

TREE SURVEY
(BS5837:2012)

&

RECOMMENDATIONS

**TESCO DURRINGTON
NEW ROAD
WORTHING
WEST SUSSEX
BN13 3FJ**

Trinkle & Pearce Landscapes Ltd
Millhams, Brandish Street, Allerford, Minehead, Somerset TA24 8HR

Director: Simon Pearce, Tel: 01643 863213 Mobile: 07870 738325
E-mail: tlandscapes@btinternet.com

Registered Office England & Wales: 26-28 Southernhay East, Exeter, EX1 1NS

Registered Number: 4716258. VAT Reg. No. 800 5856 46

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SITE NAME – TESCO DURRINGTON

SITE ID – 1645236

PREPARED BY SP

DATE – OCTOBER 2025

1:0 **INTRODUCTION**

- We have been instructed by MGROUP on behalf of EE.
- The development consists of a 20metre telecom mast with associated cabinets and ancillary apparatus.
- The site is located on a grass verge between Romany Road and the Tesco Car Park.
- The survey was carried out from ground level and measurements taken in accordance with the recommendations set out in the BS 5837:2012. The report has also been prepared using BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' and where relevant BS 5837:2005.
- Assessment of existing vegetation in the landscape – the existing hedgerow and trees adjacent to the proposed development afford significant screening.
- We have not been informed that any of the subjects are covered by a Tree Preservation Order or in a conservation area.
- At this stage we are unaware of any underground services in the proximity of the adjacent trees.
- This report was prepared for use by our client for planning/construction purposes only. It is not a substitute for a tree condition survey.
- References and Attachments-
 1. BS 5837:2012–Trees in relation to construction–Recommendations.
 2. MGROUP/EE file name – WTG054-98365-BN0914-MBNL-NYQ-DDD-B1.
 3. Specific Trees under consideration – see attached Tree Survey Schedule
 4. Drawing 'TREE PROTECTION PLAN' – attached.

2:0 **TREE CONSTRAINTS ON DEVELOPMENT**

A. Arboricultural Implications Assessment (AIA)

(Study to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal)

The major concern is for the protection of the existing trees/hedgerow adjacent to the development and that there is minimum disturbance to these trees when any planned works are carried out, as shown on the attached schedule and drawings.

The mast and cabinets are positioned outside, but close too, the Root Protection Area (RPA) of the adjacent tree, to protect the trees follow instructions in **C.2- FOUNDATIONS.** With the erection of protective barriers as shown on the Tree Protection Plan (TPP) and adherence to the AMS, any damage to these trees will be minimized.

No trees need to be removed but minor facilitation pruning may be needed, this must be approved by the site Arboriculturist before work commences.

The existing hedgerow can act as a protective barrier to the Construction Exclusion Zone (CEZ) as shown on the Tree Protection Plan (TPP).

A trial dig has been carried out at the proposed mast position and no significant roots were found.

Contractors must be made aware of the surrounding trees/hedgerow to avoid damage by machinery, chemicals, fire etc.

B. Tree Protection Plan (TPP)

(Drawing showing the finalized layout proposals, tree retention and tree and landscape protection measures detailed within the AMS)

See Drawing attached, showing existing trees, barriers, access and CEZ. Also see Appendix 1A.

C. Arboricultural Method Statement (AMS)

(Methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree)

C.1- GENERAL

The methodology to be employed in this instance is as follows-

1. Prior to commencing any construction works any recommended tree work should be carried out, according to the Tree Survey Schedule attached and following BS3998: 2010, by a fully insured, qualified and reputable contractor.
2. Once the arboricultural work is completed no construction work should be started before the construction exclusion zones are properly fenced to protect the remaining trees/shrubs and suitable ground protection installed.
3. Once erected the site Arboriculturist should be contacted so they can visit site, if they wish, to ensure they are satisfied with the position of and construction of the fences.
4. Access to site to be via approved route, a temporary trackway is to be installed during construction, this will act as ground protection to the adjacent trees.
5. Any areas designated for storage of materials or for the location of temporary buildings must be outside the construction exclusion zones.
6. Care must be taken when using cranes, diggers or other large machinery to prevent damaging trees and roots within the CEZ and other trees in the area particularly on the access route to site.
7. Concrete, fuels, chemicals, contaminated surface water etc. must be prevented from entering the exclusion zone.
8. No fire should be lit under the crowns of trees or close enough that it might cause damage to the crown.

