**17 Bryer Avenue Features**

**Historical**

- Great effort was expended to maintain the historical accuracy of structure while meeting modern day building code requirements. One example: The original wrap around porch railing was too low for present day Code. In its replacement, the exact column and rail design was proportionally elongated to scale and new column posts were individually milled to exact design by wood craftsman Stephen Plaud.

- The original 1890 solid wood front door was restored and updated with three vertical insulated, beveled glass lites.

- The original fireplace mantles were restored and reinstalled in original double-sided positions.

- The Jamestown fieldstone that served as the structure’s stone foundation for 120+ years was repurposed to become the present day stone walls at the Bryer Avenue street-side and east side retention stone walls.

- Two large original main stairway newel posts were restored and repositioned in the new staircase; the reduced scale middle post was carefully reproduced in proportion to larger originals.

- The original 1890 glass doors that accessed the porch from the dining room on the first floor are now the master bedroom closet French doors.

- All moldings, window, and door trims were thoughtfully reproduced by local craftsmen to original design, requiring wood milling cutters created for, and unique to, 17 Bryer Avenue.

- Jamestown-based master woodworker Joe Yoffa hand built the black walnut dining room buffet cabinet display, replacing the original pantry.

- The Douglas fir that served as the original main floor flooring was repurposed to become the third floor flooring; the pine flooring of the second floor remained 100% in place. Period authentic Carlisle wide plank white oak was introduced to become the main floor flooring.

- Fun Tidbit: The scallop shells on living room fireplace mantle were collected at Bryer Beach by the homeowner and her pup through the years during morning walks.
Mechanical/Structural

• Builder and General Contractor Dan Vieira’s third floor roof framing was so structurally sound that architect-planned collar tie beams were determined to be unnecessary by structural engineer and building inspector at mid-construction, allowing for visually unobstructed cathedral ceiling of third floor.

• Six zone ultra efficient geothermal heating and air conditioning system (predominantly ClimateMaster) with heat pumps and air handlers are located strategically throughout structure for maximal energy efficiency and minimal visual impairment to the interior (a true challenge in 120+ year old home with thin exterior walls and avoiding adding visually invasive ductwork throughout interior).

• Six Ecobee intelligent web-capable thermostat controllers allow fine-tuned temperature and moisture control for specific spaces throughout the building structure, executed onsite or remotely via any smart device. Geothermal in operation is a natural desiccant, so humidified air is introduced via integrated humidifiers.

• The Geothermal air system has a fresh air ventilation system running 24 x 7, ensuring clean air circulating constantly through the home - ensuring healthy air quality in the “tight”, well-insulated structure.

• The extensive “drain to daylight” below foundation drainage system completely eliminated a pre-renovation basement water concern — one primary impetus that motivated the home restoration in 2009. The backup sump has never been needed to date.

• The insulation of the structure is extensive, including a below-foundation insulation and vapor barrier under the basement, extensive double insulated (exterior and interior), sealed foundation walls, Closed cell foam insulation in all exterior vertical walls; Open cell foam insulation under roof and for all horizontal planes (Open cell foam allows the home to release moisture without losing thermal benefit), and thermal and sound insulation in selective interior walls and ceilings.

• The 3rd floor is pre-plumbed for a full bathroom.

• A Kohler 20 Kilowatt auto-start emergency backup generator provides seamless electricity supply in event of power loss. Generator is power by propane stored in 500 gallon below ground tank.

• A Navian propane gas on-demand hot water system provides limitless hot water at extremely efficient combustion ratios and cost effective rates.

• In addition to hot water generation, propane gas is used as the fuel source for the gas stove, dryer, fireplace, grill, and 20 KW backup generator.

• Complete house propane cost: $480 average per year prior four years. Complete house electric cost prior year: $3,116. Total heat and air conditioning fuel cost: 0.