

Land off Chatburn Road, Clitheroe

BS5837:2012

Tree Survey Report

February 2018

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1.0 Introduction

1.1 Preamble

This survey of the site has been carried out in line with *British Standard BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations* and aims to provide a baseline report to identify the arboricultural features associated with the development of the site.

1.2 Site Location and Setting

The site is a collection of improved pasture fields bounded by Chatburn Road along the eastern boundary and the East Lancs railway line along the western boundary. It is not thought any tree preservation orders apply to trees within the site, but advice is still being sought.

1.3 Brief Description of the Project objectives.

The site is proposed for residential housing development with associated infrastructure.

2.0 Tree Survey Methodology

2.1 Methodology

The survey was undertaken in early September 2015 in accordance with *British Standard 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations*. The survey is concerned, primarily, with the assessment and survey of the trees growing within, or on the boundary of the site only, and aims to assist with the integration, where feasible, of the existing trees with the proposed development.

This survey provides quantitative data on tree species, height, stem diameter, height of first significant branch, crown spread, age class, amenity value and a brief qualitative assessment on tree condition and future potential as well as categorization into a BS5837 retention category, including an inspection with respect to decay, defects and hazards.

The topographical plan showing the approximate extent of vegetation rather than individual tree positions, due to the density of the planting.

The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first.

Tree Heights have been estimated in meters.

Number of stems includes any below 1.5m.

Stem diameter of groups has been set as an average while stem diameter of individual trees has been recorded in millimeters at 1.5m above ground level.

The height of lowest significant branch is measured from ground level in meters.

Crown Radius is recorded in meters along each cardinal point. In the case of groups the maximum peripheral spread is recorded.

The age class of the trees has been recorded as prescribed in BS 5837:2012 (e.g. young, semi mature, early mature, mature, over mature) and was estimated from visual indicators and should only be taken as a provisional guide.

The structural condition of the trees was based around an assessment taking into account variations on typical form, the presence of any obvious decay and physical defects. The trees structural condition has been categorised as good, fair, poor or dead. In the case of groups and/or woodlands the condition stated will be typical of the overall group; however there will be exceptions to this in all instances with dead and dying trees among all groups.

The assessment of the amenity value, although subjective, aims to give an impression of the impact that the tree has in the general locale and is based around, size, form, prominence on site etc. Amenity value has been classified as high, medium and low.

Comments are made regarding the physiological state of the tree and include notes on health, vitality and any previous management. Preliminary recommendations regarding any remedial tree works that are considered necessary have also been made.

The estimated remaining contribution of the trees in years was calculated taking into account the trees age and physiological condition at the time of inspection; i.e. less than 10 years, 10-20 years, 20-40 years, more than (+) 40 years.

The retention category is allocated according to the cascade chart within BS 5837:2012 and included within Appendix D.

The Root Protection Area (RPA) has been calculated in accordance with BS5837: 2012. RPAs are shown on the Tree Constraints Survey Plan in Appendix B.

2.2 Survey Limitations

Some stem diameters are approximations due to being obscured by vegetation. In such cases, the size given (and used in root protection zone calculations) have been over estimated.

3.0 Survey Results

3.1 Tree Categorisation

A total of 21 individual trees, 4 hedges and 2 groups were identified in this survey. Full details of the survey data can be found in the Tree Survey Schedule in Appendix A.

Category A Individual trees and groups of trees. (Trees of high quality)

Trees of high quality and value, including visual amenity value; It is usual for such trees to be retained unless the planning merits of a particular scheme or layout dictate otherwise.

No category A trees, hedges or groups were identified as part of this survey.

Category B Individual trees and groups of trees. (Trees of moderate quality)

Trees of moderate quality and value, including visual amenity value; such trees should be considered for retention.

12 category B trees, hedges or groups were identified as part of this survey.

Category C Individual trees and groups of trees. (Trees of low quality)

This includes trees of low quality and value including lower visual amenity.

