ARBORICULTURAL METHOD STATEMENT
to BS 5837:2012
at
Holme House
Oxford Road
Cleckheaton
West Yorkshire
BD19 4LA

Client:
Croft Care Group

Client Address:
31 Castleford Road
Normanton
West Yorkshire
WF6 2DP

JCA Ref:
13931d/ChC

JCA Limited
Arboricultural & Ecological Consultants

Contents

1. Introduction

1.1 Purpose of the Method Statement

1.1.1 This Arboricultural Method Statement has been prepared to ensure good practice in the protection of retained trees during the development at **Holme House, Oxford Road, Cleckheaton.**

1.2 Terms of Reference

1.2.1 JCA Limited is instructed by **Croft Care Group** to prepare an Arboricultural Method Statement for the proposed development, based on our arboricultural report dated 9th January 2018 (JCA Ref: **13931/ChC**). The arboricultural survey and report conforms to the most recent specifications outlined in BS 5837: 2012 *Trees in relation to design, demolition and construction - Recommendations*.

1.2.2 It is proposed to construct 8 detached residential dwellings with an internal access road serving the properties, which will remain a private road post development, and therefore not be adopted by the council. Part of the proposals also include for soft landscaping, to create an attractive site post development, and mitigate the loss of those specimens which require removal to facilitate the scheme and those trees recommended for removal for Arboricultural reasons, regardless of development.

1.2.3 The following drawings have been provided and these are the basis of the Arboricultural Method Statement and the Tree Protection Plan at **Appendix 4**:

- Topographical Survey
- Development Layout
- Drainage Layout

1.3 Status of the Method Statement

1.3.1 This Arboricultural Method Statement should be included as part of the specification and schedule of works issued to the building contractor, and can form part of the contract.

1.3.2 This Arboricultural Method Statement should be available on site for inspection by the local authority, contractors and other relevant persons.

2. Tree Works Prior, During and Post Construction

2.1 Tree Works Prior to Construction

2.1.1 Prior to any construction activity, the first operation on site will be the undertaking of the necessary arboricultural works, as described at **Appendix 1**.

2.1.2 The tree works include:

- The removal of **T2**, **T3, T6, T10,** and **T13**, for Arboricultural reasons.
- The removal of **T1**, **T7, G17, T18**, **T21**, **T23** and **G24**, to facilitate the proposed development.
- The pruning of **T4, T16, T21** and **T22**, for Arboricultural reasons.
- The pruning of **T9,** to facilitate the development.

2.2 Tree Works During Construction

2.2.1 In this case, no above ground tree works are envisaged to be required during the construction phase. In addition to this, no root pruning will be required for this development, due to the location of the proposed dwellings, the drainage layout and the use of specialist materials where appropriate.

2.2.2 Damage to trees during the construction phase should be entirely prevented by the installation of the temporary protective barrier (fencing, ground protection and stem protection where necessary), to create a Construction Exclusion Zone (CEZ). All persons on site must be aware of limitations that apply within the CEZ (please refer to **Section 3.1.3**).

2.2.3 If any trees on site are damaged, this must be immediately reported to JCA to agree on appropriate remedial action. Contact numbers for all parties can be found at **Section 7**.

2.3 Tree Works Post Construction

2.3.1 When the construction phase is complete and when the temporary protective barrier has been removed, some minor remedial works may be required. This may be for aesthetic purposes; to give clearance for new paths or to provide ground clearance for landscaping schemes.

2.3.2 No post construction remedial works are to be carried out on the trees until permission has been granted by the Local Planning Authority.

2.4 Recommendations For Tree Works

2.4.1 All work must be undertaken to BS 3998: 2010 - *Recommendations for tree work* and carried out by qualified, experienced and, ideally, Arboricultural Association approved contractors who must be adequately insured.

2.4.2 Any defects seen by a contractor or the client that were not apparent to the consultant must be brought to the attention of JCA immediately.

2.4.3 No liability can be accepted by JCA in respect of the trees unless the recommendations of this Method Statement are carried out under our supervision.

3. The Protective Barrier Prior, During and Post Construction

3.1 Protective Barrier Prior to Construction

3.1.1 The installation of the temporary protective barrier will be the very first job to be undertaken on site following the completion of the tree works (**Section 2.1**). This barrier will comprise of protective fencing, ground protection, or a combination of both, as detailed below and in **Section 3.4**. Please note that the fencing is proposed to be phased, for the demolition phase and also the construction phase. However, the fencing type and specification, (as detailed below) will remain the same for each phase.

3.1.2 The protective fencing must be constructed in accordance with BS 5837: 2012 *Trees in relation to design, demolition and construction - Recommendations* and will be located as shown on the Tree Protection Plan at **Appendix 4**. Where possible, the protective barrier will enclose the entire Root Protection Area (RPA) of the trees to make a Construction Exclusion Zone (CEZ); **this area is to be considered a restricted area; no pedestrians, vehicles, equipment or machinery are allowed within the CEZ and the storage of materials is not permitted, unless specified within this Method Statement**.

3.1.3 Due to the nature of the site, and the predominance of hard standing, the protective fencing will comprise of weld mesh panel fencing, situated in rubber or concrete feet due to the existing hard surfaced site. Panels will be joined together using a minimum of two anti-tamper couplers, positioned so that they can only be removed from inside the barrier. The fencing will be supported at each joint (where two panels meet) with a stabiliser strut, attached to the fencing at one end and a block tray at the other. Please refer to **Appendix 2 (Fig 1)** for protective fencing details.

3.1.4 Once the fencing is installed, waterproof signs with the sentence '*Protected tree zone, no storage or operations within this are*a' are to be placed at 3m intervals to ensure that all personnel are aware of the restrictions that apply to the cordoned off area. A prepared sign is available at **Appendix 2**.

3.1.5 Once installed, the appointed arboriculturalist will be invited on site to inspect the protective fencing and ground protection, ensuring that it is located in the correct position and that it has been constructed in accordance with this Method Statement. No other work, including soil stripping, excavation, or the bringing onto site of materials or machinery, shall commence until the barrier is installed and confirmed to be acceptable by the appointed arboriculturalist.

