elliottconsultancyltd.
arboricultural consultants

Location:
Proposed solar farm and battery energy storage system on land adjacent to the A614, Worksop, S80 3PA

Report Type:
Arboricultural Method Statement inc. Impact Assessment

Ref:
ARB/CP/3322

Date:
April 2024

Arboricultural ASSOCIATION
Professional Member

Wrens Nest, Underhill, Glaisdale, North Yorkshire, YO21 2PF
Tel – 01947 897001 Email: enquiries@elliottconsultancy.com
www.elliottconsultancy.com

Company Registration No: 5515572 VAT No: 89226571

Contents

Appendices

1 Introduction

1.1 This arboricultural method statement has been prepared by Charles Prowse of Elliott Consultancy Ltd at the request of the client. It will provide details regarding the retention and protection of trees during the proposed construction works at the proposed solar farm and battery energy storage system on land adjacent to the A614, Worksop, S80 3PA.

1.2 **Scope of the report:**

- This method statement provides arboricultural information and advice in relation to the proposed construction works at land adjacent to the A614, Worksop, as detailed within Appendix 4.
- It will outline any trees to be removed prior to development and those to be retained along with any pruning required. Also provided are details of all measures recommended for adequate tree protection including any special construction measures to be utilised.
- It should be used to guide the construction process in order to minimise potential damage to retained trees.
- It will detail, within the Arboricultural Tasks Sequence Table (Appendix 1), a timescale for implementation of these tree works and protective measures in reference to the development period.
- A survey of the trees, conforming to British Standard 5837 'Trees in Relation to Design, Demolition and Construction' 2012 was undertaken on the 15th and 16th of February 2024.
- The locations of the trees upon the Tree Constraints Plan (Appendix 3) and Tree Protection Plan (Appendix 4) are as per the positions indicated upon the topographical plan provided by the client.

1.3 **Prior to site works commencing, especially ground preparation, this Arboricultural Method Statement needs to be given to the site manager and used as reference during the development period, with particular attention paid Sections 5-7, and Appendices 1, 2, 4-8.**

2 Site Information

2.1 The area surveyed and the extent of which is covered by this method statement is the proposed solar farm and battery energy storage system on land adjacent to the A614, Worksop, S80 3PA. Figure 1 shows the extent of the area.

Figure 1: Area Surveyed (highlighted)

Map data ©Google Imagery

2.2 The survey area, which measures approximately 1.02km² (the survey area was larger than the application area), is agricultural in nature with five large arable fields delineated by access tracks, woodland and the occasional fence and hedgerow. The subject area is almost entirely surrounded by woodland, with the only non-wooded boundary adjacent to the river Poulter in the northeast section.

2.3 There are numerous trees which have an influence within the site, the vast majority of which are located within the surrounding woodlands. Details of these trees are annotated upon the Tree Constraints Plan (Appendix 3) and Tree Protection Plan, Appendix 4.

2.4 Trees may be located within a Conservation Area or covered by Tree Preservation Orders, which might restrict tree works without prior approval from the local planning authority. As such relevant checks should be made beforehand.

3 Tree Category Evaluation

3.1 The criteria used for evaluating how suitable each tree is for retention within a development is that suggested within 5837:2012.

3.2 BS5837:2012 notes that all trees apart from those with stem diameters <150mm or classified as Category U should be considered for retention and viewed as a potential site constraint. When inspected, each tree and or group feature is assigned one of four categories that signify how suitable that tree/group would be for retention within any development proposals, and therefore the degree to which it should constrain the site. The four categories are as follows:

3.2.1 **Category A** (coloured green) trees are those of high quality and value, and of a condition whereby they could make a substantial contribution to the site. The retention of Category A trees should be considered during the design phase and afforded adequate physical protection during the construction phase in accordance with BS 5837:2012 where retained. This means keeping proposed features and alterations to ground levels outside of root protection areas and crown spreads so as to ensure that the tree remains in an adequate condition post-development. Root protection areas and crown spreads are displayed upon the Tree Constraints Plan, Appendix 3. Nine individually surveyed trees, and seventeen groups of trees were classified as Category A.

3.2.2 **Category B** (coloured blue) trees are those of moderate quality and value, and of a condition that they make a substantial contribution to the site. The retention of Category B trees should be considered during the design phase and afforded adequate physical protection during the construction phase in accordance with BS 5837:2012 where retained. Fourteen individual trees, sixteen groups of trees and three hedgerows were classified as Category B.

3.2.3 **Category C** (coloured grey) trees are considered to be of low quality and value, but of an adequate condition to remain in the short-term. Trees with a stem diameter of less than 150mm (measured at 1.5m above ground level) are classified as Category C; these trees should also be retained where possible but where they form a significant constraint to development their removal should be permitted. Where they are to be retained, they should be afforded adequate consideration during the design phase and physical

protection during the construction phase in accordance with BS 5837:2012. Two trees and ten groups were classified as Category C.

3.2.4 **Category U** (coloured red) trees are of such a condition that any existing value would be lost within 10 years. As a result, it is recommended that Category U trees are not considered a constraint for development and are removed prior to construction commencing. None of the trees were classified as Category U.

3.2.5 In addition to the four main categories explained above, each tree/group is assigned a sub-category which signifies its overriding value as determined by the surveyor, which is noted by adding a suffix of 1, 2 or 3 alongside the category letter. 1 signifies that the trees/groups main value is arboricultural e.g. it may be a particularly good example or may be rare. 2 signifies that the overriding factor was due to the landscape value that the tree/group provides e.g. it may be part of a group feature such as a screen. 3 indicates that a cultural factor was the overriding value e.g. it may have historical or commemorative importance.

Summary of Categories Awarded **Note: Prefix 'N' denotes tree located within adjacent property**			
Category	Tree Numbers	Group Numbers	Hedgerow Numbers
A	4-8, 17-20	1-3, 7-10, 12, 16-18, 21, 22, 25, 26, 29, 42	
B	2, 9-16, 21-25, N1-N4	11, 13, 14, 20, 24, 27, 28, 30-32, 34-36, 38, 39, 43	1-3
C	1, 3	4-6, 15, 19, 23, 33, 37, 40, 41	
U			

4 Design Proposals Arboricultural Impact

4.1 This section concentrates on the proposed development and how it relates to the current tree population within the site. Any conflict issues between the proposed layout and existing trees are discussed and remedial options, where possible, suggested.

4.2 The planning application relates to the construction and operation of a solar farm and battery energy storage system together with all associated works, equipment, necessary infrastructure and landscaping, as displayed within Appendix 4. Access for construction and operations is off Blyth Road (A614) on the western boundary of the site.

4.3 **Conflict 1: Loss of trees due to the proposed layout**

Construction of the proposed access off Blyth Road is likely to require the removal of a small number of trees. A small section of one hedgerow will need to be removed to construct the internal road.

Mitigation / Countermeasure: The access junction and road off Blyth Road is already in situ but it is likely that the mouth of the junction will need to be widened which could lead to the removal of trees to immediately north and south. These trees were not positioned of the topographical plan, but we estimate that a maximum of 10 trees would need to be removed. The alignment of the internal road would require the removal of about 12m from the southern end of Hedgerow 3. In terms of the overall scheme, from an arboricultural perspective the magnitude of impact from the losses required is considered to be relatively low and will be more than mitigated by the indicated tree planting.

4.4 **Conflict 2: Construction within close proximity to trees.**

There are some proposed structures within or close to root protection areas and crown spreads of trees.

