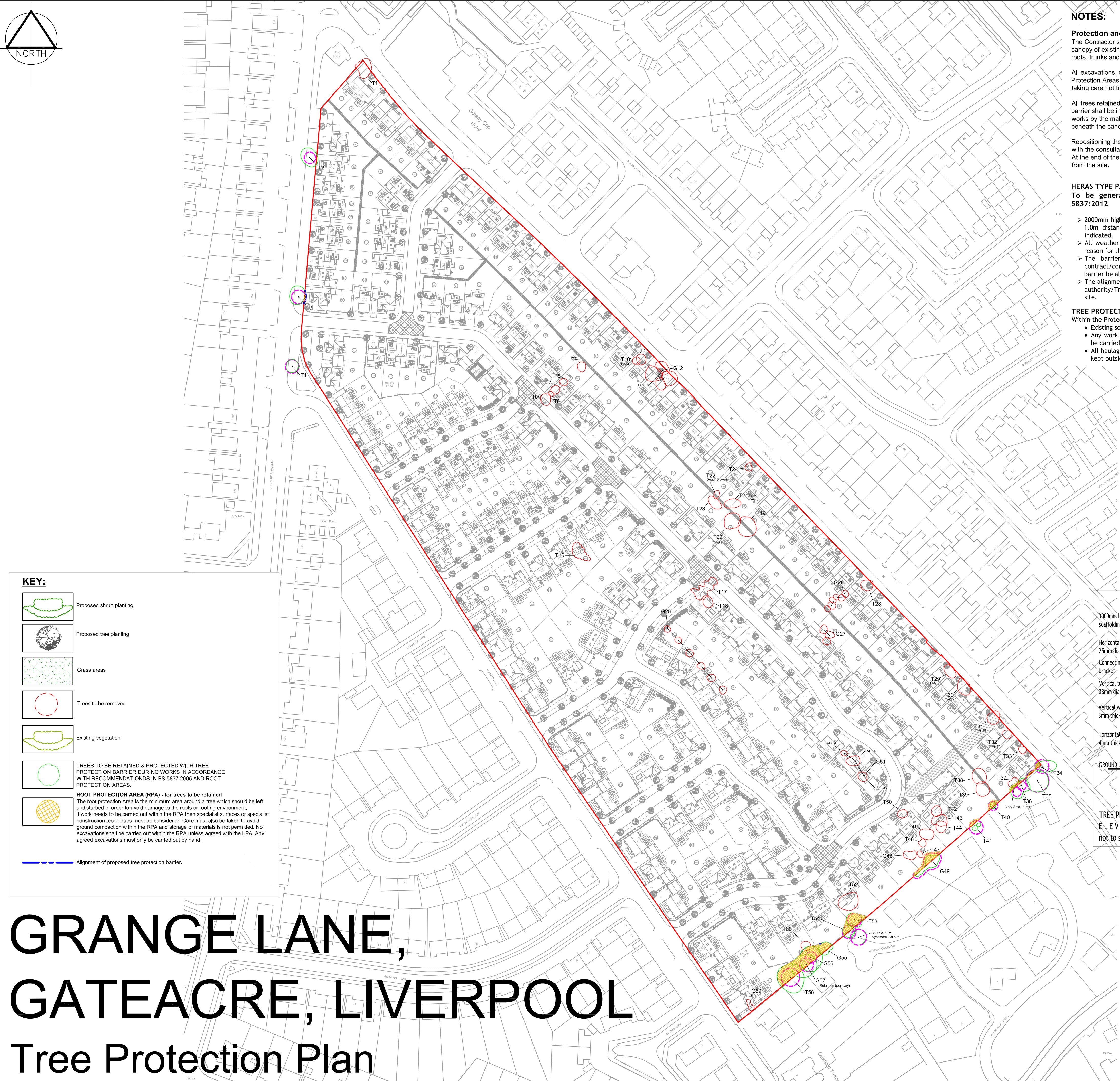
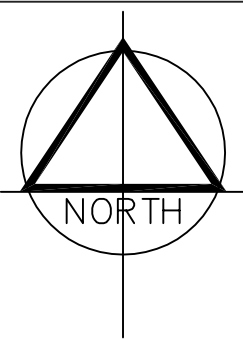




## **APPENDIX 2**





**KEY:**

Proposed shrub planting

Proposed tree planting

Grass areas

Trees to be removed

Existing vegetation

TREES TO BE RETAINED & PROTECTED WITH TREE PROTECTION BARRIER DURING WORKS IN ACCORDANCE WITH RECOMMENDATIONS IN BS 5837:2005 AND ROOT PROTECTION AREAS.

