

JONATHAN PARK ENGINEER		0704
Project: WHITFIELD STREET NURSERY	Title: STRUCTURAL CONCEPT	1

3 1) MAR 2007

1. Structure

Following our discussions, the new temporary extension building will consist of: -

- a) A 200 deep timber joist roof structure, with a cantilevered overhang all round,
- b) Supported on timber braced and connected studding walls bolted to and
- c) Carried on a reinforced 150/200 thick concrete slab with stiffening edge beam.

This ensures that the structure is economic, easy to build, lightweight with minimal excavation & impact on the existing ground and nearby structures.

2. <u>Foundations</u>

The concrete slab is designed & reinforced to spread the lightweight wall & roof loads over the whole building area to obviate the need for deep excavated foundations.

There is a slight, approx 150mm, cross fall with evidence of tree roots close to the surface from the single Plane tree to the right of the entrance gate. The tree is located 3 metres from the NW corner of the new building area.

It is planned that the oversite excavation will be carefully hand dug to remove the existing asphalt and topsoil to a depth of no more than 300 - 500mm. At this depth, backfilled with compacted hardcore, the bearing strength & stability of the soil will be entirely sufficient to carry the concrete floor slab. The surface of the resulting floor slab will be just above level of the existing ground level at its highest point along the South & South West perimeter of the site area adjacent to the existing concrete walkway and barrier.

If significant Plane tree roots are found close to the surface on the lower North Eastern corner of the site area, vertical ground beams (say 500 – 600mm deep) will be cast well clear of each side of the roots. The internal root space will be filled with loose packed sand and the reinforced concrete slab designed to span over and clear of the roots.

This will ensure that the tree roots can continue to grow without damage or affecting or distorting the new extension building.

If the prior site investigation shows the necessity, the external entry timber ramp and walkway will be supported on timber posts until it joins with the already existing concrete walkway with the barrier uprights removed.

Jonathan Park - 29.03.07