NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

1050

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 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.

1. Name of Property

historic name Proctor Maple Research Farm

other names/site number Proctor Maple Research Center; Harvey Farm

2. Location

street & number UVM Road ☐ N/A not for publication

city or town Underhill ☐ N/A vicinity

state Vermont code VT county Chittenden code 007 zip code 05490

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.)

Elsa Gilbertson, National Register Specialist July 28, 1999
Signature of certifying official/Title Date

Vermont State Historic Preservation Office
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:) _____

for Signature of the Keeper — Date of Action

Beth G. Savage — 9/13/99

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	
2	0	buildings
2	0	sites
0	2	structures
0	0	objects
4	2	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)

EDUCATION/research facility
AGRICULTURE/processing
AGRICULTURE/agricultural field

Current Functions
(Enter Categories from instructions)

RECREATION AND CULTURE/museum
NOT IN USE
AGRICULTURE/agricultural field

7. Description

Architectural Classification
(Enter Categories from instructions)

NO STYLE
OTHER/sugarhouse

Materials
(Enter Categories from instructions)

foundation CONCRETE
walls WOOD
roof METAL/aluminum
other

Narrative Description

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

See Continuation Sheet.

8. Statement of Significance

Applicable National Register Criteria
(Mark " x " in one or more boxes for the criteria qualifying the property for the National Register listing.)

- [x] **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.
- [x] **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.
- [x] **B** removed from its original location.
- [ ] **C** a birthplace or grave.
- [ ] **D** a cemetery.
- [ ] **E** a reconstructed building, object, or structure.
- [ ] **F** a commemorative property.
- [ ] **G** less than 50 years of age or achieved significance within the past 50 years.

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

Areas of Significance
(Enter categories from instructions)

EDUCATION
AGRICULTURE
SCIENCE
ARCHITECTURE
ARCHEOLOGY/historic - non-aboriginal

Period of Significance

1873-1949

Significant Dates

1947
1948

Significant Person
(Complete If Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

unknown

9. Major Bibliographical 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 Buildings Survey # _____
- [ ] recorded by Historic American Engineering Record # _____

Primary location of additional data:

- [ ] State Historic Preservation Office
- [ ] Other State agency
- [ ] Federal agency
- [ ] Local government
- [x] University
- [ ] Other .

Name of repository:

University of Vermont Research Annex

10. Geographical Data

Acreage of Property approx. 50 acres

UTM references
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing
1	18	669440	4932720
2	18	669920	4932520
3	18	669690	4932060
4	18	669320	4932240

☐ 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 Carol DiNinno (project contact), Katie Wollan, and Aimee Finley

organization Independent Preservation Consultants date January 19, 1999

street & number P.O. Box 374 telephone (508)888-0727

city or town Sagamore Beach state Massachusetts zip code 02562

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 the SHPO or FPO for any additional items)

Property Owner

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

name University of Vermont, School of Agriculture, Botany Department

street & number Marsh Life Science Building telephone (802)656-2930

city or town Burlington state Vermont zip code 05405

Description

The University of Vermont's Proctor Maple Research Center is located in a rural section of Underhill, Vermont, at the base of the western slope of Mt. Mansfield, the state's highest peak. Covering approximately 180 acres, the Center, which contains maple research and processing facilities, is reached via an access road (UVM Rd.) off Harvey Road. Harvey Road branches off Pleasant Valley Road about two miles northeast of Underhill Center. The historically significant portion of the Proctor Center, situated east of UVM Road, includes six resources on approximately 50 acres of land. A small research field station (1947), a 1948 model sugarhouse, a 150-year-old working sugarbush, and the remains of an earlier sugarhouse (c. 1880s-1890s) all contribute to the property's historic significance. A 1991 research tower and instrument shelter are considered non-contributing structures. The remaining parcel of land, north, west, and south of and including the access road, is excluded due to its concentration of recent construction and plantings which do not clearly relate to the period of historic significance. The property, as nominated, retains its integrity of location, design, setting, materials, workmanship, feeling, and association.

The University of Vermont's Proctor Maple Research Center is located in the Pleasant Valley section of Underhill, Vermont. Situated at the base of the western slope of Mt. Mansfield, Vermont's highest peak, Underhill maintains its rural character despite its proximity to Burlington, Vermont's advancing suburban growth. On a cleared and graded section of a forested slope, the Proctor Center buildings form a horseshoe around the end of UVM Road, the Center's access road. The ground slopes up to the north and east of the buildings and is covered by a large stand of sugar maples, known as a sugarbush. The National Register-eligible portion of the property contains six resources. The Field Station (#1) and Sugarhouse (#2) are contributing buildings. The sugarbush (#3), historically associated with these buildings, and the remains of an earlier sugarhouse (#4) are contributing sites. A modern research tower (#5) and instrument shelter (#6) are considered non-contributing structures.

