

Edmanson's Close Almshouses Tottenham

Structural Inspection Report

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Date	Revision	Notes/Amendments/Issue Purpose
January 2020	1	For Information

Note:

This report has been prepared for The Drapers' Almshouse Charity and their advisors, for the purposes noted in Section 1, using the information available to us at the time. It should not be relied upon by anyone else or used for any other purpose. This report is confidential to our Client; it should only be shown to others with their permission. We retain copyright of this report which should only be reproduced with our permission.

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1 Introduction

Price & Myers visited the Edmanson's Close Almshouses on behalf of The Drapers' Almshouse Charity, on 4th December 2019. The purpose of the inspection was to advise on the structural condition of the building and its suitability for the proposed alterations and extensions as proposed by d+b studios. Access was possible to the external perimeter of the buildings at ground floor level and internally within three units, one at ground floor and two at first floor level. The inspection was limited to what could be seen without the removal of any finishes; no floorboards were lifted, and inspection of the roof spaces was not possible. This report is limited to a review of the existing structure and a survey report by others might be required.

2 Description of Existing Structure

Edmanson's Close comprises of a series of two storey, Grade II listed Almshouses and a chapel built in the late 1870's. In the 1970's a two-storey accommodation block and a single storey laundry room was built towards the southern end of the site. Most of the original Almshouses have been altered in the late 1970's and now comprise one and two bedroom flats. The existing site plan is shown in Appendix A.

The two storey Almshouses are of load bearing masonry construction with assumed timber joisted floors and roof. The roof structure is pitched and there are small dormer windows present along the front elevation. Each entrance has a wooden porch with a timber hipped roof. The rear of the Almshouses have a single storey extension with a hipped roof, also assumed to be formed of timber. Air bricks are present on the front external wall which indicates a raised ground floor structure, likely to be formed of timber.

Access was not possible inside the chapel, but photographs show a timber trussed roof and load bearing masonry walls. The entrance to the chapel is via a three-bay stone portico with flat roof and stone parapet above. There is an arched window with stone mullions to the front façade.

The geological maps of the area show the ground conditions to be alluvium deposits over the London Clay formation. It is likely the existing structures are formed on shallow, spread foundations bearing into the London Clay. It is noted that there are numerous mature trees on the site and on neighbouring land, close to the site boundary.

3 Proposed Alterations

It is proposed to return the Almshouses to their former use as single family homes. This will involve the removal of internal partitions, reconfiguration of the staircases, demolition of the single storey rear section and construction of a new two storey rear extension to each house. This will provide 22 three bed homes. The chapel will remain in place with some internal alterations including the removal of a 1970's mezzanine.

The 1970's apartment block and laundry room will be demolished, and 3 new two bed mews houses built in its place. A new apartment block will be built on the site of the existing laundry room and will provide 12 one bed apartments. Two new buildings will also be constructed adjacent to the Almshouses to provide 4 new two bed apartments.

4 Observations & Discussion

The visual inspection of the existing Almshouses and chapel has not highlighted anything of concern from a structural viewpoint. The external brickwork is in a good condition and shows no signs of movement or cracking. The stone portico to the chapel shows signs of weathering at the base of the columns but is not of structural concern. Some local repairs and cleaning of the stonework may be required to the parapet for aesthetic reasons.

Whilst our inspection was being carried out some maintenance work was happening on the external services. The existing Almshouses are serviced through an external trench to the rear of the houses. This is shown in Photograph 12 in Appendix B. If the service trench will be re-used to service the refurbished Almshouses then its location will need to be considered and accounted for in the foundation design of the extensions.

Some cracking is present to the external wall of the 1970's infill block. This is referenced in Photograph 11 in Appendix B. We were informed by the estate manager that this had occurred in the past year and that an adjacent tree has recently been removed. London Clay, which is present on the site, is typically classified as highly shrinkable. This means it has a high potential to change volume due to fluctuations in water content. The water content of the clay can be influenced by trees as well as climatic conditions. When a structure is built within the zone of influence of a tree then the foundations need to be sufficiently deep so they are not affected by seasonal fluctuations in the volume of the clay which can lead to building movements. This is likely to be the cause of the movement in the 1970's building and it is likely the building is founded on shallow spread footings which are not deep enough to overcome the movement in the clay. This building is proposed to be demolished so remedial work is not necessary. The foundations for the new building will need to consider the soil conditions and the proximity of existing and proposed trees.

