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REPORT ON THE TROY RAILROAD DEPOT TROY, NEW HAMPSHIRE

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MARCH 22, 2003

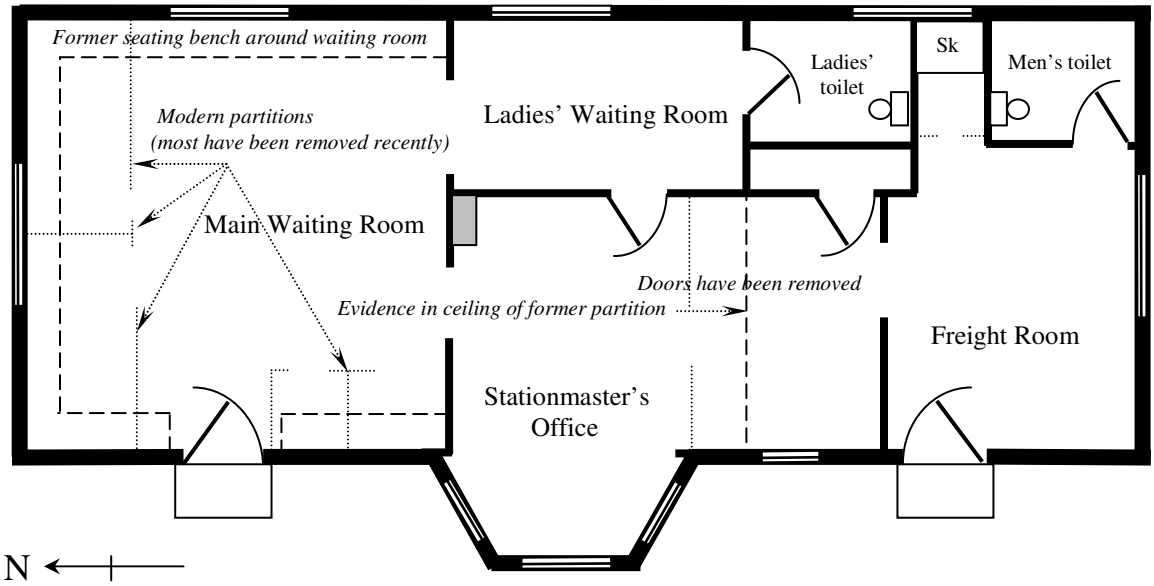
This report is based upon an inspection of the Troy railroad depot made on the afternoon of March 18, 2003. Also present during the inspection were Ralph Wentworth and John Satas of Troy. The purposes of the inspection were to inspect architectural evidence that came to light after modern finishes and dropped ceilings were removed; to discuss an approach to treatment of the depot that will be in keeping with the *Secretary of the Interior's Standards for Rehabilitation*; and to provide technical assistance in a variety of areas of the rehabilitation program.

Provision of technical assistance is provided in part by a variety of supplementary materials on a range of subjects that accompany the copies of the report being sent to Messrs. Wentworth and Satas.

This report is intended to supplement the Preservation Company's "Railroad Station Complex, Troy, New Hampshire, Historic Structures Report" of September 2002, which was compiled before most historic surfaces and finishes were exposed on the building's interior.

Summary: The Troy railroad depot was completed about 1847 for the Cheshire Railroad. Like most depots of the mid-nineteenth century, the building displays many attributes of the Greek Revival style, modified by the broad roof overhangs necessary to shelter passengers boarding or disembarking from trains. In its elaborate gable trusses and decorated barge boards, the station also reflects the Gothic influences that had been introduced in Andrew Jackson Downing's influential book, *Cottage Residences* (1842). Evidence that has come to light following the removal of modern materials makes it clear that the interior of the depot was thoroughly remodeled around 1900. This remodeling entailed a nearly complete re-plastering of the interior and the installation of modern interior woodwork in the principal rooms of the building. Evidence suggests that the

floor plan of the depot was also altered somewhat at that time, with some partitions removed and others added, and with new interior door openings provided to accommodate changing room functions. The depot remained approximately in the condition in which it was placed around 1900 until the 1970s, when it was converted to a residence. At that time, some original interior features and some features dating from around 1900 were removed, new partitions were inserted (shown as finely dotted lines on the floor plan below), and low, suspended ceilings were added, obscuring both the proportions of the older spaces and much of the architectural detailing of the interior.



