

Arboricultural Impact Assessment

For proposed development at:

Fox & Hounds, Bromley, Standon, Ware, SG11 1NX

Date: 14th December 2023

Project Ref: 943

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1 INTRODUCTION

1.1 Background

- 1.1.1 Arborterra Ltd is instructed carry out a survey and provide support on Arboricultural issues relating to proposed development at Fox & Hounds, Bromley, Standon, Ware, SG11 1NX.
- 1.1.2 This report comprises an Arboricultural Impact Assessment of the scheme to be submitted for planning consent. Prior to preparing the report, Arborterra undertook a tree survey and provided advice to inform layout design.
- 1.1.3 The surveys, arboricultural advice and reporting have been carried out by Mr Oisin Kelly, Arboricultural Consultant, MArborA, MAE. Mr Kelly's professional profile is contained at APPENDIX 1.

1.2 The Site

- 1.2.1 The application site comprises the curtilage of the residential property known as Fox & Hounds, Bromley, Standon, Ware, SG11 1NX.
- 1.2.2 The site is not within a Conservation Area. There are no Tree Preservation Orders that apply to trees potentially affected by the development.

1.3 The Proposal

- 1.3.1 The proposal is to sub-divide the existing property and construct a new dwelling to the north of the existing dwelling.
- 1.3.2 A new vehicular access is proposed from Bromley Lane. This has been positioned to minimise the impact on trees, particularly English oak T9.

2 THE TREE SURVEY

2.1 Method

2.1.1 The tree survey was carried out on 20/06/2023. Trees were plotted to a topographical survey to ensure their accurate positioning. All observations were made from ground level. Unless otherwise indicated tree stem diameters were measured. Where visibility allowed, tree heights were measured with a laser rangefinder. Tree crown spreads were paced out to the four cardinal points.

2.1.2 The trees were categorized for their quality / value in accordance with “Trees in relation to design, demolition and construction – Recommendations” (BS5837:2012)¹. The categorisation is intended to assist in determining which trees should be removed or retained in the event of development. The categories are summarised as follows:

- Category A: trees of high quality
- Category B: trees of moderate quality
- Category C: trees of low quality
- Category U: trees not worthy of retention because of their condition

2.1.3 Root Protection Areas have been calculated in accordance with BS5837:2012. Root Protection Areas (RPAs) are the nominal minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority. The default shape of the RPA is a circle centred on the tree stem.

2.2 Results

2.2.1 The Tree Schedule at APPENDIX 2 contains tabulated data on the trees including details of their type, size, condition, RPA size and ‘quality category’.

2.2.2 The Tree Survey Plan at APPENDIX 3 shows the location of the trees in relation to the existing site layout. The trees are coloured to indicate their ‘quality categories’ as described above. The RPAs are also shown.

2.2.3 The numbers of trees surveyed by category are detailed in the table below.

*Table 1. * Quality categories apply to trees only*

Quality category	Trees	Groups	Shrubs* (incl. shrub groups)	Hedges*
A	1	0	6	7
B	20	1		
C	10	4		
U	1	1		
TOTALS	32	6	6	6

¹ BS5837 is a standard reference document used by local planning authorities and the Planning Inspectorate when considering trees in the development context.

2.2.4 In relation to BS5837 Quality Categories, it is noted that sycamore T10 is growing beneath the crown of English oak T9, a category A tree. The sycamore will increasingly compete with the oak for light, to the detriment of T9. Removal of T10 is therefore considered good husbandry, and it is recommended for removal in order to favour the growth of English oak T9. As such, the 'expected' life expectancy of sycamore T10 is less than 10 years, and accordingly it is assessed as Category U. If its removal were not justified for good husbandry purposes, it would be a Category B tree.

3 IMPACT ASSESSMENT

3.1 Tree Constraints

3.1.1 The Tree Constraints Plan at APPENDIX 4 shows the trees in relation to the proposed site layout, along with the following information:

- Trees proposed for removal or retention
- Root Protection Areas (RPAs);
- The approximate daily shadow trace through the main part of the day, based on current height, and where a significant growth potential exists, the potential mature height; and,
- Target notes in relation to the development proposals and arboricultural constraints.

3.2 Trees to be removed and proposed replacement planting

3.2.1 A total of 3 trees, 1 group of trees, 2 shrubs, 1 group of shrubs and 3 hedges are to be removed as part of the development. Two short sections of hedge are also to be removed to form the entrance, with the majority of these hedges retained. Table 2 below lists these trees, shrubs and hedges that are to be removed, and where applicable by their quality category.

Table 2. Area and proportion of RPAs affected by proposed development (affected trees only)

Quality category	Trees to be removed	Count
A		0 trees
B		0 trees
C	Cherry plum T11 Rowan T16 Apple & Pear TG51	2 trees 1 group
U	Sycamore T10	1 tree
Shrubs/ hedges	Yew H12 Leyland cypress H47 Mock orange S49 Leyland cypress H34 Firethorn SG48 Purple berberis S50	3 hedges 2 shrubs 1 shrub group
	4m section of H1 1.3m section of H2	2 short sections of hedge

3.2.2 As stated at 2.2.4 above, Sycamore T10 is proposed to be removed to favour the growth of the Category A tree, English oak T9. For clarity, sycamore T10 could be retained. The proposed new entrance would affect less than 7% of the RPA and given its age and species, would likely tolerate this disturbance.

