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Initial Arboricultural Impact Assessment

**in Relation to Proposed Six Unit
Holiday Lodge Development at**



**Thorneyholme Hall, Dunsop
Bridge, Lancashire, BB7 3BB**

Prepared by:

Bowland 
Tree **Consultancy** Ltd

December 2015

**INITIAL ARBORICULTURAL IMPACT ASSESSMENT
THORNEYHOLME HALL, DUNSOP BRIDGE**

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Contact Details

Bowland Tree Consultancy Ltd
7 Lakeland Close
Billington
Lancashire
BB7 9LN

T: 01254 825098
E: info@bowlandtreeconsultancy.co.uk

APPENDIX ONE:

TREE SURVEY SCHEDULE & BS5837:2012 - TABLE 1

Surveyor: Kendall Rigg HND TechBurbA
Survey Date: 20 November 2015
Job Ref: BTC1009

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL
Site: Thomeyholme Hall, Dunsop Bridge, Lancashire, BB7 3BB
Agent for Client: Paul Walton Associates

No	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	C.M. Grade	RPA (m ²)	RPA Radius (m)
T1	Sycamore	20	740	N 7 E 3 S 3 W 7	4-SE 5	M	M	<ul style="list-style-type: none"> 1.5m x 100mm x 300mm stem cavity from south-west stem base. Distometer reading indicates cavity extends at least 600mm further up stem. 300mm x 200mm partially occluded pruning wound with cavity to a depth of approximately 200mm at a height of 0.5m on north side of stem. Trifurcates at a height of 4m with tight forks. Primary branches within 0.5m of uninsulated electricity cables. Crown biased west due to past pruning away from electricity cables. Crown within striking distance of approximately 750 litre gas storage tank and outbuilding. 	<ul style="list-style-type: none"> Remove due to high risk of failure and subsequent unacceptable risk of damage to uninsulated electrical cables, gas storage tank, and outbuilding. 	<10	U	248	8.88
T2	Scots Pine	25	390	N 3 E 4 S 1 W 2	19-N 19	M	M	<ul style="list-style-type: none"> 3m x 300mm wound to south side of stem from base. Inward decay evident along length of wound. Crown within striking distance of uninsulated electricity cables, approximately 750 litre gas storage tank and outbuilding. 	<ul style="list-style-type: none"> Remove due to high risk of failure and subsequent unacceptable risk of damage to uninsulated electrical cables, gas storage tank, and outbuilding. 	<10	U	69	4.68
T3	Leyland Cypress	11	330	N 2 E 2 S 2 W 2	0.1-S 0	EM	G	<ul style="list-style-type: none"> Located approximately 2m from hedge H1. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect Root Protection Area (RPA) throughout development using Temporary Protective Fencing (specification appended) to form a Construction Exclusion Zone (CEZ). 	20+	B2	49	3.96
T4	Sycamore	22	1350	N 12 E 6 S 10 W 10	0.1-W 2	M	G	<ul style="list-style-type: none"> Flared buttress roots. Epicormic growth around stem base. Metal pole boundary fence embedded in lower stem. Crown suppressed east due to presence of neighbouring tree. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	40+	A1/2	707	15

Headline and Abbreviations:

No. Allocated sequential reference number - Tree (T), Group (G), Woodland (W) or Hedge (H) reference number - refer to plain and to numbered tags where applicable
Common Name
Height: In metres, to nearest half metre - where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement issued is that of the highest tree
Stem Diam.: to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MD = multi-stemmed, TS = with-stemmed
Branch Spread: Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Branch & Canopy Clearances: Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point - to inform on crown to height ratio, potential for shading, etc.
Life Stage: Estimated age class - Y = young, SM = semi-mature, M = mature, PM = post-mature
PC: Physiological Condition - a measure of the tree's overall vitality, i.e. D = Dead, MD = Meribund, P = Poor, M = Moderate, G = Good
General Observations and Comments: Comments relating to the tree's overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
Management Recommendations: Either Preliminary or in Consideration of the Proposal - in the case of Arboricultural Constraints Surveys the recommended management works only take existing site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related
ERC: Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
C.M. Grade: Estimated Remaining Contribution - In years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
RPA m²: Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
RPA Radius (m): Root Protection Area in m² - calculated area around the tree that must be appropriately protected throughout the development process in order to avoid root damage
(Estimated Dimensions): Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
 Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken from the information provided is estimated and is duly suffixed with a * symbol

