



ASDA

Old Mill Lane, Barnsley

**Arboricultural Implications Assessment
& Method Statement**

This Report has been Prepared under
the Framework of BS ISO 9001

Approved for issue:

Date:

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1 Introduction

- 1.1 RPS were instructed by ASDA, in January 2009, to undertake a Tree Survey and prepare an Arboricultural Implications Assessment / Method Statement in relation to proposed development of land at an ASDA store in Barnsley.
- 1.2 A copy of the Tree Survey, which was undertaken without reference to development proposals, is included within this report at Appendix 1.
- 1.3 The purpose of this report is to:
- Assess to what extent the proposed development will impact upon the health and vitality of the trees on site and make recommendations for mitigation where appropriate.
 - Identify the extent and impact of tree removal that would be required to achieve the proposed development and make recommendations for mitigation where appropriate.
 - Specify measures for the protection of trees throughout development of the site and identify any necessary predevelopment tree works.
 - Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site.
 - Provide a Tree Protection Plan identifying the protective measures necessary throughout the proposed development.
- 1.4 The following documents and drawings were considered in the production of this assessment:
- Tree Survey – RPS, March 2009
 - 051/SP01 Site Plan – Proposed Layout – GPS, February 2009
- 1.5 This report was prepared by Edmund Lusk, holder of the HND in Arboriculture and Professional Member of the Arboricultural Association, of the RPS Group PLC.

2 Site Information

- 2.1 The site proposed for redevelopment is the existing ASDA store, Old Mill Lane, Barnsley.
- 2.2 The site is located to the north of Barnsley town centre and is within the Barnsley Metropolitan Borough Council administrative area.
- 2.3 The site is centred on Ordnance Survey Grid Reference SE 3489 0722 and is approximately 3.5ha in size.
- 2.4 The site is currently set out to the existing ASDA store and its associated car-parking areas. In addition a retail food outlet and a petrol filling station exist to the south of the site.
- 2.5 The site is situated to the north of Old Mill Lane with pedestrian and vehicular access and egress points provided into the site along this boundary.
- 2.6 The site has further boundaries with The Fleets Dam section of The River Dearne to the east and north-east, with amenity space and residential development to the north-west and new housing to the west.
- 2.7 A public footpath runs adjacent to the western boundary of the site linking Old Mill Lane to the south with residential development at Honeywell Place to the north.
- 2.8 The site extends to include a small parcel of land known as the keel land to the south-west, this area is currently undeveloped and set out to amenity grass and trees. The public footpath runs to the eastern boundary of this plot of land.
- 2.9 There is some limited tree planting within the central developed area of the site however predominantly trees are located to the sites boundaries.
- 2.10 Due to the nature of the site there are a number of areas where tree root development will have been influenced or limited; in particular retaining walls and sealed hard surfaces are likely to have acted as effective barriers to root growth.

3 Tree Quality and Retention Value

- 3.1 A detailed assessment of the quality of the tree stock prevalent upon the site was undertaken at the time of the tree survey and a copy of this report is attached at Appendix 1.
- 3.2 In summary the tree survey established that:
- There were 44 trees, surveyed as individuals, of a moderate retention value on the site; BS5837:2005 Category B.
 - There were 49 trees, surveyed as individuals, of a low retention value on the site; BS5837:2005 Category C.
 - There were 11 trees on the site which due to their poor condition have no retention value; BS5837:2005 Category R.
- 3.3 In addition to the trees surveyed as individuals some trees were surveyed as group features, particularly where individual tree positions were not shown on the topographical survey of the site. There were:
- 7 groups of trees considered to be of a moderate retention value on the site; BS5837:2005 Category B.
 - 8 groups of trees considered to be of a low retention value on the site; BS5837:2005 Category C.
- 3.4 Category A, B or C trees or tree groups are those that should be a material consideration in the planning process whilst category R trees are those which would be lost in the short term for reasons connected to their physiological or structural condition and hence they should not be a consideration in the planning process.
- 3.5 A high number of the trees surveyed, 43%, were considered to be in a good physiological condition with crown density and shoot extension growth levels within the expected ranges for their age and species.
- 3.6 Trees assessed as being in a good physiological condition are more likely to tolerate changes within their growing environment that occur as a result of development; as such their successful retention will be easier to achieve.
- 3.7 A further 49% of the trees surveyed were assessed as being of a fair physiological condition. Typically these specimens are exhibiting lower shoot extension growth and reduced crown density than would typically be expected.

- 3.8 These specimens have a lower life expectancy than those within the good condition class and will not tolerate significant changes as a result of development as well as those in the good condition class.
- 3.9 Six trees, representing approximately 6% of the overall number, were considered to be of a poor physiological condition and two trees were physiologically dead.
- 3.10 These trees are not in a condition whereby they are likely to make a lasting contribution to the site and have generally been classified as, trees of no retention value, category R specimens.
- 3.11 The physiological condition of several trees on site has been influenced significantly by site specific factors. In particular it was noted that T91 – T104 are set within an area of impermeable concrete surfacing with few areas where moisture infiltration and gaseous exchange can occur. This has resulted in visible decline in a number of the trees and it is considered that these specimens have little life expectancy in the current situation.
- 3.12 The long term condition of many of the trees on the site will also be influenced by the species mix present. In this respect a high number of Birch trees (*Betula pendula*) were recorded on the site; these specimens have a relatively short life expectancy and upon maturity can enter decline quickly.
- 3.13 Whilst a number of the Birch trees on site have been classified as being of a moderate retention value, due to their landscape value, where they are already mature in age their life expectancy is very much to the lower end of the 20-40 year spectrum recommended for trees considered to be of a moderate retention value and on an individual basis some could justifiably be considered to be of a low retention value due to limited long term potential.
- 3.14 It should also be noted that Birch, whilst tolerant of a poor growing medium, are not particularly tolerant to significant changes in their growing environment once established and are especially vulnerable to root damage which, should it occur as a result of the proposed development, would result in the premature decline of the trees.

4 Development Proposals

Description of Proposed Development

- 4.1 The proposed development is works to reconfigure the existing customer car park arrangement and to partially extend the colleague car parking area.
- 4.2 Primarily the works involved to achieve this option will be the planing and re-surfacing of the existing car park surface throughout the site, with only limited new construction.

Tree Protection & Planning Policy

- 4.3 The site is not situated within a Conservation Area and nor are the trees on site protected by a Tree Preservation Order.
- 4.4 Generally it should be noted that trees are a material consideration in the planning process and in this respect to demonstrate that trees have been considered within the design of the development guidance contained in BS5837:2005 "Trees in relation to construction – Recommendations" should be followed.
- 4.5 In this respect it can be noted that category A, B or C trees or tree groups are those that should be a material consideration in the planning process whilst category R trees are those which would be lost in the short term for reasons connected to their physiological or structural condition and hence they should not be a consideration in the planning process.
- 4.6 The development should also pay regard to any relevant regional and local planning policy and guidance.
- 4.7 Regional Planning Policy is set out within The Yorkshire and Humber Plan, from this document the following policy was identified as potentially being of relevance:

- **POLICY ENV6: Forestry, trees and woodlands –**

A The Region will safeguard, manage and enhance its existing tree and woodland resource in line with the Regional Forestry Strategy, and in particular increase the area of woodland under active management and increase the total woodland area by approximately 500 Ha per year.

B Plans, strategies, investment decisions and programmes should:

1. Identify, safeguard and enhance ancient woodlands, especially in South and West Yorkshire.
2. Provide for increased woodland planting, especially in East, South and West Yorkshire, and Hull, and in upland catchments and most parts of functional floodplains.
3. Conserve, enhance and increase planting in urban areas, especially on previously developed land and on land by motorways and railways.

4. Increase planting for biomass and encourage the management of existing woodland for wood fuel.
5. Improve public accessibility to and within woodlands in or near towns and cities.
6. Avoid large scale coniferous forestry projects on the Sherwood Sandstone aquifer.

