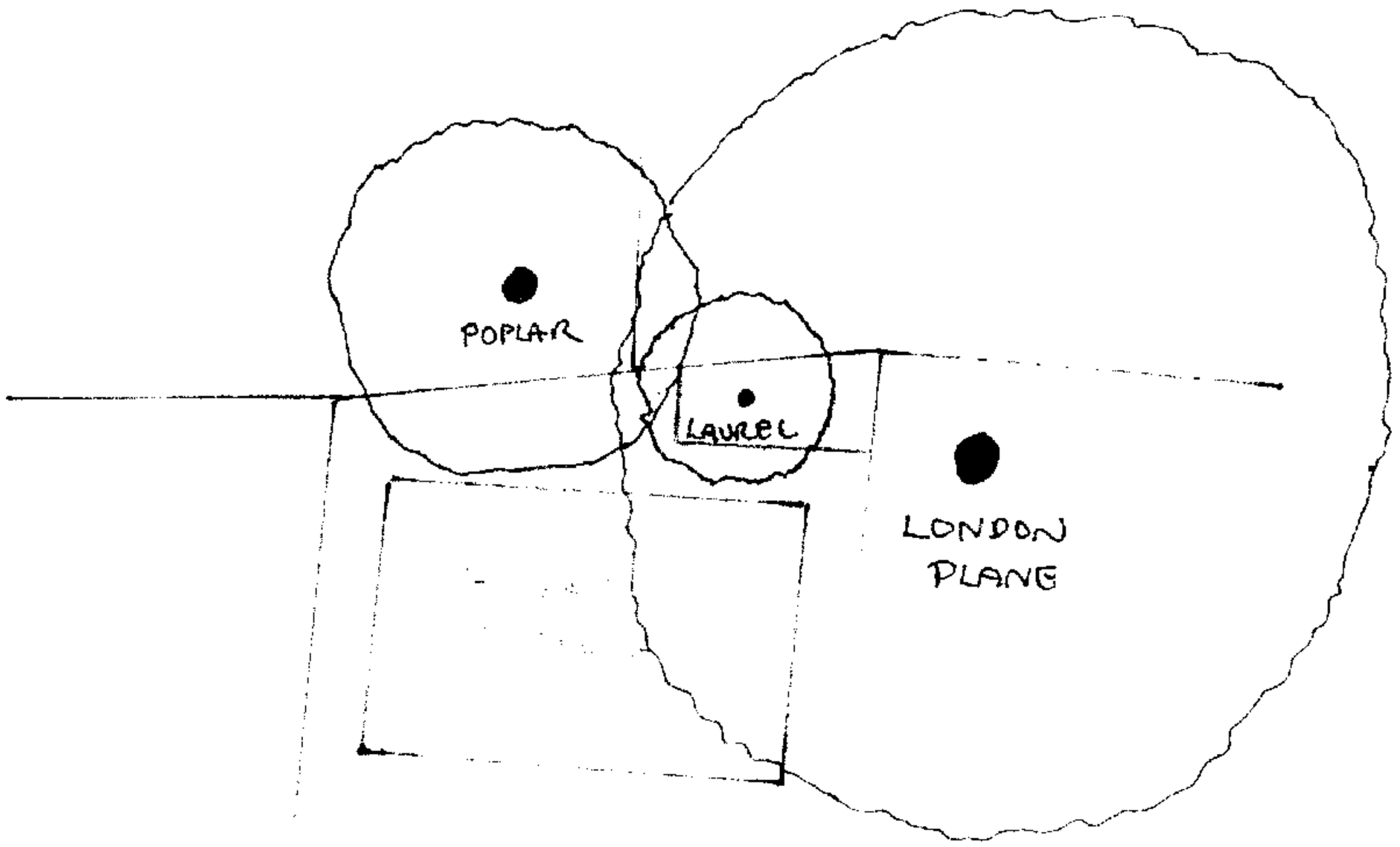
5 ABERDARE GARDENS

3 ABERDARE GARDENS



111 GREENCROFT GDNS

115 GREENCROFT GDNS

NORTH

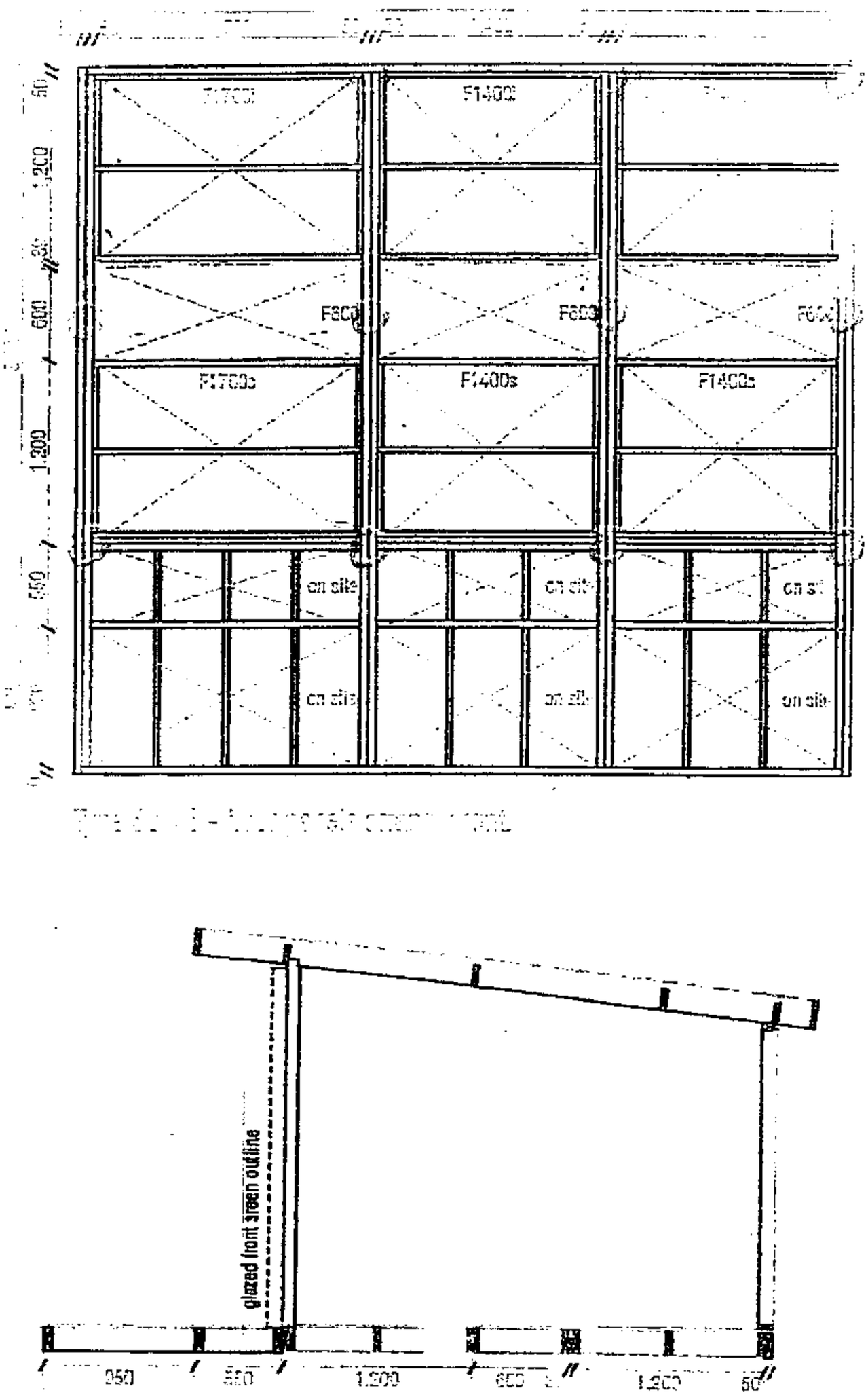
KEY

GROUND PROTECTION

CROWN SPREAD

PROTECTIVE FENCING

APPENDIX 1



Type 30 - Assembly scheme - front

Geometrica UK

Phone: 024 76 [illegible] Fax: 024 76 [illegible]

E-mail: geometrica_UK@[illegible]

DRAWING TITLE:
Type 30-46.
Floor montage scheme.
Transversal section.

