



Arboricultural Impact Assessment and Method Statement

Three Loins, Mansfield

Reference:80-397-R2-4

Date: September 2023



ARBORICULTURAL IMPACT ASSESSMENT AND METHOD STATEMENT

Three Lions
Mansfield

Prepared for:
Shape Consulting Engineers Ltd

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EXECUTIVE SUMMARY

Site Address	Three Lions, Netherfield Lane, Mansfield, NG20 9PA
Co-ordinates	E 458057, N 369536
Site Area	Approximately 0.9 ha
Results	The site survey identified a total of 27 trees, two groups of trees and one hedge on and adjacent the site. These included 11 Category B trees of moderate value, 16 trees, two groups and one hedge graded Category C of low arboricultural value.
Recommendations	<p>An appraisal of the proposal documentation provided to date identified that construction of the development as proposed as proposed will require the removal of one low quality group and part of one low quality hedge graded Category C.</p> <p>The site is of sufficient size to accommodate a number of new trees. Specific details regarding replacement tree planting should be prepared by a suitably qualified and experienced landscape architect as part of a landscape scheme.</p> <p>The appraisal identified various elements of the development that are proposed within and close to the RPAs and canopy spreads of several retained trees located both on site and on adjacent land. As such, various special working and protection methods and materials have subsequently been proposed in accordance with current government guidance.</p> <p>Adequate protective fencing as outlined in the Arboricultural Method Statement should be installed around all retained trees, where practical, before any materials and machinery are brought on site.</p> <p>Any excavation within the RPA of a tree must be supervised by an Arboricultural Clerk of Works (ACoW). Excavation must be undertaken by hand.</p> <p>A Preliminary AMS has been provided in Section 5, which provides guidance on tree protection measures and mitigation.</p>



1. BACKGROUND

1.1. PURPOSE OF THE REPORT

E3P Ltd have been instructed by Shape Consulting Engineers Ltd to produce a Tree Constraints Report and Preliminary Method Statement relating to proposed development works at land at Three Lions, Netherfield Lane, Mansfield, NG20 9PA, hereafter referred to as 'the site'.

The purpose of the report is to:

- ✿ Assess the quality of the trees on and immediately adjacent to the site, in accordance with British Standards (2012)¹, hereafter referred to as 'BS5837: 2012'.
- ✿ Identify trees suitable for retention and for removal due to the proposed development.
- ✿ Prescribe tree protection measures to ensure that retained trees survive the proposed development and thrive after its completion.
- ✿ Prescribe arboricultural recommendations for the long-term management of trees on the site.
- ✿ If necessary, to assess the site for its suitability for mitigation planting, and to specify planting requirements.

1.2. SITE DETAILS

The site is located approximately 9.2 km north east of Mansfield town centre, and within the administrative boundaries of Mansfield District Council. The site is located on Netherfield Lane, Mansfield.

The site has two distinct areas. The eastern side of the site comprised a public house building and carpark, amenity grass area with trees of varying quality and age. The western side of the site comprises of a farm field with rough grass bordered by a hedge with trees along the northern boundary. A woodland borders the site to the south and Netherfield School located to the north.

Cranfield (2020)² identified the soil type of the site and the surrounding area as freely draining, slightly acid sandy soils. No further detailed soil analysis was undertaken.

1.3. LEGISLATION

The Town & Country Planning Act (1990) (the Act) and associated Regulations empower Local Planning Authorities (LPAs) to protect trees in the interests of amenity by making Tree Preservation Orders (TPOs). The Act also affords protection for trees of over 75 mm diameter that stand within the curtilage of a Conservation Area (CA). Subject to certain exemptions, an application must be made to the LPA in question to carry out works upon or to remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or to remove trees within a CA that are not protected by a TPO.

¹ British Standards (2012). *BS5837: 2012 - Trees in Relation to Design, Demolition and Construction: Recommendations*. British Standards Institute, London

² Cranfield (2020). *Soilscapes* [online]. Available at: >www.landis.org.uk< [accessed 11th December 2020]



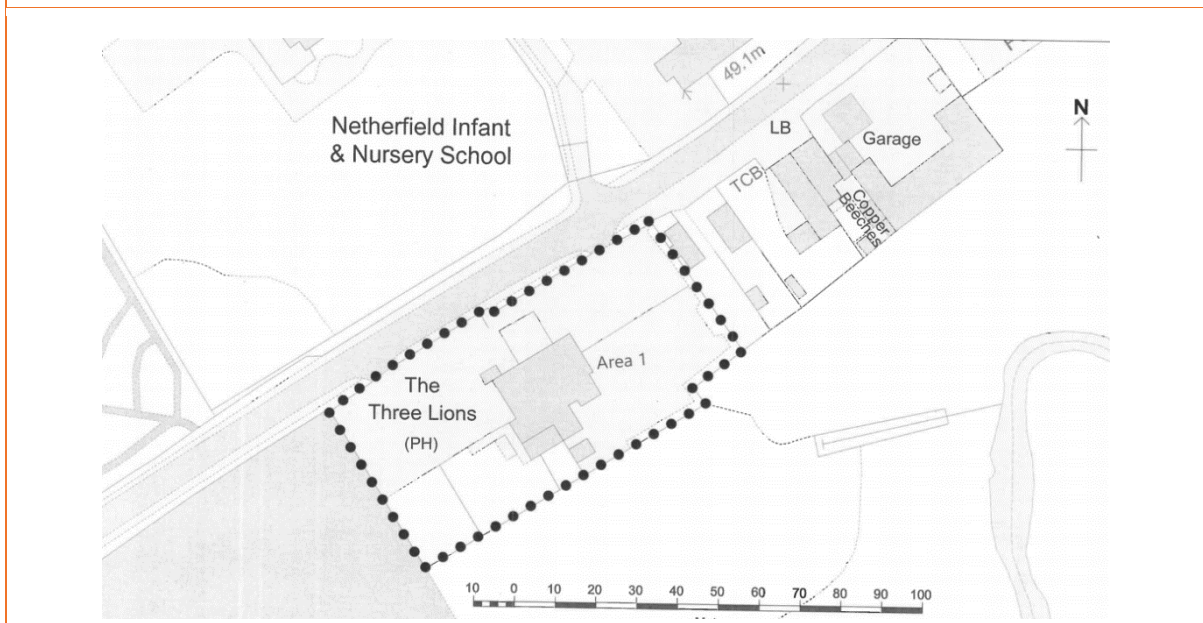
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Consultation with Mansfield District Council on 11th December 2020 has established the site is not located within a Conservation Area, however the site is subject to an area Tree Preservation Order (TPO) (TPO146 2019) (indicated with dotted line on Figure 1.1).