3.2.3 Creation of the new vehicular entrance will result in the removal of a 4m section of H1, a 1.3m section of H2, and cherry plum T11. This will create a small gap (5m) in the vegetation forming the boundary screen adjacent to Bromley Lane. However, views into the site will be restricted to a small section of Bromley Lane directly outside of the new entrance. The effect on the character of Bromley Lane will be negligible.

3.2.4 The other trees and shrubs to be removed are all not visible, or barely so, from outside of the site.

3.3 The relationship between the trees to be retained and the development

- 3.3.1 The proposed new dwelling benefits from a large garden area, a large portion of which is unaffected by tree shade. Lombardy poplar T18 casts shade over part of the dwelling in the late afternoon, but due to the narrow crown form and distance from the property (17.5m), the shade will not be intense or excessive.
- 3.3.2 In other respects the trees to be retained provide a mature landscape setting, a sense of enclosure and other environmental services.

3.4 Proposed pruning

- 3.4.1 Ash T7 appears to be suffering from Chalara ash die-back. There have been recent branch failures, and large dead wood remains in the crown over the road. The client has been advised to carry out a crown reduction of the tree, but this is not as part of the proposed development, and will be undertaken separately. The tree is not covered by a Tree Preservation Order, it is not within a Conservation Area, and Felling Licenses do not apply by virtue of its location within a residential garden.

3.5 Tree Protection

- 3.5.1 The development does comprise some building and hard landscaping within the RPAs of trees to be retained. The proportions of RPA affected are detailed in Table 3 below

Table 3. Area and proportion of RPAs affected by proposed development (affected trees only)

Tree Label	Species	RPA size m ²	Existing hard surface in RPA m ²	New hard surface m ²	New hard surface %	New build m ²	New build %	Total Affected RPA %
T6	Hawthorn	113	20	3.3	4.0	0.0	0.0	4.0
T9	English oak	254	69.25	2.6	1.4	0.0	0.0	1.4
T13	Birch (Paper)	20	0	0.5	2.5	0.0	0.0	2.5
T18	Lombardy poplar	375	66	4.6	1.5	0.8	0.3	1.8

*% RPA calculated as 100 * [New Area] / ([RPA] - [Existing Area])*

- 3.5.2 In all cases, the proportion of RPA affected is low, and does not warrant specialist 'reduced-dig' construction.
- 3.5.3 Where excavation for hard landscape is to occur within the RPA of retained trees, it shall be carried out in accordance with the method at paragraph 4.5 below. Where the foundation footprint marginally extends into the RPA of T18, it shall be carried out in accordance with paragraph 4.6 below. In other respects the trees to be retained can be protected by a mix of Tree Protective Fencing and Ground Protection. A Scheme of Tree Protection is provided below.

4 SCHEME OF TREE PROTECTION

4.1 Arboricultural Site Supervision

- 4.1.1 An Arboricultural Clerk of Works (ACoW) shall be appointed to oversee protection of trees during the development.
- 4.1.2 The ACoW shall attend site:
- Prior to commencement of demolition to brief the demolition contractor on tree protection requirements and ensure tree protective fencing and ground protection is in place.
 - Periodically during demolition and construction, and specifically during excavations within the RPAs of trees to be retained.
- 4.1.3 Following each attendance to site the ACoW shall produce a written record of the site inspection (a 'Site Inspection Report'), detailing the status of tree protection measures that are in place, with supporting photographs. The Site Inspection Report shall be issued to the Tree Officer, by email, within 5 working days of the site visit to which it relates.

4.2 Enabling Tree Works

- 4.2.1 The tree works detailed in the Schedule at APPENDIX 2 shall be undertaken prior to commencement of the development.

4.3 Tree Protective Fencing & Ground Protection

- 4.3.1 Tree Protective Fencing and Ground Protection shall be erected in accordance with the layout shown on the Phase 1 Tree Protection Plan at APPENDIX 5, prior to the commencement the development.
- 4.3.2 Following demolition, the layout of Tree Protective Fencing and Ground Protection will be varied in stages to that shown on the Phase 1 Tree Protection Plan at APPENDIX 6.
- 4.3.3 Tree Protective Fencing shall be fit for the purpose of excluding construction activity taking into account the type, intensity and proximity of work taking place around the retained trees. Fencing shall be maintained to ensure that it remains rigid and complete. Notices stating "Tree Protection Area – No Access" shall be affixed to the fencing. A suitable specification is shown at APPENDIX 7.
- 4.3.4 Ground protection shall be fit for the purpose of preventing compaction or contamination of the Root Protection Area taking into account the type, intensity and proximity of work taking place around the retained trees. A suitable specification for Ground Protection is included at APPENDIX 8.

4.4 Site Facilities

4.4.1 All site huts, parking, delivery and storage areas, welfare facilities, cement/plaster mixing areas etc., shall be sited outside of the RPAs of trees to be retained.

4.5 Excavation for access drive and hard landscaping within the RPAs of retained trees

4.5.1 Where excavations are proposed for hard landscaping and drive construction within the RPAs of trees to be retained, works shall be preceded by a manual excavation and root prune as follows.

4.5.2 Within the RPA, a trench shall be manually excavated along the closest edge of the structure to be constructed to the tree. The depth of the trench shall be the lesser of:

- The excavation depth required for construction of the structure
- 450mm

4.5.3 (It is assumed manual excavation shall not exceed 450mm depth due to the risk to operatives of the trench collapsing).

4.5.4 As roots are encountered, they shall be exposed and then pruned to the face of the excavation closest to the tree using clean, sharp, pruning tools.