13 category C trees, hedges or groups were identified as part of this survey.

Category U Individual trees and groups of trees. (Trees of poor quality)

Including trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

2 category U trees were identified as part of this survey.

From an arboricultural point of view the category C trees should not influence the potential development of the site however, wherever possible Category B trees should be retained and fully protected in accordance with the details contained in Appendix E. Category A trees' retention is considered to be essential.

Trees in categories A to C are further sub-divided into one or more of three sub-categories (1, 2, 3). Sub categories 1, 2 and 3 are intended to reflect mainly arboricultural (1) mainly landscape (2) or mainly cultural (3) values, respectively.

4.0 Arboricultural Implication Assessment

4.1 Arboricultural Management Recommendations

Trees or hedges requiring specific arboricultural operations

- Category A – no trees
- Category B - no trees
- Category C – no trees

Trees or hedges requiring felling or removal

- Category A – no trees
- Category B – no trees
- Category C – no trees
- Category U – 1 tree

4.2 Recommendations to facilitate development -

Trees or hedges requiring specific arboricultural operations

- Category A – no trees
- Category B - no trees
- Category C – no trees

Trees or hedges requiring felling or removal

- Category A – no trees
- Category B – no trees
- Category C – Sections of Hedge 1 & 3 (to allow domestic boundaries to be constructed)
Section of Hedge 2 (to allow highways construction)
T16 – felling of declining tree to permit construction of unit. To be replaced detailed landscape scheme.

5.0 Recommendations for Trees to be retained within the Development

- All tree works should be carried out prior to equipment or materials being brought onto site. The tree works can take place prior to protective fencing being installed although care should be taken not to take heavy equipment into the RPA of retained trees. The root protection area of the individual groups is largely contained within the area of the embankments and contained by the retaining wall on the development side. The protective fencing, therefore, is suggested to be placed as far as possible from the retaining wall, but in a position which will allow full construction of the proposed development to take place without the need to relocate the fencing at any stage.; the edge of proposed footpaths or adjacent to rear boundaries of proposed properties. Due to their size, any individual tree's RPZ is going to be well within the suggested protected area.
- Retained trees may in some cases require crown lifting to a suitable height. This is to prevent damage to secondary limbs during the installation of the protective fencing. It is not considered likely that this will be required, as all protective fencing is beyond the canopy of the retained trees, but if it is, guidance must be sought from an arboriculturist first.
- All trees on site which are to be retained should be protected by barriers before materials are brought onto site or before development, demolition or stripping of soil.
- The protective fencing is required to be semi-permanent so that it is not easily moved and protection is provided to the trees throughout the development process. Examples of fencing can be seen in Appendix E.
- **Once erected, barriers and ground protection should be regarded sacrosanct, and therefore should not be removed or altered without prior consultation of an arboriculturist and approval of the local planning authority.**
- For wheeled or tracked construction traffic movements within the RPA the ground protection should be designed by an engineer to accommodate the likely loading.
- All tree works should conform to BS:3998 2010 Recommendations for Tree Works.
- The protective barrier forming the CEZ will be constructed in accordance with BS5837:2012, which can also be seen in Appendix F.

- Works Within Root Protection Zones

Before starting the work a survey team should identify the protection zone with marker paint or pegs. This will ensure that the construction gang know the precise area where special precautions are required to avoid or minimise damage.

The contractor should protect the trunk of each tree with substantial hoarding, supported on scaffolding, to a height of at least two metres. All protection should be as BS5837:2012. This protection should be reusable so that as work progresses, it can be transferred from tree to tree.

Prior to the commencement of any works, an Arboricultural Approved consultant (or suitably experienced person with the approval of the Local Planning Authority) must brief site workers on the required protection measures. The same person shall also supervise the works as required to ensure adherence to the required method of working.

If the work needs surfaces to be removed or excavated, this should be carried out as follows.