5 Conclusions

The existing Almshouses are in reasonable structural condition for their age with no obvious signs of movement or cracking. As access was not possible into the roof, a more detailed inspection in these areas is required to check the conditions of the existing timbers. Externally the roof appears to be well maintained and in a good condition, but this is limited to what could be seen from ground level. Further investigations through localised opening up work will be required to determine the exact nature of the structure and existing load path. This will confirm what walls are non-

load bearing and can be removed without any additional structure. Removal of load bearing walls to suit the new layouts and trimming of floors for new openings will require new structural support in the form of steel beams or timber joists.

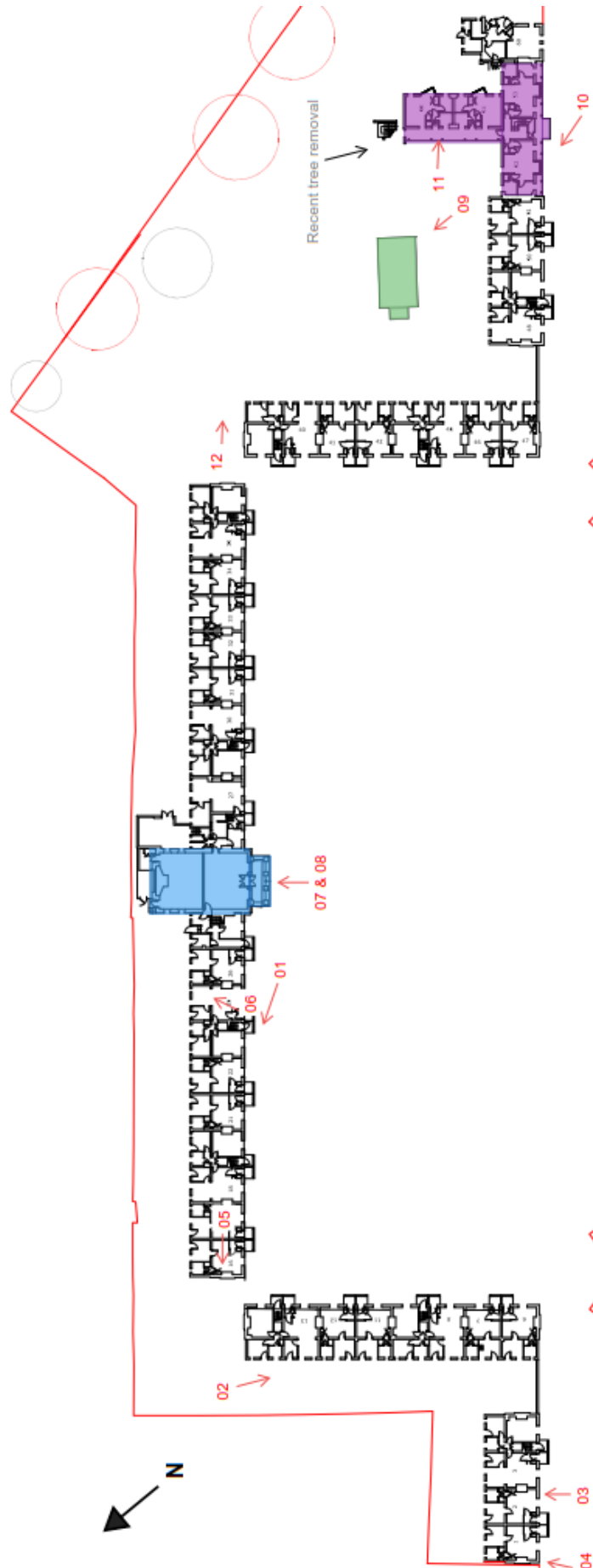
An intrusive geotechnical investigation will be required, including some hand dug trial pits, to determine the soil profile, contaminates and the depth and extent of the existing foundations. The geotechnical investigations and testing will inform the foundation design for the new buildings across the site and the interface details with the existing foundations to the Almshouses. As movement has occurred to the 1970's building, it's important that the investigation includes the testing on the plasticity of the underlying clay and its potential to change volume. New foundations will need to be designed to take this into account and it is likely that the new ground floor structure will need to be suspended rather than ground bearing.