Tree T1 – T19 and G1 and G2 are all subject to the area Tree Preservation Order (TPO146 2019). Therefore it is emphasised that the scheduling or carrying out of any works to trees covered by TPO protection at the site, that are not directly related to the implementation of a detailed (i.e. full) planning permission, must be authorised by the Council's planning department.

FIGURE 1.1 AREA TREE PRESERVATION ORDER



2. METHODS

2.1. SITE SURVEY

The site survey was carried out by Martin Dilworth on 10th December 2020. All trees on site were inspected from ground level, using the Visual Tree Assessment (VTA) method. Any notable defects of trees were recorded, although the site survey did not constitute a full tree safety assessment.

Tree heights and crown clearances were measured to the nearest 0.5 m with a clinometer. Crown spreads of trees were measured on their north, east, south and west aspects to the nearest 0.5 m. The Diameter at Breast Height (DBH) of trees was measured to the nearest 1 cm and was used to calculate the Root Protection Area (RPA) of trees using methods prescribed in BS 5837:2012.

In accordance with BS 5837:2012, trees were classified as either A, B, C or U using the criteria shown in Table 2.1. Trees were further classified by the subcategories 1, 2 and 3, depending upon whether they had mainly arboricultural, landscape, or cultural qualities. The additional subcategory does not affect the retention value of the tree, e.g. a Category A2 tree does not have a higher retention value than a Category A1 tree.

TABLE 2.1 BS 5837 CASCADE CHART (ADAPTED FROM BRITISH STANDARDS, 2012)

CATEGORY	DEFINITION	RETENTION	COLOUR CODE
CATEGORY A	Trees of high quality with an estimated remaining life expectancy of at least 40 years; trees that are particularly good examples of their species, especially if rare or unusual.	Highly desirable	Light green
CATEGORY B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years; trees lacking the special quality to merit Category A designation.	Desirable	Dark blue
CATEGORY C	Trees of low quality with an estimated remaining contribution of at least 10 years, or trees with a stem diameter below 150 mm; unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Feasible, but should be removed if posing a constraint to development	Grey
CATEGORY U	Trees that have serious, irreparable, structural and/or physiological defects, including those that will become unviable after removal of other Category U trees.	Unfeasible	Dark red

2.2. CONSTRAINTS

Topographical base mapping was provided; however a number of trees were not recorded by the topographical survey, therefore these trees were manually plotted using GPS.



Some sections of the study area were covered with dense undergrowth, preventing a full assessment and an accurate measurement of some trees. Where tree survey data has been estimated (based on assessments from the nearest safe vantage points). These trees are denoted by a # in the associated schedules.

Only trees within the likely influence of the proposed development have been included within this report. Any additional trees in the vicinity of the site have been deemed to not be affected by the proposals and have not been included.

Trees are living organisms and as such their health and condition are naturally subject to change over time. Unforeseen future circumstances such as neglect, wilful damage or severe/extreme weather conditions may affect the future health and condition of the trees included in this report.

2.3. QUALIFICATIONS OF THE AUTHOR

Martin Dilworth is a suitably qualified arboricultural consultant, who is a Professional member of the Arboricultural Association, and holds an FdSc in Arboriculture, and the LANTRA Professional Tree Inspection Certificate.



2.4. TREE POPULATION ASSESSMENT

The site survey identified a total of 27 trees, two groups of trees and one hedge on and adjacent the site. These included 11 Category B trees of moderate value, 16 trees, two groups and one hedge graded Category C of low arbicultural value.

TABLE 3.1 TREE CATEGORIES RECORDED

TREE CATEGORY	NO. OF INDIVIDUAL TREES	NO. OF GROUPS OF TREES	NO. OF HEDGEROWS	NO. OF WOODLANDS
CATEGORY A (TREES OF HIGH QUALITY)	0	0	0	0
CATEGORY B (TREES OF MODERATE QUALITY)	11	0	0	0
CATEGORY C (TREES OF LOW QUALITY)	16	2	1	0
CATEGORY U (TREES OF POOR QUALITY UNSUITABLE FOR RETENTION)	0	0	0	0
TOTALS	27	2	1	0

2.5. TREE SPECIES DIVERSITY

Several tree species were recorded as individual or as part of the groups of trees during the survey and are represented throughout the study area. Species of trees recorded includes, ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), Norway maple (*Acer platanoides*), plum (*Prunus* sp.) silver birch (*Betula pendula*), sycamore (*Acer pseudoplatanus*) and wych elm (*Ulmus glabra*)

Tree data can be viewed in **Appendix I: Tree Survey Schedule**. Photographs of trees can be viewed in **Appendix II: Photographs**. Tree locations can be viewed in **Appendix III: Tree Constraints Plan**.



3. IMPACT ASSESSMENT

3.1. TREE REMOVALS DUE TO DEVELOPMENT

From the information provided to date it is projected that, as detailed in Table 4.1, construction of the development as proposed will require the removal of one low quality group and part of one low quality hedge graded Category C.

TABLE 4.1 TREE REMOVALS REQUIRED TO ACCOMMODATE DEVELOPMENT PROPOSALS

Category	Removals necessary to implement development	Total no. of removals
CATEGORY A	-	0
CATEGORY B	-	0
CATEGORY C	*G2 Part H1 (approx. 15m)	1 group 1 hedge (partial)
CATEGORY U	-	0

3.2. MITIGATION FOR TREE LOSS

As detailed on the Tree Impact and Protection Plan, and in Table 4.1 one low quality group and part of one low quality hedge. That said, the site is of sufficient size to accommodate a number of new trees.

Specific details regarding replacement tree planting should be prepared by a suitably qualified and experienced landscape architect as part of a landscape scheme.