Any excavation should be kept to an absolute minimum and where unavoidable should be undertaken using **by hand only** with great care to avoid damage to as many roots as possible. There needs to be close supervision during hand-digging operations and all site staff should understand what is required. All tree roots over 25mm in diameter should ideally be worked round and retained and **the advice of the supervising arborist shall be sought**. If it is necessary to remove these roots any root cutting should be done with a sharp handsaw or secateurs and the size of the wound should be kept to a minimum. Individual roots of less than 25mm may be severed, but mats of smaller roots (including fibrous roots) should be retained. Smaller roots can easily desiccate (dry out) and die when exposed, particularly in warm or windy conditions. These should be covered and protected with damp hessian until the excavation is back filled. Where kerbs are being installed or refitted through a tree's protection zone and roots with a diameter of more than 25mm obstruct the work, the contractor should consult the forestry officer before severing the roots. Directly following excavation all exposed roots must be covered and wrapped in damp hessian until back filling is carried out.

Tree number	Species	Stem diameter @ 1.5m above ground level	Approximate height	Crown spread	Crown clearance	Age Class	Notes	Recommendations	Category grading
1	Acer psuedoplatanus	700mm	18m	Encroaches 6m into site.	5m	Mature	Recent split limb high in the canopy and major limb recently fallen.	Suggested inspection of canopy and removal of dead or damaged wood.	C
2	Acer psuedoplatanus	420mm	15m	Encroaches 4m into site.	8m	Mature	Some basal growth and recent loss from canopy.	Remove basal growth and dead wood.	C
3	Acer psuedoplatanus	720mm	18m	Encroaches 8m into site.	2m	Mature	No sign of recent damage or loss from crown. Some basal growth.	Remove basal growth.	B
T4	Acer psuedoplatanus	580mm	17m	Encroaches 9m into site.	2m	Mature	No sign of recent damage or loss from crown. Some basal growth.	Remove basal growth.	B
T5	Acer psuedoplatanus	750mm	17m	Encroaches 8m into site.	2m	Mature	Recent surgery works within canopy, which appear to be healing. Fruiting bodies on base suggests Ustulina deusta fungal infection.	The tree will require removal if infection is confirmed.	R
T6	Acer psuedoplatanus	800mm	18m	Encroaches 10m into site.	5m	Mature	One-sided due to previous removal of adjacent tree. Ivy clad. Considerable previous surgery works.	No work required.	C
T7	Acer psuedoplatanus	330mm	14m	Encroaches 5m into site.	4m	Mature	Much smaller than adjacent trees with sparse canopy.	No work required.	C
Group 1	Crataegus mongyna Sambucus nigra	200-300mm	8m	Encroaches 4m into site.	1m	Mature	Sparse former hedgerow plants.	No work required.	C
Group 2	Crataegus mongyna	100-200mm	6m	Encroaches 3m into site.	1m	Mature	Group of former hedgerow plants.	No work required.	C
T8	Alnus glutinosa	600mm	12m	Encroaches 5m into site.	1m	Mature	Appears sound.	No work required.	B
T9	Acer pseudoplatanus	90mm	10m	Encroaches 3m into site.	2m	Young	Young and vigorous. Self-sown.	No work required.	B
T10	Acer pseudoplatanus	280mm	12m	Encroaches 4m into site.	2m	Middle-aged	Fair condition. Coppiced hazel embeded beneath.	No work required.	C
T11	Alnus glutinosa	710mm	14m	Encroaches 3m into site.	1m	Mature	Twin-stemmed tree with some dead wood.	Remove dead wood.	B
T12	Fraxinus excelsior	320mm	13m	Encroaches 2m into site.	2m	Middle-aged	Squat but good shape. Ivy clad.	No work required.	B
T13	Alnus glutinosa	60mm	5m	Encroaches 2m into site.	1m	Young	Self-sown, young Alder.	No work required.	B
T14	Alnus glutinosa	450mm x 2	13m	N 5m S 6m E 4m W 3m	2m	Mature	Wound in main bough, but does not appear progressive.	Monitor for any decline, otherwise no work required.	C
T15	Fraxinus excelsior	610mm	14m	N 8m S 3m E 9m W 5m	2m	Mature	Imposing former hedgerow tree with some recent limb damage.	Clean limb damage to flush with tree and remove dead-wood.	B
T16	Fraxinus excelsior	700mm	16m	N 4m S 4m E 6m W 4m	5m	Mature	Considerable canopy damage, some very recent.	Tidy canopy and remove dead or damaged wood. During work, assess for further damage.	C