4.6 Foundations within the RPA of trees to be retained

4.6.1 Where the proposed foundation footprint of the proposed garage extends into the RPA of poplar T18, excavations for foundations shall be carried out as follows. The edge of the excavation closest to the tree shall be excavated manually up to 450mm depth. Any roots encountered shall be cut cleanly back to the face of the excavation using clean, sharp, pruning tools.

4.6.2 For health and safety reasons, below 450mm depth excavations may be undertaken mechanically, providing that machinery shall be restricted to operating from either:

- outside of the RPAs of trees to be retained; or
- from existing hard surfaces that provide an effective form of ground protection; or
- from newly installed ground protection that is to the satisfaction of the Arboricultural Clerk of Works

4.6.3 Excavation shall proceed in small incremental layers. Where roots are encountered they shall, subject to safety considerations, be cut cleanly back to the face of the excavation using clean, sharp, pruning tools.

4.7 Services

- 4.7.1 Where practicable, underground utility services such as mains water, power, telecoms, surface and foul drainage etc., should be located outside of the RPAs of trees to be retained.
- 4.7.2 Where underground utility services are to pass through the RPAs of trees to be retained, they should be laid out and installed in accordance with “Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2)” (NJUG, 2007, www.njug.org.uk/publication/51/).

5 CONCLUSIONS

- 5.1.1 This report relates to proposed development within the curtilage of the residential property known as Fox & Hounds, Bromley, Standon, Ware, SG11 1NX.
- 5.1.2 The proposal is to sub-divide the existing property and construct a new dwelling to the north of the existing dwelling. A new vehicular access is proposed from Bromley Lane. This has been positioned to minimise the impact on trees, particularly English oak T9.
- 5.1.3 The site is not within a Conservation Area. There are no Tree Preservation Orders that apply to trees potentially affected by the development.
- 5.1.4 A survey was carried out of the trees potentially affected by the development. The trees were categorised for their quality / value in accordance with “Trees in relation to design, demolition and construction – Recommendations” BS5837:2012, as summarised in the table below:

*Table 4. * Quality categories apply to trees only*

Quality category	Trees	Groups	Shrubs* (incl. shrub groups)	Hedges*
A	1	0	6	7
B	20	1		
C	10	4		
U	1	1		
TOTALS	32	6	6	6

- 5.1.5 A total of 3 trees, 1 group of trees, 2 shrubs, 1 group of shrubs and 3 hedges are to be removed as part of the development. Two short sections of hedge are also to be removed to form the entrance, with the majority of these hedges retained.
- 5.1.6 Sycamore T10 is proposed to be removed to favour the growth of the Category A tree, English oak T9. For clarity, sycamore T10 could be retained. The proposed new entrance would affect less than 7% of the RPA and given its age and species, would likely tolerate this disturbance.
- 5.1.7 Creation of the new vehicular entrance will result in the removal of a 4m section of H1, a 1.3m section of H2, and cherry plum T11. This will create a small gap (5m) in the vegetation forming the boundary screen adjacent to Bromley Lane. However, views into the site will be restricted to a small section of Bromley Lane directly outside of the new entrance. The effect on the character of Bromley Lane will be negligible. The other trees and shrubs to be removed are all not visible, or barely so, from outside of the site.
- 5.1.8 The development does comprise some building and hard landscaping within the RPAs of trees to be retained. In all cases, the proportion of RPA affected is low, and does not warrant specialist ‘reduced-dig’ construction.
- 5.1.9 A Scheme of Tree Protection is provided to protect the trees during demolition and construction.

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Appendices to the Arboricultural Impact Assessment

For proposed development at:

Fox & Hounds, Bromley, Standon, Ware, SG11 1NX

Date: 14th December 2023
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APPENDIX 1

Professional Profile for Oisín Kelly

PROFESSIONAL PROFILE FOR OISIN KELLY

Oisín is an Arboricultural Consultant with over 30 years' experience across planning, subsidence, tree-risk management, aviation and utility sectors. He acts as an Expert Witness in relation to planning appeals, tree-related subsidence, tree-related property damage and personal injury, and alleged contraventions of tree preservation orders and felling licenses. Oisín has appeared in Magistrates Court, County Court and High Court (including the Technology and Construction Court). He has provided written representations on planning appeals and has appeared at Hearings. He also provides arboricultural services to planners, developers, local authorities, architects and their agents.

ACADEMIC QUALIFICATIONS

BSc Forestry (hons)

Diploma in Management Studies

MEMBERSHIPS

Member of the Arboricultural Association

Member of the Academy of Experts

Associate Member of the Institute of Chartered Foresters

EXAMPLE Projects

BPT Limited v Patterson & Patterson [2016] Central London County Court (TCC)

Brown v Harlow Council [2011] Central London County Court

Lovett, Newman and Barton v Epping Forest District Council [2011] Harlow Magistrates Court

Berent v Family Mosaic Housing [2011] EWHC 1353 (TCC)

Lamb & Lamb v Hampshire County Council [2010] Central London County Court

Loftus-Brigham v Ealing LBC [2003] EWCA Civ 1490,

Eiles v Southwark LBC [2006] EWHC 1411 (TCC)

University of Essex: Tree risk management and arboricultural consultancy at their Colchester, Loughton and Southend Campuses, which contain around 3000 individual trees, and many more in groups and woodlands, of which around 100 are veteran trees. Design of Tree Management Database.

Lawford House is a development of 10 residential units within a parkland setting containing veteran trees. The initial Arboricultural Survey identified the relevant constraints allowing appropriate impact avoidance and mitigation to be 'designed-in'. The consultation phase included representations on a new and existing TPO, which were subsequently revoked and a new TPO re-made in accordance with Oisín's recommendations.

