
Hyde Road School

Arboricultural Assessment

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Issue Status

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1.0 Introduction

1.1 Background

- 1.1.1 This Preliminary Arboricultural Survey has been prepared by BDP on behalf of Manchester City Council to accompany a planning application for a new school development at the land off Hyde Road, Manchester (hereinafter referred to as the "Site").
- 1.1.2 The report outlines the findings of a survey of all significant trees and groups of trees that may be affected by the development proposals in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations*.
- 1.1.3 The Site is located in Manchester (grid reference: SJ8761396217) bound by Hyde Road (A57) to the north, Kirkmanshulme Lane to the south, residential dwellings associated with Ellen Wilkinson Crescent and the British Car Auctions site to the west and the Gala Bingo site to the east. The wider landscape is dominated by large residential developments, commercial developments and urban green space (ref. Figure 1).



Figure 1. The Hyde Road School site

1.2 Planning

- 1.2.1 Trees are a material consideration to the planning process. In determining planning applications, Local Planning Authority's (should consider how a proposed development is likely to affect trees within or on land adjacent to an application site (including street trees).
- 1.2.2 This report will allow Manchester City Council to assess the impact of the proposed development on relevant trees as part of the planning permission.

2.0 Methodology

- 2.1.1 Site surveys were carried out in December 2020. During the site surveys each specified tree or group of trees identified within the topographical survey provided was recorded.
- 2.1.2 All parts of the trees or group of trees were viewed insofar as possible from ground level using binoculars. Where appropriate trees may have been grouped by common characteristics such as species, age, vitality and dimensions. The following information was recorded for each tree or group of trees:
- Species
 - Stem Diameter
 - Height
 - Age Range
 - Crown Spread
 - Crown Clearance
 - Condition
 - Comments and Preliminary Recommendations
 - Estimated Remaining Contribution
 - Tree Quality Category Rating
- 2.1.3 The data collected during the site survey was subsequently recorded onto a Tree Data Schedule to meet the criteria specified in BS5837:2012 and a Tree Constraints Plan was produced to accurately enable the identification of trees and group of trees described in the Tree Data Schedule. This report should be read in conjunction with the plans found within Appendix D.
- 2.1.4 Peter Murray carried out the site survey, Peter has worked in forestry/arboriculture since 1987 and holds a BTEC Higher National Diploma in Arboriculture and a City and Guilds in Forestry (Phase 1).
- 2.1.5 The limitations of this report are restricted to the persons, time, information made available and purpose for which this report has been prepared. This report does not deal with any existing tree root/building conflicts and no information has been provided regarding soil type.

3.0 Results

3.1 Trees Surveyed

3.1.1 A total of sixty-four trees, twenty-three groups and one woodland were surveyed and plotted in order to assess their health and dimensions.

Table 1. Tree Data Schedule

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
G1	Group - 3 Manchester Poplars	<800	16	M	8	8	8	8	3	B/C	Closely spaced stems most likely present prior to cinema. Forming one crown. Previous removal of large lower limbs with associated decay and water staining down the stem. Signs of decline within crown, major deadwood. Prone to canker. Roots significantly affecting surfacing. Long heavy limbs. Low potential within any new development.	Not considered appropriate for retention near development.	10+	C2	<289.53	<9.60
G2	Group - 6 Cherry, 1 Sycamore & 1 Goat Willow	<250	<10	SM-EM	5	5	5	5	1.8	B	A close linear group on the boundary within shrub area. Pre-dominantly planted Cherry with one self-sown Goat Willow & minor Sycamore. No individual trees of note but a good screen affect. Previous pruning of lower branches. Low branches over the highway. Several saplings present within shrub area.	Coppice Goat Willow & crown lift three trees over the highway. Sever Ivy at base of one tree. Remove saplings from shrub area.	10+	C2	<28.27	<3.00

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m²)	RPA Circle Radius (m)
					N	E	S	W								
T1	Sycamore	420	12	EM	6	7	6	5	3	B	Located within group adjacent to the highway. Reasonable form and vigour. Minor deadwood present. Slight stem lean. Previous pruning of lower branches.	n/a	20+	B2	79.80	5.04
T2	Goat Willow	400	7	EM	5	6	4	4	2.5	B	A self-sown scrub specimen within group. Stem swamped in Ivy forked at 1.5m. Reasonable form and vigour.	Sever Ivy at base to 1m.	10+	C2	72.38	4.80
T3	Silver Birch	370	15	EM	7	3	0	5	3	B	Located within group with major stem lean. Good vigour, part of group. Previous pruning of lower branches.	n/a	20+	B2	61.93	4.44
T4	Goat Willow	800 comb	9	EM	7	6	4	7	2.5	B	A self-sown scrub specimen within group. Multi-stemmed at base. Reasonable form and vigour.	n/a	10+	C2	289.53	9.60
T5	Hornbeam	200	8	SM	3	3	3	3	2	A/B	Located within car park shrub verge. A young specimen with good form and vigour. Easily replaceable.	n/a	10+	C1	18.10	2.40
T6	Ash	580	12	M	7	6	5	4	6	C	Located within group adjacent to the highway. Significant decline within the crown and major deadwood present, possibly due to Ash Dieback.	Fell or remove crown to form pollard.	5-10	U	152.18	6.96

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
T7	Goat Willow	800 comb	9	EM	7	6	4	7	2.5	B	A self-sown scrub specimen within group. Multi-stemmed at base. Reasonable form and vigour. Provides a useful screen.	n/a	10+	C2	289.5 3	9.60
G3	Group - 5 Norway Maple	<250	<6	SM	2.5	2.5	2.5	2.5	3	B	A linear group within car park shrub verge area. Previous pruning with several branch stubs present. Easily replaceable.	Remove poorly pruned stubs.	10+	C2	<28.2 7	<3.00
T8	Goat Willow	700 comb	8	M	7	7	6	6	2	B/C	A large mature multi-stemmed specimen with reasonable vigour. Typical tight forks near base. Several galls within the crown. Significant root disturbance to car park. Self-sown affecting planted group.	n/a	5-10	U	221.6 7	8.40
G4	Group - 3 Norway Maple & 2 Goat Willow	<280	<8	SM-EM	4	4	4	4	3	B/C	A linear planting area similar to G3 but the Norway Maples exhibit poor form and invaded by Goat Willow. Low potential.	n/a	5-10	U	<35.4 7	<3.36
T9	Scots Pine	380	10	EM	2	2	3	3	1.5	B/C	Located within shrub planting area multi-stemmed at base. One stem previously failed. Ivy on stem. Sycamore sapling at base.	Sever Ivy at base and remove Sycamore.	10+	C2	65.33	4.56

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m²)	RPA Circle Radius (m)
					N	E	S	W								
T10	Silver Birch	430	12	M	5	4	6	4	2	B	A co-dominant specimen within linear planting area. Forked at 3m with reasonable form and vigour.	n/a	20+	B2	83.65	5.16
T11	Silver Birch	380	14	M	6.5	7	6	6	2	B	A co-dominant specimen within linear planting area. Reasonable form and vigour.	n/a	20+	B2	65.33	4.56
T12	Goat Willow	400	6	EM	4	4	6	5	2	B	A self-sown scrub specimen forked near base. Major crown suppression. Low potential.	n/a	10+	C2	72.38	4.80
G5	Group - 2 Goat Willow, 1 Hawthorn & 1 Poplar	300	6	SM-EM	5	5	5	5	0	B/C	A scrub group within shrub area. One Goat Willow is dead. The Poplar is a sucker from T14. Poor specimens with low potential. The Hawthorn is reasonable.	n/a	5-10	U	40.72	3.60
T13	Lombardy Poplar	520	17	M	3	3	3	3	4	B	A mature specimen within shrub area. No view of base or stem due to Ivy. Appears to have good vigour. Major root disturbance to car park surfacing. Low potential due root structure.	Not considered appropriate for retention near development.	10+	C1	122.33	6.24
T14	Hybrid Poplar	480	13	M	3	4	5	4	1.5	C	A very poor specimen within shrub planting area. This tree is significantly affected by Canker with multiple lesions on the stem and scaffold limbs.	Fell to ground level.	5-10	U	104.23	5.76

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
T15	Lombardy Poplar	860	19	FM	4	4	4	4	3	B	A large specimen forked at base with a minor secondary stem. Good form and vigour with typical deadwood. Major root disturbance to car park. Low potential due root structure.	Not considered appropriate for retention near development.	10+	C1	334.59	10.32
T16	Manchester Poplar	420	5	M	0	1	6	1	2	C/D	A stump. Previously failed stem. One branch still growing on poor attachment.	Fell to ground level.	0-5	U	79.80	5.04
T17	Manchester Poplar	830	17	M	8	8	9	8	2	B	A very large spreading tree with typical heavy limbs. Evidence of previous limb failures. Broken branch stubs. Wounds from previous pruning. Deadwood present. High likelihood of further failure. Major root disturbance to car park. Low potential due root structure and crown stability.	Not considered appropriate for retention.	10+	C1	311.65	9.96
T18	Hornbeam	160	5	SM	3	3	3	3	2	B	Located within car park shrub verge. A young specimen with reasonable form and vigour. Twisted stem and some root disturbance to car park. Easily replaceable.	n/a	10+	C1	11.58	1.92
T19	Rowan	200	5	EM	1	2	3	1	1	C	A very poor suppressed specimen with severe basal decay. Forked at base.	Fell to ground level.	5-10	U	18.10	2.40

