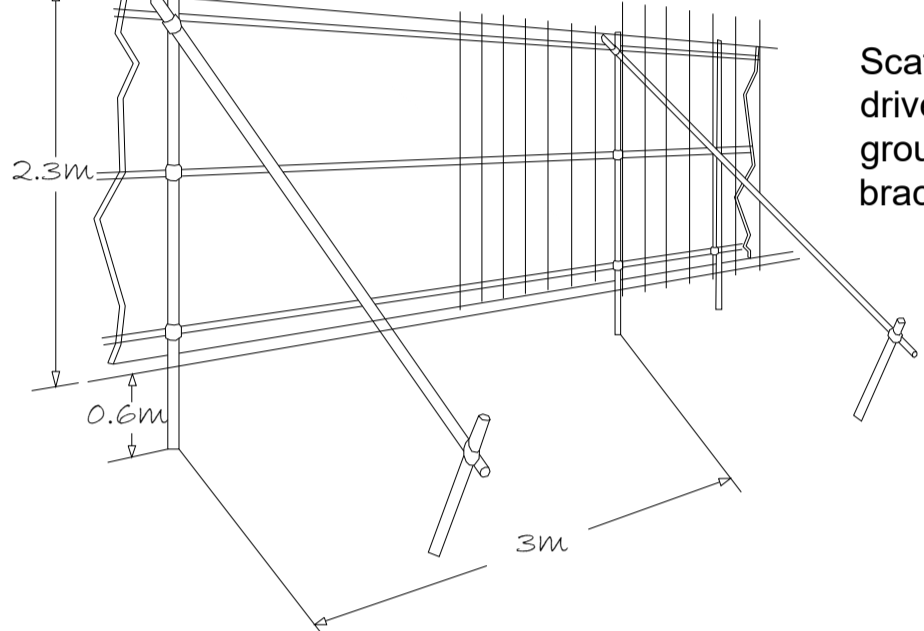


### Ground Protection

20mm exterior grade ply and/or Heras panels wired to uprights and horizontal. Wire twisted and secured on inside face of fencing to avoid easy dismantling



### Tree Protection Fencing

Scaffold Uprights driven well into the ground with additional bracing as required

**NOTES** - Where tree works are proposed to be on site or to overhanging vegetation to enable construction, this shall be undertaken by qualified tree surgeon in accordance with the requirements of BS3998:2010, prior to the installation of Protective Fencing.

Existing tree's & vegetation on the site boundaries or overhanging the boundaries from the adjacent land which are to be retained shall be protected where necessary during works by 2300mm high mesh panel (Heras type) fencing secured to a scaffold tubing framework or supported on a suitable base pinned into the ground and connected by none tamper fixings.

Protective fencing shall be erected outside the canopy drip-line or beyond the minimum Root Protection Area (RPA) distance, detailed in the Tree Survey wherever possible. The tree works & fencing works shall be carried out prior to any demolition, groundworks, construction works.

Laminated, waterproof A4 signs shall be fixed to the fence posts at 10m intervals bearing the words 'CONSTRUCTION EXCLUSION ZONE - NO STORAGE OR OPERATIONS WITHIN FENCED AREA' as per the example on the plan.

**PROTECTION OF CONSTRUCTION EXCLUSION ZONE**  
Inside the exclusion area of the fencing, the following prohibitions shall apply:-

- No mechanical excavation whatsoever.
- No excavation by any other means without arboricultural site monitoring.
- No hand digging without a written Method Statement approved in writing by the Project Arborist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools).
- No construction of a sealed hard surface - except where agreed with the Project Arborist.
- No storage of plant or materials.
- No storage or handling of any chemical, including cement washings.
- No vehicular access.

No fire lighting. In addition to the above, further precautions are necessary adjacent to trees:-

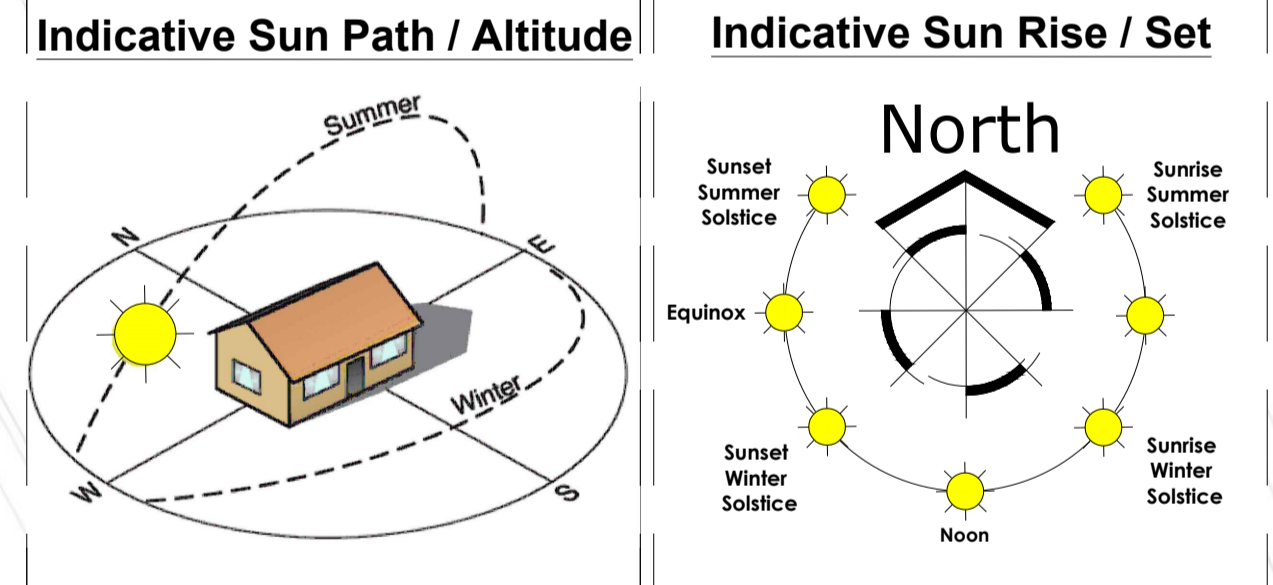
- A 10m separation distance shall be observed between any tree and substances injurious to tree health, including fuel, oil, bitumen, cement (including cement washings), builders' sand, concrete mixing and other chemicals.
- No fire shall be lit such that flames come within 5m of tree foliage; this shall be taken to mean a fire separation distance of 20m from any tree's canopy.

