



**WATSON
LINDSEY**
ARBORICULTURE

2 Church View, Main Street
Searby
Barnetby
DN38 6BG

Phone: 07779071638

Email: dan@wltreereports.co.uk

**Arboricultural
Method Statement
to BS 5837:2012**

Site Address:

Land off Hebden Road
Scunthorpe
DN15 8DT

Issue Date:

23th May 2022

Report No:

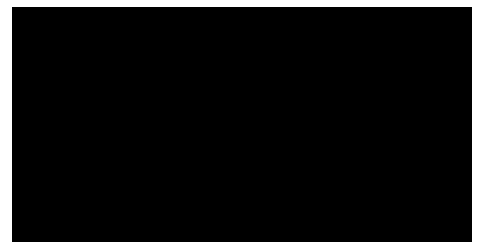
220203

Prepared For:

Mr Rasphal Singh Nijjar
62 Scotter Road
Scunthorpe
DN15 8DR

Prepared By:

Daniel Kendall, TechArborA



Contents

1. Introduction	3
1.1. Purpose of the Report	
1.2. Scope of the Report	
2. Timing of Operations	3
3. Trees Works	4
4. The Construction Exclusion Zone (CEZ)	4
5. Tree Protection Fencing	5
6. Ground Protection	5
7. Temporary Buildings and Stores	6
8. Installation of Services within CEZ	6
9. New Hard Surfacing within CEZ	6
10. Demolition Works within CEZ	6
11. Construction of Buildings/Excavation within CEZ	7
12. Post Construction Landscaping	7
Appendix 1: Survey Schedule	8
Appendix 2: The Protection Fencing	15
Appendix 3: New Hard Surfacing	16
Appendix 4: Tree Protection Plan	17
Appendix 5: Constraints Plan	18

1. Introduction

1.1. Purpose of the Method Statement

- 1.1.1. This Arboricultural Method Statement has been compiled to ensure the safe and healthy retention of all retained trees on this development. Integral to achieving this goal is the implementation of the specialist construction and tree protection measures detailed within this document.
- 1.1.2. This Method Statement must be made available to all contractors and operatives on the site during the construction process so that they fully understand the importance of the measures set out for tree protection.
- 1.1.3. The information contained within this Arboricultural Method Statement conforms to BS 5837:2012 'Trees in relation to Design, Demolition and Construction - Recommendations'.

1.2. Scope of the Method Statement

- 1.2.1. I am instructed to produce this Arboricultural Method Statement (AMS) for the proposed development consisting of nine detached dwellings with associated access road and off-road parking. The details of the design can be found in drawing ref. *Site Layout 18.05.22*. This drawing also forms the basis for the Tree Protection Plan in Appendix 4.
- 1.2.2. This method statement is based on the tree survey carried out on 3th February 2022, and on the associated report ref. Arboricultural Report - 220203 HebdenRdScnthrpDN158DT.
- 1.2.3. The AMS is concerned with the trees within and, where deemed necessary, those just beyond the boundary of the site, and has been compiled in order that retained trees are adequately protected throughout the course of the development. It is not intended to be used for any other purpose. The report does not take into account any other trees or vegetation, except where these are specifically referred to.
- 1.2.4. The activities to which the AMS relates are; tree removal and pruning (including root pruning) for access and clearance, tree protection measures and construction methods. Risk assessments (with relevant control measures) should be produced for each of these operations prior to commencement of work. This is the duty of the contractors engaged to undertake the work.

2. Timing of Operations

- 2.1. In order to ensure that disturbance to retained trees is kept to a minimum, the site operations should proceed in the following order:

Phase 1 - Pre-development

1. Completion of the approved tree works, (Section 3)
2. Installation of tree protection measures including the cellular confinement system base of proposed driveway (Section 4, 5, 6 & 9)

Phase 2 - Development

1. Adherer to site limitations resulting from tree protection measures, (Section 4 & 5)
2. Where service installation is required within the RPA adherer to relevant protocols, (Section 8)
3. Where excavation is required within the RPA adherer to relevant protocols, (Section 11)

Phase 3 - Post-development

1. Landscaping operations required outside CEZ
2. Removal of tree protection measures

3. Landscaping operations required within CEZ
- 2.2. Any amendments to the ordering of operations that are likely to affect retained trees must only be made with the approval of the project arboriculturist and/or the Local Planning Authority (LPA) Arboricultural Officer.