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
G6	Group - 6 Manchester Poplars	<650	<16	M	8	8	8	8	3	C	Mature spreading trees located on grass bank area. Typical heavy limbs in most trees. Evidence of previous limb failures with broken branch stubs and splits. Wounds from previous pruning. Deadwood present. High likelihood of further failure. The two central trees have previously been pollarded, which is not successful due to the decay present. Low potential due poor crown stability.	Not considered appropriate for retention.	10+	C2	<191.13	<7.80
T20	Norway Maple	460	9	EM	4	0	3	8	3	B/C	A one-sided suppressed specimen forked near base. Located in bank affected by G6. Poor form with low potential.	Not considered appropriate for retention.	10+	C2	95.73	5.52
T21	Scots Pine	390	10	EM	5	4	5	3	1.8	B	A co-dominant specimen located within shrub planting area. Reasonable form and vigour but has major surface roots affecting footway and access road. Low potential due to roots structure.	Not considered appropriate for retention.	10+	C2	68.81	4.68
T22	Silver Birch	320	10	EM	4	4	4	4	1.5	A/B	A co-dominant specimen within shrub planting area exhibiting reasonable form and vigour.	n/a	20+	B2	46.32	3.84

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
T23	Silver Birch	330	10	EM	5	5	5	5	1	A/B	A co-dominant specimen within shrub planting area exhibiting minor crown asymmetry. Good vigour. Forked at 3m. Spreading crown. Stem lean.	n/a	20+	B2	49.27	3.96
G7	Group - 2 Sycamore	<250	<8	EM	4	4	4	4	2	B/C	Scrub trees within shrub area. Closely spaced one single stemmed and one multi-stemmed. Some decay present at base. Low potential.	Not considered appropriate for retention.	10+	C2	<28.2 7	<3.00
T24	Copper Beech	490	10	M	4	5	7	6.5	1.5	B	Located within shrub area. Reasonable squat form and reasonable vigour. Bulbous buttress area with minor girdling root and some scarring present.	n/a	20+	B1	108.6 2	5.88
T25	Norway Maple	300	5	EM	3	3	1	3	2	C	Located within shrub area. Forked at 1.5m exhibiting poor form and vigour. Low potential.	n/a	5-10	U	40.72	3.60
T26	Copper Beech	560	7	M	5	5	5	6	3	C	Located within shrub area. Dieback within the outer crown, Squat form with previous pruning wounds. Low potential.	n/a	5-10	U	141.8 7	6.72
T27	Ash	260	7	EM	4	4	4	3	2	C	Located within shrub area. A poor specimen with low vigour and in decline.	n/a	5-10	U	30.58	3.12

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
T28	Cherry	560	8	M	7	7	5	6	1.5	B	A co-dominant specimen located within wide grass verge on the boundary. Exhibits good form and vigour. Minor branch stubs from previous pruning.	n/a	20+	B2	141.87	6.72
T29	Cherry	280	6	EM	3	5	4	3	1.8	B	A co-dominant specimen located within wide grass verge on the boundary. Exhibits reasonable form and vigour. Minor branch stubs from previous pruning.	n/a	20+	B2	35.47	3.36
T30	Ash	430	10	EM	5	5	5	5	1.8	B	A co-dominant specimen located on the edge a wide grass verge next to the highway. Exhibits reasonable form and vigour. Typical minor deadwood present and low branching over the highway.	Crown lift to approx. 5m over the highway.	20+	B2	83.65	5.16
T31	Goat Willow	320	6	EM	2	3	4.5	3	1.8	B/C	A suppressed scrub specimen beneath Cherry. Poor form.	Consider removal.	10+	C2	46.32	3.84
T32	Cherry	220	6	EM	4	3	5	4	1.8	B	A co-dominant specimen located within wide grass verge on the boundary. Exhibits minor crown asymmetry. Minor branch stubs from previous pruning.	n/a	20+	B2	21.90	2.64
T33	Goat Willow	500	2	M	6	6	6	6	1.8	B/C	A co-dominant specimen located within linear planting	n/a	10+	C2	113.10	6.00

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
											area on boundary. Some decline present in the upper crown.					
T34	Hornbeam	630	7	M	3	4	5	5	1.8	B	A co-dominant specimen located within linear planting area on boundary. A mature tree with squat form and a compact crown. Wounds on stem from previous pruning, callused over.	n/a	20+	B2	179.55	7.56
T35	Copper Beech	450	8	M	6	5	6	4	2	B/C	Located within car park planting area. This tree is swamped in Ivy making an assessment impossible, but the outer crown appears in good health.	Sever Ivy at base to 1m.	10+	C2	91.61	5.40
T36	Copper Beech	470	7	M	6	6	6	6	1.5	B	A squat specimen located within car park planting area. Exhibits reasonable form and vigour. Wounds on stem from previous pruning. Stem and basal shoots present.	Remove stem and basal shoots.	20+	B2	99.93	5.64
T37	Norway Maple	310	6	EM	3	3	4	3	1.8	A/B	A co-dominant specimen located within linear planting area on boundary. Exhibits squat compact form with good vigour.	n/a	20+	B2	43.47	3.72
T38	Norway Maple	200	6	EM	2.5	2.5	2.5	2.5	1.8	D	A dead tree within group.	Fell to ground level.	n/a	U	18.10	2.40
T39	Hornbeam	320	7	EM	4	4	4	4	1.5	A	A co-dominant specimen located within linear planting	n/a	20+	B2	46.32	3.84

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
											area on boundary. A fastigiata variety with compact form. Good vigour.					
T40	Hornbeam	160	6	EM	3	3.5	3	3	1.5	B	A minor specimen within group. Suppressed due to neighbouring specimen.	n/a	10+	C2	11.58	1.92
T41	Norway Maple	380	6	EM	6	6	6	6	1.5	B/C	A co-dominant specimen located within linear planting area on boundary. Exhibits a sparse crown and indication of decline.	n/a	10+	C2	65.33	4.56
T42	Norway Maple	180	5	EM	2.5	2.5	2.5	2.5	1.5	B	A co-dominant specimen located within linear planting area on boundary. Exhibits reasonable form and vigour.	n/a	10+	C2	14.66	2.16
T43	Manchester Poplar	900	16	M	10	10	10	10	1	B/C	A mature specimen on the boundary adjacent to the highway. Typical heavy spreading limbs. Several previous rip outs and large branch stubs present. Major deadwood within the crown. Stem wound at base. Major root disturbance to car park.	Not considered appropriate for retention.	10+	C1	366.4 4	10.80
T44	Norway Maple	240	8	EM	4	3	4	3	2.5	A	A co-dominant specimen located within linear planting area on boundary. Exhibits good form and vigour.	n/a	20+	B2	26.06	2.88
T45	Hornbeam	160	6	EM	3	3	3	3	2.5	B	A minor specimen located within linear planting area on boundary. Reasonable form	n/a	10+	C2	11.58	1.92

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m²)	RPA Circle Radius (m)
					N	E	S	W								
											and vigour. Branch stubs present.					
T46	Hornbeam	180	6	EM	4	4	4	4	1.8	B	A minor specimen located within linear planting area on boundary. Erratic crown spread, slightly suppressed. Low branches over highway.	Crown lift over the highway.	10+	C2	14.66	2.16
T47	Norway Maple	410	8	EM	5	5	5	4	2	A/B	A co-dominant specimen located within linear planting area on boundary. Exhibits reasonable form and vigour. Bifurcates at 3m with several tight unions.	n/a	20+	B2	76.05	4.92
G8	Group - 2 Ash, 1 Cherry, 2 Sycamore & 1 Elderberry	<600	<13	M	5	5	5	5	1.5	C	A close group of mature trees dominated by the two Ash, which show signs of significant decline. They have dieback in their crowns and several wounds on their stems. One of the has evidence of the decay fungus Inonotus hispidus. The Sycamore are one-sided poor specimens, and the Cherry & Elder are minor.	Fell to ground level.	5-10	U	<162.86	<7.20
T48	Norway Maple	320	8	EM	4	4	4	3	1.8	A/B	A co-dominant specimen located within short grass area adjacent to the highway. Minor crown asymmetry with good vigour. Minor branch stubs present.	n/a	20+	B2	46.32	3.84

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
T49	Norway Maple	320	8	EM	4	3	4	4	2	A/B	A co-dominant specimen located within short grass area adjacent to the highway. Minor crown asymmetry with good vigour. Minor branch stubs present.	n/a	20+	B2	46.32	3.84
T50	Ash	330	8	EM	5	6	5	0	1.8	B	A heavily suppressed specimen within linear group adjacent to highway. Reasonable vigour. Minor branch stubs present. Low branching over highway.	Crown lift to clear highway.	10+	C2	49.27	3.96
T51	Norway Maple	600	14	M	8	5	7	4	1.5	B	A co-dominant specimen located within short grass area adjacent to the highway. Minor crown asymmetry with good vigour. Minor deadwood present. Low branches over the highway.	Crown lift to clear highway.	40+	A2	162.86	7.20
T52	London Plane	650	15	M	9	8	9	9	1.8	B	A co-dominant specimen located within short grass area adjacent to the highway. Minor crown asymmetry with good vigour. Deadwood present and several hangers. Low branches over the highway. Wounds from previous pruning.	Crown lift to clear highway.	40+	A2	191.13	7.80

