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REPORT ON THE GREGOIRE BARN FORMERLY THE COLBURN BARN 239 PROSPECT HILL ROAD RUMNEY, NEW HAMPSHIRE

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This report is a summary of observations of the barn of the Gregoire family farm, Maple Grove Farm, at 239 Prospect Hill Road in Rumney, New Hampshire. The barn was inspected on the morning of September 19, 2009. The purposes of the inspection were to estimate the date of the barn, to assess its architectural integrity, and to identify its character-defining features as an aid to future planning for preservation of the building.

Summary: The Gregoire Barn is a gable-front ("Yankee") barn that appears to date from shortly after 1800. The barn is relatively small, yet has a massive frame that was designed to allow for storage of the maximum amount of loose hay. The barn is unusual in having been planned to have its driveway against its south wall rather than in the central bay of its three longitudinal bays. The frame and exterior sheathing of the barn retain strong integrity. The structure reveals signs of some remodeling around 1850; its interior has been reconfigured in various ways in the twentieth century; and the original structure has been extended by various additions for evolving uses. The barn is an important and character-defining component of the Colburn-Gregoire Farm and is one of several well-preserved early nineteenth-century barns in Rumney.

Known history: Research on the Gregoire Farm has thus far been restricted to inspection of the buildings and to initial map research. The Grafton County map of 1860 shows that the farm was then in the possession of J. A. Colburn, probably Joshua A. Colburn (September 9, 1826-January 28, 1890).[1] The Hurd atlas of 1892 shows that the farm was then owned by N. P. Colburn, probably Nahum P. Colburn (October 25, 1856-July 21, 1914).[2] The property has been owned

[1] Records of Pleasant View Cemetery, Rumney, N. H.
[2] Ibid.

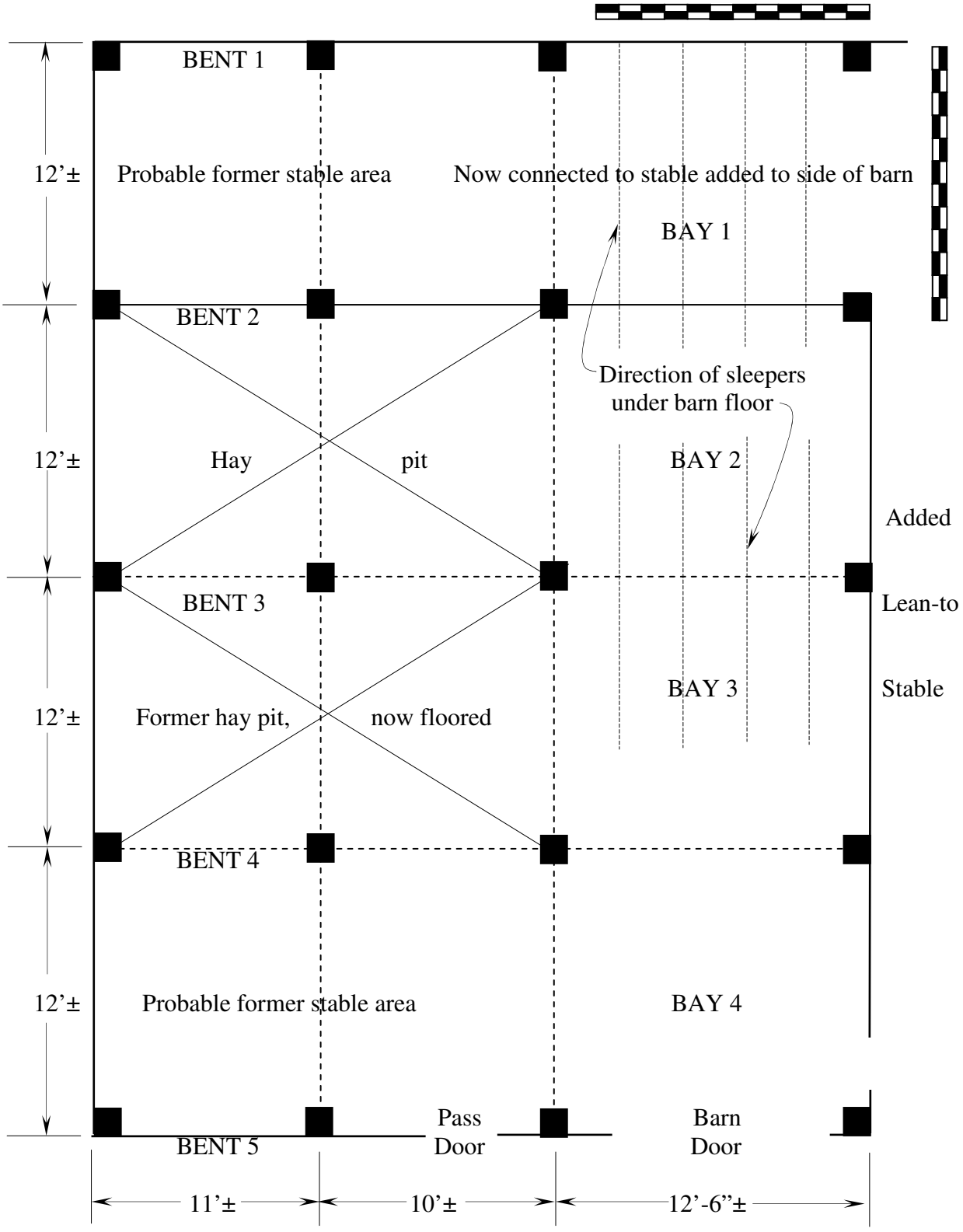
by the Gregoire family for several generations. It was a small dairy and sheep farm until 1947, with dairy cattle alone until 1964. The farm raised beef cattle and sheep, and produced maple products, from 1968 to 1983, and has since produced hay and maple syrup.[3] During that time, the barn has undergone several changes reflecting its evolving use. A wood-stave silo of unknown date was added to the rear (east) end of the barn, and was removed in 1996 because of advancing deterioration. A shed stable was added to the south elevation for dairy cattle, and the rear bay of the main barn, connecting to the silo, was partitioned off to connect with the shed. The shed was later adapted to shelter work horses, and remains in use for general storage. Extending westerly from the stable is a shed-roofed addition that now serves as a farm shop. Extending westerly beyond the shop is a gable-roofed building that formerly contained a water tank for livestock. Standing close the northwest corner of the barn, but linked to the barn by a connecting roof, is a detached wood-framed milk house.