Mitigation / Countermeasure: The proposed route of the internal road runs close to some of the trees and hedgerows, such as Groups 8, 11, 25, 26, and Hedgerow 1. The road has largely been aligned to follow existing transit routes used by agricultural machinery which is well compacted and metaled with aggregate in places. As such we would not expect any detrimental impact to the adjacent trees from the installation of the internal road.

4.5 **Potential Conflict 3: Location of utilities runs with Root Protection Areas.**

Damage can be caused to root tissue during the installation of utilities runs.

Mitigation / Countermeasure: No new utility runs must be located within any of the retained tree's root protection areas. Any works to existing utilities will be undertaken with regard for the retained tree cover and will be in accordance with NJUG (National Joint Utility Groups) guidelines.

4.6 **Potential Conflict 4: Damage to trees within site during demolition and construction.**

Trees may be damaged due to a variety of reasons during a demolition and development process.

Mitigation / Countermeasure: Typically, a physical demarcation is created between the retained trees and development areas to ensure that the trees and the medium within which they are rooting are protected from damage. The actual method of creating the demarcation might vary, where appropriate, but will typically be a physical barrier. The proposed solar equipment is set well away from the root protection areas and canopy extents for the trees, and permanent perimeter fencing will be erected in between. As such, the need to erect tree protection barriers will be limited to the high use areas such as the access points and where the internal road runs close to trees. Erection of the perimeter fencing before equipment installation will ensure that construction exclusions zones are respected. The locations for the tree protection barriers is detailed upon Appendix 4 with a specification within Appendix 5.

4.7 **Potential Conflict 5: Pruning trees to create clearance to structures.**

Trees either side of the Blyth Road access junction might need to be pruned to ensure suitable visibility splays.

Mitigation / Countermeasure: Pruning operations would primarily be limited to crown lifting of the trees over the wooded verge to a height of 4m within the visibility splays. All pruning operations would be undertaken in accordance with BS 3998:2010 Tree work. Recommendations.

5 Pre-Development and Site Preparation Works

5.1 Refer to Appendix 1 for stage specific tasks.

5.2 Prior to any site works commencing, the following arboricultural specific actions need to be implemented:

a) An arboricultural contractor should be sought, and the tree works recommended within Appendix 2 undertaken.

b) A supplier needs to be sought to provide the tree protection features as agreed with the Local Planning Authority.

5.3 Once the aforementioned tasks have been completed and prior to any site work the tree protection barriers need to be erected as per the Tree Protection Plan (Appendix 4). The barrier must encompass the root protection areas and crown extents of the retained trees to ensure that these areas remain free from disturbance.

5.3.1 The barriers need to be installed according to the locations found on the Tree Protection Plan, Appendix 4 and conform to the specification within Appendix 5, unless a suitable alternative is agreed with the Local Planning Authority. All weather notices should be attached to the fencing marked with the following: '*Construction Exclusion Zone - Keep Out'* (a notice is provided within Appendix 8).

5.3.2 The project arboriculturalist or Local Authority Tree Officer should check the correct installation of the protective features prior to any site works commencing.

5.4 Material storage must be confined to areas outside root protection areas.

5.5 A copy of the Tree Protection Plan must be available on site.

5.6 Activities that could be harmful to root tissue (e.g. excavation, mixing of and washing out toxic substances such as cement) should be avoided in close proximity to trees.

6 Tree protection measures during development

6.1 Refer to Appendix 1 for stage specific tasks.

6.2 All ground levels where trees are located should be maintained. Changes to soil levels adjacent to trees can severely affect the trees structural integrity and its ability to gain moisture and nutrients from the surrounding soil. Unavoidable level changes that may affect retained trees, and not already accounted for within this method statement, should be assessed by the project arboriculturalist.

6.3 Building material storage and operations that can contaminate soil, such as cement mixing, must be confined to areas outside the root protection areas, which includes the new parking area once created.

6.4 Fires should not be lit within 5m of the foliage or drip line of the tree. Care should be taken, and the fire should not be allowed to become large, and the wind direction noted.

6.5 The trees should not be used to attach notices, cables or other services.

6.6 The installation of any underground services near or adjacent to trees on the site shall conform to the requirements of National Joint Utilities Group (NJUG) publication Volume 4 (November 2007). If relevant, the intended service routes will be noted upon the Tree Protection Plan, Appendix 4. Additional information regarding excavations within root protection areas are provided within Appendix 6.

6.7 At the beginning of the construction phase, the site manager will appoint a delegated site representative who shall be responsible for continued checking of the protective barriers to ensure it is compliant with the exclusion zone. Appendix 9 contains a record sheet that can be copied for such use.

6.8 As recommended within BS 5837:2012, and specified within the Arboricultural Tasks Sequence Table, the development site should be visited by the project arboriculturalist on occasions to provide any arboricultural advice necessary and to ensure the efficacy of the Tree Protection features. Contact between the project manager and project arboriculturalist should be maintained throughout the works period so that supervision can be provided when operations with the potential to damage retained trees are being undertaken. Key stages that will require the attendance of a qualified arboriculturalist with evidence of the visit provided to LPA are:

- Inspection of tree protection features prior to site works commencing.

- Unarranged spot check(s) carried out during the course of the build.
- Supervision of construction activities that could lead to damage of retained trees.
- Site visit to ensure all development operations have been completed prior to tree protection features being removed and to inspect the condition of the trees.

7 Post-Construction Considerations

7.1 Refer to Appendix 1 for stage specific tasks.

7.2 Only once all major construction works have been completed can the protective barriers be removed.

7.3 Post development landscaping should be kept to a minimum within the root protection areas of retained trees.

7.4 Since trees are capable of influencing soil hydrology newly planted trees need to be situated where they will not interfere with built structures. Refer to NHBC Chapter 4.2 'Building near Trees' and Arboriculture Research and Information Note 'Tree Roots and Foundations' for further information.

Appendix 1: Arboricultural Tasks Sequence Table

Tree or Group Number	Pre-Construction Stage	Construction Stage	Post Construction Stage
Groups 1, 12. Hedgerow 3.	Remove sections indicated red on Appendix 4		
Trees 1-25, N1-N4. Groups 1-43. Hedgerows 1-3.	Adhere to specification within Section 5. Set out and erect protective fencing as per Appendices 4 and 5. Attach notice in Appendix 8. Project arboriculturalist should check the correct installation of protective features prior to site works commencing.	Adhere to specification within Section 6. Monitor integrity of tree protection features daily; completing inspection record in Appendix 9.	Adhere to specification within Section 7. Remove tree protection measures. Complete landscape works adjacent to trees.