1. Field Station, 1947

Exterior

The field station is located adjacent to and east of the parking turnout on UVM Road. Built in early 1947, the building has a single-room rectangular plan,

measuring approximately 8 feet wide by 12 feet long. The building originally sat on wooden skids above dry-stacked stone piers which supported three corners in order to compensate for the ground slope and level the building. The skids allowed the building to be moved within a narrow radius several times in the first years of use. Eventually, the skids were removed and the stone piers replaced with concrete cinder blocks.

The woodframe construction is sheathed with tongue-in-groove plank siding and red-painted wooden clapboards. Cedar shingles cover the low-pitch, gable-front roof. The rafter tails, although partially covered by a narrow fascia board, are visible beneath the eaves of the northeast and southwest facades. The fascia board continues from the eaves and trims out both gable ends. A small metal smokestack which originally connected to a combination wood/coal stove protrudes from the center of the roof's ridgeline. The northwest gabled facade is dominated by a single entrance door. The 26" x 71" door is constructed of five vertically-placed, tongue-in-groove planks on the exterior backed by fourteen horizontally-placed, tongue-in-groove planks. The door is secured by two strap hinges on the right side of the door frame and two strap locks and a metal door latch on the left.

The three remaining facades are each broken by a single basement-style window. Each 34" x 16" awning window is centered within its facade, the window sill distanced 54" from the building sill. Each sash is composed of three single glass panes, separated by narrow muntins. When open to the inside of the room, the awning windows are secured by a hook and eye latch. The window sash, frame and sill members, and simple exterior casing are also painted red. Original awning shutters have been removed. A small, hexagonal portal, used originally for passage of the monitoring equipment wiring and power lines into and out of the building, is located in the southeast facade's gable peak. The wooden shelving located on the southeastern facade, used to store the sap flow buckets when not in use, has been removed.

Interior

The interior of the one-room field station is unfinished, leaving exposed both the 2" x 4" structural members and tongue-in-groove plank exterior siding which covers the roof and walls. The same tongue-in-groove planks were used for flooring and shelving. The seven rafters and two tie-beams are also visible. The truncated smokestack hangs from the roof peak.

Research at the field station ceased in the early 1960s when a larger laboratory was built on the site. After that time, the field station was used primarily for storage and became known as the "Shanty". In the following years, the exterior suffered extensive damage due to irregular maintenance. In the summer of 1997, with funds from the Chittenden County Maple Sugar Makers' Association, the building's deteriorated roofing, clapboard siding, and southeastern sill were replaced in kind. A more substantial, level foundation of crushed stone and 6" x 6" end-lapped, wood frame members was constructed at that time. The field station was repainted red and readied for its new use as a maple research museum.

2. Sugarhouse, 1948

Exterior

The sugarhouse measures roughly 20 feet wide by 34 feet long and rests on a poured concrete slab foundation on the eastern side of the UVM Road turnaround. It is a simple single-story, one-room, woodframe building. A half-gabled wood shed extends an additional 16 feet from the southern wall. The exterior is sheathed with wooden board-and-batten siding and is now painted red. Light is provided through eight (8) nine-pane, fixed-sash rectangular windows. The window sash are installed horizontally on their longest sides and are painted white. All of the window sills and the simple exterior casing that alone frames the eastern facade window are painted red. Originally, the building's exterior was left unfinished until around 1952 when it was painted. The building's steeply pitched (12/12), gable roof is covered with aluminum sheet roofing. Eight-inch exposed rafter tails create the building's deep eaves.

The main entrance door is located on the west end of the building's northern facade. The door is constructed of three wooden planks, backed by two cross-diagonal members. It is secured by two strap hinges on the left side of the doorframe and a sliding lock mechanism on the right. The remainder of the northern facade is broken by two windows. A three-foot high clean-out door located between the windows, below their sills, is secured by two strap hinges. The gabled section of the facade is unbroken.

The western facade provides most of the light to the building's interior. Five windows line the wall, the fourth and fifth separated by a large sliding door. The eight-by-seven foot wooden plank door slides along a metal track, covering the third and fourth windows when open.

The rear southern facade is dominated by two swinging doors which provide access to the large wood open shed extension. The 16' x 20' shed is supported by two rows of four wooden posts, each placed atop concrete footing. The posts are reinforced with braces. The shed roof rises with a low pitch to the base of the gable.