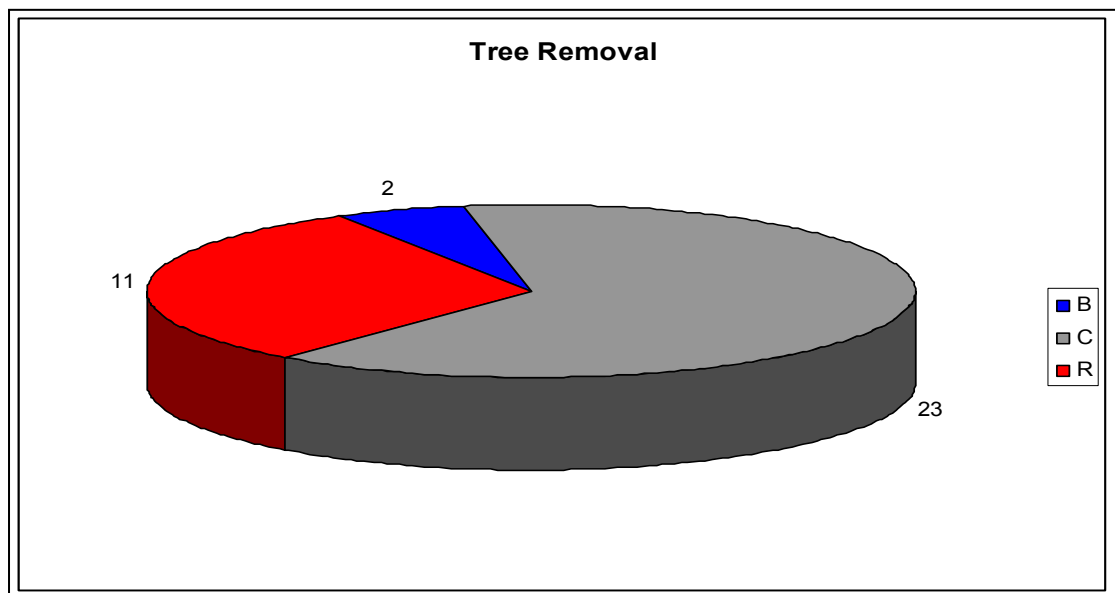
4.8 Local Planning Policy is set out within the Adopted Barnsley Unitary Development Plan, from this document the following policies were identified as potentially being of relevance;

- Policy GS22 - The Council will seek the retention and management of existing hedgerows, woodlands and trees both individually and in groups.
- Policy GS23 - The Council will actively support the development of extensive new woodland and hedgerow planting and its appropriate management for landscape, ecological, recreation and ultimately economic benefit.
- Policy GS24 - The Council will support the creation of the South Yorkshire Forest. Any development within the forest area must accord with the policies of this U.D.P. and developers will be encouraged to make a positive contribution to the forest.

4.9 With respect to the policies identified above it is considered that Policy ENV 6 B3 and Policy GS22 are relevant to the site in question.

5 Tree Removal

- 5.1 11 trees on the site were assessed as having no retention value during the original survey of the site; they were therefore classified within the remove (R) category in accordance with BS5837:2005.
- 5.2 These trees are those likely to die or become dangerous within a period of ten years irrespective of any development proposal. As such they are not considered to be a material consideration in the planning process. The removal of these trees as a matter of good husbandry is recommended.
- 5.3 The proposed re-development and extension of the existing car park will require the removal of a number of additional trees across the site. The removal of trees will be necessary to accommodate the increased level of car parking proposed.
- 5.4 A schedule of trees to be removed to achieve the proposed development is included within this report at Table 3, additionally all trees to be removed are shown on the attached Tree Retention and Removal Plan, Figure 1.
- 5.5 Overall twenty-five trees, in addition to the eleven category R trees, are proposed for removal to achieve the proposed development. The chart below shows the respective proportion of trees to be removed across the site according to their BS5837 categorisation.



- 5.6 As can be seen twenty-three of the trees to be removed to achieve the proposed development are category C specimens of a low quality and value when considered in accordance with BS5837:2005.

- 5.7 The majority, eleven, of the category C trees that will require removal are located within the partial avenue of Norway Maples running between the pedestrian access point on Old Mill Lane and the store entrance (T92 - T104).
- 5.8 These trees are set within an area of sealed hard surfacing with very little provision for soil moisture infiltration or gaseous exchange; resultantly many of the trees in the group have entered decline.
- 5.9 It is considered that the unfavourable growing conditions will in the short term result in the continued decline of these trees and their ultimate death. Furthermore unless significant changes to the growing conditions were implemented replacement planting in the existing tree pit areas would not be successful.
- 5.10 A further six category C trees are to be removed within the western section of the existing car park. These trees (T59 - T64) are young specimens located within landscape beds to the ends of existing car park rows.
- 5.11 These trees are of limited landscape value currently and their loss could be fully mitigated by replacement planting upon the completion of development.
- 5.12 Three category C Field Maple trees (T10, T11 & T12) would require removal to allow construction of the proposed new colleague parking spaces. Again these trees are of limited landscape value and could be replaced upon completion of the development.
- 5.13 Finally three Cherry trees to the western end of G13 will require removal to allow construction of the proposed new pedestrian access to Old Mill Lane. Whilst this group as a whole has been identified as being of category B value these trees are poor specimens and individually are of a low, category C, retention value.
- 5.14 Overall it is not considered that the removal of the category C trees should be a constraint to development as they are immature specimens of limited value and their loss can be mitigated for by undertaking replacement tree planting.
- 5.15 It can also be seen that only 2 trees of a moderate retention value would require removal to achieve the proposed development.
- 5.16 These trees (T65 & T66) are a pair of young Norway Maples, both of which are of limited stature; as such it is considered that their loss can be mitigated for by undertaking replacement planting.

Visual Impact of Tree Removal

- 5.17 The trees proposed for removal are predominately immature specimens of limited stature, they are located internally to the site and are screened from wider public views by a combination of existing retained vegetation to the site boundaries and the presence of buildings.
- 5.18 As such it is not considered that their removal will have a significant impact upon the visual character and appearance of the area. However tree removal will impact, to a very limited degree, locally on the visual appearance of the existing store car park.

6 Potential Impact to Retained Trees

Introduction

- 6.1 Trees have finite energy reserves, developed each year throughout the growing season, which are utilised for biological processes such as growth and defence against pests or diseases throughout the following year.
- 6.2 Any development in proximity to trees has the potential to cause harm to those trees unless control measures are identified and acted upon; as such it is essential to consider the relationship between the proposed development and the retained trees to identify what precautions are necessary, proportionate and appropriate.
- 6.3 Development has the potential to impact upon the above ground and below ground parts of trees.
- 6.4 Whilst some damage that can occur, such as physical damage to the trees stems and branches from machinery movements, is clearly visible the impact from other aspects of work common on development sites which can have a significant effect upon the continued health of trees are not always immediately evident.
- 6.5 Damage that is not immediately evident but which can cause long term harm to retained trees includes things such as damage to the soil structure by compaction causing root damage and levels changes altering the water table and affecting moisture availability.
- 6.6 To minimise the potential for harm to occur to retained trees all works should be carried out with regard to the Tree Protection Measures detailed within this report.
- 6.7 In general it can be seen that, by adopting appropriate methods of working, precautionary and protective measures, significant harm to retained trees can be avoided.
- 6.8 In particular the establishment of a Construction Exclusion Zone (CEZ) by erection of Tree Protection Fencing will minimise the potential for harm to occur to retained trees.

Assessment of Impact

- 6.9 Generally the proposed development does not have a high potential to impact upon the health and vigour of the retained tree stock and it will be possible to substantially protect the retained trees throughout development.
- 6.10 However there are several areas of work that have the potential to impact upon the health of retained trees.
- 6.11 The first area of works that will potentially impact upon the retained trees is the creation of new car park spaces and the installation of a retaining wall adjacent to T32-T42.