**ROOT PROTECTION AREA (RPA)** - for trees to be retained  
The root protection Area is the minimum area around a tree which should be left undisturbed in order to avoid damage to the roots or rooting environment. If work needs to be carried out within the RPA then specialist surfaces or specialist construction techniques must be considered. Care must also be taken to avoid ground compaction within the RPA and storage of materials is not permitted. No excavations shall be carried out within the RPA unless agreed with the LPA. Any agreed excavations must only be carried out by hand.

Alignment of proposed tree protection barrier.

NOTES:

**Protection and Retention of Existing Vegetation**  
The Contractor shall exercise extreme care when performing operations beneath the canopy of existing trees which may be outside Tree Protection Barriers. Damage to roots, trunks and branched shall be avoided.

All excavations, cultivations and grading which has been agreed within the Root Protection Areas of existing retained trees shall be carried out using hand tools, taking care not to disturb or damage existing tree roots.

All trees retained on site shall be protected with a Heras type barrier as detailed. The barrier shall be installed, protected and maintained during the main construction works by the main Contractor who shall be responsible for protecting any area beneath the canopy of existing trees and within the specified Root Protection Area.

Repositioning the Protection Barrier as the contract work progresses shall be agreed with the consultant Arboriculturalist and the Local Authority/Tree Officer. At the end of the contract period the Contractor shall remove the protection barrier from the site.

**HERAS TYPE PANEL PROTECTIVE BARRIER**  
To be generally in accordance with the recommendations of BS 5837:2012

- 2000mm high to be installed in the location indicated on the plan or a minimum 1.0m distance from the outer edge of the tree canopies unless otherwise indicated.
- All weather notices are to be fixed to the protective barrier to explain the reason for the barrier and to deter access within the protective zone.
- The barrier is to remain in place and be maintained throughout the contract/construction period. At no time will the alignment of the protection barrier be altered and no section of the barrier taken down.
- The alignment of the protective barrier shall be approved by the Local Planning authority/Tree Officer prior to the commencement of construction works on site.

**TREE PROTECTION ZONE**  
Within the Protection Zone the following shall be observed:

- Existing soil levels shall remain undisturbed.
- Any work agreed to be undertaken by the Local Authority/Tree Officer shall be carried out by hand, under the supervision of the arboriculturalist.
- All haulage routes and contractors' compounds, storage facilities etc. shall be kept outside the protection zone.

**PROTECTION OF EXISTING TREES: GENERAL REQUIREMENTS**  
In compliance with good practice, during all construction works, the following precautions shall be taken to avoid damage to trees:

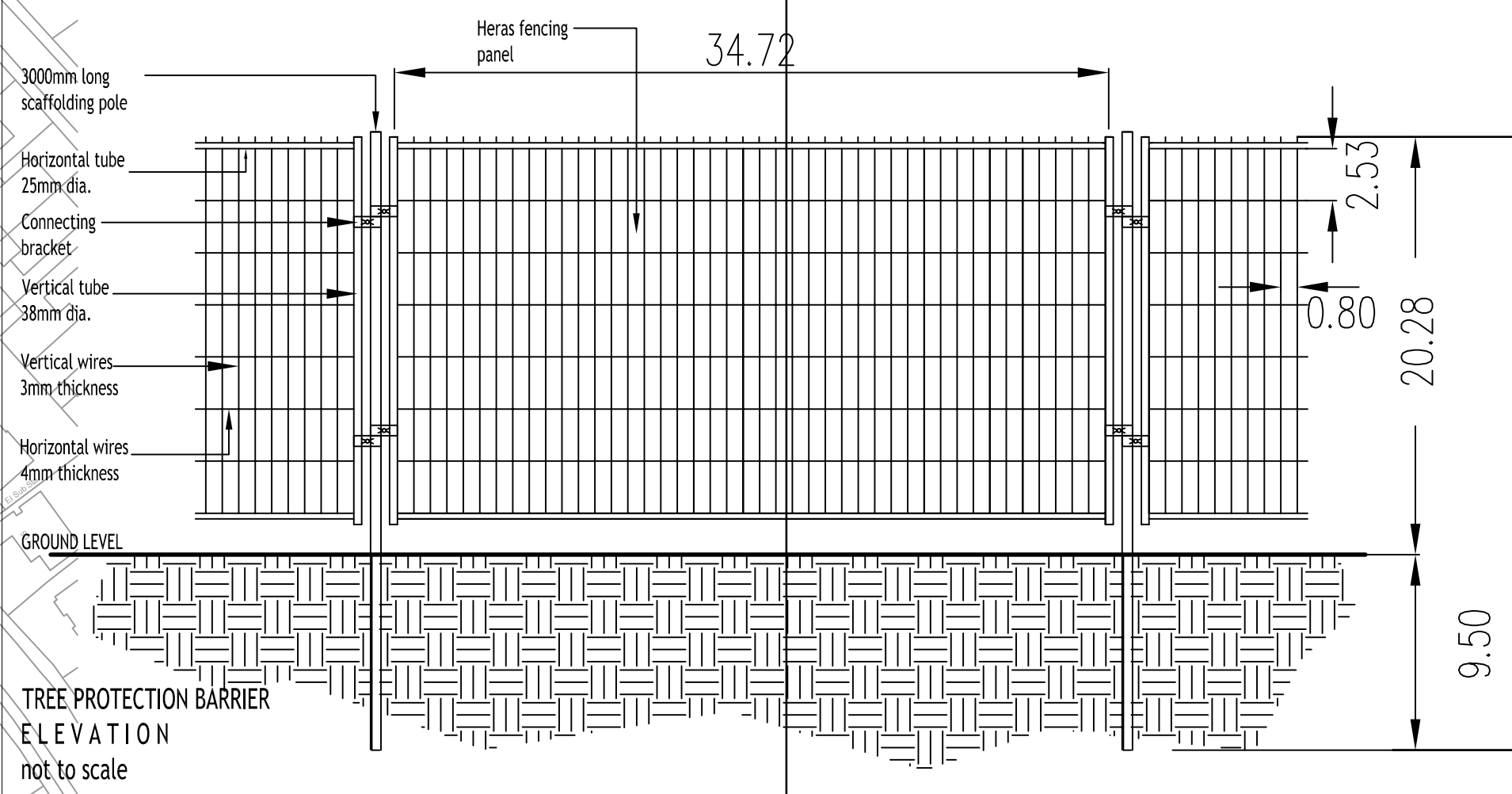
- No traffic over the rooting parts of trees.
- No soil, debris or building material to be deposited against the trunk of a tree.
- No building materials to be stored beneath the canopy of trees.
- No excavation within the branch spread of trees. No drain trenches shall be made which may severe roots.
- No fires to be lit with 5.0m of the edge of the canopy of trees.
- Oil, bitumen, cement or other material likely to be injurious or phytotoxic to a tree shall be stored a minimum 10.0m from all trees.
- No concrete mixing shall take place within 10.0m of a tree.
- No generators or static machinery to be operated below branch spreads.
- No raising or lowering of ground levels beneath the spread of the tree.
- No cutting of branches or roots except by a specialist.
- No trees to be used as an anchor for winching purposes.
- No site/signage boards, telephone cables or any other services shall be attached to trees.
- Dead, dying and diseased branches will be removed from trees being retained only as specified.
- Tree surgery work to trees to be retained, shall be carried out following advice from a qualified arboriculturalist.

**SPECIFICATION FOR BARRIER**

- All trees to be retained on site shall be protected by Heras type fencing (2.0m high) affixed to scaffold pole supports generally in accordance with BS 5837:2012.
- The location and alignment of the protective barrier shall be in accordance with the details contained on the drawing.
- The protective barrier shall be erected before any machinery or materials are brought onto site and before any demolition or development commences.
- No construction works, excavation or ground alterations shall be carried out within the protection zone.
- Care shall be exercised when using cranes or similar equipment in the vicinity of the tree to avoid damage to the canopy.
- The protective barrier shall not be removed, or its line altered, without prior agreement with the Local Authority/Tree Officer.
- The protective barrier shall be maintained for the duration of all construction works.
- All works shall be completed within the protection area prior to the removal of the protection barrier.