TROY DEPOT FLOOR PLAN, 1916, SHOWING LATER CHANGES

Description: New England railroad depots of the 1840s represented an entirely new building type, adapted to the needs of a revolutionary advance in transportation. While the form and function of these structures differed from those of any buildings known previously, depots of this era retained the building technology and stylistic attributes that were commonly seen in other structures of the same period.

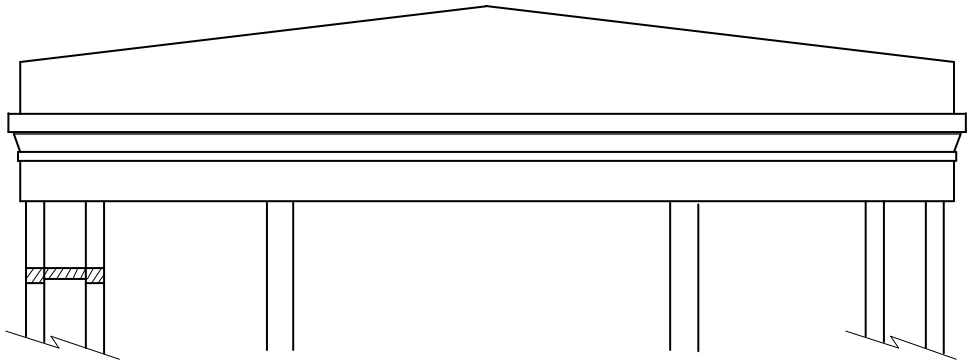
As noted above, the Troy depot displays many attributes of the Greek Revival style, modified by the provision of dramatically projecting rafter tails that create broad overhangs on the track and highway sides of the station. Together with a similar station of the Cheshire Railroad at Fitzwilliam Depot, the Troy depot also exhibits a strong overhang on each gable end. These projections were achieved by extending the building's heavy wall plates well beyond the end walls of the building, supporting these projections by angular wooden braces, and utilizing the projecting plates to support three additional sets of rafters on each end of the building. Like the rafters concealed within the attic of the building, the exterior rafters are connected by collar ties. The exposed collar ties are placed at a lower position than those inside the building, and the outermost ties form the bottom chords of kingpost trusses, with diagonal struts, that decorate each end of the structure. The bottoms of the kingposts of these trusses are decorated by turned pendants. Each kingpost formerly had a thin, turned spar stapled to its outer face

and extending above the ridge as a spire. Remnants of these spars and their staples remain.

Both the verge boards and the outermost collar ties are decorated with added fillets that suggest a series of recessed panels and transform the trusses into decorative as well as structural elements. This decorative treatment, including the attached spars, was probably suggested by verge board designs illustrated by Andrew Jackson Downing in his influential book, *Cottage Residences* (1842), as well as later (after the probable completion date of Troy depot) in his *The Architecture of Country Houses* (1850).

The original exterior wall finish of Troy depot can be glimpsed through gaps in the present clapboards. The original treatment was apparently flush sheathing, laid either horizontally or vertically, much like the sheathing that is exposed on the nearby Fitzwilliam Depot. Such a treatment would also suggest the influence of Andrew Jackson Downing's *Cottage Residences*. Downing recommended such flush-boarded exteriors, painted with earth colors, sometimes with a sanded finish, and his advice may have been followed at Troy.

Elsewhere, however, the original detailing of the depot is strongly evocative of the Greek Revival style. Both on the exterior and the interior, wall openings were originally treated with casings that have slanted or peaked tops that suggest the pediments of Greek temples. Such treatments were suggested by Asher Benjamin in his *The Practice of Architecture* (1833), but became ever more prevalent in the 1840s and early 1850s. While the original interior casings have been removed in all rooms of the depot except the freight room, the exterior of the building apparently retains its pitched pediments beneath rough-sawn vertical sheathing that encloses the lower portions of the walls. The original interior casings follow this design:

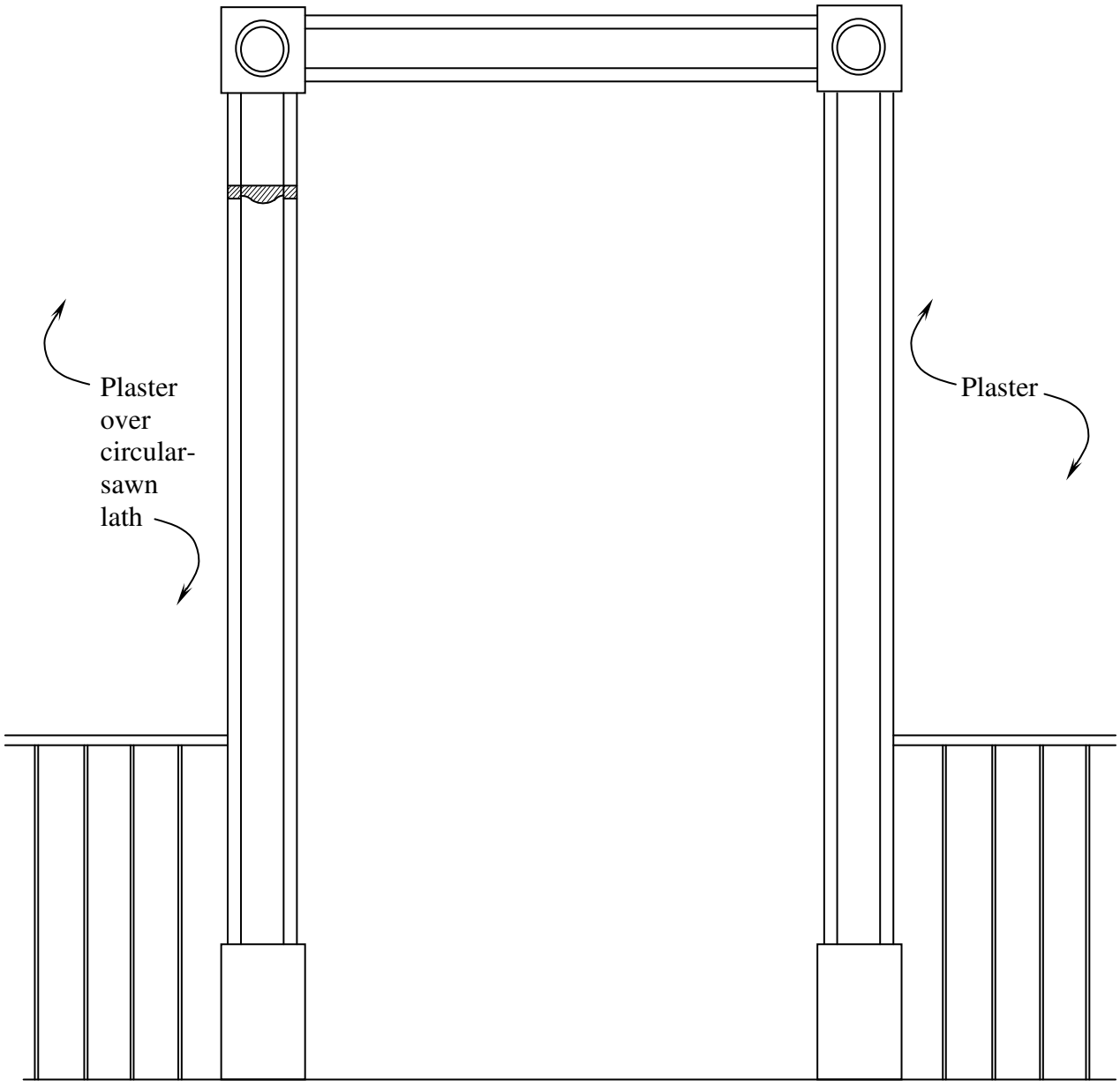


ORIGINAL INTERIOR DOOR AND WINDOW CASINGS

Where these casings survive in the freight room at the south end of the depot, they appear to have been reapplied in some cases over sawn lath that is not original to the building. As seen in areas of both the north and south end walls of the depot, the original plaster was applied over split board lath. The three-part window opening at the center of the south end of the freight room may have been left in place when the depot was re-plastered. The casings of the two doors into this room (one leading from the exterior and the other from the stationmaster's office) may have been reapplied after most of the room

was refinished with new lath and plaster in order to match the original south window casing.

