

EARLY HISTORY

New England did not become stony until the Laurentide Ice Sheet invaded the region from central Canada fifteen to thirty thousand years ago.^[9]

There is the mistaken impression that stone walls are primarily a colonial phenomenon. They are not. Although walls were being built from the time of the first settlement to the end of the pioneering stage, most were built in the half century between the end of the American Revolution and the construction of the first railroads.^[9]

Settlers felled forests and cleared land of rocks and stone. The first walls were mere dumps along a field's periphery. Later people built more sophisticated walls.^[11]

Stone was not their first choice of fencing material: Widespread use of it began only when other alternatives – stumps and split rails – grew scarce because of overclearing.^[3]



A split-rail and stone fence at Minute Man National Historical Park.

Thousands of fence lines became magnets for the stone refuse that would otherwise have ended up in piles. The large boulders were rolled into position; smaller stones were tossed above and between them. As the stone accumulated, primitive “tossed” walls began to rise up out of the weeds, replacing the lower tiers of wooden fences.^[9]

Granite Kiss

That instantly discouraging, and inevitable, experience in stone work when a fingertip or two fails to escape the contact point between two large stones on the occasion of their first meeting.^[3]

Laws and Regulations

Laws and regulations concerning stone walls can be found in:

- Lincoln Zoning By-laws
- Lincoln General By-laws
- Massachusetts General Laws

These sources may be found and searched online at the following addresses:

- www.lincolntown.org/bylaw.htm
- www.lawlib.state.ma.us

SOURCES

Books

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4. Hubbell, William. *Good Fences*. Camden, ME: Down East Books, 2006.
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6. McRaven, Charles. *Building Stone Walls*. North Adams, MA: Storey Publishing, 1999.
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8. Thorson, Robert M. *Exploring Stone Walls*. New York: Walker & Company, 2005.
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Articles

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12. Titcomb, Dana C. “Stone Walls: Links to History,” *Historic New England*, Winter/Spring 2008, Vol. 8, No. 3.

Lectures and Websites

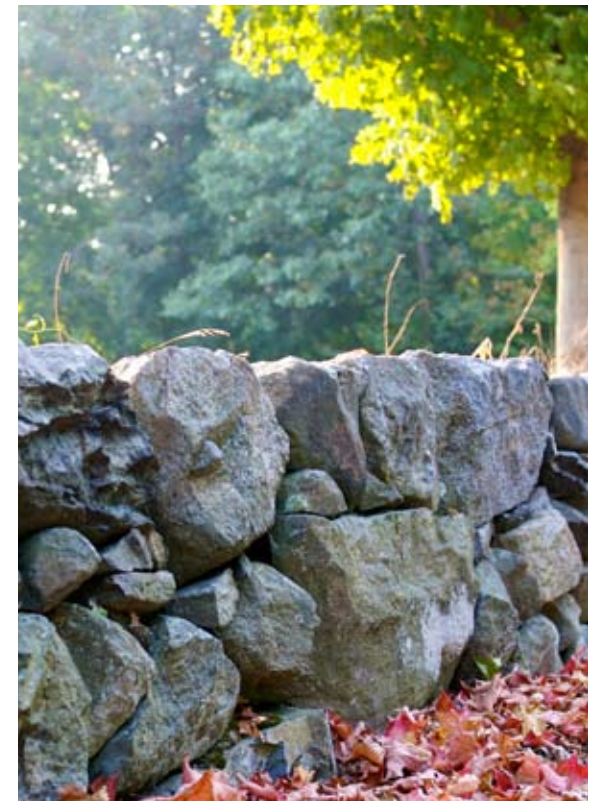
13. Baker, Jim. “Stone Wall Building Workshop,” Lecture, Tower Hill Botanic Garden, Boylston, MA. (www.towerhillbg.org)
14. Thorson, Robert M. “A History of New England’s Stone Walls,” Lecture, The Stone Wall Initiative. (www.stonewall.uconn.edu)
15. Young, Robert A. “Stone Wall Workshop,” Lecture, Codman Farm, Lincoln, MA. (www.newenglandstonemasonry.com)

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LINCOLN'S STONE WALLS

Abandoned stone walls are the signatures of rural New England.^[9]

In 1939, the mining engineer Oliver Bowles, using data from an 1872 Department of Agriculture report on fences, estimated that there were approximately 240,000 miles of stone walls in New England. That's longer than the U.S. coastline.^[9]



Stone wall along Lincoln's Baker Bridge Road.