3.1.6 It is important that the protective fencing be checked by the LPA or an arboricultural consultant prior to any construction works being carried out on site. **If the protective fencing is not correctly installed or if it does not comply with BS 5837: 2012, this could result in damage being caused to trees and consequently, a stop notice may be served by the LPA.**

3.2 Protective Barrier During Construction

3.2.1 In order to accommodate the demolition of the on site building, a phased approach will be taken for the protective barrier (fencing) around **T19, T20,** and **T22**. This will ensure that the maximum degree of protection is afforded to these trees whilst enabling the required works.

3.2.2 Due to the proximity of trees to structures which are to be demolished, a two stage approach will be taken to the protective fencing. Prior to demolition, the protective barrier will be installed to protect the maximum RPA of the retained trees (shown on the plan as a red line), whilst excluding structures which are to be demolished. Once the demolition of all the required structures is complete, the protective barrier will be re-aligned (shown on the plan as a purple line) to encompass the maximum of the calculated RPA as practically possible, as shown on the Tree Protection Plan. This will then remain until the development is complete.

3.2.3 The protective barriers must be inspected for faults or damage by the site manager or other responsible named person on a regular basis and a written record kept. Any faults or defects must be repaired or replaced as soon as is reasonably practicable. Details of the site manager and relevant contact details can be found at **Section 7**.

3.2.4 As this site requires extensive tree protection measures, it is advised that the Arboricultural consultant supervises the installation of the protective fencing, ground protection and stem protection, to ensure it complies with, and is in accordance with the specification set out in this Method Statement.

3.3 Removal of the Protective Barrier

3.3.1 When the development phase is complete and the main site machinery has been removed, the Local Planning Authority should be invited to inspect the site to give approval for the removal of protective barrier.

3.3.2 When this approval has been given the protective barrier may be dismantled and removed from site.

3.3.3 It should be noted the same restrictions apply to all RPAs as the CEZ (please refer to **Section 3.1.3**).

3.4 Ground Protection & Stem Protection

3.4.1 Where it is not possible to enclose the entire RPA of a tree with protective fencing, it will be necessary to lay appropriate ground protection which, in combination with the fencing described in **Section 3.1**, will comprise the protective barrier.

3.4.2 The ground protection will be installed prior to the construction phase and retained until the material completion of development. The purpose of the ground protection is to enable site traffic to pass over the RPAs of trees, whilst minimising compaction and disturbance of the underlying soil which can lead to root asphyxiation and damage.

3.4.3 If only pedestrian traffic is required to pass over the RPA, a suspended walkway will be constructed. This will be achieved by constructing a framework of scaffold poles attached to the main scaffolding and may incorporate driven poles at suitable intervals, if necessary. Scaffold boards will be placed over this framework and utilised as a walkway for **pedestrian use only**. Vehicular/mechanical movement is not permitted over this type of ground protection.

3.4.4 If vehicles and machinery (over 2 tonnes in weight) are required to pass over the RPA of retained trees, a robust construction detail will be installed to provide the ground protection to the nearby trees (as detailed in **Section 4.2** of this report) and which will also form the road post development.

3.4.5 Where vehicles, machinery and pedestrian traffic are required to pass over the hard surfacing within RPA of retained trees, the existing hard standing in these areas will be utilised as ground protection during construction.

3.4.6 Due to the confined area and limited working access around **T22**, it is impracticable to install full protective fencing measures around the RPA, as this will restrict access and construction activity.

3.4.7 However, to protect the actual stem of **T22,** wooden hoarding will be erected. This will consist of external plywood panels (at least 2cm thick), which will be fixed to a wooden framework and positioned around the stem, as shown on the Tree Protection Plan at **Appendix 4.**

4. Construction Phase

4.1 Demolition Works

4.1.1 The protective barrier will require phasing to ensure a suitable degree of protection for retained trees throughout demolition. Further details are included in **Section 3.1**.

4.1.2 As a precautionary measure, where the existing building is proposed to be demolished adjacent to retained trees, a sensitive method will be employed. In order to prevent damage to nearby trees, the building will be collapsed onto its existing footprint in a direction away from the trees; a method referred to as '*top down, pull back'.*

4.1.3 In order to accommodate the proposals, some existing light structures require removal within the RPA of retained trees. These may include domestic fencelines, gates, small walls, stone piles etc. Disturbance to the underlying soil will be minimised as much as practically possible during the removal of these features. The removal of fence/gate posts may require the use of machinery such as mini-excavators. Where this is relevant, the posts will only be loosened by mechanical means, allowing their removal by hand. No excavation is permitted during this operation. Any plant over 2 tonnes in weight must be located outside the exposed RPA during this operation, unless sufficient ground protection is in place.

4.1.4 It is proposed to remove existing hard surfaces within the site. Where these are located close to trees to be retained, the operation will be supervised by the appointed arboriculturalist throughout.

4.1.5 For this method, the top layer of the surfacing will first be broken by mechanical means. This may be achieved by the use of a hand-held breaker or an excavator mounted breaker (also known as a jackhammer or demolition hammer). For excavator mounted breakers, movement of the plant is only permitted on the existing, unbroken surfacing, where within the RPA of adjacent trees. In order to achieve this, the works will be undertaken from the closest point of the surfacing to the tree, working backwards.

4.1.6 When breaking the surfacing, care will be undertaken to only break the surface and not to disturb the underlying soil. Once the surfacing has been broken into manageable sizes, it will be carefully removed from the area by hand. Alternatively, if the appointed arboriculturalist deems it appropriate, the rubble may be removed using a bucket mounted excavator, under supervision. Construction dumpers may be used to transport the rubble away from the area, providing they are located outside of the exposed RPA at all times or sufficient ground protection is in place. Once all the rubble has been removed from the area, it will be re-instated with top soil (no more than 200mm in depth) to cover any exposed roots and to provide a good rooting environment for future growth.