- 6.12 To achieve this aspect of the development works will be required in close proximity to retained trees, however all works will be to the periphery of the tree's designated Root Protection Areas and thus the potential for harm to the tree's root systems is minimal.
- 6.13 T42 is likely to be most affected by the proposed works as one of the new car parking spaces will be constructed partially within its Root Protection Area. In this respect it can be seen that works will directly affect approximately 6% of the trees RPA and when allowing for the installation of protective fencing and provision of working space it is considered that at most 10% of the trees RPA would be affected by the proposed works.
- 6.14 Given the small percentage of the RPA of T42 that would be affected by the works, and the fact that the affected section of the RPA would be an individual corner with scope for increased RPA provision in other directions, it is not considered that the works would cause an unacceptable degree of harm to the tree.
- 6.15 The works in this area may also have the potential to impact upon the aerial parts of the trees where low branches over-hang the proposed car parking spaces. To minimise the potential for branch damage to occur some access facilitation tree pruning works, as specified within Table 2, are proposed. These works are of a minor nature and, so long as they are completed in accordance with best practice, will not impact significantly upon the appearance or health of the trees.
- 6.16 The second area where the proposed works may impact upon the retained trees is adjacent to G15 where it is proposed to extend the existing roadway in proximity to the trees. The works will not affect the root systems of these trees as the area to be worked upon is already set out to hard surfacing which will have prevented, or significantly limited, root spread in the affected area. However the some access facilitation pruning to minimise the potential for branch damage to occur is proposed.
- 6.17 The third area where works may impact upon a retained tree is adjacent to T88. Again it is not considered that the proposed works will cause root damage to the tree as the affected area is fully hard surfaced, however some access facilitation pruning to minimise the potential for branch damage is recommended.
- 6.18 The final area where harm may be caused to retained trees as a result of the proposed works is adjacent to T67 and T68, a pair of young Beech trees.
- 6.19 Within this area the existing hard surface will be broken out in proximity to T68 and new hard surfacing will be installed in proximity to T67.

- 6.20 To minimise the potential for harm to occur to the root system of T68 as a result of the works the existing hard surface should be broken out by hand as discussed within the Tree Protection Measures section of this report. It should be noted that as the trees would appear to post date the existing hard surfacing there is little likelihood of any roots being present beneath the existing surfacing. Overall it is considered that the works have little potential to impact upon the health and vitality of this tree.
- 6.21 The proposed new construction adjacent to T67 have a greater potential to impact upon the health of the trees as works will be required within approximately 20% of the trees RPA and access facilitation pruning works will be required to minimise the potential for branch damage to occur.
- 6.22 Given that T67 is a young tree of good vigour it is not considered that the works will cause such harm that the tree is likely to enter terminal decline, although a short-term reduction in vigour may be expected following the works. As the tree is a category C specimen of a low retention value it is not considered that the effect upon the tree resulting from the works should be seen as a constraint to development.

Mitigation

- 6.23 It is considered that replacement tree planting throughout the site would be appropriate to mitigate the loss of the trees to be removed as a result of the proposed development.
- 6.24 As few opportunities to carryout replacement planting exist within the central area of the site replacement trees to mitigate the impact of development will primarily be located to the sites western boundary and to the boundary of the Keel land to the south-west of the site.
- 6.25 The replacement tree planting proposed will increase the species and age diversity of the tree belt and will ultimately provide for succession of the existing mature and maturing Birch trees that are the principal component of the tree group to the western boundary.
- 6.26 Details of the proposed tree planting are shown on the Tree Planting Plan (Figure 3) and a general planting specification is included within this report at Appendix 5.

7 Predevelopment Works

Tree Removal

- 7.1 The eleven category R trees should be removed irrespective of the proposed development.
- 7.2 These trees and all those to be removed to achieve the proposed development are shown on the Tree Retention and Removal Plan (Figure 1), drawing number 4957.02.01.
- 7.3 The trees to be removed shall be identified on site prior to their removal by way of marking with indelible paint, blazing of the stems or in some other such method whereby there can be no doubt as to which trees are to be removed.
- 7.4 The removal of the majority of trees will be a straightforward operation as they are immature specimens of limited stature.
- 7.5 Following tree removal all stumps shall be ground out, where access is possible, or treated with a suitable herbicide to prevent re-growth, where it is not. No stumps shall be removed by way of excavation or winching as such works may cause damage to the root systems of adjacent retained trees.

Tree Pruning

- 7.6 Several trees require pruning of their canopies to minimise the potential for damage to occur to low branches during construction.
- 7.7 Additionally tree works have been specified where they would be of benefit to the establishment of new planting and where general maintenance operations are required.
- 7.8 A schedule of required tree pruning work is included within this report as Table 1, Predevelopment Tree Pruning Works.

Standard of Work

- 7.9 All tree works should be carried out in accordance with BS3998 and latest arboricultural best practice.
- 7.10 All tree work should be carried out by suitably qualified, competent and insured arboricultural contractors.
- 7.11 All green and woody waste generated by the tree works shall be removed from site and disposed of in an environmentally sustainable manner.

Timing of Works

- 7.12 All tree works shall be completed prior to commencement of any construction works on the site.
- 7.13 All works shall be timed to have regard to the phenological cycles of protected species that are associated with trees; notably birds and bats.

Tree Protection Fencing

- 7.14 Following completion of tree removal, tree surgery works and prior to the commencement of any site works the protective fencing is to be erected in accordance with the locations set out on the Tree Protection Plans (Figure 2).
- 7.15 Once the protective fencing is in place it must remain in situ throughout the course of the development until the completion of development.
- 7.16 Copies of the Tree Protection Plan shall be placed in the site office for reference by all site staff.
- 7.17 The protective fencing barrier is to be constructed in accordance with the specification detailed at Appendix 2.
- 7.18 Signs detailing the purpose of the protective fencing shall be attached to the fencing at 10m intervals. Such signs should be weatherproof and shall be substantially in the form of the specimen provided at Appendix 3. Signs must be replaced as necessary should they be removed or become illegible.
- 7.19 Following erection of the protective fencing and prior to commencement of the development an inspection of the site, by either the Council's Tree Officer or the Arboricultural Consultant, should be arranged to confirm fencing has been installed in accordance with the Tree Protection Plan and any relevant conditions that may be attached to a grant of planning consent for the development.

8 Tree Protection Measures

Construction Exclusion Zone

- 8.1 The Construction Exclusion Zone (CEZ) as defined by the protective fence line shall be regarded as sacrosanct, and the protective fencing shall not be moved or taken down at any time without the written approval of the Local Planning Authority.
- 8.2 Within the Construction Exclusion Zone there must be **No** mechanical digging or scraping, **No** alteration to existing ground levels including soil stripping, **No** earthworks, **No** handling or discharge of any chemical substance, concrete washings or of any fuels.
- 8.3 Furthermore vehicular or pedestrian access and the storage of any materials is **prohibited** within the Construction Exclusion Zone.
- 8.4 Additionally no materials that may contaminate the soil such as concrete mixings, diesel oil and vehicle washings shall be discharged within 10m of the stem of any tree and no fires shall be lit within 10m of the maximum extent of a trees crown.
- 8.5 To ensure that all site staff are aware of the purpose of the Construction Exclusion Zone and the reasons for tree protection the leaflet contained at Appendix 4 shall be issued during the site induction process.

Site Compounds and Materials Stores

- 8.6 Activities related to the establishment of a temporary site compound have the potential to impact upon retained trees by various means. In particular the storage and mixing of chemicals and materials such as concrete can have a damaging effect on tree health if precautions are not taken.
- 8.7 To prevent harm occurring to trees provision for materials storage, site offices, deliveries and other related activities should be made available in areas away from retained trees.
- 8.8 Due to the nature of the existing site there are numerous areas where a site compound could be established without it impacting upon the trees.

Removal of Hard Surfaces

- 8.9 Where it is proposed to remove the existing hard surfaces within the Root Protection Areas of T68 the works should be completed carefully using hand tools only and ideally they should be supervised by the Arboricultural Consultant.
- 8.10 If the area of land exposed within the Root Protection Area of T68 is to be left for a period of time prior to the installation of the new surface, the line of the protective fencing must be extended to protect the newly exposed ground.

Protection of Planting Areas

- 8.11 Protective fencing shall also be established, as shown on the Tree Protection Plan, on the Keel land to prevent compaction of the soil within the area of proposed tree planting.
- 8.12 Elsewhere on the site replacement tree planting is proposed on banked areas where access by construction vehicles or personnel is unlikely and additional protective fencing is not required.

