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Ref:21031-Struct-Certificate-B.doc

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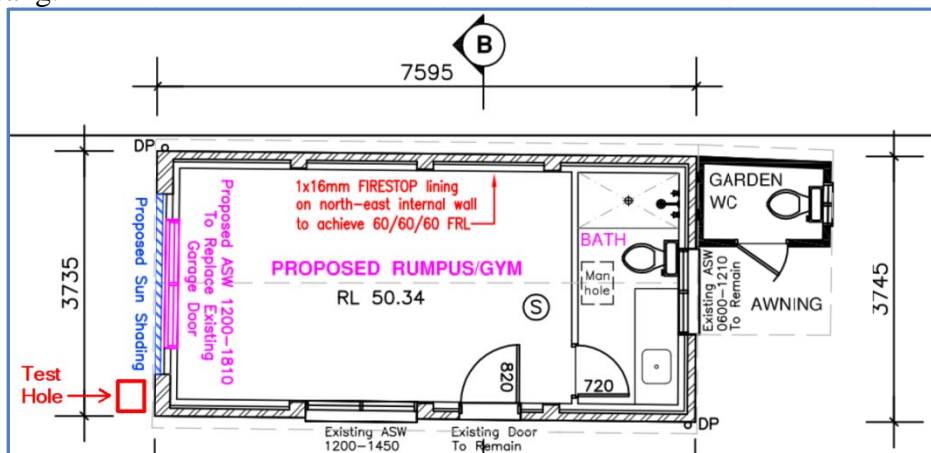
The Manager
City of Canterbury Bankstown Council
PO Box 8
Bankstown NSW 1885 Australia

Dear Sir/Madam

**RE: No.134 MOOREFIELD ROAD, KINGSGROVE NSW
CONVERT OLD GARAGE TO A RUMPUS ROOM / GYM
STRUCTURAL ADEQUACY CERTIFICATE
FOR DEVELOPMENT APPLICATION**

KHH Consulting Engineers Pty Ltd carried out a site visit to the above mentioned property on the 22nd September 2021, to investigate and assess the structural integrity of the unauthorised works of conversion of existing garage to habitation room which is now the PROPOSED RUMPUS / GYM in the Development Application.

The original structure of the garage including footing, slab, brick walls, engage brick piers and roof framing remain unchanged. The original single skin brick structure has been upgraded to brick-veneer, and an internal partition wall has been added to create a bathroom as shown on the Architectural Plans dated 31/05/2022 prepared by Lilly Huang.



A test hole (location shown on Fig1.0) was excavated to expose the existing footing under the north-west wall. The brick footing is more than 400mm in depth and 300mm wide, and is in a good condition. Please see **Photo 1**.



Photo 1.
Exposed original
brick footing in
good condition

Based on our observation during site investigation, we confirm that the actual works of waterproof to slab/floor of the proposed Rumpus/gym are consistent with the details drawn on Section B-B (Fig.2.0) of the Architectural Plans dated 31/05/2022 prepared by Lilly Huang.