All new tree planting should be in accordance with British Standard 8545: Trees: From Nursery to Independence in the Landscape – Recommendations, 2014³ and all tree works must be carried out by a qualified contractor in accordance with BS3998:2010⁴: Tree Work – Recommendations.

3.3. WORKS WITHIN RPAS

The appraisal identified that the following development works are close to and within retained trees' RPAs and canopies:

³ British Standards Institution (2014) BS 8545: Trees: From nursery to Independence in the Landscape – Recommendations.

⁴ British Standards Institution (2010) BS 3998:2010, Tree Work Recommendations.



- ✿ Various proposed hard surfaced areas for car parking encroach within various trees' RPAs;
- ✿ Proposed residential buildings and their associated hard-surfaces and presumed drainage provision are close to or encroach within various trees' RPAs and canopies.

TABLE 4.2 ROOT PROTECTION AREA INCURSIONS

Potential to Impact Upon Retained Trees	Trees Impacted	Proposed Special Measures	Relevant BS5837 Section(s) to be Adhered to	Information Required or Provided and Relevant Specialist
Removal of exiting areas of hard surfacing and foundations associated with demolished building and concrete slab	T2, T3, T4, T5, T6, T7, T8, T9, T10, T19, G1	<ul style="list-style-type: none"> ▪ Machinery to be positioned onto existing hard surfaces at all times within and adjacent to RPAs. ▪ Hand working methods to be used, in accordance with relevant sections of BS5837:2012, to remove hard surfacing within tree RPAs. ▪ Remaining soft surfaces of tree RPA to be afforded adequate protection using temporary ground plates. ▪ All site operations involving plant with booms, jibs and counterweights to be planned in advance to prevent contact with retained trees and works adjacent to trees conducted under the supervision of a banksman, under arboricultural direction, to ensure that adequate clearances from retained trees is maintained. 	7.2, 7.3	Ground works contractor to provide detailed schedule of works and method statement
Construction of new hard standing within tree RPA's	T11, T12, T13, T17, T18, T21, T22, T26	<ul style="list-style-type: none"> ▪ New hard surfaces for driveways, footpaths and hard landscaping within RPA of trees to be constructed using a three-dimensional cellular confinement system in order to avoid root loss and damage due to ground excavation and/or compaction. ▪ Remaining soft surfaces of tree RPA to be afforded adequate protection using temporary fencing and/or ground plates. ▪ All site operations involving plant with booms, jibs and counterweights to be planned in advance to prevent contact with retained trees and works adjacent to trees conducted under the supervision of a banksman, under arboricultural direction, to ensure that adequate clearances from retained trees is maintained. 	7.3, 7.5	Supplier of 3D system to prepare and supply plans with existing and proposed finished levels and detailed work specification



<p>New landscaping and fencing within trees RPA's</p>	<p>All retained trees</p>	<ul style="list-style-type: none"> ▪ All proposed landscaping to be carried out within and close to retained trees' RPAs should be carried out in strict accordance with the guidance detailed in section 8 of BS5837:2012. ▪ All fence post excavations are to be carried out manually, using handheld tools only. ▪ Protect RPA adjacent to proposed building using temporary ground protection measures alongside fencing. ▪ No vehicular or plant access within retained trees' RPAs under soft surfaces. 	<p>7.2, 7.3, 7.4, 8</p>	<p>Ground works contractor to provide detailed schedule of works and method statement</p>
<p>Possible installation of drainage to extents of proposed buildings within tree RPAs</p>	<p>All retained trees</p>	<ul style="list-style-type: none"> ▪ Routes which pass the minimum distance through RPAs to be agreed between project arboriculturist and relevant consultant. ▪ Specialist excavation methods, under arboricultural supervision, to be used where utilities are projected to pass through RPAs. ▪ Inspection chambers for services to be positioned outside RPAs. 	<p>7.7</p>	<p>Detailed services plan to be supplied by relevant consultant. Detailed methods and schedule of works to be supplied by groundworks contractor.</p>

Any excavation within the RPA of a tree must be supervised by an Arboricultural Clerk of Works (ACoW). All fence post excavations are to be carried out manually, using handheld tools only, and in accordance with the guidelines set out in section 7.2.1 of BS5837:2012.

All proposed landscaping to be carried out within and close to retained trees' RPAs should be carried out in strict accordance with the guidance detailed in section 8 of BS5837:2012.

3.4. FACILITATION PRUNING

Based on the information currently available, it is not possible to predict the requirement for access facilitation pruning. Any requirements for access facilitation pruning should be discussed at a pre-commencement meeting with the project arboriculturalist.

All tree works should be completed prior to the commencement of any development or construction vehicles/plant entering either site. It is recommended that all tree works are carried out in accordance with BS3998:2010: Tree Work - Recommendations.

3.5. UNDERGROUND UTILITIES AND DRAINAGE

The installation of underground utilities in close proximity to trees can cause serious damage to their roots. As such, it is essential that utilities be routed outside RPAs unless there is no other available option. Where RPAs cannot be avoided then guidelines set out in the National Joint Utilities Group publication 'Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2) – Operatives Handbook' should be followed (e.g. trenches of a very limited width to be hand dug or the use of directional drilling).



To date, there are no proposed works to service and/or drainage in respect of the development under consideration. In order to ensure that utilities and services are either routed outside RPAs where possible or special working methods are used, where required to install services within RPAs, the provision of a bespoke method statement can be conditioned to a planning approval.

3.6. GENERAL CONSTRUCTION PRECAUTIONARY MEASURES

Adequate protective fencing as outlined in the Arboricultural Method Statement should be installed around all retained trees, where practical, before any materials and machinery are brought on site.

Site operations involving plant with booms, jibs and counterweights should be planned in advance to prevent contact with retained trees. All operations involving such plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from the retained trees is maintained.

All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside RPAs. No discharge of potential contaminants should occur within the RPA of a retained tree stem or where there is a risk of run off into RPA.



4. SUMMARY AND CONCLUSIONS

A total of 27 trees, two groups and one hedge were recorded within and adjacent to the site. They have been identified and assessed in accordance with BS 5837:2012 and categorised accordingly. These included 11 Category B trees of moderate value, 16 trees, two groups and one hedge graded Category C of low arboricultural value.

Tree T1 – T19 and G1 and G2 are all subject to an area Tree Preservation Order (TPO146 2019).