In other rooms, however, the depot was entirely re-plastered over modern circular-sawn lath around 1900. In conjunction with this re-plastering (which appears to have been two-coat work), modern door and window casings were added to give the more public areas of the depot an entirely modern appearance on the interior. The new casings follow a standard design of the turn of the twentieth century:

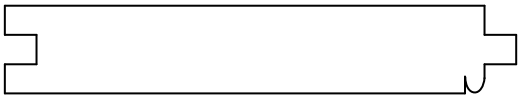


INTERIOR DOOR AND WINDOW CASINGS, ADDED CIRCA 1900

The wainscoting that is seen throughout almost the entire building is composed of tongued-and-grooved stock applied vertically. Although not examined carefully, this wainscoting appears to be applied over a surface of lath and plaster. This could imply

that the re-plastering of the depot occurred somewhat before the installation of wainscoting, or that the building was given a coat of plaster (perhaps just a scratch coat) as deadening and insulation before the wainscoting was applied, with a skim coat then applied above the new chair rails. The plaster that was applied to modern sawn lath throughout the building around 1900 has proven to be uncharacteristically weak, and is currently undergoing extensive repairs. Possibly, the wainscoting was added shortly after the plaster was applied when the latter began to show signs of damage in its lower areas.

The type of "ceiling board" that was applied as wainscoting is simpler in profile than the longleaf southern yellow pine ceiling board that is often seen in the late 1800s and early 1900s. As shown below, each board has a single, delicate edge bead rather than the edge and central beads more commonly seen on ceiling board of this era. Although not examined closely, the wainscoting appears to have been planed from a northern conifer rather than from the highly resinous southern species that were often employed for varnished woodwork around the turn of the twentieth century.



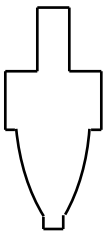
"CEILING BOARD" WAINSCOTING, CIRCA 1900

Most window sashes in the building were replaced when the depot was converted to domestic use in the 1970s. Remodeling into a residence entailed removing the surviving old sashes, cutting the bottom two-thirds of the mullions that had separated the original central windows from their narrow flanking sashes, installing paired modern two-over-two sashes separated by new central mullions, and boarding the gaps between the new, smaller window units and the edges of the larger original openings.

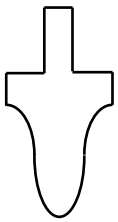
The only windows that were not altered in this remodeling were those in the former stationmaster's office and those in the attic. Examination of windows in both areas indicates that the attic windows, as might be expected, date from the construction of the building about 1847. Sashes in the stationmaster's office, however, were renewed around 1900 when other extensive remodeling took place throughout the building.

Evidence from surviving old photographs suggests that the original sashes of 1847 were retained in all areas excerpt the stationmaster's office when the depot was remodeled around 1900. A few of the narrow side sashes were reused as high, horizontal toilet room windows when the building was converted to a dwelling in the 1970s.

As revealed both by the attic windows and the re-used side sashes, the original sashes of the Troy depot had muntin profiles that were common in the period from 1830 to 1850. Surviving transom sashes at the otherwise similar Cheshire Railroad station at Fitzwilliam Depot have an alternative muntin profile, which became common around 1840 and remained in use, with variations, until the end of the nineteenth century:

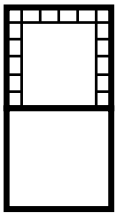


ORIGINAL MUNTIN PROFILE,
TROY DEPOT



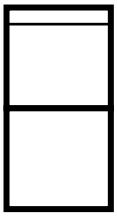
ORIGINAL MUNTIN PROFILE,
FITZWILLIAM DEPOT

Examination of the windows in the former stationmaster's office, including those in the projecting bay, reveals that the sashes in this single room were replaced during the remodeling of circa 1900. These new sashes displayed unusual muntin arrangements that reflect the Queen Anne style of the late nineteenth century. The central window in the bay has an upper sash in which a single, central light of glass is surrounded on the top and sides by a multitude of small, rectangular lights:

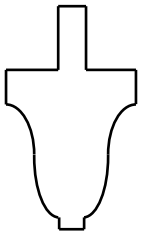


A photograph of a stationmaster in his office, taken in the 1930s, reveals a glimpse through the ticket window of the northernmost door of the depot. This photograph shows that this door, which would have been installed in the remodeling of circa 1900, also had a large central light of glass that was surrounded on four sides by smaller lights. The door to the freight room may have been changed at the same time, but we lack photographic evidence of its design.