3. Tree Works

- 3.1. Prior to any construction activity, the first operation on site will be the undertaking of the necessary arboricultural works, as described in the Survey Schedule at Appendix 1. These include:
 - 3.1.1. The removal of; T1, T3, T4, T6, T7, T9, T10, T11, T12, T13, T14, T18, T24, T25, T26, G1, G2, G4, G5. The locations of the removed trees can be seen on the Constraints Plan in Appendix 5.
 - 3.1.2. The pruning of; T15, T16, T17, T19, T20, T21
- 3.2. All work must be undertaken to BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations and carried out by qualified and experienced contractors who must be adequately insured.
- 3.3. Any tree defects seen by a contractor or the client that were not apparent to the project arboriculturist must be brought to our attention immediately.
- 3.4. If during the development, additional access facilitation pruning is required advice should be sought from the project arboriculturist. Under no circumstance shall construction personnel undertake any tree pruning operations.

4. The Construction Exclusion Zone (CEZ)

- 4.1. In order to adequately protect retained trees a Construction Exclusion Zone (CEZ) must be formed around their crowns and Root Protection Area (RPA). The CEZ must be formed of appropriate protective fencing and/or ground protection.
- 4.2. Within the CEZ, the following restrictions shall apply unless stated otherwise in this method statement:
 - NO mechanical digging or scraping
 - NO hand digging (unless in accordance with sections, below)
 - NO storage of material or equipment
 - NO vehicular or plant access (unless in accordance with section 5 and/or section 6)
 - NO fire lighting
 - NO washing down of vehicles or machinery
 - NO handling, discharging or spillage of any chemical substance including cement washings
 - NO action likely to cause localised water-logging
 - NO changing of ground levels (unless agreed by the LPA)
 - NO earthworks
- 4.3. In addition to the above, further precautions are necessary adjacent to the CEZ or adjacent to any trees on neighbouring land:
 - Materials that will contaminate the soil such as concrete mixing, diesel spillage and vehicle washings must not be discharged within 10m of a tree.
 - This must take into account the topography of the site and the slopes to avoid toxic materials running towards retained trees.
 - Fires must not be lit in a position where their flames can extend to within 5 metres of the foliage, branches or trunk. This will depend on the size of the fire and the wind direction.

- Notice boards, telephone cables or other services (etc.) should not be attached to any part of a tree.

5. Tree Protection Fencing

- 5.1. The Tree Protection Plan (TPP) at Appendix 4 shows the position of the Tree Protection Fencing. This fencing must be erected after any tree works but before any materials or machinery are brought onto site and before any demolition, development or stripping of soil commences.
- 5.2. On this site the protective fencing will be installed in accordance with the above ground stabilised protective fencing method as detailed in BS 5837: 2012. All weather signage outlining the status of the CEZ should be securely fixed to the fencing. Please refer to Appendix 2 for further details of the protective fencing and signage.
- 5.3. Once erected, barriers and ground protection will be regarded as sacrosanct, and will not be removed or altered without prior agreement of an arboriculturist and approval of the local planning authority.
- 5.4. Barriers should be fit for the purpose of excluding constructive activity, and appropriate to the degree and proximity of work taking place around the retained tree. On all sites, special attention should be paid to ensuring that barriers remain rigid and complete.

6. Ground Protection

- 6.1. The Tree Protection Plan (TPP) at Appendix 4 shows the position of the Ground Protection. This protection must be installed after any tree works but before any materials or machinery are brought onto site and before any demolition, development or stripping of soil commences.
- 6.2. Ground protection is designed to allow for appropriate access and a useable working area. The ground protection is NOT designed to be used to store spoil, chemicals or fuel.
- 6.3. Installation of ground protection is to take place without vehicles travelling on unprotected areas. Once installed, the ground protection will remain in place until the final landscaping phase unless otherwise specified in this method statement. Removal of the ground protection will similarly take place without vehicles travelling on unprotected areas.
- 6.4. To allow construction access across the RPA of T15-17 and T19-22 the cellular confinement system base of the proposed hard-surfacing will be used as ground protection. The specification and installation for this is detail in Section 9 and in Appendix 3. The cellular confinement system base will prove adequate for construction traffic up to a maximum weight of 6 tonnes. Should access requirements differ from this the project arboriculturist should be consulted prior to works proceeding.
- 6.5. To facilitate development, temporary ground protection is required within the RPA of T15-17, T19 and T22. The ground protection must be installed using a 'no-dig' 'roll-out' technique and be comprised of a ground protection plates (Ground Guard Track-Mat or equivalent) bedded on a 150mm of woodchip over a layer of geotextile membrane. The ground protection must be pinned/pegged in place to prevent movement. Such ground protection will prove adequate for pedestrian construction traffic and light plant up to a maximum weight of 3.5 tonnes. Should access requirements differ from this the project arboriculturist should be consulted prior to works proceeding.

7. Temporary Buildings and Stores

- 7.1. The location of any site office/welfare unit and temporary buildings must be located away from the RPA of retained trees. This includes areas for mixing of chemicals including cement washings and storage of machinery as well as parking.

