

Mr & Mrs Trevett
36 Stirling Crescent
Hedge End
Hampshire
SO30 2SB



Suite A 2nd Floor Rear
Trinity Court
2-4 West Street
Fareham
Hampshire
PO16 0BH

7th January 2026

Dear Mr & Mrs M Trevett

RE:36 Stirling Crescent Proposed Extension Works

Web: www.hjconcepts.co.uk

BRIEF

H J Concepts Ltd were contacted via email by Mr & Mrs Trevett to provide assistance in relation to a suitable foundation system that would be acceptable to the LPA for the proposed extension that is within the RPA of the TPO trees.

Experienced Structural Engineer Philip Hamblin IEng MICE IMIStructE of H J Concepts Ltd attended site on the morning of 12th November 2025 with Mr & Mrs Trevett in attendance.

Record photographs were also taken during the visit to aid a balanced desk top review to be undertaken during the writing of the review.

CONFIDENTIALITY

This letter report is for the purpose of assisting Mr & Mrs Trevett with the planning application for the proposed single storey side extension under reference H/25/99989. It should not be reproduced in whole or in part or relied upon by any other parties for any use whatsoever without the express written authority from H J Concepts Ltd.

LIMITATIONS OF REPORT

This foundation proposal assessment is to assist in the planning application and respond to the LPC comments from the Borough Arborist.

EXECUTIVE SUMMARY

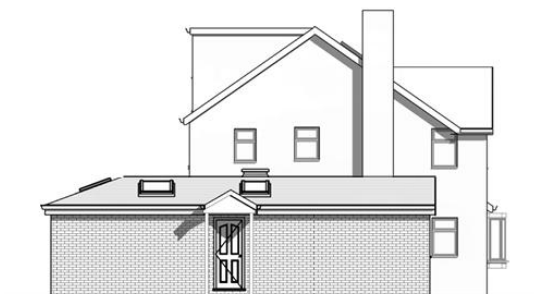
Following a review of the options available for the foundations for the annexe and the rear main dwelling extension, it is entirely feasible to provide a suspended timber frame floor structure on a ground screw foundation with minimal root disturbance for the annexe in the tree RPA area and either tradition foundations or mini pile solution for the rear extension, again with no impact to the tree RPA.

EXTENSION PROPOSAL

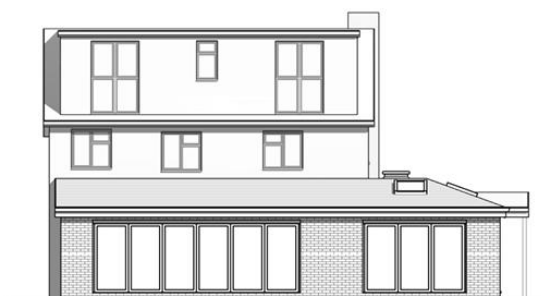
The scheme as prepared by Architects Applecore Ltd and comprises a single storey side extension forming an annexe and a single storey rear extension to the main dwelling submitted to Eastleigh Borough Council for planning approval. Images of the proposed shaded extension are below (Not to any specific scale)