The new low-rise accommodation buildings are well suited to traditional construction or an offsite method such as modular or mass timber. These structural solutions can be explored with the client and Architect to determine the most economical and practical solution to deliver the scheme.

We see no reason why the proposals at Edmanson's Close cannot be progressed from a structural point of view. As outlined above, further investigations will be required in the next stage to inform the structural solution.

Appendix A

Site Plan



- xx Photograph reference
- Existing chapel
- Existing 1970's laundry room
- Existing 1970's two storey infill block

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Appendix B

Photographs



Photograph 1 - Front view of existing Almshouses



Photograph 2 - Rear view of existing Almshouses



Photograph 3 - Air bricks to Almshouses front elevation



Photograph 4 - Gable wall to Almshouse



Photograph 5 - Internal condition of 1st floor Almshouse with boarded fire place (No 19)



Photograph 6 - Internal condition of ground floor Almshouse (No 25)



Photograph 7 - Stone portico entrance to Chapel



Photograph 8 - Front elevation of Chapel



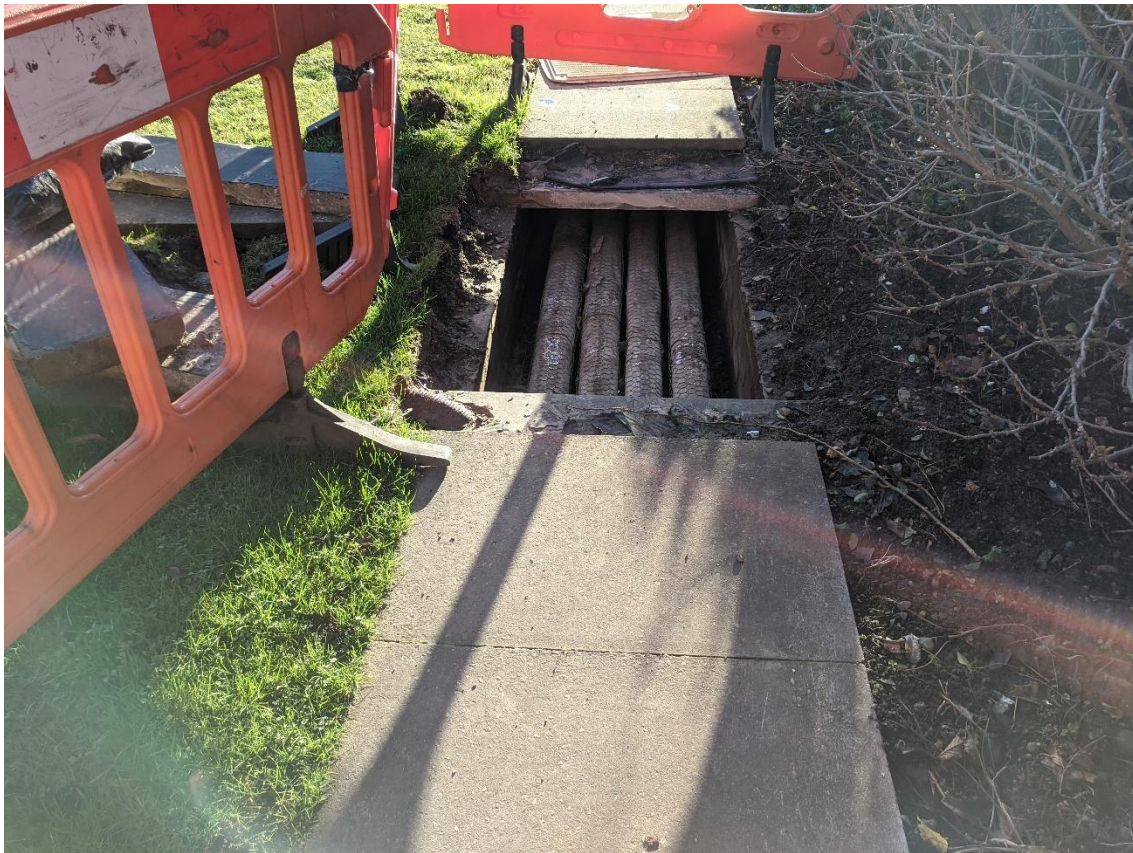
Photograph 9 - 1970's single storey laundry room



Photograph 10 - 1970's infill accommodation block



Photograph 11 - Cracking to external wall of 1970's infill block



Photograph 12 - External service trench under existing footpath