The eastern facade has a single window at its southern end. Adjacent to the window, another sliding door is placed directly opposite the western sliding door. Originally, a 16' x 8' half-gabled open shed, used to store the evaporator feed tank, extended from the northern edge of the door to the end of the wall. The shed was removed in the fall of 1997 due to water damage. Unpainted rafter tails, once protected by the shed, indicate its original position along the wall.

A twelve-foot long "clamshell" ventilator is located along the roof's ridgeline. Unlike the more typical cupola-style ventilator, each side of the "clamshell" sits nearly flush with the roof line when closed. Inside the sugarhouse, a rope-and-pulley system operates the opening and closing of the ventilator. The doors of the ventilator swing open from the bottom on hinges. While this modern design of 1948 was intended to release steam more efficiently, it does not protect the evaporator from falling debris as well as the traditional cupola. North of and immediately adjacent to the ventilator, an original smokestack opening has been capped with sheet metal roofing.

As of 1998, the sugarhouse has suffered considerable paint failure. At the foundation level, the board-and-batten siding and the wooden plank sliding doors have deteriorated. The foundation has cracked in areas due to water damage.

Interior
Typical of sugarhouse construction, the building interior is unfinished, leaving structural members exposed. Corner braces provide support between the corner posts and the foundation sill and wall plates. Braces also extend from each side of every post at 45 degree angles. The roof is framed with joists which span the width of the building. Roughly 6 feet from each exterior wall, a timber rises vertically from the joist to the rafters. On each side of the building, twenty rafters, placed 2 feet apart, extend diagonally from the peak of the roof, across the top of the wall, leaving exposed approximately 8 inches of rafter tail. Collar and tie beams connect the rafters below the peak. Originally, a large evaporator would sit on the concrete slab floor in the center of the room, directly below the ventilator.

3. Sugarbush
The approximately 25 acre sugarbush blankets the slope north and east of the field station. The tree growth continues along the slope as it curves south between the sugarhouse and the eastern property boundary. The mature sugar maples (Acer saccharum) within this stand are, in many cases, 150 years old and now support 2,100 taps during sugaring. Although the sugarbush is scientifically managed, its regeneration is not. New growth results solely from natural processes. A modern sap collection system connects the tapped trees to collection tanks, creating a web of blue and black plastic tubing throughout the woods.

4. Sugarhouse Remains, c. 1880s - 1890s
The Harvey sugarhouse, c. 1880s-1890s, stood on the edge of the pond located roughly 65 feet northeast of the sugarhouse within the sugarbush. Dr. Fred Taylor reports that this structure was still standing when the farm was purchased in 1945. Later, when the pond was dug out, the structure was dismantled and the bricks from the firebox arch were deposited in an area roughly 50 feet south of the pond (or roughly 50 feet east of the Proctor sugarhouse). Remnants of an evaporator pan and cast iron grate mark the area where the Harvey sugarhouse stood. The brick remains form a sizable brick scatter, measuring 12' x 20'. The moss-covered brick remnants range in quality from relatively intact, "Drury"-marked whole bricks to softer, degraded, unidentifiable brick fragments. The Drury brickyard in Essex Junction, Vermont manufactured these sand-struck, pressed bricks using a steel mold. This method of production was prevalent by the end of the nineteenth century. A shard of aqua glass from the body of a medicine bottle was found in association with the brick scatter. This evidence suggests that the building was in use in the late nineteenth century.

5. Research Tower, 1991
An aluminum scaffolding tower is located approximately 100 yards northwest of the field station. Approximately 75 feet high, the top of the tower rises above the tree canopy. Five monitoring stations, located at various elevations on the tower, monitor meteorology and air pollution levels. The tower is non-contributing due to age.

6. Instrument Shelter, 1991
At the base of the tower, a white, two-wheel trailer shelters additional monitoring instruments. The tower and instrument shelter were moved to the site in 1991. The shelter is non-contributing due to age.