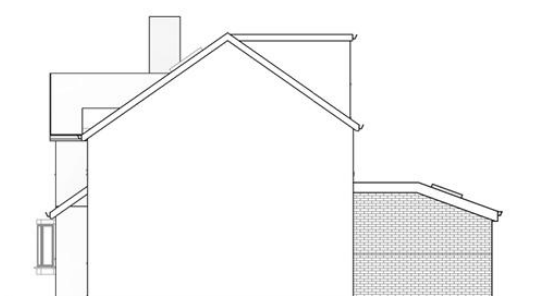
1 Proposed Front
1 : 100



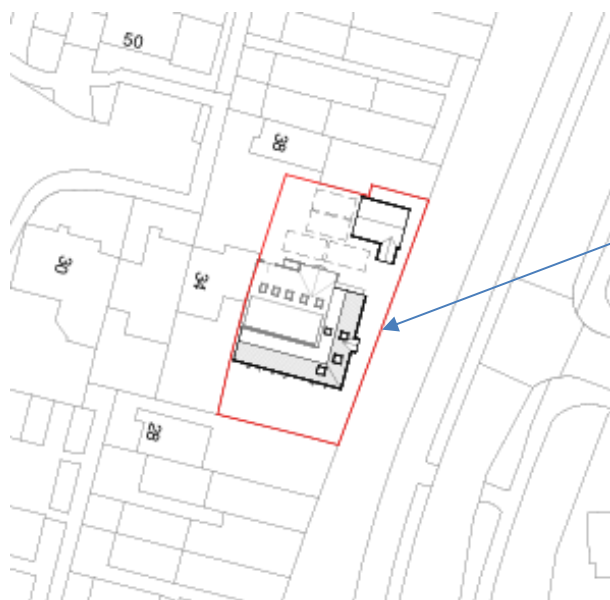
2 Proposed Side
1 : 100



3 Proposed Rear
1 : 100



4 Proposed Side
1 : 100

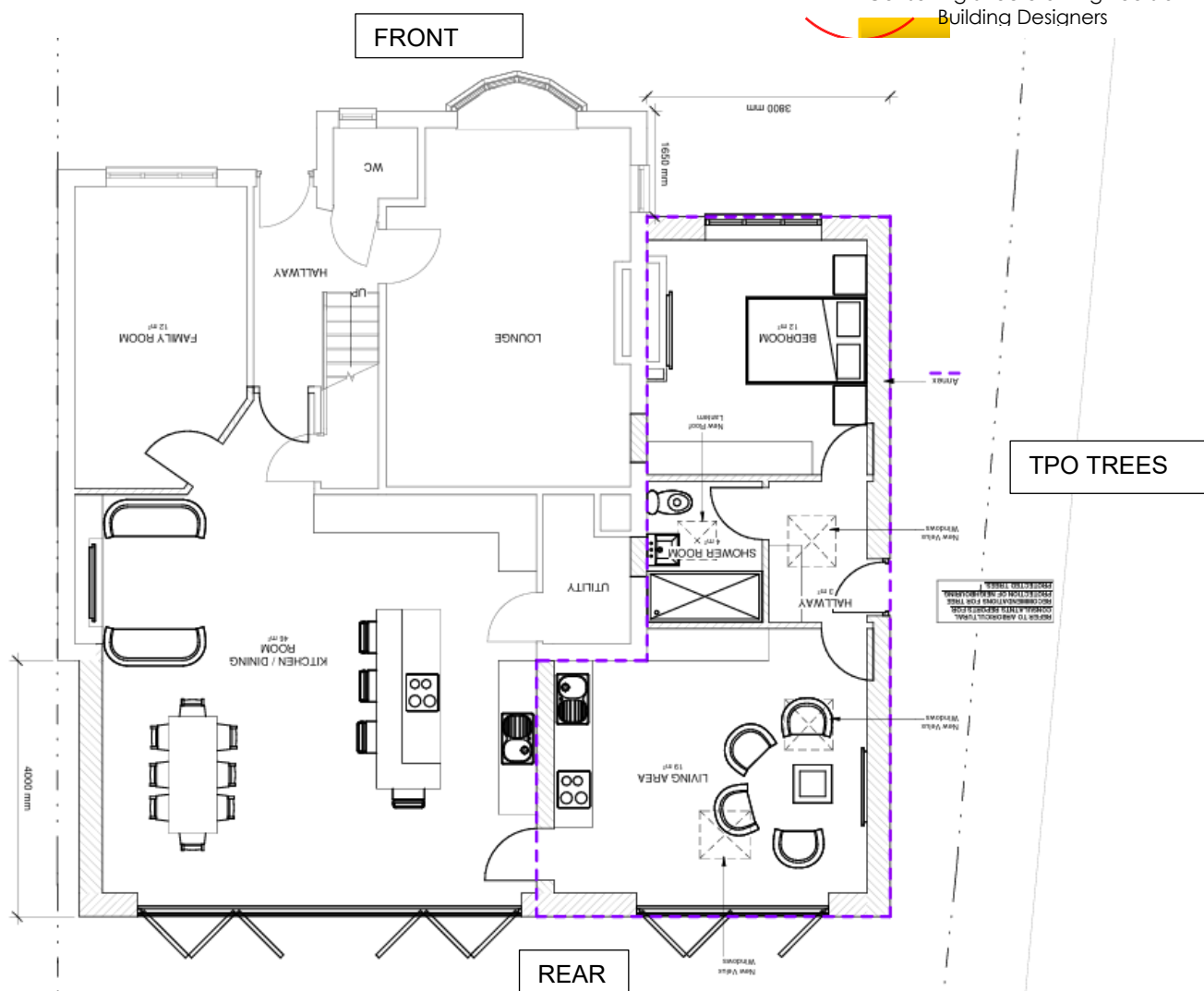


Tree Line of
Oaks (TPO)



H J Concepts Ltd

Consulting Structural Engineers &
Building Designers



Above is Applecore's proposed ground floor plan of the extension to the side and rear, with the annexe illustrated by the purple dotted line. The proposal would be to adopt a timber framed arrangement for the floor and walls to the annexe and traditional cavity masonry to the rear main dwelling extension.



25-1749 36 Stirling Crescent

PROPOSAL

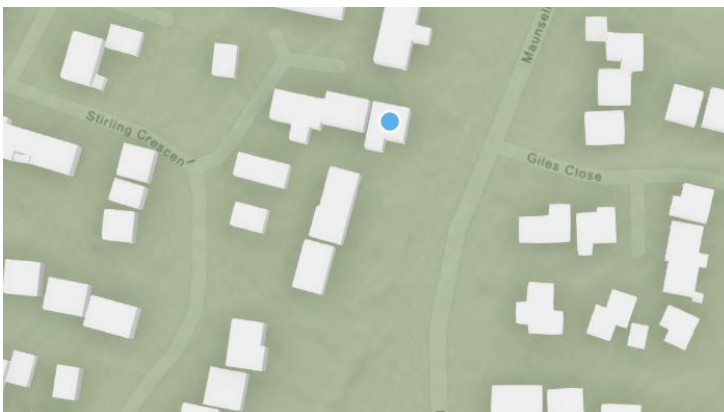


Given the location of the annexe extension adjacent the TPO line of trees which are located on the other side of the plots boundary fence and the proposed construction in a timber frame format (walls and suspended floor), it is proposed to adopt a galvanised extendable ground screw foundation support (by RADIX or equal approved), which are lightweight and installed by small hand held equipment, resulting in no large machinery and no intrusive excavations or concrete pouring to form the side extension foundations.

