NICK MATTHEWS Surveying Chartered Building Surveyor

NM/2036/dry stone walls

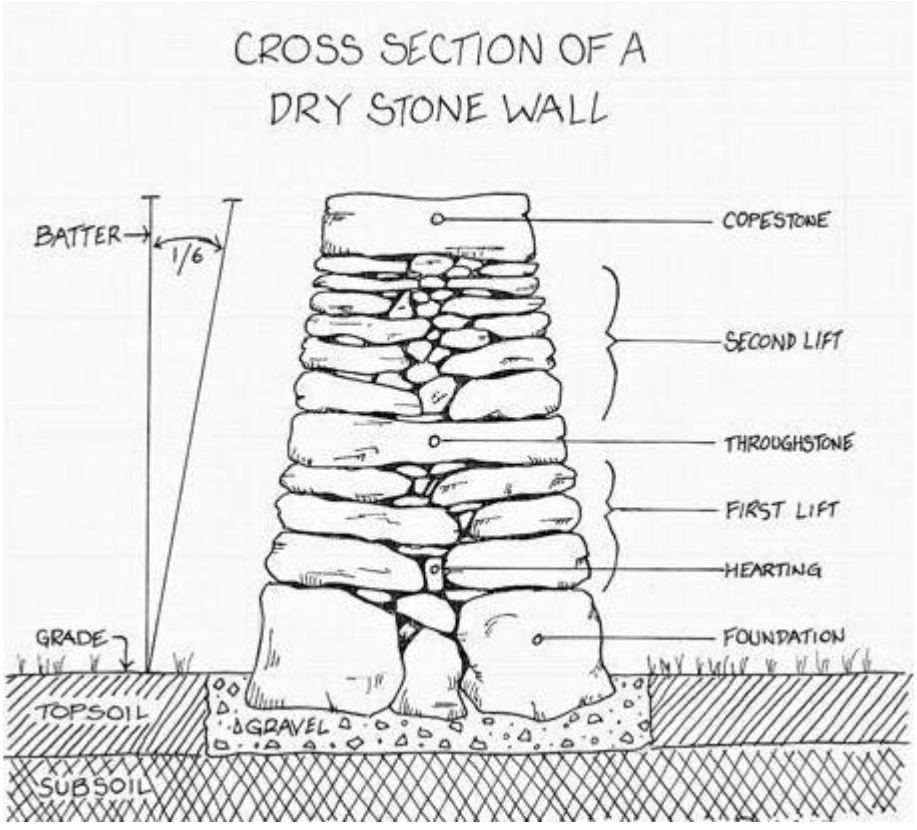
EURIDGE MANOR FARM EURIDGE COLERNE CHIPPENHAM SN14 8BJ

Proposed replacement dry stone walls to passing places

This document to be read with LDPC drawings **2272R 01- 10**, and cross references with the proposed Passing Place numbers contained within those drawings.

We have been asked to look in detail at the wall construction, and in particular at its retaining ability, to Passing Place No. 4 and Passing Place No.5.

Below is the typical construction of a dry stone wall as built on level ground. It is a tightly packed wall, with a capping to keep much of the rain off, some throughstone's to maintain its strength, with all stones creating a fairly flat face. The wall is battered on both sides.



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Passing Place No. 4

This passing place 'shaves' off the gentle corner on this section of the lane, and will result in a new section of wall estimated at nearly 40m in length, being repositioned as shown on LDPC drawing **2272R 07**. At this point we measured the change in level between the field and road at 500mm in height.

Passing Place No. 5

This passing place to be created on the inside of the corner resulting in the removal of some trees and what remains of the existing dry stone walling.

The relative height of the field was measured at the north, middle and south ends of the proposed new section of drystone wall, with respective heights of 450mm, 600mm and 800mm.

Design of the drystone walls

We understand that a margin for wildlife habitat is to be left around the margin of the fields, including alongside the works to the passing places, and therefore do not anticipate the wheel loading from agricultural machinery such as tractors. Nonetheless in order to safeguard the long term stability and life of the wall, sufficient reinforcing has been added to the base of the wall to prevent the wall from being overturned/pushed into the lane.

Conventional unreinforced retaining walls, such as these, are constructed with heavy masonry of between 1/4 and 1/3rd thickness to height ratio. In this case we have designed a little more conservatively using around 1/2 thickness to height. This is because there remains the possibility of a fully loaded trailer getting close to the wall (within the field), and partly because this works better with conventional blockwork size (without the need to cut them), either way we have erred on the side of caution.

All foundations to be 200mm thick GEN2 grade concrete. Blockwork to be dense concrete block not less than 10.5N/mm2 and to be laid on its back in 1:3 cement mortar, and to overlap or bond with surrounding blocks. Provide 10mm vertical movement joints at approximately 5m centres.

Dry stone walling from selected weathered field stone, and laid to traditional techniques. Back the tails of the horizontal stones against the blocks using small amounts of mortar. Build in throughstones and hearting as work continues, to be capped with a copestone. Dry stone walls to be battered at approximated 1:6, and to generally match that found throughout the area.

The Cotswold stone provides the 'decorative' finish to the wall as well as its height. The concrete blocks can step in width as shown

The height of the walls to tie in with the height of the adjacent walls.

The proposal adopted is shown on the following pages.