Appendix 2: Tree Data & Works Required

Key for Tree & Group Data tables:

No.	Tree Number
Species	Tree Name (common)
Age	Y = Young; SM = Semi-mature; EM = Early-mature M = Mature; OM = Over-mature; V = Veteran; D = Dead
DBH	Diameter at Breast Height (measured at 1.5m above ground level to the nearest cm)
Stems	The number of stems the tree has
Height	Overall tree height measured in metres
Crown Spread	Measured along the four cardinal points in metres
CH	Canopy Height (height of crown above ground)
1st Branch	The height and aspect of the 1st significant limb e.g. 2 NE = 1st limb at 2m growing in a north-easterly direction.
EstD	Indication of whether any of the trees dimensions were estimated: Y=Yes, N=No.
General Observations	Appraisal of trees general condition
EstCont	Estimated remaining contribution (years)
BS Cat	British Standard 5837:2012 retention category
Recommendation	Remedial works that may be required should the tree be retained

Tree Survey Data

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
1	Hawthorn	M	15	1	2.8	2	1	2	1	0.5	N	Minor basal decay.	40+	C1	No work required
2	Birch spp	EM	38	1	12	3	5	5	2	1	N	Minor deadwood.	40+	B1	No work required
3	Rowan	SM	14	1	5.5	2	3	3	3	0.5	N	Codominant stems at base.	40+	C1	No work required
4	Sweet Chestnut	M	90	1	18	9	8	9	8	3.5	N	Branch failure stubs. Moderate deadwood.	40+	A1	No work required
5	Sweet Chestnut	M	87	1	18	7	9	9	8	3.5	N	Branch failure stubs. Moderate deadwood.	40+	A1	No work required
6	Horse Chestnut	M	78	1	16	8	8	7	8	3.5	N	Branch failure stubs. Moderate deadwood.	40+	A1	No work required
7	Horse Chestnut	M	54	1	15	6	7	3	7	0.5	N	Stem leaning 10 degrees. Branch failure stubs. Moderate deadwood.	40+	A2	No work required
8	Sweet Chestnut	M	110	1	19	8	10	9	9	3.5	N	Branch failure stubs. Moderate deadwood.	40+	A1	No work required
9	Oak spp	Y	29	1	8	6	5	4	4	0.5	N	Good health, reasonable form.	40+	B1	No work required
10	Oak spp	Y	19	1	7.5	3	2	2	2	0.5	N	Good health, reasonable form.	40+	B1	No work required
11	Oak spp	SM	47	1	14	6	9	8	7	0.5	N	Stem leaning 25 degrees. Branch failure stubs. Minor deadwood. Position of tree(s) not located on topo - position estimated.	40+	B1	No work required

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
12	Oak spp	SM	61	5+	18	6	10	9	7	0.5	N	Multi-stemmed. Branch failure stubs. Minor deadwood. Position of tree(s) not located on topo - position estimated.	40+	B1	No work required
13	Sweet Chestnut	EM	47	1	18	6	7	7	7	0.5	N	Branch failure stubs. Minor deadwood. Position of tree(s) not located on topo - position estimated.	40+	B1	No work required
14	Oak spp	SM	21	5+	5.5	2	5	5	2	1	N	Slightly suppressed form. Branch failure stubs. Minor deadwood. Position of tree(s) not located on topo - position estimated.	40+	B2	No work required
15	Sycamore	SM	41	2-5	16	1	6	5	5	1.5	N	Codominant stems at base. Codominant canopy. Position of tree(s) not located on topo - position estimated.	40+	B2	No work required
16	Sycamore	SM	49	2-5	14	4	6	6	5	1.5	N	Multi-stemmed. Codominant canopy. Position of tree(s) not located on topo - position estimated.	40+	B2	No work required
17	Sweet Chestnut	M	72	1	15	8	6	7	8	0.5	N	Branch failure stubs. Minor deadwood. Position of tree(s) not located on topo - position estimated.	40+	A1	No work required
18	Sweet Chestnut	SM	52	1	20	4	5	6	5	0.5	N	Epicormic growth at base. Branch failure stubs. Minor deadwood.	40+	A1	No work required
19	Oak spp	V	111	1	18	9	8	8	8	2	N	Moderate deadwood. Branch failure stubs. Retrenching crown.	40+	A3	No work required
20	Oak spp	V	115	1	17	9	11	9	11	2	N	Moderate deadwood. Branch failure stubs. Numerous Branch failure tear wounds	40+	A3	No work required

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
21	Oak spp	SM	41	1	13	7	4	6	6	1	N	Codominant stems at 1.8m. Minor deadwood.	40+	B1	No work required
22	Birch spp	M	37	1	16	4	5	6	3	1.5	N	Stem leaning 10 degrees. Continuous canopy with adjacent trees.	40+	B2	No work required
23	Birch spp	M	33	1	16	6	4	5	4	1.5	N	Stem leaning 10 degrees. Continuous canopy with adjacent trees.	40+	B2	No work required
24	Oak spp	EM	81	5+	9	8	8	8	7	0.5	N	Multi-stemmed. Branch failure stubs. Minor deadwood.	40+	B1	No work required
25	Birch spp	M	50	2-5	21	8	9	7	9	0	N	Codominant stems at 1m. Minor deadwood.	40+	B1	No work required