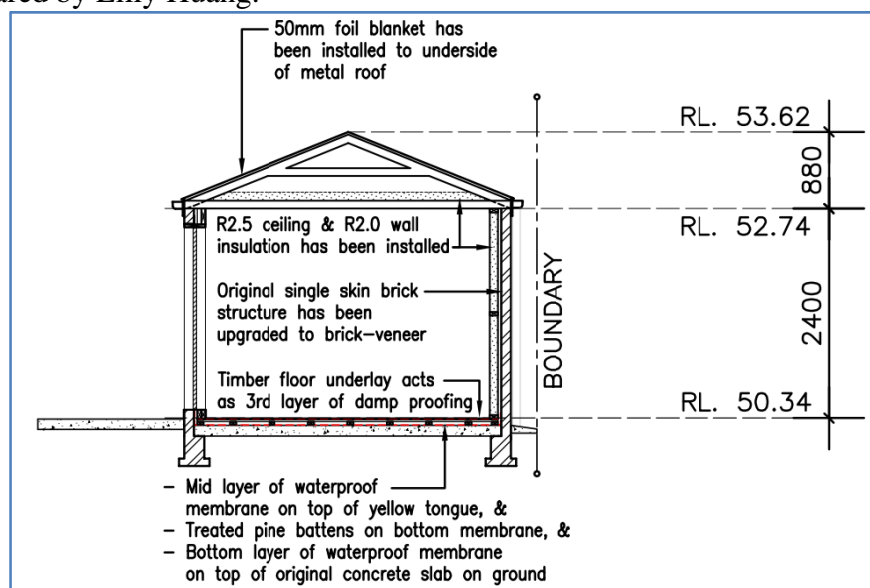


Fig 2.0

- First (bottom) layer of waterproof membrane (black) on top of original concrete slab on ground; and
- Treated pine battens on waterproof membrane; and
- Yellow tongue on battens (the cavity is very dry); and

- Second (mid) layer of waterproof membrane (orange) on top of yellow tongue; and
 - Third (top) layer of damp proofing (silver) is the timber floor underlay.
- Please see **Photo 2&3**.



Investigation of roof structure was done through the manhole which is located in the bathroom. Based on our observation at the time, we noticed that the original hardwood rafters, ridge board and ceiling joists remain unchanged whilst strut and collar ties have been added.

Please see **Photo 4&5**.



Added pine collar tie

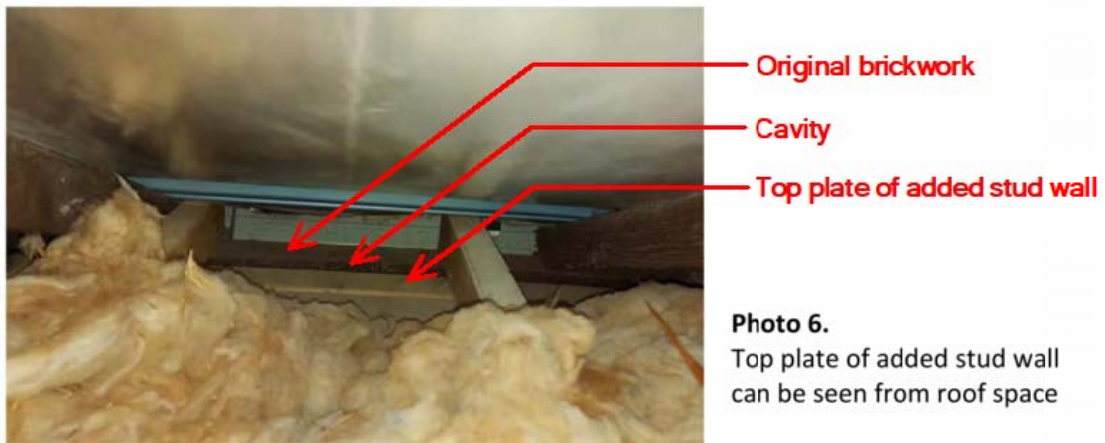
Photo 4.
Extra pine collar ties fixed
between original rafters



Added collar tie
& strut

Photo 5.
Extra strut under
original ridge board

The original single skin brick structure has been converted to brick veneer. The top plate of the added wall framing can be seen from the roof space. Pine stud and nogging can be seen from the test hole. In our opinion the added timber wall framing is non-loaded bearing. Please see **Photo 6&7**.



Based on the above, we offer the following:

- The garage structure including footing, slab, walls and roof framing is sound and is able to accommodate the PROPOSED RUMPUS/GYM.
- The waterproof under the original concrete slab is unknown, however the construction method of placing three layers of waterproof barriers above the original concrete slab were well done (**Photo 2&3**). The floor cavity (**Photo 3**) is very dry, there is no sign at all of damp appearing on the floor and the walls. The garage is suitable for habitation.

Yours faithfully,

A handwritten signature in black ink, consisting of a stylized, cursive 'K' followed by a horizontal stroke.

KHH CONSULTING ENGINEERS

Kai Hong Huang B.E.(Civil), M.I.E.(Aust) CPEng NER