**ESSENTIAL WORK IN THE RPA**  
The objective of the protective barrier is to protect as large an area around the trees, above and below ground, as possible in order to minimise the risk of damage to trees during the construction phase. However if, after consideration of all alternatives, it proves essential for construction, excavations or service trench works need to be carried out within the defined protection area around a tree, specialist design advice shall be sought from the contract supervisor who will consult an Arboricultural Consultant to minimise disturbance to the tree and its root system. All works shall be agreed in writing with the Local Authority/Tree Officer before work commences. Any materials required will be transported into the protection area by hand or wheelbarrow. At no time will machinery or heavy plant be allowed into the protection area.

**MONITORING AND REPORTING DAMAGE**  
All barriers shall be checked daily by the contract's manager. Any breach of the protection area or damage to the barrier or damage to retained trees shall be photographed and reported to the Project Manager/Arboriculturalist on the same day.



REVISIONS		SW 18.02.15
Rev A	Change of housing layout.	
Project		
GRANGE LANE, GATEACRE, LIVERPOOL		
Title		
TREE PROTECTION PLAN		
Client		
Countryside Properties		
Date	Scale	
25.11.14	1:1000@A1	
Drawn	Drawing No.	
SW	1963_02	
Checked	Revision	
LAC	A	
Landscape Institute Registered practice		
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Web: www.appletons.uk.com Email: info@appletons.uk.com		