PROJECT STAGE:
Construction

SCALE: 1:50

DATE: 04.10.2004

DRAWN: A. Parete

CHECKED:

PROJECT DETAILS:
Garden Office / Pavilion
for The Garden Escape

PROJECT OFFICE REFERENCE No: 01

DRAWING No: 74

REVISION: A

E N G I N E E R I N G

INGENUITY

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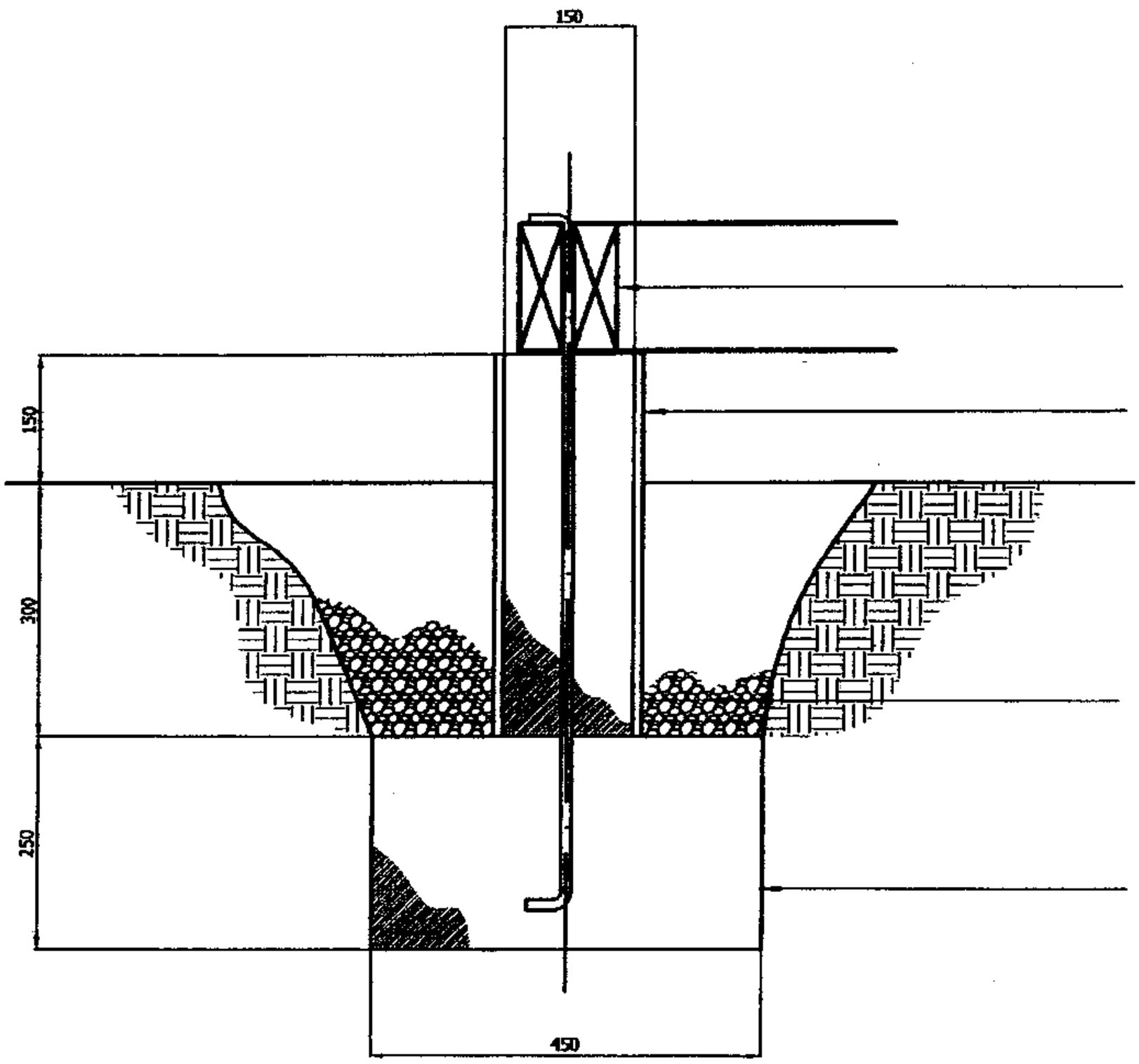
Job Name	Garden Escape Manual		
Client	Garden Escape		
Drg. Title	Foundation Type		
Date: Feb '07	Drawn: FL	Scale @ A4: 1:10	
Job No.: 206109	Drg. No.: D01	Rev.	