Regarding the above it is emphasised that the scheduling or carrying out of any works to trees covered by TPO protection at the site, that are not directly related to the implementation of a detailed (i.e. full) planning permission, must be authorised by the council's planning department.

An appraisal of the proposal documentation provided to date identified that construction of the development as proposed as proposed will require the removal of one low quality group and part of one low quality hedge graded Category C.

The site is of sufficient size to accommodate a number of new trees. Specific details regarding replacement tree planting should be prepared by a suitably qualified and experienced landscape architect as part of a landscape scheme.

The appraisal identified various elements of the development that are proposed within and close to the RPAs and canopy spreads of several retained trees located both on site and on adjacent land. As such, various special working and protection methods and materials have subsequently been proposed in accordance with current government guidance.

Adequate protective fencing as outlined in the Arboricultural Method Statement should be installed around all retained trees, where practical, before any materials and machinery are brought on site.

Any excavation within the RPA of a tree must be supervised by an Arboricultural Clerk of Works (ACoW). Excavation must be undertaken by hand.

Site operations involving plant with booms, jibs and counterweights should be planned in advance to prevent contact with retained trees. All operations involving such plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from the retained trees is maintained.

All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside RPAs. No discharge of potential contaminants should occur within the RPA of a retained tree stem or where there is a risk of run off into RPA.

Any requirements for access facilitation pruning should be discussed at a pre-commencement meeting with the project arboriculturalist.

All pruning works should be carried out by a competent arborist in accordance with BS 3998:2010, Tree Work Recommendations.

A Preliminary Arboricultural Method Statement has been provided in Section 5, which provides guidance on tree protection measures and mitigation.



5. PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1. TIMING OF WORKS

The phasing of works must be carried out in accordance with Table 5.1.

TABLE 5.1 TIMING OF WORKS

STAGE	WORKS
1	Site induction
2	Install temporary tree protection fencing
3	Inspection by arboriculturist
4	Carry out construction works, subject to precautionary measures
5	Remove tree protection fencing once works complete
6	Final inspection by arboricultural consultant

5.2. SITE INDUCTION

Prior to works commencing, all contractors must attend a site induction. All contractors will be briefed on arboricultural concerns arising from the development proposals, including tree Root Protection Areas (RPAs). This method statement must be made available to all contractors working on the site.

5.3. TREE PROTECTION FENCING

Prior to machinery entering the site, it will be necessary to ensure that all trees are adequately protected. This will require the installation of temporary of tree protection fencing.

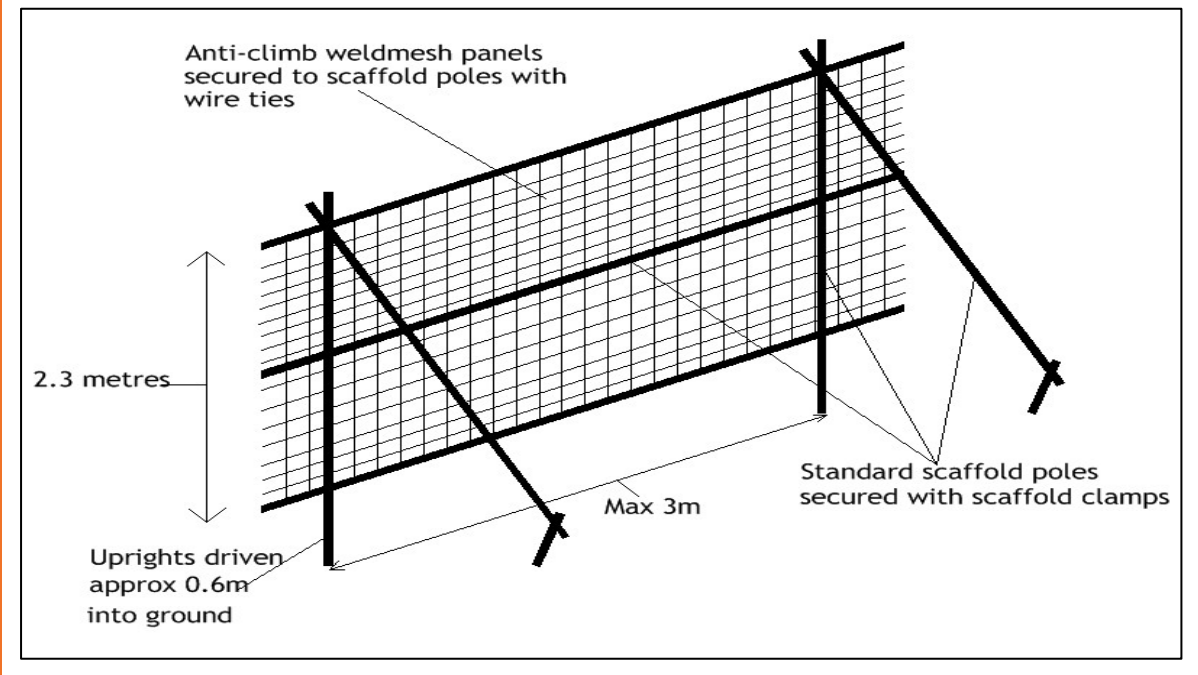
Tree protection fencing will consist of a vertical scaffold framework, well braced to resist impacts. The vertical poles must be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels will be fixed (see Figure 5.1).

Laminated waterproof A3 signs will be fixed securely to fencing panels on each enclosure at 9 m intervals. The signs must clearly read: 'Protected Tree Zone, no storage or operations within fenced off areas'.

Once the construction works have been completed, the tree protection fencing may be removed. This must be done with care to ensure that no damage to trees is caused.



FIGURE 5.1 TREE PROTECTION FENCING SPECIFICATION



5.4. GENERAL PRECAUTIONARY MEASURES

Prior to works commencing, a site storage area will be designated, which must be outside of the RPAs of trees. No materials hazardous to tree health, such as oil, bitumen or cement will be stored within RPAs of trees. Where possible this area should be extended to 10 m away from the tree protection fencing.

Where there is a risk of polluted water runoff into RPAs, heavy duty plastic sheeting and sandbags will be used to contain any spillages and prevent contamination. No fires will be lit within 20 m of the protective fencing.