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
T53	Horse Chestnut	340	9	EM	3	3	6	6	1.8	B/C	A minor specimen within the group heavily suppressed. Girdling root at base and several branch stubs present from previous pruning from light column. Several wounds on stem.	Crown lift to clear highway.	10+	C2	52.30	4.08
T54	Horse Chestnut	260	7	EM	3	2	4	2	2	C	A minor specimen within the group heavily suppressed. Several branch stubs present and significant decay on lower stem and base.	Fell to ground level.	5-10	U	30.58	3.12
T55	Beech	680	14	M	4	6	7	7	2	A/B	A co-dominant specimen located within short grass area adjacent to the highway. Reasonable crown asymmetry with good vigour. Minor deadwood present. Minor branch damage over the highway. Wounds on stem callused over.	n/a	40+	A2	209.18	8.16
G9	Group - 4 Cherry	<160	<4	SM	2	2	2	2	1.5	B/C	A linear minor group within car park planting area. The larger southernmost stem has severe stem disorder.	Remove southern stem.	10+	C2	<11.58	<1.92
G10	Group - 10 Norway Maple & 1 Goat Willow	<200	<7	EM	3	3	3	3	2	A/B	A linear group of well-established trees within car park planting area. The Willow at the northern end is a self-sown poor specimen.	Fell Goat Willow.	20+	B2	<18.10	<2.40

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
											All Maple exhibit reasonable form and vigour.					
G11	Group - 2 Alder & 2 Silver Birch	<180	<7	EM	3	3	3	3	1.8	A/B	A close group of well-established trees within car park planting area. Reasonable form and vigour. Stem shoots due to previous pruning.	n/a	20+	B2	<14.6 6	<2.16
T56	Alder	290	6	EM	4	4	4	5	2	A/B	An individual specimen located within car park planting verge. Spreading crown with reasonable form and vigour. Minor branch stubs.	n/a	20+	B1	38.05	3.48
G12	Group - 2 Alder	<230	<7	EM	4	4	4	4	2	B	Co-dominant specimens located within car park planting verge. Spreading crowns with reasonable form and vigour. Minor branch stubs and some minor holes from old branch wounds.	n/a	10+	C2	<23.9 3	<2.76
T57	Alder	410	9	EM	5	5	6	6	2	B/C	An individual specimen located within car park planting verge. Spreading crown with reasonable form and vigour. Minor branch stubs. Fire damage at base and major root disturbance to car park. Low potential due to root structure.	Not considered appropriate for retention.	10+	C1	76.05	4.92

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m²)	RPA Circle Radius (m)
					N	E	S	W								
T58	Silver Birch	100	4	SM	1.5	1	1	1.5	1	B	A minor individual specimen within car park planting verge. Low vigour with basal shoots.	n/a	10+	C1	4.52	1.20
T59	Silver Birch	180	6	SM	3	3	3	3	1	B	A minor individual specimen within car park planting verge. Reasonable vigour, forked at 1.2m.	n/a	10+	C1	14.66	2.16
T60	Alder	220	7	EM	4	4	4	4	1.8	A	Located within internal linear planting area. Exhibits good form and vigour.	n/a	20+	B1	21.90	2.64
G13	Group - 5 Alder	<400	<10	EM	6	6	6	6	2	A/B	A co-dominant group. Located within an internal linear planting area. Trees exhibit good form and vigour. Minor branch stubs form previous pruning.	n/a	20+	B2	<72.3 8	<4.80
W1	Woodland - Alder, Cherry, Ash, Silver Birch, Willow, Hawthorn, Hazel, Ash, Sycamore, Horse Chestnut, Holly & Scots Pine	<500	<15	Y-EM	5	5	5	5	1.5	A/B	A mixed young dense wooded area that is well established. Several trees with stem wounds due to activity in the area. Collapsed mature Horse Chestnut present in southern block and a mature Willow present in northern block, which are the only mature trees present. Pre-dominantly Cherry, Alder & Silver Birch.	Would benefit from some thinning and boundary clearance works adjacent housing.	40+	A2	<113. 10	<6.00

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
G14	Group - 3 Norway Maple	<350	<8	EM	3	3	3	3	2	B	A co-dominant group located within car park planting verge. All trees exhibit reasonable form and vigour.	n/a	20+	B2	<55.4 2	<4.20
G15	Group - 14 Norway Maple, 3 Silver Birch & 1 Goat Willow	<400	<14	EM	3	3	3	3	2	B	A co-dominant group located within zig zag car park planting verge. All trees exhibit reasonable form and vigour. Several Maple with poor unions but could mostly be pruned out. There is a self-sown Goat Willow at the southern end of the group with low potential. Some root disturbance to paving near building.	Remove Goat Willow.	20+	B2	<72.3 8	<4.80
G16	Group - 3 Silver Birch & 2 Scots Pine	<500	<15	EM-M	5	5	5	5	1.8	A	A close co-dominant group located within shrub area near the main entrance. All trees exhibit minor crown asymmetry and good vigour. The Silver Birch are the most established.	n/a	20+	B2	<113. 10	<6.00
G17	Group - Scots Pine, Silver Birch, Cherry, Alder, Hazel, Hazel & Holly	<400	<14	Y-EM	5	5	5	5	1	B	A well-established mixed group similar to W1 with no real evidence of any works. Dense planting forming a good screen. Mixed shrubs planted adjacent car park.	Would benefit from some thinning and boundary clearance works adjacent housing.	20+	B2	<72.3 8	<4.80

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m ²)	RPA Circle Radius (m)
					N	E	S	W								
G18	Group - 1 Silver Birch & 1 Lime	<400	<14	EM	4	4	4	4	1.5	B	Two co-dominant trees located on the edge of the site within shrub area. Ivy on both stems and Birch swamped.	Sever Ivy at base to 1m.	20+	B2	<72.3 8	<4.80
T61	Himalayan Birch	250 comb	8	EM	4	4	4	4	1.8	A	Located within shrub bank on edge of the site exhibiting good form and vigour.	n/a	20+	B1	28.27	3.00
T62	Himalayan Birch	250 comb	8	EM	4	4	4	4	1.8	A	Located within shrub bank on edge of the site exhibiting good form and vigour.	n/a	20+	B1	28.27	3.00
G19	Group - 1 London Plane, 4 Ash, 1 Silver Birch & 1 Lime	<160	<6	SM	4	4	4	4	1.8	B	An internal linear minor group within shrub planting area. The Ash appear to be self-sown and the London Plane has poor form. Low potential.	n/a	10+	C2	<11.5 8	<1.92
G20	Group - 2 Oak, 1 Lime & 2 Rowan	<250	<8	SM-EM	4	4	4	4	1.5	B	A close group located on the site boundary within shrub area. Ivy gradually creeping into crowns.	Sever Ivy at base to 1m.	20+	B2	<28.2 7	<3.00
G21	Group - 3 Himalayan Birch	<180	7	EM	4	4	4	4	1.5	B	A linear group of well-spaced trees located adjacent to access road. Good form and vigour.	Sever Ivy at base to 1m.	20+	B2	<14.6 6	<2.16
T63	Cherry	300	5	EM	4	4	4	4	1.8	B	Located within grass area adjacent access road. Squat form previously pruned on one side. Stem shoot present. Some scarring on stem.	n/a	10+	C1	40.72	3.60

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations & Comments	Preliminary Recommendations	ERC (Yrs)	TQCR	RPA (m²)	RPA Circle Radius (m)
					N	E	S	W								
T64	Norway Maple	250	6	EM	3	3	3	3	2	A	A well-established tree located within grass verge area adjacent to main road. Exhibits good form and vigour.	n/a	20+	B1	28.27	3.00
G22	Group - 3 Norway Maple, 1 Sycamore, 1 Ash, 1 Cherry, 1 Goat Willow & 2 Rowan	<550	<14	EM-M	6	6	6	6	1.8	B	A close group within grass area near the main road. The two Rowan show signs of fire-blight and the Goat Willow has previously collapsed. The larger trees exhibit reasonable vigour. Minor low branching over highway.	Remove 2 Rowan & Goat Willow. Crown lift to clear highway and remove basal shoot son trees affected.	20+	B2	<136.85	<6.60
G23	Group - Sycamore & Goat Willow	<400	<14	EM	6	6	6	6	1.5	B	A scrub group located on bank area. Screen value only. The Goat Willow will require management as they are likely to collapse due to age and form.	Coppice all Goat Willow.	20+	B2	<72.38	<4.80

4.0 Recommendations

4.1 Tree Assessment

- 4.1.1 In general the trees surveyed were found to be in reasonable condition for their age and species. Any works identified in the above data tables should take place regardless of development in line with best practice. The quality rating for the trees on or affecting this site can be summarised as follows:

U – 13 trees/groups

C – 35 trees/groups

B – 36 trees/groups

A – 4 trees/groups

4.2 Development

- 4.2.1 The above data table clearly details the condition of the trees and identifies their worthiness for retention. In addition the Tree Constraints Plans of Appendix D illustrates their Root Protection Area's (RPA's) in accordance with the British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations. This is an area that should be left undisturbed in order to provide adequate rooting area for retained trees. This information has been used within the design process and an Arboricultural Implications Assessment and Method Statement has been produced and follows in section 7.0.

4.3 Standard of Work

- 4.3.1 All tree work undertaken should be done in accordance with British Standard 3998:2010 and by competent contractors insured with public liability cover of at least two million pounds.

4.4 Statutory Controls

- 4.4.1 If trees on a site is subject to any Tree Preservation Orders (TPO's) or are encompassed within a Conservation Area then statutory permission from the Local Planning Authority (LPA) will be required before any tree works take place.
- 4.4.2 A recent check with the local authority confirmed that there are no active TPOs within the site and it is not within a conservation area.

4.5 Wildlife

- 4.5.1 All operations should take account of wildlife needs and be planned to take advantage of weather conditions and time of year for minimum damage and disturbance. If any protected species or nesting birds are discovered at any time works is to temporarily cease whilst an ecologist is contacted for guidance and assistance.
- 4.5.2 This can BDP (020 7812 8000) or Natural England (0845 600 3078). Specific consideration should be given to the possible presence of roosting bats, which are protected under European Law (The Conservation of Habitats and Species Regulations 2017) and UK Law (Wildlife and Countryside Act 1981, as amended).

