

# Bridge 1

**Bridge 1:** 45 feet above the river; in use; property of CSX. The only dual arch. In lieu of a single keystone, there is a cluster of five stones, slightly taller than the surrounding ringstones on the apex of each arch. Oddly, this trait is shared by the only other example still in use by the railroad. Of course, this raises the question: How many variations on the missing five bridges are we now unaware of?

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**Bridge 1:** In use, has a 12" stone on the bottom and a 24" stone on top. Here capstones employed as intended, to contain the track structure and ballast. 36" total

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## Bridge 2

**Bridge 2:** 55 feet above the river; abandoned; property of CSX. This is the only surviving bridge on which the ringstones have pointed tops, rather than a circular contour. It is the most endangered arch, because it has no chance of restoration due to its ownership and location across the mainline. Sometimes referred to as the 'Gator Tail' or the 'Orphan' Arch. This bridge shows the most significant structural deterioration of any.

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**Bridge 2:** The only abandoned bridge with an intact parapet wall, sans track and ballast. Here, the stones measured 14" and 23" respectively. **37" total**

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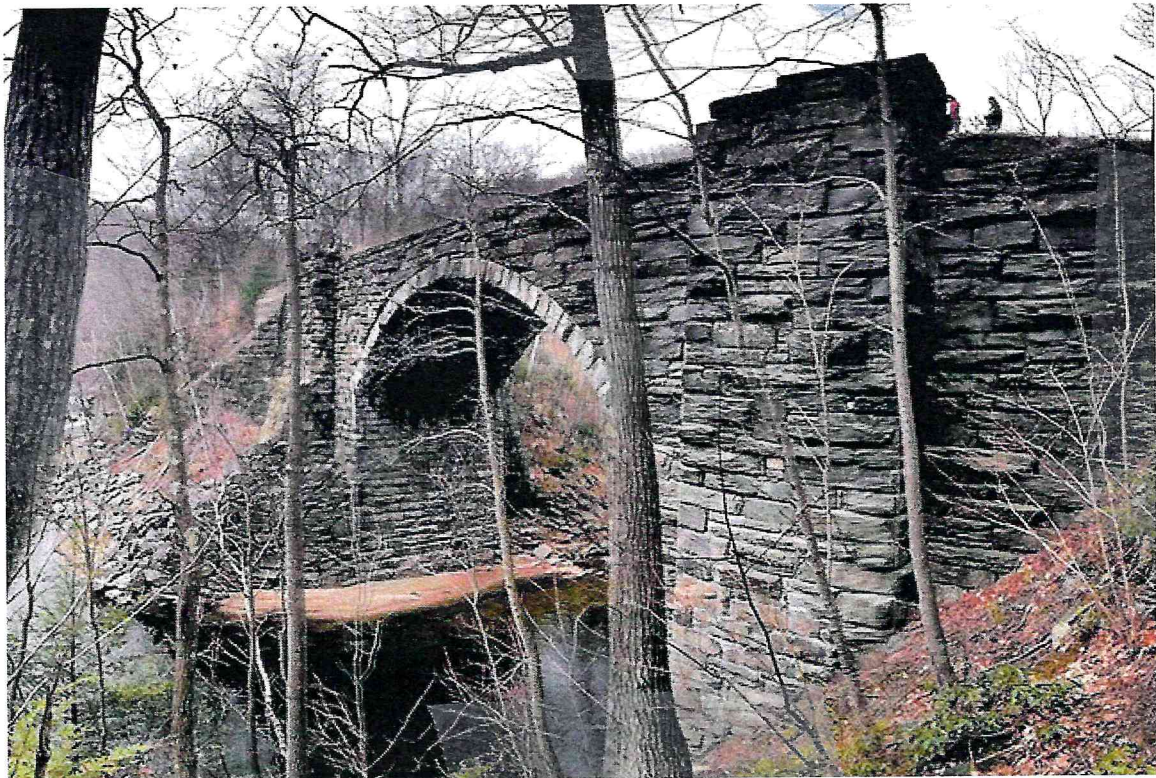
## Bridge 3