8. Installation of Services within CEZ

- 8.1. No details of service routing have been provided. Where such routing within the RPA is necessary these services must be installed as detailed below.
- 8.2. During such works the location of the excavations must be marked on-site by an appointed engineer or another qualified person, using an appropriate method (e.g. temporary, biodegradable spray paint or pegs and lines). Hand-dug excavations must then be carried out to the required dimensions. Any roots or clumps of roots less than 25mm in diameter exposed during this operation must be cleanly severed using appropriate hand tools (e.g. hand saws or bypass secateurs). Roots or clumps of roots greater than 25mm in diameter must be retained in situ until the required excavation has been completed.
- 8.3. Retained roots, whilst exposed, must immediately be wrapped or covered with an appropriate material (i.e. hessian, burlap or geotextile) to prevent desiccation and to protect them from extremes of temperature. Any wrapping must be removed prior to backfilling, which must take place as soon as possible.

9. New Hard Surfacing within CEZ

- 9.1. Hard surfacing, in the form of an access road and car parking, is proposed within the RPA of T15-17 and T19-22. A cellular confinement system must therefore be installed using a no dig technique to prevent damage to tree roots. The location of this surfacing is highlighted on the TPP at Appendix 4.
- 9.2. The design of such a system needs to be sensitive to the requirements of tree roots, substantial enough to withstand the expected levels of traffic and practicable in terms of ease of fabrication. The final surface treatment must be porous to enable the percolation of water through the surfacing to the tree roots beneath. This method is considered to be appropriate in terms of minimising damage to retained trees. However, a structural engineer should be consulted to ensure that the mechanical needs of the chosen design are adequately met.
- 9.3. The cellular confinement system must be laid prior to any construction work being carried out and used as the ground protection during construction. To facilitate this a sacrificial wearing course will be installed for use during the construction phase. On completion of construction the sacrificial layer will be removed and replaced with a wearing course appropriate for domestic use.
- 9.4. Please see Appendix 3 for specification and installation method.

10. Demolition Works within CEZ

- 10.1. No demolition works are required within the CEZ.

11. Construction of Buildings/Excavation within CEZ

- 11.1. Excavations, for proposed dwelling foundations and an attenuations pond, are required within the RPA of T1, T16 and T27. The location of these excavations are highlighted on the TPP at Appendix 4.
- 11.2. To prevent unnecessary harm to the trees any roots encountered must be cut back to the boundaries of the excavation using appropriate and suitably sharp hand tools (e.g. hand saws or bypass secateurs).

12. Post Construction Landscaping

- 12.1. Following completion of the main construction phase, the protective fencing can be removed, and any temporary ground protection lifted, the landscaping phase can then commence.
- 12.2. Where new fencing is located within the RPA of retained trees, post holes must be dug by hand. Fencing systems utilising continuous trench footings must not be used in the RPA of retained trees. During excavation, roots (or clumps of roots) encountered <25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw). Roots (or clumps of roots) encountered >25mm diameter should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.
- 12.3. Any patios, garden paths or other hard surfaces within RPA which may not be shown on the plans provided may be constructed using no-dig techniques, providing that they do not cover more than 20% of the RPA of any tree. If there is any concern of damaging retained trees, further advice should be sought from a qualified Arboriculturist.
- 12.4. Landscaping works must be carried out in such a way as to avoid ground level changes or deep digging within RPA. Tractor mounted rotovators or other mechanised cultivation methods must not be used within the RPA of retained trees.
- 12.5. Heavy machinery is not permitted in the vicinity of retained trees, unless otherwise stated in this method statement.
- 12.6. Herbicides should be appropriate for the purpose and should not be used in such a way as to damage any retained trees or vegetation.
- 12.7. If in doubt, regarding the impact of proposed landscape operations, please contact the appointed arboriculturist.

Appendix 1: Survey Schedule

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T1	Lombardy Poplar	Early-mature	23	550	450		8.5	2.5	3.5	3.5	3.5	B1/2	20 to 40 yrs	Good	Good	Off-site tree, location prevented detailed inspection. Twin stemmed from ground level.	
T2	Hybrid Black Poplar	Semi-mature	11	400			4.8	4.5	4	4.5	4	B2	20 to 40 yrs	Good	Good	Single stemmed to full height. In dense vegetation, location prevented detailed inspection.	
T3	Lombardy Poplar	Early-mature	21	940			11.3	3.5	3	3	3	U	<10 yrs	Good	Poor	Huge cavity on lower stem to W. Significantly structurally compromised.	Current Recommendation: Remove
T4	Crack Willow	Semi-mature	12	500	330		7.2	8	9	9	7	C2	20 to 40 yrs	Fair	Poor	Twin stemmed from ground level with a sound union. Failure of main leader and a number of primary limbs. Fungal fruiting bodies mid height on secondary stem.	Development Recommendation: Remove
T5	Horse Chestnut	Semi-mature	11	190 ⁷			6.0	5	5	5	5	C2	20 to 40 yrs	Good	Fair	Multi stemmed from 1-2m with adequate unions. Heavily congested crown structure.	

