



Mr. H. Haynes
3 Trevelgue Road
Newquay
TR7 3LY

Torvean
Coast Rd
Porthtowan
Cornwall
TR4 8AJ
alex.laird@entosconsulting.co.uk
www.entosconsulting.co.uk
01872 554031

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Dear Haydn,

INSPECTION OF BUILDING WORK CARRIED OUT - GAMES ROOM AT 3 TREVELGUE ROAD

Following my site visit to inspect the building work that has been carried out, I can confirm that the following issues were identified:

Issue 1 – Position of games room

The games room should have been constructed up against the face of the existing conservatory, however it has actually been constructed 1.050m away from the conservatory. This has resulted in the South facing elevation being located 1.050m past your neighbour's decking.

Issue 2 – Reinforcement position

The reinforcement in the North wall of the games room has been positioned correctly in the base, and subsequently in the correct position within the cavity, however when the concrete was poured the reinforcement has been allowed to move forwards, and in two locations is against the face of the inner leaf of masonry. This will mean that the reinforcement is essentially ineffective in these areas. The blue arrows in photograph 1 below show the position of the reinforcement in wall where concrete has been poured full height. Photograph 2 shows the reinforcement in the section of retaining wall that has been partially filled with concrete; it can clearly be seen how the reinforcement has been allowed to move within the cavity. To rectify this issue, the concrete will need to be broken away, and the reinforcement re-set in the correct position. The concrete will then need to be repoured, and adequately vibrated to ensure no voids or air bubbles exist.



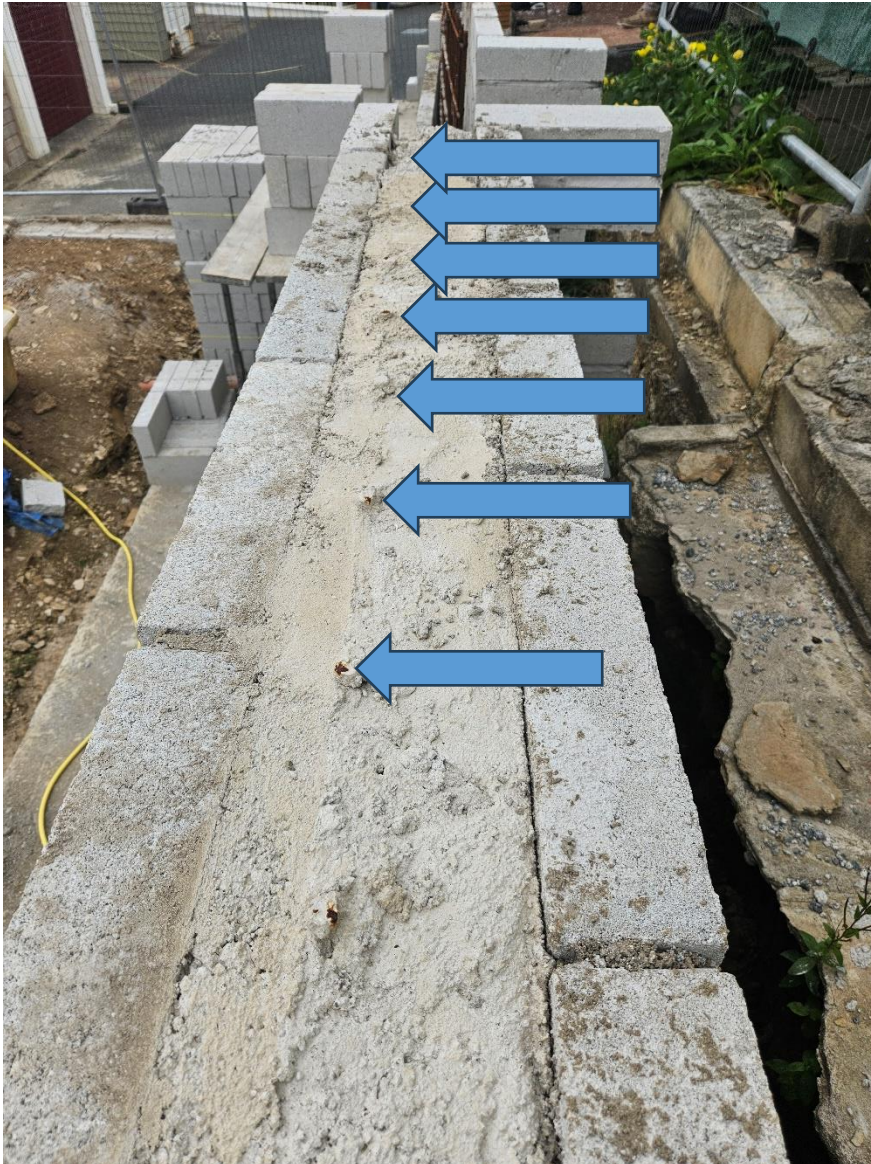


Photo 1 - Rear retaining wall, reinforcement in incorrect position



Photo 2 - Rear retaining wall, reinforcement in incorrect position

The reinforcement in the side retaining wall is also not in the correct position, however in this instance the starter bars in the base have been placed incorrectly, resulting in the reinforcement coming out of the base immediately against the inner face of the inner block leaf, as can be seen in photograph 3. Rectification of this issue is more intensive than that in the rear retaining wall, as the base reinforcement has been placed in the wrong position, rather than the reinforcement having moved due to concrete pressure. Fortunately, however, this wall is not actually retaining soil as it is set approximately 300mm from the boundary wall, with a void between. This wall may therefore be still filled with concrete, however the position of the reinforcement is irrelevant as it will never be required to provide bending strength to the wall.



Photo 3 - Side retaining wall, starter bars not in correct position

Issue 3 – Concrete compaction

The partially poured concrete to the rear retaining wall has clearly been poured without any agitation by vibrating poker. The vibrating poker ensures that no trapped air bubbles or voids are present in the concrete; their presence reduces the quality of the bond between reinforcement and concrete, leading to a reinforced concrete element which less strength that it has been designed for.

Issue 4 – Land drain behind retaining wall

A land drain was noted behind the western end of the rear retaining wall, however it was not apparent whether one has been placed along the rear of the eastern end. If a drain is not present, one should be installed.

Issue 5 – Lack of wall ties in cavity wall

Although not an issue in the final reinforced concrete retaining wall, I am surprised that the lack of wall ties did not caused the masonry to burst with the weight of the wet concrete. Future pours should be done in 400mm 'lifts', with each lift adequately vibrated and allowed to cure for 24 hours before the next lift is poured.