4.1.7 In this case, the existing surfacing will provide ground protection for the retained trees during the construction phase. As such, it will be temporarily retained on site for as long as practically possible, to provide protection whilst enabling construction/vehicular activity.

4.1.8 The entire demolition phase should be supervised by the appointed arboriculturalist, to ensure the trees are not damaged during the process.

4.2 Construction of Hard Surfaces

4.2.1 Hard surfaces, in the form of an access driveway and car parking areas, are proposed within the RPA of several trees to be retained. A no-dig method of construction will therefore be implemented to prevent damage to tree roots and allow these trees to be retained (as shown on the Tree Protection Plan at **Appendix 4** and at **Section 3.4**).

4.2.2 First, any minor undulations in ground levels (e.g. pot holes) will be filled-in using suitable top soil or sharp sand, to create a level surface. No excavation will be utilised to achieve a level surface.

4.2.3 Following this, a thin geotextile membrane will be placed on the soil and pegged/pinned into position. A three dimensional, cellular confinement system will be installed over the geo-textile membrane and filled with a permeable type of tarmac/asphalt.

4.2.4 The above, should be constructed as an initial phase of development to act as the ground protection for the adjacent trees (as discussed in **Section 3.4**). This road is not going to be adopted by the council, but is to remain private after the development is complete.

4.2.5 In order to retain the surfacing in place, edging supports may be required. Such supporting systems will minimise disturbance to the underlying soil and will not utilise continual trenching within the RPA. Acceptable methods include peg and board edging, gabions or sleepers which may be pinned in place if required.

4.2.6 The final surface treatment (permeable tarmac/asphalt) must be porous to enable the percolation of water through the surfacing to the tree roots beneath. This method is considered to be appropriate in terms of minimising damage to retained trees. However, a structural engineer should be consulted to ensure that the mechanical needs of the chosen design are adequately met.

4.2.7 This entire process should be supervised by the arboriculturalist, to ensure the surface is installed using the correct methods to ensure the survival of retained trees post development.

4.3 Construction of New Buildings

4.3.1 Although the footprints of the dwellings of Plots 1, 2, 7 and 8 are located outside of the theoretical rooting zone of nearby trees, as a precautionary measure, we are informed that it is proposed to use raft foundations for these dwellings.

4.3.2 For plots 3, 4, 5 and 6, we are informed that traditional strip foundations are proposed for the dwellings.

4.4 Excavations and Services

4.4.1 JCA have been provided with the drainage layout plan for the proposed scheme and the proposed utilities are situated outside the RPAs of retained trees expect a marginal and negligible encroachment of **T19**. As such, no mitigation actions are considered necessary to mitigate potential damage to tree roots.

4.4.2 The drainage layout is not included on our Tree Protection Plan; however, this document can be found at **Appendix 5** for reference.

4.5 Location of the Site Compound

4.5.1 The site compound, typically including the site office, mess facilities, toilets, storage of materials and parking, must be located away from, and outside the RPA of retained trees. Areas designated for the storage and/or mixing of chemicals, including petrol, diesel and oils must also be located away from, and outside the RPA of retained trees. Such areas should be constructed with consideration to, and contingencies for, the occurrence of spillages, preventing the leaching of chemicals into unprotected, open ground.

5. Post Construction Phase

5.1 Completion Meeting

5.1.1 Upon completion of the works as specified in **Section 4**, a JCA consultant will invite the Local Planning Authority representative to meet with them on site to agree on any remedial works which may be required.

5.1.2 Any necessary remedial works will be confirmed in writing and must be carried out in accordance with BS 3998: 2010 - *Recommendations for tree work.*

5.1.3 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken post development.

5.2 Post Construction Landscaping

5.2.1 Following completion of the main construction phase, the protective fencing and ground protection may be removed and the landscaping phase can commence.

5.2.2 If the proposals include for the installation of wooden boundary fences and gate post and are located within the RPA of retained trees, post holes will be dug by hand and are to be as small as practically possible. They may be driven in either by hand or using mechanical means. However, if construction plant is to be used, it must work from outside of the RPA at all times.

5.2.3 The proposals include for tree planting, this will create an attractive site post development, and mitigate the loss of those specimens which require removal to facilitate the scheme.

5.2.4 The planting of trees may go ahead in the first tree planting period (November-February) after construction is complete.

5.2.5 Landscaping works must be carried out in such a way as to avoid ground level changes or deep digging within RPAs. Tractor mounted rotovation or other mechanised cultivation methods must not be used within the RPAs of retained trees.

5.2.6 Heavy machinery is not permitted in the vicinity of retained trees, unless otherwise stated in this method statement.

5.2.7 Herbicides should be appropriate for the purpose and should not be used in such a way as to damage any retained trees or vegetation.

5.2.8 If in doubt, regarding the impact of proposed landscape operations, please contact the appointed arboriculturalist.

6. Timescale of Works

6.1.1 The timescale for arboricultural requirements are summarised below:

Timescale	Action	✓	Initial
Stage 1	All requirements listed in the planning consent are approved by the Local Authority planning office.		
Stage 2	Undertake the tree works (as detailed at **Appendix 1)**.		
Stage 3	Install the temporary protective fencing around the trees (as detailed at **Appendix 2** and as shown on the Tree Protection Plan at **Appendix 4 as shown as a red line**).		
Stage 4	Have the Local Planning Authority inspect the fencing prior to any demolition of the on-site Holme House building.		
Stage 5	Undertake the demolition of the Holme House building whilst taking suitable measures to avoid damage to adjacent trees as discussed in **Section 4.**		
Stage 6	Re-align the fencing as shown on the Tree Protection Plan at **Appendix 4 as shown as a purple line** once the demolition of the Holme House building is complete and when the construction phase, and demolition of light structures is ready to commence.		
Stage 7	Install ground protection and stem protection where required (as detailed in **Section 3.4**).		
Stage 8	Have the Local Planning Authority inspect the fencing and protection measures prior to any demolition of light structures or construction activity.		
Stage 9	Once inspected, the protective fencing, ground protection and stem protection must not to be moved or breached.		
Stage 10	Undertake the demolition and removal of existing hard surfaces (as detailed in **Section 4**).		
Stage 11	Construction Phase: Install the permanent hard surfaces using the no-dig cellular confinement system whilst undertaking suitable measures to avoid root damage and soil compaction (as detailed in **Section 4** and at **Appendix 3**). Undertake the construction of the new buildings. Raft foundations to be used for Plots 1, 2, 7 and 8 and traditional strip foundations to be used for Plots 3, 4, 5 and 6.		
Stage 12	Following the completion of the construction phase and when all site traffic and machinery has left, the protective fencing, ground protection and stem protection can be removed.		
Stage 13	Undertake the proposed soft landscaping scheme.		