APPENDIX 2

All dimensions in mm.
All concrete made with 1 part cement to 3 parts balast and tamped in to position to ensure all air bubles rmeoved.
See Foundation Flow chart of application of Foundation types.



Floor support beams packed and levelled onto pile with slate and dpc. Reinforcmen bar bent over to secure beams.

150 cardbored tube pile former with concrete, tamped into place.

Backfill to be fully compacted into position to restrian pil against sideways loads.

600x600x300or 450x450x250 Concret base with T10 reinforcment bar set into centre of pile.

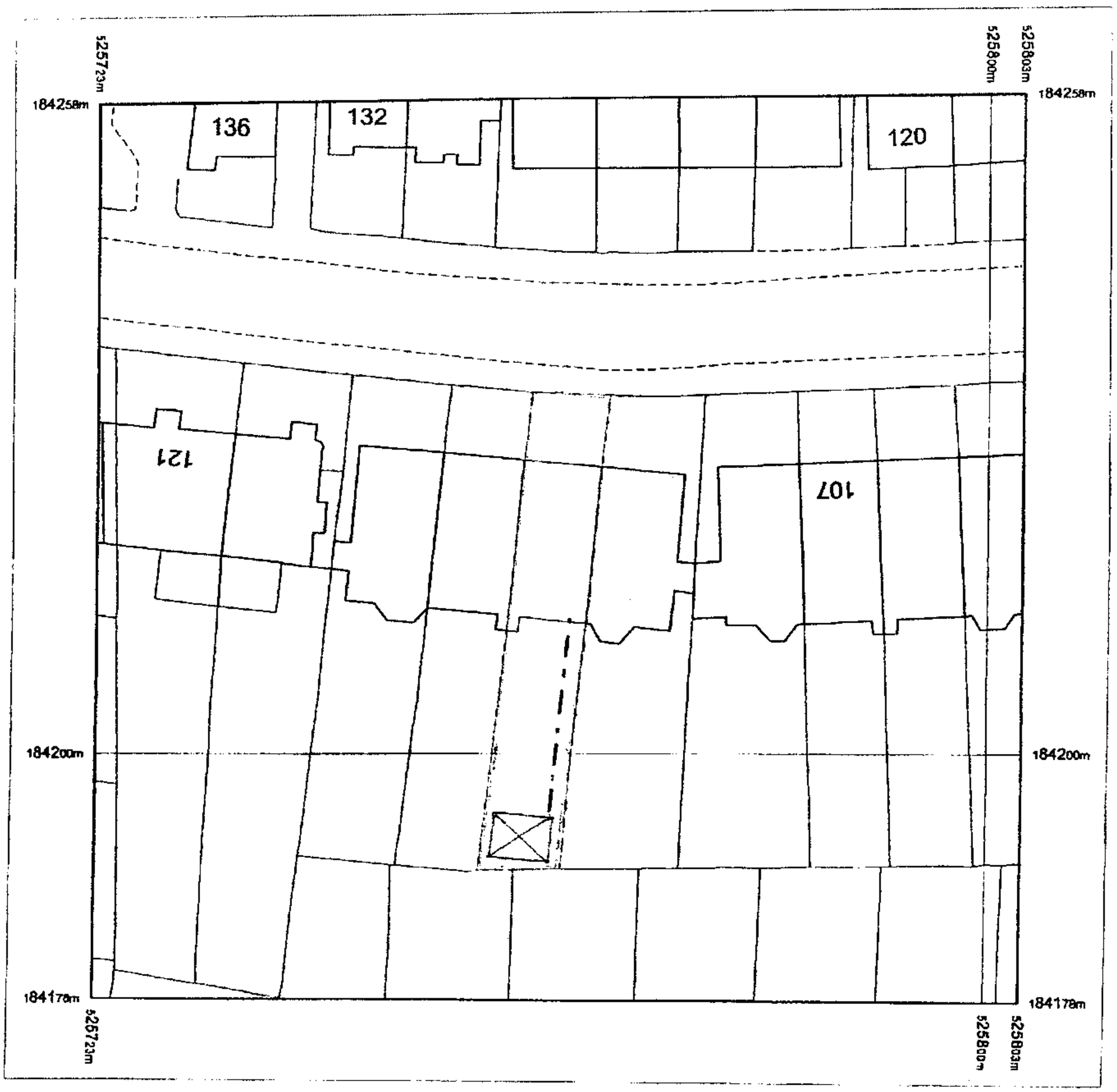
If roots (including fibrous small roots) are located within 500 of underside of base, foundation to be lowered.