The two flanking windows in the projecting bay have a simpler muntin layout:



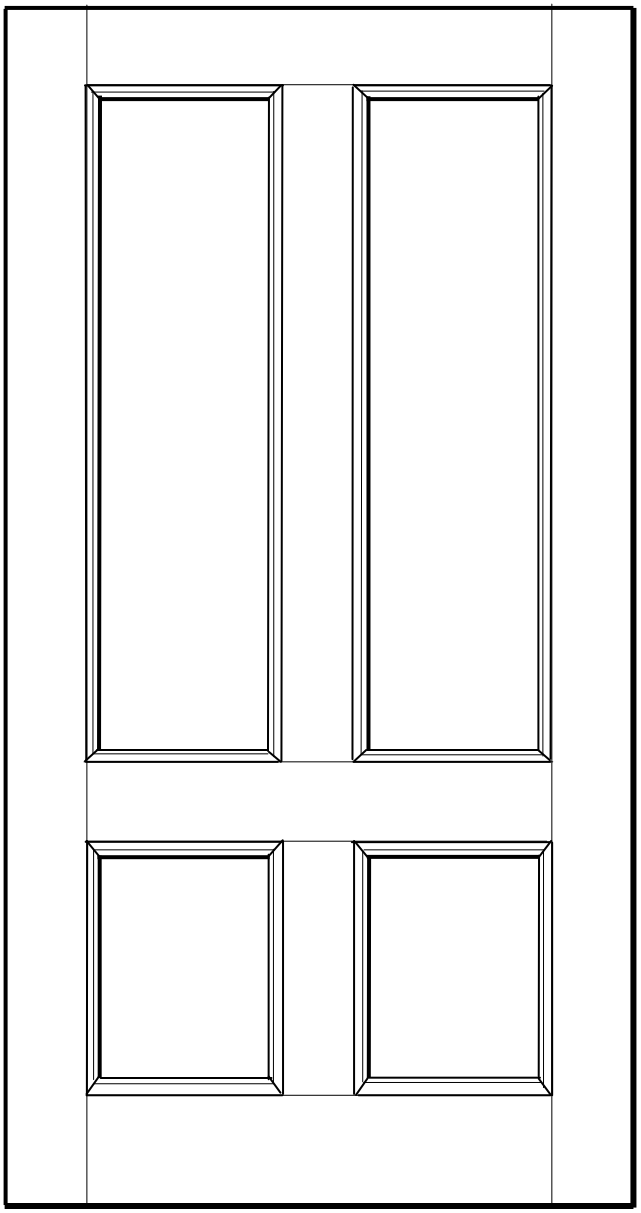
All the new sashes that were installed in the stationmaster's office share a muntin or stile and rail profile that had become the standard by about 1900:



MUNTIN PROFILE, STATIONMASTER'S OFFICE

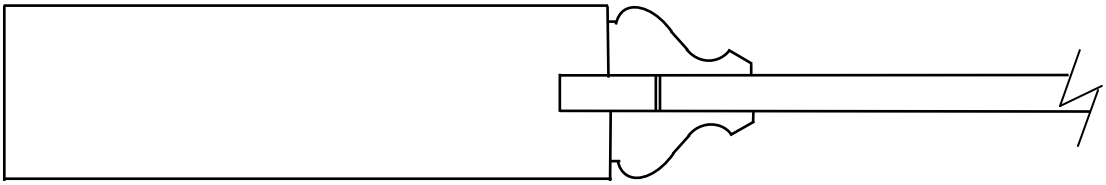
Few old doors remain in the building. A number of older doors were apparently replaced by new flush doors during the adaptation of the depot to domestic use in the 1970s. It may be assumed that original doors of circa 1847 had already been replaced in the remodeling of circa 1900. The governing approach to rehabilitation of the depot calls for returning the building generally to its condition in 1916, when detailed valuation drawings were prepared (see below, "Rehabilitation approach"). It will therefore be important to consider the styles of doors that were prevalent around 1900 as possible prototypes for new units to be installed in the depot.

