

**ARBORICULTURAL IMPACT ASSESSMENT
AND
ARBORICULTURAL METHOD STATEMENT**

Site Address: **Zipworld, Heaton Park, Manchester M25 2GT**

Date: **2ND February 2025**

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1. Introduction

1.1 Terms of reference

- 1.1.1 The contents of this report are based on established arboricultural principles and it has been produced in accordance with guidance contained in the relevant sections of BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.
- 1.1.2 The purpose of this document is to demonstrate to the local planning authority (LPA) that the proposed changes can be implemented, whilst retaining and adequately protecting valuable tree assets of importance to the amenity and character of the local area.
- 1.1.3 The arboricultural method statement has additionally been compiled to act as a code of practice for the client, architect, construction contractors and ground workers. In this regard it provides information pertinent to the protection and successful retention of selected trees on or adjacent to the proposed development site.
- 1.1.4 I have carefully considered the site and trees which may be impacted upon by the proposed installation and construction works and in the following documents I have provided guidance regarding the trees on site.
- 1.1.5 As a first stage, a tree constraints assessment was carried out to assist in planning the installation activities. This seeks to guide a sustainable balance between the needs of realising the site development, without compromising the current and future health and stability of higher value trees identified for retention.
- 1.1.6 The contents of this arboricultural method statement or parts of it can be directly cited or referred to by the LPA within any conditions attached to the granting of the consent for the proposed works. Such conditions would form legal constraints to construction and associated activities on the site and must therefore be strictly adhered to.

1.2 Instructions received

- 1.2.1 Instructions were issued by Tom Kenny, General Manager, to prepare an impact assessment and method statement for the installation of some new tube activities. Plans of the proposed installation were made available and as a result, an arboricultural impact assessment and an arboricultural method statement were developed.

1.3 Site description

- 1.3.1 The application site is part of the existing ropes and net course development, which have been on this site for many years. The site has several hundred predominantly deciduous trees, comprising mainly of ash and beech. Most of the ash trees are heavily infected with Ash Dieback Disease (*Hymenoscyphus fraxineus*). In addition, several of the beech are infected with *Ganoderma adspersum*. Many of the trees are growing in close proximity to each other therefore the crowns are very small and the trunks, thin and etiolated.
- 1.3.2 The site is situated within the larger area of Heaton Park and gardens. The site is owned by Manchester Council.
- 1.3.3 Because of the existing ropes and net course, the trees are inspected each year by a fully qualified and experienced arboriculturalist. As a result, the majority of the trees within the designated area have been tagged for ease of identification. Within the site there are several large mature trees, predominantly beech. The trees on site were recently inspected and recommendations made for their management in light of the proposed works. These recommendations were predominantly focused on removing the heavily diseased ash trees as these present a major hazard to users of the facility.

1.4 Proposals

- 1.4.1 The proposal is to install a series of tube slides within the existing net course area.

1.5 Documents and information provided

- 1.5.1 The trees were surveyed and recorded in a report. A copy of the report can be found at **Appendix 3**

1.6 Local Planning Authority tree protection and development control

- 1.6.1 Trees represent an important part during the planning, demolition and construction process and their presence and any work required to them, including their removal, must be taken into account by the LPA, irrespective of any formal protection measures being in place.
- 1.6.2 The site is not located within a designated Conservation Area. Therefore an application for tree works will not need to be made to the LPA.

- 1.6.3 For trees covered by a TPO, a written application detailing the proposed works would need to be submitted to the issuing authority. The determination process takes up to 8 weeks.
- 1.6.4 However, it is worth noting that work required to protected trees as part of a planning consent does not, in the main, need to go through the above procedure. In most circumstances, the formal planning process supersedes this.
- 1.6.5 Notwithstanding the above, it is important to note that damaging or removing trees or vegetation features that are to be retained as part of the planning conditions, can result in enforcement action by the LPA.

2. Arboricultural Constraints Appraisal

2.1 Site inspection and tree survey

- 2.1.1 Trees growing within and immediately adjacent to the proposed installations on site, which might be affected by the works, were inspected. Observations were made from ground level and no samples of vegetation, soil or any other matter were taken.
- 2.1.2 The tree heights were estimated but the tree diameters were measured using a rounded down diameter tape and RPA's (root protection areas) calculated using this information.
- 2.1.3 The position of these trees was then used as a basis to produce the Arboricultural Method Statement, shown at Appendix 5. Full details of the trees inspected are given in the tree survey schedule at Appendix 3.

