Hinchliffe Mill,
Holmfirth,
HD9 2NX

Arboricultural Impact Assessment

November 2021

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Prepared by	James Stacey
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Contents

1 Introduction

1.1 Introduction and Background

1.1.1.1 This report contains an Arboricultural Impact Assessment in support of a planning application at Hinchliffe Mill, Water Street, Holmfirth, HD9 2NX. The study area extends to approximately 1.7 ha and the site is centred on grid reference SE12700707.

1.1.1.2 This report has been produced to support an application for the development of the former mill site to create 24 residential dwellings, incorporating the former mill building, located within the former mill grounds.

1.1.1.3 The proposed development plan is in the Tree Assessment Plan (TAP) shown at Appendix 3.

1.1.1.4 A tree survey of the site in accordance with BS5837:2012 was originally carried out in January 2021 with the results outlined in Appendix 1 – Tree Constraints Table

1.2 Aims

1.2.1.1 The Arboricultural Impact Assessment will provide information and advice on potential conflicts between the existing trees on site and the proposed development. The information contained in this assessment has been drawn from the current design layout.

1.2.1.2 Possible mitigation measures will be outlined where the proposed development comes into conflict with retained trees and vice versa.

1.3 Trees Within the Site

1.3.1.1 There are 21 individual trees and 12 tree groups located on the site and immediately adjacent to site which have been surveyed as part of the planning process for this development (see Appendix 1).

- 10 individual trees were classified as BS5837:2012 Category B.
- 1 tree group was classified as BS5837:2012 Category B.
- 7 individual trees were classified as BS5837:2012 Category C.
- 10 tree groups were classified as BS5837:2012 Category C.
- 4 individual trees were classified as BS5837:2012 Category U.
- 1 tree group was classified as BS5837:2012 Category U.

2 Arboricultural Impact Assessment

2.1 Introduction

2.1.1.1 The Arboricultural Impact Assessment will outline the potential impact this development will have on the trees which are to be retained. The implications will be discussed in terms of below ground constraints and above ground constraints. Possible remedial actions will be discussed where the development impacts significantly on retained trees.

2.2 Development Proposal

2.2.1.1 The proposal is for the development of the former mill site to create 19 residential dwellings, incorporating the former mill building, located within the former mill grounds.

2.3 Trees to be Removed

2.3.1.1 The following trees are considered to be Category U trees, due to failure/collapse and poor health. T10, T11, T15 and T16 will require removal prior to construction commencing.

2.3.1.2 Trees within G2 are all self sown saplings which have developed as a result of the sites lack of management. These are all small trees, which are all less than 100mm stem diameter. G2 trees will require removal to facilitate development of the site.

2.3.1.3 Trees within G7 are also self sown trees which have developed as a result of the sites lack of management. These all exhibit generally poor form and are considered to present a reduced contribution. Removal will be required along the southern bank of the mill pond and adjacent to the main mill building to facilitate development.

2.3.1.4 Trees within G4 will require removal to facilitate the development of the site, these are young trees, growing densely due to a lack of site management. G4 is considered to be Category C, with limited contribution.

2.3.1.5 To facilitate development of plots 1, along with the access to these plots, trees in G8 will require removal. The group is considered to be Category C with trees in poor form and condition.

2.3.1.6 G6 requires partial removal of two individual trees to facilitate the alteration of Spring Lane. The trees are partially collapsed and are considered to be category C.

2.3.1.7 A total of four individual trees will require removal. All are Category U.

2.3.1.8 A total of four tree groups will require full removal.

2.3.1.9 Part removal of one tree groups will be required.

2.4 Below Ground Constraints

2.4.1 Excavation Within the RPA

2.4.1.1 No excavation is required within the RPA of retained trees.

2.4.2 Permanent Hard Surface Installation

2.4.2.1 The access road leading to the site from Spring lane will be required through the RPA of trees in G9. There is presently an access track along the proposed route with a hardcore subbase. This existing subbase should be utilised and augmented, with permeable surfacing treatments. This will maintain the existing ground in its current condition. Under no circumstance must the ground within the RPA of these trees be excavated or lowered as this will sever any roots present beneath the existing track.