7. Relevant Contact Details

Contact Name	Organisation/Detail	Contact Number
Charles Cocking Arboricultural Consultant	JCA Limited	01422 376335
Nick Goddard Tree Officer	Local Authority	TBC
TBC Site Manager	TBC	TBC
Benjamin Hellawell Architect	AHJ Architects	01484 615040
Damian Hartley Planning Consultant	TBC	TBC

Appendices

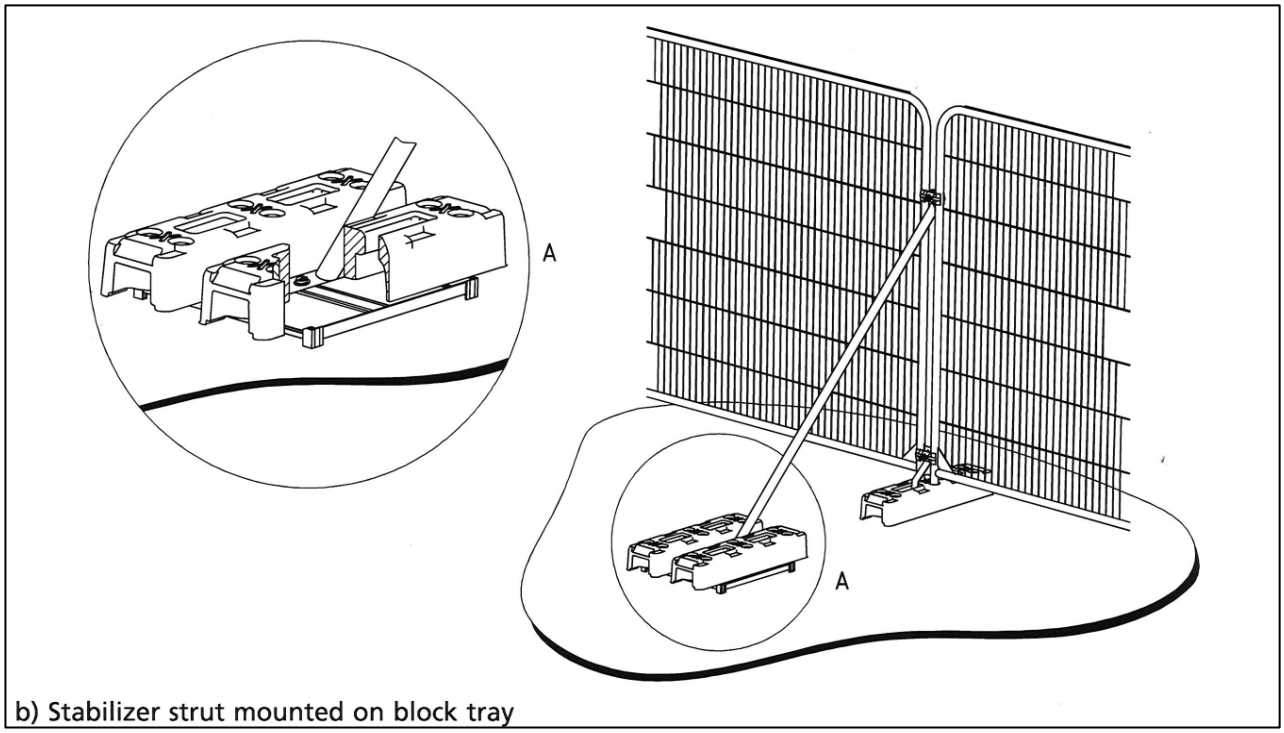
Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 1	Early-mature Ash *Fraxinus excelsior*	14	3	3 S	#45	3 2.5 2.5 2.5	Ivy covers the main stem and prevented a detailed inspection. Previously pruned to a poor standard.	Remove to facilitate the proposed development.	FAIR	FAIR	LOW	MOD	10+	C 2
T 2	Mature Horse Chestnut *Aesculus hippocastanum*	13	5	5 W	65	5.5 6.5 6 5	A multiple-stemmed specimen in poor condition. Evidence of previous Bleeding Canker; splits and cracking on the main stems. A minor cavity was noted on the road side.	Remove and re-place in accordance with the proposed Landscaping Scheme. Moderate	POOR	POOR	LOW	MOD	<10	U
T 3	Mature Horse Chestnut *Aesculus hippocastanum*	15	5	5 W	76	3 6 5.5 4.5	A multiple-stemmed specimen in poor condition. Evidence of previous Bleeding Canker and stress; splits and cracking on the main stem with epicormic growth.	Remove and re-place in accordance with the proposed Landscaping Scheme. Moderate	POOR	POOR	LOW	MOD	<10	U
T 4	Early-mature Sycamore *Acer pseudoplatanus*	14	5	5 W	59	4 6 6 4	A tree of reasonable form with a balanced crown. No major visible defects were observed. Some epicormic growth noted.	Crown clean. Low	FAIR	GOOD	MOD	MOD	20+	1 B 2
T 5	Early-mature Sycamore *Acer pseudoplatanus*	13	5	5 E	55	4 4 7 4	The majority of the canopy is overhanging the road. A tree of reasonable form.	No action required at present. n/a	GOOD	FAIR	MOD	MOD	20+	1 B 2
T 6	Mature Horse Chestnut *Aesculus hippocastanum*	14	3	3 N	60	6 5 4 5	Bacterial cankers and evidence of previous Bleeding. Epicormic growth noted and decay present on some old wounds. Poor specimen.	Remove and re-place in accordance with the proposed Landscaping Scheme. Moderate	POOR	POOR	LOW	MOD	<10	U
T 7	Mature Sycamore *Acer pseudoplatanus*	19	6	6 W	70	5 8 7 2	Significantly leaning in towards the site; a dominant specimen which is multiple-stemmed at 3.5m.	Remove to facilitate the proposed development.	FAIR	FAIR	MOD	MOD	10+	C 2
T 8	Semi-mature Lime *Tilia sp.*	10	5	5 W	29	1.5 1 5.5 2.5	May improve with the removal of T7. Epicormic growth noted.	No action required at present. n/a	FAIR	FAIR	MOD	MOD	10+	C 2
T 9	Mature Sycamore *Acer pseudoplatanus*	17	5	5 W	51	2 8 3 3	The main stem kinks approximately 60 degrees towards the site; a potential weak point to monitor.	Monitor on an annual basis. Prune back the western section of the canopy only by 3.5m-4m to appropriate growing points to re-balance the canopy and to provide sufficient clearances from the proposed adjacent dwelling post development. High	FAIR	FAIR	MOD	MOD	10+	C 2