TYPE	X	Y
1	450	250
2	600	300

STAGE	STATUS	CHECKED
Development	✓	
Tender		
Construction		

APPENDIX 3

OS Sitemap™



Metres
0 10 20

Scale 1:500

Supplied by: **Outlet User**
Serial number: 00008800
Centre coordinates: 525763 184218

Further information can be found on the OS Sitemap Information leaflet or the Ordnance Survey web site:
www.ordnancesurvey.co.uk

PROPOSED GARDEN BUILDING

PROPOSED ROUTE FOR ARMOURED CABLE

APPENDIX 4

A "x 5
E es of cing ar 7:2

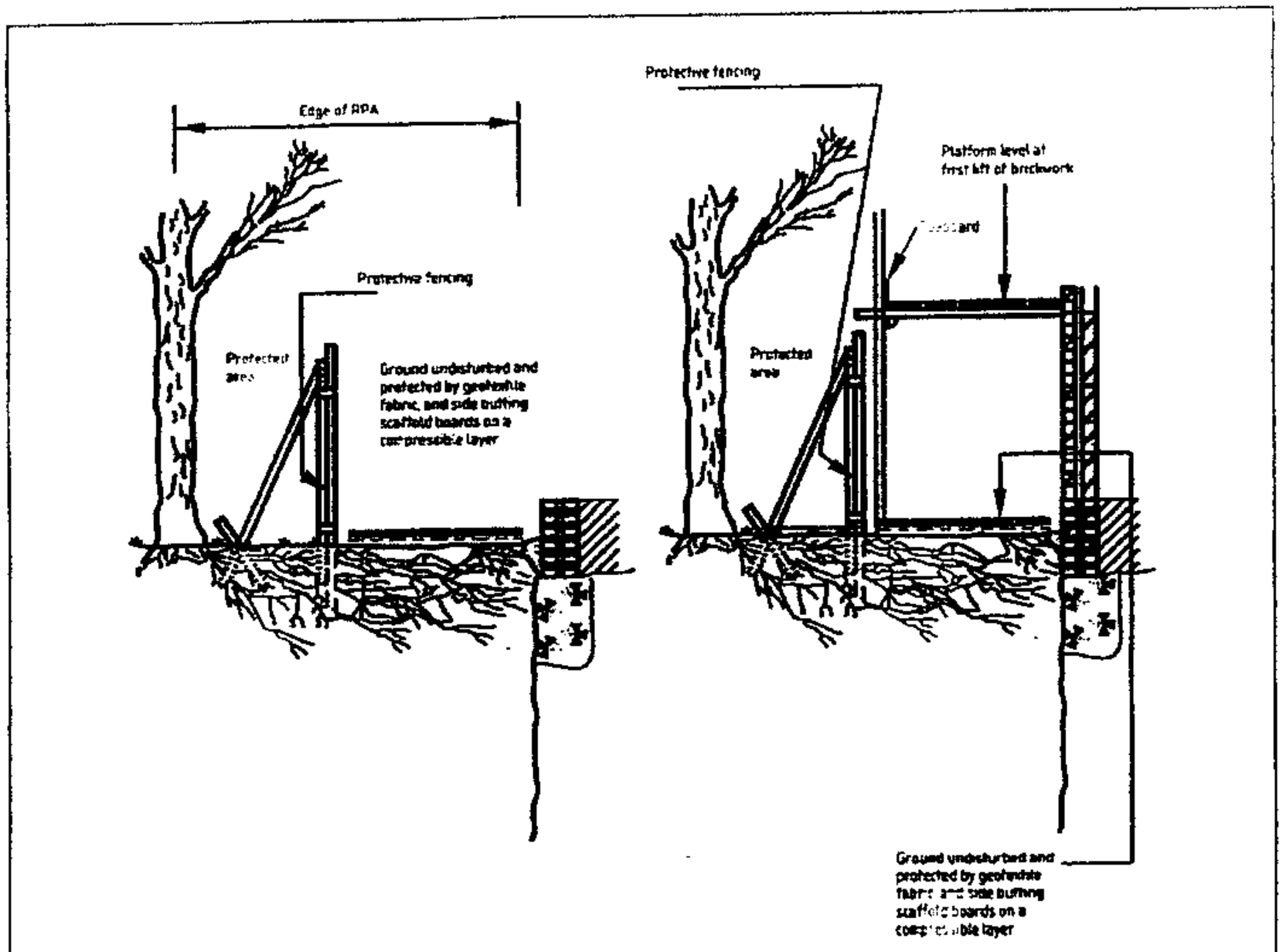
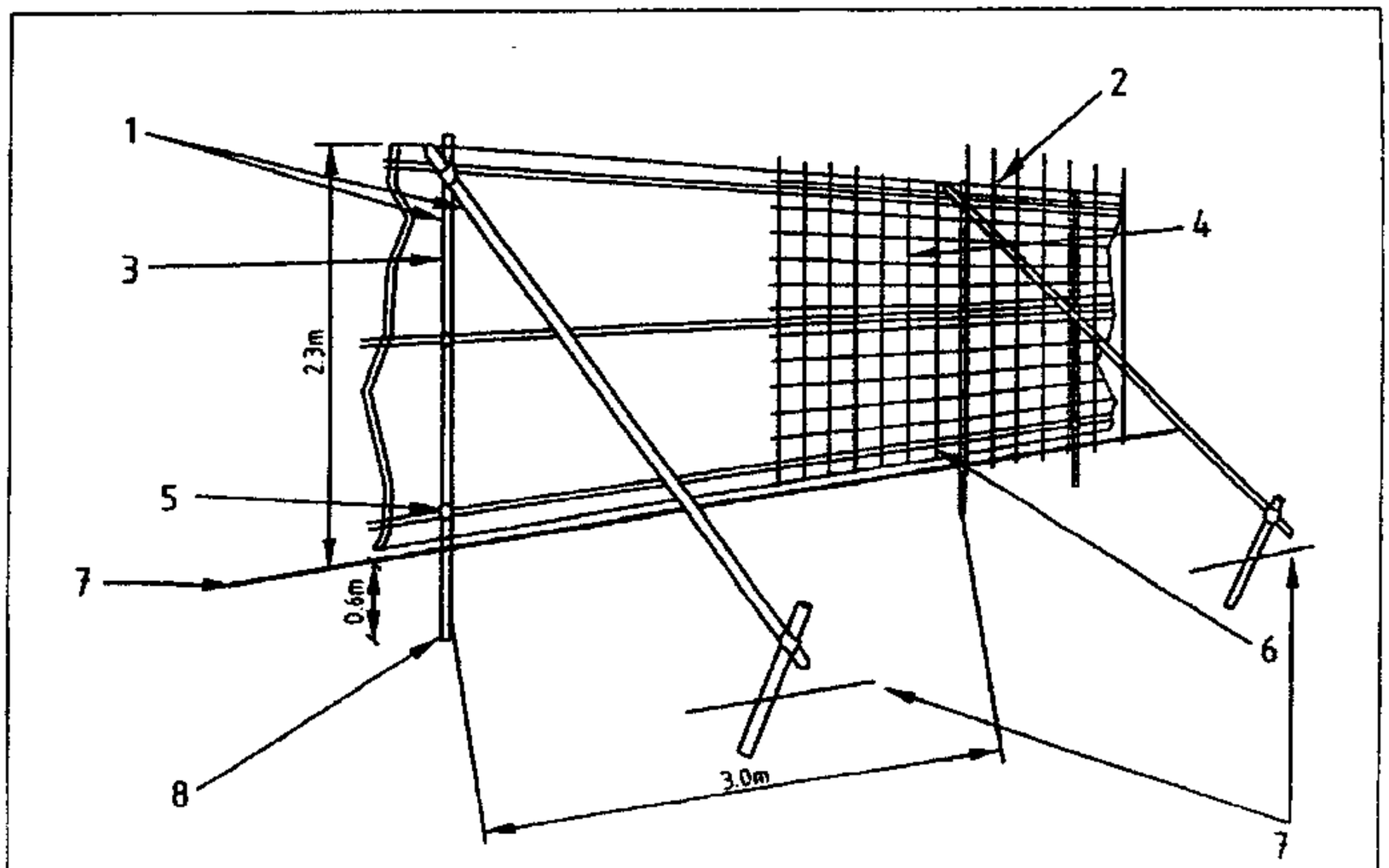