Monitoring

- 8.13 Following erection of the protective fencing and prior to commencement of the development an inspection of the site, by either the Council's Tree Officer or the Arboricultural Consultant, should be arranged to confirm fencing has been installed in accordance with the Tree Protection Plan and any relevant conditions that may be attached to a grant of planning consent for the development.
- 8.14 Further monitoring visits shall be carried out following implementation of the works on site, ideally on at least a monthly basis.

Reporting

- 8.15 Should any arboricultural issues become apparent during the works the site manager should immediately contact the Arboricultural Consultant (Ed Lusk – 01908 302 691) or the Council's Tree Officer (Zoe Wareham – 01226 772 557) for advice upon how to proceed.

9 Conclusions

- 9.1 The proposed development would mainly result in the removal of trees of a low, category C retention value. These trees should not be considered as a constraint to development.
- 9.2 Whilst two category B trees, of a moderate retention value, would require removal to achieve the proposed development these specimens are both immature and of limited landscape value.
- 9.3 The proposed development has little potential to impact upon the health and vigour of retained trees, however it is likely that T67 will suffer a short term loss of vigour as a result of the works.
- 9.4 The tree removal necessary to achieve the development will not have a significant impact upon the character and appearance of the local or wider area as the trees to be removed are immature specimens of little prominence located internally to the site.
- 9.5 Whilst no opportunities exist to undertake replacement planting within the store car park it is considered that the proposed tree planting to the site boundaries, which will increase age and species diversity, will fully mitigate any landscape impacts related to the proposed tree removal.
- 9.6 Guidelines contained within BS 5837:2005 Trees in Relation to Construction should be followed when dealing with trees. Working methods and specifications should be followed to limit potential damage to trees throughout the construction period.
- 9.7 The specific measures for the protection of the retained trees throughout development specified within this report shall be followed throughout the course of the development.
- 9.8 All category R trees are recommended for removal at this time irrespective of development. These trees are those that would be lost in the short term regardless of the development proposals due to their poor physiological or structural condition. As such they should not be a material consideration in the planning process.
- 9.9 The proposed replacement planting would mitigate any landscape impact resulting from the removal of the category R trees.

Tables

Table 1

Tree Survey Data

Tree Survey Data - ASDA, Barnsley

March 2009

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
1	Betula pendula	7	6	1.5	1	1	1	3	Y	Fair	Previously crown lifted	20-40	C1	
2	Betula pendula	10	6	1.5	1.5	1.5	1.5	2	Y	Fair		20-40	C1	
3	Acer pseudoplatanus	96	16	6	5	6	5	2	M	Fair	Trifurcate at base with stems further sub-dividing between 1-3m. Included bark union present where one stem bifurcates at 3m. Minor deadwood and branch dieback in crown.	20-40	B1	Tree is located on bank beyond concrete retaining wall and thus Root Protection Area will not extend to the south of this point. The lower branches of the tree are c.5m above the access road passing the tree due to the changes in level.
4	Crataegus monogyna	12	4	1	1.5	1	1	1.5	Y	Fair	Trifurcate at 1m. Previous partial root plate failure.	<10	R	
5	Sorbus aucuparia	10	5	0	2.5	0	2.5	2.5	Y	Fair	Heavily suppressed specimen of poor form with asymmetrical canopy.	10-20	C1	
6	Betula pendula	30	14	3	4	4	2	2.5	M	Good		20-40	B1	Growing at top of bank adjacent to concrete sectional wall.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
7	Betula pendula	14	9	4	0	2	1	3	MA	Poor	Heavily suppressed specimen of poor form. Extensive branch dieback in crown.	<10	R	
8	Acer platanoides	16	10	0.5	2	1.5	2	3	MA	Fair	Suppressed specimen of poor form with asymmetric canopy.	20-40	C1	
9	Acer campestre	14	10	1	2	2	1	3	Y	Fair	Previously crown lifted. Suppressed form.	20-40	C1	
10	Acer campestre	20	9	1	2	1.5	1.5	3	Y	Fair	Bifurcate at 1m. Previously crown lifted. Slightly suppressed form.	20-40	C1	
11	Acer campestre	16	9	1	1	1.5	1.5	3	Y	Fair	Bifurcate at 0.25m. Previously crown lifted. Suppressed form.	20-40	C1	
12	Acer campestre	16	9	1	2.5	1	2	3	Y	Fair	Previously crown lifted. Suppressed form.	20-40	C1	
13	Betula pendula	20	14	3	4	2.5	1.5	3	MA	Good		20-40	B1	Located at the top of a bank adjacent to concrete retaining structure.
14	Betula pendula	16	14	3	2.5	1	1	3	MA	Good		20-40	B1	Located at the top of a bank adjacent to concrete retaining structure.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
15	Betula pendula	25	14	4	4	2	2	2.5	MA	Good		20-40	B1	Located at the top of a bank adjacent to concrete retaining structure.
16	Betula pendula	28	15	4	4	1.5	4	2.5	M	Good	Asymmetric suppressed canopy.	20-40	B1	
17	Salix caprea	38	12	7	0	1	1	2	OM	Poor	Heavily suppressed specimen of poor form and leaning to the north. Previous failure has occurred at included bark union at stem base and a small cavity with minor decay is evident at the wound.	<10	R	
18	Acer pseudoplatanus	41	15	1.5	6.5	1.5	5	4	M	Good	Asymmetric canopy and suppressed form. Bifurcate at 2m.	20-40	B1	
19	Salix caprea	42	10	4	3	3	4	3	OM	Fair	Crossing branches and deadwood in crown.	10-20	C1	Growing on bank, soil erosion evident.
20	Salix caprea	40	8	1	2	5	0	3	OM	Fair	Previous partial root plate failure has occurred. Tree appears to have stabilised.	10-20	C1	Growing on bank.
21	Betula pendula	37	15	4	3.5	6	5	2	M	Good		20-40	B1	
22	Prunus sp.	18	10	3	2	4	1	3	MA	Good	Asymmetric crown.	20-40	C1	

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
23	Betula pendula	31	8	0	2	1	3	3	M	Poor	Substantially dead standing tree with extensive crown dieback evident. Previous branch failure has occurred. Piptoporus betulinus fruiting bodies evident in crown.	<10	R	
24	Betula pendula	34	13	3	4	5	4	2	M	Fair	Suppressed upper canopy. Previously crown lifted. Minor deadwood in crown.	20-40	B1	Ivy restricting full inspection.
25	Acer platanoides	28	12	4	4.5	4.5	2	3	MA	Good	Slightly suppressed.	20-40	B1	
26	Acer pseudoplatanus	42	14	4	4	4.5	3	2	M	Good	Stem is bifurcate at 1.5m.	20-40	B1	Tree is located behind wooden retaining structure and root protection area will not be symmetric.
27	Betula pendula	22	11	3	2	3	2	2	MA	Fair	Minor deadwood and branch dieback in crown.	20-40	B1	
28	Salix caprea	16	8	1.5	2	2.5	2.5	3	MA	Fair	Suppressed form. Minor deadwood in crown.	20-40	C1	
29	Betula pendula	18	5	0	0.5	0	3	3	MA	Poor	Substantially dead tree. Previous stem failure at 5m.	<10	R	

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
30	Salix caprea	20	8	1	1	0	2.5	2	MA	Poor	Heavily suppressed specimen of very poor form. Numerous stem and branch cankers.	<10	R	
31	Betula pendula	10	5	0.5	0	0	0.5	3	Y	Dead	Dead standing tree.	<10	R	
32	Betula pendula	28	12	2.5	2	5	3.5	2.5	MA	Good	Minor deadwood in crown.	20-40	B1	
33	Betula pendula	25	12	1.5	1.5	5	3	3	MA	Fair	Suppressed form. Minor deadwood and branch dieback in crown. Piptoporus betulinus fruiting bodies on dead branches.	10-20	C1	
34	Betula pendula	28	14	2	3	5	4	2	M	Good	Minor deadwood in crown.	20-40	B1	
35	Sambucus nigra	14	5	1.5	1	1.5	1	2.5	MA	Good		10-20	C1	
36	Betula pendula	22	12	1.5	2	4	4	3	MA	Fair	Asymmetric suppressed canopy. Minor deadwood and branch dieback in crown. Previous branch failure has occurred. Primary limbs in crown crossing.	10-20	C1	
37	Crataegus monogyna	35	8	2	3	1	3	2	M	Good	Stem is bifurcate at 1m. Minor deadwood and crossing branches in crown.	20-40	C1	