The University of Vermont (UVM) Proctor Maple Research Center, located in Underhill, Vermont, is the oldest facility of its kind in the nation. The state of Vermont has been the country's leading maple producer since 1886 and today contributes an average of $15 million to the state's economy each year. The property, previously known as the Harvey Farm and later as the Proctor Maple Research Farm, is significant for its importance to the maple industry in Vermont. An established working sugarbush, including the remains of an early sugarhouse, was purchased for UVM in 1945 and a field station and sugarhouse constructed in 1947 and 1948, respectively. The property is eligible for inclusion in the National Register of Historic Places under criterion A, both for its continuous operation as a maple-producing sugarbush and for its contribution to the scientific study of the sugar maple tree and of maple processing. It is also eligible under criterion C as the sugarhouse is a good example of a mid-twentieth century model sugarhouse. The field station, which was built in 1947, moved to the site on skids, and moved in a small radius several times in the first years of use before being placed in a permanent spot. It meets criteria consideration B, having always been located in the same immediate area and being of architectural significance. The property retains its integrity of location, setting, design, materials, workmanship, feeling, and association.

The Proctor Maple Research Center, originally known as the Proctor Maple Research Farm until the early 1980s, is located in the Pleasant Valley district in the town of Underhill, Vermont on the site of the former Harvey Farm. The property, as nominated, includes four contributing and two non-contributing resources. With a research field station (#1), a sugarhouse (#2), sugarbush (#3), and sugarhouse remains (#4) on the property, it is eligible for listing on the National Register of Historic Places under Criterion A for its significance within the maple sugaring industry in Vermont. The 1948 model sugarhouse is also eligible under Criterion C for its architectural significance. A modern research tower (#5) and instrument shelter (#6) are considered non-contributing structures.

The Harvey family acquired the farm in 1873 and included sugaring as part of their farm operations. Governor Mortimer R. Proctor purchased the land from Parker H. Rice on December 4, 1945. (Rice had purchased the land from Michael Harvey in 1943.) Two days later, it was deeded to the Vermont Agricultural College "in consideration of study, research and experimentation by the grantee of more efficient methods of producing and processing maple sap, syrup, sugar and other maple products and of one dollar."

In a confidential letter to the Dean of the Agricultural College, Governor Proctor explained his interest in the project: "This is a subject that greatly interests me. It is important to Vermont; it is typically Vermont." While he had tried to secure state funds to purchase the farm, he instead invested his own money. "I have wanted to do something for the State," he continued, "and [the purchase of the Harvey Farm for maple sugar experimentation] looks like a good candidate to me." Proctor ended his letter by saying, "We in Vermont should make the most of our natural resources and surely this is an important one."

According to the National Register Multiple Property Documentation Form "Agricultural Resources of Vermont", "maple sugaring...made Vermont famous for both the quality and output of the product." Early settlers boiled sap in large kettles suspended over an open fire. Sugaring at this time was conducted in the sugarbush without any shelter. Commercial sugaring began as early as 1774 in Ryegate, Vermont and, by the last decade of the eighteenth century, Vermont maple producers were selling their wares to both local and out-of-state markets.

During the Civil War, with Southern cane sugar supplies cut off, Vermont sugarmakers increased their production to satisfy market demand. Beginning in the 1860s, and spurred by this commercialization, sugarmaking technology began to modernize for the first time in over a century. Brick or stone arches were built to enclose the fire for boiling. Sheet metal technology, developed for tin can production during the War, was adapted to create arch evaporators that would replace kettles. With the fire contained, more permanent buildings were constructed to shelter both the equipment and the sugarmakers. In the mid-1880s, the invention of the "patent evaporator" improved on this technology. The metal arch with a regulated feeding system and compartmentalized evaporation sequencing combined to create a much faster means of processing the sap into syrup. By 1886, with the advent of these modern processing techniques, Vermont became the nation's leading maple producer, as maple syrup replaced maple sugar in marketability.

With technological advances and growing markets came government regulation. In 1884, the State of Vermont passed legislation banning the adulteration of maple and syrup and sugar with cane sugar, glucose, or any other substance. The 1906 U. S. Pure Food and Drug Act set national standards for all food-processing methods, thus requiring maple producers in other states to meet standards of purity already in

place in Vermont. With strict quality standards in place, syrup producers required ever more efficient methods of production.

It was in this climate that University of Vermont (UVM) chemist, C. H. Jones, began conducting research on the sugar maple and, according to one source, "virtually single-handedly yanked the maple tree out of the sixteenth century." Jones conducted his initial experiments on maple sap flow in a sugarbush in Jeffersonville, Vermont, which had been leased by the Agricultural College for this purpose. In 1903, the results of his experiments were published in "The Maple Sap Flow".