Bolingbroke Park is a major development of 231 residential units and involved detailed consultation with planners at pre-application, application and during construction. Other inputs included Arboricultural Impact Assessments, Arboricultural Method Statements, Veteran Tree Management Plans and appointment as the Arboricultural Clerk of Works.

Bell School Development Site is a residential development of 270 dwellings, comprising houses and apartments, including affordable housing and 100-bed student living accommodation for the Bell Language School. The site is in the Southern Fringe Growth Area of Cambridge. I supported the scheme from design through to planning consent, including consultation meetings with the local planning authority.

Support of various Councils in the redevelopment and infill development of sites on the Housing Revenue Account for affordable housing, including surveys, reports, preliminary advice and public consultations.

CAREER HISTORY

Arborterra Ltd

2019 to present	Co-owner, Arboricultural Consultant	Expert Witness and Arboricultural Consultant providing clients with advice relating to trees and development, tree preservation, tree risk management and tree-related subsidence damage.
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Self-employed Sole Trader

2015 – 2019	Arboricultural Consultant	Expert Witness and Arboricultural Consultant providing clients with advice relating to trees and development, tree preservation, tree risk management and tree-related subsidence damage.
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Landscape Planning Group Limited

2013 - 2015	Principal Consultant	Arboricultural Consultant. To line manage and lead the Planning Team of Arboriculturists, Ecologists and Landscape Architects to meet sales and revenue targets. To manage projects within agreed deadlines, making maximum use of potential revenue opportunities, whilst maintaining client satisfaction.
2008 - 2013	Principal Consultant	Arboricultural Consultant. As above for delivery of Tree Risk Management Services.
2006 - 2008	Regional Manager	Regional Manager of Colchester Officer providing Arboriculture, Ecology and Landscape Services across planning, local government and risk management sectors. Arboricultural Consultant
2004-2006	Director of Technical Services	To provide a focus for commercial innovation in technical skills, system evolution, equipment, software, hardware and R&D. Arboricultural Consultant
2002 – 2004	Head of Insurance of Services	Main client contact and technical authority for provision of tree-related subsidence services to loss adjusters, engineers and insurers across the UK. Line Management of Arboricultural Consulting Staff and administrative support. Arboricultural Consultant
1997 – 2002	Consulting Arboriculturalist	Fee earner specialising in tree-related subsidence.

London Borough of Hounslow

1994 - 1997	Senior Arboricultural Officer	Team leader with responsibility for budgetary control and staff. Maintaining Council owned trees. Providing arboricultural advice to the Planning Department in respect of development control, enforcement and tree preservation
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London Borough of Redbridge

1991 - 1994	Assistant Arboricultural Officer	Maintaining Council owned trees. Providing arboricultural advice to the Planning Department in respect of development control and tree preservation
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APPENDIX 2

Tree Schedule

Tree Survey at Fox and Hounds, Ware

Tree No.	Species	Stem Diam @ 1.5m (mm)	Height (m)	Crown Spread				Age Range	Physiological Condition	First main branch	Crown Clearance	Comments	Recommendations	Remaining contribution (Yrs)	Amenity	RPA Radius	RPA Area
				N	S	E	W										
H1	Hawthorn et al	-	1.5	0.5									Remove section for new entrance.	10+	X	0.5	-
H2	Elm, sycamore et al	-	3	0.8				YO	G				Remove section for new entrance.	10+	X	0.8	-
T3	Sycamore 'Brilliantissimum'	160 x1 110 x1	6	4	4	4	4	EM	G		2			40+	C1	2.3	17
S4	Beberris		1.6	1	1	1	1	SM	G					10+	X	0.0	0
T5	Norway spruce	240 x1	12	3.5	3.5	3.5	3.5	EM	G		2			40+	C1	2.9	26
T6	Hawthorn	500 x1	9	4.25	4.25	4	4	FM	G		2.5	Epicormic development in lower crown - possibly a precursor to retrenchment.		20+	B3	6.0	113
T7	Ash	720 x1	16	8	8	8	8	FM	P	2W	6	Unable to measure or inspect lower stem - base surrounded by dense thorny vegetation. Sparse crown, estimated 50% leaf cover. Scattered dead branches . Weak epicormic response. Ash die-back. Owner reports recent branch failures over road. Large dead wood remains over road. Crown reduction appropriate to address road safety. Retention of tree beyond 20 years unlikely.		<20	C3	8.6	235
T8	Willow leafed pear	160 x1	5	2	2	2	0	EM	G					20+	C1	1.9	12
T9	English oak	750 x1	17	9	7	7	9	MA	G	4.5E	6	Epicormic descending from 4.5m on E side		40+	A1	9.0	254
T10	Sycamore	410 x1	16	5	1	5	5	EM	G		3	Removal would favour adjacent oak.	Fell to favour growth of T10.	40+	U	4.9	76