C.2- FOUNDATIONS

The foundations are on the edge the RPA of the surrounding trees. Care must be taken when excavating, always work away from the trees, if roots in excess of 25mm diameter are encountered follow guidance in Appendix **F– WORKS WITHIN RPA.**

C.3- GROUND PROTECTION

Ground protection may be needed on the access route, depending on conditions at the time of construction.

The type of ground protection required will depend on the size and weight of the equipment and machinery to be used. The temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Refer to **Appendix 1C. Ground protection during demolition and construction** and

C.4- SERVICES

The installation of all underground services must comply with the National Joint Utilities Group (NJUG) 'Guidelines for the planning, installation, and maintenance of utility services in proximity to trees' and BS5837 – see Appendix 1 **E - Underground and above-ground utility apparatus.**

A detailed method statement for any work within the RPA of any trees shall be produced by the contractor/designer and agreed with the Supervising Arboriculturalist prior to the commencement of the work.

D. Root Protection Area (RPA)

(Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree)

See attached Tree Protection Plan (TPP) drawing and guidance in Appendix.

E. Construction Exclusion Zone (CEZ)

(Area based on the RPA to be protected during development, including demolition and construction work, by barriers and/or ground protection fit for the purpose to ensure the successful long-term retention of a tree. If construction is to be carried out within the RPA the barriers to be positioned accordingly, to give maximum protection to the tree but also to facilitate the works.)

The limit of the CEZ is shown on attached drawing, barriers should be erected as shown in Appendix C, this is to protect the remaining trees.

Once the barriers have been erected, the area should be regarded as sacrosanct, and they should not be moved without permission. Forbidden activities include –

- No mechanical excavation whatsoever.
- No excavation by other means without a detailed method statement being agreed by Supervising Arboriculturalist.
- No lowering of the levels for any purposes.

- No storage of plant or materials.
- No storage or handling of any chemicals.
- No vehicle access without ground protection and agreement from the supervising Arboriculturalist.

3.0 **CONCLUSIONS**

It is stressed that with maximum care and conformity to our recommendations as shown above, minimum damage and disturbance will occur in respect of the trees/hedgerow shown on the schedule. The main points to follow during construction are-

- **Establishment of CEZ using existing hedge.**
- **Ground protection as necessary.**
- **The foundations are on the edge the RPA of the surrounding trees. Care must be taken when excavating, always work away from the trees, if roots in excess of 25mm diameter are encountered follow guidance in Appendix F– WORKS WITHIN RPA.**
- **Adhere to AMS.**

Where any doubt or concern exists regarding the implications and methods outlined, the advice of the Arboriculturist should be sought on site.

4.0 APPENDIX 1

RELEVANT EXTRACTS FROM BS 5837-2012

A - TPP

5.5.6 To avoid disturbance to the physical protection, it is essential to make allowance for, and plan, all construction operations which will be undertaken in the vicinity of trees. Factors that need to be considered include, but are not limited to:

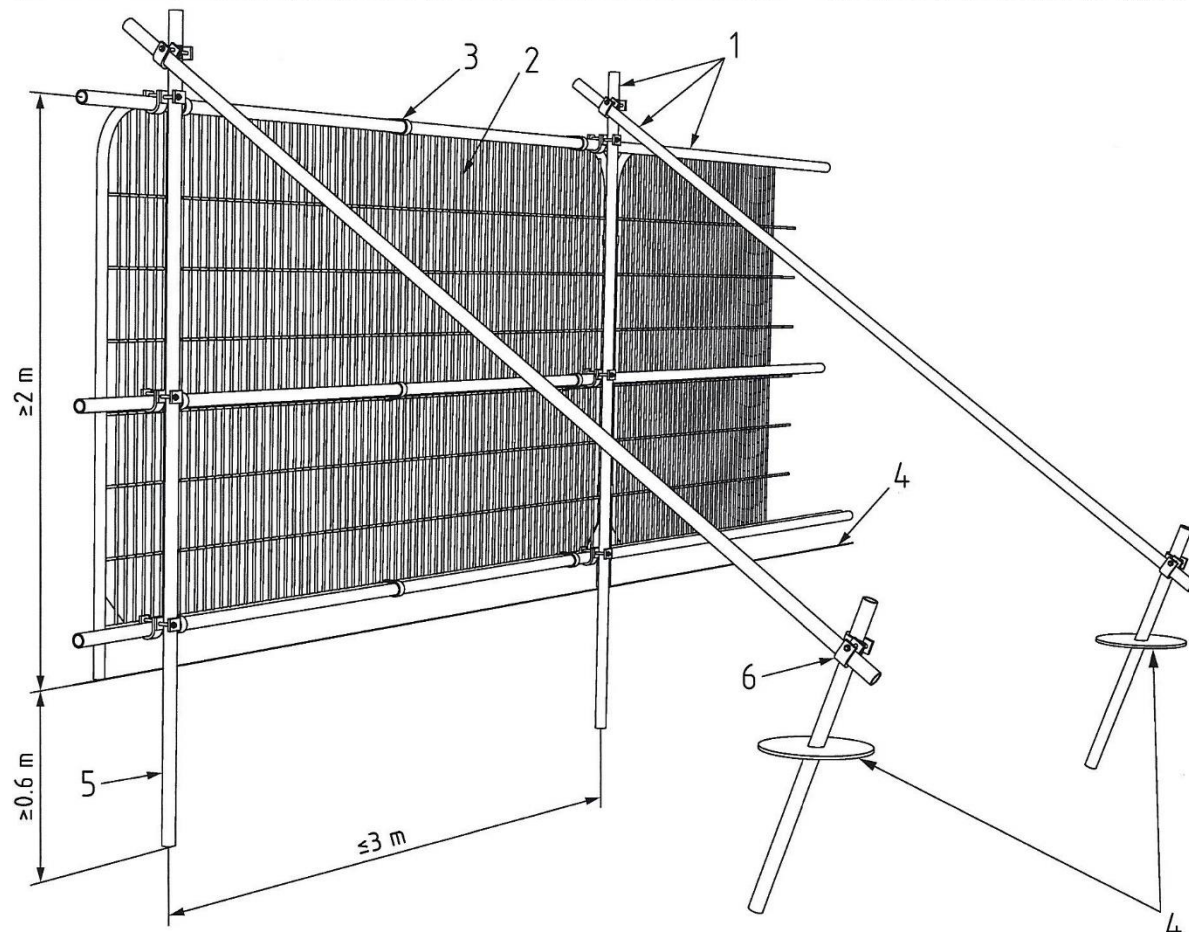
- A) site construction access;
- B) the intensity and nature of the construction activity;
- C) contractors' car parking;
- D) phasing of construction works;
- E) the space needed for foundation excavations and construction works;
- F) the availability of special construction techniques;
- G) the location and space needed for all temporary and permanent apparatus and service runs, including foul and surface water drains, land drains, soakaways, gas, oil, water, electricity, telephone, television or other communication cables;
- H) all changes in ground level, including the location of retaining walls, steps and making adequate allowance for foundations of such walls and backfillings;
- I) working space for cranes, plant, scaffolding and access during works;
- J) space for site huts, temporary toilet facilities (including their drainage) and other temporary structures;
- K) the type and extent of landscape works which will be needed within the protected areas, and the effects these will have on the root system;
- L) space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete;
- M) the effects of slope on the movement of potentially harmful liquid spillages towards or into protected areas.

B - BARRIERS

6.2.2.1 Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.

6.2.2.2 The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts, as illustrated in Figure 2. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. If the presence of underground services precludes the use of driven poles, an alternative specification should be prepared in conjunction with the project arboriculturist that provides an equal level of protection. Such alternatives could include the attachment of the panels to a free-standing scaffold support framework.