Many years later, Jones resumed his research on the maple tree, conducting a series of experiments over a 27-month period. Each month, a mature sugar maple was cut down, sectioned and analyzed for water, sucrose, hexose, starch, ash, and hemicellulose content. The results of the research were published in 1946, as "The Carbohydrate Contents of the Maple Tree" and included his "Rule of 86." According to that rule, the number of gallons of sap required to produce one gallon of syrup is derived by dividing the sap's percentage of sugar into the constant, 86. Jones' Rule of 86, which has proven very accurate, is now a basic tenet of sugarmaking. Jones' research created a basis for improving efficiency of production and, thus, laid the groundwork for further maple science study at UVM. The founding of the Proctor Maple Research Farm continued this work.

After the purchase of the property, UVM botanists, Dr. James Marvin and Dr. Fred Taylor, conducted their early research in the open sugarbush, as the Harvey house and barn were located too far away. According to Sumner Williams, the Proctor Center's current associate director, Marvin and Taylor's early work examined "how the maple worked and why one tree or stand was sweeter than another." They first numbered every mature tree of 10 inches or greater in diameter and then began recording diameter growth and sugar sweetness. The field station was built in February 1947 to shelter both the researchers and their scientific instruments while conducting these basic sugar maple physiology experiments. Marvin and Taylor studied the effect of environmental conditions on sap flow and tree pressure which were monitored and recorded from within the field station. This 12'x 8' one-room building was constructed by a local carpenter in nearby Underhill Flats and dragged on skids to its original location at the base of the sugarbush. The building's skids allowed it to be moved frequently in its first years of use. However, the field station

has always rested within a roughly twenty-foot radius of its original location, thus maintaining its integrity of setting, design, feeling, and association.

The Center's belief that it must "produce the product to understand the unique needs of the industry" has meant that, since its establishment, the Center has always produced its own maple syrup. After Governor Proctor's initial gift of land, the University of Vermont received a second gift in July 1947. The George H. Soule Company of St. Albans, Vermont offered complete sugar processing equipment to be used in a "model sugarhouse" at the Research Farm. Subsequently, the Farm received funds from George A. Ellis of New York City to construct the building itself. In the summer and fall of 1948, a modern sugarhouse was erected on the property at the base of the sugarbush. The new "clamshell" ventilator was devised to release steam more effectively than the traditional cupola-style ventilators. Instead, however, the open clamshell left the boiling vulnerable to falling debris. A more successful innovation was the introduction of a sloped and draining, poured concrete floor, intended to sanitize the operations.

The University Agricultural Engineering Department drafted a plan (Figure 1) and list of materials (Figure 2) based on this prototype,which was later published in the Agricultural Extension Bulletin. A depiction of the Proctor Maple Research Farm's sugarhouse appeared on State of Vermont maple syrup tins in 1951. The newly expanded facility would serve as a focal point of the maple sugaring industry. The Vermont Maple Sugar Makers' Association, founded in 1893, held its annual meeting at the site for many years. Annual "Sugar-on-Snow" parties for scholarship fundraising at UVM were popular events each spring. The tradition was revived at UVM's main campus in 1991.

The working sugarbush and remains of the Harvey sugarhouse also offer tangible evidence of this property's continuous history of sugarmaking. The sugarbush covers the slope to the north and east of the original Proctor sugarhouse and field station. This naturally regenerating stand of sugar maples is the one constant in this property's history. The purpose of sugaring at the Center now focuses on advancing scientific knowledge for the maple industry and on public education. Sugaring during the Harvey era would certainly have been for subsistence or limited commercial sale. Remains of the Harvey sugarhouse are still visible within the sugarbush. The Harvey sugarhouse points to an earlier era of sugarmaking, before the wide availability of patent evaporators, when brick firebox arches supported kettles or simple evaporator pans. Before the construction of an access road, its

location within the sugarbush, with easy access to a natural water source, allowed the sugarmaker to complete sap collection, boiling, and clean-up with the greatest convenience. These remains, when seen in conjunction with the original Proctor sugarhouse and a newly built sugarhouse (1990) across UVM Road, provide a concise century-long view of Vermont sugarhouse construction.

In 1964, the C. H. Jones Research Laboratory was built,ceasing research within the Field Station. In 1974, an addition was added to the new laboratory and sugaring operations were moved to that site. Throughout the 1970s and 1980s, under the directorship of Dr. Fred Laing, the Center focused on applied research to improve the efficiency of the sugarmaking process by examining the use of pipeline tubing, vacuum pumps, and various types of evaporators. In particular, Drs. Marvin and Laing devised a dropline and redesigned the standard sap spout to counter the effects of reverse osmosis that had reduced sap production in sugarbushes converted to plastic tubing. These technological advances were instrumental in bringing the maple industry out of a long slump and reversing a decline in syrup sales.