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
38	Betula pendula	20	12	2	1	4	4	4	MA	Fair	Suppressed poor form. Minor deadwood and branch dieback in crown. Previous failure of primary limb at 5m.	10-20	C1	
39	Betula pendula	39	14	2	3	4	4	3	M	Good	Minor deadwood in crown.	20-40	B1	
40	Betula pendula	20	10	0	1	4	2	4	MA	Fair	Heavily suppressed specimen of poor form. Deadwood and branch dieback throughout crown.	10-20	C1	
41	Sambucus nigra	10	4	0.5	1	1.5	1	1.5	Y	Fair	Suppressed specimen.	10-20	C1	
42	Betula pendula	34	14	3	4	4.5	4	3	M	Good	Minor deadwood in crown.	20-40	B1	Ivy on stem and around base of tree restricts inspection.
43	Betula pendula	14	8	0	2	2	0	3	Y	Poor	Heavily suppressed specimen of poor form. In decline with crown dieback evident.	<10	R	
44	Acer pseudoplatanus	11	6	1.5	1.5	2	0.5	2	Y	Fair		20-40	C1	
45	Acer pseudoplatanus	9	5	1	1	1.5	0.5	2	Y	Fair		20-40	C1	
46	Betula pendula	23	10	1.5	4	4	4	2	MA	Fair	Minor deadwood and branch dieback in crown. Suppressed form.	20-40	B2	Ivy on stem and around base of tree restricts inspection.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
47	Betula pendula	18	10	2	2	3	3	3	MA	Fair	Minor deadwood and branch dieback in crown. Suppressed form.	20-40	B2	Ivy on stem and around base of tree restricts inspection.
48	Betula pendula	34	12	2	3	3	3	2	MA	Fair	Previous failure of main stem where previously bifurcate at 3m has occurred.	20-40	C1	Ivy on stem and around base of tree restricts inspection.
49	Betula pendula	20	12	1	2	4	0	5	MA	Fair	Heavily suppressed specimen of poor drawn form. Deadwood and branch dieback evident in crown.	20-40	C1	Ivy on stem and around base of tree restricts inspection.
50	Acer pseudoplatanus	30	12	2	4	2	5	2	M	Good	Suppressed asymmetric form.	20-40	B2	Ivy on stem and around base of tree restricts inspection.
51	Acer pseudoplatanus	28	12	4	5	5	0	2	M	Good	Suppressed asymmetric form.	20-40	B2	
52	Betula pendula	20	10	0.5	3	2	4	1	MA	Fair	Heavily suppressed specimen of very poor form biased to the south-west. Minor deadwood in crown.	10-20	C1	Ivy on stem and around base of tree restricts inspection.
53	Betula pendula	26	10	1	5	4	4	3	MA	Good	Significant stem bark wounding. Asymmetrical form.	20-40	B2	Ivy on stem and around base of tree restricts inspection.
54	Betula pendula	23	10	2	2	4	4	2	MA	Fair	Minor deadwood and branch dieback. Previous failure of primary limb / upper stem has occurred.	10-20	C1	Ivy on stem and around base of tree restricts inspection.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
55	Betula pendula	26	12	2.5	2.5	3.5	3	2.5	MA	Fair	Minor deadwood	20-40	B2	
56	Betula pendula	30	12	2.5	3	4	3	1.5	M	Fair	Minor deadwood in crown. Previous branch failure has occurred at included bark union and multiple branches are re-growing from this point.	20-40	B2	Ivy on stem and around base of tree restricts inspection.
57	Crataegus monogyna	27	8	1	2	2.5	2	0	MA	Good	Multi-stemmed at base. Crossing branches in crown.	20-40	C1	
58	Betula pendula	36	14	3	4	4	3	2	M	Fair	Minor deadwood and branch dieback in crown.	20-40	B2	Ivy on stem and around base of tree restricts inspection.
59	Acer platanoides cv	9	4	1	1	1	1	2	Y	Good		20-40	C1	Visual inspection of tree stem and base restricted by vegetation.
60	Acer platanoides cv	11	6	1.5	1	1	1	2	Y	Good		20-40	C1	Visual inspection of tree stem and base restricted by vegetation.
61	Betula pendula	14	7	1.5	1.5	1.5	1	2	Y	Good		20-40	C1	Visual inspection of tree stem and base restricted by vegetation.
62	Acer platanoides	12	6	1.5	1.5	1.5	1.5	2	Y	Good		20-40	C1	Visual inspection of tree stem and base restricted by vegetation.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
63	Betula pendula	6	3	1	1	1	1	1	Y	Good		20-40	C1	Visual inspection of tree stem and base restricted by vegetation.
64	Acer platanoides cv	13	6	1	1.5	1.5	1	2	Y	Good		20-40	C1	Visual inspection of tree stem and base restricted by vegetation.
65	Acer platanoides	17	8	2	1.5	2	2	2	Y	Good		20-40	B1	Visual inspection of tree stem and base restricted by vegetation.
66	Acer platanoides	18	8	1.5	2	2	2	2	Y	Good	Stem wound at 3m at point of previous failure at included union.	20-40	B1	Visual inspection of tree stem and base restricted by vegetation.
67	Fagus sylvatica	13	7	2	1.5	2	1	1.5	Y	Good		40+	C1	
68	Fagus sylvatica	14	8	1.5	2	1	2	2.5	Y	Good		40+	C1	
69	Betula pendula	56	15	4.5	3.5	4.5	3.5	3	M	Good	Stem is trifurcate at 1.5m. Minor deadwood in crown.	20-40	B1	Ivy restricts detailed inspection.
70	Betula pendula	25	12	2	3	3	2	2.5	MA	Good		20-40	B1	Ivy restricts full inspection.
71	Betula pendula	44	14	5	5	4	4	3	M	Good	Minor deadwood in crown. Stem is bifurcate at 1.6m.	20-40	B1	
72	Acer platanoides	23	9	2.5	2.5	2	2.5	0	MA	Good	Minor epicormic growth at base.	20-40	B1	Potential to develop into category A tree.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
73	Acer platanoides	22	9	3	2.5	3	3	2.5	MA	Good		40+	B1	Potential to develop into category A tree.
74	Acer platanoides	26	9	1	3	2.5	2.5	2.5	MA	Good		40+	B1	Potential to develop into category A tree.
75	Acer pseudoplatanus	27	9	4	4	4	4	2	MA	Good	Minor deadwood and pruning stubs in crown. Trifurcate at 2m.	40+	B1	
76	Sorbus aria	23	6	2.5	3	2.5	3	2	M	Good	Major stem bark wounds between ground level and 1.5m affecting 50% of stem circumference.	10-20	C1	
77	Acer platanoides	26	9	2	3	2.5	2.5	2	MA	Good	Epicormic growth at base.	40+	B2	Ground around tree appears to be compacted due to pedestrian traffic.
78	Acer platanoides	27	9	2	2	2.5	2.5	1.5	MA	Fair	Epicormic growth at base.	40+	B2	Ground around tree appears to be compacted due to pedestrian traffic.
79	Acer platanoides	22	9	3	2	2	2	2	MA	Fair	Stem bark wounds.	40+	B2	Ground around tree appears to be compacted due to pedestrian traffic.
80	Acer pseudoplatanus	24	9	3.5	3.5	1	3	2	MA	Fair	Numerous small stem bark wounds. Suppressed asymmetrical canopy.	40+	B2	Ground around tree appears to be compacted due to pedestrian traffic.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
81	Acer pseudoplatanus	17	7	1.5	2.5	1.5	2.5	2	MA	Fair	Epicormic growth at stem base.	20-40	B2	
82	Acer pseudoplatanus	25	9	2.5	4	3	4	2	MA	Fair	Epicormic growth at base.	20-40	B2	
83	Acer pseudoplatanus	27	10	4	3	3	4	2	MA	Fair		20-40	B2	
84	Crataegus monogyna	16	6	3	3	1	2	0	MA	Fair	Epicormic growth at base. Suppressed asymmetrical canopy. Crossing branches in crown.	20-40	C1	
85	Sorbus aria	30	9	2.5	3	2	2.5	1.5	M	Good	Minor deadwood and pruning stubs in crown.	10-20	C1	Ground around tree appears to be compacted due to pedestrian traffic.
86	Prunus sp.	11	4	1	1	1	1	1.5	Y	Good		20-40	C1	
87	Fagus sylvatica	22	9	2	2	2	2	1	MA	Good		40+	B1	Good potential to develop into category A specimen.
88	Acer platanoides	21	9	3	2	3	3	2	MA	Good		40+	B1	
89	Acer platanoides	20	9	2	3	3	2	2	MA	Good		40+	B1	