2.4.2.2 A footpath link is proposed within the RPA of trees in G1, G3 T8, T9 and T12. The use of no dig construction methods and permeable surfacing treatments, in order to reduce the impact to these trees will be required. No excavation must occur for the construction of a subbase, the use of 3D cellular confinement systems are recommended to construct a subbase and maintain existing soil conditions within the RPA of these trees.

2.4.3 Soil Compaction Within the RPA

2.4.3.1 Under no circumstances must machinery pass over the unprotected soils within the RPA of retained trees as this will cause compaction of the soils beneath.

2.4.3.2 Barrier fencing should be erected where possible to create a Construction Exclusion Zone (CEZ), to prevent construction machinery and personnel encroaching into unprotected RPAs. Barrier fencing must be located along the edge of any ground protection measures.

2.4.3.3 Construction machinery should follow agreed access routes within the site.

2.4.3.4 Compaction of soil reduces oxygen and water movement through the soil which can lead to the suffocation and the eventual death of roots.

2.4.4 Ground Level Changes

2.4.4.1 It is not envisaged that there will be ground level changes within the RPA of retained trees.

2.4.5 Changes to Soil Condition

2.4.5.1 It is vital that current soil condition is maintained within the RPA. Effects on bulk density of the soil from construction activity and the quality of the soil can impact on the trees severely as the roots have adapted to the current conditions of the soil.

2.4.6 Underground Utilities/Service Provision

2.4.6.1 It is not envisaged that underground service installation will be required within the RPA of retained trees for this development as trees are located around the periphery of the site.

2.4.6.2 Where possible, it should be proposed to use the existing services into the site and keep all services outside the RPA. Where this is not possible, trenchless installation should be the preferred option for the creation of services. If this is not feasible, any excavation must be carried out by hand in accordance with the guidance provided in the National Joint Utilities Guidance document NJUG.

2.5 Above Ground Constraints.

2.5.1 Access Facilitation Pruning

2.5.1.1 Following the proposed tree removal it is not anticipated that there will be any requirement for access facilitation pruning. Trees G1, G3 T8, T9 and T12 be the closest trees to any construction activities, however, these are all located at the top of the existing embankment and crown clearance is considered to be sufficient for construction and clearance over the footpath link.

2.5.1.2 Should any pruning requirements be identified on site, advice and approval must first be sought from the supervising arboriculturist and LPA.

2.5.1.3 All pruning works must be carried out by suitably qualified arboricultural contractors and in accordance with BS3998:2010 Tree Work Recommendations.

2.6 Construction Access and Activities

2.6.1.1 Details of construction access and the location of site compounds, buildings and storage areas have not yet been provided. It is likely that access will be via the proposed and current access track to the site.

2.6.1.2 Consideration should be included within an Arboricultural Method Statement for the storage of materials as accidental spillage may cause damage to the surrounding trees. Spillage kits and neutral emergency bunding aggregate should be appropriate to the amount of material stored on site i.e. fuel oil or liquid chemicals.

2.6.1.3 All storage areas, cement mixing and washing points must be outside RPAs unless otherwise agreed with the Local Planning Authority.

2.7 Post Development Pressures

2.7.1.1 The discussed impacts and mitigation methods have been provided to allow an acceptable relationship between the development and existing trees that will not cause future conflict and reduce future pressures on retained trees.

2.7.1.2 The processes of construction are unlikely to have a detrimental effect upon the health of the retained trees assuming recommendations made within this Arboricultural Impact Assessment and a subsequent Method Statement are adhered to at all times by the contractor, e.g. the positioning of a suitable fence between the retained trees and construction activities prior to commencement of works and that the fence remains intact and in position throughout the duration of the project.