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL

Site: Thorneyholme Hall, Dunsop Bridge, Lancashire, BB7 3BB

Agent for Client: Paul Walton Associates

Surveyor: Kendall Rigg HND Technicians

Survey Date: 20 November 2015

Job Ref: BTC-1009

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearance	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Crit. Grade	RPA (nr)	RPA Radius (m)
T5	Common Lime	21	620	N 6 E 3 S 2 W 5	0.1-E 0	M	M	<ul style="list-style-type: none"> 2m x100mm partially occluded wound to north stem base. Unable to determine extent of decay through basic visual inspection. Slight stem lean west. Bifurcates at a height of approximately 12m. Crown biased west due to presence of neighbouring trees. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. Carry out an invasive (i.e. Resistograph) inspection in order to determine extent of decay within main stem. 	10+	C2	174	7.44
T6	Beech	18	680	N 12 E 9 S 7 W 10	3-W 3	M	G	<ul style="list-style-type: none"> Flared buttress root to west. Four primary leaders from a height of approximately 3m. Crown suppressed south due to presence of neighbouring tree. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	40+	A1/2	209	8.16
G1	2no. Beech, 2no. Corsican Pine, 1no. Sycamore, 1no. Oak	≤ 27	≤ 800	N ≤7 E ≤7 S ≤9 W ≤11	5-E ≥3	M	M	<ul style="list-style-type: none"> Closely spaced group. Crowns suppressed east. 11kv uninsulated electrical cables pass within 2m of crown of Beech to south of group. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	20+	B2	≤ 290	≤ 9.6
G2	6no. Apple	≤ 4	≤ 75	N ≤1 E ≤1 S ≤1 W ≤1	0.5-E ≥1	SM	M	<ul style="list-style-type: none"> Closely spaced group of planted as a double row. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	10+	C2	≤ 3	≤ 0.9
G3	3no. Common Yew, 1no. Scots Pine	≤ 13	≤ 7x365 (ms)#	N ≤9 E ≤6 S ≤9 W ≤7	1-N ≥2	M	G	<ul style="list-style-type: none"> Closely spaced linear group. All have multiple primary leaders from a height of 1m to 2m. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	40+	A1/2	≤ 422	≤ 11.59
G4	2no. Horse Chestnut	≤ 22	≤ 1200	N ≤5 E ≤11 S ≤7 W ≤13	6-W ≥3	M	M	<ul style="list-style-type: none"> Closely spaced group. South tree trifurcates at a height of approximately 3m with very tight forks. North tree bifurcates at a height of approximately 3m with a very tight fork. No northern crown on north tree due to previous presence of neighbouring tree which is now an approximately 4m to 5m high denuded stem. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	20+	B2	≤ 651	≤ 14.4

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL

Site: Thorneyholme Hall, Dunsop Bridge, Lancashire, BB7 3BB

Agent for Client: Paul Walton Associates

Surveyor: Kendall Rigg HND TechborA

Survey Date: 20 November 2015

Job Ref: BTC1009

No	Species	Height	Stem Dim.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m ²)	RPA Radius (m)
G5	Western Red Cedar, Leyland Cypress, Yew, Ornamental Cypress, Holly	≤ 16	≤ 1x430 1x330 (ts)	N ≤ 4 E ≤ 4 S ≤ 5 W ≤ 4	1-S ≥ 1	EM	D-G	<ul style="list-style-type: none"> ■ Closely to loosely spaced group comprising approximately 15 trees. ■ Nine trees located along the southern edge facing the main lawn area. ■ One western Red Cedar has had a rope tied around its stem at a height of approximately 4m to 5m, which is now fully embedded within the stem, and the tree has died as a result. 	<ul style="list-style-type: none"> ■ Retain in context of proposed development. ■ Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	20+	B2	≤ 133	≤ 6.5
H1	Beech	≤ 2	N/A	2.4 Wide	N/A 0	SM	G	<ul style="list-style-type: none"> ■ Managed boundary hedge. 	<ul style="list-style-type: none"> ■ Retain in context of proposed development. ■ Provide adequate protection of RPA throughout development. 	10+	C2	N/A	≤ 0.5

BS5837:2012 Table 1 – Cascade Chart for Tree Quality Assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
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 defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. 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 <p>Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see BS5837:2012 paragraph 4.5.7.</p>	Red
Trees to be considered for retention		
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	<p>1. Mainly arboricultural qualities</p> <p>Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</p>	
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution. A minimum of 20 years is suggested.	<p>2. Mainly landscape qualities</p> <p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p> <p>Trees present in numbers, usually as groups or woodlands, so they form distinct landscape features which attract a higher collective rating than they might as individuals. But which are not, individually, essential components of formal or semi-formal arboricultural features. For example, trees of moderate quality within an avenue that includes better. A category specimen. Or trees which are internal to the site, therefore individually having little visual impact on the wider locality</p>	Green
Category C Those trees of low quality and value: currently in adequate condition to remain until new planting could be established - a minimum of 10 years is suggested - or young trees with a stem diameter below 150 mm	<p>3. Mainly cultural values, including conservation</p> <p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p> <p>Trees with clearly identifiable conservation or other cultural benefits</p> <p>Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit</p> <p>Trees with very limited conservation or other cultural benefits</p>	Blue
	<p>Note – Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation</p>	Grey

DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or in areas of ground vegetation, cannot therefore be expected. All obvious defects, however, are reported. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only.

Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regards tree structural integrity and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potentially unacceptable risk to persons and/or property has been identified during our survey. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will first attempt to inform the site occupier of the issues and, if not possible, then inform the relevant Council. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

The tree survey and any report information provided is intended as a guide to identify key tree related constraints to site development only. As such, the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

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- TEMPORARY PROTECTIVE FENCING SPECIFICATION -

Construction Exclusion Zones (CEZs), enclosed by Temporary Protective Fencing, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:

1. be retained in place throughout the development process, as specified in the 'Temporary Protective Fencing Construction' section below and detailed in BS5837:2012 Figure 2 (overleaf);
2. be sited in the area(s) defined by the Root Protection Areas on the associated Tree Plan;
3. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
4. preclude any delivery of site accommodation and/or materials and/or plant machinery;
5. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties; and
6. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance.

Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Temporary Protective Fencing Construction

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall butt together and be securely fixed to a scaffold framework, as per 3 to 5 below.
3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per 4 to 5 below.
4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist shall inspect the Temporary Protective Fencing.

Figure 1: CEZ Warning Sign

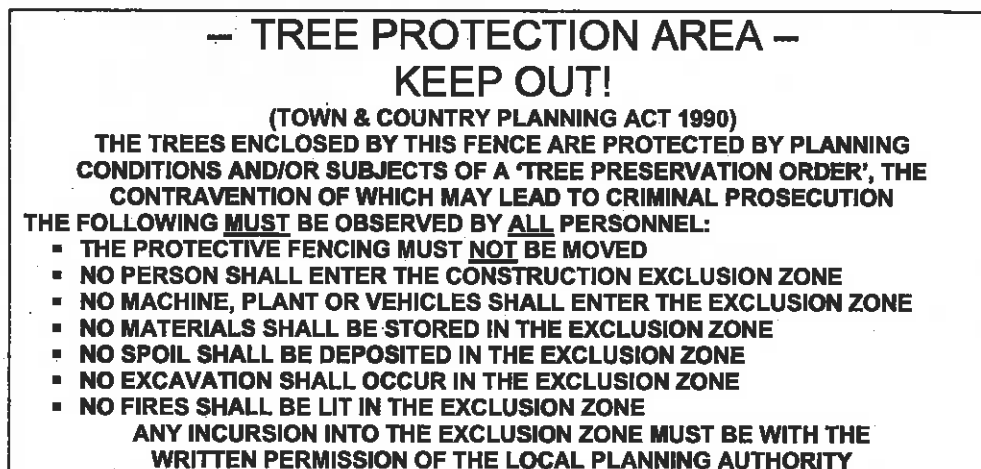


Figure 2: BS5837:2012 Default specification for protective barrier

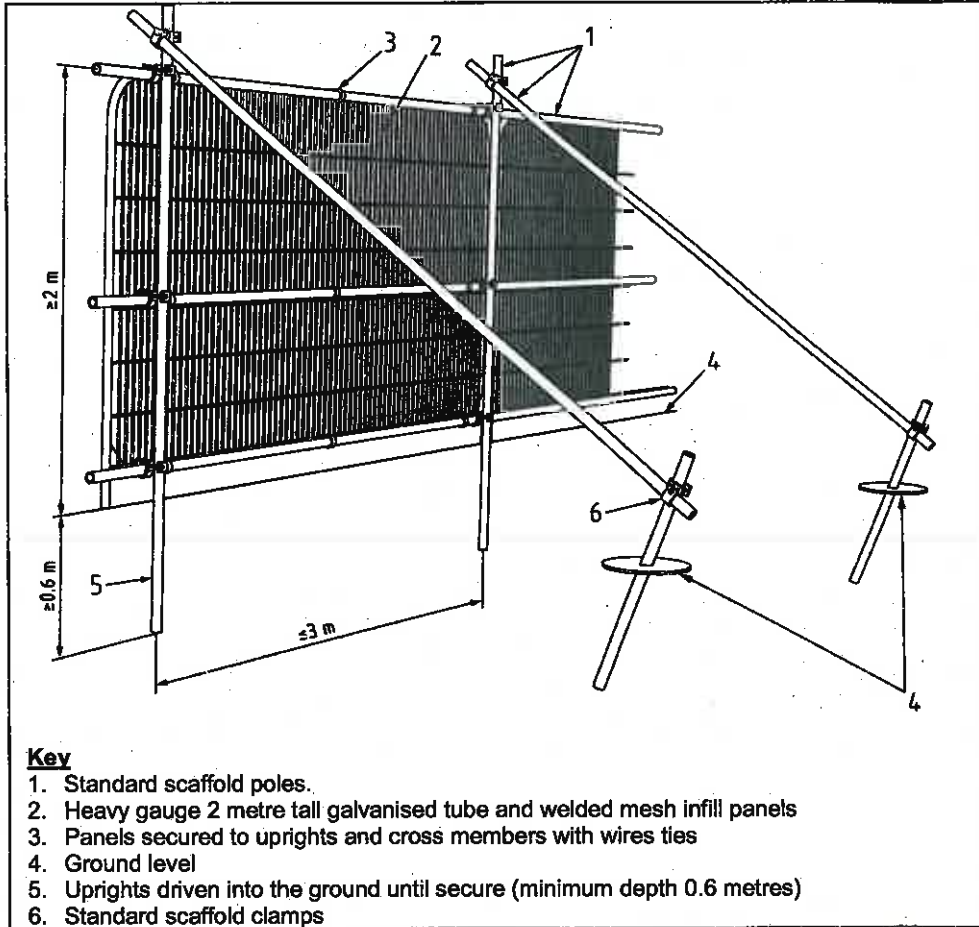
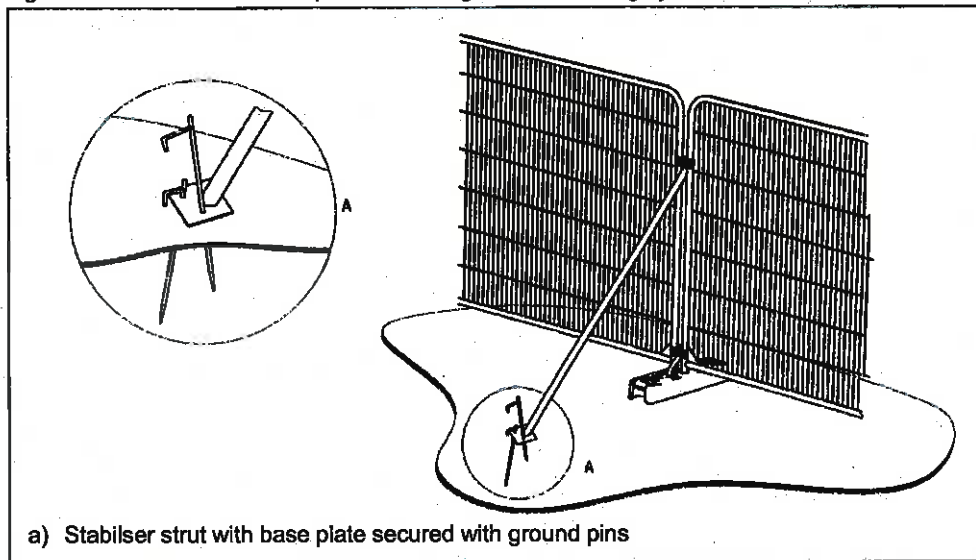
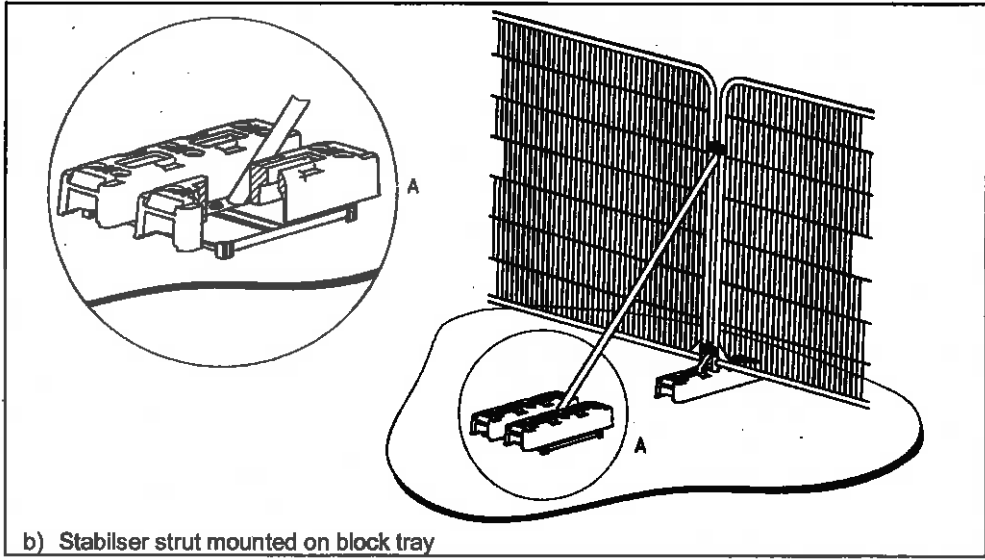


Figure 3: BS5837:2012 Examples of above-ground stabilising systems





b) Stabiliser strut mounted on block tray