Gregoire Barn, Rumney, New Hampshire, July 3, 2009, west (front) elevation. Photograph by David Starbuck.

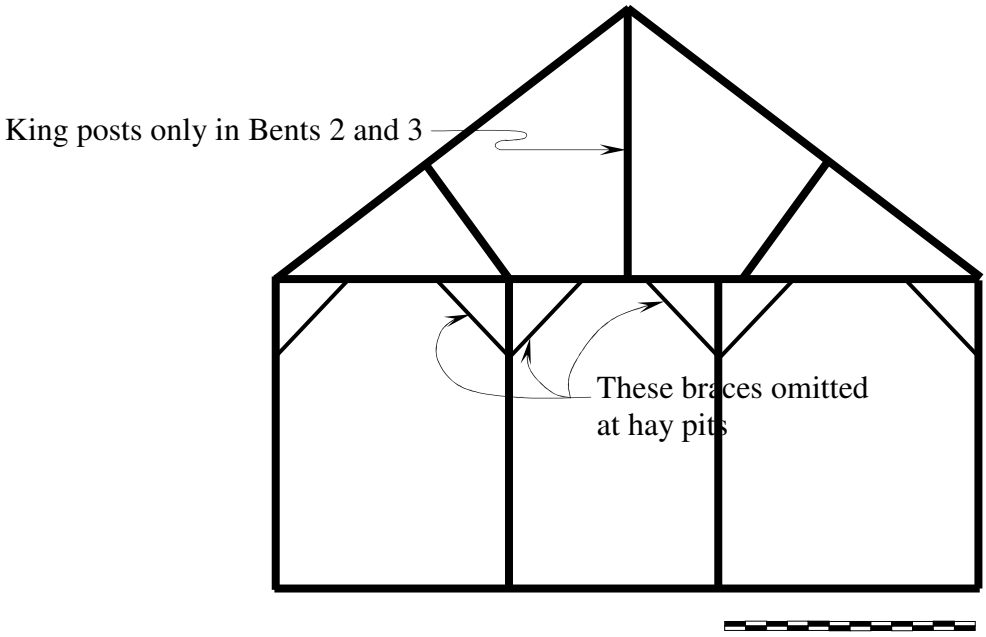
Description: The Gregoire Barn is a rectangular, gable-front barn measuring just over 33 feet in width and 48 feet in length. As seen in the photograph above, the front (west elevation) of the barn is covered with wooden shingles. The same wall covering is employed on the other elevations of the main barn and the stable addition on the east, except that the rear (east) gable of the barn is left un-shingled and the vertical sheathing boards of the gable are exposed to the