Group Data

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
1	Oak spp Lime spp Sycamore Horse Chestnut	Cherry spp Norway Maple Birch spp Sweet Chestnut	60	22	SM-M	7	Linear woodland adjacent to site. Varied health & form. Wide grass verge between woodland and cultivated land. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline. 1 maple has failed into field.	Remove section indicated red on Appendix 4.	40+	A2
2	Sycamore Lime spp Norway Maple Oak spp	Scots Pine Birch spp Sweet Chestnut	60	22	SM-M	7	Linear woodland adjacent to site. Varied health & form. Wide grass verge between woodland and cultivated land. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline.	No work required	40+	A2
3	Scots Pine Sycamore Birch spp Sweet Chestnut	Larch spp Holly	50	20	SM-M	7	Linear woodland adjacent to site. Varied health & form. Wide grass verge between woodland and cultivated land. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline.	No work required	40+	A2
4	Pine spp	Birch spp Gorse	6	2	Y	1	Young plantation group.	No work required	40+	C2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
5	Pine spp	Birch spp	6	2	Y	1	Young plantation group.	No work required	40+	C2
6	Cypress spp	Pine spp	4	2	Y	1	Young plantation group.	No work required	40+	C2
7	Pine spp Birch spp	Holly Oak spp Hazel Sycamore	50	20	SM-M	6	Plantation woodland. Varied health & form. Wide grass verge between woodland and cultivated land. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline. Numerous failed trees.	No work required	40+	A2
8	Sycamore Beech Birch spp Oak spp	Sweet Chestnut	55	21	SM-M	6	Predominantly broadland woodland between track and conifer plantation. Varied health & form. Branch failure stubs. Deadwood. Numerous basal wounds with varied degrees of decay at base of many sycamores.	No work required	40+	A2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
9	Pine spp		45	20	SM-M	6	Plantation woodland. Varied health & form. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline.	No work required	40+	A2
10	Oak spp Lime spp Sycamore		90	22	M	10	Linear group of trees which form a continuous canopy. Position of tree(s) not located on topo - position estimated. Varied health & form. Moderate deadwood. Branch failure stubs.	No work required	40+	A2
11	Hawthorn Willow spp Oak spp Birch spp	Sweet Chestnut	30	7	Y-M	5	Group of sporadically located trees, western half form a contiguous canopy.	No work required	40+	B2
12	Lime spp Horse Chestnut Norway Maple Oak spp	Cherry spp Sycamore	60	22	SM-M	7	Linear woodland adjacent to site. Varied health & form. Wide grass verge between woodland and cultivated land. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline. 1 fallen tree.	Remove section indicated red on Appendix 4.	40+	A2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
13	Ash	Hawthorn	40	15	SM	6.5	Small linear group of 4 trees. Position of tree(s) not located on topo - position estimated.	No work required	20+	B2
14	Ash Sycamore		55	17	SM-M	8	Small group of trees which form a continuous canopy. Branch failure stubs. Minor deadwood.	No work required	40+	B2
15	Blackthorn Elder Hawthorn		12	5	M	3	Dense thicket	No work required	10+	C2
16	Sycamore Ash Oak spp Sweet Chestnut	Elm spp Beech Birch spp	60	22	SM-M	6	Linear woodland adjacent to site. Varied health & form. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline. Some trees have ivy covered stems	No work required	40+	A2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
17	Sycamore	Elm spp Holly Birch spp	40	17	SM-M	5	Linear woodland adjacent to site. Mostly semi-mature sycamore with occasional mature trees. Varied health & form. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline. 1 mature tree has failed into site.	No work required	40+	A2
18	Beech Horse Chestnut Sweet Chestnut	Hawthorn Oak spp	80	19	SM-M	10	Linear group of predominantly mature trees to the north of a plantation woodland. Varied health & form. Branch failure stubs. Deadwood.	No work required	40+	A2
19	Hawthorn Elder Beech Oak spp	Elm spp Ash Sycamore	34	8	SM	4	Linear group of trees which form a continuous canopy. Eastern section trimmed as hedgerow	No work required	40+	C2
20	Beech		45	17	EM	8	Linear group of trees which form a continuous canopy. Possibly an outgrown hedgerow	No work required	40+	B2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
21	Sycamore Birch spp Lime spp Oak spp	Holly Sweet Chestnut	40	17	SM	5	Linear woodland adjacent to site. Varied health & form. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline.	No work required	40+	A2
22	Birch spp Alder spp Sycamore Oak spp	Hawthorn	45	16	SM-M	4.5	Woodland adjacent to site. Varied health & form. Numerous dead trees. Deadwood. Branch failure stubs.	No work required	40+	A2
23	Pine spp	Birch spp Oak spp	7	2.5	Y	1	Young plantation group.	No work required	40+	C2
24	Sycamore	Pine spp Holly Sycamore	45	15	SM-M	7.5	Linear group of trees which form a continuous canopy. Varied size. Branch failure stubs.	No work required	40+	B2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
25	Sweet Chestnut Oak spp Birch spp		45	18	SM-EM	5	Linear woodland. Varied health & form. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline.	No work required	40+	A2
26	Pine spp Oak spp Birch spp	Sweet Chestnut	50	19	SM-EM	5	Linear woodland. Varied health & form. Branch failure stubs. Deadwood. Occassional dead tree and 1 tree has fallen and hung up in adjacent canopy (leaning over track).	Remove failed, hung-up tree	40+	A2
27	Sycamore Sweet Chestnut Oak spp Beech	Birch spp	55	20	SM-M	7	Copse adjacent to young plantation. Most sycamore are multi-stemmed and some have basal decay. Small number of dead trees. Deadwood.	No work required	40+	B2
28	Birch spp Oak spp	Sweet Chestnut Broom	20	5.5	Y-SM	2	Small group of trees which form a continuous canopy.	No work required	40+	B2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
29	Pine spp	Birch spp	45	21	SM-M	6	Linear plantation woodland of trees which form a continuous canopy. Moderate deadwood. Branch failure stubs.	No work required	40+	A2
30	Birch spp	Oak spp	22	13	SM	3	Group of trees which form a continuous canopy adjacent to river.	No work required	40+	B2
31	Birch spp	Oak spp	25	17	SM-EM	4	Group of trees which form a continuous canopy adjacent to river.	No work required	40+	B2
32	Birch spp	Oak spp	30	16	EM	3.5	Group of trees which form a continuous canopy adjacent to river.	No work required	40+	B2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
33	Birch spp Oak spp		15	7	Y	2	Small group of trees which form a continuous canopy.	No work required	40+	C2
34	Willow spp		70	19	M	9	Small group of multi-stemmed trees which form a continuous canopy. Within wetland area. Varied health & form. Crown dieback. Deadwood.	No work required	40+	B2
35	Willow spp		70	19	M	9	Small group of multi-stemmed trees which form a continuous canopy. Within wetland area. Varied health & form. Crown dieback. Deadwood.	No work required	40+	B2
36	Willow spp		70	19	M	9	Linear group of multi-stemmed trees which form a continuous canopy. Adjacent to river. Varied health & form. Crown dieback. Deadwood.	No work required	40+	B2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
37	Hawthorn	Elder	27	5.5	M	2.5	Linear group of trees. Possibly a remnant of an old hedgerow.	No work required	20+	C2
38	Birch spp		16	12	SM	2.5	Group of trees which form a continuous canopy.	No work required	40+	B2
39	Birch spp	Oak spp Hawthorn Sycamore	16	12	SM	2.5	Group of trees which mostly form a continuous canopy, but includes some sporadically located trees to the north.	No work required	40+	B2
40	Blackthorn	Hawthorn	14	3	M	1.5	Linear dense thicket.	No work required	20+	C2

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
41	Birch spp	Alder spp	19	6	Y-SM	3	Group of varied age trees in wetland area with no access.	No work required	40+	C2
42	Pine spp	Birch spp	47	20	SM-M	6.5	Linear woodland adjacent to site. Varied health & form. Wide grass verge between woodland and cultivated land. Branch failure stubs. Deadwood. Occassional dead tree and some in a state of physiological decline.	No work required	40+	A2
43	Birch spp Sycamore	Sweet Chestnut Holly Oak spp	25	16	Y-SM	6	Linear group of trees which form a continuous canopy. Small number of dead trees.	No work required	40+	B2