6.2.2.3 Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority. For example, 2 m tall, welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two antitamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (Figure 3a). Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins



C - Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

6.2.3.2 Where the set -back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

6.2.3.3 New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

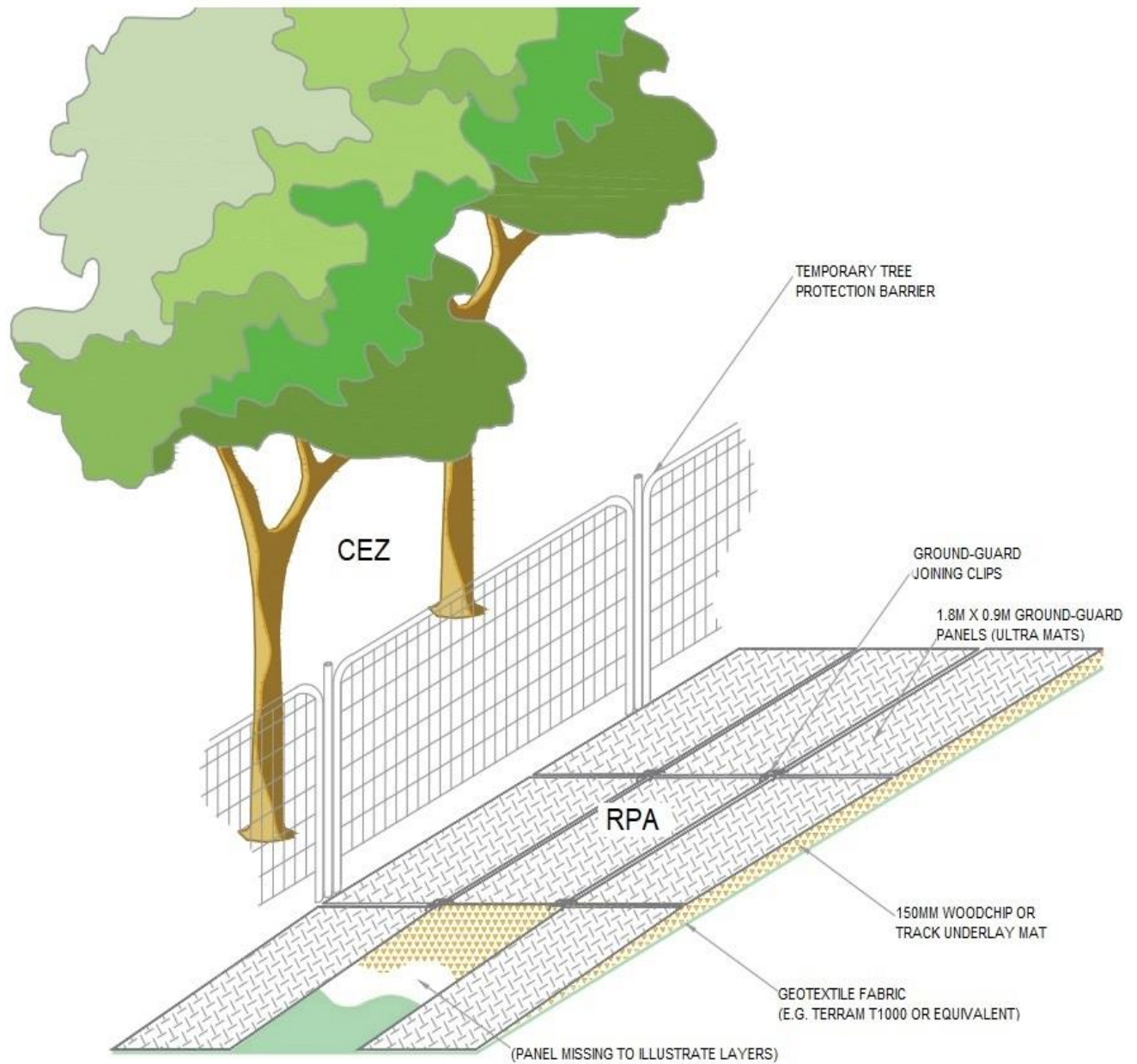
b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

6.2.3.4 The locations of and design for temporary ground protection should be shown on the tree protection plan and detailed within the arboricultural method statement (see **6.1**).

6.2.3.1 In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

EXAMPLE OF SUITABLE GROUND PROTECTION WITHIN RPA



D - Special engineering for foundations within the RPA

7.5.1 - The use of traditional strip footings can result in extensive root loss and should be avoided. The insertion of specially engineered structures within RPAs may be justified if this enables the retention of a good quality tree that would otherwise be lost (usually categories A or B). Designs for foundations that would minimize adverse impact on trees should include particular attention to existing levels, proposed finished levels and cross-sectional details. In order to arrive at a suitable solution, site-specific and specialist advice regarding foundation design should be sought from the project arboriculturist and an engineer. In shrinkable soils, the foundation design should take account of the risk of indirect damage (see **A.1.4**).