[3] Farm Reconnaissance Inventory Form, Maple Grove Farm, at New Hampshire Division of Historical Resources.

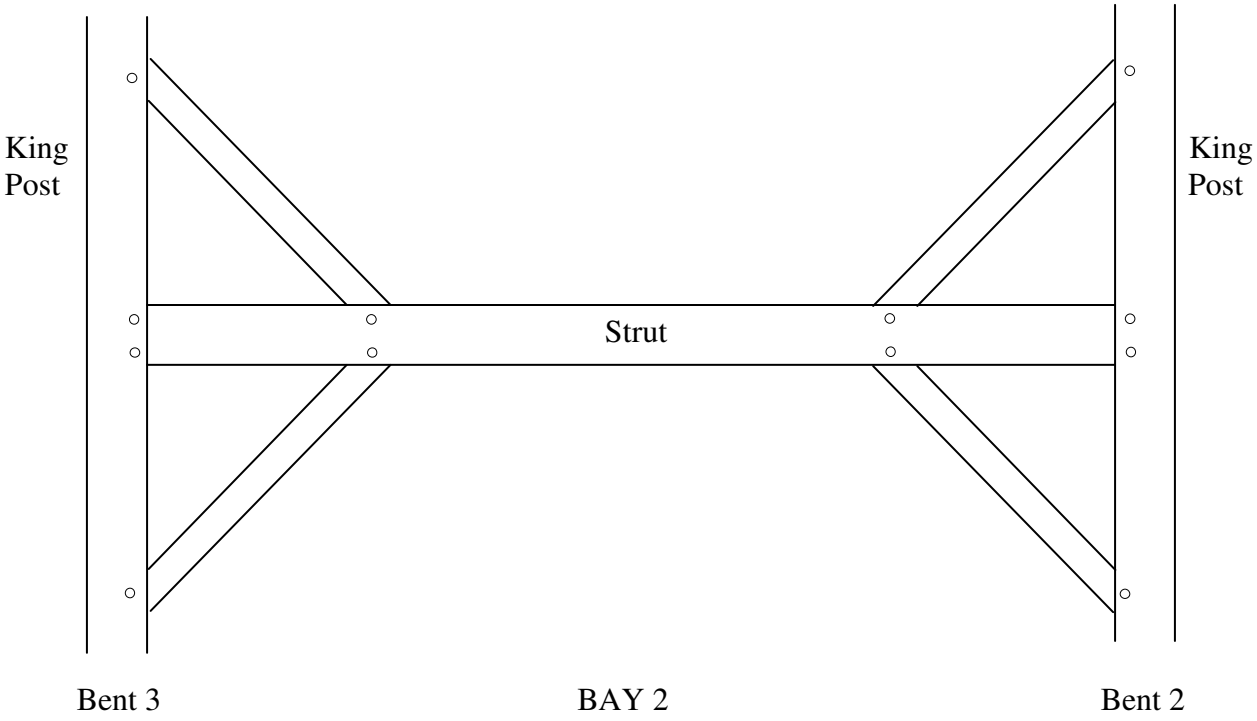
weather. The northern two-thirds of the north elevation of the barn are clapboarded rather than shingled. The barn frame was not measured carefully, but is composed of five bents placed about 12 feet on centers, for a total length of 48'-6," as shown in the schematic floor plan below:



Each bent is laid out approximately as shown below. Braces were originally omitted in a few locations, and have been removed in a few other locations. The king posts are found only on Bents 2 and 3, and are linked by a truss system that stiffens the frame above one of the two original hay pits.