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T6	Blackthorn	Mature	5.5	340	260		5.1	4.5	4.5	4.5	4.5	B2	20 to 40 yrs	Good	Good	Twin stemmed from 0.75m with a sound union. Good example of species.	Development Recommendation: Remove
T7	Apple	Semi-mature	4.5	260			3.1	3.5	3.5	3.5	3.5	C2	10 to 20 yrs	Good	Fair	Inonotus hispidus bracket on main stem.	Development Recommendation: Remove
T8	Silver Birch	Early-mature	13	420			5.0	5	5	5.5	5	A1		Good	Good	Off-site tree. Single stemmed to full height with no notable defects. A good specimen.	
T9	Myrobalan Plum	Semi-mature	5	210			2.5	2	2	1	2.5	C2	20 to 40 yrs	Good	Fair	Multi stemmed from 1.5m with included unions and a congested crown.	Development Recommendation: Remove
T10	Lawson Cypress	Semi-mature	5	250			3.0	2	1.5	1.5	1.5	C1/2	20 to 40 yrs	Good	Good	Single stemmed to full height.	Development Recommendation: Remove
T11	Lombardy Poplar	Mature	26	800	750		13.2	4.5	5	5	1.5	C1/2	10 to 20 yrs	Fair	Fair	Twin stemmed from ground level with a weak bark included union. Four stems with further included unions at 2-3m.	Development Recommendation: Remove

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T12	Lombardy Poplar	Early-mature	23	780	500		11.1	3	2	3.5	1	C1/2	10 to 20 yrs	Fair	Fair	Multi stemmed from 1-2m with included unions. Smaller stem with significant cavity at base to E. Congested crown with three leaders.	Development Recommendation: Remove
T13	Lombardy Poplar	Semi-mature	24	720			8.6	2.5	1.5	2.5	2	B1/2	20 to 40 yrs	Good	Good	Single stemmed to full height with no significant defects.	Development Recommendation: Remove
T14	Apple	Early-mature	4	290			3.5	1	1.5	1.5	1.5	U	<10 yrs	Poor	Poor	In terminal decline with hollow stem.	Current Recommendation: Remove
T15	Lombardy Poplar	Semi-mature	22	580			7.0	1.5	2.5	1.5	3	C1/2	10 to 20 yrs	Fair	Good	Single stemmed to full height. Crown suppressed on both sides with notable dieback.	Development Recommendation: Crown lift to 3.5m over proposed hard surfacing only
T16	Lombardy Poplar	Mature	25	1050			12.6	3.5	3.5	2	3	C1/2	>40 yrs	Fair	Good	Single stemmed to full height. Suppressed to S by neighbouring trees otherwise no significant defects.	Development Recommendation: Crown lift to 3.5m over proposed hard surfacing only

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T17	Lombardy Poplar	Early-mature	22	940			11.3	3	3	3	2.5	B1/2	20 to 40 yrs	Good	Good	Medium basal growth to E. Basal vegetation and ivy prevented detailed inspection. Single stemmed to full height with no notable defects.	Development Recommendation: Crown lift to 4m over proposed hard surfacing only
T18	Apple	Semi-mature	3	240			2.9	2	2	2	2.5	U	<10 yrs	Fair	Poor	Severe stem decay. Failure likely imminent.	Current Recommendation: Remove
T19	Lombardy Poplar	Early-mature	24	740			8.9	2	3	2.5	2	B1/2	20 to 40 yrs	Good	Good	Single stemmed to full height with no notable defects.	Development Recommendation: Crown lift to 4m over proposed hard surfacing only
T20	Common Oak	Semi-mature	13	450	330		6.7	5.5	7	5	5.5	B1/2	>40 yrs	Good	Good	Twin stemmed from 1.25 with a sound union. Slightly suppressed to S by neighbouring tree. Otherwise, no notable defects.	Development Recommendation: Crown lift to 4m over proposed hard surfacing only
T21	Common Oak	Semi-mature	12	580			7.0	7.5	8	5	8	B1/2	>40 yrs	Good	Good	Single stemmed to full height with no notable defects.	Development Recommendation: Crown lift to 4m over proposed hard surfacing only

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T22	Lombardy Poplar	Mature	27	1020			12.2	4.5	3.5	3	2.5	A1/2	>40 yrs	Good	Good	Single stemmed to full height with no notable defects. A very good example of species.	
T23	Common Horse Chestnut	Semi-mature	12	540			6.5	7	6	6	5.5	B1/2	>40 yrs	Good	Good	Single stemmed to full height with no notable defects.	
T24	Lombardy Poplar	Early-mature	27	720	430		10.1	3	2.5	3	2.5	C1/2	20 to 40 yrs	Good	Fair	Weak included union between stems. Basal vegetation prevented detailed inspection. No other obvious faults.	Development Recommendation: Remove
T25	Lombardy Poplar	Early-mature	26	700#			8.4	3	2.5	3	1.5	B1/2	20 to 40 yrs	Good	Good	Bifurcated from 4m with a sound union. Basal growth prevented detailed inspection.	Development Recommendation: Remove