If any breach in the tree protection measures occurs it is the site manager's responsibility to report this to an arboricultural consultant so the appropriate measures may be taken.

CELLULAR CONFINEMENT SYSTEM

Where hardstanding is required within the RPAs of trees, this will need to be constructed of a cellular confinement system to minimise compaction and to enable uptake of air, water and nutrients by tree roots. The cellular confinement should be installed in the following stages:



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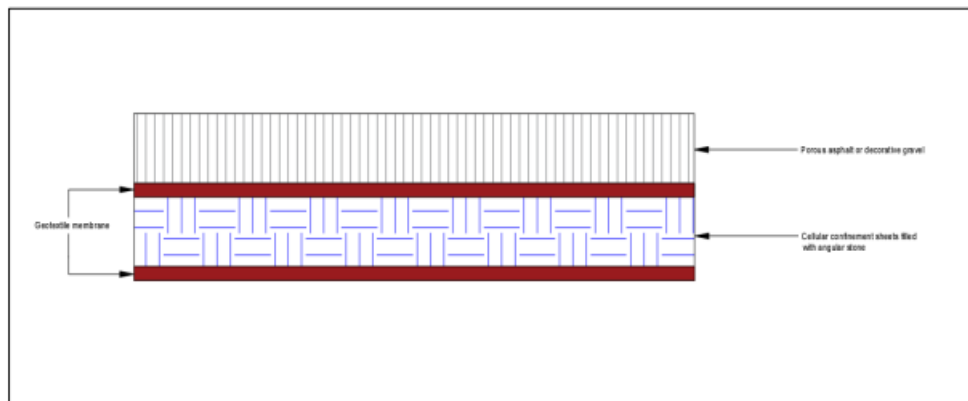
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- ✿ Level ground with hand tools only.
- ✿ No pruning of roots should be undertaken without notifying a consultant arboriculturist.
- ✿ Cover surface with a non-woven, geotextile separation filtration layer.
- ✿ Install cellular confinement sheets.
- ✿ Place 40/20 mm clean angular stone into open cells.
- ✿ Cover with second non-woven geotextile separation filtration layer.
- ✿ Install 75 mm porous asphalt, or 60mm decorative gravel.

As the majority of tree roots are typically found within 1 m of ground level, particular attention should be paid to existing levels, and any unavoidable excavations into the soil should be carried out by use of hand operated tools only.

Figure 5.2, below, shows the layers of the cellular confinement system.

FIGURE 5.2 CELLULAR CONFINEMENT SPECIFICATION



TEMPORARY GROUND PROTECTION

Any necessary Temporary Ground Protection areas shall conform to Figure 5.3, below, unless otherwise agreed with the LPA.



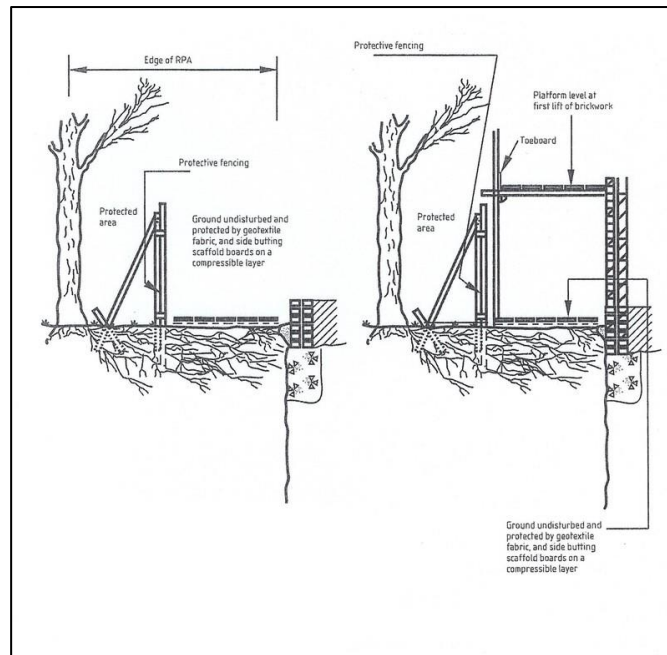
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The Ground Protection Area shall be left undisturbed and covered by a semi-permeable geotextile membrane which shall, in turn, be covered by a compressible layer consisting of a material such as woodchip. Side-butting scaffold boards shall then be fitted to cover the Ground Protection Area. On completion of installation, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Ground Protection.

The Temporary Ground Protection shall remain in place until completion of the project and only removed following receipt of written permission from the Project Arboriculturist.

FIGURE 5.3 TEMPORARY GROUND PROTECTION



6. ARBORICULTURIST CONTACT DETAILS

If at any point during construction works, works are required within RPAs, if there is a breach within the tree protection fencing, and/or if the proposals change from those detailed within the Tree Protection Plan, the project arboriculturist must be consulted immediately. The project arboriculturist's details are below:

Martin Dilworth

E3P
Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

trees@e3p.co.uk

Office: 01617079612

END OF REPORT



APPENDIX I TREE SURVEY SCHEDULE

A plan showing tree locations can be viewed in **Appendix III: Tree Constraints Plan**.

TABLE A.1 KEY FOR TREE TABLES

KEY	
SPECIES	Common name and scientific name
HEIGHT	Measured to nearest 0.5 m
C.C	Height of crown clearance, measured to nearest 0.5 m
DBH	Diameter at breast height (1.5 m), in centimetres
CROWN SPREAD	Measured to nearest 0.5 m
AGE	Y - sapling/newly planted tree
	SM - semi-mature; tree in 1/3 of estimated lifespan
	EM - early-mature; tree in 2/3 of estimated lifespan
	M -mature; tree in 3/3 of estimated lifespan
	V - Veteran tree
ERC	Safe useful life expectancy of tree, in years
CATEGORY	See cascade chart (Table 1.1)
#	Estimated value