In general, four-panel doors were the standard for interior use at the turn of the twentieth century. Typically, the lower panels were considerably smaller than the upper panels:

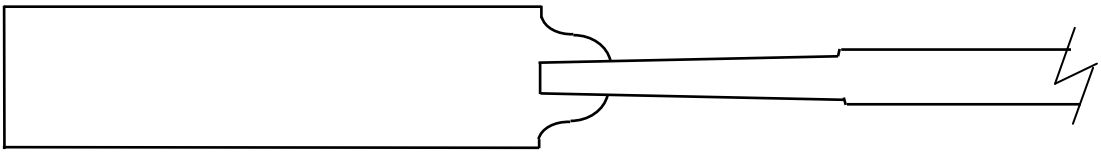


TYPICAL DOOR PANEL ARRANGEMENT, CIRCA 1900

Such doors were embellished with two principal styles of moldings around their panels. The more elaborate doors had applied moldings:



Less costly doors of the same era retained the same general panel arrangement, but had simple ogee moldings planed into their stiles and rails as integral details:



Because one or both styles of door may have been installed in the depot during the remodeling of circa 1900, it will be important to search through the doors that have been removed from the building to determine whether any examples survive to be reinstalled or to guide the reproduction of replacements.

As noted above, photographic evidence indicates that the exterior door leading from trackside into the main waiting room was a semi-glazed door with small lights of glass surrounding a large central pane, probably of heavy plate glass. This door, and possibly the exterior door of the freight room, was more elaborate than those shown above, but was nevertheless typical of the same era.

Framing: This report concentrates on those building features that need to be addressed during rehabilitation of the Troy depot. In general, as noted in the Preservation Company's historic structures report of September 2002, the framing of the building is in good condition. Nevertheless, the framing of the Troy depot, seen in the knee wall construction that is now exposed to view in the newly-accessible attic, is significant and warrants careful preservation. The following brief description notes the key features of the upper building frame.

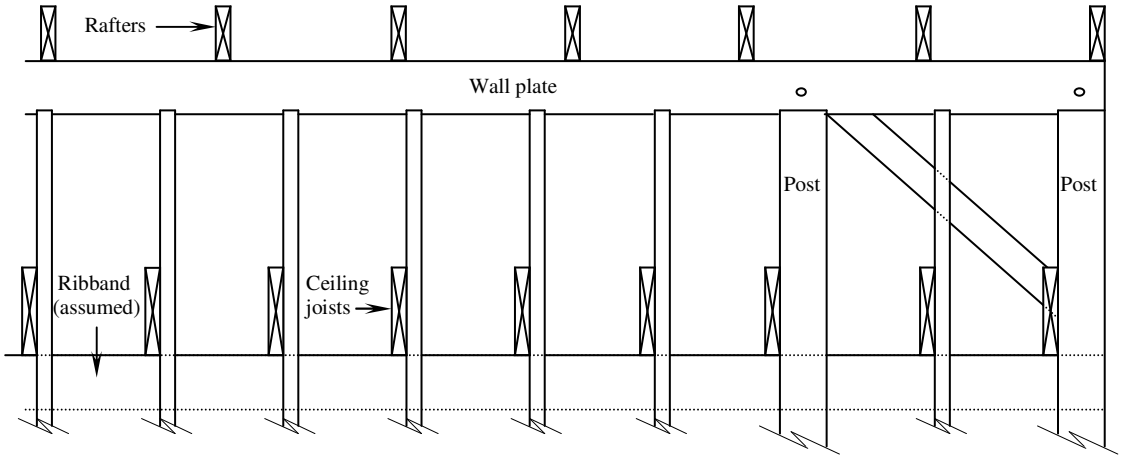
The frame of the Troy depot represents a transition from the traditional braced frame to the balloon frame. The framing members (and the roof sheathing boards) are all sawn on a reciprocating or up-and-down sawmill, and each type of member (posts, studs, rafters, and joists) is of uniform dimensions.

Despite the fact that these members are quite uniform in their dimensions, the frame also retains attributes of the "square rule" method of framing, which had been adopted widely during the 1820s in structures that employed hewn, not sawn, framing members. While

the building's attributes of balloon framing represent an incoming carpentry method, the surviving attributes of square rule framing look back to an older era of heavier framing.

Like earlier braced frames, the depot frame has a series of heavy posts placed at intervals along all elevations of the structure. The tops of these posts are clearly provided with tenons that are pinned into mortises on the bottoms of the wall plates. As in earlier frames, the intersections of posts and wall plates are further strengthened by diagonal braces that are mortised into each principal member. These heavier members retain the characteristics of early nineteenth-century framing.