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 10	Mature Pear *Pyrus communis*	8	4	4 S	38	2 3 3.5 4.5	A poor tree due to leaning form, canker and stem cavities with decay. No value or long term future.	Remove and re-place in accordance with the proposed Landscaping Scheme. Low	POOR	POOR	LOW	MOD	10+	U
T 11	Mature Lime *Tilia sp.*	18	6	6 W	67	5 7.5 7 6	A valuable specimen with no major visible defects noted.	No action required at present. n/a	GOOD	GOOD	HIGH	MOD	40+	1 A 2
T 12	Mature Lime *Tilia sp.*	18	6	6 N	65	5 5 6 5.5	A valuable specimen with no major visible defects noted. Slight lean towards the road. The adjacent wall is bulging slightly due to root and stem growth.	No action required at present. n/a	GOOD	GOOD	HIGH	MOD	40+	1 A 2
T 13	Mature Lime *Tilia sp.*	17	5	5 E	55	2 0 6 4.5	Heavily leaning tree; would collapse into the adjacent road if it failed.	Remove and re-place in accordance with the proposed Landscaping Scheme. Moderate	FAIR	POOR	MOD	MOD	<10	U
T 14	Mature Lime *Tilia sp.*	20	5	5 N	70	8 8 6 6	A reasonable tree on the boundary of the site. Ivy noted.	No action required at present. n/a	GOOD	GOOD	HIGH	MOD	40+	1 A 2
T 15	Early-mature Sycamore *Acer pseudoplatanus*	16	3	3 N	39	5.5 2 2.5 4	Located on top of the boundary wall.	No action required at present. n/a	FAIR	FAIR	MOD	MOD	10+	C 2
T 16	Mature Sycamore *Acer pseudoplatanus*	18	5	5 N	60	7 3.5 5.5 4.5	A reasonable tree on the boundary of the site. Dense Ivy noted.	Remove the Ivy. Low	GOOD	GOOD	MOD	MOD	20+	1 B 2
G 17	Semi-mature Mixed	To 10	0+	n/a n/a	Avg. 20	See Plan	Species include Elm, Holly and Sycamore. Ivy covers the majority of stems.	Remove to facilitate the proposed development.	GOOD	GOOD	LOW	LOW MOD & HIGH	10+	C 2
T 18	Mature Sycamore *Acer pseudoplatanus*	19	7	7 N	85	5 4 10 5	Dense Ivy restricted access to the main stem.	Remove to facilitate the proposed development.	FAIR	GOOD	MOD	MOD	20+	1 B 2
T 19	Mature Copper Beech *Fagus sylvatica 'Atropurpurea'*	19	4	4 N	76	7 6.5 8 8.5	A tree of good value with a well balanced crown.	No action required at present. n/a	GOOD	GOOD	HIGH	MOD	40+	1 A 2

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 20	Mature Beech *Fagus sylvatica*	17	5	3.5 N	69	9.5 4.5 9.5 5	Dense Ivy on the main stem. No major visible defects were observed.	No action required at present. n/a	GOOD	GOOD	HIGH	MOD	40+	1 A 2
T 21	Mature Lime *Tilia sp.*	20	7	7 E	69	4 5 3.5 4	Growing close to and overhanging the adjacent building. Overhead cables are passing the canopy. Epicormic growth noted.	Remove to facilitate the proposed development.	GOOD	GOOD	MOD	MOD	20+	1 B 2
T 22	Mature Lime *Tilia sp.*	20	8	n/a n/a	55	4 3.5 7 2	Located on top of a rockery. Restricted access. Ivy and epicormic growth noted.	Remove the Ivy and epicormic growth. Low	FAIR	GOOD	MOD	MOD	20+	1 B 2
T 23	Mature Lime	20	10	n/a	55	3 7 7	Located on top of a rockery. Restricted access. Ivy and epicormic growth noted.	Remove to facilitate the proposed development.	FAIR	GOOD	MOD	MOD	20+	1 B 2
G 24	Early-mature Sycamore *Acer pseudoplatanus*	16	7	n/a n/a	Avg. 45	See Plan	Four trees in group. Covered in dense Ivy.	Remove to facilitate the proposed development.	FAIR	GOOD	MOD	MOD	20+	1 B 2
T 25	Early-mature Cypress *Cupressus sp.*	8	3	n/a n/a	52	3 3 3 3	Single-stemmed and vertical with a balanced crown. No major visible defects.	No action required at present. n/a	FAIR	GOOD	LOW	HIGH	10+	C 2

Appendix 2: Protective Barrier

A2.1 Figure 1: An example of an above-ground stabilisation system. To be used where there is hard surfacing.



b) Stabilizer strut mounted on block tray

TREE PROTECTION ZONE

KEEP OUT!

