

Zoar Historic Preservation Standards

Foundation *Construction*



Building foundations on Zoar structures are all of limestone and originate from Lime Kiln Lake. The once popular recreational lake, now drained, was the source for all the foundation stone in Zoar. Limestone was cut into rectangular shapes and “dry” stacked. No mortar or cement was used to secure the stone. The sheer weight is enough to keep them in place.

The joints or gaps between the blocks were pointed with a hydrated lime and sand mixture. Interior walls were skimmed with this same mixture as well, followed by white wash, a mixture of hydrated lime, salt and water. The walls would be white washed frequently as this would flake off.

Limestone foundations typically do not need much maintenance, but the seams between the blocks may need repointed from time to time. This is not a structural issue, but can cause water, insect and cold air to enter your foundations and into your basement.

Retaining your limestone foundation where visible is preferable over a cement block foundation.

It is important to NEVER use mortar or concrete to point or repair sandstone or limestone. This will damage the stone as the lime will contract and expand and break off from the mortar and concrete, which will not expand or contract.

Running a dehumidify will help with dampness. Limestone wicks moisture and will dry with air movement across the stone. Enclosing a limestone wall will cause mold to grow because the wall cannot dry.

Many of the structures in Zoar have vaulted rathskellers or cold storage rooms. Ventilation shafts would bring in outside air and keep temperatures around 52 degrees year round. These vaults are earth covered domes that act like caves. Brick floors allow the water to drain and aid with keeping the room cooler.

Special treatment can help make these more usable spaces such as concrete floors, radiant heated floors and closing off and insulating the ventilation shafts. Running dehumidifiers and pointing seams are recommended.



Limestone Formula for Pointing

A mixture of:
4-cups of hydrated lime
8-cups of sand
4-tablespoons of dye

The dye will match the existing sandstone colour and blend.

Recommended

- Check your exterior foundations for cracks or missing pointing on a yearly basis.
- Check interior foundations walls for dampness. If you can see daylight through joints, these must be sealed.
- Slope any soil along foundation so water can run away from foundation.
- Keep furniture or anything away from basement walls that can prevent air movement.
- Check for mold on basement walls and remove anything that is blocking air movement.

If you are experiencing massive amounts of water, you may have a spring located near by. Digging up the soil around your foundation and sealing the outside wall or installing a french drain may be the only viable solution.

Not Recommended

- Never use mortar, concrete or caulk to seal seams between stones.
- Do not plant trees or deep rooted plants next to foundations. Roots will grow into seams of limestone and cause further damage.
- Refrain from building interior walls (dry-wall) against limestone walls. This will prevent air movement and instil mold growth.
- Do not paint or seal limestone with any water proofing products.

Construction Permit

U.S. Department of the Interior
National Park Service Cultural Resources
Heritage Preservation Services

PRESERVATION BRIEFS
Roofing for Historic Buildings
by Sarah M. Sweetser

Resource

Per the
Village of Zoar, Zoning Ordinance
any roof construction requires a
"Certification of Appropriateness" (COA)
Issued by the Zoar Historic
Preservation Commission in order to obtain a
"Project permit"
Approved by the Zoning Board and
issued by the Zoning Inspector.

