



In Extreme cases a completely different type of foundation may be necessary, such as a raft, or pile and beam solution. These types of foundations must be designed by a Structural Engineer and details submitted to the local authority.

Trees adjacent to a building are often the cause of structural problems such as cracking and sometimes movement. Trees are a specialist subject and your architect should be in a position to advise you before making a Building Regulation submission. Should you elect to carry out the work under the Building Notice procedure then I would advise you to seek the advice of a Structural Engineer prior to starting work.

● Planting New Trees Close to Buildings

Consider the future consequences when deciding to plant a tree near your property. It is inadvisable to plant a tree closer to the property than the eventual mature height of tree (eg. a conifer hedge can grow approximately 450mm a year and could reach 18 metres in height).

● Further Advice

Before felling any trees you must first check that the trees are not subject to a Tree Preservation Order, or sited in a Conservation Area. For advice before felling any trees, please contact the Planning Section of the authority on **(01642) 526064**.

For any informal advice on the depth of foundations close to trees, the Building Control Section would be pleased to assist you. Please ring Stockton **(01642) 526046** and ask for a Building Control Surveyor.

TRANSLATION INFORMATION

This document is available in other formats and languages for further information please contact the Diversity Team on 01642 528334

Si vous souhaitez obtenir ces informations dans d'autres langues ou sous un autre format, par exemple, en gros caractères / version audio, veuillez contacter l'équipe "Diversity" au n° 016 42 52 83 34

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Foundations Close to Trees





FOUNDATIONS CLOSE TO TREES

These notes are to assist the house owner when considering carrying out building work near trees.

● Trees Adjacent to Dwellings

When considering extending your property it is important to look around the area on which you want to build and check that no obstructions exist. These could take the form of underground drains, overhead cables, existing structures and trees.

Whilst the builder and architect can overcome most difficulties, building near trees can sometimes cause particular problems.

● Trees

Trees themselves are pleasant to look at and enhance any garden, however, tree roots can present hidden problems to the future extension. In simple terms depending on various factors the closer a tree is to a new building the deeper the foundations must be taken down. The minimum depth for any foundation is 900mm, however this depth could be greatly increased, depending on how close the tree is to the new extension.

The basis of design is to ensure that the foundations are taken down to such a depth, that they will not be affected by tree roots. The trees themselves do not necessarily have to be large varieties, such as Oak or Beech, even small trees, such as Plum or Apple, could have an affect on foundations.

● The Solution

In some areas around Stockton the soils are sandy and not shrinkable, should this be the case then the trees will pose no threat. In the majority of cases the soils are of medium shrinkable clay. The table gives the mature height of some common trees and the minimum depth required to the foundations, dependant upon the distance the foundations are from the trees.

Species	Mature Height	Depth of Foundations in Relation To Distance From Tree					
		1.9 m Deep	1.7 m Deep	1.5 m Deep	1.3 m Deep	1.1 m Deep	0.9 m Deep
Poplar	25-28m	16m	18m	22m	25m	29m	32m
Oak	16-24m	14m	16m	19m	22m	25m	27m
Elm	18-24m	14m	16m	19m	22m	25m	27m
Willow	16-24m	14m	16m	19m	22m	25m	27m
Cypress	18-20m	6m	7m	8m	9m	10m	11m
Leylandii	18m	5m	6m	7m	8m	9m	10m
Plane	26m		2m	6m	9m	13m	16m
Ash	23m		2m	5m	8m	12m	15m
Sycamore	22m		2m	5m	8m	11m	14m
Lime	22m		2m	5m	8m	11m	14m
Horse Chestnut	20m		2m	5m	7m	10m	13m
Alder	18m		2m	4m	6m	9m	11m
Acacia False	18m		2m	4m	6m	9m	11m
Maple	8-18m		2m	4m	6m	9m	11m
Walnut	18m		2m	4m	6m	9m	11m
Cherry	9-17m		2m	4m	6m	8m	10m
Pear	12m		1m	3m	4m	6m	10m
White Beam	12m		1m	3m	4m	6m	10m
Laburnum	12m		1m	3m	4m	6m	10m
Mountain Ash	11m		1m	3m	4m	6m	10m
Plum	10m		1m	2m	4m	5m	6m
Hawthorn	10m		1m	2m	4m	5m	6m
Apple	9m		1m	2m	4m	5m	6m
Cedar	20m		1m	2m	4m	5m	6m
Douglas Fir	20m		1m	2m	4m	5m	6m
Pine	20m		1m	2m	4m	5m	6m
Spruce	18m		1m	2m	3m	4m	6m
Beech	20m				1m	4m	7m
Birch	14m					1m	3m
Holly	12m					1m	2m
Magnolia	9m						2m
Mulberry	9m						2m

Note :- Minimum Foundation Depth is 0.9 Metres

Also should you have an existing tree in your garden, having it felled will not mean that the foundations will not be affected. Heave in clay soil can take place when it takes up moisture and swells, after the felling or removal of trees and hedgerows. It can also occur beneath a building if roots are severed by foundations. To avoid adverse effects of heave, the design of the foundations and substructure should take this into account. The sketches show typical construction details for trench fill foundations together with precautions to prevent heave damage.

