



Site Inspection Report by KTA

| | |
|-------------------------------|--|
| <u>Project</u> | Chase Cottage, Church Road, Chichester |
| <u>Project Number:</u> | 19075 |
| <u>Date:</u> | 08/05/2019 |
| <u>Present:</u> | Charles Davenport - KTA |
| <u>Purpose:</u> | KTA were requested to visit the above site to view and inspect the following: |

1. The existing structural arrangement to assess the stability of the building under the proposed alterations in response to the officers comments

Existing structure observations

1. The existing building is a three storey end of terrace residential property formed in brick and flint walls with a structural timber frame
2. It is understood that the building used to be a mid-terrace property, but the row of houses was modified in the past and the new adjacent library structure was built
3. There is a small basement at the rear of the property
4. We understand from historic searches that the property was originally built as one residential address, but later split into two separate houses and then later again converted back into one single property.
5. The ground floor joists are modern sawn timber and bear onto dwarf brick walls over a concrete oversite slab.
6. The internal walls have been re-supported on engineering brick down to the oversite slab
7. The wall on the right of the ground floor hallway is believed to be non-structural. However the central beam in the right room spans over this wall, and the interaction of the beam and the wall will need to be investigated
8. The wall on the left of the ground floor hallway is believed to be largely non-structural with the exception of the central timber post which supports the main 1st floor timber beam.
9. The internal walls enclosing the stair up to second floor are believed to be non-structural with the joists originally spanning between the roof truss bottom chords. The floor above has been previously modified to accommodate older stair voids and the joists now run front to back onto trimmer joists.

Discussion

The proposed structural alterations are as follows:

1. The excavation of the ground below the front rooms at ground floor to create an enlarged basement, will require strengthening and deepening of the perimeter walls to the front of the property as well as the front internal walls. This may be relatively simply achieved by installing temporary ground floor propping to the perimeter walls and then constructing concrete underpinning along the perimeter walls and installing temporary and then permanent supports along the internal wall lines. The right wall of the ground floor is believed to be non-structural with the first floor wall and timber beam loads supported on the central timber post on the left wall of the hallway
 - Action:** Install the ground floor internal and perimeter wall propping
 - Action:** Construct the perimeter wall concrete underpinning in accordance with the proposed underpinning construction sequence on the KTA drawings
 - Action:** Install the internal wall temporary propping in accordance with the proposed construction sequence outlined on the KTA drawings
 - Action:** Expose the right hall wall connection to the timber beam for inspection

2. Where new openings are to be formed in the basement, these will be achieved in steelwork to provide a stiff structure to prevent deflection and maintain stability of the structure above
 - Action:** Size all new steel beams to suit the applied loadings

3. Where new openings are to be formed in the internal walls at ground floor and first floor these will be achieved in Oak sections sized to suit the applied loading
 - Action:** Size all new Oak lintels to the applied loadings and provide minimum 150mm end bearings onto existing walls
 - Action:** Refer to the KTA drawings for the timber lintel sizes

4. Where the new stair is to be formed at the rear of the property to provide new access to the basement, the new stair void will be located adjacent to the existing garden boundary wall. This will require strengthening and deepening of the existing garden wall foundation, and provision of a permanent lateral restraint to the existing wall base along the length of the stair void
 - Action:** Install the permanent lateral steel support beam to the base of the existing garden wall or alternatively install temporary lateral timber propping to the base of the wall
 - Action:** Construct the new deeper wall foundation in accordance with the proposed underpinning sequence on the KTA drawing
 - Action:** Install the permanent lateral steel support beam to the base of the wall if not already installed

5. Where the new rear basement is to be excavated we recommend that the actions in item 4 above are completed first. The new basement may be then carefully excavated with regular monitoring of the face of the existing basement walls to ensure that the wall is stable on the external face which currently is retaining the earth of the rear garden.

Action: Carefully excavate the proposed new basement

Action: Monitor the existing basement wall as it is exposed by the excavation for any loose bricks

Action: Construct the new basement perimeter walls in high strength blockwork

Action: Install the new ground floor timber joists

Action: construct the remaining ground floor rear extension

6. Installing a lift from the first floor up to the attic wall is feasible as modern platform lifts are reasonably light. The new lift frame may be supported on a timber structure of joists and posts down to the new framing supporting the ground floor

Action: Construct the new timber or steel frame down to the new steel beams in the basement

Signed

Charles Davenport
CEng MICE



Photo 1: The front and side elevation

Photo 2: The rear elevation



Photo 3: Trial hole in the ground floor front right room along the front and side wall

Photo 4: Trial hole in the ground floor front right room along the hallway wall



Photo 5: Trial hole in the ground floor front left room along the hallway and front wall

Photo 6: Trial hole in the ground floor front left room along the side and front walls

| | |
|---|--|
|  |  |
| <p>Photo 7: Trial hole in the front left room at the rear internal wall</p> | <p>Photo 8: The basement rear right room where the proposed new rear stair opening is proposed to be formed</p> |
|  |  |
| <p>Photo 9: The basement left room where the new opening is proposed to be formed into the new rear basement room</p> | <p>Photo 10: The central wall between the existing basement rooms on the right of the photo proposed to be removed</p> |
|  |  |
| <p>Photo 11: The existing door opening in the left basement room leading to the front of the house</p> | <p>Photo 12: The existing door opening in the right basement room leading to the front of the house</p> |



Photo 13: The modern blockwork wall below the ground floor stair landing



Photo 14: As photo 13



Photo 15: The existing stairwell from ground to first floor



Photo 16: The cupboard beneath the stair



Photo 17: The 1st floor stair void trimmer beam spanning onto the blockwork wall

Photo 18: The wall on the hall side of the cupboard is a non structural stud partition, and the stair void trimmer beam spans across the hall to the kitchen wall



Photo 19: The location of the proposed new openings from the hall into the front left room and also in the wall from the front left room into the kitchen – the timber beam and post below are structural but the remainder of the timber around the walls in the photo are superficial and have been surface mounted onto the walls

Photo 20: The rear elevation – right kitchen window to be converted into a door opening by removing the lower element of wall below the window



Photo 21: The first floor left room proposed opening into the existing bathroom

Photo 22: The timber beam running along the top of the bathroom to bedroom wall



Photo 23: As photo 21

Photo 24: The stairs up to second floor



Photo 25: The first floor has a modern false floor installed above the original timber floor boards – presumably to level the floor



Photo 26: The raised floor is approximately 100mm above the original floor at the proposed lift position



Photo 27: The joisting and boarding in the second floor has previously been modified and trimmed in modern joists between the two roof trusses



Photo 28: The side boundary garden wall in the rear garden

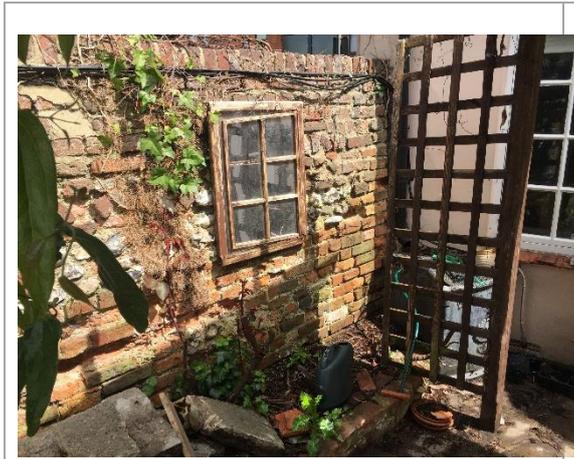


Photo 29: As photo 28