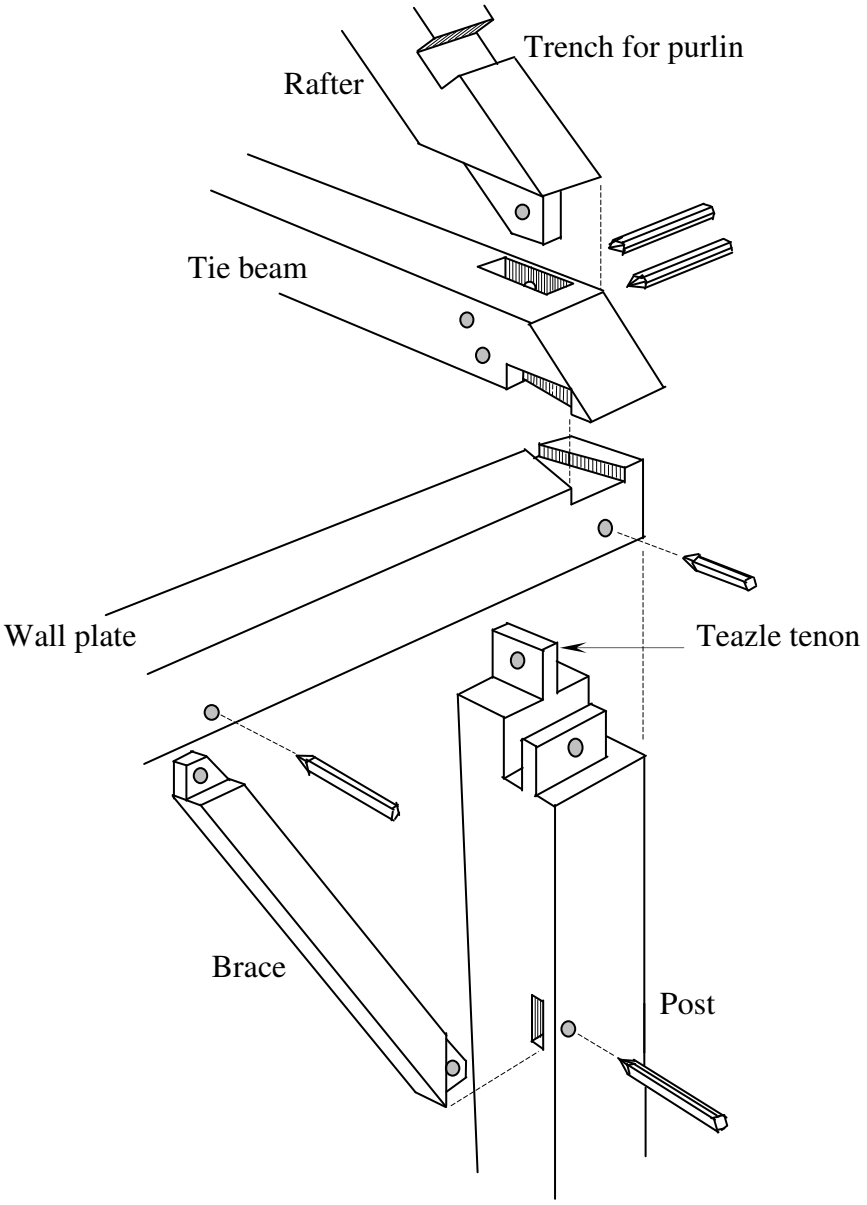


The king posts at bents 2 and 3 are linked by horizontal struts and braces in the manner usually seen in meeting house frames:



The hay pits originally extended across the both sides of Bays 2 and 3. There is no clear reason why the type of bracing shown above was not extended across both of these bays rather than being limited to Bay 2. The stiffening effect of this single strut was evidently considered sufficient to resist deformation of the entire roof frame.

The barn has an extremely heavy frame, laid out according to the "scribe rule," by which the members that intersect each joint are careful and individually scribed and cut to fit tightly. The frame utilizes a complex joint at the juncture of posts, wall plates, tie beams and rafters. This joint is defined by timber framers as the "English tying joint." It is shown below, exploded to reveal some of the hidden features of this intersection.



The massive posts, dropped wall plates, and the tie beams secured by teazle tenons all replicate features seen during the seventeenth and eighteenth centuries on the New Hampshire seacoast.