7.5.2- Root damage can be minimized by using:

- a) piles, with site investigation used to determine their optimal location whilst avoiding damage to roots important for the stability of the tree, by means of hand tools or compressed air soil displacement, to a minimum depth of 600 mm;
- b) beams laid at or above ground level and cantilevered as necessary to avoid tree roots identified by site investigation.

7.5.3 Where a slab for a minor structure (e.g. shed base) is to be formed within the RPA, it should bear on existing ground level, and should not exceed an area greater than 20% of the existing unsurfaced ground.

7.5.4 Slabs for larger structures (e.g. dwellings) should be constructed with a ventilated air space between the underside of the slab and the existing soil surface (to enable gas exchange and venting through the soil surface). In such cases, a specialist irrigation system should also be employed (e.g. roof run-off redirected under the slab). The design of the foundation should take account of any effect on the load-bearing properties of underlying soil from the redirected roof run-off. Approval in principle for a foundation that relies on topsoil retention and roof run-off under the slab should be sought from the building control authority prior to this approach being relied on.

7.5.5 Where piling is to be installed near to trees, the smallest practical pile diameter should be used, as this reduces the possibility of striking major tree roots and reduces the size of the rig required to sink the piles. If a piling mat is required, this should conform to the parameters for temporary ground protection given in **6.2.3**. Use of the smallest practical piling rig is also important where piling within the branch spread is proposed, as this can reduce the need for access facilitation pruning. The pile type should be selected bearing in mind the need to protect the soil and adjacent roots from the potentially toxic effects of uncured concrete, e.g. sleeved bored pile or screw pile.

E - Underground and above-ground utility apparatus

7.7.1 Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the routeing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

7.7.2 Where underground apparatus is to pass within the RPA, detailed plans showing the proposed routeing should be drawn up in conjunction with the project arboriculturist. In such cases, trenchless insertion methods should be used (see Table 3), with entry and retrieval pits being sited outside the RPA. Provided that roots can be retained and protected in accordance with **7.2.2**, excavation using hand-held tools (see **7.2.1**) might be acceptable for shallow service runs.

NOTE The suitability of these for differing applications is summarized in Table 3.

Table 3 **Trenchless solutions for differing utility apparatus installation requirements**

Method	Accuracy	Bore dia. A)	Max. sub. B) length	Applications	Not suitable for
	mm	mm	m		
Microtunnelling	<20	100 to 300	40	Gravity-fall pipes, deep apparatus, watercourse/ roadway undercrossings	Low-cost projects due to relative expense
Surface-launched directional drilling	"100	25 to 1 200	150	Pressure pipes, cables including fibre optic	Gravity-fall pipes, e.g. drains and sewers C1
Pipe ramming	"150	150 to 2 000	70	Any large-bore pipes and ducts	Rocky and other heavily obstructed soils
Impact moling	„,50 E)	30 to 180 F)	40	Gas, water and cable connections, e.g. from street to property	Any application that requires accuracy over distances in excess of 5 m

- Dependent on strata encountered.
- Maximum subterranean length.
- Pit-launched directional drilling can be used for gravity fall pipes up to 20 m subterranean length.
- Impact moling (also known as thrust-bore) generally requires soft, cohesive soils.
- Substantial inverse relationship between accuracy and distance.
- Figures given relate to single pass: up to 300 mm bore achievable with multiple passes.

F– WORKS WITHIN RPA

11.3.5 Any excavations which have to be undertaken within the root protection area should be carried out carefully by hand, avoiding damage to the protective bark covering larger roots. Roots, whilst exposed, should be wrapped in dry, clean hessian sacking to prevent desiccation and to protect from rapid temperature changes. Roots smaller than 25 mm diameter may be pruned back, preferably to a side branch, using a proprietary cutting tool such as bypass secateurs or handsaws. Roots larger than 25 mm should only be severed following consultation with an arboriculturist, as they may be essential to the tree's health and stability. Prior to backfilling, any hessian wrapping should be removed and retained roots should be surrounded with sharp sand (builders' sand should not be used because of its high salt content which is toxic to tree roots), or other loose granular fill, before soil or other material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.