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T26	Lombardy Poplar	Mature	27	850#			10.2	3.5	2.5	3.5	2	B1/2	20 to 40 yrs	Good	Good	Single stemmed to full height with no obvious defects. Basal growth prevented detailed inspection.	Development Recommendation: Remove
T27	Common Horse Chestnut	Semi-mature	11	240 ^e			7.1	5	5	5	5	C2	>40 yrs	Good	Fair	Multi stemmed from ground level with adequate unions and a congested crown structure.	
G1	A Group		4				0.0					C2				Group of predominantly young trees including poplar, birch and blackthorn. Small group of early mature fruit trees at S end all with significant structural or physiological issues.	Development Recommendation: Remove
G2	A Group	Early-mature	4	220 ^a			2.6	2.5	2.5	2.5	2.5	C2	10 to 20 yrs	Fair	Fair	Group of 10 fruit tree all structurally or physiologically compromised.	Development Recommendation: Remove
G3	A Group	Semi-mature	4.5	240 ^a			2.9	2.5	2.5	2.5	2.5	C2				Off-site group containing birch, holly, maple and sorbus.	

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
G4	A Group	Mature	25	860 ^a	570 ^a	550 ^a	14.0	4.5	3.5	4.5	3.5	C1/2	20 to 40 yrs	Good	Fair	Two Lombardy poplars with a homogeneous crown. Larger tree with bark included but currently adequate unions. Smaller tree suppressed by larger but with no other significant defects.	Development Recommendation: Remove
G5	A Group	Young	5	130 ^a			1.6					C2				Group of modest sized young and semi mature trees including willow, cherry and apple.	Development Recommendation: Remove

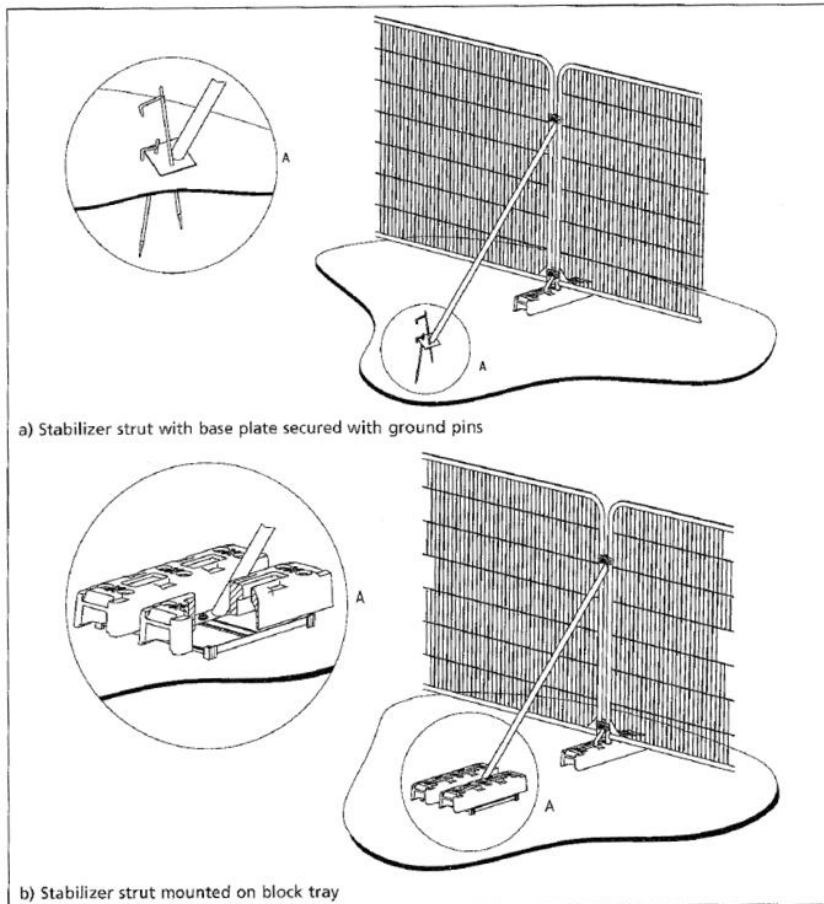
^a denotes average diameter of most significant stems (groups of trees)

⁶ denotes an average stem diameter and the number of stems (individual trees)

denotes estimated measurement

Appendix 2: Tree Protection Fencing

Figure 1. Specification for Above Ground Stabilised Protective Fencing



The protective fencing will be installed in accordance with BS 5837: 2012 and will comprise of weld mesh panel fencing, situated in rubber or concrete feet. Panels will be joined together using a minimum of two anti-tamper couplers, positioned so that they can only be removed from inside the barrier. The fencing will be supported at each joint (where two panels meet) with a stabiliser strut, attached to the fencing at one end and a base plate at the other, which will be secured with ground pins, driven into the underlying soil.