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
90	Acer platanoides	18	9	2	3	2	3	2	MA	Good		40+	B1	
91	Dead	8	4	0	0	0	0	0	Y	Dead	Dead standing tree	<10	R	
92	Acer platanoides cv	12	5	1	1.5	1	1.5	2	Y	Fair	Stem bark wounds between ground level and 0.5m.	10-20	C1	Within concrete area.
93	Acer platanoides cv	8	5	0.5	1.5	1	1	2	Y	Fair	Broken branches and branch dieback in crown. Declining condition.	<10	R	Planted within concreted area.
94	Acer platanoides cv	7	5	1	1	1	1	2	Y	Fair	Stem bark wounds between 0.5 and 1m.	10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
95	Acer platanoides	15	6	2	2.5	3	2	2	Y	Fair		10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
96	Acer platanoides	17	6	2	2	2.5	2	2	Y	Fair		10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
97	Acer platanoides cv	7	5	1	1	1	1	2	Y	Fair	Major stem bark wounds.	10-20	C1	

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
98	Acer platanoides	20	7	2	2.5	3	2.5	2	MA	Fair		10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
99	Acer platanoides	17	7	2.5	2	2.5	1.5	2	MA	Fair	Stem bark wound at 0.2m	10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
100	Acer platanoides	8	3	1	2	1	1	1.5	Y	Fair	Crown dieback.	10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
101	Acer platanoides	10	5	2	1	2	2	2	Y	Fair		10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
102	Acer platanoides	10	3	1	1	1	1	1	Y	Fair	Major stem wounds from ground level to 1.3m	10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.
103	Acer platanoides	7	3	1	0.5	0.5	1	2	Y	Fair	Major stem wounds from ground level to 1m.	<10	R	

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Tree Number	Species	Diameter at 1.5m (cms) *	Height (m)	Crown Spread (m)				Canopy Height Above Ground Level (m)	Age Class	Physiological Condition	Structural Condition	Estimated Remaining Contribution (years)	BS Category Grading	Comments
				North	South	East	West							
104	Acer platanoides	14	6	1.5	2.5	2.5	1.5	2.5	Y	Fair	Stem wounds at ground level to 0.5m.	10-20	C1	Planted within concrete area with little available space for gaseous exchange and moisture infiltration.

* Where the tree is multi stemmed below 1.5m the diameter is the girth above the root flare, measured or estimated

Group Data - ASDA, Barnsley

Group Number	Dominant Species	Lesser / Individual Species	Diameter at 1.5m (cms)	Ave Height (m)	Age	Average Spread (m)	Physiological Condition	Structural Condition	Condition/Comments	ULE (years)	BS Category
1	Crataegus monogyna Sorbus aucuparia Acer platanoides		25	10	MA	10	Good		Hawthorn is Multi-stemmed. Norway Maple is 30cm diameter, Rowan 25cm.	20-40	B2
2	Crataegus monogyna	Acer pseudoplatanus Corylus avellana	25	8	MA	5	Fair	Most are Multi-stemmed.	Group of 9 Hawthorn, 1 Sycamore and 1 Hazel. Single stemmed trees are <15cm diameter.	20-40	C2
3	Betula pendula		25	14	M	8	Fair		Group of 5 Birch of diameters 29, 18, 22, 26, 34cm.	20-40	B2
4	Betula pendula		20	14	MA	6	Fair	Minor deadwood in crowns. 2 trees of suppressed form.	Group of 4 Birch	20-40	B2

Group Number	Dominant Species	Lesser / Individual Species	Diameter at 1.5m (cms)	Ave Height (m)	Age	Average Spread (m)	Physiological Condition	Structural Condition	Condition/Comments	ULE (years)	BS Category
5	Sambucus nigra Crataegus monogyna Salix caprea Salix sp.		15	6	Y	4	Fair		Group of 8 trees.	20-40	C2
6	Acer campestre		12	7	Y	5	Fair	Suppressed form. Several with stem wounds.	Group of 8 Field Maple.	20-40	C2
7	Corylus avellana		60	6	Y	5	Good	Multi-stemmed	Group of 5 Hazel.	40+	B2
8	Prunus sp.		12	6	Y	3	Fair	Suppressed crowns.	Group of 3 Cherries.	20-40	C2
9	Betula pendula	Crataegus monogyna	45	15	M	10	Fair	Minor deadwood in crowns of Birch.	Group of 3 Birch of 32, 34, 45cm diameter and 1 Hawthorn of 24cm diameter.	20-40	B2

Group Number	Dominant Species	Lesser / Individual Species	Diameter at 1.5m (cms)	Ave Height (m)	Age	Average Spread (m)	Physiological Condition	Structural Condition	Condition/Comments	ULE (years)	BS Category
10	Acer platanoides Quercus robur Platanus x hispanica		12	6	Y	5	Good		Mixed group of young trees some large Norway Maple of 20 and 25cm diameter within group.	20-40	C2
11	Betula pendula Quercus robur Prunus sp.		15	8	Y	6	Fair		Mixed group of young trees within landscaped bed.	20-40	C2
12	Prunus sp. Betula pendula Acer platanoides		15	7	Y	5	Fair		Group of young trees in planting bed.	20-40	C2
13	Prunus sp. Quercus robur		17	8	Y	6	Fair	Cherries to western end of group in poor condition.	Group of young trees including one nice Oak of 22cm diameter.	20-40	B2
14	Acer campestre Alnus glutinosa Betula pendula Quercus robur		17	8	Y	4	Good		Dense group of young trees to site boundary.	20-40	B2

Group Number	Dominant Species	Lesser / Individual Species	Diameter at 1.5m (cms)	Ave Height (m)	Age	Average Spread (m)	Physiological Condition	Structural Condition	Condition/Comments	ULE (years)	BS Category
15	Acer campestre		25	8	MA	6	Fair	One specimen is bifurcate at base. Suppressed form due to adjacent trees.	Group of 3 Field Maple of 20, 25 and 35 cm (m) diameter.	20-40	C1

Key to Inspection Report Form

Species	Genus and variety
Height	Measured Clinometer Reading or Estimated Height in Metres
Girth (dbh @ 1.5m)	Diameter measured in cms, or estimated, Where multi stemmed below 1.5m the diameter is taken as that just above the root flare
Spread (m)	Canopy height estimated in metres above ground level
Canopy height (m)	Crown Spread, radius estimated in metres
Physiological Condition	Good, Fair, Poor, Dead
Age Class	Y – Young MA – Maturing (Middle Aged) M – Mature OM - Overmature V – Veteran
Useful Life Expectancy (years)	10, 10-20, 20-40, 40+
BS Categorization	See Cascade Appendices 2

Table 2

Pre-development Tree Works

Pre-development Tree Works

Tree Number	Species	Structural Condition	Recommendations
32	Betula pendula	Minor deadwood in crown.	Crown lift to provide 4.5m clearance above ground level.
33	Betula pendula	Suppressed form. Minor deadwood and branch dieback in crown. Piptoporus betulinus fruiting bodies on dead branches.	Crown lift to provide 4.5m clearance above ground level.
34	Betula pendula	Minor deadwood in crown.	Crown lift to provide 4.5m clearance above ground level.
36	Betula pendula	Asymmetric suppressed canopy. Minor deadwood and branch dieback in crown. Previous branch failure has occurred. Primary limbs in crown crossing.	Crown lift to provide 4.5m clearance above ground level.
39	Betula pendula	Minor deadwood in crown.	Crown lift to provide 4.5m clearance above ground level.
42	Betula pendula	Minor deadwood in crown.	Crown lift to provide 4.5m clearance above ground level.
55	Betula pendula	Minor deadwood	Crown lift to provide 4.5m clearance above ground level.
67	Fagus sylvatica		Crown lift to provide 2.5m clearance above ground level.
72	Acer platanoides	Minor epicormic growth at base.	Crown lift to provide 3.5m clearance above ground level.
73	Acer platanoides		Crown lift to provide 3.5m clearance above ground level.
74	Acer platanoides		Crown lift to provide 3.5m clearance above ground level.
88	Acer platanoides		Crown lift to provide 3.5m clearance above ground level.