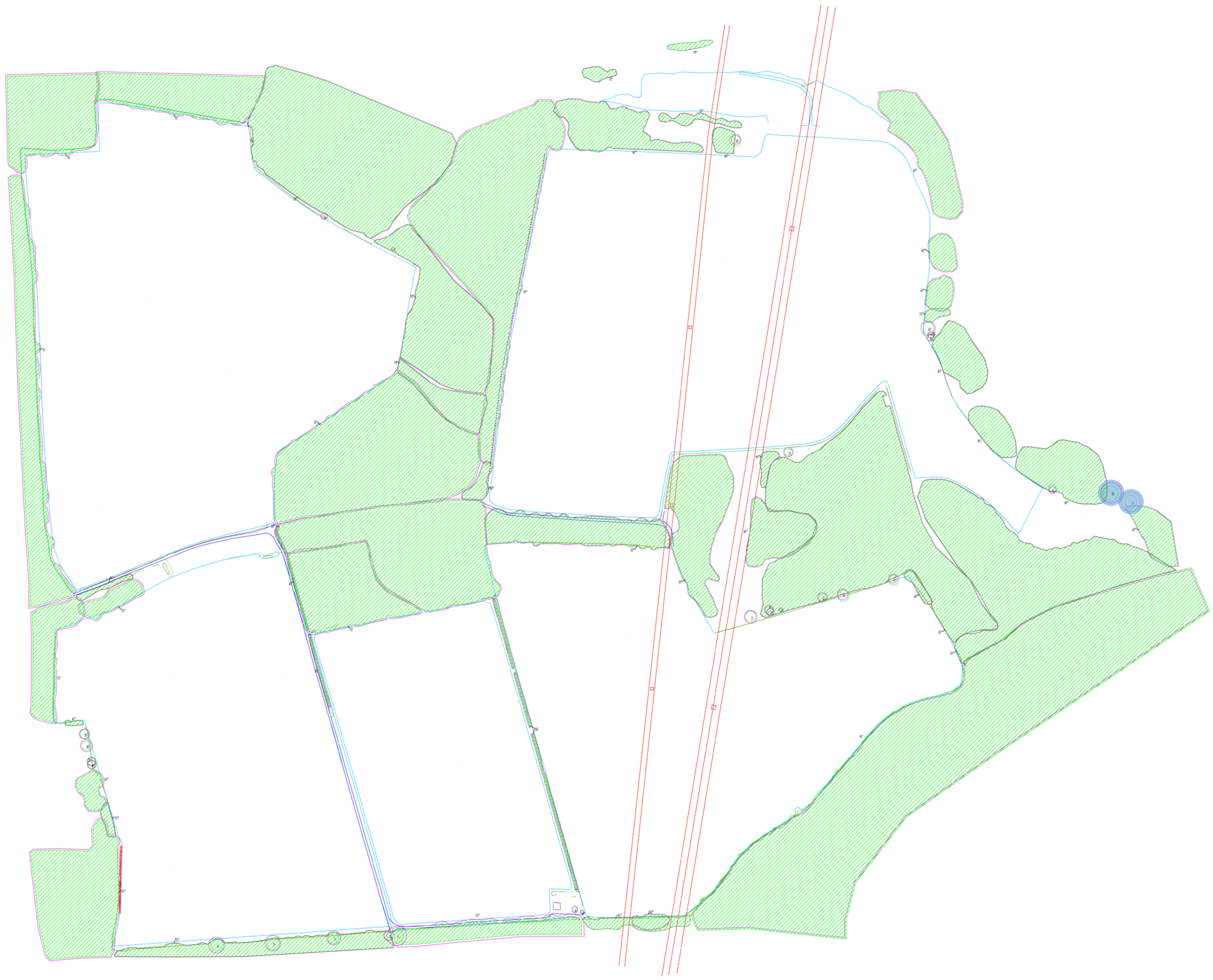
Hedgerow Data

Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
1	Hawthorn	Elder	M	1.5	0.5	As current height	As current depth	Managed hedgerow adjacent to woodland. Gaps of varied size along length.	No work required.	40+	B2
2	Hawthorn	Elder	M	1.5	0.5	As current height	As current depth	Managed hedgerow.	No work required	40+	B2
3	Hawthorn	Elder	M	1.5	0.75	As current height	As current depth	Managed hedgerow.	Remove section indicated red on Appendix 4.	40+	B2

Trees Within Adjacent Properties

Note: Reduced details recorded to ensure constraints within site are represented but typical lack of direct access does not allow for full assessment. Estimate of BS Catgeory provided based on limited view

No.	Species	Age	DBH (cm)	Height (m)	Crown Spread Affecting Site (m)	CH (m)	General Observations	BS Cat
N1	Sycamore	EM	58	16	6	3.5		B1
N2	Sycamore	EM	67	15	6	3.5		B1
N3	Sycamore	EM	46	14	6	3		B1
N4	Sycamore	EM	46	14	6	3		B1



elliottconsultancyltd.
arboricultural consultancy

Wrens Nest, Undethill, Glaisdale
North Yorkshire YO21 2PF
01947 897001
enquiries@elliottconsultancy.com

Tree Position Showing Crown Extents and BS5837 Category A

Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Tree Position Showing Crown Extents and BS5837 Category U

Root Protection Area - to remain free from disturbance

Group of Trees

Hedgerow

Veteran Tree Buffer Zone

1/G1 Tree/Group

A1/B1/C1/U BS5837 Retention Category

Tree and Root Protection Area within Adjacent Property (position and size possibly estimated)

Position of Tree within Adjacent Property

Average Crown Spread within Site

Root Protection Area

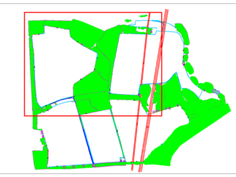
N1 ID of Tree Located within Adjacent Property

APPENDIX 3

Drawing Title:	Tree Constraints Plan
Project:	Normanton Larches, Worksop
Drawing Number:	ARB/CP/3322/TCP
Date:	February 2024
Scale:	1:2000 @ A0

elliottconsultancyltd.
arboricultural consultants

Wrens Nest, Undethill, Glaisdale
North Yorkshire YO21 2PF
01947 897001
enquiries@elliottconsultancy.com



Tree Position Showing Crown Extents and BS5837 Category A

Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Tree Position Showing Crown Extents and BS5837 Category U

Root Protection Area - to remain free from disturbance

Group of Trees

Hedgerow

Veteran Tree Buffer Zone

1/G1 Tree/Group

A1/B1/ C1/U BS5837 Retention Category

Tree and Root Protection Area within Adjacent Property (position and size possibly estimated)

Position of Tree within Adjacent Property

Average Crown Spread within Site

Root Protection Area

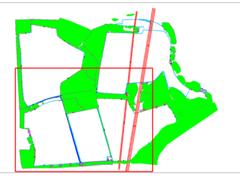
N1 ID of Tree Located within Adjacent Property

APPENDIX 3

Drawing Title:	Tree Constraints Plan
Project:	Normanton Larches, Worksop
Drawing Number:	ARB/CP/3322/TCP
Date:	February 2024
Scale:	1:1000 @ A0

elliottconsultancyltd.
arboricultural consultants

Wrens Nest, Undercliff, Glaisdale
North Yorkshire YO21 2PF
01947 897001
enquiries@elliottconsultancy.com



Tree Position Showing Crown Extents and BS5837 Category A

Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Tree Position Showing Crown Extents and BS5837 Category U

Root Protection Area - to remain free from disturbance

Group of Trees

Hedgerow

Veteran Tree Buffer Zone

1/G1 Tree/Group

A1/B1/ C1/U BS5837 Retention Category

Tree and Root Protection Area within Adjacent Property (position and size possibly estimated)

Position of Tree within Adjacent Property

Average Crown Spread within Site

Root Protection Area

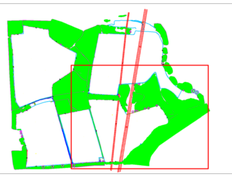
N1 ID of Tree Located within Adjacent Property

APPENDIX 3

Drawing Title:	Tree Constraints Plan
Project:	Normanton Larches, Worksop
Drawing Number:	ARB/CP/3322/TCP
Date:	February 2024
Scale:	1:1000 @ A0

elliottconsultancyltd.
arboricultural consultancy

Wrens Nest, Undethill, Glaisdale
North Yorkshire YO21 2PF
01947 897001
enquiries@elliottconsultancy.com



Tree Position Showing Crown Extents and BS5837 Category A

Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Tree Position Showing Crown Extents and BS5837 Category U