**Bridge 3:** 65 feet above the river; bypassed in 1912; now the property of MA Fish & Wildlife; a part of the Walnut Hill Conservation Area, the hiking trail puts visitors on top of it. This bridge and the one following were bypassed by the NYC in 1910 when realignment eliminated two sharp curves. Both bridge 3 and 4 span 55 feet. However, due to the location of underlying bedrock, they are shaped quite differently. Bridge 3 is an elliptical arch. This form directs stresses to the sides, where there is a solid foundation.

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**Bridge 3:** This bridge differs from the first two in that it has a buttress tower on each corner. Tower stones are the only ones remaining above the gradient. They are placed 12" on the bottom and the 24" on top. Photos taken before capstones were pushed off by vandals (see illustrations) confirm that the placement was reversed on the stones forming the parapet walls. Those courses featured the 24" stones on the bottom and the 12" on top. Observing existing conditions, we would never know this. This arch, at the crown, is only five feet thick. Random stones measure in at 63" and 53" long. **36" total**

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## Bridge 4

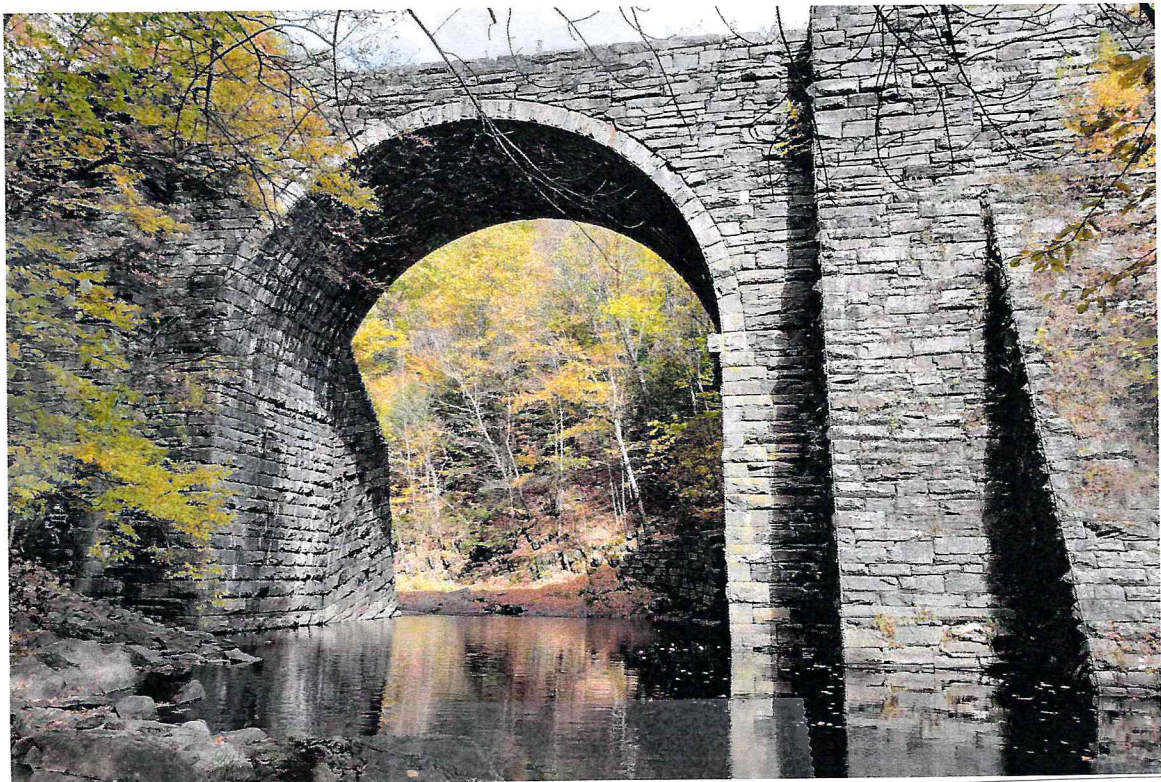
**Bridge 4:** Here are more variations, including the use of face stones. As you approach, in reality on top of a long fill, there are stones measuring 16" on the bottom, and 9" on top. Random checks of both courses reveal a 68" length. However, as you cross the bridge, the stones remaining from the parapet wall uniformly measure 17" high on top of each

