SUMMER 2006 HOLLOW STABILIZATION REPORT 1, June 17 – July 7

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REPAIRING THE HOLLOW STEP BY STEP . . . Weeks 1 through 3

Reconstructing the west exterior-end stone chimney - In the early spring, historic stonemason Edward Ashby ordered the necessary barrels of lime putty to mix with sand and the seven barrels of sifted mortar from the Marshall period. Thomas Marshall would have burned oyster shells and slaked his own lime on site, but the time and labor for that process would drive this year's budget up unnecessarily. However, the chemistry and process of slaking lime and mixing common mortar might prove to be a pleasurable and fascinating educational program for future scholars of many ages who attend sessions at The Hollow. Miguel, Alejandro and his Uncle Valentine, who has replaced Francisco, mixed enough of the historic recipe to begin the chimney on June 17th. Since the dismantling, Edward and Cheryl have retained the documented measurements and photographs taken of the chimney in April 2004 and earlier. Edward has spent many hours over the winter analyzing the documentation, comparing the former chimney to those on some early-nineteenth-century buildings that he has worked on and planning for the big event. Yet, one has to remember that The Hollow is a rare 1763-64 dwelling with only one documented dendro-dated contemporary known as Yew Hill (1760-61) in the county for comparison.

Therefore, it is critical for Edward and architectural historian Cheryl Shepherd to daily evaluate the evidence found in The Hollow chimney as a guide for reconstruction. This analysis must take into consideration the repair campaigns which muddied some important evidence. Measurements obtained during the dismantling are being re-evaluated in the determination of the fireplace opening on the first floor because the space had been enclosed with rubble most likely during the invasive stovepipe insertion. Edward's experienced eye recognized the original jamb stones, and they have been re-inserted to every extent possible.

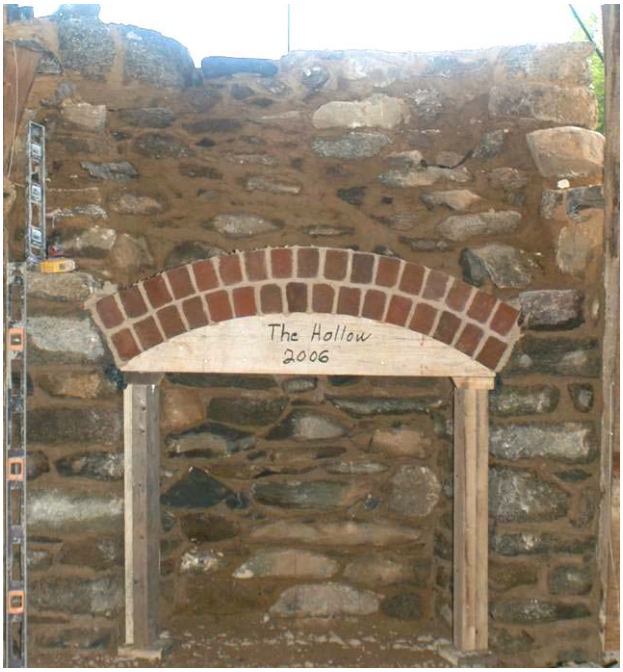
Considerable deliberation has occurred toward determining the design of the fireplace lintel. Bricks with whitewash and plaster residue were found amidst the fill rock during dismantling. While they are poor-quality clinker bricks, several have shapes suggesting an elliptical lintel. The quantity found further supported the decision by Edward and Cheryl to rebuild the elliptical arch. Dimensions of the solitary flue size in the former chimney were taken, yet, the component had two flues when first constructed, judging by the fireplace hearth, framing and stone infill of the feature on the second floor. The stones separating the flues probably slipped down into the throat. At this time, Edward continues to detail his plans for the flues.

On June 20th, Alejandro steps back to yield a good view of the rising chimney. The hearth foundation is shown on the left.

Below, Edward and Cheryl refer to documentation of the dismantling and place the removed arch bricks into various patterns while reading their shapes, markings, mortar and decorative residue. No recognized architectural pattern emerged by stacking the bricks with their plaster and whitewash residue toward the front, and the haphazard applications moved them to realize that they received the coatings in their varied positions after being reused among the rubble enclosing the fireplace opening.

As only the very best stonemasons do, Edward selects, shapes and lays stone structurally so the wall or chimney, in this case, stands soundly. It is not the function of mortar to hold the structure together, after all. Duplicated in properties and color for all work at The Hollow, historic common lime, sand and clay mortar should have plastic qualities to fill any voids between masonry units and act as a cushion between them to allow compensation for natural settlement. Colonials and builders through the end of the nineteenth century recognized that the entire structural system depended on some flexibility in masonry components to gradually adjust for uneven settlement. Lacking flexibility, stones and bricks can break and mortar joints tend to crack leaving the building or structure open to water penetration and further damage. Edward is equally capable of building modern masonry work using the binding Portland cement which hardens to great rigidity on currently-made harder modern bricks, concrete blocks and concrete forms. Yet, he would still lay his materials structurally independent. The inherent elasticity of historical masonry should always take precedence in a repair because a flexible historic mortar does not receive harder cement repointing effectively, as demonstrated on the former Hollow chimney.

Over the winter, one of the few remaining period-one weatherboards west of the center door on the front fell off of the house. Its wrought-nail fasteners remained in the studs, but the expansion of the nail hole and the encouragement of strong winds dislocated the board. While two smaller boards had fallen from under the eave of the west gable in the last two years, the heavy weathering on their backs rendered the saw marks unreadable. This weatherboard displays the expected pit saw marks, but it is to the credit of masterful and steady sawyers that the cuts are quite even until an infrequent waver upward or downward. Cheryl studied the impressive workmanship a long time before becoming fully satisfied that the board was pit sawn from a log, rather than mill sawn like the later, circa 1780 inside sheathing.



On Wednesday, July 5, Edward builds the brick elliptical arch above the forty-five-inch-wide fireplace. He first fashioned a wooden form which will be removed next week, although he could have pulled it out after inserting the last brick. It is best left in place when the next stone courses are laid. In the top left close-up, the beginnings of the chimney throat are curving toward the center above the arch. At left, Edward has carefully placed the top course and is marking where he wants their joints to fall. The finished arch is shown in the above-right picture.

*** Requiring This Summer's Attention - When taking plumb readings down the full-height of the west gable before beginning the chimney reconstruction, Edward discovered a ten-inch slip of the west gable's roof framing toward the east due to its endurance of the weighty push of the leaning former chimney stack for untold years. In the first decade of the twentieth century, the current overhanging metal roof was applied to extend well beyond the side walls on both gable ends for added protection of the weatherboard. This overhang design is uncommon on colonial buildings. Simultaneously, the roof sheathing boards at both gable ends were replaced to the next rafter. The carpenters appear to have corrected the east gable's slippage caused by the whole roof structure racking towards the east, but the west gable could not effectively be straightened at that time because the chimney still pushed into the dwelling. Edward has discussed this with Mike by phone, and both feel that the chimney reconstruction will still allow room for him and attending APVA carpenters to correct the problem this season. The straightening must occur before the wood shingle application planned for this summer. Further, when Mike performs this procedure upon his late-summer return to remove the metal roof, reform it to period-one and lay new oak shingles, Edward has calculated and finds that there will still be sufficient hammering space for fastening the rake board and future weatherboards behind the reconstructed chimney stack.