

Masonry (MA)

Masonry refers to building materials composed of stone, brick, concrete block, tile, terra cotta, or stucco that were used to construct and ornament building walls and architectural elements such as parapets and steps. As a wall cladding material, masonry consists of individual units of brick, block, or stone, and mortar, a bonding material. Mortar primarily plays a structural role, but also contributes to the visual character of the building.

Brick of a dark red color is the most frequently used masonry building material within the historic district. Red sandstone quarried in nearby Jacobsville was also commonly employed for walls and building trim. The use of this locally produced building material gives the district a unique “sense of place.”

Masonry is a highly durable building material, but it is particularly vulnerable to inappropriate cleaning and repair activities. Proper assessment of underlying problems, particularly those related to water damage, is critical before deciding on repair and treatment.

Guidelines:

- MA (1) Retain original masonry and mortar whenever possible without the application of any surface treatment. Concealing original masonry is not recommended.
- MA (2) Clean masonry only when necessary to halt deterioration or remove heavy soiling. Use gentlest means possible to prevent damage to masonry surfaces.
- MA (3) Apply paint only to areas that have been previously painted.
- MA (4) Where there is evidence of deterioration, duplicate old mortar in strength, composition, color, and texture. Replace old mortar joints in width and in joint profile. Do not use synthetic caulking or sealants to repoint masonry.
- MA (5) Sandblasting brick or stone surfaces using dry or wet grit or other abrasives is prohibited.
- MA (6) High pressure water cleaning methods are prohibited.
- MA (7) When necessary, replace masonry units or features of brick, stone, terra cotta, and/or concrete using the same materials, or one that is

a compatible substitute material, matching the original in size, color, texture, density, and profile.



■ *Covering original masonry with cladding material adversely affects a building's historic appearance and may eventually lead to structural problems (see MA 1).*

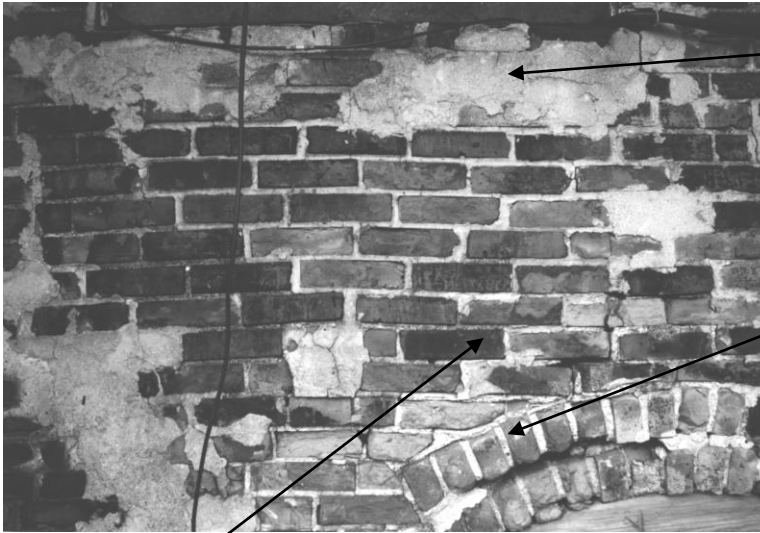


■ *Here brick has been severely damaged by inappropriate sandblasting and painting (see MA 5, MA 3).*



■ *Unchecked water drainage will result in rapid deterioration of sandstone and brick.*

■ **Inappropriate Brick Wall Repair (See MA 4)**

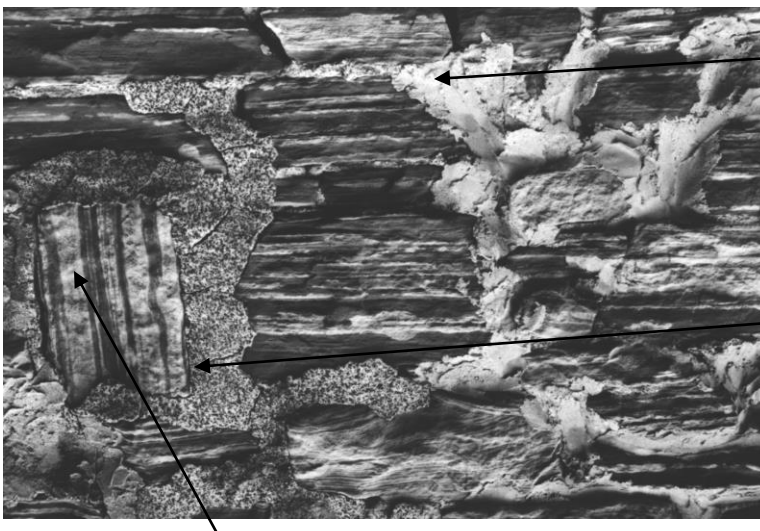


Careless application of mortar obscures the bond pattern of the brick

Joints not filled with appropriate mortar

Repointing with a modern mortar mix containing a high Portland cement content causes original brick to crumble. Because the brick units are softer than the replacement mortar, expansion and contraction causes them to break down