The transition from braced frame to balloon frame is indicated by the studding that fills the intervals between the posts. Studs are placed at regular intervals along all elevations of the building, providing uniform support for the attachment of the sheathing boards that enclose the walls below the soffits of the roof. Joists are nailed to the sides of the studs and posts, and thus are also placed at regular intervals. Rafters are also regularly placed, although they do not rest on the wall plates precisely above the studs and posts. This regular placement of uniform, sawn members of relatively small dimensions would become the chief hallmark of the balloon frame as it evolved into a framing method that eventually employed no heavy members and no mortise-and-tenon joints.



KNEE WALL FRAME AS SEEN FROM ATTIC, SOUTHEAST CORNER

As noted above, the frame of the depot retains attributes of the "square rule" method of framing. Unlike the forward-looking attributes of the frame, the retention of square rule methods of framing was a conservative practice that was essentially unnecessary in a building frame that is composed of uniformly sawn timbers. The square rule method was well adapted to providing uniform framing joints in timbers that, unlike those in the Troy depot, were not of uniform dimensions. With the increasing use of uniformly sawn framing members in building construction, the square rule method was eventually abandoned in favor of simple nailed connections.

The square rule called for the establishment of a reference line on each structural member. All intersecting members were joined at a fixed distance from this line, but

below the possibly irregular surfaces of the members. To achieve these uniform intersections, identical recesses or gains were prepared at each joint. Intersecting members thus meet at points that are below the general surface of the timbers. Each joint is thus marked by a recess that brings that intersection to a fixed distance from the reference line on each member.

Such recesses are seen in the Troy frame wherever a post or stud intersects the bottom of the wall plates. The carpenters did not provide a recessed seat for the bird's mouth cuts in each rafter, perhaps demonstrating that they realized that the wall plate was in fact quite uniform, at least along its upper surface, and that the added labor was unnecessary.

Rehabilitation approach: The Preservation Company's Historic Structures Report of September 2002 suggested the following approach to rehabilitation of the passenger depot (p. 7): "Given that all of the materials that can be clearly documented were in place in 1916, documented on the B&M inventory sheets, this era was chosen for restoration efforts. Those materials, such as the windows and doors, that were earlier, but existing in 1916, will be maintained or recreated according to their construction date."

Such an approach is in keeping with the *Secretary of the Interior's Standards for Rehabilitation*, especially with Standard #4, which states that "Changes to a property that have acquired historic significance in their own right will be retained and preserved." Since there is better documentation for the 1916 period than for any other, and since the alterations that had occurred around 1900 are accounted for in this documentation, there is a strong reason to select this year as the standard for rehabilitation. We may assume that by1916 the depot had been supplied with most of the features it retained until its conversion to a dwelling. These features would have included electricity, telegraph, telephone, semaphore train signals, men's and women's toilet rooms with running water, and the essential floor plan that the building again displays following the removal of extraneous partitions that were added during the 1970s.

Rehabilitation to the 1916 period will also retain all surviving features of an earlier era that had survived until that year, and that remain in the building. These earlier features include the basic frame of the building, some door and window casings in the freight room, and the original sashes in the attic.

As noted above, most of the surface materials that are now visible date from a remodeling of around 1900. These materials include hard pine flooring, the current wall and ceiling plaster, most interior woodwork, the sashes in the stationmaster's office, and probably the exterior clapboarding of the depot.

Because of losses that occurred when the building was converted to residential use, it will be necessary to reproduce the windows that were in use in 1916. As noted above, there is both physical and photographic evidence to indicate that these were the original sashes of circa 1847, except for those more modern units that had been installed in the stationmaster's office around 1900. Well-preserved prototypes for the 1847 sashes are to be found in the windows at the north and south ends of the attic, which are smaller in

dimension that those that were used on the main floor of the depot but otherwise provide exceptionally crisp profiles for stiles, rails, and muntins.

Both the Transportation Enhancement ("TEA-21") grant that allowed work to begin on the Troy depot and the more recent Land and Community Heritage Investment Program (LCHIP) grant cite the *Secretary of the Interior's Standards for Rehabilitation* as the guiding standards for treatment of the depot. These *Standards* are reproduced below.

The Secretary of the Interior's Standards for Rehabilitation

"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.

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.