This same assembly can be traced back to the 1200s in England.[4] As discussed below, the date of this barn is difficult to determine with accuracy because of the inaccessibility of certain types of evidence without physical probing. The scale and carpentry details of this frame suggest a date in the eighteenth century, while the gable-front form of the barn is usually associated with the early nineteenth century or later (see below, *Dating evidence*.)

The frame of the barn is clad with vertical one-inch boards. Except where repairs have been carried out, these boards were sawn on an upright or reciprocating water-powered saw. Some of these boards are of great width; like the scale of the barn frame, especially the posts, these wide boards denote the presence of very large pine trees in the vicinity when the barn was being constructed. This, in turn, suggests construction of the barn during the period of initial settlement and land clearing in Rumney.

The major part of the roof of the main barn and its additions is covered with sheet metal. In those building components that are of sufficient age, the roofs would formerly have been covered with wood shingles. Today, wood shingles cover only the north slope of the roof of the water tank house off the southwest corner of the barn, and both slopes of the milk house off the northwest corner.

Dating evidence: Barns are difficult to date with precision because they lack most of the stylistic clues seen in buildings with finished interiors and with more stylistically elaborated exteriors. The principal evidence seen thus far for assigning a date shortly after 1800 for the Gregoire barn consists of the overall form of the barn and the design and workmanship of its heavy frame. These attributes lead to a tentative conclusion about date of construction. There are many other possible forms of evidence that could help to refine this estimated date. A quick search was made for some of these types of evidence. In some cases, clues were located that need deeper investigation. In other cases, no clues were seen, yet evidence may exist in places not examined.

Among the technological types of evidence that are normally sought in dating an agricultural building are its overall form, attributes of its framing and sheathing, the types of nails used in its construction, stylistic attributes of features like window sashes, and stone splitting technology.

The overall form of the barn is described above. The building is a gable-front barn measuring 33’-6” in width and 48’-6” in length, measured on the exterior. The gable-front layout of this building immediately raises the question of when such barns began to supplant the older English barn, and specifically when this new structural type first appeared in the Baker River Valley of New Hampshire. Regrettably, the Division of Historical Resources has little data on barns in this area; the Division’s files contain only one Farm Reconnaissance Inventory Form from Rumney, and that form is for this barn. The files contain no Farm Reconnaissance Inventory Forms for the surrounding towns of Plymouth, Groton, Wentworth, Warren, Ellsworth, and Benton. Two individual property survey forms for farmsteads in Ellsworth and Benton mention barns, but provide little historical or physical data.

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[4] For a discussion of the English tying joint, see Abbott Lowell Cummings, *The Framed Houses of Massachusetts Bay* (Cambridge, Mass.: Harvard University Press, 1979), pp. 57-58; and Jack A. Sobon, *Historic American Timber Joinery: A Graphic Guide* (Beckett, Mass.: Timber Framers Guild, 2002), pp. 8-10.

Fortunately, Thomas D. Visser's book, *A Field Guide to New England Barns and Farm Buildings* includes a few examples of other Rumney barns, including one reportedly built in 1810.[5] This book does not say definitively when the gable-front barn was first seen in New England. Reliable evidence of the introduction of the gable-front barn may well depend on surveying and dating numerous examples in the field to determine the earliest survivors of the type. Of this building type, Visser says

> Coinciding with the change to the popular gable-fronted orientation for religious and domestic architecture, New England farmers enthusiastically adopted new gable-front designs for their barns by the 1830s. Some examples in central New Hampshire date to around 1810.[6]

As noted, the general aspect of the Gregoire barn easily suggests a date of 1810 if not earlier. Because this barn could be one of the earliest structures of this type, further careful study of the building is more than warranted. The gathering of some types of dating evidence may require removal of limited areas of obscuring materials such as the wall shingles that hide the exterior details of the sheathing.

Largely because the barn is so thoroughly shingled or clapboarded, the initial examination failed to locate any original nails in its sheathing, or evidence of nails in areas where the sheathing was later removed to receive the lean-to addition on the south side of the original building. Nails have the potential to narrow the estimated date of construction of any building. Hand-forged nails would suggest a date prior to 1795 or 1800. Cut nails indicate a later date, but it is possible to differentiate between the earliest cut nails and those manufactured later by more advanced machinery. It will be highly worthwhile to locate and study examples of the earliest nails used in the building.