7.4.2.1 The design should not require excavation into the soil, including through lowering of levels and/or scraping, other than the removal, using hand tools, of any turf layer or other surface vegetation. If it is intended to use the new surface for construction access, it is essential that the extra loading and wear arising from this are taken into account during the design process.

7.4.2.2 New permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

7.4.4.3 The ground should not be skimmed to establish the new hard surface at the former ground level. Loose organic matter and/or turf should be removed carefully using hand tools. The new surface should then be established above the soil.

7.4.4.4 Raising levels should be achieved by use of a granular material which remains gas- and water-permeable throughout its design life.

7.5.3 Where a slab for a minor structure (e.g. shed base) is to be formed within the RPA, it should bear on existing ground level, and should not exceed an area greater than 20% of the existing unsurfaced ground.

8.4 Soil compaction should be avoided around existing vegetation, including trees, and in areas where new planting or seeding is proposed. Where soil compaction has occurred in the vicinity of existing trees, arboricultural advice should be taken before carrying out any remedial or other works within RPAs to mitigate the risk of further damage to roots. Remedial works may include sub-soil aeration using compressed air, and the addition of other materials, preferably of a bulky, organic nature (excluding peat), to improve structure. Heavy mechanical cultivation such as ploughing or rotavation should not occur within the RPA. Any cultivation operations should be undertaken carefully by hand in order to minimize damage to the tree, particularly the roots. Decompaction measures include forking, spiking, soil augering and tilled radial trenching. Care should be taken during such operations to minimize the risk of further damage to tree roots.

G - Tree Survey Schedule - Key.

1 Numbering System: Each item of vegetation has its own unique number prefixed by a letter, trees have individual numbers on metal disc.

- ☐ **T1**=Tree 1
- ☐ **G2**=Group 2
- ☐ **H3**=Hedge 3
- ☐ **W4**=Woodland 4

2 Species: Common names and/or Latin names are given.

3 Height: Measured from ground level to the top of the crown in metres.

4 Stem Diameter: Taken at 1.5m above ground level where possible.

5 Branch Spread: Taken at four cardinal points (North, South, East & West) or regular (R).

6 Height of the Lowest Branch: Is measured from ground level to the height at which the 1st significant branch emanates from the main stem. This information is not provided where the tree is multi-stemmed.

7 Life Stage Categories:

- ☐ **Young** Usually less than 10 years old.
- ☐ **Semi-Mature** Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy).
- ☐ **Mature** Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy).
- ☐ **Over Mature** A level of maturity whereby significant management may be required in order to keep the tree in a safe condition.

8 Physiological/Structural Condition-

- ☐ **Good (G).**
- ☐ **Fair (F).**
- ☐ **Poor (P).**
- ☐ **Dead (D).**

9 Estimated Remaining Years: (<10, 10+)

10 Tree Category-

- ☐ **A HIGH (GREEN)**
- ☐ **B MODERATE (BLUE)**
- ☐ **C LOW (GREY)**
- ☐ **U POOR (RED)**

Sub-Categories-

- ☐ **1 Mainly Arboricultural value.**
- ☐ **2 Mainly Landscape Value.**
- ☐ **3 Mainly Cultural Value.**

11 Root Protection Area - the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, normally equivalent to a circle with a radius 12 time the stem diameter.