5.0 Arboricultural Implications Assessment

5.1 Purpose

- 5.1.1 The purpose of this section is to assess the implications, if any, the proposed development will have on the trees identified in the tree survey and advise on arboricultural measures, which would be likely to mitigate any damage resulting from the proposed development.

5.2 Assessment

- 5.2.1 The Site Layout Plans within Appendix D identifies the trees in relation to the proposed development.
- 5.2.2 In order to fully assess the impact of the proposals an Implications Table has been created, which gives details of the proximity of the associated works to the trees.
- 5.2.3 The below Implications Table details the Root Protection Area (RPA) in accordance with the British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations. This is an area that should be left undisturbed in order to provide adequate rooting area for retained trees.
- 5.2.4 This information can then be used in accordance with BS 5837:2012 to determine whether the development will have a detrimental impact on the health of the tree. Once this has been determined remedial measures can be detailed to reduce the impact the proposals will have.

Table 2. Implications Table

Tree No.	Species	Root Protection Area (m ²)	Circle Radius (m)	Distance to any proposed construction or surfacing (m)	Can the Tree be Successfully Retained
G1	3 Poplars	<289.53	<9.60	n/a	Yes
G2	Mixed	<28.27	<3.00	n/a	Yes
T1	Sycamore	79.80	5.04	n/a	Yes
T2	Goat Willow	72.38	4.80	n/a	Yes
T3	Silver Birch	61.93	4.44	n/a	Yes
T4	Goat Willow	289.53	9.60	n/a	Yes
T5	Hornbeam	18.10	2.40	n/a	Yes
T6	Ash	152.18	6.96	Remove for condition	
T7	Goat Willow	289.53	9.60	n/a	Yes
G3	5 Norway Maple	<28.27	<3.00	n/a	Yes
T8	Goat Willow	221.67	8.40	Remove for condition	
G4	Mixed	<35.47	<3.36	n/a	Yes
T9	Scots Pine	65.33	4.56	n/a	Yes
T10	Silver Birch	83.65	5.16	n/a	Yes
T11	Silver Birch	65.33	4.56	n/a	Yes
T12	Goat Willow	72.38	4.80	n/a	Yes
G5	Mixed	40.72	3.60	Remove for condition	
T13	Lombardy Poplar	122.33	6.24	n/a	Yes
T14	Hybrid Poplar	104.23	5.76	Remove for condition	
T15	Lombardy Poplar	334.59	10.32	n/a	Yes
T16	Manchester Poplar	79.80	5.04	Remove for condition	

Tree No.	Species	Root Protection Area (m ²)	Circle Radius (m)	Distance to any proposed construction or surfacing (m)	Can the Tree be Successfully Retained
T17	Manchester Poplar	311.65	9.96	Remove for condition	
T18	Hornbeam	11.58	1.92	n/a	Yes
T19	Rowan	18.10	2.40	Remove for condition	
G6	6 Poplars	<191.13	<7.80	Remove for development and condition	
T20	Norway Maple	95.73	5.52	Remove for development and condition	
T21	Scots Pine	68.81	4.68	Remove for development	
T22	Silver Birch	46.32	3.84	Remove for development	
T23	Silver Birch	49.27	3.96	Remove for development	
G7	2 Sycamore	<28.27	<3.00	Remove for development	
T24	Copper Beech	108.62	5.88	Remove for development	
T25	Norway Maple	40.72	3.60	Remove for condition	
T26	Copper Beech	141.87	6.72	Remove for condition	
T27	Ash	30.58	3.12	Remove for condition	
T28	Cherry	141.87	6.72	n/a	Yes
T29	Cherry	35.47	3.36	n/a	Yes
T30	Ash	83.65	5.16	n/a	Yes
T31	Goat Willow	46.32	3.84	n/a	Yes
T32	Cherry	21.90	2.64	n/a	Yes
T33	Goat Willow	113.10	6.00	n/a	Yes
T34	Hornbeam	179.55	7.56	n/a	Yes
T35	Copper Beech	91.61	5.40	Remove for development	
T36	Copper Beech	99.93	5.64	Remove for development	
T37	Norway Maple	43.47	3.72	n/a	Yes
T38	Norway Maple	18.10	2.40	Remove for condition	
T39	Hornbeam	46.32	3.84	n/a	Yes
T40	Hornbeam	11.58	1.92	n/a	Yes
T41	Norway Maple	65.33	4.56	n/a	Yes
T42	Norway Maple	14.66	2.16	n/a	Yes
T43	Manchester Poplar	366.44	10.80	Remove for development and condition	
T44	Norway Maple	26.06	2.88	n/a	Yes
T45	Hornbeam	11.58	1.92	n/a	Yes
T46	Hornbeam	14.66	2.16	n/a	Yes
T47	Norway Maple	76.05	4.92	n/a	Yes
G8	Mixed	<162.86	<7.20	Remove for condition	
T48	Norway Maple	46.32	3.84	n/a	Yes
T49	Norway Maple	46.32	3.84	n/a	Yes
T50	Ash	49.27	3.96	n/a	Yes
T51	Norway Maple	162.86	7.20	n/a	Yes
T52	London Plane	191.13	7.80	n/a	Yes

Tree No.	Species	Root Protection Area (m ²)	Circle Radius (m)	Distance to any proposed construction or surfacing (m)	Can the Tree be Successfully Retained
T53	Horse Chestnut	52.30	4.08	n/a	Yes
T54	Horse Chestnut	30.58	3.12	Remove for condition	
T55	Beech	209.18	8.16	n/a	Yes
G9	4 Cherry	<11.58	<1.92	Remove for development	
G10	Mixed	<18.10	<2.40	Remove for development	
G11	Mixed	<14.66	<2.16	Remove for development	
T56	Alder	38.05	3.48	Remove for development	
G12	2 Alder	<23.93	<2.76	Remove for development	
T57	Alder	76.05	4.92	Remove for development	
T58	Silver Birch	4.52	1.20	Remove for development	
T59	Silver Birch	14.66	2.16	Remove for development	
T60	Alder	21.90	2.64	Remove for development	
G13	5 Alder	<72.38	<4.80	Remove for development	
W1	Mixed	<113.10	<6.00	n/a	Yes
G14	3 Norway Maple	<55.42	<4.20	Remove for development	
G15	Mixed	<72.38	<4.80	Remove for development	
G16	Mixed	<113.10	<6.00	Remove for development	
G17	Mixed	<72.38	<4.80	n/a	Yes
G18	Mixed	<72.38	<4.80	n/a	Yes
T61	Himalayan Birch	28.27	3.00	n/a	Yes
T62	Himalayan Birch	28.27	3.00	n/a	Yes
G19	Mixed	<11.58	<1.92	n/a	Yes
G20	Mixed	<28.27	<3.00	n/a	Yes
G21	3 Himalayan Birch	<14.66	<2.16	n/a	Yes
T63	Cherry	40.72	3.60	Remove for development	
T64	Norway Maple	28.27	3.00	Remove for development	
G22	Mixed	<136.85	<6.60	n/a	Yes
G23	Mixed	<72.38	<4.80	Minor encroachment for development	

5.2.5 Table 3 shows how the implications of the proposed development on each tree is categorised.

Table 3. Impact

	Trees to be Retained		Trees to be removed	
	With No Impact	With impact within RPA	Due to Condition	Due to Development
Tree No.	G1, G2, T1, T2, T3, T4, T5, T7, G3, G4, T9, T10, T11, T12, T13, T15, T18, T28, T29, T30, T31, T32, T33, T34, T37, T39, T40, T41, T42, T44, T45, T46, T47, T48, T49, T50, T51, T52, T53, T55, W1, G17, G18, T60, T62, G19, G20, G21 & G22	G23	T6, T8, G5, T14, T16, T17, T19, T25, T26, T27, T38, G8 & T54	G6, T20, T21, T22, T23, G7, T24, T35, T36, T43, G9, G10, G11, T56, G12, T57, T58, T59, T60, G13, G14, G15, G16, T63 & T64

5.3 Mitigating Proposals

- 5.3.1 The loss of any tree is always regrettable but, in this instance the trees to be removed for development are mostly internal early-mature specimens formally planted within low level shrub borders. The majority of them are the original landscape planting for the cinema complex and can easily be replaced within a new planting scheme.
- 5.3.2 However, there are several mature trees present that are no doubt remnants of a previous development (G1, T13, T15, T16, T17, G6, T24, T26, T35, T36 & T43). The majority of these trees are Manchester Poplars (G1, T16, T17, G6 & T43) that are well past their best and show evidence of major failures and should not be retained regardless of development design. There are four Copper Beech trees (T24, T26, T35 & T36) that are located within landscaped islands and have obviously been affected by the surrounding compaction over the years.
- 5.3.3 The proposed plans clearly illustrate the trees to be removed and the trees to be retained. Provided these retained trees are correctly fenced off none of them should be adversely impacted on by development. However, there is new surfacing located close to G23. This should only affect the Willow trees, which have been recommended for Coppicing anyway.
- 5.3.4 A clear tree works specification and details of all tree protective measures can be found in the following Arboricultural Method Statement.