After a 1988 fire destroyed the Jones lab, a large research, office and conference building,as well as a new, larger sugarhouse,were constructed on the southwest side of UVM Road. However, after the fire, sugaring returned to the 1948 sugarhouse for five seasons, between 1988 and 1992. With the exception of those five years, the sugarhouse has been out of productive service and is now used only for storage. The field station, now referred to as the "Shanty", stands near its original location and was restored in the summer of 1997 with funds from the Chittenden County Maple Sugarmakers' Association. It will soon house a maple research exhibit.

Today, the Proctor Maple Research Center's sugaring operations and research continue within the sugarbush. Currently, the Proctor Center's mission is to "study the ecology, physiology, and genetics of sugar maple trees, the biochemistry and microbiology of its products—maple sap and syrup—and the methods to improve tree health and maple syrup production." Current research projects include: the effects of forest fertilization on maple sap volume and sweetness; sources of lead in maple syrup; molecular genetics of sap sweetness; effective use of filter presses; evaluation of a new, smaller sap spout; a statewide study of maple nutrition; and the meteorological influences on stem pressure and sap flow. In conjunction with this research mission, the Center also has an educational mission "to have a working maple sugaring operation where the latest research and technology are

applied, resulting in an efficient, high-production operation that is available to sugarmakers and the public for visiting and learning."

Certainly, E. R. Towle's words, written in the Vermont Agricultural Report of 1880, still ring true: "of one thing we may rest assured, maple sugar making is not an experiment, its production is time honored...rendering it truly a favored product of our own Green Mountain State."

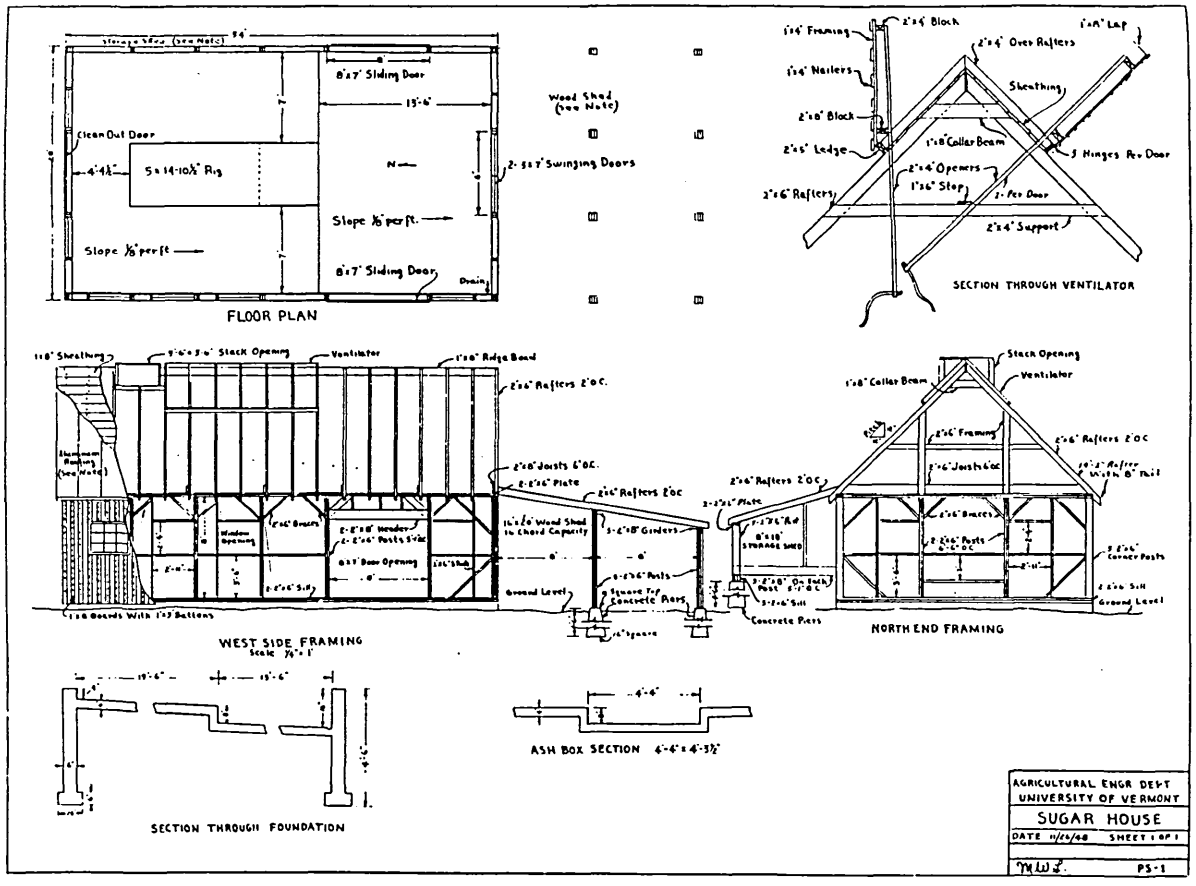
FLOOR PLAN
SECTION THROUGH VENTILATOR
WEST SIDE FRAMING
NORTH END FRAMING
SECTION THROUGH FOUNDATION
ASH BOX SECTION
AGRICULTURAL ENGR DEPT
UNIVERSITY OF VERMONT
SUGAR HOUSE