Figure 3 — Scaffolding within the RPA



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6 m driven into the ground

Figure 2 — Protective barrier

APPENDIX 5

Table 3 — Minimum distance (m) between young trees or new planting and structure to avoid direct damage to a structure from future tree growth

Type of structure	Diameter of stem at 1.5 m above ground level at maturity		
	<30 cm	(30–60) cm	>60 cm
Buildings and heavily loaded structures	—	0.5	1.2
Lightly loaded structures such as garages, porches etc.	—	0.7	1.5
Drains and underground services			
<1 m deep	0.5	1.5	3.0
>1 m deep	—	1.0	2.0
Masonry boundary walls[a]	—	0.5	1.0
	—	(1.0)	(2.0)
In situ concrete paths and drives[a]	—	0.5	1.5
	(0.5)	(1.0)	(2.5)
Paths and drives with flexible surfaces or paving slabs[a]	—	0.5	1.0
	(0.7)	(1.5)	(3.0)

[a] These distances assume that some movement and minor damage might occur. Guidance on distances which will generally avoid all damage is given in brackets.

10.3 Indirect damage by trees to structures

For guidance on avoiding indirect damage by trees to structures see NHBC Chapter 4.2 [14].

11 Demolition and construction in proximity to existing trees

11.1 General

11.1.1 Whilst the most reliable way to ensure tree retention is to preserve the RPA completely undisturbed, it may be necessary to undertake demolition operations and/or to incorporate hard surfaces and other construction within it. The ability of the tree(s) to tolerate some disturbance depends on individual circumstances including prevailing site conditions. Accordingly the advice of an arboriculturist should be sought for any operations within the root protection area. It should be noted that, in general, the older the tree, the less successfully it will adapt to new conditions. For this reason, the details of designs incorporating such trees should be considered with particular care (see also **6.2.3**).

11.1.2 Where it is intended to undertake demolition or construction operations within the root protection area, precautions should be taken to maintain the condition and health of the root system (see Annex C) and in particular to:

a) prevent physical damage to the roots during demolition or construction (such as by soil compaction or severing);

b) make provision for water and oxygen to reach the roots;

c) allow for the future growth of the root system;

d) preserve the soil structure at a suitable bulk density for root growth and function (in particular for soils of a high fines content).