6.0 Discussion

- 6.1.1 The majority of the root system, of a tree, is in the surface 600mm of the soil, extending radically for distances frequently in excess of the trees height. Beyond the main structural roots (close to the base of the trunk), the root system rapidly sub-divides into smaller diameter roots: off this main system, a mass of fine roots develops.
- 6.1.2 The shape of the main structural roots develops in response to the need for the tree to have physical stability. Beyond these major roots, root growth and development is influenced by the availability of water and nutrients. Unless conditions are uniform around the tree, which would be unusual, the extent of the root system will be very irregular and difficult to predict. It will not generally show the symmetry seen in the branch system.
- 6.1.3 The parts of the root system, which are active in water and nutrient uptake, are very fine, typically less than 0.5mm diameter. They are short lived, developing in response to the needs of the tree, with the majority dying each winter. It is essential that conditions in the soil remain conducive to the healthy growth of these fine roots so that the water and nutrients necessary for healthy tree growth can be absorbed.
- 6.1.4 All parts of the root system, but especially the fine roots, are vulnerable to damage. Once they are damaged, water and nutrient uptake will be restricted until new roots have regenerated. Vigorous young trees will be capable of rapid regeneration, but over mature trees will respond slowly, if at all.
- 6.1.5 In order to live and grow, roots need oxygen from the soil. Respiration by the roots and other soil organisms depletes this oxygen and increases carbon dioxide levels in the soil; a correct balance of these gases is normally maintained by diffusion between the soil and the atmosphere. Anything, which disturbs this balance, will affect the condition of the root system.
- 6.1.6 The factors that most commonly affect this diffusion adversely, and therefore damage roots, are the following: -
- a) Compaction of the ground, which reduces the space between soil particles. This is particularly important on clay soils. A single passage by heavy equipment on clay soils or storage of heavy materials can cause significant damage.
 - b) Changing soil levels, even for a few weeks.
 - c) Covering the root area with impervious surfaces.
 - d) A rise in the level of the water table. Roots can tolerate submersion for short periods. But a permanent rise will deplete the soil of oxygen.
- 6.1.7 Serious damage is often caused during preliminary site works by stripping the topsoil. For this reason, such works should be avoided until protective fencing has been erected.
- 6.1.8 Excavations in the rooting area can sever roots. As the majority of roots are in the surface 600mm, even shallow excavations can cause damage.
- 6.1.9 Excavations for foundations, landscaping or service trenches are usually sufficiently deep to sever most of the roots, and it should therefore be assumed that all parts of the root system beyond the excavation would no longer serve the tree.
- 6.1.10 Excavation or soil stripping which sever or damage the roots may impair the stability of the tree and make it dangerous.

7.0 Method Statement

7.1 Tree Works

7.1.1 Before any form of development commences the proposed works shown in Table 4 should be undertaken.

Table 4. Tree works Table

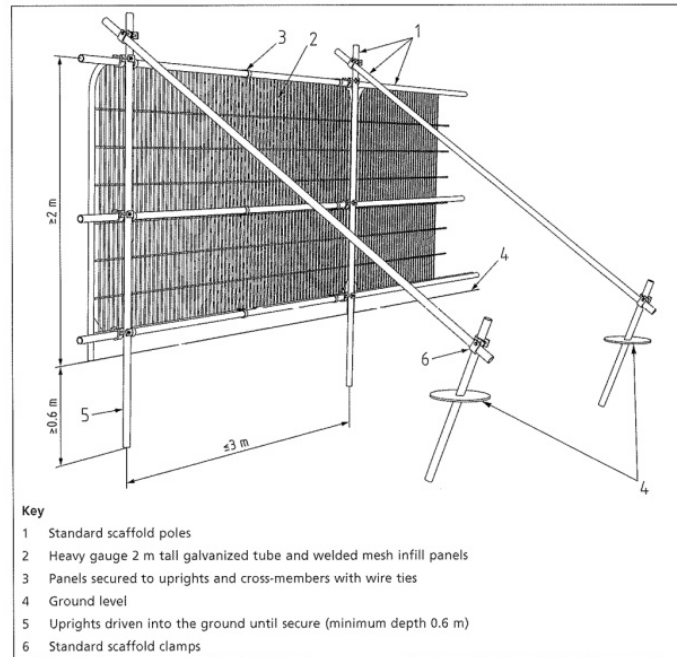
Tree No.	Proposed Works
T6, T8, G5, T14, T16, T17, T19, T25, T26, T27, T38, G8 & T54	Fell to ground level due to condition and remove stumps.
G6, T20, T21, T22, T23, G7, T24, T35, T36, T43, G9, G10, G11, T56, G12, T57, T58, T59, T60, G13, G14, G15, G16, T63 & T64	Fell to ground level due to development and remove stumps.
G1	Coppice Goat Willow & crown lift three trees over the highway. Sever Ivy at base of one tree. Remove saplings from shrub area.
T2, G18, G20 & G21	Sever Ivy at base to 1m.
G3	Remove poorly pruned stubs.
T30, T46, T50, T51, T52 & T53	Crown lift to approx. 5m over the highway.
G22	Remove 2 Rowan & Goat Willow. Crown lift to clear highway and remove basal shoot son trees affected.
G23	Coppice all Goat Willow.

Recommended works should be carried out to the *British Standard Recommendations for Tree Work, BS 3998:2010*

7.2 Tree Protective Fencing

- 7.2.1 All fencing used on the site should fully comply with *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*.
- 7.2.2 The fencing should be strong and suitable for local conditions. It should also take into account the degree of construction activity on the site.
- 7.2.3 In this circumstance the location for the protective fencing should be as shown on the Tree Protection Plan of Appendix D and of the following specification.

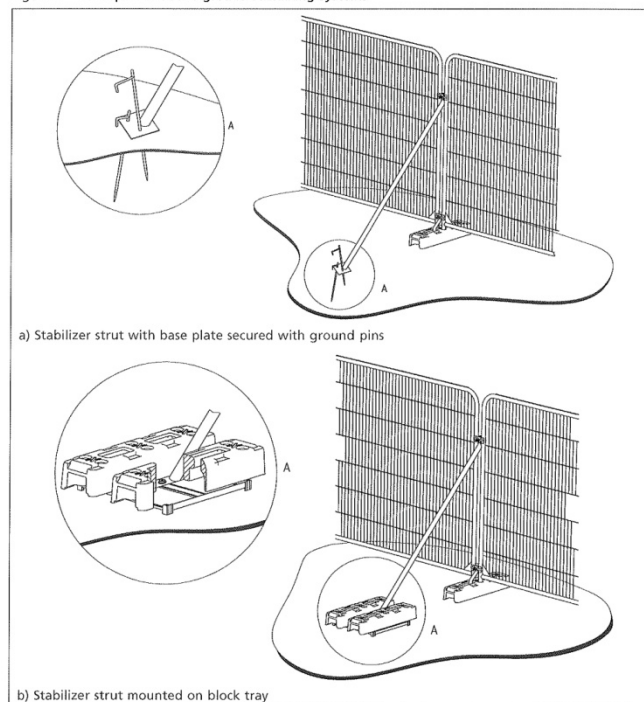
Figure 2 Default specification for protective barrier



Or

Heras type temporary fencing can sometimes be acceptable with the bases pinned to the ground securely. This needs to be checked with the Local Planning Authority.

Figure 3 Examples of above-ground stabilizing systems



7.2.4 No storage of materials or any construction operations should occur within the fenced area. Additionally, when designing the site layout, account should be taken of the route/installation method of underground services/drains and, the route/construction method of new access roads/driveways in relation to the retained trees. It would be advisable to mark out the optimum position of the protective fencing on the ground prior to finalisation of any design proposal.

7.2.5 Notices should also be erected on the fencing stating 'Protected Area - No operations within fenced area'. An example can be found in Appendix D, which should be laminated and attached to the fencing at regular intervals.

- 7.2.6 The positioning of the protective fencing is also very important and should be erected in the proposed location identified on the site plan of Appendix D. Once the fence has been erected it should never be crossed and particular care should be taken not to store any materials or soil within the protected area.

7.3 Additional Precautions Outside Fenced Areas

- 7.3.1 Oil, bitumen, cement or other material likely to cause damage to the tree will not be stacked or discharged within 10m of the trees stem or within the protective area. Also, materials in general will not be stacked or discharged within the exclusion zone.
- 7.3.2 Concrete mixing and washing will not be carried out within 10m of any retained trees.
- 7.3.3 Fires will not be lit beneath the foliage or in a position where the flames could extend to within 5m of the foliage, branches or trunk. If the fire is large, then this may necessitate a distance of at least 20m.
- 7.3.4 Trees that are to be retained will not be used as anchorage for equipment.
- 7.3.5 Notice boards, telephone cables, or other services will not be attached to any part of the retained tree.
- 7.3.6 Care should be taken when using cranes or other equipment near the canopy of the retained trees. Also, any trees to be felled in proximity to the retained trees should be done so with particular care.

7.4 Services

- 7.4.1 Where possible all services trenches shall be dug outside of the Root Protection Area.
- 7.4.2 Should this not be possible; then the guidelines within 'NJUG 10' Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees should be adopted, in particular Section 4.0, which is included within Appendix D of this report

7.5 Site Buildings

- 7.5.1 Site cabins, compounds and welfare should all be placed outside of the protection areas of retained trees.
- 7.5.2 Where this is not possible further advice should be sought from the appointed arborist and in some circumstances, it may be possible to construct temporary ground protection and adjust fencing, but this is only to be considered as a last resort.
- 7.5.3 On larger sites of more intensive development where there is little open space for site buildings then alternative arrangements off site should be considered or part of the site should remain undeveloped until the final stages when less site storage is needed.