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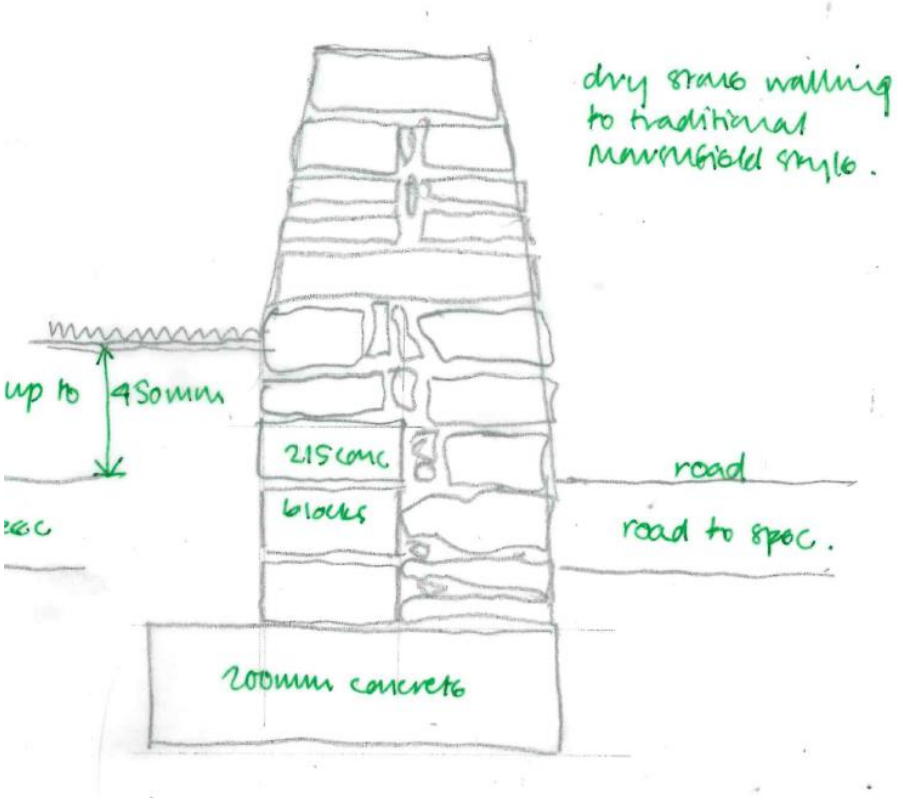

TYPICAL WALL CONSTRUCTION WHERE FIELD LESS THAN 450mm ABOVE ROAD LEVEL

Approximately 1350 x 200 concrete foundations

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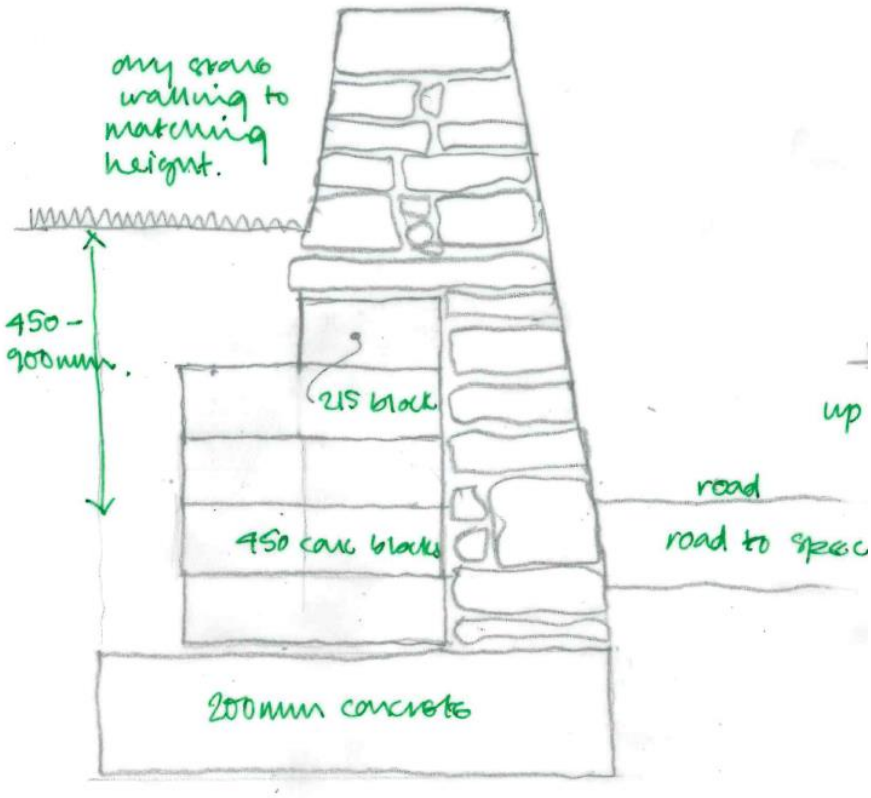

TYPICAL WALL CONSTRUCTION WHERE FIELD BETWEEN 450mm & 900mm ABOVE ROAD LEVEL

Approximately 1650 x 200 concrete foundations

The road and sub-base to be constructed to Wiltshire Council Highways standards, with the intent that the road can abut the wall if required (as shown), but equally a vegetation margin can be left.

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