Figure 2. Example Signage for Protective Fencing

TREE PROTECTION AREA

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE SUBJECTS OF A
TREE PRESERVATION ORDER
(TOWN & COUNTRY PLANNING ACT 1990)

CONTRAVENTION OF TREE PRESERVATION ORDERS MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONS:-

- THE PROTECTIVE FENCING MUST NOT BE REMOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATION SHALL OCCUR IN THE PROTECTED AREA

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY**

KEEP OUT!

Appendix 3: New Hard Surfacing

This Appendix outlines the options available for constructing No-Dig hard surfaces within the RPA of trees.

We are not qualified to recommend any particular construction method in terms of durability or structural integrity and any proposed construction should be approved by a qualified structural engineer prior to implementation.

However, with regards to trees, we make the following comments:

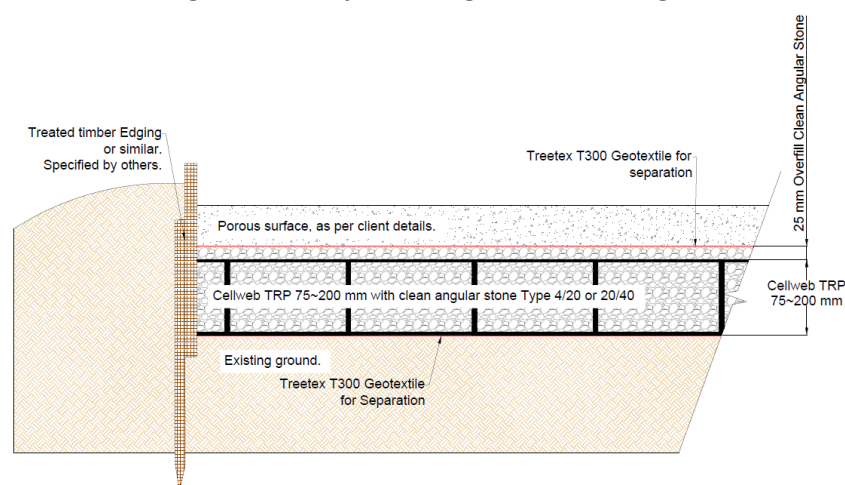
- Severance of roots and soil compaction should be avoided. However, if it is necessary to sever roots or if they are severed accidentally, we must be informed so that we are able to assess and recommend accordingly.
- Air and water must be able to diffuse into the soil beneath the engineered surface. Toxic substances which could leach into the ground must be avoided, as should substances which affect the pH value of the soil.

The No-Dig Method:

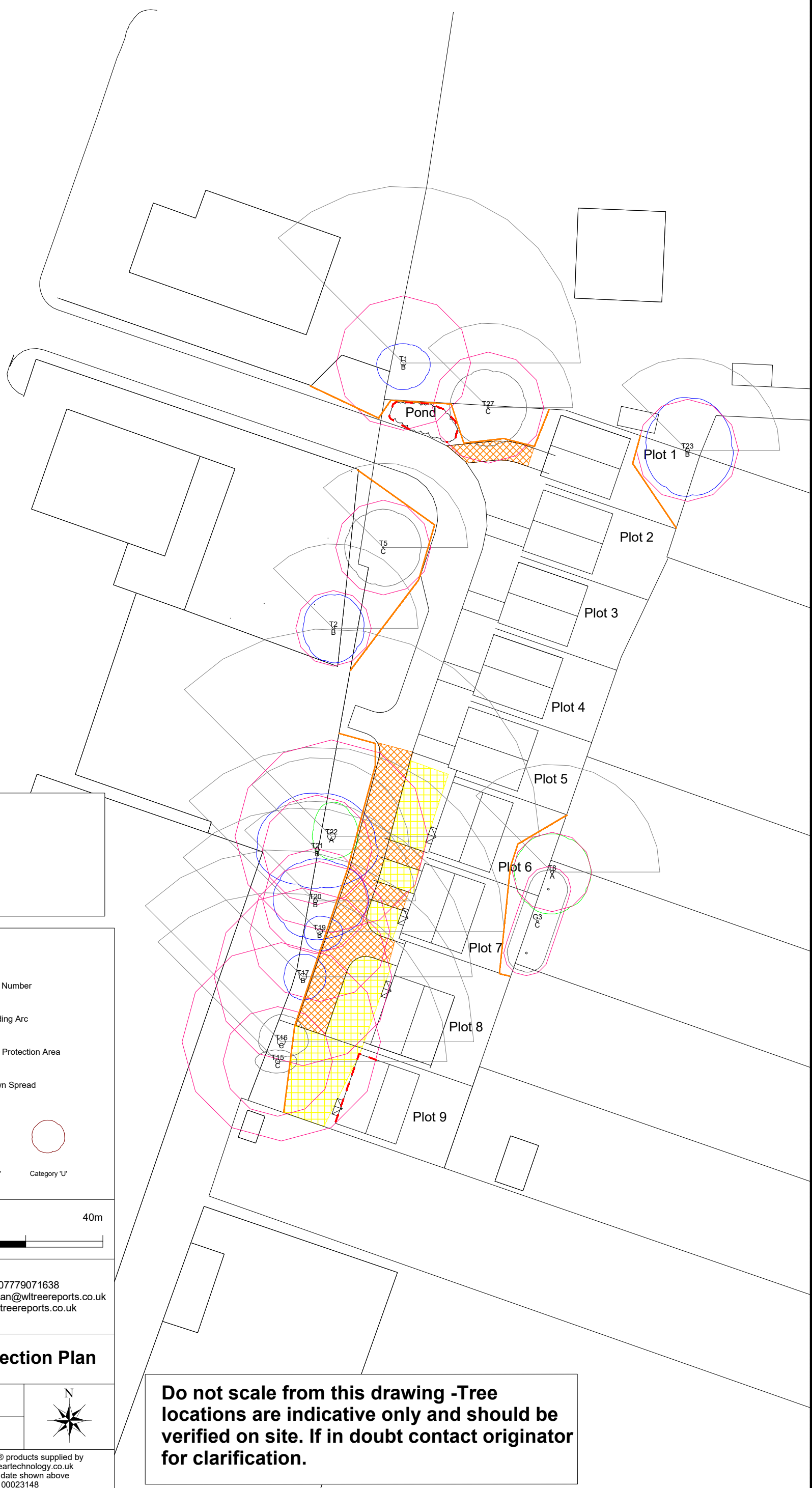
This involves construction of a surface with no excavation, soil stripping or site grading (see Figure 3). All construction takes place above ground level including any edge support which should utilise sleepers (pinned in place where required), gabions or other non-invasive ground-contact structures. Preparation and installation for such hard-surfacing is as follows:

1. Kill off ground vegetation using a systemic herbicide (i.e. glyphosate) applied to the foliage and remove resulting dead organic material.
2. Removed any turf/surface vegetation (up to a maximum depth of 50mm) as well as any significant localised protrusions. Fill major hollows with sharp sand.
3. Lay a recognised geo-fabric over the area and extend to 300mm beyond boundaries whilst overlapping any joints by 300mm.
4. Install an appropriate 3D cellular confinement system. In such instances confinement systems of 100mm depth would ordinarily be appropriate, this must however be verified by a structural engineer.
5. Using a no dig method (i.e. gabions or pinned boards/sleepers) construct suitable edge support for the new surface.
6. Infill with a clean angular stone type 4/20 or 20/40 using a 'roll-out' technique with plant machinery operating from outside the RPA or from already infilled areas. Cells must be filled to their maximum volume and then over filled by 25mm. No additional compaction is required beyond a limited number of passes with lightweight tracked plant machinery.
7. To form a sacrificial layer for construction traffic cover with a recognised geo-fabric extending to 300mm beyond boundaries whilst overlapping joints by 300mm. Cover with 50-75mm of type 1 roadstone. On completion of construction phase remove layer of type 1 roadstone and geo-fabric.
8. Install new layer of geo-fabric extending to 300mm beyond boundaries whilst overlapping joints by 300mm.
9. Install final porous surface as per client specification.

Figure 3. Example 'No Dig' Hard Surfacing



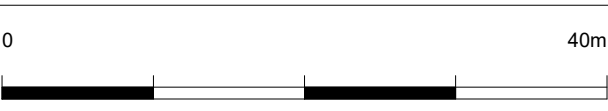
Note: Subbase could be required depending on the existing ground CBR % and the type of traffic on the surface.



No-dig Hard-surfacing
 Ground Protection
 Protective Fencing
 Excavation in RPA

Tree Number
 Shading Arc
 Root Protection Area
 Crown Spread

Category 'A'
 Category 'B'
 Category 'C'
 Category 'U'