The window in the front (west) gable of the Gregoire barn is a six-over-six unit. It was not studied closely, but appears from the main floor of the barn to have a mid-nineteenth-century muntin profile. This window was probably installed when the front of the barn was elaborated with a deeply projecting cornice.

Against the northern wall of the eastern hay pit, however, a single twelve-light window sash has been preserved and stored, along with what appears to be a transom sash that may have been placed above the barn door. It is unknown whether the twelve-light sash was originally used in the barn. The sash is early, having a muntin profile that suggests a date in the late 1700s or early 1800s. If it can be linked to the construction of the barn, it will serve as a useful dating tool.

As mentioned above, stone splitting technology has some usefulness in dating buildings, but its use is mostly to determine whether a stone was split before or after circa 1830. The foundation stones of the Gregoire barn are mostly fieldstones or stoners that were split by impact, and so show no splitting evidence. The foundation stones beneath the lean-to addition on the south side

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[5] Thomas Durant Visser, *A Field Guide to New England Barns and Farm Buildings* (Hanover, N. H.: University Press of New England, 1997), p. 74.
[6] Ibid.

of the barn, as would be expected, show evidence of splitting by plug drills and plugs and feathers. This technology dates from circa 1830 or later.

Because our examination of the barn was cursory, there are undoubtedly many clues that we failed to see. The barn deserves a careful and systematic examination with some effort to reach inaccessible locations and to uncover hidden materials and features.

Subsequent changes to the barn: As seen today, the barn reveals many original attributes, apparently unchanged from the date of first construction. The frame, as described above, is intact with the exception of a few missing braces. The sheathing appears virtually intact both on walls and roof, revealing none of the signs of roof leakage and replacement of materials that are common in old barns.

At the same time, the interior subdivision of the barn has changed over the years to meet changing needs. As noted above, the barn is unorthodox in having its driveway or threshing floor along an outside bay rather than at or near the center of the structure. The placement of the driveway in this location must have necessitated the housing of animals in the northeastern and northwestern bays of the barn, beneath hay lofts in these two areas. The current storage of material in the northeastern corner of the barn prevented the close study of this area, yet it appears evident that the enclosure of this corner of the barn is early. A short ladder, framed into the side of a post to provide access to the scaffold at the top of the barn, rises from the top of what must be an original stable enclosure at Bent 2. On the opposite side of Bay 2, at Bent 3, the built-in ladder extends down to the bottom of the hay pit.

It is clear that both hay pits on the north side of the barn originally had features common in barns where loose hay was stored in every available area. Both pits have horizontal girts adjacent to the driveway, intended to restrain the hay and prevent its falling into the open drive. There is also a partition of widely spaced studs between the two pits, extending up to the tie beam of Bent 3. These studs would have restrained the hay as it might have been removed from one pit to a lower level than in the adjacent pit.

Today, the presumed original stable in the northeast corner of the barn is part of a one-story enclosure that extends along the entire eastern (rear) wall of the building to connect with the added lean-to stable at the south wall of the barn. It is not possible to define the original dimensions and details of the presumed animal room in the northeast corner of the barn without further physical study.

Similarly, it may be presumed that a second animal room lay under the hayloft in the northwest front corner of the barn. This area is now used as a shop and storage area, and has largely been re-framed.

Because the Gregoire Barn is unorthodox in its original floor plan, further study of the evidence it may offer would be warranted when possible. There may be other side-drive barns in the Baker River Valley, and it will be important to begin to define the attributes of this type of structure, and to develop theories as to why this unusual plan was chosen.

Because the plan of the barn, as originally laid out, limited the number of animals that could be housed in the building, other arrangements became necessary as the farm's economy changed. There is evidence that some modernization was carried out on the barn circa 1850. It is possible that the visible stylistic changes of this period accompanied the construction of the shed-roofed stable against the south side of the old barn.

One piece of evidence for a renewed investment in the barn in the mid-1800s is the extension of the raking eaves of the western front of the building. This extension was accomplished by attaching short, projecting lookouts to the rafters of Bent 5, using these projections to support a box cornice on the front of the building. Seemingly inconsequential, such a change was often seen in the mid-1800s, and denoted a building owner's consciousness of the then-current architectural style. Presumably, the then-owner of the farm, J. A. Colburn, would not have invested in such a non-utilitarian change if the farm were not then experiencing newfound prosperity.