TREES ENCLOSED BY THIS FENCE ARE PROTECTED
BY STRICT PLANNING CONDITIONS

ANY DAMAGE CAUSED TO THESE TREES MAY
RESULT IN **CRIMINAL PROSECUTION**

RESTRICTED AREA:

- THE PROTECTIVE FENCE MUST NOT BE MOVED OR BREACHED
- NO PERSON, MACHINERY, VEHICLE OR PLANT IS PERMITTED WITHIN THE TREE PROTECTION ZONE
- NO MATERIALS SHALL BE STORED WITHIN THE TREE PROTECTION ZONE
- NO EXCAVATIONS ARE PERMITTED WITHIN THE TREE PROTECTION ZONE
- NO SPOIL IS TO BE DEPOSITED WITHIN THE TREE PROTECTION ZONE
- NO FIRES ARE TO BE LIT WITHIN THE TREE PROTECTION ZONE

REPORT TREE DAMAGE TO JCA LIMITED ON
01422 376 335

Appendix 3: Permanent Hard Surfaces

A4.1 This Appendix outlines the options available for constructing No-Dig hard surfaces within the RPA of a tree. The design of such a construction needs to be sensitive to the requirements of tree roots, substantial enough to withstand the expected levels of traffic and practicable in terms of ease of fabrication (See **Section 4.4** for details)

A4.2 We are not qualified to recommend any particular construction method in terms of durability or structural integrity and any proposed construction should be approved by a qualified structural engineer prior to implementation. However, with regards to trees, we make the following comments:

- Severance of roots and soil compaction should be avoided. However, if it is necessary to sever roots or if they are severed accidentally we must be informed so that we are able to assess and recommend accordingly.

- Air and water must be able to diffuse into the soil beneath the engineered surface. Toxic substances which could leach into the ground must be avoided, as should substances which affect the pH value of the soil, for example limestone.

A4.3 **The No-Dig Method:** This involves construction of a surface with no excavation, soil stripping or site grading (see Figure 3). All construction takes place above ground level. Preparation is as follows:

A4.4 Ground vegetation is killed using a suitable herbicide. Care must be taken to select a herbicide which does not damage the tree roots within the treated area. Once the vegetation has died, the dead organic matter should be removed. This helps prevent the future build up of anaerobic conditions or settlement due to decomposition.

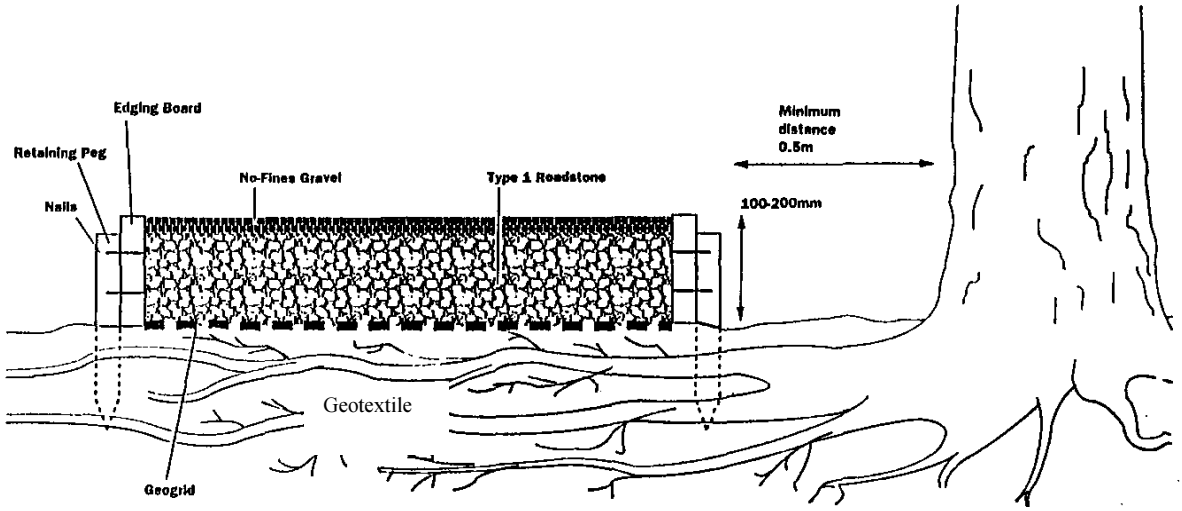
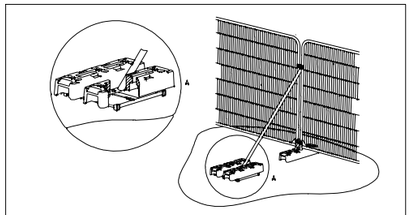


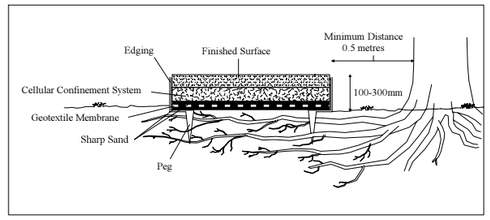
Figure 3. A light duty drive constructed using the ***No Dig Method.***

An example of an above-ground stabilizing system

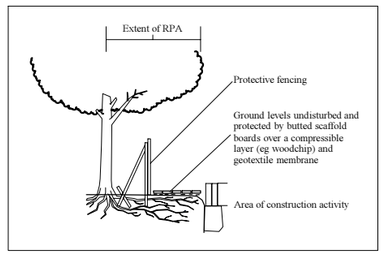


A stabilizer strut mounted on a block tray

An example of a 'no dig' road construction



An example of a walkway within the RPA



TREE PROTECTION MEASURES

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE.