Tree number	Species	Stem diameter @ 1.5m above ground level	Approximate height	Crown spread	Crown clearance	Age Class	Notes	Recommendations	Category grading
T17	Fraxinus excelsior	900mm	15m	N 4m S 6m E 7m W 6m	4m	Mature	Very large, imposing tree with dead wood within canopy.	Remove dead-wood.	B
T18	Fraxinus excelsior	780mm	18m	N 6m S 6m E 6m W 5m	3m	Mature	Considerable dead and damaged wood within canopy. Large cracks within main stem and cavities. Major wound on eastern side.	Fell and remove due to safety concerns.	R
T19	Fraxinus excelsior	860mm	17m	N 7m S 9m E 7m W 5m	3m	Mature	Good shape to canopy with moderate amounts of recent loss.	Tidy any broken limbs in canopy and remove dead wood.	B
T20	Alnus glutinosa	400mm x 2	13m	Encroaches 6m into site.	2m	Mature	Twisted form, but highly attractive and in fair condition.	No work required.	C
T21	Alnus glutinosa	590mm	12m	Encroaches 6m into site.	1m	Mature	Attractive tree but with evidence of decay within main leader.	Small tree so retention possible is not in a position to be dangerous. Requires further assessment.	C
Hedge 1	Crataegus monogyna	90 - 200mm	Up to 8m	Approximately 2m	Ground level	Mature	Former hedgerow now in over mature state with plants in moderate condition.	Retention and enhancement possible. No work required.	C
Hedge 2	Crataegus monogyna	90- 200mm	Up to 8m	Approximately 2m	Ground level	Mature	Former hedgerow in poor condition with major damage to constituent plants.	Low useful life expectancy of remaining plants, but not considered dangerous.	C
Hedge 3	Crataegus monogyna	80- 220mm	Up to 10m	Approximately 2m	Ground level	Mature	Mature hedgerow, with gaps, and constituent plants in fair condition, forming pleasing boundary to field.	No work required other than reinforcing if considered desirable.	B
Hedge 4	Crataegus monogyna Sambucus nigra	70 - 140mm	Up to 7m	Approximately 1m	Ground level	Young	Young hedgerow, with many gaps, but good, vigorous plants, ready to form significant boundary.	No work required other than reinforcing if considered desirable.	B

Appendix B – Tree Constraints Plan – please refer to Dwg c-981-01a

Appendix C – Root Protection Area (RPA) measurements – please refer to Dwg c-981-01a