The rear extension to the main dwelling is outside of the trees RPA zone and could be constructed using cavity masonry construction on either a traditional deep strip mass concrete foundation or a small bore concrete pile with a reinforced concrete ground beam depending on a soil analysis and small windowless bore hole. The rear extension is outside the RPA's but access is via the more protected zones within the RPA's, but as noted in the AIA prepared by Technical Arboriculture Ltd ground protection (Clause 15.19) can be installed whilst this section of works are undertaken.

The British geological Society (BGS) website indicates the local soil is of the Earnley Sand formation with a soil make up of a silty sandy clay, which due to it's fine sand content could fall into either a medium or low volume change potential soil as defined by NHBC Chapter 4.2. (subject to a soil analysis)

Below are extracts courtesy of the BGS website



Site illustrated by blue dot

Earnley Sand Formation

Computer Code:	EA	Preferred Map Code:	Ea
Status Code:	Full		
Age range:	Lutetian Age (GL) — Lutetian Age (GL)		
Lithological Description:	Glauconitic silty sands and sandy silts.		
Definition of Lower Boundary:	Rests on Wittering Formation. Base of formation marked by the transgressive surface overlain by glauconitic silty sands and pebble bed.		
Definition of Upper Boundary:	Overlain by the Marsh Farm Formation. Boundary marked by the upward change from the glauconitic sands of the Earnley Sand Formation to the thin-bedded clays and silts with glauconitic sand laminae of the Marsh Farm Formation.		
Thickness:	22-25 m.		
Geographical Limits:	Eastern Hampshire Basin.		
Parent Unit:	Bracklesham Group (BRB)		
Previous Name(s):	Earnley Formation [Obsolete Name and Code: Use EA] (-3381) Earnley 'Division' [Obsolete Name and Code: Use MARF, EA] (-1518)		
Alternative Name(s):	none recorded or not applicable		

25-1749 36 Stirling Crescent



The ground screws are a galvanised steel screw with a head connection plate which allows the suspended structural timber beams supporting the annexe floor and walls to be supported on and bolted to a secure foundation system without the necessity of traditional trench excavation. The ground screws depending on overall length have a relatively small diameter ranging from 76mm to 118mm meaning the supporting substructure is minimally invasive into the RPA area. Prior to determining the size and final arrangement of the ground screws for the annexe an onsite load bearing test is performed in two locations to establish the carrying capacity of the ground screw.



Given the ground screws can be easily adjusted to suit any large tree root or roots encountered (during a small diameter predrill) the resulting ground screw arrangement (within reason) can be adjusted, which means that the structural timber beam arrangement can be flexible and designed such that all beams, joists and trimmers are short and shallow depth (Circa 100mm) and can be installed without the necessity of large machinery and cranes.

The proposal is to adopt a small steel diameter (76mm) screw pile (the smallest practical size) that will support the all timber framed single storey structure. The ground screw locations are to be pre-drilled (small long drill) to ensure no major roots are compromised during the installation of the final ground screw.

The overall solution eliminates the use of concrete, extensive foundation excavations, damage to tree roots, muck away and noise / dust resulting in a sustainable & environmentally friendly installation which adapts it's self to the environment on site.



BS 5837:2012 “Special engineering for foundations within the RPA”, notes within clause 7.5.2 that root damage should be minimised and this element is covered under the pre site drilling using hand held equipment prior to installation of the ground screw . The timber table top platform deck (Illustration below) for the building has inherent flexibility to enable relocation of the ground screw should tree roots be encountered in the predrill period. The site area for the annex is predominately flat and requires only a shallow amount of existing surface removal, which is the paving slabs, cement bedding and type 1 material under. No soil is removed. It should also be noted that no concrete is employed within the sub-structure foundation and that there is a void left between the buildings floor level and the existing ground level to allow ventilation under the building and keep the timbers away from wet surfaces.



A cross section through the floor make up is shown to a scale of 1:20 in a separate A3 drawing and illustrates the proposed construction against the house floor section. With the existing paved area removed along with the cement bedding and type 1 sub-base there is sufficient space to accommodate the new floor construction. There is a direct link between the annexe and the main house and it is be possible to achieve a level threshold, but if the sub-base under the paving is shallower than anticipated then there is flexibility and space for a single step down into the main dwelling.

Photographic Images of the proposed site area for the proposed Annexe



Yours faithfully

Philip Hamblin | Eng M.I.C.E. IMIStructE

H J Concepts Ltd

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