7.6 Summary of Methodology for the Protection Trees

- 1. Remedial tree works carried out in accordance with this report and by a competent and fully insured arboricultural contractor and in accordance with BS 3998:2010.**
- 2. The erection of Protective Fencing in accordance with this Method Statement and plans of Appendix D and to be supervised and checked by a competent arboriculturalist before commencement of works.**
- 3. Construction of the Development.**
- 4. The removal of Protective Fencing is only to be done with the agreement of a competent arborist or the LPA.**
- 5. New landscaping scheme including tree replacement planting.**

Appendix A - Table 1 of BS5837:2012

Table 1 – Cascade chart for tree quality assessment

Category and definition		Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see note)				
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		- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality Note – <i>Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>		
		1 Mainly arboriculture qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years		Trees that are particularly good examples of their species, especially if rare or unusual, or those that are essential components of groups or formal or semi-formal arboriculture features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years		Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and minor storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
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		Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Tree with no material conservation or other cultural value

Appendix B - NJUG 10 Section 4.0

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

Telecommunications Code (Schedule 2). Paragraph 19 of the Telecommunications Code enables operators to require the lopping of trees which overhang the street and obstruct or interfere with the working of their lines.

4. HOW TO AVOID DAMAGE TO TREES

This section gives general guidance on methods of work to minimise damage to trees. The local authority (or for privately owned trees, the owner or their agent), should be consulted at an early stage prior to the commencement of any works. This will reduce the potential for future conflict between trees and apparatus.

4.1 Below Ground

Wherever trees are present, precautions should be taken to minimise damage to their root systems. As the shape of the root system is unpredictable, there should be control and supervision of any works, particularly if this involves excavating through the surface 600mm, where the majority of roots develop.

4.1.1 Fine Roots

Fine roots are vulnerable to desiccation once they are exposed to the air. Larger roots have a bark layer which provides some protection against desiccation and temperature change. The greatest risk to these roots occurs when there are rapid fluctuations in air temperature around them e.g. frost and extremes of heat. It is therefore important to protect exposed roots where a trench is to be left open overnight where there is a risk of frost. In winter, before leaving the site at the end of the day, the exposed roots should be wrapped with dry sacking. This sacking must be removed before the trench is backfilled.

4.1.2 Precautions

The precautions referred to in this section are applicable to any excavations or other works occurring within the Prohibited or Precautionary Zones as illustrated in Figure 1 – ‘Tree Protection Zone’.

4.1.3 Realignment

Whenever possible apparatus should always be diverted or re-aligned outside the Prohibited or Precautionary Zones. Under no circumstances can machinery be used to excavate open trenches within the Prohibited Zone.

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

The appropriate method of working within the Precautionary Zone should be determined in consultation with the local authority (or for privately owned trees the owner or their agent) and may depend on the following circumstances;

- the scope of the works (e.g. one-off repair or part of an extensive operation)
- degree of urgency (e.g. for restoration of supplies)
- knowledge of location of other apparatus
- soil conditions
- age, condition, quality and life expectancy of the tree

Where works are required for the laying or maintenance of any apparatus within the Prohibited or Precautionary Zones there are various techniques available to minimise damage.

Acceptable techniques in order of preference are;

a) Trenchless

Wherever possible trenchless techniques should be used. The launch and reception pits should be located outside the Prohibited or Precautionary Zones. In order to avoid damage to roots by percussive boring techniques it is recommended that the depth of run should be below 600mm. Techniques involving external lubrication of the equipment with materials other than water (e.g. oil, bentonite, etc.) must not be used when working within the Prohibited Zone. Lubricating materials other than water may be used within the Precautionary Zone following consultation and by agreement.

b) Broken Trench - Hand-dug

This technique combines hand dug trench sections with trenchless techniques if excavation is unavoidable. Excavation should be limited to where there is clear access around and below the roots. The trench is excavated by hand with precautions taken as for continuous trenching as in (c) below. Open sections of the trench should only be long enough to allow access for linking to the next section. The length of sections will be determined by local conditions, especially soil texture and cohesiveness, as well as the practical needs for access. In all cases the open sections should be kept as short as possible and outside of the Prohibited Zone.

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

c) Continuous Trench - Hand-dug

The use of this method must be considered only as a last resort if works are to be undertaken by agreement within the Prohibited Zone. The objective being to retain as many undamaged roots as possible.

Hand digging within the Prohibited or Precautionary zones must be undertaken with great care requiring closer supervision than normal operations.

After careful removal of the hard surface material digging must proceed with hand tools. Clumps of roots less than 25mm in diameter (including fibrous roots) should be retained in situ without damage. Throughout the excavation works great care should be taken to protect the bark around the roots.

All roots greater than 25mm diameter should be preserved and worked around. These roots must not be severed without first consulting the owner of the tree or the local authority tree officer / arboriculturist. If after consultation severance is unavoidable, roots must be cut back using a sharp tool to leave the smallest wound.

4.1.5 Backfilling

- Any reinstatement of street works in the United Kingdom must comply with the relevant national legislation (see: **Volume 6 – ‘Legislation and Bibliography’**). In England this relates to the requirements of the code of practice – ‘Specification for the Reinstatement of Openings in Highways’ approved under the New Roads and Street Works Act 1991. Without prejudice to the requirements relating to the specification of materials and the standards of workmanship, backfilling should be carefully carried out to avoid direct damage to roots and excessive compaction of the soil around them.
- The backfill should, where possible, include the placement of an inert granular material mixed with top soil or sharp sand (not builder’s sand) around the roots. This should allow the soil to be compacted for resurfacing without damage to the roots securing a local aerated zone enabling the root to survive in the longer term.
- Backfilling outside the constructed highway limits should be carried out using the excavated soil. This should not be compacted but lightly “tamped” and usually left slightly proud of the surrounding surface to allow natural settlement. Other materials should not be incorporated into the backfill.

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

4.1.6 Additional Precautions near Trees

- Movement of heavy mechanical plant (excavators etc.) must not be undertaken within the Prohibited Zone and should be avoided within the Precautionary Zone, except on existing hard surfaces, in order to prevent unnecessary compaction of the soil. This is particularly important on soils with a high proportion of clay. Spoil or material must not be stored within the Prohibited Zone and should be avoided within the Precautionary Zone.
- Where it is absolutely necessary to use mechanical plant within the Precautionary Zone care should be taken to avoid impact damage to the trunk and branches. A tree must not be used as an end-stop for paving slabs or other materials nor for security chaining of mechanical plant. If the trunk or branches of a tree are damaged in any way advice should be sought from the local authority tree officer / arboriculturist.

See TABLE 1 –‘Prevention of Damage to Trees Below Ground’ below for summary details regarding causes and types of damage to trees and the implications of the damage and the necessary precautions to be taken to avoid damage.

Appendix C - Site Notice for Tree Protective Fencing



TREE PROTECTION AREA KEEP OUT!

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE SUBJECTS OF A
TREE PRESERVATION ORDER
(TOWN & COUNTRY PLANNING ACT 1990)

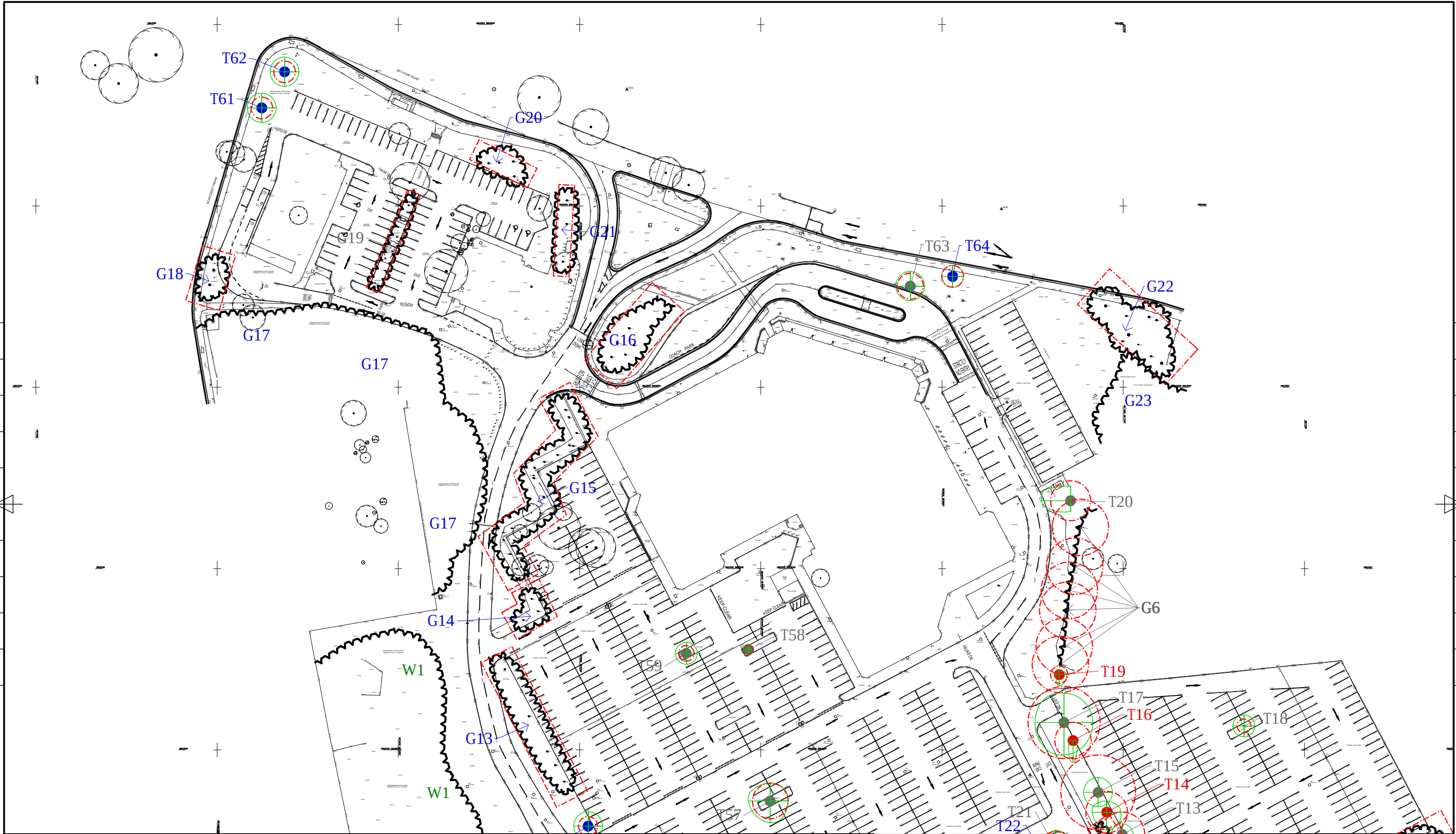
CONTRAVENTION OF TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING **MUST BE OBSERVED BY ALL PERSONS:-**