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TABLE A.2 TREE DATA

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M ²)	RPA RADIUS (M)
				N	E	S	W							
T1	Silver birch (<i>Betula pendula</i>)	3	80	1	1	2	1	0	Y	Located in grass verge. No signs of ill health or significant structural defects.	10+	C1	3	0.96
T2	Norway maple (<i>Acer platanoides</i>)	13	620	4	5	5	6	2	M	Located on edge of woodland within site boundary. Stem bifurcates at 2m. Multiple old pruning wounds on stem on south side partly occluded.	20+	B1	174	7.44
T3	Ash (<i>Fraxinus excelsior</i>)	12	290 170	5	4	1	1	5	SM	Located on property boundary on edge of woodland. Crown biased to north. Suppressed by adjacent tree.	10+	C1	51	4.04
T6	Ash (<i>Fraxinus excelsior</i>)	12	390	5	5	2	5	5	EM	Located on property boundary on edge of woodland. Stem bifurcates at 3m. Natural lean in stem towards north.	10+	C1	69	4.68
T4	Sycamore (<i>Acer pseudoplatanus</i>)	5	90	1	2	2	2	2	Y	Located on property boundary on edge of woodland. No signs of ill health or significant structural defects	10+	C1	4	1.08
T5	Hawthorn (<i>Crataegus monogyna</i>)	3	90	2	2	1	1	1	Y	Located on property boundary on edge of woodland. No signs of ill health or significant structural defects.	10+	C1	4	1.08



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TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M ²)	RPA RADIUS (M)
				N	E	S	W							
T7	Sycamore (<i>Acer pseudoplatanus</i>)	5	145	2	3	4	3	1	Y	Located on property boundary on edge of woodland. Suppressed by adjacent trees.	10+	C1	10	1.74
T8	Ash (<i>Fraxinus excelsior</i>)	13	440	7	5	5	4	2	EM	Located on property boundary on edge of woodland. Wooden fence nailed to stem. Multiple stub pruning wounds at approximately 2m.	20+	B1	88	5.28
T9	Sycamore (<i>Acer pseudoplatanus</i>)	6	120	3	3	3	3	1	Y	Located on property boundary on edge of woodland. Suppressed by adjacent trees.	10+	C1	7	1.44
T10	Ash (<i>Fraxinus excelsior</i>)	13	440 420 270	7	5	6	7	1	M	Located on property boundary on edge of woodland. Multiple stems at ground level. Wooden fence nailed to stem.	20+	B1	200	7.99
T11	Norway maple (<i>Acer platanoides</i>)	14	760	6	6	6	6	0	M	Decay cavity's in stem at 2m on east and west side partly occluded. Vertical Bark ridge on stem from ground level upto 1.5m.	10+	C1	261	9.12
T12	Plum (<i>Prunus</i> sp.)	3	230	2	3	2	1	2	M	Dense ivy on stem. Suppressed by adjacent tree.	10+	C1	24	2.76



Three Lions, Mansfield

Arboricultural Impact Assessment and Method Statement

September 2023

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M ²)	RPA RADIUS (M)
				N	E	S	W							
T13	Plum (<i>Prunus</i> sp.)	5	270 270 150 (MS)	2	3	3	3	2	M	Multiple stems at ground level. Deadwood throughout crown upto 1m in length and 40mm diameter.	10+	C1	76	4.93
T14	Norway maple (<i>Acer platanoides</i>)	13	500	5	5	5	5	2	EM	Base of tree on mound with exposed roots. Bark. Damage on stem at 2m up to approximately 4m on north west side.	10+	C1	113	6
T15	Norway maple (<i>Acer platanoides</i>)	12	520	5	2	5	5	2	EM	Crown suppressed on east side by adjacent tree. Slight lean in stem towards south.	10+	C1	122	6.24
T16	Silver birch (<i>Betula pendula</i>)	12	470	4	4	4	4	1	M	Natural sweep in stem at approximately 3m	20+	B1	100	5.64
T17	Norway maple (<i>Acer platanoides</i>)	12	480	2	5	5	5	1	EM	Mutual suppression of canopy by adjacent tree.	20+	B1	104	5.76
T18	Norway maple (<i>Acer platanoides</i>)	10	410	4	5	2	4	2	EM	Mutual suppression of canopy by adjacent tree.	20+	B1	76	4.92



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TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M ²)	RPA RADIUS (M)
				N	E	S	W							
T19	Ash (<i>Fraxinus excelsior</i>)	7	350 340 220 (MS)	5	5	5	5	1	EM	Multiple stems at ground level. Dense ivy on stem preventing full visual inspection. Deadwood throughout crown upto 2m in length and 40mm diameter.	10+	C1	130	6.43
T20	Ash (<i>Fraxinus excelsior</i>)	10	320	4	4	4	1	2	SM	Located in hedge. Crown suppressed by adjacent tree. Dense ivy on stem.	10+	C1	46	3.84
T21	Ash (<i>Fraxinus excelsior</i>)	13	410 350 350 (MS)	6	6	6	6	2	EM	Located within hedge. Multiple stems at ground level. Dense ivy on stems. Deadwood throughout crown upto 2m in length and 60mm diameter.	20+	B1	187	7.72
T22	Ash (<i>Fraxinus excelsior</i>)	13	530	5	5	6	5	3	EM	Located within hedge. Ivy on stem. Deadwood throughout crown upto 2m in length and 70mm diameter.	20+	B1	127	6.36
T23	Ash (<i>Fraxinus excelsior</i>)	10	310 150 150 100 (MS)	4	4	4	2	1	EM	Located within hedge. Multiple stems at ground level. Ivy on stems. Crown suppressed by adjacent trees	10+	C1	68	4.67
T24	Ash (<i>Fraxinus excelsior</i>)	12	310 250 (TS)	4	3	4	4	3	EM	Located within hedge. Ivy on stems. Crown suppressed by adjacent trees	10+	C1	72	4.78



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September 2023

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M ²)	RPA RADIUS (M)
				N	E	S	W							
T25	Wych elm (<i>Ulmus glabra</i>)	10	#300	4	4	4	4	0	SM	Located within hedge. Ivy on stem. Dense undergrowth preventing full visual inspection.	20+	B1	41	3.6
T26	Ash (<i>Fraxinus excelsior</i>)	12	310 310 250 (MS)	4	6	5	5	1	EM	Located within hedge. Ivy on stems. Dense undergrowth preventing full visual inspection	20+	B1	115	6.06
T27	Ash (<i>Fraxinus excelsior</i>)	16	#900	8	9	7	7	2	M	Located within hedge. Dense ivy on stem preventing full visual inspection. Deadwood throughout crown upto 2m in length and 50mm diameter.	20+	B1	366	10.8
G1	Sycamore (<i>Acer pseudoplatanus</i>) x 8 Ash (<i>Fraxinus excelsior</i>) x 4 Silver birch (<i>Betula pendula</i>) x 2	5	#100 100 100 (MS)	2	2	2	2	0	Y	Multiple stems at ground level.	10+	C2	14	2.08