* Denotes estimated dimension

Tree Survey at Fox and Hounds, Ware

Tree No.	Species	Stem Diam @ 1.5m (mm)	Height (m)	Crown Spread				Age Range	Physiological Condition	First main branch	Crown Clearance	Comments	Recommendations	Remaining contribution (Yrs)	Amenity	RPA Radius	RPA Area
				N	S	E	W										
T11	Cherry plum	140 x4	6	4.5	1	3	3	FM	F			Fell for development.	10+	C2	3.4	35	
H12	Yew	-	2.5	0.5				SM	F			Trimmed as hedge to scree compost area	Fell for development.	40+	X	0.0	-
T13	Birch (Paper)	210 x1	7.5	3.25	3.25	3.25	3.28	EM	G	2.5				20+	B1	2.5	20
TG14	Plum x2	50 x1	5	0.75				YO	G					40+	C2	0.6	-
T15	Ash	300 x1	10	5	5	5	5	EM	F		4	Scattered dead wood and die-back, epicormic response. Chronic ash die-back.		20+	B2	3.6	41
T16	Rowan	60 x5	3.5	2.25	2.25	2.25	2.25	SM	F		1.6		Fell for development.	20+	C2	1.6	8
TG17	English elm x2	100 x1	7	2.5				SM	P			Early signs of wilting and die-back due to Dutch elm disease		<10	U	1.2	-
T18	Lombardy poplar	910 x1	26	4	4	4	4	FM	G			Lower stem appears sound with no sign of significant decay.		20+	B1	10.9	375
TG19	Hawthorn, elder, elm, horse chestnut	150 x1	6	3				SM	F			No access for survey. Elm dying.		20+	C2	1.8	-
TG20	Sycamore x3	120 x1	8	4				SM	G					40+	C2	1.4	-
T21	Field maple	350 x1 290 x1	14	3	6	6	6	EM	G			Adjacent dead wild cherry stem.		40+	B2	5.5	93
T22	English elm	200 x1	6	0	7	3	3	EM	G			Important component of boundary screen.		10+	B2	2.4	18
T23	Field maple	280 x1	10	1	6	3	3	EM	G			Important component of boundary screen.		40+	B2	3.4	35
T24	Ash	720 x1	15	9	7	7	7	MA	F			Sparse crown. Likely ash die-back.		20+	B1	8.6	235
T25	English elm	160 x1	8	0	3	2	2	SM	G			Important component of boundary screen. Vulnerable to Dutch elm disease.		10+	B2	1.9	12
T26	Hawthorn	100 x3	8	3	3	3	3	EM	G			Important component of boundary screen.		40+	B2	2.1	14
T27	Sycamore	260 x2 230 x1	12.5	6	6	6	6	EM	G		3	Important component of boundary screen.		40+	B1	5.2	85

Tree Survey at Fox and Hounds, Ware

Tree No.	Species	Stem Diam @ 1.5m (mm)	Height (m)	Crown Spread				Age Range	Physiological Condition	First main branch	Crown Clearance	Comments	Recommendations	Remaining contribution (Yrs)	Amenity	RPA Radius	RPA Area
				N	S	E	W										
SG28	Laurestine, oleaster, mahonia	-	2	0.5				MA	G					20+	X	0.0	-
T29	Sycamore	550 x1	12.5	6	6	6	6	MA	G		2	Important component of boundary screen.		40+	B1	6.6	137
T30	Hawthorn	90 x2	5	2.5	2.5	2.5	2.5	EM	G			Screen		40+	B2	1.5	7
T31	Hazel	90 x1 20 x10	5	3	4	1	2.5	EM	G			Screen		40+	B2	1.3	5
SG32	Viburnum, berberis	-	3	1				SM	G						X	0.0	-
TG33	Hawthorn, saplings	70 x1	6	2				SM	G			Understory between boundary and bridleway. Screening		40+	B2	0.8	-
H34	Leyland cypress	-	2.5	0.25				SM	P			Grown as hedge against chain link fence	Fell for development.	10+	X	0.0	-
T35	Ash	560 x1	15	6	6	6	6	MA	F			Signs of chronic ash die-back.		40+	B2	6.7	142
T36	Ash	350 x1	15	5	4	5	2	EM	F			Signs of chronic ash die-back		20+	B2	4.2	55
T37	Field maple	250 x1	15	1	3.5	3.5	3.5	SM	G					40+	B2	3.0	28
T38	Ash	470 x1	15	6	6	6	6	EM	G			Chronic ash die-back.		20+	B1	5.6	100
T39	Ash	130 x3	12	3	3	5	1	SM	F			Leans east. Signs of ash die-back		20+	B2	2.7	23
H40	Hawthorn	-	3	1								sides trimmed, not recently topped. Occasional saplings			X	0.0	-
T41	Sycamore	90 x3	7	2.5	2.5	2.5	2.5	SM	G		2			40+	C2	1.9	11
T42	Ash	280 x1	11	4.5	4.5	4.5	4.5	SM	P			Clear signs of ash die-back. Tree possibly in decline.		10+	C2	3.4	35
T43	Weeping willow	120 x1	4.5	2.5	2.5	2.5	2.5	YO	G					40+	C1	1.4	7
T44	Ash	270 x5	16	7	7	7	7	EM	F		3.5	Off-site. Unable to see or measure syems. Possibly from old stump. Sparse crown, scattered dead wood and die-back. Epicormic response. Moderate ash die-back. Tree appears to be in decline.		10+	B3	7.2	165