- THE PROTECTIVE FENCING MUST NOT BE REMOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATION SHALL OCCUR IN THE PROTECTED AREA

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY**

Appendix D - Site Plans



KEY

●

TREE LOCATION AND CONDITION

GROUP LOCATION AND CONDITION

ROOT PROTECTION AREA (RPA)

CROWN SPREADS

REVISION / DESCRIPTION

DRAWN

AUTHORISED

DATE

Green – Trees of high quality

Blue – Trees of moderate quality

Grey – Trees of low quality

Red – Trees of poor quality

REVISION / DESCRIPTION

DRAWN

AUTHORISED

DATE

11 Ducie Street

P.O. Box 85, Piccadilly Basin

Manchester M60 3JA

United Kingdom

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F +44 (0)161 828 2235

www.bdp.com

BDP.

PROJECT

Showcase Cinema, Hyde Road

DRAWING TITLE

Tree Constraints Plan (1 of 2)

JOB NUMBER

BDP845

DRAWING NUMBER

BDP854/SCHR/01

SCALE

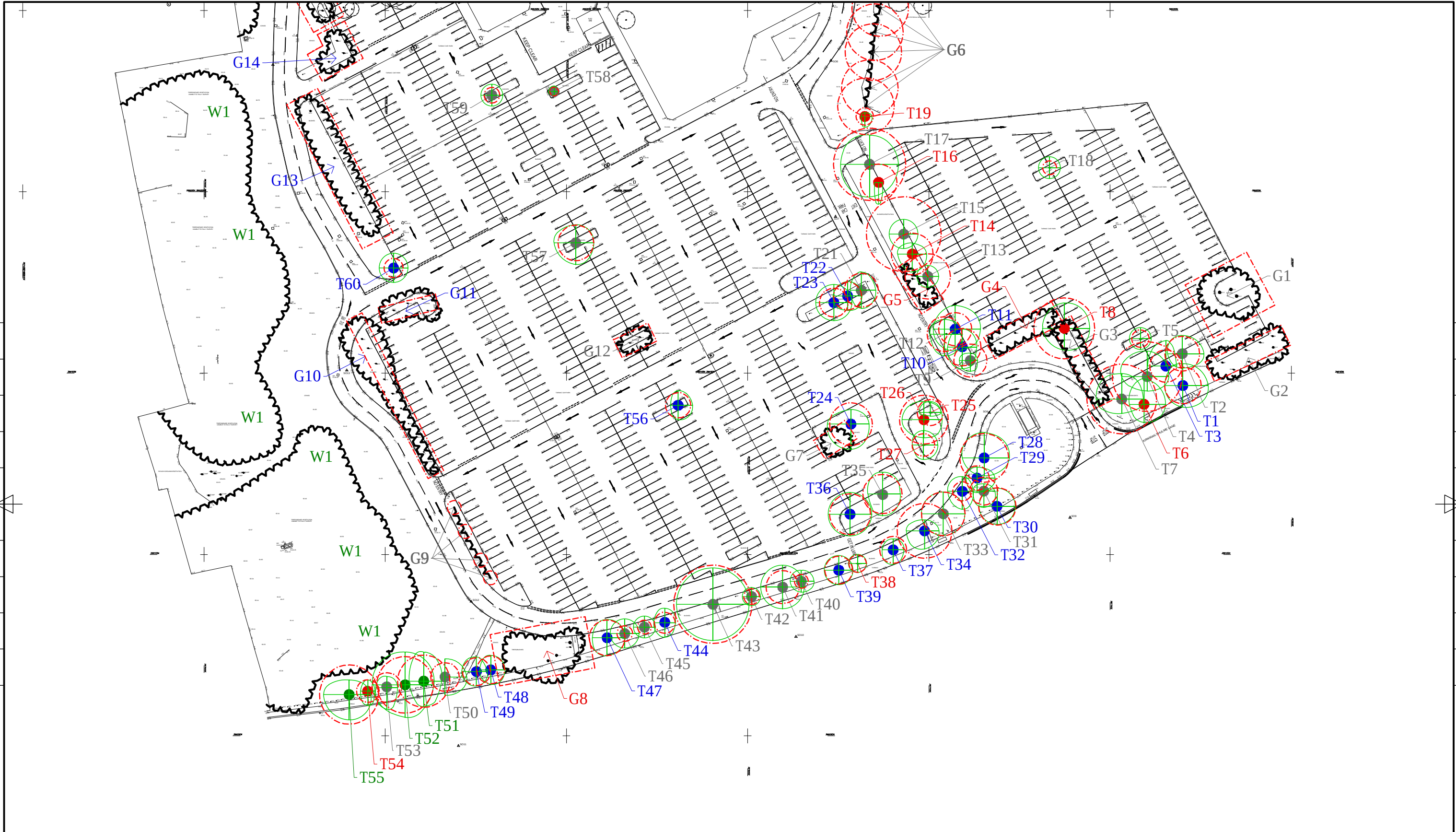
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DATE

JAN 21

REVISION

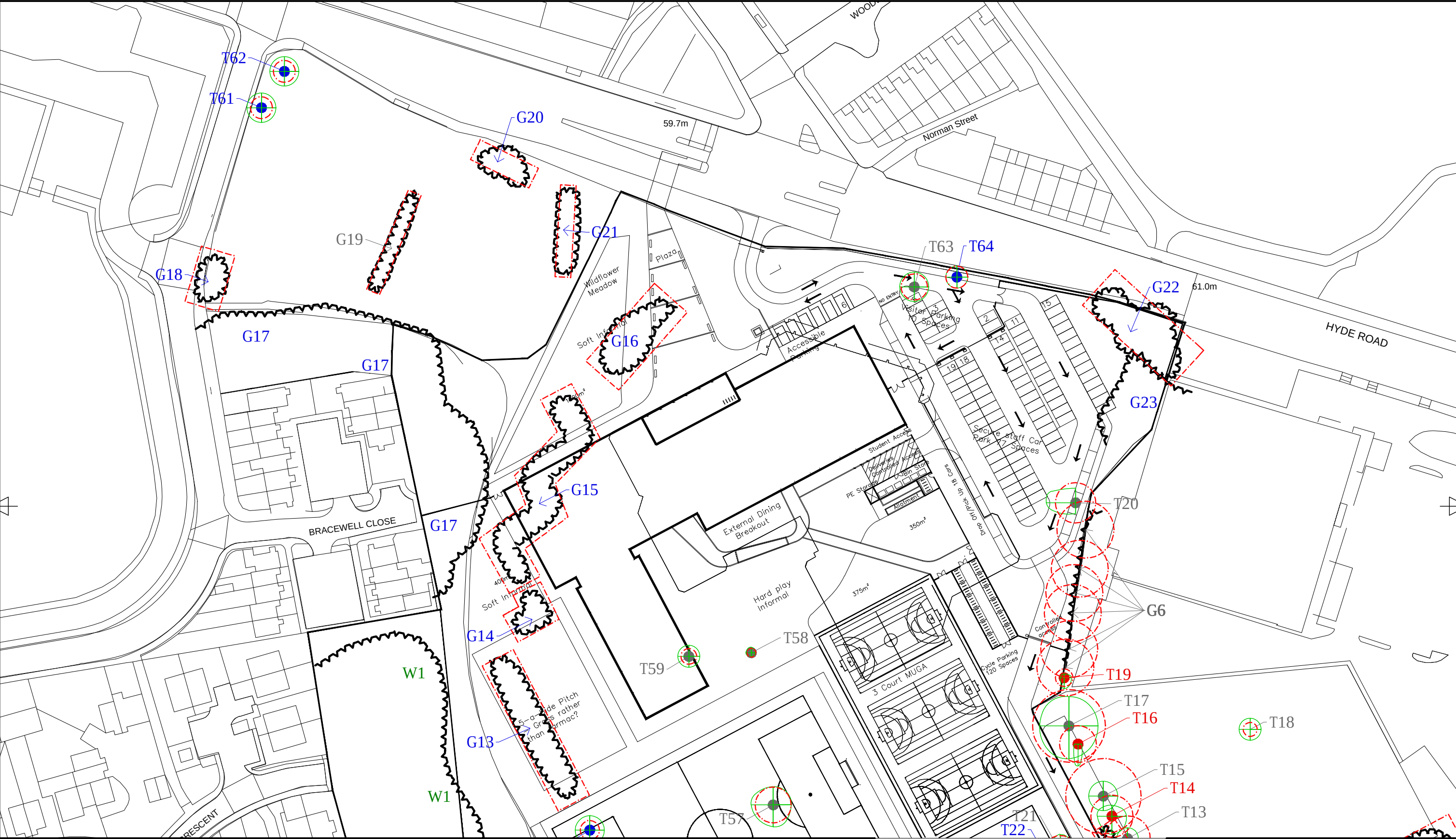
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KEY ● TREE LOCATION AND CONDITION ■ GROUP LOCATION AND CONDITION ○ ROOT PROTECTION AREA (RPA) ⊕ CROWN SPREADS						BDP.		PROJECT Showcase Cinema, Hyde Road	
						11 Ducie Street P.O. Box 85, Piccadilly Basin Manchester M60 3JA United Kingdom T +44 (0)161 828 2200 F +44 (0)161 828 2235 www.bdp.com		DRAWING TITLE Tree Constraints Plan (2 of 2)	
								SCALE @ A3 1/1000	
								DATE JAN 21	
								REVISION -	
JOB NUMBER BDP845		DRAWING NUMBER BDP854/SCHR/02							