Three Lions, Mansfield

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TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M ²)	RPA RADIUS (M)
				N	E	S	W							
G2	Ash (<i>Fraxinus excelsior</i>) x 3, Plum (<i>Prunus sp.</i>) x 2,	7	180	2	2	2	2	0	Y	Ivy on stems. Mutual suppression of canopies	10+	C2	15	2.16
H1	Hawthorn (<i>Crataegus monogyna</i>)	3	#120	2	2	2	2	0	M	Fragmented hedge with multiple gaps. Dense ivy on stems.	10+	C2	7	1.44



APPENDIX II PHOTOGRAPHS

PLATE 1 TREE T1



PLATE 2 TREE T11



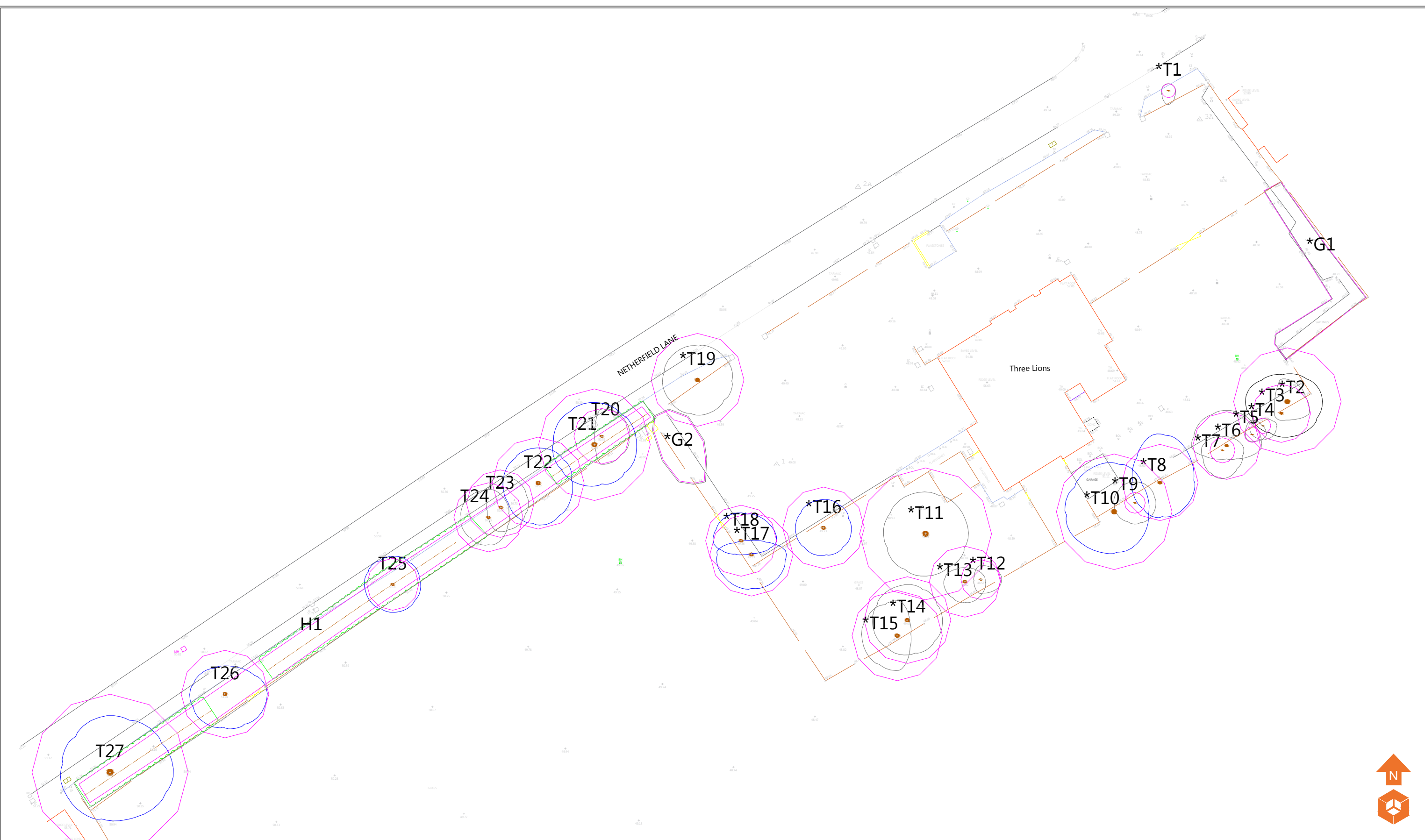
PLATE 3 TREE T16



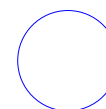
PLATE 4 HEDGE H1

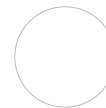
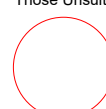


APPENDIX III TREE CONSTRAINTS PLAN




Tree Categorisations:
Those to be Considered for Retention:

-  **Category 'A' Tree/Group/Hedge**
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years
-  **Category 'B' Tree/Group/Hedge**
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years

-  **Category 'C' Tree/Group/Hedge**
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees
-  **Category 'U' Tree/Group/Hedge**
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

Root Protection Areas (RPAs):

-  **RPAs**
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Appended Temporary Protective Fencing Specification

*T/G - denotes trees/ groups subject to a Tree Preservation Order (TPO)

Notes:
The stem location of trees T4 and T5 were not included on the topographical survey based site plan provided, and their locations were subsequently plotted by the arboricultural surveyor using aerial imagery and estimation at the time of the survey. As such, the plotted locations of these trees cannot therefore be considered to be wholly accurate.