Appendix 1. Tree Constraints Table

Tree/ Group Ref No.	Species	Height (m)	Crown Spread (m)				Crown Clearance	Stem diameter (mm)	Age class	Physiological Condition	Structural Condition	Condition	Management recommendations	ERC	Cat Grade	Radius of Nominal Circle (m)	RPA SqM
			W	N	S	E											
T1	Ash	12	4*	4*	4*	4*	1.5*	300 basal*	EM	F	G	Small ash outside of site.	Retain	10+	C1	3	28.30
T2	Ash	11	4.5	4.5	4.5	4.5	1.5*	200 basal*	EM	F	G	Small ash outside of site.	Retain	10+	C1	2	12.60
T3	Pine	12	4*	4*	4*	4*	0	300*	M	G	G	Established pine outside of site.	Retain	20+	B1	3.6	40.70
T4	Sycamore	18	8.5*	8.5*	8.5*	8.5*	3	550*	M	G	G	Mature sycamore in private garden.	Retain	40+	B1	6.6	136.90
T5	Sycamore	15	6.5*	3*	6.5	6.5*	3.5*	400*	M	G	G	Mature sycamore in private garden. Growing at higher level with retaining wall.	Retain	40+	B1	4.8	72.40
T6	Sycamore	21	8*	8*	8*	8*	3.5*	800*	M	G	G	Mature sycamore in private garden. Growing at higher level with retaining wall.	Retain	40+	B1	9.6	289.60
T7	Silver birch	8	2.5	2.5	2.5	2.5	0.5	350 basal*	EM	G	G	Small established birch in good condition.	Retain	20+	C1	3.5	38.50
T8	Goat willow	8.5	4.5	4.5	4.5	4.5	0	10 stems ave. 120	EM	G	F	Small multi stemmed willow. Limited impact and long term contribution.	Retain	10+	C1	3.8	45.20

Tree/ Group Ref No.	Species	Height (m)	Crown Spread (m)				Crown Clearance	Stem diameter (mm)	Age class	Physiological Condition	Structural Condition	Condition	Management recommendations	ERC	Cat Grade	Radius of Nominal Circle (m)	RPA SqM
			W	N	S	E											
T9	Goat willow	12	4.5	4.5	4.5	4.5	1	600 basal*	EM	G	F	Small multi stemmed willow along edge of stream.	Retain	20+	C1	6	113.10
T10	Goat willow	8	4.5	4.5	4.5	4.5	1.5	400 basal*	EM	F	P	Small multi stemmed willow, which has failed sideways but still living. Poor quality.	Remove	<10	U	4	50.30
T11	Ash	9	3	3	3	3	1	200	Y	F	G	Small established, self sown ash. Likely to succumb to ash dieback.	Remove	<10	U	2.4	18.10
T12	Goat willow	12	10	10	10	10	2-3 over site.	200, 200, 250, 250, 150* (Basal 850*)	M	G	G/F	Mature multi stemmed willow at top of bank. Difficult inspection due to position. Appears generally good condition and pleasant mature feature of site, visible from external areas. RPA unlikely to encroach significantly within site due to levels. (Growing at top of bank).	Retain - remove snapped branch	20+	B2	8.5	227.00
T13	Goat willow	12	10	10	10	10	3-4 over site.	400, 300, 150, 250, 200, 150* (Basal 850*)	M	G	G/F	As for T12. Contributes as group boundary feature.	Retain	20+	B2	8.5	227.00
T14	Goat willow	12	10	10	10	10	2 over site.	1000 basal*	M	F	G/F	As for T12. Slightly higher proportion of deadwood. Difficult inspection. Located at top of waterfall.	Retain - manage accordingly. Remove suckering stems	20+	B2	10	314.20

Tree/ Group Ref No.	Species	Height (m)	Crown Spread (m)				Crown Clearance	Stem diameter (mm)	Age class	Physiological Condition	Structural Condition	Condition	Management recommendations	ERC	Cat Grade	Radius of Nominal Circle (m)	RPA SqM
			W	N	S	E											
													at base of waterfall.				
T15	Goat willow	3	3	7.5	3	3	0	300	M	F	P	Tree has failed sideways with live suckered growth.	Remove	<10	U	3.6	40.72
T16	Sycamore	19	7	7	7	7	0-2 over site	850 basal	M	G	F	Tall mature sycamore at base of boundary wall. Multi stemmed from base with weak included union to large Eastern stem (crack visible).	Remove	<10	U	8.5	227.00
T17	Sycamore	19	4.5	4.5	2	2	0-2 over site	450 basal	M	G	F	Smaller multi stemmed sycamore at base of T16. Tight vertical codominant growth form.	Retain	10+	C2	4.5	63.60
T18	Goat willow	12.5	6.5	6.5	6.5	6.5	0 within site	600 basal	M	F	F	Multi stemmed willow. Cleared for utilities to SE. Multiple snapped branches within site. Unsuitable for long term retention without management. Tree is directly visible by adjacent properties.	Retain	10+	C1	6	113.10
T19	Goat willow	12.5	5.5	5.5	5.5	5.5	1	100, 150, 150, 250, 250* (750 basal*)	M	G	F	As for T18 but in better condition.	Retain	20+	B1/2	7.5	176.70