Tree Survey at Fox and Hounds, Ware

Tree No.	Species	Stem Diam @ 1.5m (mm)	Height (m)	Crown Spread				Age Range	Physiological Condition	First main branch	Crown Clearance	Comments	Recommendations	Remaining contribution (Yrs)	Amenity	RPA Radius	RPA Area
				N	S	E	W										
T45	Ash	500 x1	16	7	7	7	7	EM	P		3	Ash die-back. Tree appears to be in decline.		10+	C2	6.0	113
H46	Hawthorn et al	-	1.6	0.75								Trimmed			X	0.8	-
H47	Leyland cypress	-	1.8	0.25								Trimmed	Fell for development.		X	0.0	-
SG48	Firethorn	-	3	0.5	1.25								Fell for development.		X	0.0	-
S49	Mock orange		2.5	z	1.5	1.5	1.5						Fell for development.		X	0.0	0
S50	Purple berberis		2.5	e	1.5	1.5	1.5						Fell for development.		X	0.0	0
TG51	Apple x1 Pear x2	70 x1	4.5	1				YO	G				Fell for development.	40+	C1	0.8	-

APPENDIX 3

Tree Survey Plan (ref: 943-101)



Key

- Tree Category A
- Tree / Group Category B
- Tree / Group Category C
- Tree / Group Category U
- Shrubs
- Tree Categories from BS5837:2012. Heavy outline indicates trees to be retained and thin dashed outline indicates trees to be removed
- Root Protection Areas
- Target Notes

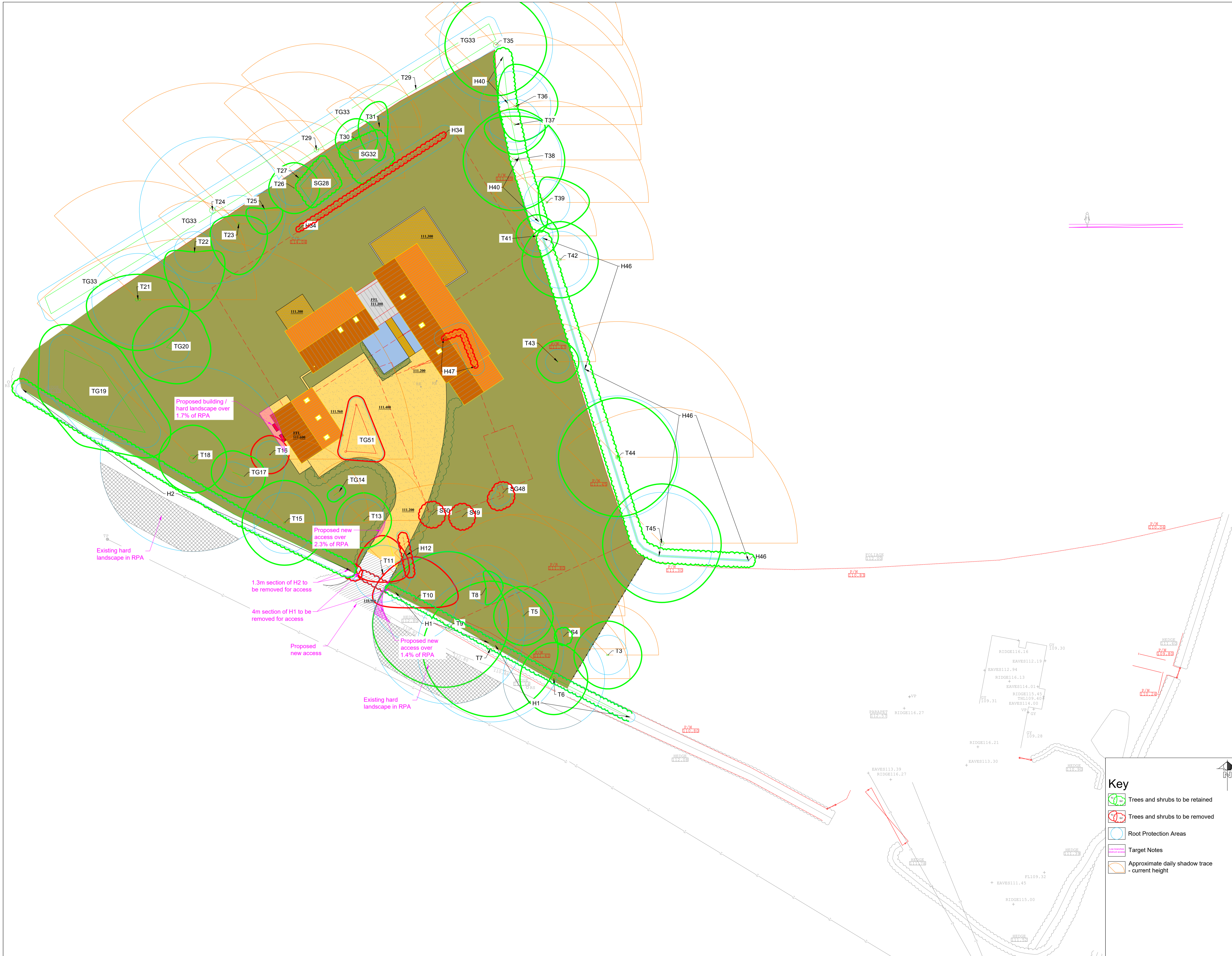
ISSUE: For Planning
 CLIENT: c/o Ian Abrams Architect
 LOCATION: Fox & Hounds, Bromley, Standon, Ware, SG11 1NX
 DRAWING TITLE: Tree Survey Plan
 SCALE: 1:200 @ A1
 DRAWING NO: 943-101

REV	COMMENT	DATE	BY
-	Original issue	17/07/2023	OK
A	Proposed access location finalised	14/12/2023	OK

PREPARED BY: Arborterra Ltd

APPENDIX 4

Tree Constraints Plan (ref: 943-201)