# GRANGE LANE, GATEACRE, LIVERPOOL

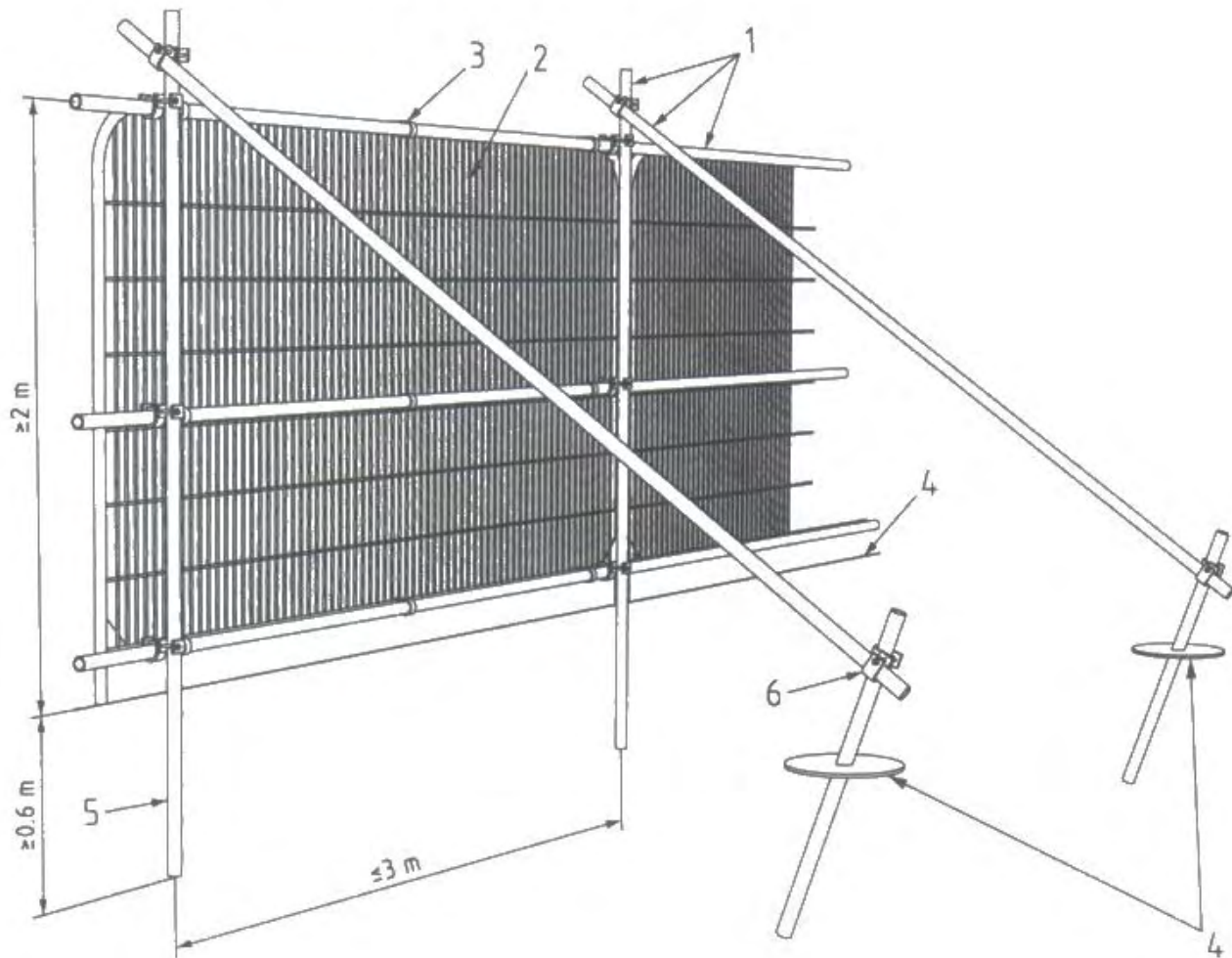
## Tree Protection Plan





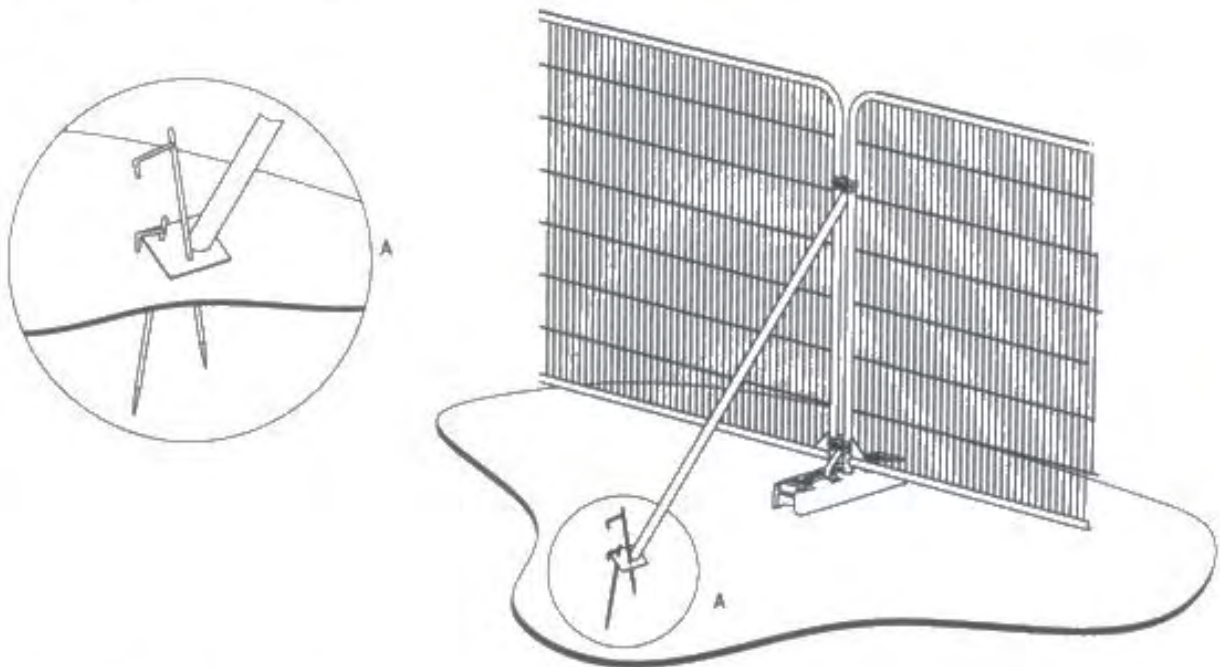
## **APPENDIX 3**

Figure 2 Default specification for protective barrier

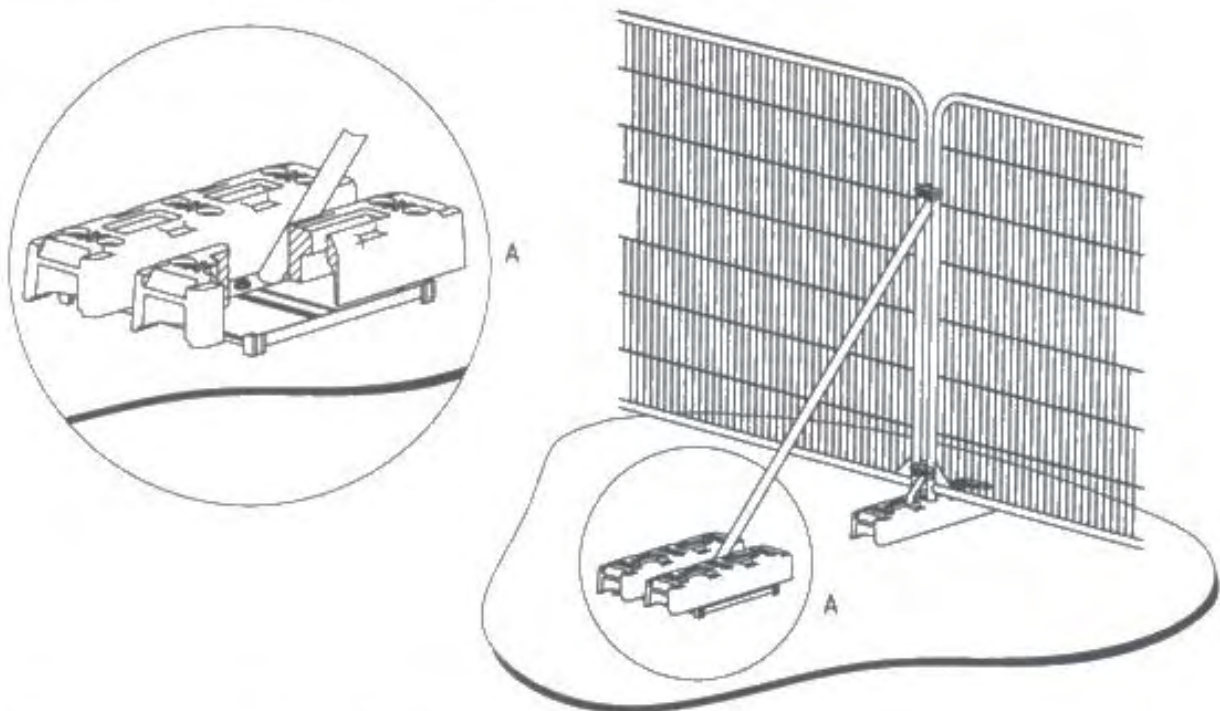
**Key**

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized 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 0.6 m)
- 6 Standard scaffold clamps

Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray



## **APPENDIX 4**



**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 5**



# TREE PROTECTION ON DEVELOPMENT SITES

## General precautions

- Any works to trees shall be carried out by a fully qualified tree surgeon and in accordance with BS 3993 (1989) *Recommendations for Tree Work*.
- No pruning, lopping, felling or severance of roots shall take place without the consent of the Local Authority.
- The position and detail of protective tree barrier fencing shall be agreed with the Local Authority and erected on site prior to work commencing.
- Do not use any retained trees as an anchor for winching.
- No ropes, cables, services or notice boards shall be fixed to existing trees.
- Determine exact routes of all services and avoid conflict within canopy spreads and rooting zones.
- Vehicles, plant and machinery shall not be tracked over rooting zones of trees. Compaction of ground will cause death to trees.
- Ground levels shall not be reduced or raised within the rooting zones of trees.
- Where excavations must come within canopy spread, hand dig through roots to avoid excessive damage. Approvals shall be sought from the Local Planning Authority before these works take place. Where roots are encountered they shall be cut clean and sealed. Where possible services shall be aligned beneath the roots (i.e. below 1200mm).
- Excess spoil shall not be stored or filled over rooting zones.
- No cement, diesel/fuel or oil drums shall be stored over tree rooting zones of retained trees.
- No fires shall be lit under or within 5.0m of existing canopy spreads of trees.
- No services within rooting zones of trees shall be laid without prior approval and proper supervision. All work in this respect shall be in accordance with prior agreed specifications and shall include trenchless construction techniques.

# PROTECTED TREES

## by TPO or Planning Condition

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- In the case of TPO trees, no work shall be carried out until approvals have been agreed from the local authority.
- No excavation below existing ground levels shall be carried within established protective fencing zones and shall not be carried out within the rooting zones of trees.
- There shall be no access for vehicles/ plant and machinery within the established protective fencing zones of trees.
- Do not excavate trenches within rooting zones of protected trees.
- Do not reduce or lift the ground levels within the rooting zones of protected trees.
- Do not prune any branches to allow access for machinery and plant.



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