Figure 1

LIST OF MATERIALS: VERMONT SUGARHOUSE (Plan #PS-1)

LUMBER:

No. required	Size	Length (ft.)	Bd. Ft.	Grade	Remarks
200	2x6	12	2390	Spruce (rough)*	Posts Studs Plates
36	2x6	16	576	Spruce (rough)*	Rafters Sills
44	2x8	12	705	Spruce (rough)*	Girders Joists Window Sills
14	2x4	12	112	Spruce (rough)	Framing
172	1x8	12	1650	White Pine (rough)	Sheathing
208	1x8	12	2000	White Pine (planed on one side)	Siding
184	1x3	12	500	White Pine (planed on one side)	Battens

*Hemlock could be used as well as spruce for 2" x 4" and 2" x 6".

CONCRETE:

7 gallon mix
Cement--85 bags
Sand--9 cubic yards } 1:2 3/4:4 (cement:sand:gravel ratio)
Gravel--13 cubic yards

HARDWARE:

30 lb. 6d nails
125 lb. 20d nails
125 lb. 8d nails
6--2'-11" x 2' - 4" single sash windows
20--1/2" x 7 1/2" bolts
1 pair of heavy tee hinges
20 ft. litter carrier track
7--10 1/4 hangers
2--litter carrier pulleys
10--2' x 4" tile
1--4" 90 elbow
4--2 way hinges
30 ft. door track
4--end brackets
2 sets door hinges
1--bell trap drain
4--door stays
2--track splice brackets
6--intermediate brackets
48--1/4 x 2 1/4 bolts
54 sheets of 10' aluminum roofing
18 sheets of 8' aluminum roofing
34 sheets of 6' aluminum roofing
40 ft. ridge rool
roofing nails