Root Protection Area - to remain free from disturbance

Group of Trees

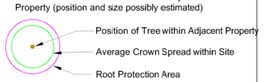
Hedgerow

Veteran Tree Buffer Zone

1/G1 Tree/Group

A1/B1/ C1/U BS5837 Retention Category

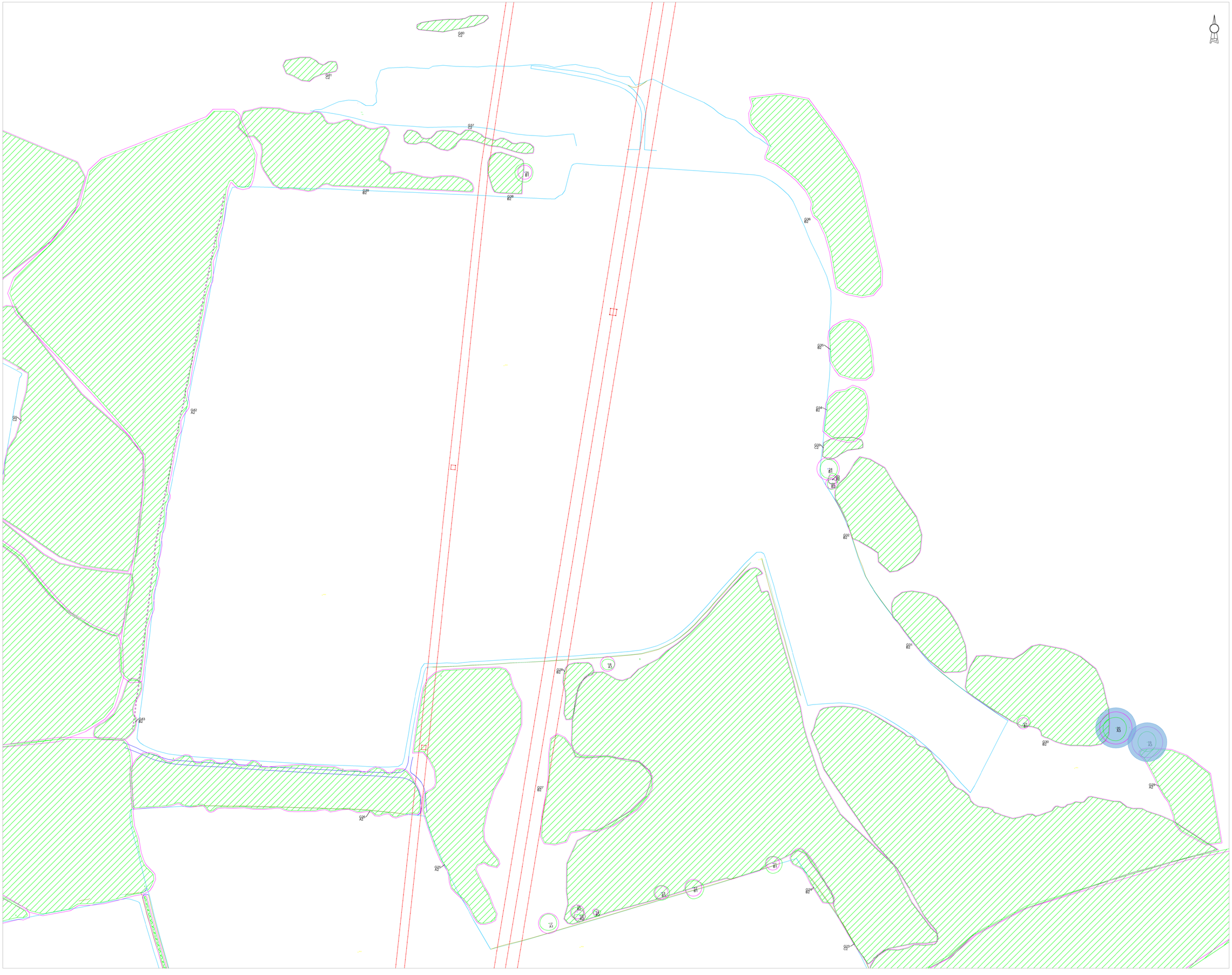
Tree and Root Protection Area within Adjacent Property (position and size possibly estimated)



N1 ID of Tree Located within Adjacent Property

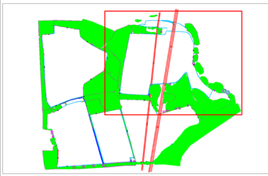
APPENDIX 3

Drawing Title:	Tree Constraints Plan
Project:	Normanton Larches, Worksop
Drawing Number:	ARB/CP/3322/TCP
Date:	February 2024
Scale:	1:1000 @ A0



elliottconsultancyltd.
arboricultural consultancy

Wrens Nest, Underhill, Glaisdale
North Yorkshire YO21 2PF
01947 897001
enquiries@elliottconsultancy.com



Tree Position Showing Crown Extents and BS5837 Category A

Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Tree Position Showing Crown Extents and BS5837 Category U

Root Protection Area - to remain free from disturbance

Group of Trees

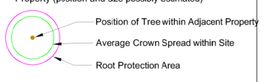
Hedgerow

Veteran Tree Buffer Zone

1/G1 Tree/Group

A1/B1/ C1/U BS5837 Retention Category

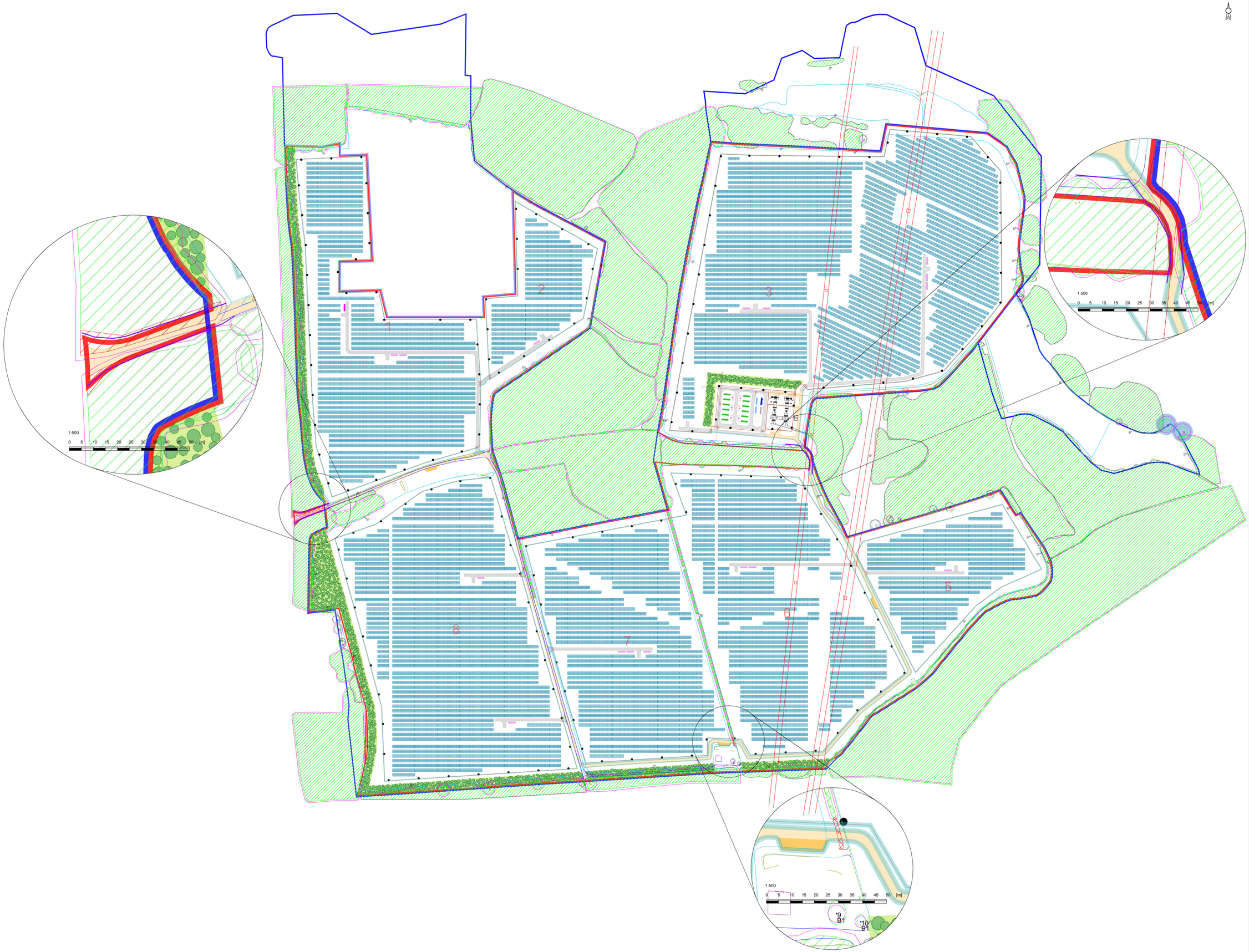
Tree and Root Protection Area within Adjacent Property (position and size possibly estimated)



