

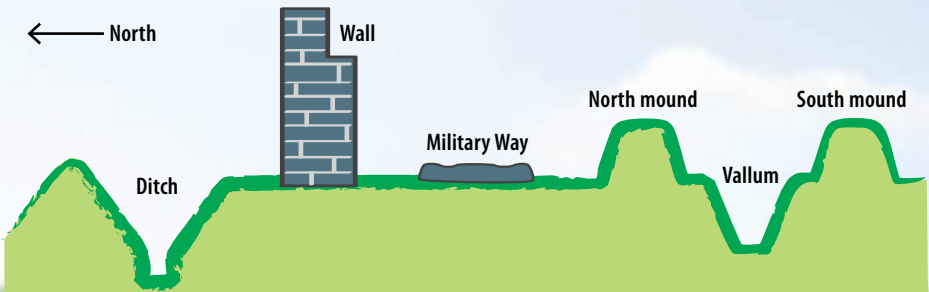
2.2 Anatomy of the Wall

Hadrian's Wall is the largest historic monument in Britain. Its length was 80 Roman miles (73.6 statute miles or 118 km) and its height varied from 8-15 feet. Its construction is not uniform: changes were made as building progressed westward from Newcastle, and its design and materials were modified in the years and centuries after its inception.

The survival of so much after nearly 2000 years is a tribute to the quality of Roman engineering, although some of what you see today was reconstructed in the 3rd century under Severus, in the 19th century by Clayton or by more recent efforts.

The original Wall was constructed in five phases:

- the route was surveyed and the line marked out
- foundations were laid and milecastles built
- forts were built
- the Wall was built on to the foundations
- the line was reinforced by massive earthworks, notably the Vallum.



The Vallum was a steep, flat-bottomed trench, about 10 feet deep and 20 feet across, and was built soon after the Wall for almost its entire length. The Vallum runs parallel to the Wall and at least 20 yards to its south, with the Military Way, a metalled supply road, lying between. Its creation was arguably a greater challenge than the Wall itself: modern volunteers report that its restoration is more strenuous than Wall work.

The main Wall construction was done very quickly: in a *tour de force* of Roman engineering, the route was surveyed and some 24 million stones quarried and assembled over a short period, probably only 3 to 6 years. Three legions were mainly involved, and each was given a 5-mile stretch as a season's work. The building season was probably about 35 weeks long. For each man working at Wall-building, about 8 support workmen were needed for scaffolding, assembling materials, cutting and dressing stones and moving rubble and spoil.

The eastern section (about 43 miles in total) was built in stone, at first as tall as 12-15 feet high and up to 10 feet thick. Construction progressed westward from the new bridge, the *Pons Aelius*, but slowly. To speed things up, after about 23 miles of broad Wall, the design was made narrower (6-8 feet wide) and not as tall. The outer faces of the Wall were of dressed stone, joined with mortar, and the inner core filled with rubble and cement or clay. The north (?) face was crenellated to protect the soldiers on patrol.

The section west of River Irthing (31 miles) was created at first from turf blocks, not stone, and was up to 20 feet wide at its base with sloping sides topped by a wooden palisade (fence). This choice of material was partly to accelerate completion, and partly because of a lack of limestone to make lime mortar. Late in Hadrian's reign, the turf Wall was replaced, section by section, by stone Wall. The main Wall had been built westward from Pons Aelius in Newcastle, but in about AD127 four miles were added to the east, and the fort of Segedunum created: see page 58.

The Wall was punctuated by milecastles at intervals of a Roman mile (1620 yards or 5000 feet), with two turrets (watchtowers) interposed between each milecastle. Milecastles were not small forts, but defensive gateways built to control movement. The Roman style of fighting was most effective out in the open, so if danger approached, their highly trained troops needed to move quickly away from their base.

The photograph shows the typical 'playing card' shape of a milecastle, a rectangle with rounded corners. Its orientation varied, with the Wall sharing sometimes (as here) a short side, sometimes a long side, depending on the lie of the land. The building would have housed from 8 to 32 soldiers. What remains today is only the first few courses of stones. Milecastles probably had an upper level, perhaps with a watchtower reached by staircase.

East over Milecastle 39, 'Castle Nick'



Forts were of similar shape but much larger, with 16 forts built along the line of the Wall, each housing up to 1000 soldiers. What remains today is highly variable: there is no visible trace of Maia (Bowness-on-Solway), whereas at Segedunum a viewing tower provides a clear overview of the whole site: see page 58. Between these two extremes, forts vary not only in their visibility, but also size – from 2.5 to 10 acres (1-4 hectares) – and relationship to the Wall. Some, like Chesters, were built astride the Wall, with their long axis at right angles to it, whereas a few, such as Housesteads, lay wholly to its south with the long axis running alongside the Wall.

With some forts, the only visible remains are inside the boundary walls. Elsewhere, such as at Vindolanda, you gain some idea of the extent of the civilian settlement (*vicus*) outside the walls and of the amazing archaeological treasures found there. Each fort you visit brings a different experience and perspective.

General plan of a Roman fort