Proposed building /
hard landscape over
1.7% of RPA

Proposed new
access over
2.3% of RPA

Proposed new
access over
1.4% of RPA

1.3m section of H2 to
be removed for access

4m section of H1 to be
removed for access

Proposed
new access

Existing hard
landscape in RPA

Existing hard
landscape in RPA

Key			
	Trees and shrubs to be retained		
	Trees and shrubs to be removed		
	Root Protection Areas		
	Target Notes		
	Approximate daily shadow trace - current height		

ISSUE: For Planning			
CLIENT: c/o Ian Abrams Architect			
LOCATION: Fox & Hounds, Bromley, Standon, Ware, SG11 1NX			
DRAWING TITLE: Tree Constraints Plan			
SCALE: 1:200 @ A1		DRAWING NO: 943-201	
REV	COMMENT	DATE	BY
-	Original issue	14/12/2023	OK
PREPARED BY: Arborterra Ltd			

APPENDIX 5

Phase 1 Tree Protection Plan (ref: 943-301)



Key

- Trees to be retained
- Root Protection Areas
- Tree Protective Fencing
- Manual dig and root prune
- 10m Dimensions for setting out Tree Protection
- Target Notes

To be read in conjunction with the Arboricultural Report

ISSUE: For Planning
 CLIENT: c/o Ian Abrams Architect
 LOCATION: Fox & Hounds, Bromley, Standon, Ware, SG11 1NX
 DRAWING TITLE: Phase 1 Tree Protection Plan
 SCALE: 1:200 @ A1
 DRAWING NO: 943-301

REV	COMMENT	DATE	BY
-	Original issue	14/12/2023	OK

PREPARED BY:

APPENDIX 6

Phase 2 Tree Protection Plan (ref: 943-302)



Key

- Trees to be retained
- Root Protection Areas
- Tree Protective Fencing
- Ground Protection
- Dimensions for setting out Tree Protection
- Target Notes

To be read in conjunction with the Arboricultural Report

ISSUE: For Planning			
CLIENT: c/o Ian Abrams Architect			
LOCATION: Fox & Hounds, Bromley, Standon, Ware, SG11 1NX			
DRAWING TITLE: Phase 2 Tree Protection Plan			
SCALE: 1:200 @ A1		DRAWING NO: 943-302	
REV	COMMENT	DATE	BY
-	Original issue	14/12/2023	OK
PREPARED BY:			



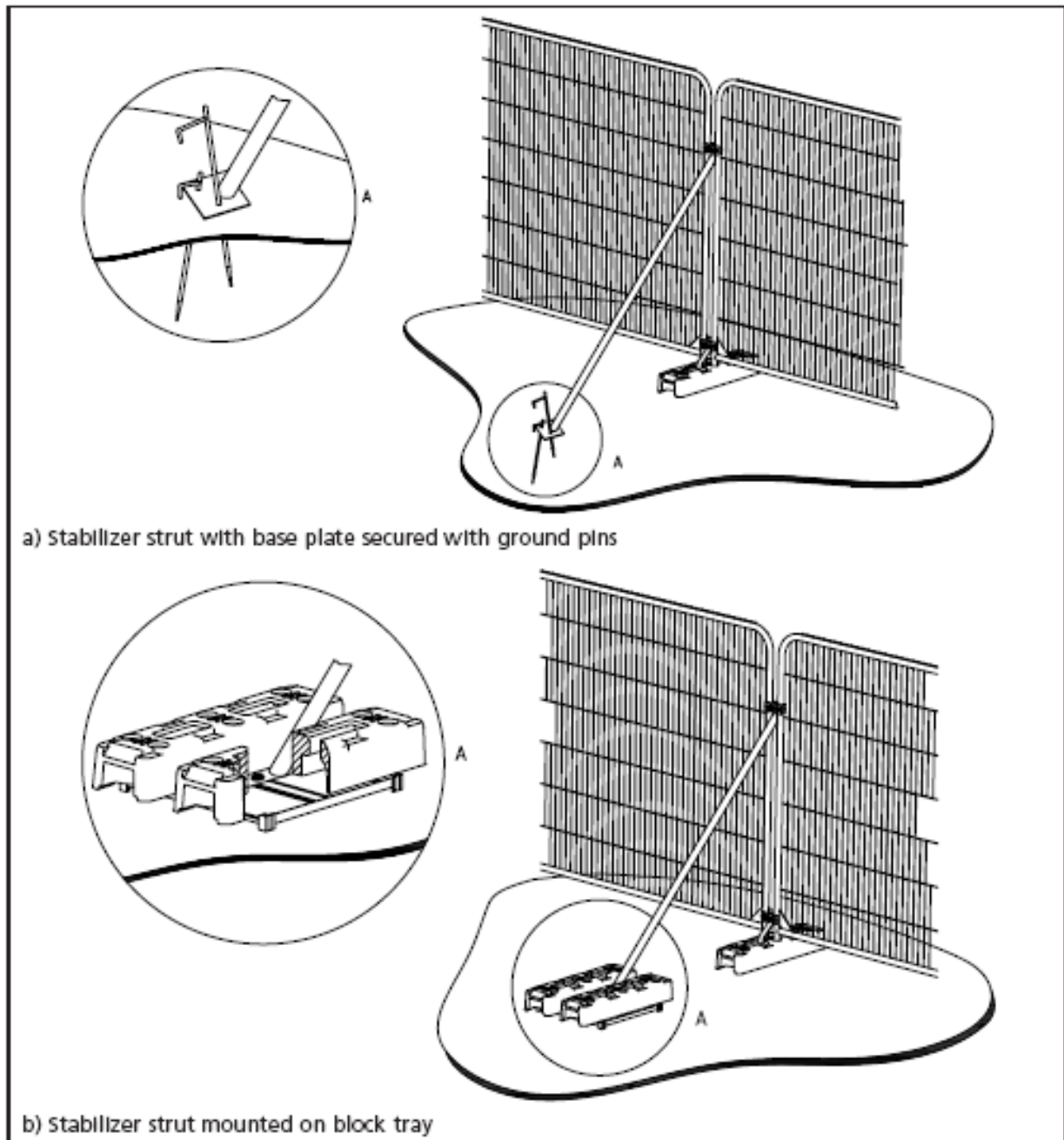
APPENDIX 7

Tree Protective Fencing

Tree Protective Fencing

Alternative Specification

Taken from Figure 3 of BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"