N1 ID of Tree Located within Adjacent Property

APPENDIX 3

Drawing Title:	Tree Constraints Plan
Project:	Normanton Larches, Worksop
Drawing Number:	ARB/CP/3322/TCP
Date:	February 2024
Scale:	1:1000 @ A0



elliottconsultancyltd.
arboricultural consultants

Wrens Nest, Underhill, Glaisdale
North Yorkshire YO21 2PF
01947 897001
enquiries@elliottconsultancy.com

- Tree to be Retained
- Tree to be Removed
- Root Protection Area - to remain free from disturbance
- Group of Trees to be Retained
- Hedgerow to be Retained
- Group of Trees to be Removed
- Hedgerow to be Removed
- Tree Protection Barrier (specification as per Appendix 5)

1/G1/H1 Tree/Group/Hedgerow Number

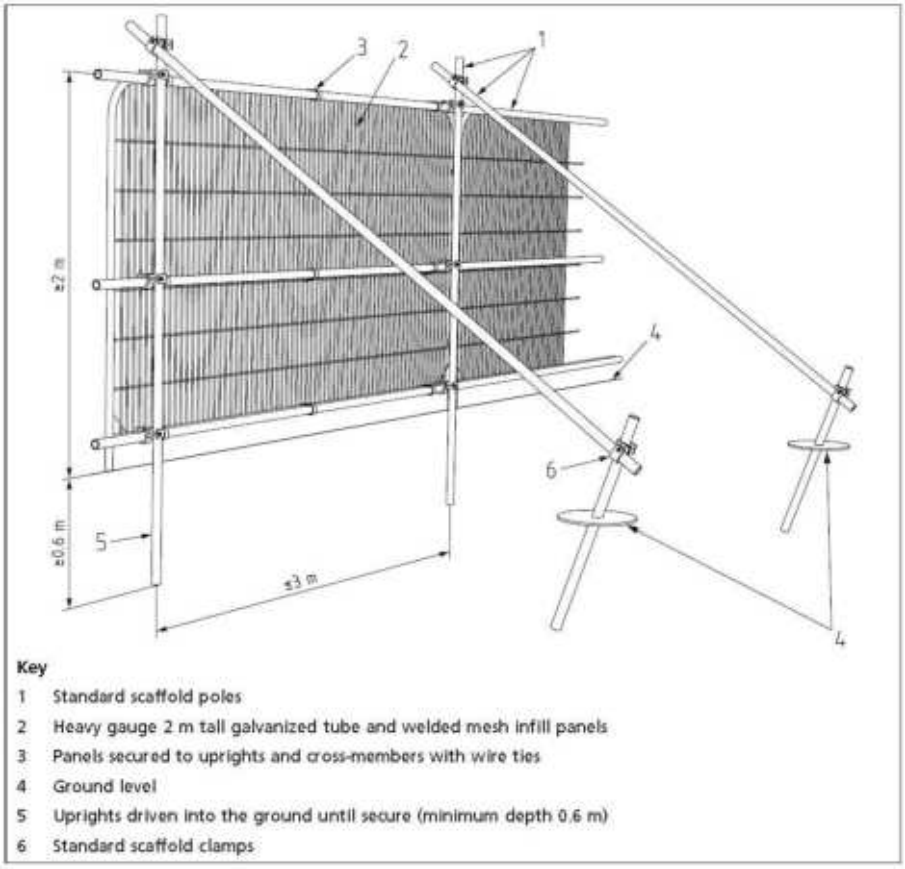
A1/B1/C1/U BS5837 Retention Category

APPENDIX 4

Drawing Title:	Tree Protection Plan
Project:	Proposed solar farm and battery energy storage system on land adjacent to the A814, Worksop
Drawing Number:	ARB/CP/3322/TPP
Date:	April 2024
Scale:	1:2000 @ A0

Appendix 5: Protective Fencing Specification

Tree Protection Fence as per BS5837:2012



Key

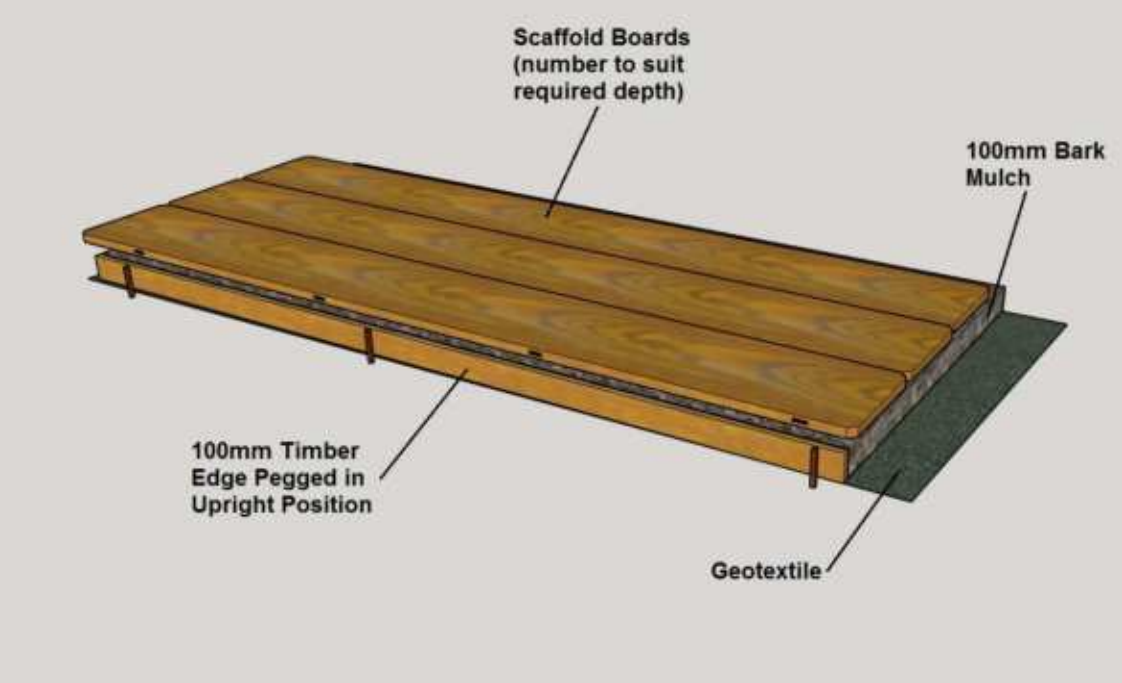
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Drawing Source: BS 5837:2012