UNLESS OTHERWISE STATED IN THE ARBORICULTURAL METHOD STATEMENT, THIS AREA NEEDS TO REMAIN UNDISTURBED.

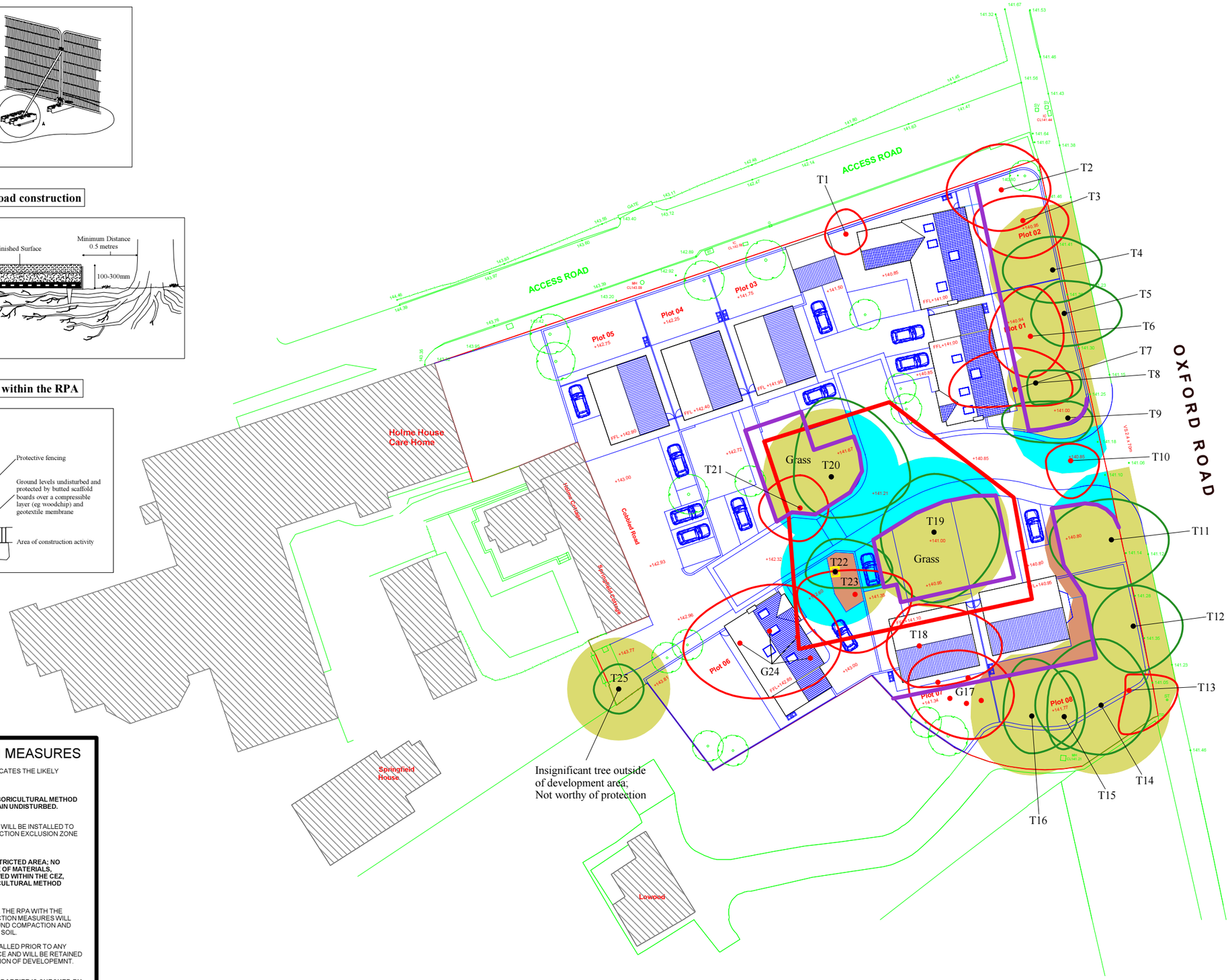
TO ACHIEVE THIS, PROTECTIVE FENCING WILL BE INSTALLED TO ENCLOSE THE RPA TO MAKE A CONSTRUCTION EXCLUSION ZONE (CEZ);

THIS AREA IS TO BE CONSIDERED A RESTRICTED AREA; NO PEDESTRIANS, VEHICLES, THE STORAGE OF MATERIALS, EQUIPMENT OR MACHINERY ARE ALLOWED WITHIN THE CEZ, UNLESS SPECIFIED WITHIN THE ARBORICULTURAL METHOD STATEMENT.

WHERE IT IS NOT POSSIBLE TO ENCLOSE THE RPA WITH THE PROTECTIVE FENCING, GROUND PROTECTION MEASURES WILL NEED TO BE LAID TO MINIMIZE ANY GROUND COMPACTION AND ANY DISTURBANCE TO THE UNDERLYING SOIL.

THE PROTECTIVE BARRIER WILL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES TAKING PLACE AND WILL BE RETAINED IN PLACE UNTIL THE MATERIAL COMPLETION OF DEVELOPEMNT.

IT IS IMPORTANT THAT THE PROTECTIVE BARRIER IS CHECKED BY THE LPA OR THE ARBORICULTURAL CONSULTANT PRIOR TO ANY CONSTRUCTION WORKS BEING CARRIED OUT. IF THE TREE PROTECTION MEASURES ARE NOT CORRECTLY INSTALLED OR IF THEY DO NOT COMPLY WITH BS 5837: 2012, THIS COULD RESULT IN DAMAGE BEING CAUSED TO TREES AND CONSEQUENTLY A STOP NOTICE MAY BE SERVED BY THE LPA.