11.1.3 Throughout the process of demolition or construction, including piling (see **11.6.3**), the soil structure within the root protection area should be protected. The methods of protecting trees from damage during all phases of demolition and construction work should conform to Clause 7 and Clause 9.

11.2 Requirements for tree protection during demolition

11.2.1 Where demolition is proposed on a site where trees are to be retained, access facilitation pruning (see also Clause 8) should be undertaken to prevent injurious contact between demolition plant and the tree(s). Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturist.

11.2.2 Demolition of structures (including underground structures) within what would otherwise be a RPA should proceed according to the principles outlined in Clause 9. Barriers should be erected and fit for purpose ground protection installed to the edge of the existing structure.

11.2.3 All plant and vehicles engaged in demolition works should either operate outside the RPA, or should run on a temporary surface designed to protect the underlying soil structure. Where such ground protection is required, it should be installed prior to commencement of operations (see 9.3).

11.2.4 Where trees stand adjacent to structures scheduled for demolition, it may be necessary to undertake demolition inwards within the footprint of the existing building (often referred to as "top down, pull back"). Where levels of dust build-up on trees are likely, it may be necessary to seek the advice of an arboriculturist on remedial measures, e.g. hose down the tree(s) immediately following any significant accumulation of dust.

11.2.5 Where an existing hard surface is scheduled for removal, care should be taken not to disturb tree roots that may be present beneath it. Hand held tools or appropriate machinery should be used (under arboricultural supervision) to remove the existing surface. Tree roots exposed by such operations should be treated in accordance with details in 11.3.

11.2.6 The advice of an arboriculturist should be sought where underground structures present within the RPA are/will become redundant. In general it is preferable to seal these off as this avoids the need for significant excavation.

11.3 Principles for avoiding tree root damage during construction

11.3.1 Prior to the installation of a new ground surface, existing ground cover vegetation (e.g. grass sward) should be killed using an appropriate herbicide (see *Pesticides Handbook* [15]). Herbicides that can leach through the soil, e.g. products containing sodium chlorate, should not be used. Specialist advice should be sought in order to determine the most suitable herbicide treatment.

11.3.2 The soil surface should not be skimmed to establish new paving or other surfaces at the former ground level. Loose organic matter and/or turf should be removed carefully using hand tools. The new surface should then be established above the former ground level, using a granular fill, where required.

11.3.3 If ground levels are to be raised within the RPA this should be achieved by use of a granular material which does not inhibit vertical gaseous diffusion. Examples of suitable granular materials include, no-fines gravel, washed aggregate, or cobbles. Depending on the California Bearing Ratio (CBR) of the soil, it may be necessary to install a load suspension layer such as a cellular confinement system.

11.3.4 In concentration carbon dioxide is detrimental to tree root function. Because this gas principally diffuses vertically through the soil, new impermeable surfacing within the RPA should be restricted to a maximum width of 3 m and situated tangentially to one side of a tree only, or confined to an area no greater than 20 % of the root protection area, whichever is the smaller.

11.3.5 Any excavations which have to be undertaken within the root protection area should be carried out carefully by hand, avoiding damage to the protective bark covering larger roots. Roots, whilst exposed, should be wrapped in dry, clean hessian sacking to prevent desiccation and to protect from rapid temperature changes. Roots smaller than 25 mm diameter may be pruned back, preferably to a side branch, using a proprietary cutting tool such as bypass secateurs or handsaws. Roots larger than 25 mm should only be severed following consultation with an arboriculturist, as they may be essential to the tree's health and stability. Prior to backfilling, any hessian wrapping should be removed and retained roots should be surrounded with sharp sand (builders' sand should not be used because of its high salt content which is toxic to tree roots), or other loose granular fill, before soil or other material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.

NOTE 1 The use of a trenching saw reduces the risk of longitudinal root shattering which can often occur where backactors are used to excavate trenches near to trees.

NOTE 2 Due to the demands that hand excavation places on a development project and its limitations with regards to health and safety considerations, it may be preferable to employ no-dig techniques.