Tree/ Group Ref No.	Species	Height (m)	Crown Spread (m)				Crown Clearance	Stem diameter (mm)	Age class	Physiological Condition	Structural Condition	Condition	Management recommendations	ERC	Cat Grade	Radius of Nominal Circle (m)	RPA SqM
			W	N	S	E											
T20	Goat willow	12.5	5.5	5.5	5.5	5.5	1	700	M	G	G	As for T19. Previously pollarded.	Retain	20+	B1/2	8.4	221.70
T21	Sycamore	22*	8.5	8.5	8.5	8.5	4 over site	850	M	F	F	Very large prominent sycamore on boundary within site. Deadwood and slightly low vigour observed. Suitable for retention with remedial work. Regularly pruned for utility clearance. Difficult inspection due to dense vegetation.	Retain	20+	B1/2	10.2	326.89
G1	Willow, alder, ash, sycamore	upto 12.5*	4.5	4.5	4.5	4.5	0	upto 180	Y-EM	G	F	Self sown, multi stemmed trees growing from base of wall along edge of river and site. Established from lack of management.	Retain	10+	C2	2.2	14.70
G2	Willow, birch, buddleja, ash	upto 8	1	1	1	1	0	<100	Y	G	G	Area of sporadic, self sown trees. Pioneering within site due to lack of management. Most are young saplings with occasional stem upto 100mm. Many stems <75mm.	Remove to facilitate development	10+	C2	1.2	4.50
G3	Ash, willow	upto 12	5	5	5	5	0-2	upto 250*	EM	F	F	Dense group of multiple stems. Predominantly ash, located along steep bank above stream. Ash will likely succumb to ash dieback.	Retain	10+	C2	3	28.30
G4	Willow, birch, ash	upto 11.5	4	4	4	4	1	upto 150	EM	F	F	Dense multi stemmed area of trees colonising edge of stream. Limited long term potential. Only small percentage birch likely to exceed 10 years.	Retain	10+	C2	1.8	10.20

Tree/ Group Ref No.	Species	Height (m)	Crown Spread (m)				Crown Clearance	Stem diameter (mm)	Age class	Physiological Condition	Structural Condition	Condition	Management recommendations	ERC	Cat Grade	Radius of Nominal Circle (m)	RPA SqM
			W	N	S	E											
G5	Goat Willow	upto 5	2.5	2.5	2.5	2.5	0	75	Y	G	G	Dense clusters of young willow saplings. Many <75mm. Growing due to lack of recent management.	Remove to facilitate development	10+	C2	0.9	2.55
G6	Goat willow	14	4	4	4	4	0-1 over site	350	M	G	F	Dense group of willow stems forming end of group along bank near waterfall. Many snapped branches require management over site. Contributes to a pleasant natural feature.	Retain/ remove stems at base of embankment	10+	C2	4.2	55.42
G7	Ash, willow, birch	upto 8	3.5	3.5	3.5	3.5	0	upto 120	Y	F	F	Dense clusters of predominantly ash. All multi stemmed regrowth/ scrub. No real arboricultural value.	Remove	<10	U	1.4	6.50
G8	Sycamore	13	5	5	5	5	0.5	300, 300, 300	M	G	F	Poor quality, multi stemmed sycamore growing from bank side. Tight codominant growth.	Remove	10+	C2	5.2	84.80
G9	Sycamore, poplar	19	4.5	4.5	4.5	4.5	2.5 over site	Max 350	M	G	F	5 tall slender stems (1 x poplar) growing very closely to one another. Tight, tangled growth, which somewhat limits long term potential. RPAs unlikely to encroach within site as stems are growing at higher level along lane. One tree has minor basal decay. Two with rubble piled at base.	Retain where possible - remove poplar. Remove rubble from base. Manage accordingly.	20+	B2	4.2	55.40
G10	Goat willow	14	6.5	6.5	3	6.5	1	Max 320	M	G	F	Cluster of willow stems along top of bank. Heavy leaning. 50% of trees have previously been cut back	Retain, pollard management.	10+	C2	3.8	46.30