Appendix 4: Tree Protection Plan

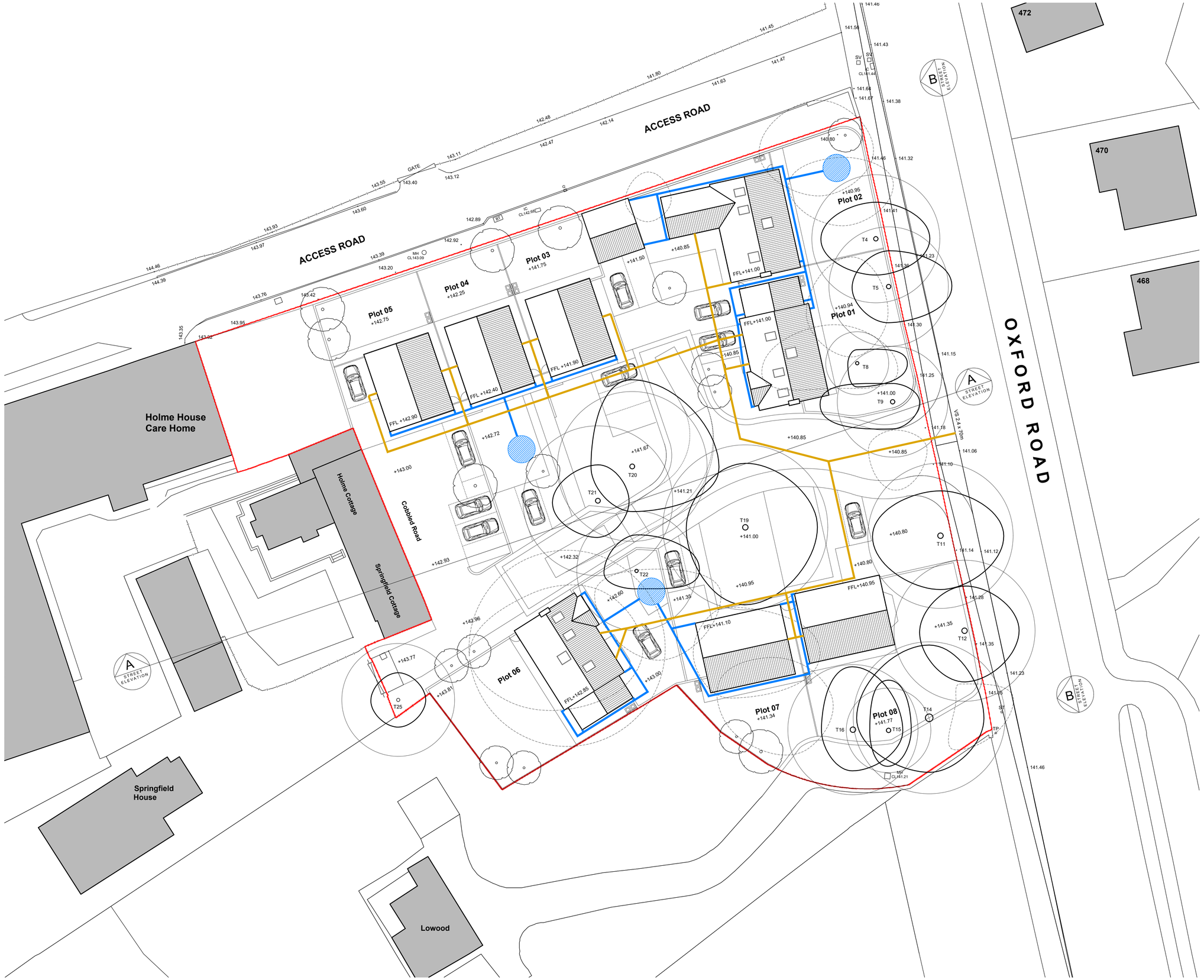
ADDRESS: Holme House, Oxford Road, Cleckheaton, West Yorkshire, BD19 4LA.
JCA REF: 13931c/ChC

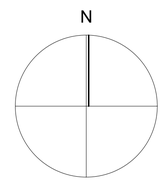
SCALE: 1:500 | PAPER SIZE : A3

	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA (RPA)
	AREA OF RPA WHERE GROUND PROTECTION IS REQUIRED; TYPE OF GROUND PROTECTION IS DEPENDANT ON THE GROUND SURFACE. SEE REPORT SECTION 3.2
	NO-DIG METHOD OF CONSTRUCTION TO BE IMPLEMENTED FOR THE ACCESS ROAD TO MINIMISE DISTURBANCE TO THE RETAINED TREES AND THEIR RPA'S
	LOCATION OF PROTECTIVE FENCE LINE (CEZ) AFTER DEMOLITION PHASE IS COMPLETE
	LOCATION OF PROTECTIVE FENCE LINE (CEZ) TO BE ERECTED PRIOR TO ANY DEMOLITION ACTIVITY; TO BE REMOVED AND REPLACED WITH 'PURPLE' LINE ONCE DEMOLITION PHASE IS COMPLETE
	WOODEN HOARDING REQUIRED AROUND THE STEM OF T22 TO AVOID DAMAGE DURING THE CONSTRUCTION PHASE
	INDICATIVE LOCATIONS OF REPLACEMENT TREES

JCA Limited
Arboricultural & Forestry Consultants

Appendix 5: Drainage Layout





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Drawn Scale 1:200

00m 04m 10m 20m

Key

- Indicative Foul Route
- Indicative Surface Water Route
- Soakaway [5m from dwelling]

INDICATIVE DRAINAGE LAYOUT 1:200 @ A1

Issue Purpose: INFORMATION

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AHJ architects

Client	Mr Cregan
Project	1626 Holme House Residential
Title	Indicative Drainage Layout
-	
Drawing Number	1626 – D – 20 – 005 –
Revision	–
Issued From	
Date	April 18
Scale	1:200 @ A1
Drawn	BH Auth BH

Do not scale from this drawing. Work to figured dimensions, and any discrepancy to be reported to the Architect.

Refer to larger scale drawings where available.

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

.....

Charles Cocking *FdSc (Arboriculture).*

30th May 2018

For and on behalf of ***JCA Ltd***

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Guidance for Architects and Developers

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- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

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- Tree Root Identification

Advice for Local Authorities and Social Housing

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Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

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