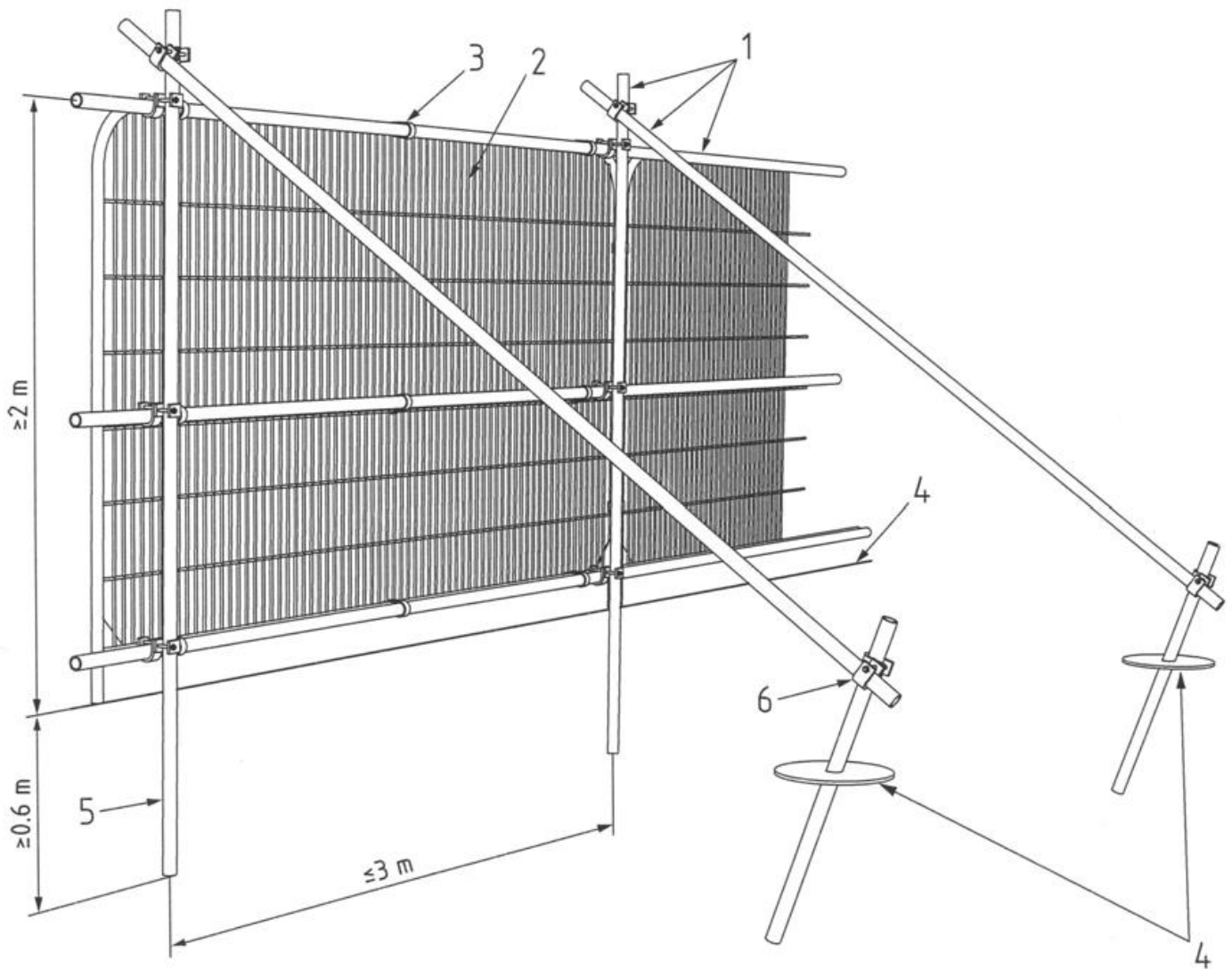
Appendix D – Tree Removal Plan – please refer to Dwg c-981-06

Appendix E – BS5837:2012 Cascade Chart

Trees unsuitable for retention				
Category	Definition			Identification on plan
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defects, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve;			DARK RED
Trees to be considered for retention				
Category	Definition			Identification on plan
	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation	
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years contribution (a minimum of 40	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B Those of moderate quality With an estimated remaining life expectancy of at least 20 years	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and storm damage) such as they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	MID BLUE
Category C Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY

Appendix F – Protective Fencing detail

Figure 1: Default Specification for Protective Barrier.