other. All is not as it seems, however, as the bottom row utilizes face stones, so in reality, there are two narrow stones on the bottom with a single full-sized course on top.  
**34" total**

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**Bridge 4:** Property of MA F&W; trail crosses it. Like Bridge 3, a 55 foot span, this arch is circular in shape, as secure bedrock is situated directly below. (See drawings comparing bridges 3 & 4 in the illustrations). In addition to its 70 foot height, this leviathan sports spectacular wing walls, some curving gently up to 300 feet through the woods, and buttresses that slash at multiple angles down into the river.

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## Bridge 5

**Bridge 5:** Partial; ownership unclear as it sits near the CSX / Commonwealth property line. Was about 70 feet above the river. Also unclear is what destroyed this bridge. The supposition is that it was dismantled to make room to construct the forms for the concrete when building the concrete arch just upstream. It consists of side and wing wall to the spring line, on the southern bank. On the opposite bank, are the two outer walls and west abutment. This provides a matchless interior view of stone masonry arches. A treasure for students of engineering. Visually pleasing singular feature of this ruin is a curved integrated buttress on the wing wall.

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## Bridge 6

**Bridge 6:** This bridge was widened to three tracks in 1910, adding a south side of poured concrete. When the line reverted to two tracks, the railroad utilized the south lane and the former middle lane, leaving the northern parapet stones exposed as they would have been on an abandoned arch or as bridges were configured in the first decade of operation when the line was single-tracked. None have been knocked off, probably due to adjacent homes and the road beneath the bridge.

Capstones measure 11" on the bottom and 23" on top. In another unique variation, bottom stones here are wider than the ones in the top row creating a visually pleasing border detail. **34" total**

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**Bridge 6:** 45 feet above the river; in use; property of CSX. This bridge shares the 5 stone cluster at the top of the arch with bridge 1. This is the only bridge that does not cross the Westfield River. Rather, it crosses Factory Brook, a tributary, about 100 yards north of it's confluence with the Westfield. As a result, it lies wholly within one town, Middlefield. It shares this also with the first arch; wholly in Chester.

West of Chester in Hampden County, the Westfield River is the boundary between Becket and Middlefield and Berkshire and Hampshire counties respectively. Most bridges are resultantly half in each town / county. Bridge 6 is also the only bridge with a

road beneath it, in addition to water. This bridge was widened to three tracks in 1912. As a result, the south face has been rendered in concrete. Its original southern stone visage survives on an early post card which incorrectly identifies Factory Brook as the Westfield River.





No two Arches are the same. Each features individualized flourishes and they exhibit multiple methods of attaining similar results in structural engineering. All the Arches were built simultaneously by different crews. In addition to variances in geography, crews surely added personal touches during design, stone cutting and placement. In some cases, artistry appears to trump utility, indicating a great amount of pride taken in the work.

Very impressive are the 90 degree beads carved from stone to stone for the full height of many sidewalls and buttresses. While decorative in appearance, they were carved in the quarry and meant to facilitate setting the stones. They also aided in periodic inspections looking for shifted stones. One hundred seventy years later most remain straight as an arrow.

The singular nature of each bridge is most clearly demonstrated in the parapet stones. As designed, they attained a roughly uniform height (between 34" and 37") A three inch difference using one-ton stones. They achieved this height with as many variations in stone size and placement as there are bridges to document.

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