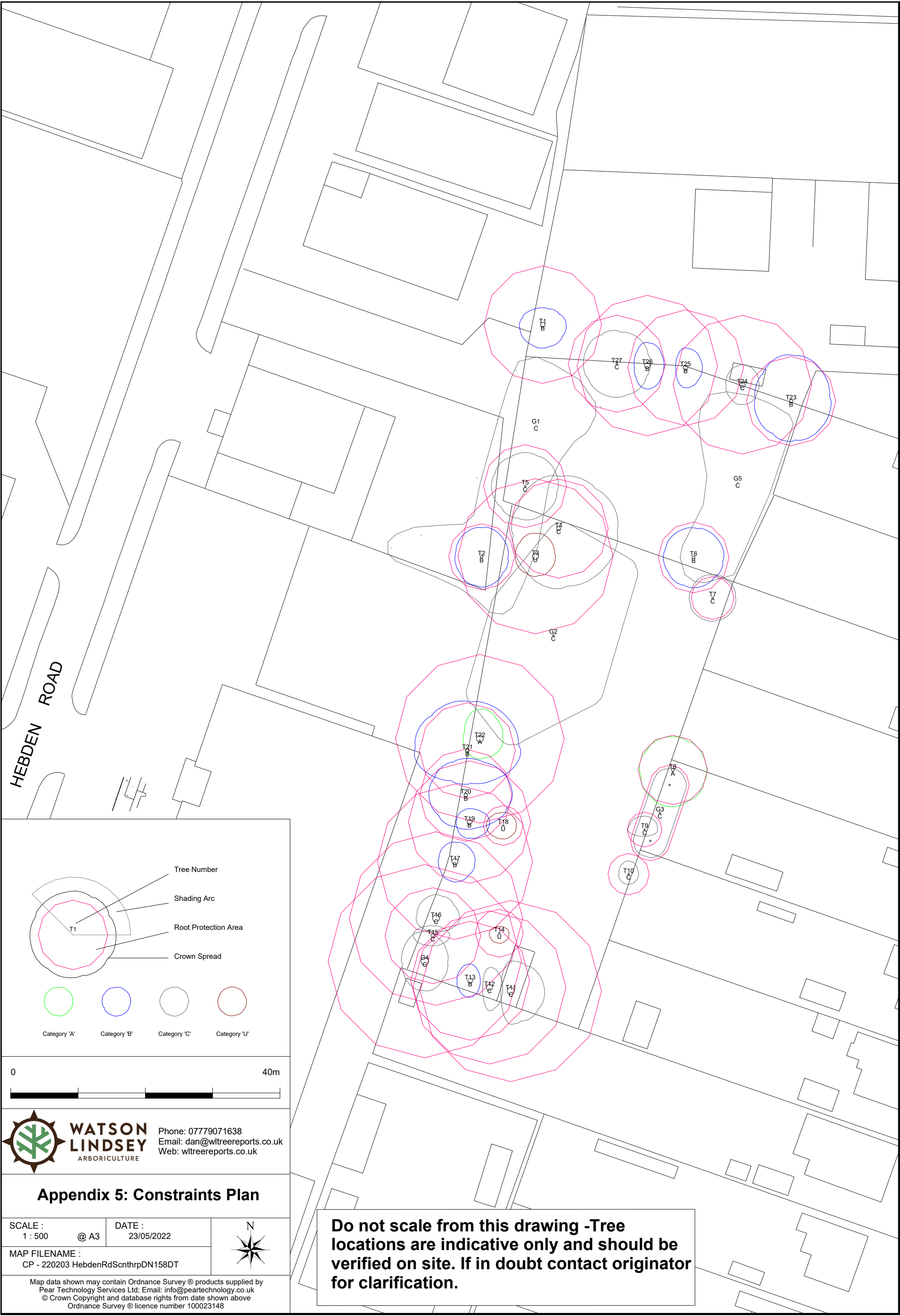
WATSON LINDSEY
 ARBORICULTURE

Phone: 07779071638
 Email: dan@wltreereports.co.uk
 Web: wltreereports.co.uk

Appendix 4: Tree Protection Plan

SCALE : 1 : 500	@ A3	DATE : 20/05/2022	
MAP FILENAME : TPP - 220203 HebdenRdScnthrpDN158DT			
<small>Map data shown may contain Ordnance Survey © products supplied by Pear Technology Services Ltd; Email: info@peartechology.co.uk © Crown Copyright and database rights from date shown above Ordnance Survey © licence number 100023148</small>			

Do not scale from this drawing -Tree locations are indicative only and should be verified on site. If in doubt contact originator for clarification.



Tree Number
Shading Arc
Root Protection Area
Crown Spread

Category 'A' Category 'B' Category 'C' Category 'U'



WATSON LINDSEY
ARBORICULTURE

Phone: 07779071638
Email: dan@wltreereports.co.uk
Web: wltreereports.co.uk

Appendix 5: Constraints Plan

SCALE : 1 : 500 @ A3 DATE : 23/05/2022

MAP FILENAME : CP - 220203 HebdenRdScnthrpDN158DT

Map data shown may contain Ordnance Survey © products supplied by Pear Technology Services Ltd; Email: info@peartechnology.co.uk © Crown Copyright and database rights from date shown above Ordnance Survey © licence number 100023148

Do not scale from this drawing -Tree locations are indicative only and should be verified on site. If in doubt contact originator for clarification.