Green – Trees of high quality
Blue – Trees of moderate quality
Grey – Trees of low quality
Red – Trees of poor quality

REVISION / DESCRIPTION	DRAWN	AUTHORISED	DATE	REVISION / DESCRIPTION	DRAWN	AUTHORISED	DATE



KEY

TREE LOCATION AND CONDITION

GROUP LOCATION AND CONDITION

ROOT PROTECTION AREA (RPA)

CROWN SPREADS

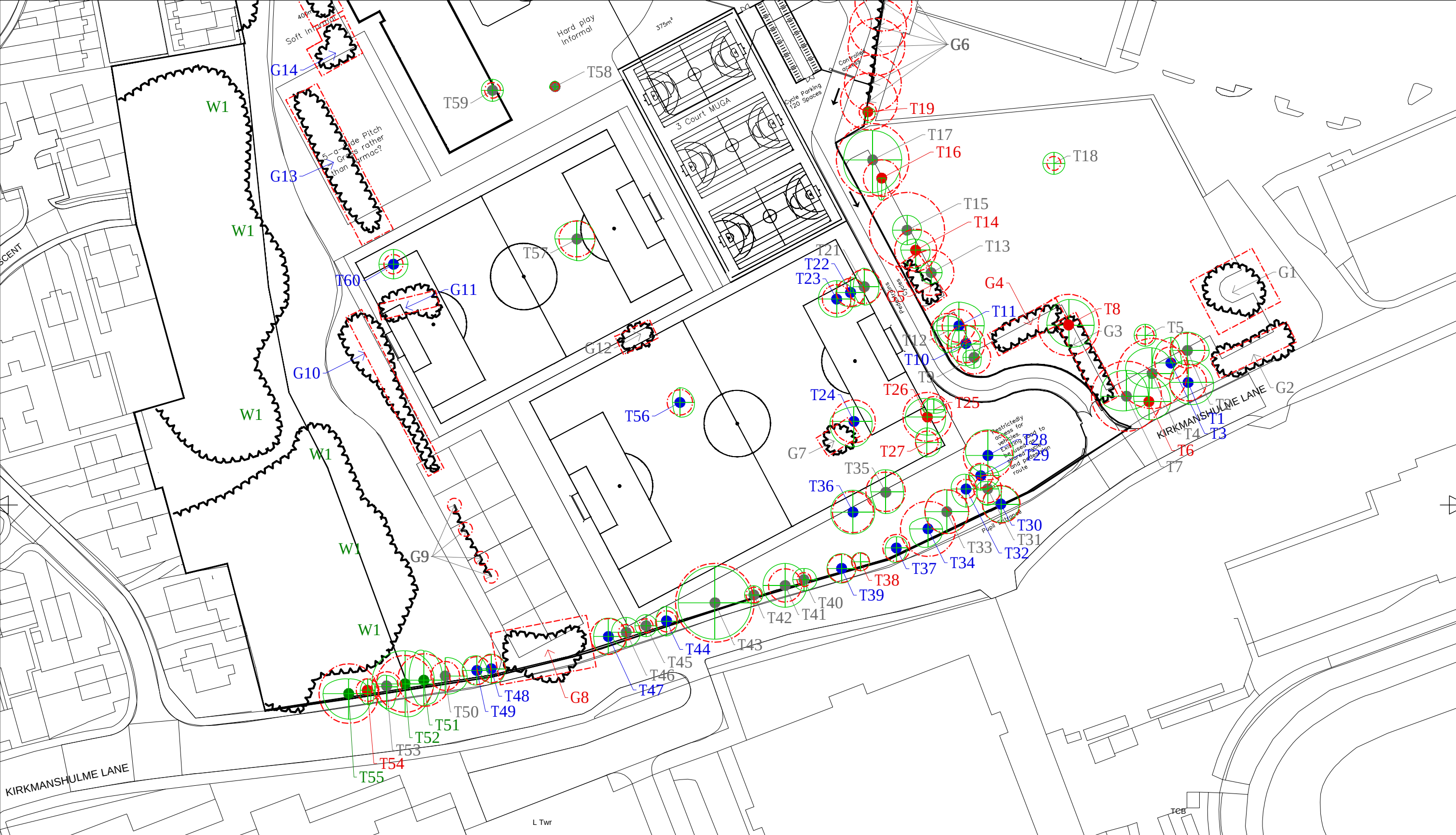
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JOB NUMBER BDP845		DATE JAN 21
DRAWING NUMBER BDP854/SCHR/03		REVISION -

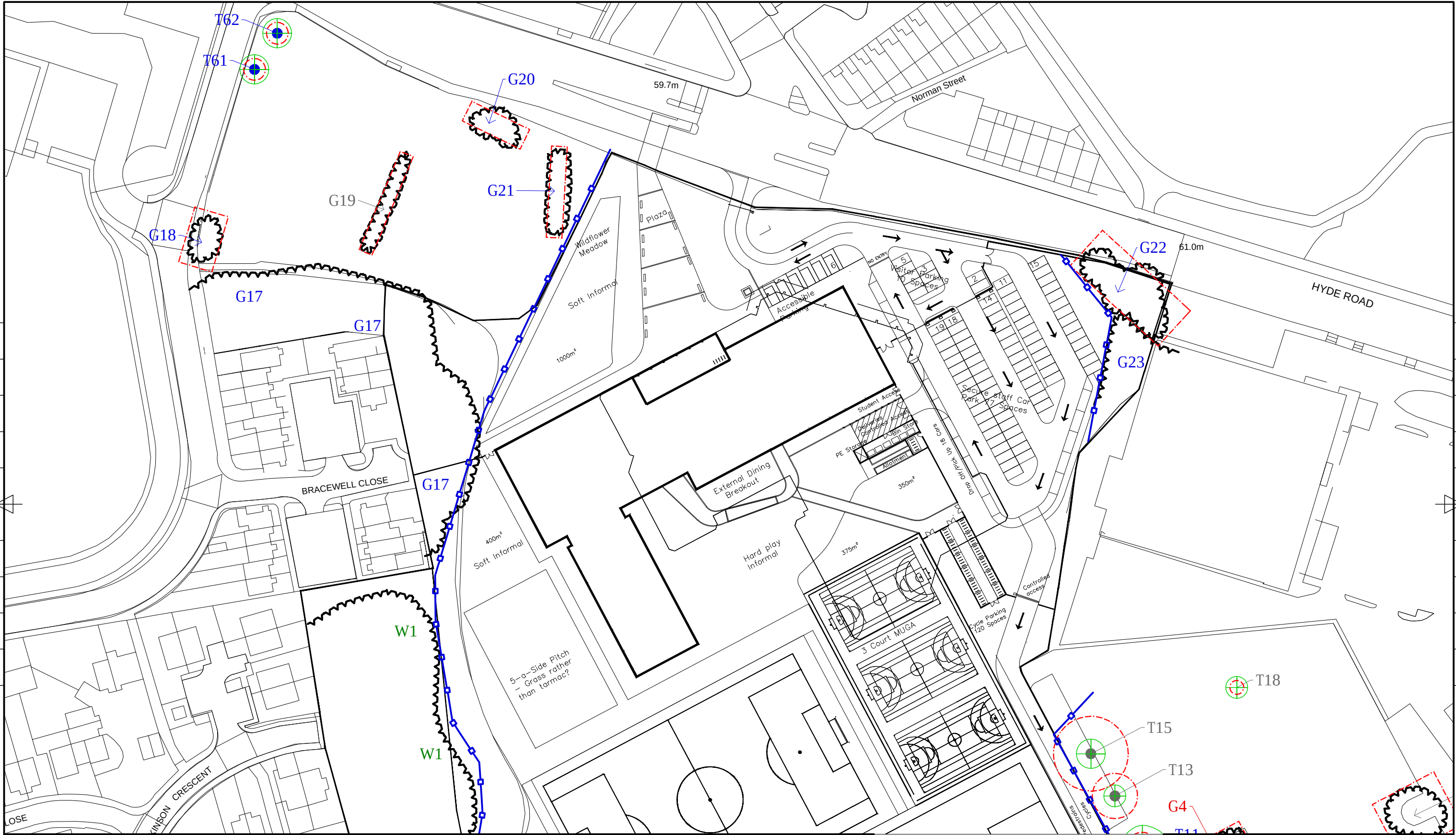


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	ROOT PROTECTION AREA (RPA)		
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JOB NUMBER	DRAWING NUMBER	DATE
BDP845	BDP854/SCHR/04	JAN 21
REVISION		-



KEY PLAN

KEY

- TREE LOCATION AND CONDITION
- GROUP LOCATION AND CONDITION
- ROOT PROTECTION AREA (RPA)
- CROWN SPREADS

KEY

- TREE PROTECTION FENCING

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Tree Protection Plan (1 of 2)		@ A3 1/1000
DATE		REVISION
JAN 21		-

JOB NUMBER	DRAWING NUMBER
BDP845	BDP854/SCHR/05

Appendix E - Key References

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