■ **Inappropriate Sandstone Wall Repair (See MA 4)**



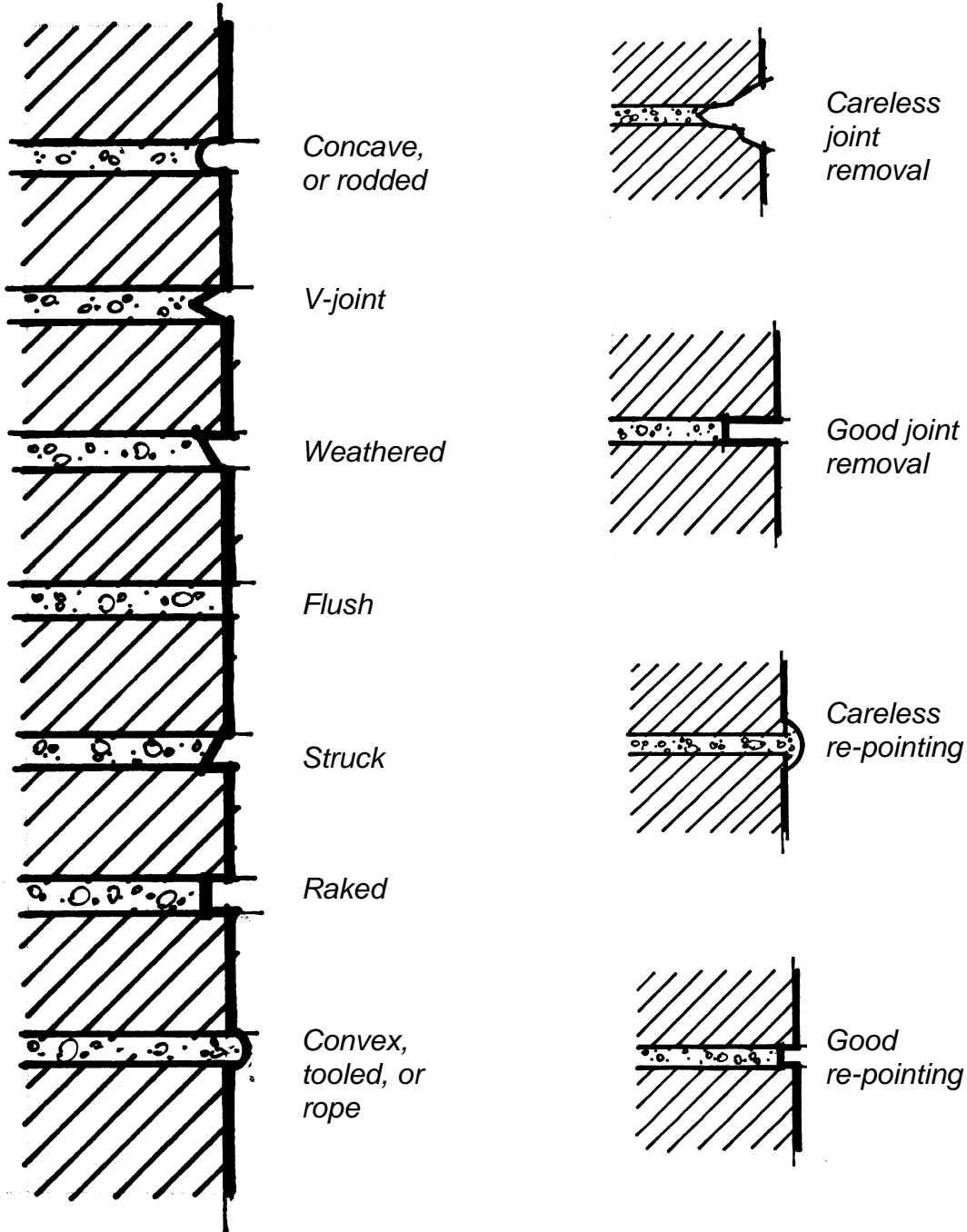
Unsuitable use of synthetic caulking

Incorrect use of concrete mortar

Replacement stone set perpendicular to existing stone units.

Typical Mortar Joints

Masonry Re-pointing



BASIC MORTAR MIX for SANDSTONE

6-2-1 ratio

6 parts sand

2 parts Mason lime **type "S"** (or often sold as Hydrated Slaked Lime)

1 part **WHITE** masonry **type "N"** (60% lime 40% Portland)

note: add colorant/pigment **ONLY** if sand doesn't provide correct color match; very important to use **white** type N masonry; adding **gray** masonry will turn mortar gray. Natural colored sand will last forever as opposed to adding pigments/colorants.

Source:

Bruce Kozlowski, Master Historic Stone Mason, Ft. Larned National Historic Site, Larned, Kansas. April 2005