P1	REVA	03.02.2021	MD	MD
Phase	Issue	Date	Drawn	Checked

Client:
Shape Consulting Engineers Ltd

Job Title:
Three Lions, Mansfield

Job No:
80-397

Drawing No:
001

Date:
03.02.2021

Scale:
1:500 @ A3



Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
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Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

Drawing Title:
Tree Constraints Plan

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APPENDIX IV TREE IMPACTS PLAN

ation Ground

Ppg Sta

Footpath to be constructed, where it encroaches into tree's RPA of T26, using 'no dig' methods and materials in accordance with s7.4 of BS5837:2012.

New building footprint encroaches into approximately 3.7% of the calculated RPA of tree T22, and is subsequently not projected to cause significant root damage providing remaining RPA is sufficiently protected throughout works

New footpath to be constructed, where it encroaches within tree's RPA of T21, using 'no dig' methods and materials in accordance with s7.4 of BS5837:2012

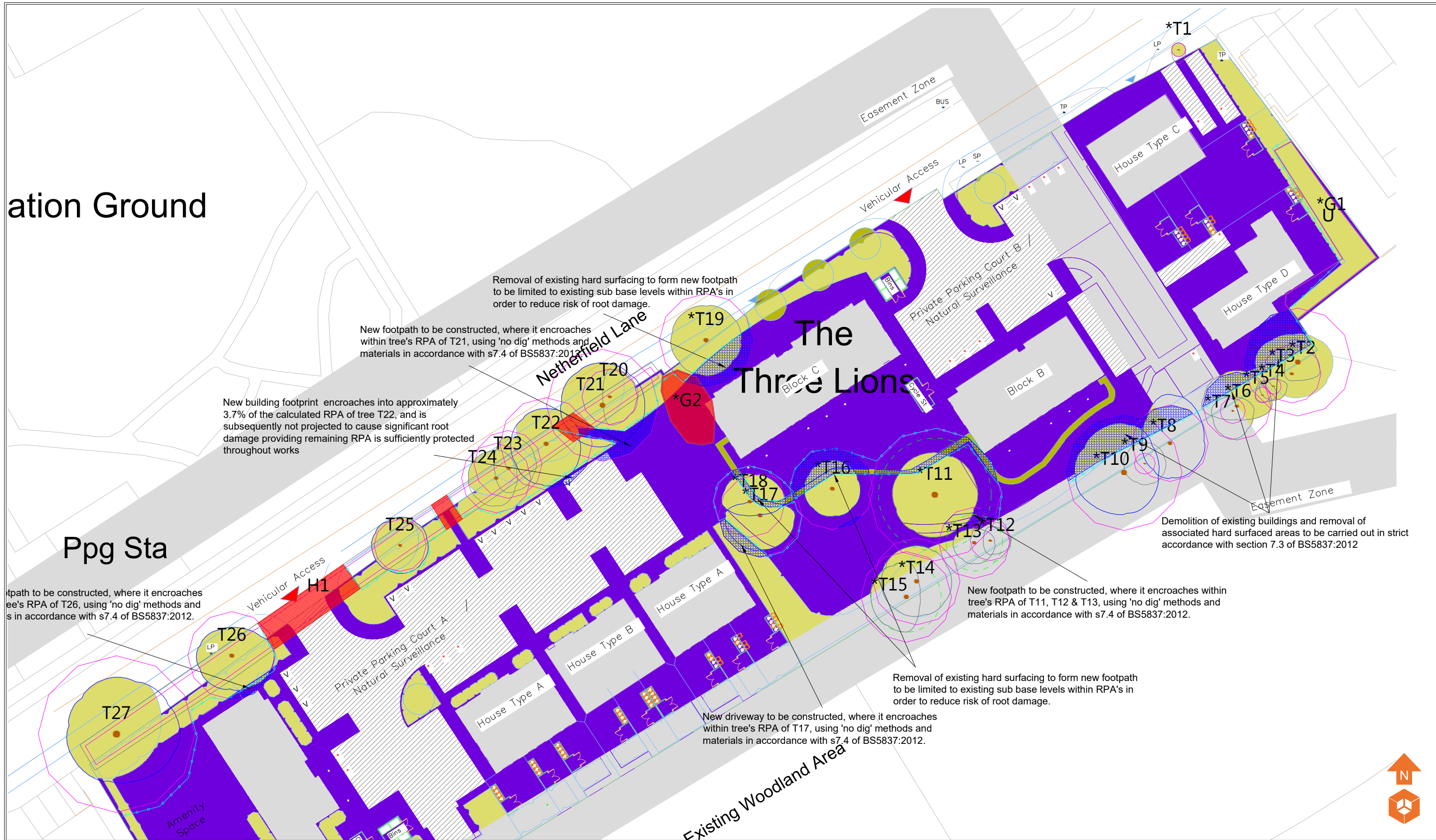
Removal of existing hard surfacing to form new footpath to be limited to existing sub base levels within RPA's in order to reduce risk of root damage.

Removal of existing hard surfacing to form new footpath to be limited to existing sub base levels within RPA's in order to reduce risk of root damage.

New driveway to be constructed, where it encroaches within tree's RPA of T17, using 'no dig' methods and materials in accordance with s7.4 of BS5837:2012.

New footpath to be constructed, where it encroaches within tree's RPA of T11, T12 & T13, using 'no dig' methods and materials in accordance with s7.4 of BS5837:2012.

Demolition of existing buildings and removal of associated hard surfaced areas to be carried out in strict accordance with section 7.3 of BS5837:2012



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- Those Unsuitable for Retention:
- Category 'U' Tree/Group/Hedge: 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

Root Protection Areas (RPAs):

- RPAs: Areas of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Appended Temporary Protective Fencing Specification
- Tree Removals: Proposed tree removals in the context of the development proposals

Root Protection Area Encroachment:



Notes:

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P1	REVA	14.09.2023	MD	MD
Phase	Issue	Date	Drawn	Checked


Client:

Shape Consulting Engineers Ltd

Job Title:

Three Lions, Mansfield

Job No:	80-397	Date:	14.09.2023
Drawing No:	001	Scale:	1:500 @ A3
Drawing Title:		Tree Impacts Plan Sheet 1 of 2	



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Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years or Young Trees
- Those Unsuitable for Retention:
- Category 'U' Tree/Group/Hedge
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

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- RPAs
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Tree removals
Proposed tree removals in the context of the development proposals

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Tree Impacts Plan
Sheet 2 of 2

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