Tree Protection Area
No Access

Contact: Oisin Kelly, Arboricultural Consultant

Tel: 07570 977449

Email: oisin@arborterra.co.uk

APPENDIX 8

Ground Protection

TuffTrak[®]

Ground Protection Solutions

TUFFTRAK[®] ST
STANDARD HEAVY DUTY
ROAD MAT





TuffTrak® ST is the ultimate standard heavy duty road mat ideal for use as temporary roadways, work areas for heavy plant and machinery, drilling rigs, depot or storage areas.

Incorporating a dual grip design featuring our chevron traction® surface, and a low profile surface on the reverse both incorporating micro traction™ to further increase grip. This substantially improves mud dispersal and forward motion of vehicles. TuffTrak® ST's low profile surface reduces the risks of slips, trips, and falls.

TuffTrak® ST has a range of connector options available for use with different ground conditions and projects, with 4 connector points at each corner allows mats to be seamlessly connected together.

- **100% recycled High Density Polyethylene or Ultra High Molecular Weight Polyethylene**
- **Chevron traction® surface nub design for maximum grip**
- **One piece solid construction provides superior strength**
- **Various connector options available**
- **4 connector points, allowing seamless connection**
- **Low profile surface on the reverse ideal for pedestrian applications**

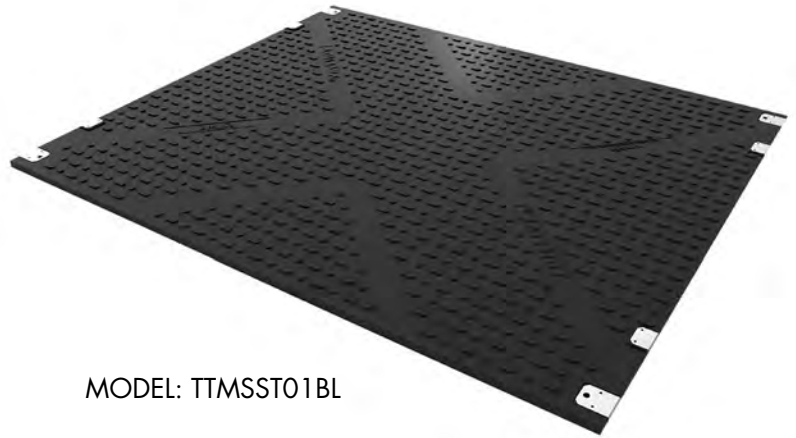
PRODUCT OVERVIEW

TuffTrak® ST is a standard heavy duty ground protection solution

specially designed for use as a trackway or workpad providing superior strength and a load bearing capacity of up to 150 tons.*

Material: High Density or Ultra High Molecular Weight Polyethylene

- 3000 mm x 2500 mm x 38 mm
- Usable surface area 7.5 m²
- Weight 295 kg
- Pure compressive load capacity 150 tons*
- 80 mats per truck / 40 ft container
- Chevron traction® surface design



MODEL: TTMSST01BL

APPLICATIONS

- Civil Engineering
- Construction
- Oil & Gas
- Utilities
- Transmission
- Infrastructure
- Military Sites
- Events

ACCESSORIES

2-WAY CONNECTOR



4-WAY CONNECTOR



Model	Description	Length	Width	Depth	Weight
TTMSST01BL	TuffTrak® ST PE1000	3000 mm (9'8")	2500 mm (8'2")	38 mm (1.5")	295 kg (650.4 lbs)
TTMSST05BL	TuffTrak® ST PE500	3000 mm (9'8")	2500 mm (8'2")	38 mm (1.5")	295 kg (650.4 lbs)
TTMSST03BL	TuffTrak® ST PE300	3000 mm (9'8")	2500 mm (8'2")	38 mm (1.5")	295 kg (650.4 lbs)
TTASEM2WBL	2-Way Polyurethane Connector	180 mm (7")	50 mm (1.9")	-	0.1 kg (0.22 lbs)
TTASEM4WBL	4-Way Polyurethane Connector	180 mm (7")	180 mm (7")	-	0.3 kg (0.66 lbs)

*Load bearing capacity is dependent on ground conditions. Sizing is subject to a manufacturing variance of +/- 5%.



TuffTrak® offers a full range of market leading composite ground protection mats delivering a safer work environment for temporary access roadways, trackways, working platforms, and turf protection.

E-mail: sales@tufftrak-safety.com
Tel: +44 (0) 1279 647 021

www.tufftrak-safety.com



A PRODUCT OF:



For more information visit: www.checkers-safety.com

CHECKERS' FAMILY OF BRANDS:



Checkers Safety Group is committed to providing revolutionary product designs and visionary safety solutions that protect people, assets, and the environment.



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