Tree/ Group Ref No.	Species	Height (m)	Crown Spread (m)				Crown Clearance	Stem diameter (mm)	Age class	Physiological Condition	Structural Condition	Condition	Management recommendations	ERC	Cat Grade	Radius of Nominal Circle (m)	RPA SqM
			W	N	S	E											
												heavily. Multiple snapped branches.					
G11	Elm, sycamore, holly	upto 12	7	7	4	4	0-2 over site	100-350	EM	F/P	F/P	Dense multi stemmed trees along boundary within dense overgrown vegetation. Multiple stems have died and failed. Trees are generally not considered suitable for long term retention.	Retain	10+	C2	4.2	55.40
G12	Sycamore, ash, willow, alder	upto 15*	5*	5*	5*	5*	0	upto 250*	EM-M	F	F	Area of multi stemmed trees between river and mill pond. Totally inaccessible. Estimated size & condition. Provides some canopy cover and river habitat visible from external parts of the site.	Retain - manage accordingly.	10+	C2	3	28.30

Key:

Tree/ Group Ref No. – tree/group number, to be recorded on tree survey plan where necessary.

Species – common and scientific names where possible.

Height – overall height of tree in metres.

Stem Diameter – stem diameter, in millimetres at 1.5m above adjacent ground level (on sloping ground to the taken on the upslope of the tree base) or immediately above the roof flare for multi-stemmed trees.

Branch spread – in meters taken at the four cardinal points to derive an accurate representation of the crown (to be recorded on the tree survey plan where necessary).

Height of cc – height of crown clearance – in meters above adjacent ground level to inform on ground clearance, crown stem ratio and shading.

Age class – young (Y), young mature (YM), mature (M), over mature (OM) and veteran (V).

Physiological condition – e.g. good (G), fair (F), poor (P) and dead (D).

Structural condition – e.g. collapsing, the presence of decay and any physical defect.

Management recommendations – including further investigations of suspected defects that require more detailed assessment and potential wildlife habitat.

ERC – estimated remaining contribution – in years e.g. less than 10, 10-20, 20-40, more than 40.

Cat grade – category grade – U or A to C, to be recorded in plan on the tree survey plan where possible.

RPA – Root protection area calculated from BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations in sq/m. Where indicated, dimensions of radius of circle or sides of square based around centre point of trunk calculated for design purposes.

Appendix 2. Tree Constraints Plan

Notes

Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.

N

1:250

0 5 10 15m

T1-C1
T2-C1
T3-B1
T4-B1
T5-B1
T6-B1
T7-C1
T8-C1
T9-C1
T10-U
T11-U
T12-B2
T13-B2
T14-B2
T15-U
T16-U
T17-C2
T18-C1
T19-B1/2
T20-B1/2
T21-B1/2
G1-C2
G2-C2
G3-C2
G4-C2
G5-C2
G6-C2
G7-U
G8-C2
G9-B2
G10-C2
G11-C2
G12-C2
STNA 165.99
STNB 166.87
STNC 168.56
STND 166.54
STNE 166.51
STNF 169.73
STNG 170.76
STNH 173.40
STNJ 175.64

Tree Constraints Plan showing tree categories and root protection zones.

Key

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years. Groups shown as hatched shapes.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Groups shown as hatched shapes.

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm. Groups shown as hatched shapes.

Category U
Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Groups shown as hatched shapes.

Tree groups.
Shown as hatched centre line. Colour represents category (see above).

BS 5837:2012 Root Protection Area

Tree
Showing Canopy extents, category colour and tag number (with category).
T5-B1

Tree/Group/Hedge numbering: T1-T21, G1-G12.

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Project: Hinchliffe Mill, Holmfirth, HD9 2NX.