Most stone walls in Lincoln are drystone walls. Drystone walls are laid up without mortar. Gravity keeps everything in place. One advantage to dry walls is that they can be taken apart and reassembled.^[4]

VEGETATION

Property owners and community members concerned about the well-being of walls in their vicinity should be mindful that the most important aspect of repair is prevention. It is best to monitor stone walls and detect problems as they develop, before major repairs and required. This includes keeping the wall free and clear of growth, other than lichen, because the root systems of vines and saplings can prove devastating to a wall's support and structure.^[12]



Vines covered the wall in front of Lincoln's Public Safety Building. These vines were later cut back by the Lincoln Garden Club.

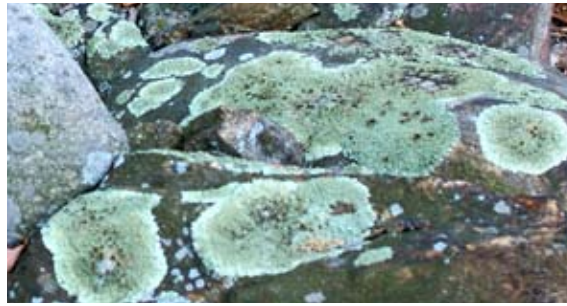
It is not a good idea to let vines or brush get well rooted in a wall. The roots can slowly force stones apart. Each fall, cut back the grape vines, poison ivy and assorted brush plants that invade the walls.^[10]

Accumulations of leaves and other debris can collect water inside a wall, destroying its capacity to drain properly, then prying stones apart when the water freezes.^[3]

Trees and stone walls do not mix. Yet because the damage often happens slowly, it is rarely noticeable until it's too late. Quietly adding an eighth of an inch in girth a year, a tree planted too close to a wall can grow enough to eventually knock part of it over. Plant accordingly, and remove volunteer saplings.^[4]



This pine tree pushes stones aside as it grows.^[4]



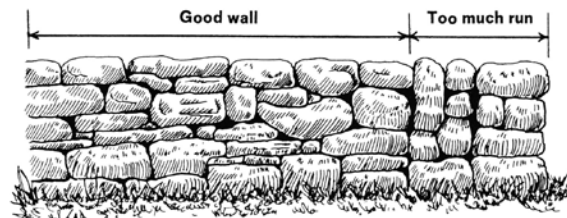
Lichens, part fungi and part algae, might help in dating the age of a stone wall. The crustose lichen grows about one millimeter a year.^[4]

REPAIR AND REBUILD

Left untended, every wall will come apart, tumble to the ground, disperse over acres of soil, and be buried by encroaching vegetation.^[9]

A well-built wall deserves the small amount of annual care needed to keep it standing. Each spring patrol walls, replacing stones knocked off by weather or visitors. You get to know your walls this way, get to know good and bad points of construction too, as the same faults crop up in the bad sections year after year.^[10]

When repairs are necessary, it is extremely important to use traditional techniques. This means dry laying and chinking to build the strongest wall possible. A dry-laid wall can move and settle and has superior drainage, whereas a mortared wall, while appearing stable, may harbor serious structural flaws.^[12]



Place stones "one over two, and two over one," and avoid vertical running joints.^[10]

The cardinal rule in building (or repairing) a drystone wall is placing the stones "one over two, and two over one." If possible, each stone in a wall should rest solidly against at least two others. Avoid a stack bond that relies on one stone upon another upon another, creating a vertical running joint, visually ugly and structurally ruinous.^[4]

HELPFUL TOOLS ^[5,10,13]

- Two pry bars (or pinch bars) 6 – 8 feet in length to use as levers for moving large stones.
- Metal wheelbarrow – When loading, put wheelbarrow on its side and slide in the stone, taking care to load most of the weight back near the handles, not over the wheel. True, you lift more, but you'll find you can actually control the thing.
- Chisel and hammer for shaping stones and safety goggles to protect eyes.
- Two timbers/planks (2x10s or 2x12s) to lean against wall as a ramp for heavy stones.
- Heavy gloves with long gauntlets to protect the hand and forearm.
- Protective footwear.



Robert Young of New England Stonemasonry and Buzz Constable use pry bars to move a large boulder at the Garden Club's workshop.

Safety Tips

When handling a stone, squat down over the stone with elbows against knees and back straight. Bring the stone close to your waist and lift with the legs. Alternatively, put one knee on the ground and use the knee as a ramp. If your clothes don't get dirty, your back will suffer.^[13]

And remember, stones are the shelter for countless creatures, many of whom are not benign.^[5]