Table 3

Tree Removal

Trees to be Removed

Tree Number	Species	BS5837 Category	Removal due to Construction	Removal due to Condition
4	Crataegus monogyna	R	No	Yes
7	Betula pendula	R	No	Yes
10	Acer campestre	C1	Yes	No
11	Acer campestre	C1	Yes	No
12	Acer campestre	C1	Yes	No
17	Salix caprea	R	No	Yes
23	Betula pendula	R	No	Yes
29	Betula pendula	R	No	Yes
30	Salix caprea	R	No	Yes
31	Betula pendula	R	No	Yes
43	Betula pendula	R	No	Yes
59	Acer platanoides cv	C1	Yes	No
60	Acer platanoides cv	C1	Yes	No
61	Betula pendula	C1	Yes	No
62	Acer platanoides	C1	Yes	No
63	Betula pendula	C1	Yes	No
64	Acer platanoides cv	C1	Yes	No
65	Acer platanoides	B1	Yes	No
66	Acer platanoides	B1	Yes	No
91	Dead	R	No	Yes
92	Acer platanoides cv	C1	Yes	No

Tree Number	Species	BS5837 Category	Removal due to Construction	Removal due to Condition
93	Acer platanoides cv	R	No	Yes
94	Acer platanoides cv	C1	Yes	No
95	Acer platanoides	C1	Yes	No
96	Acer platanoides	C1	Yes	No
97	Acer platanoides cv	C1	Yes	No
98	Acer platanoides	C1	Yes	No
99	Acer platanoides	C1	Yes	No
100	Acer platanoides	C1	Yes	No
101	Acer platanoides	C1	Yes	No
102	Acer platanoides	C1	Yes	No
103	Acer platanoides	R	No	Yes
104	Acer platanoides	C1	Yes	No

Figures

Figure 1

Tree Retention and Removal Plan

Figure 2

Tree Protection Plan

Figure 3

Tree Planting Plan

Appendices

Appendix 1

Tree Survey

(See Separate Document)

Tree Protection Fencing Specification

Protective Fencing Specifications

Since trees are living organisms which interact with their immediate environment any changes made to their surroundings may have a bearing on that trees future. Developing a site will undoubtedly place any trees within close proximity under some level of stress, which could predispose them to infection. The aim of this method statement is to limit the amount of stress induced by introducing protection measures.

The most effective way of offering protection is by erecting protective barriers set at a distance from the tree stem using the methods given within BS 5837: 2005 Trees in Relation to Construction. Barriers should be braced and constructed to resist impacts; see figures 1 & 2 below for barrier specifications.

Barriers should be erected before any works commence on site with the exception of recommended tree work. Areas of retained and future structure planting should be similarly protected.

All personnel should be made aware of the protected areas and instructed to keep them free of materials, waste and excess soil. Soil disturbance should be prohibited and travel of any kind, including foot traffic should also be excluded within the root protection area (RPA) unless previously agreed and adequate ground protection has been installed. Where foot traffic is agreed within the RPA, single thickness scaffold boards laid over a compressible material on a geotextile, or supported by scaffold should suffice. Where vehicular access through the RPA is agreed an engineer should be consulted to design adequate ground protection methods.

Suggested Barrier Specification (as per BS5837: 2005)

Figure 1

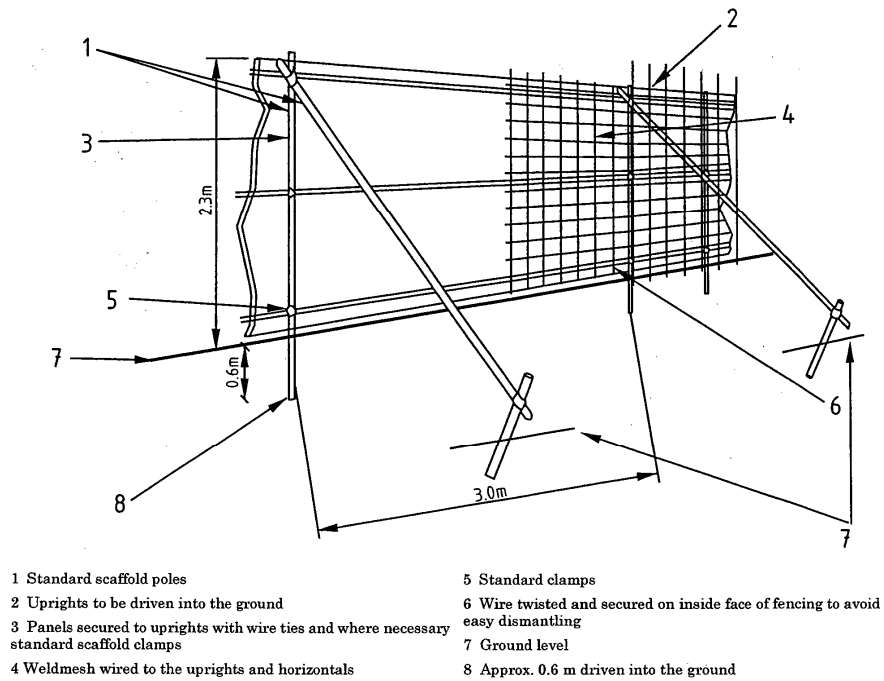
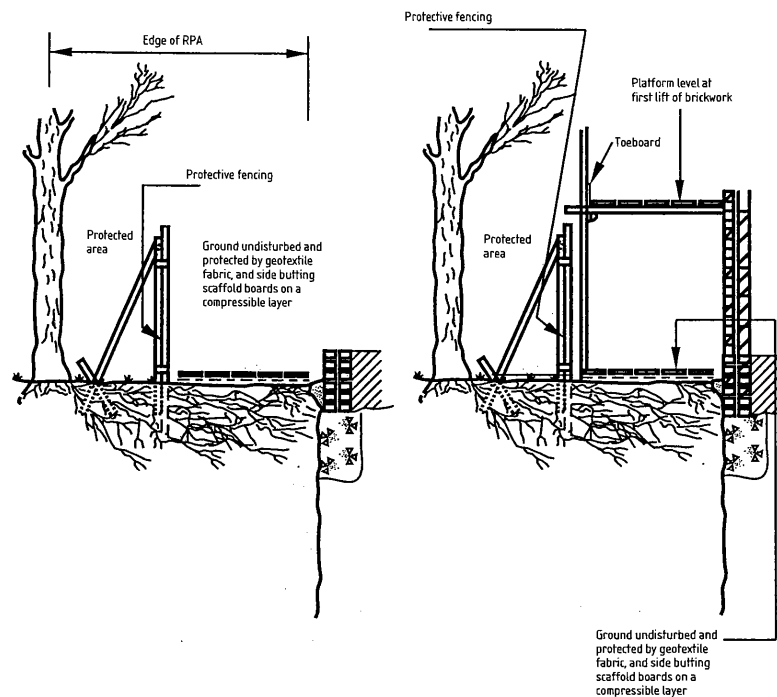