KEY:

- 1 Standard scaffold pole
- 2 Heavy gauge 2m tall galvanised tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6m)
- 6 Standard scaffold clamps

Alternative tree protection barrier design

2 meter tall welded mesh panels standing in rubber or concrete feet joined using a minimum of two anti-tamper couplers installed so they can only be removed from inside the protected area. The fence couplers should be spaced least 1 m apart, but uniformly across the whole barrier. These panels must be supported within the protected area with struts attached to a base plate secured by ground pins as per figure 2a.

Where the fencing is installed above retained hard surfacing and / or it is otherwise not feasible unfeasible to use ground pins (e.g. due to underlying services or structural roots), the struts can be mounted on a block tray as per figure 2b.

Figure 2a: Stabilizer Strut with Base Plate Secured with Ground Pins

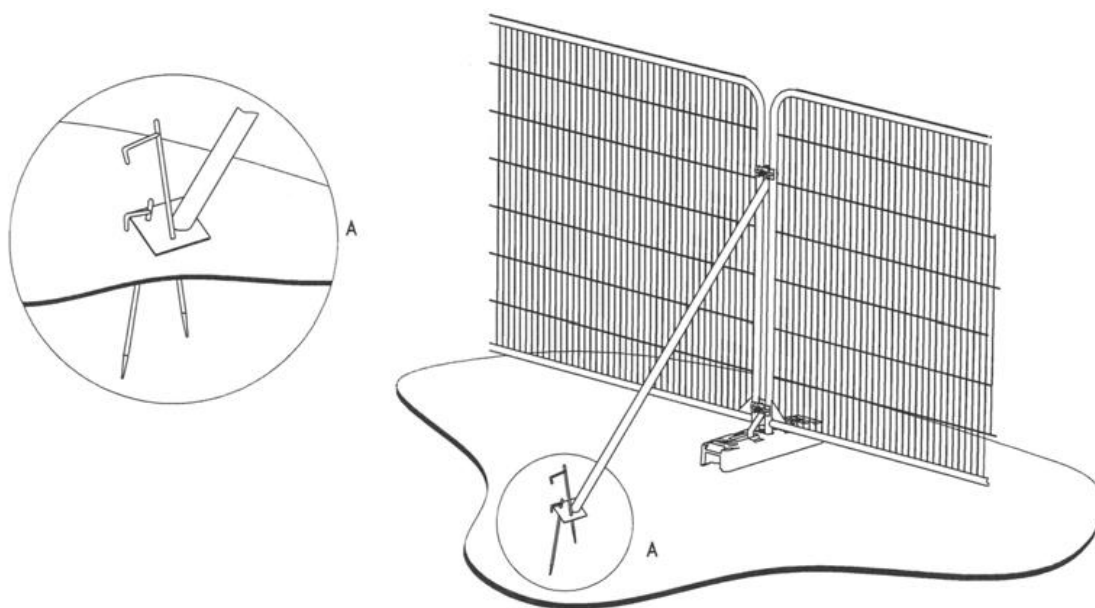
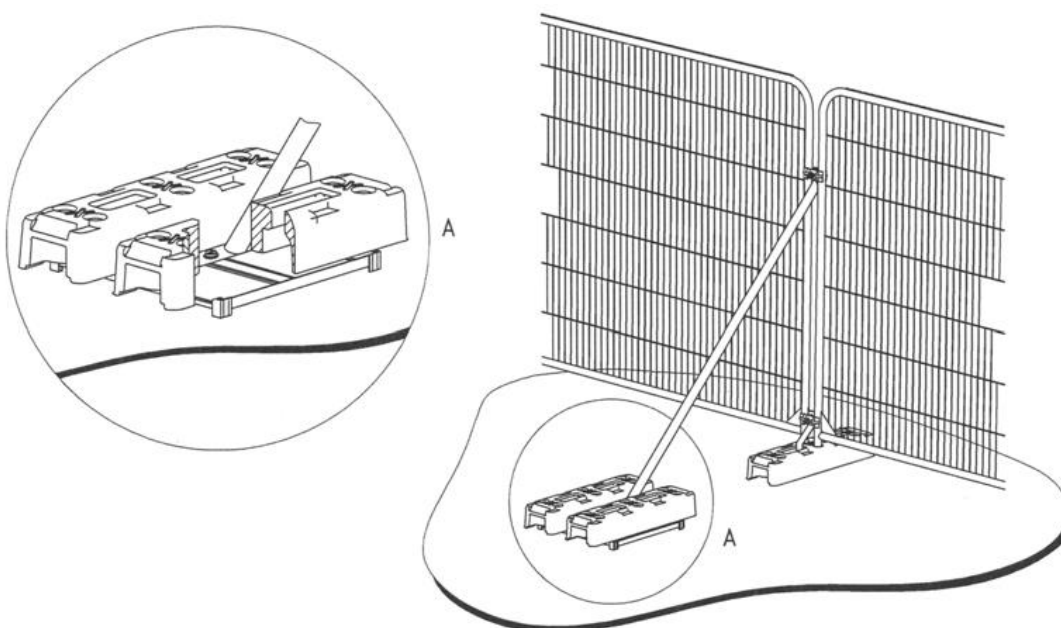
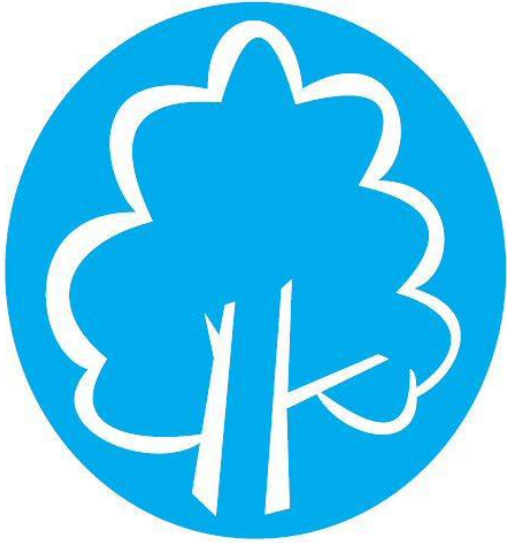