One source of such prosperity could have been the arrival of the railroad with its attendant expansion of the potential market for the produce of Rumney farms. Incorporated in 1844, the Boston, Concord & Montreal Railroad arrived in Plymouth and Rumney in 1850-51, with a depot and presumably a freight depot in West Rumney.[7] Typically, the arrival of the railroad in a formerly isolated farming community immediately expanded the market for produce, especially fresh milk, on an impressive scale. In the case of Rumney, the arrival of the railroad clearly opened up new horizons to farmers, not only providing them with a wide market for their produce, but simultaneously connecting them to a world of fashion, style, and luxury that would have been only faintly present when goods were transported by freight wagon and purveyed by peddlers. Some sense of this can be gained by a broadside published in January, 1853, by jeweler L. Billings, who maintained a shop in Wentworth Village, just four miles from West Rumney:

> Clear the Track!!
> THE CARS HAVE JUST ARRIVED
> And by them I have received a New and Splendid Assortment of
> RICH JEWELRY . . .[8]

The broadside proceeds to enumerate a bewildering array of luxury items, including clocks and watches, toiletries, and jewelry of every kind. It is clear that the arrival of the railroad, with its easy access to the material wealth of a broader world, must have changed the ambitions and expectations of the entire community of Rumney.

It may be theorized that the arrival of the rails (which cut through the Colburn Farm's property) stimulated an immediate expansion of the farm's potential market and a change in the internal economy of the farm. The structure of the lean-to stable on the south side of the old barn was not studied closely enough during this inspection to estimate a date of construction, but it seems

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[7] Robert M. Lindsell, *The Rail Lines of Northern New England* (Pepperell, Mass.: Branch Line Press, 2000), pp. 83-86.

[8] Broadside, L. Billings, Wentworth, N. H., Jan. 13, 1853; copy at the New Hampshire Division of Historical Resources.

plausible that the evolution from subsistence or family agriculture to an integration into a regional dairy market took place soon after 1850. This, in turn, could have necessitated the expansion of animal quarters in the barn and encouraged its stylistic modernization through changes to its façade. It may be assumed that other visible attributes of the barn, including the sliding door and the six-over-six sashes in the front gable window, were all part of a modernization that was made desirable and possible by the arrival of the railroad.

In addition to the stylistic changes that can be linked to the mid nineteenth-century, the barn shows many practical adaptations that have occurred over time in response to changing needs and functions. The first floor of the back of the barn has been partitioned off to form a right-angle continuation of the lean-to stable that was added to the south wall of the original building and to connect to a former stave silo that stood adjacent to the eastern (rear) wall of the barn. The first floor at the front of the barn, which may originally have served as animal housing, has been converted for shop and storage uses. The westernmost hay pit has recently been floored to provide additional usable space on the main level of the barn.

Character-defining features of the barn: Given the apparent significance of the barn, especially its excellent and intact frame and its value as a document of carpentry and agriculture in the Baker River Valley, future stewardship of the barn should be guided by a clear sense of the character of the building.

This report is an initial attempt to portray the general character of the Gregoire barn. Being based on only a brief inspection, this report can only begin to define all the values of the structure and the features that reflect those values. Further identification of the character-defining features of the barn might make an excellent field exercise for students in Plymouth State University's preservation certificate program.

The National Park Service long ago adopted a set of standards that were intended to guide the treatment of historic properties. The application of these standards is mandatory on federally-funded projects. The standards represent a thoughtful and sensitive approach to the treatment of any significant property, however, and might be adopted as a framework for future work on the Gregoire barn. The *Secretary of the Interior's Standards for the Treatment of Historic Properties* address four treatments: preservation, rehabilitation, restoration, and reconstruction. Future care of the Gregoire barn is most likely to fall into the category of preservation or rehabilitation.

"Preservation" is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

The *Secretary of the Interior's Standards for Preservation* are:

1. A property will be used as it was historically, or given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials, or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

"Rehabilitation" is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. If the Gregoire barn were converted to some new use, the *Secretary of the Interior's Standards for Rehabilitation* would be applicable.

The *Secretary of the Interior's Standards for Rehabilitation* are:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old

in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used,
8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.