Figure 2

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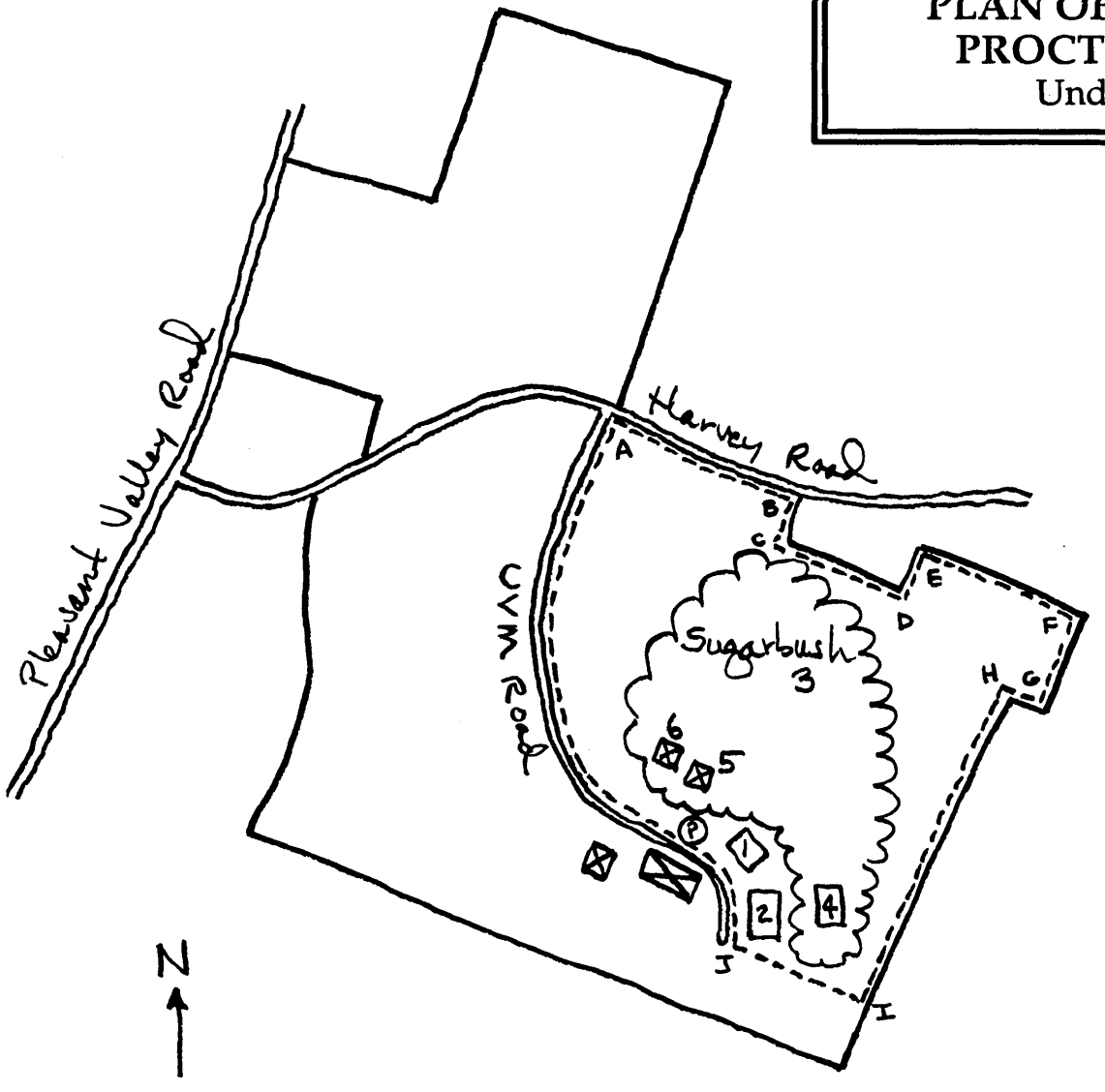
Verbal Boundary Description
As indicated on the accompanying sketch map entitled "Plan of the University of Vermont Proctor Maple Research Center", the boundary of the nominated property, encompassing approximately 50 acres, is depicted by a dashed black line. The legal property boundary of the entire Proctor Maple Research Center property, encompassing approximately 180 acres, is depicted by a solid black line.

Beginning at a point marked by the southeast intersection of Harvey and UVM Roads (A) and moving in a clockwise direction, proceed southeast 674 feet along the south side of Harvey Road. Making 90 degree turns, turn southwest for 180 feet, southeast again for 317 feet, and northeast for 140 feet. Proceed southeast for 614 feet, turn southwest for 300 feet, and then northwest for 139 feet. Follow the southeastern-most edge of the legal property boundary line for 850 feet in the southwest direction. Then, turning at a 90 degree angle, proceed northwest for approximately 500 feet until reaching the very end of UVM Road on its east side. Follow along the east side of UVM Road to the point of origin where UVM Road and Harvey Road intersect.

Boundary Justification
The boundary of the nominated property includes the parcel of land to the east of UVM Road which contains the buildings, sites, and sugarbush acreage that maintain the historic integrity and significance of the Proctor Maple Research Farm, now known as the Proctor Maple Research Center. The parcel of land including and to the north, west, and south of UVM Road has been excluded due to the concentration of recent construction and tree planting which do not clearly relate to the period of historic significance.

PLAN OF THE UNIVERSITY OF VERMONT PROCTOR MAPLE RESEARCH CENTER

Underhill, Chittenden County, Vermont



Drawn by: C. DiNinno

Drawn on: 1/20/99

Scale in Feet

0 150 300 600 900

SKETCH MAP KEY

———	legal property boundary lines
- - - - -	boundary of nominated parcel
▭	contributing resource
▭	non-contributing resource
1	field station
2	sugarhouse
3	sugarbush
4	Harvey sugarhouse site & remains
5	research tower
6	instrument shelter
(P)	parking turnout

Approximate scale: 1 inch=600 feet

(buildings/sites/structures not drawn to scale)

NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 99001050 **Date Listed:** 09/13/99

Proctor Maple Research Farm	Chittenden	VT
Property Name	**County**	**State**

Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Signature of the Keeper — Date of Action: 9/13/99

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Amended Items in Nomination:

8. Statement of Significance: Area(s) and Criteria

Historic Archeology is not justified as an applicable area of significance. The remains of the 19th-century sugar house contribute to the property's importance under the area of agriculture under Criterion A.

This information was confirmed with Elsa Gilbertson, National Register Coordinator, VTSHPO, by telephone.

DISTRIBUTION:
National Register property file
Nominating Authority (without attachment)