**ALL WORKS AFFECTING TREES SHALL BE SUBJECT TO THE REQUIREMENTS OF BS5837:2012.**

**BARNES associates**  
SURVEY · PLANNING · DESIGN

DO'S	TREE PROTECTION	DON'TS
<p><b>TREE ROOTS</b></p> <p>Trees shed roots to the site, provide shade, breathe habitat, improve air quality and are typically protected as part of any planning approval. Their protection is in everyone's interest to avoid costly stoppages and damage.</p> <p><b>TREE ROOTS</b></p> <p>Spread out a lot further than the branches out on the tree. In fact, on steep slopes they can spread the width of the site, making them vulnerable to damage.</p> <p><b>TREE ROOTS</b></p> <p>Many people believe tree roots extend as deep as the tree is high or simply drip into the ground line of the soil, making them vulnerable to damage.</p> <p><b>TREE ROOTS</b></p> <p>We must <b>not</b> do any <b>unauthorised</b> damage to roots. The use of properly positioned protective fencing can prevent tree death occurring.</p> <p>To help trees survive any proposed changes a minimum amount of soil surrounding the tree needs to be protected or provided for to the tree root depth and ensure the canopy for the tree's crowning a <b>Construction Exclusion Zone</b>. These are normally indicated on the Tree Protection Plan or detailed within Arboricultural Method Statements. Roots cut at these depths you are likely to understand what fencing and ground protection are to be used for help.</p> <p><b>Warning</b></p> <p>• Tree Protection is not a static, one-off thing you need to do on the Tree Protection Plan or on the ground in the Arboricultural Method Statement.</p> <p>• Before work starts and explain the correct fencing and ground protection.</p> <p>• Tree protection is usually a planning condition and breach can result in a stop notice, prosecution or fines.</p> <p>Tree damage can be avoided if the reader asks for help. Help avoid costly shovels and financial penalties.</p>	<p><b>RESULTS OF BREACHING THE CEZ</b></p> <p><b>Soil Compaction</b> Causes roots of oxygen and nutrients and increases water uptake off the site.</p> <p><b>Construction Cuts</b> or damages the roots, which can affect a tree's health or stability.</p> <p><b>Turf or Soil Removal</b> Even shallow excavations can remove roots and damage trees.</p> <p><b>Canopy/Branch Damage</b> Limits food production and increases ground temperature.</p> <p><b>Chemical Spill Including Cement</b> Kills roots, affecting the tree canopy and soil structure.</p> <p><b>Fire</b> Scorch and burn leaves, stems and branches.</p>	<p><b>DO NOT</b></p> <p>• Cut or damage tree roots.</p> <p>• Use heavy machinery on the ground surface.</p> <p>• Store materials or equipment on the ground surface.</p> <p>• Excavate or remove soil from the ground surface.</p> <p>• Use fertilisers or pesticides on the ground surface.</p> <p>• Use herbicides on the ground surface.</p> <p>• Use any other substances on the ground surface.</p>

T 01423 322 371 | E info@barnesassociates.co.uk | W barnesassociates.co.uk



**BS5837:2012 Tree Categories**

- Category A** Trees of high quality with an estimated remaining life expectancy of at least 40 years. Groups shown as hatched shapes.
- Category B** Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Groups shown as hatched shapes.
- Category C** Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 125mm. Groups shown as hatched shapes.

**Tree groups**  
The dashed or dotted centre line. Colour represents category (see above).

**BS 5837:2012 Root Protection Area**

**Tree**  
Showing Canopy extent, category colour and tag number (with category).

**Tree Protection Methods**

**Tree Protection Fencing (TPF)**  
Indicated by the red line. Fencing design will need to reflect the expected size of plant and the level of forecasted intensity of change.

**Construction Exclusion Zone (CEZ)**  
Indicated by the red hatched area. These are 'NO-GO ZONES' for site works, storage and operations. To be protected by appropriate Fencing and/or Ground Protection. These areas shall be identified with signage.

**Tree Precautory Zone (TPZ)**  
Indicated by blue shading. Tree root activity is likely in these areas and will need to be appropriately protected before the start of the works. Materials and methods need to limit excavation, root loss or damage to soils.

Tree/Group/Hedge numbering: G1-G3, H1-H2

**BARNES associates**  
Unit 1 Foundry Yard, New Row  
Broughbridge YO51 9AX  
T 01423 322 371  
E info@barnesassociates.co.uk  
W barnesassociates.co.uk

Company Number: 10438116  
Registered in England and Wales

**Client**  
Keempot

**Project**  
Land off Keresforth Road, Dodworth

**Drawing Title**  
Arboricultural Impact Assessment