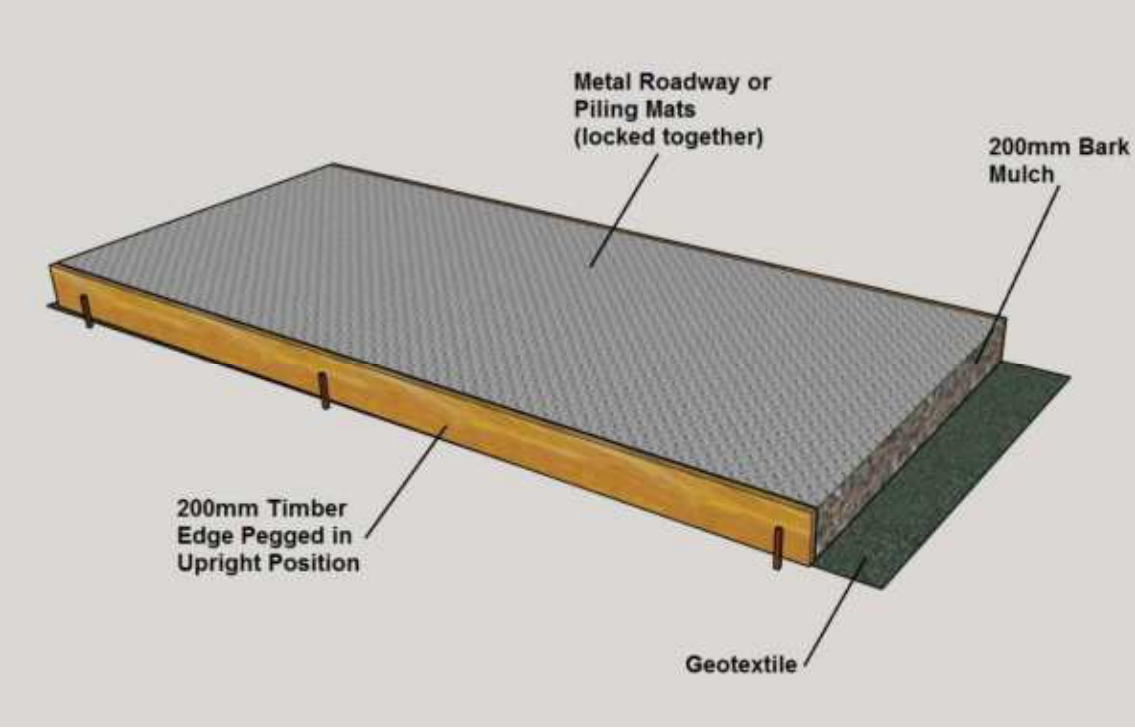
Appendix 6: Access within Root Protection Areas

Ground Protection to Enable Access within Root Protection Areas

For Pedestrians Only. (Scaffold boards can be replaced by robust sheet material)



Suitable for Light Traffic & Plant

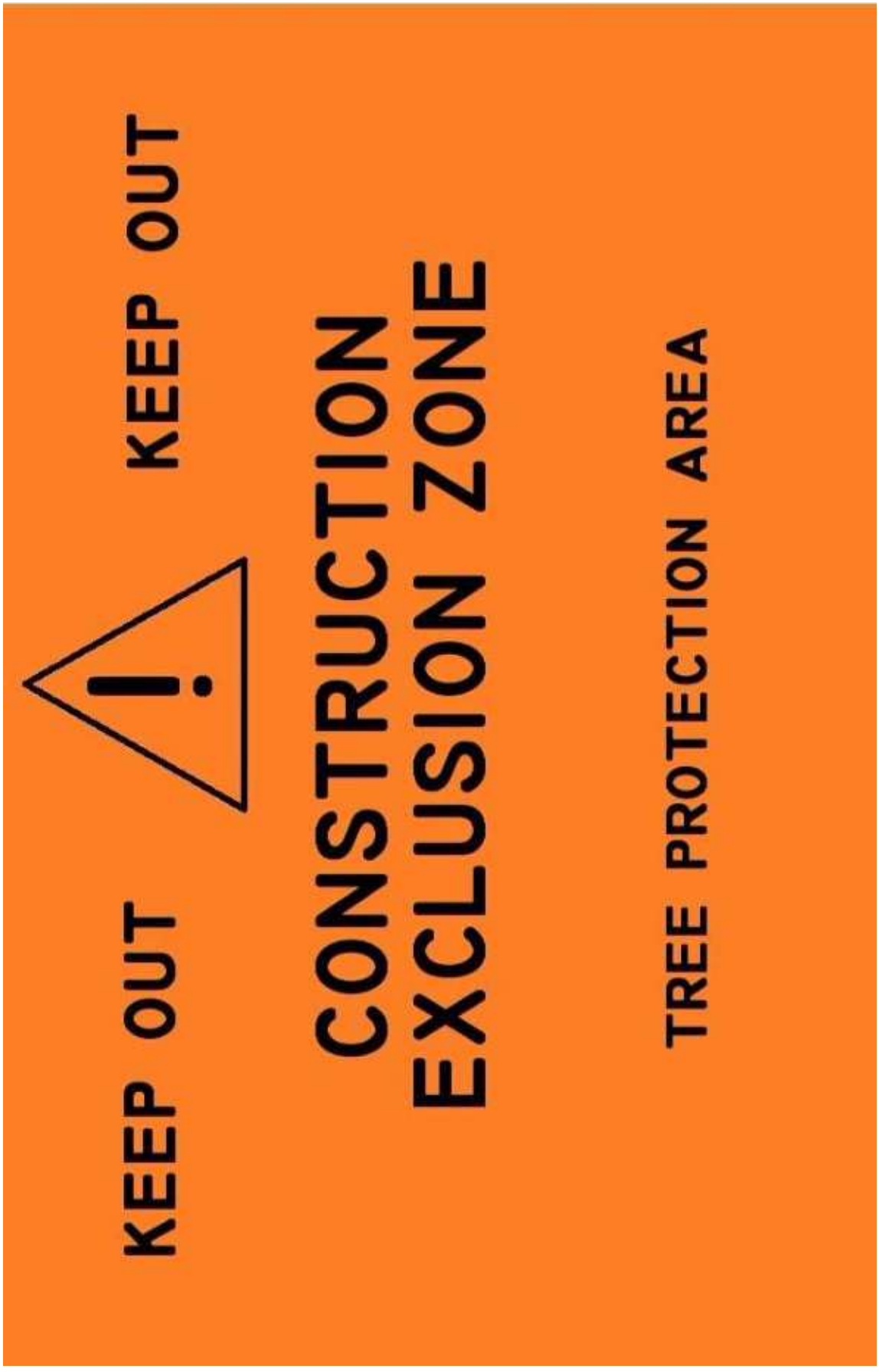


Where erecting scaffolding within areas of protected ground. The geotextile should be laid and then the scaffold footings placed on boards to spread the load. Ground protection as above should then be installed if access beneath the scaffolding is required.

Appendix 7: Removing Hard Surfaces & Other Excavations within Root Protection Areas

- All excavations within root protections areas must only be undertaken using hand tools or pedestrian operated machinery.
- The required excavations must be kept to a minimum to avoid unnecessary root damage and ideally undertaken during the presence of an arboriculturalist.
- Great care must be taken not to damage the bark of roots that can be retained in order to avoid wounds which could be exploited by pathogens.
- Exposed roots that can be retained must be wrapped with dry sacking if to be left exposed for extended periods e.g. overnight. Sacking must be removed prior to backfilling.
- All roots >25mm should be preserved and worked around. Where this is not possible, severance should only take place after consultation with the tree officer / appointed arboriculturalist. Roots must be cut using a sharp knife leaving as small a wound and as clean a cut as possible.
- Great care must be taken not to allow contaminants, such as oils, into the excavation.

Appendix 8: Construction Exclusion Zone Notice



Appendix 9: Tree Protection Zones Inspection Record

Tree Protection Zones Inspection Record – assessment of tree protection barriers and ground protection			
Date	**Checked By**	**Comments**	**Action Required?**

Appendix 10: Contact Details of Relevant Parties

Arboricultural Consultant	Charles Prowse Elliott Consultancy Ltd Wren's Nest Underhill Glaisdale YO212PF 01947 897001 07810200968 charles@elliottconsultancy.com
Local Planning Authority	Bassetlaw District Council Queen's Buildings Potter Street Worksop Nottinghamshire S80 2AH