Figure 2



Appendix 3

Construction Exclusion Zone Sign



**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

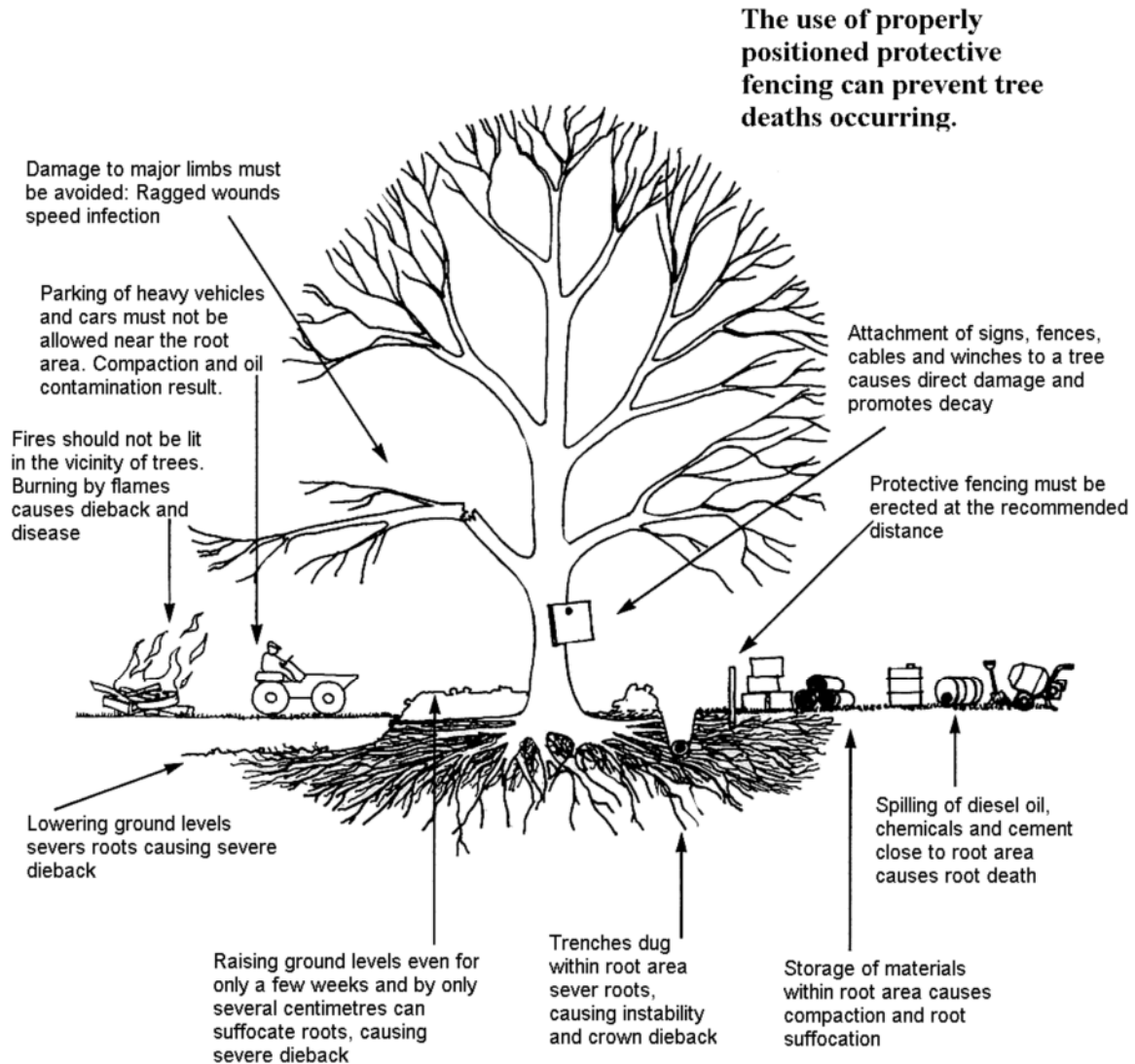
**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**

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

Appendix 4

Information Leaflet

Common causes of Tree Death



Please use copies of this as an on-site poster for personnel



Tree Planting Specification

GENERAL INFORMATION/ REQUIREMENTS

SITE CLEARANCE GENERALLY

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 75 mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation: Clear surface vegetation in areas shown on drawings using suitable non-residual herbicide.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.

SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and (excepting aquatic/ marginal planting) not waterlogged.
- Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.

TIMES OF YEAR FOR PLANTING

- Deciduous trees and shrubs: Late October to late March.
- Conifers and evergreens: September/ October or April/ May.
- Container grown plants: At any time if ground and weather conditions are favourable.

WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without damaging or displacing plants or soil.
- Frequency: As necessary to ensure establishment and continued thriving of planting.

WATER RESTRICTIONS

- General: If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, obtain instructions

on watering.

PREPARATION, PLANTING AND MULCHING MATERIALS

- General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Certification of source, analysis, suitability for purpose and absence of harmful substances.

PLANTS/ TREES - GENERAL

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
- Standard: The National Plant Specification.
- Species: True to name.
- Origin/ Provenance: British provenance.

Definition: Origin and Provenance have the meaning given in the National Plant Specification.

PLANTS/ TREES - SPECIFICATION CRITERIA

- Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification.

CONTAINER GROWN PLANTS/ TREES

- Growing medium: With adequate nutrients for plants to thrive until permanently planted.
- Plants: Centred in containers, firmed and well watered.
- Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
- Hardiness: Grown in the open for at least two months before being supplied.
- containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

- Standard: To HTA 'Handling and establishing landscape plants'.
- Frost: Protect plants from frost.
- Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Plant packaging: Black polyethylene bags.

TREATMENT OF TREE WOUNDS

- Cutting: Keep wounds as small as possible.
 - Cut cleanly back to sound wood using sharp, clean tools.
 - Leave branch collars. Do not cut flush with stem or trunk.
 - Set cuts so that water will not collect on cut area.

PLANTING TREES

TREE PITS

- Sizes: 75 mm deeper than root system and wide enough to accommodate roots when fully spread.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of 150 mm.
- Treatment: Soil ameliorant worked into pit bottoms.
- Pit sides: Scarify.
- Backfilling material: Tree backfilling material.

STAKING GENERALLY

- Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
- Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
- Stake size (minimum): 100mm diameter.

LONG DOUBLE STAKING FOREXTRA HEAVY STANDARD TREES

- Staking: Drive stakes vertically at least 300 mm into bottom of pit on either side of tree position before planting.

- Backfilling: Consolidate material around stakes.
- Height of stakes: Cut off just below lowest branch of tree.
- Cross bar: Submit proposals.
 - Firmly fix on windward side of tree and as close as possible to stem.
- Ties: Adjustable ties.
- Tying: Secure tree firmly but not rigidly to cross bar.

TREE BACKFILLING MATERIAL

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required.
- Ameliorant/ Conditioner: Sanitized and stabilized compost.
 - Application rate: To manufacturer's/ supplier's recommendations.
- Fertilizer: Slow release.
 - Application rate: To manufacturer's/ supplier's recommendations.

MULCHING TREES

- Material: Coarse grade bark mulch.
 - Purity: Free of pests, disease, fungus and weeds.
 - Recycled content: 0% (minimum) to BS EN ISO 14021.
- Preparation: Clear all weeds. Water soil thoroughly.
- Coverage: In a circular area of 500 mm radius measured from the tree stem.
- Finished level of mulch: 70 mm depth.

TREE PROTECTION

- Manufacturer: Contractor's choice.
- Type: Spiral.
- Material: Plastic.
- Size: Contractor's choice.
- Colour: Transparent.
- Support: None Required.
- General: Ensure that protection methods do not impede natural movement of trees or restrict growth.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

MAINTENANCE

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the defects liability period.
- Frequency of maintenance visits: Contractor's choice.

FAILURES OF PLANTING

- Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - Exclusions: Theft or malicious damage after completion.
 - Rectification: Replace with equivalent plants/ trees/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Timing of making good: During the next suitable planting season.

CLEANLINESS

- Soil and arisings: Remove from hard surfaces and grassed areas.
- General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
 - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds: By hoeing.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Staking: Check condition of stakes, ties, guys and guards.
 - Broken or missing items: Replace.
 - Rubbing: Prevent.
 - Ties: Adjust to accommodate growth.
 - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - Frequency of checks: At each scheduled maintenance visit.

- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.

PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: As appropriate to the species.
 - Trees: Favour a single central leading shoot.
- Arisings: Remove.

FINAL MULCHING

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Trees: Remulch. Depth (minimum): 75 mm.