pinion gear and bearing, camera facing north
10. Detail of north end of wheel pit, showing ledge outcropping cut away for wheel, camera facing east