Figure 2b: Stabilizer Strut Mounted on Block Tray



Appendix G - Tree Protection Site Notice



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



**TREE PROTECTION AREA
KEEP OUT !**
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Appendix H – Legal Restrictions

- Trees in any location may be protected by legislation. Where development is proposed, additional legal protection may be appropriate and can be enforced by the local authority. Attention is drawn to legal controls and liabilities under common law for consideration at the earliest stages of potential site development.
- The Town and Country Planning Act 1990 requires that, except in certain circumstances, “no work shall be carried out which will affect trees over a certain size which are situated in Conservation Areas”. Six weeks’ notice of intent has to be given to the local authority before the work is carried out. This provides an opportunity for the local authority to make a Tree Preservation Order (TPO) under this Act to protect the trees.
- Tree Preservation Orders allow for trees to be protected either as individuals, groups, areas or woodlands. The orders have the effect of preventing the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees, except in certain circumstances, other than with consent of the local authority.
- Even when no specific legal protection exists, it may be necessary to obtain a felling licence. These apply if the volume of timber exceeds specified amounts; site clearance, even of small areas, before detailed planning permission has been granted could exceed the felling licence quota. The Forestry Commission, under the Forestry Act 1967, administers felling licences.
- Before carrying out any arboricultural or forestry operations, consideration should be given to the following legislation for protected species of flora and fauna: The Wildlife and Countryside Act 1981 (as amended), the Conservation (Natural Habitats & c.) Regulations 1994 (as amended), and the Countryside Rights of Way Act 2000 protected species of flora and fauna. This will prevent any harm or damage to protected species.
- Substantial penalties and or prison sentences can be incurred for contravention of legislation relating to protected species.
- PDP Associates has not been requested to make any checks for protected species on this site