

Technical Guides for Exterior Alterations

A Practical Series for the Preservation and Maintenance of Rockville's Historic Resources

14: Masonry

Background

While wood is the most common historic building material in Rockville, masonry materials such as stone, brick, stucco, reinforced and poured concrete, concrete block, and cast stone were also used. These may have been used as the primary building material, but more often were used for foundations, porch piers, and chimneys on wood framed structures. Different materials are often seen at the same site, such as using stone for the foundations and brick for the porch piers.

Masonry materials are joined together with mortar, creating a wall or pier made up of masonry units and mortar joints. The mortar is as important an element as the brick or stone unit.



Masons were highly skilled craftsmen of the day, and joint installations such as grape vine or scored can be highly decorative as well as functional.

Both the masonry unit and the mortar have specific characteristics in terms of hardness, strength, and permeability (the ability to transmit moisture). These characteristics should be investigated before doing anything that might affect the materials' performance. Jobs that might be undertaken include repointing mortar joints, cleaning surfaces to remove dirt or graffiti, or re-painting a surface to maintain the existing painted appearance.

National Park Service recommendations

- Make sure that the mortar for repointing, or the stucco material used for repair, is softer than the masonry units or substrate to avoid damaging these expensive materials. Masonry construction is a partnership between the individual stones or bricks, for example, and the mortar material used as bedding. In a successful masonry job, the mortar joints are



designed to take the stresses and yield, if necessary. A softer mortar will preserve the stone or brick from cracking and breaking, and, if damaged, is the less expensive repair job.

- Make sure that the mortar is permeable, and will allow the transmission of water vapor out from the wall. Mortars with a high percentage of Portland cement have low permeability. If the water vapor can not move through the mortar, it will move through the stone or brick, resulting in spalling and cracking, or even powdering of the bricks. This damage is very expensive to repair.
- Use the gentlest method for cleaning the masonry surface, to avoid hard-to-repair damage. Abrasive cleaning, with sand or other types of "grit," or even power-washing with high-pressure water can permanently damage the surface of softer stones and low-fired brick.
- Most of the masonry problems are caused by water penetration, and the source of that water must be identified and corrected before fixing the masonry. Typically, this will mean attending to roof or gutter repairs before repointing the masonry.

HDC Policy

- Use appropriate mortar for repointing masonry. Hard mortar, with a high proportion of Portland cement, is not appropriate if the mortar is harder than the masonry material itself.
- Match that historic joint tooling.



- Avoid over-cleaning a historic building. The patina of age is to be expected and part of the charm. Consider gentle cleaning methods that will remove some dirt without damaging the building's materials. HDC staff can be of assistance.

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14: Masonry *(continued)*

HDC Policy *(continued)*

- Avoid painting a masonry structure that has never been painted previously. This changes the architectural character of the building by hiding the original masonry, and hiding the joints. It may also create additional maintenance problems by changing the permeability of the wall, and by creating a surface that will need to be repainted in the future.



- Avoid removing paint from a masonry building that has already been painted. Many 19th century brick buildings were built with soft bricks, and the paint is part of the protective finish for the masonry. Removal of the paint will probably damage the brick, and leave the porous surface exposed to further deterioration. The remedy for this problem is often to repaint the brick!

Certificate of Approval

- Justification for proposed alteration
- Photographs of the existing conditions and problems
- Specifications for proposed work including methods of application/removal
- Proposed contractor

Tax Credit Information

Tax credits may apply. To maintain eligibility, please have before and after photographs of the work. Obtain HDC approval prior to undertaking the work if a COA is required, and make sure you follow all zoning requirements. Work done without a required HDC Certificate of Approval is not eligible for the tax credits. Forms are available on the City Web site or at the CPDS information desk.

Contact Us

For additional information and questions, please contact:
Historic District Commission
Department of Community Planning and
Development Services

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Additional information

Adopted Architectural Design Guidelines for the Exterior Rehabilitation of Buildings in Rockville's Historic Districts, September 1977, Rockville Historic District Commission, 44, 70-71, and Appendix 4.

Secretary of the Interior's Standards and Guidelines for Rehabilitation, (1995), National Park Service (NPS), U.S. Department of Interior, www2.cr.nps.gov/tps/standguide.

Preservation Brief #2:
Repointing Mortar Joints in Historic Masonry Buildings.

Preservation Brief #6:
Dangers of Abrasive Cleaning to Historic Buildings.

Preservation Brief #15:
Preservation of Historic Concrete Problems and General Approaches.

Preservation Brief #22:
The Preservation and Repair of Historic Stucco.

Preservation Brief #42:
The Maintenance, Repair and Replacement of Historic Cast Stone.

For additional information on the maintenance and rehabilitation of older homes, see www.cr.nps.gov/architecture/htm.

For suppliers and product information, see www.oldhouseweb.net.

For general information about historic buildings, materials, and styles, see *A Field Guide to American Houses*, by Virginia and Lee McAlester, New York, Alfred A. Knopf, 1988.