Drawing Title: Tree Constraints Plan

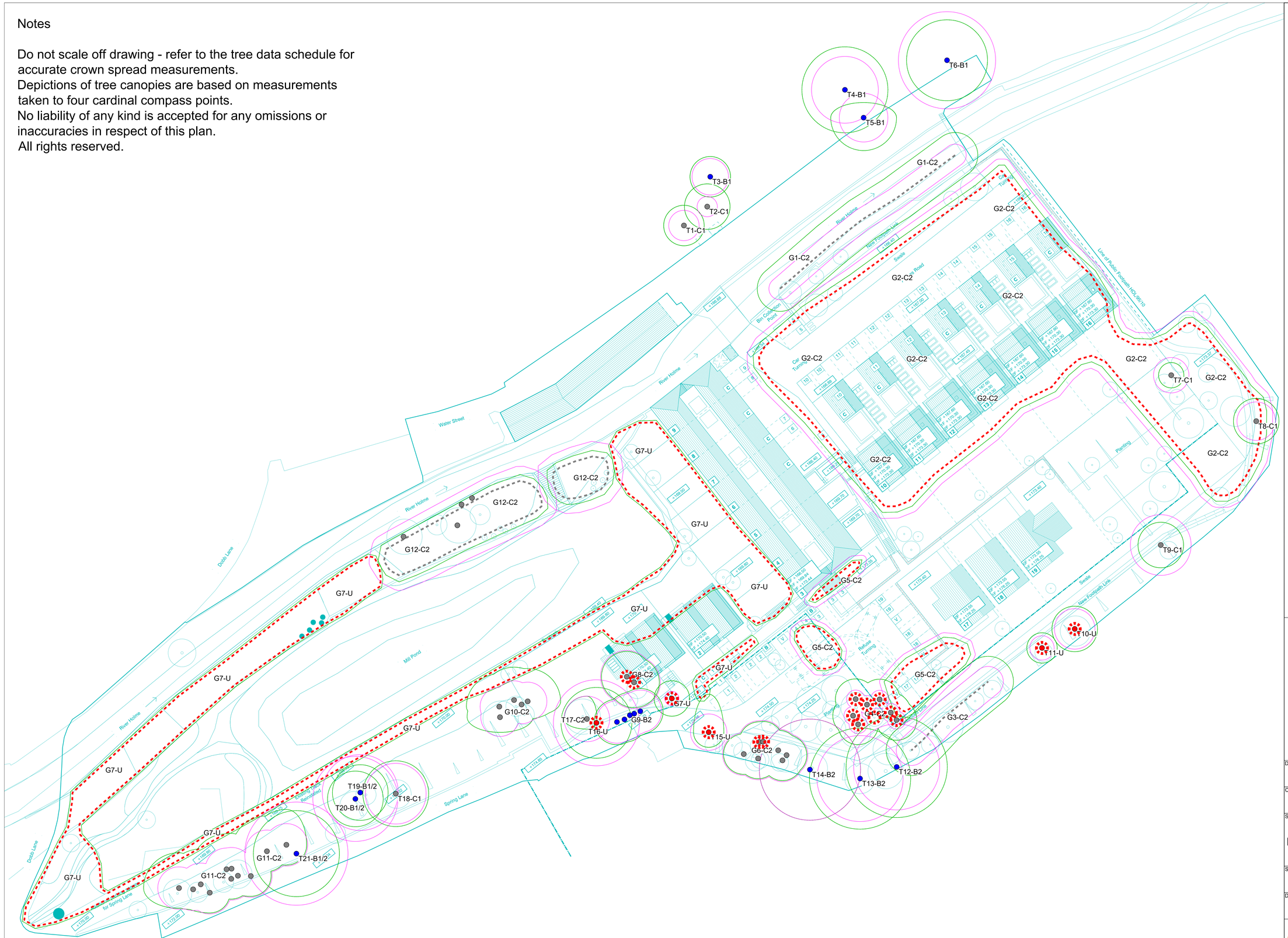
Scale	Date	DB	CB
1:250 A0	Feb 2021	CS	MS

Drawing Number: 1507b
Rev: 1

Appendix 3. Tree Assessment Plan

Notes

Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.



Key

Trees
Showing Canopy extents, category colour and tag number (with category).

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

Tree Groups That Require Removal
Shown as dashed red centre/boundary line (also includes Cat U groups).

Trees That Require Removal (These may be within a group)

N

1:250

0 5 10 15m

Drawing Title	**Tree Assessment Plan**
Client	One17 Architects
Site/Project	Hinchliffe Mill, Holmfirth, HD9 2NX

Scale/Sheet	Date		
1:250 - A0	02/12/2021		
Drawing No	**Rev**	**Drawn By**	**Chked By**
1507	1	JS	JB

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