12 Notes: Retain, Remove or works required.

13 Symbols: # Estimate for inaccessible trees.



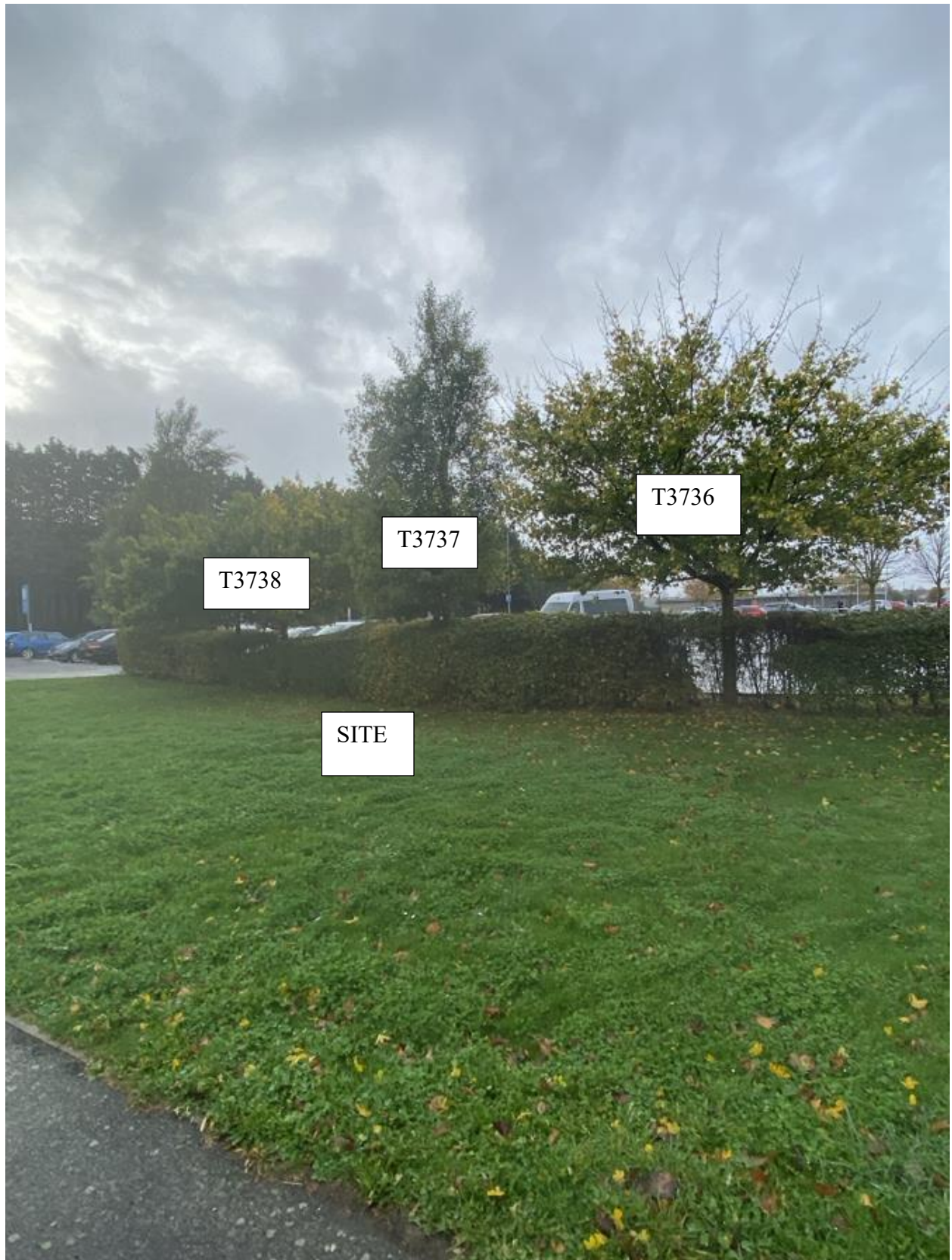
Figure 1 - T3736



Figure 2 - T3737



Figure 3 - T3738



TREE SURVEY-SCHEDULE

SITE REF: TESCO DURRINGTON

DATE: 20/10/2025

TREE NO/ GROUP/ HEDGE/SHRUB	TREE/SHRUB SPECIES	HEIGHT APPROX M	STEM DIAMETER MM	SPREAD APPROX M N,S,E,W	HEIGHT 1ST BRANCH/ CANOPY	LIFE STAGE Y, SM, M, OM	PHYSIOLOGICAL /STRUCTURAL CONDITION G,F,P,D	ESTIMATED REMAINING YEARS	TREE CATEGORY	RPA RADIUS M	NOTES
T3736	Acer campestre	4	160	6	1.5	SM	F	20+	B2	1.80	RETAIN
T3737	Betula pendula	7	125	3	1.5	SM	F	20+	B2	1.50	RETAIN
T3738	Acer campestre	5	175	6	1.5	SM	F	20+	B2	2.10	RETAIN
H1	Crataegus monogyna Corylus avellana Acer campestre Rosa canina	1.2	NA	2	NA	SM	F	20+	NA	NA	RETAIN