2.2 Constraints assessment

- 2.2.1 As part of the survey exercise, individual trees were assigned a quality category. These are recorded as A, B, C or U and is based upon BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

2.2.2 Category A

These are trees that are particularly good examples of their species, or essential components of groups of such trees. They could also be categorised for their scarcity, or significant conservation value, historical or commemorative value. Such trees would, in most circumstances, need to be retained and considered as a constraint on development. With careful protection before, during and immediately after the development process, they should be expected to have a long life expectancy and make a continued

sustainable contribution to the local amenity. There were no trees in this category.

2.2.3 Category B

These are trees that are downgraded from category A because of impaired condition. However, such trees are still viewed as being of good quality and require careful consideration in relation to development proposals. Within the ropes and net course area, there are currently 63 trees in this category.

2.2.4 Category C

Trees of lower quality and amenity value and/or limited life expectancy as compared to trees placed in higher categories, as well as palms, significant shrubs and hedges are included in this category. Only in certain circumstances would category C trees be considered for retention. However, in all cases, the retention of category C vegetation features would need to be exceptional before it would pose a significant constraint to site development. Within the ropes and net course area, there are currently 28 trees in this category.

2.2.5 Category U

These are trees, which due to their current condition, are of poor quality and/or have a very limited life expectancy and should be removed for reasons of safety and/or sound arboricultural management. 15 trees fall into this category. They are predominantly heavily infected ash trees, but also include 2 beech trees which are infected with Ganoderma.

A total of 106 individual trees were inspected on the site but most of these are not impacted upon by the proposed installation.

2.3 Trees for removal and retention

2.3.1 None of the trees are of sufficiently high quality or rarity to preclude the development. The RPA's of all the trees are within the current ropes course and net course area. Because of their proximity to each other, many of the RPA's overlap.

2.3.2 Apart from the trees which need to be removed for safety reasons, no other trees need to be removed in order to allow the installation to proceed.

2.4 Retained trees as constraints to site development – root protection areas

- 2.4.1 There are no constraints to the site development. If there were, then BS 5837:2012 would be used as a guide to ascertain the appropriate protective distance necessary between the proposed construction and trees to ensure their successful protection and long-term retention in proximity to development. However, as there will be no vehicles on site (no compaction) and no excavations necessary, there will be no damage to any root systems. The system will be put in place using a screw system (see appendices) which will minimise any potential damage to the roots.
- 2.4.2 For single stem trees, the RPA should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter. For trees of more than one stem, calculation methods are provided on page 10 of BS 5837:2012. In all cases, the stem diameters should be measured in accordance with Annex C and the RPA determined from Annex D. The relevant distances have been determined by using the table in Annex D (page 40) within the BS document.
- 2.4.3 The root protection area (RPA) would normally be shown as a radius from the centre of each tree stem, with the canopy branch spreads plotted in the directions of the four cardinal points of the compass. However, because most of the trees are so close together, in effect, the whole area becomes a RPA and as most of the crowns are also very small and misshapen, due to the proximity of neighbouring trees, they form one overall canopy. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution. As some of the trees are growing close together their roots will not have too great a spread and those at the edge will have roots entangled with neighbouring trees. For the trees within the groups, individual RPA's are not particularly relevant and an RPA for the outer trees will be more appropriate when considering the development.
- 2.4.4 Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system:
- a) the morphology and disposition of the roots, when influenced by past or existing site conditions e.g. the presence of roads, structures, and underground services.
 - b) Topography and drainage
 - c) The soil type and structure
 - d) The likely tolerance of the tree to root disturbance or damage based on factors such as species, age, condition and past management.
- 2.4.5 Demolition and removal of below ground structures within RPA's can cause root severance and damage. Similarly, other excavations such as those required for traditional concrete foundations can also create root severance and damage. If practicable, it is advisable for

all such activities to be kept outside of tree RPA's. However, in certain circumstances, access and special construction techniques may be permitted within the RPA, but the validity of this approach needs to be clearly justified to the LPA. As such, this requires considered design and working practices. In this instance, this is not a factor which needs to be considered.

- 2.4.6 Due to the condition of some trees and their proximity to the proposed installation, before installation works can begin, trees which are recommended for removal on safety grounds will need to be removed.

2.5 Conclusion

- 2.5.1 There are no arboricultural constraints to this installation taking place.

3 Arboricultural Impact Assessment

3.1 Potential impacts upon retained trees

3.1.1 As stated earlier, trees which have been identified for removal on safety grounds can be removed therefore there will be no impact upon these trees as none are to be retained.

3.1.2 As there will be no vehicle use or excavation within the construction area, there will be no impacts upon the retain trees.

3.1.3 The usual conditions regarding protecting tree trunks will apply and details of this are provided in Appendix 4.

3.2 The general need for protective measures around trees

3.2.1 This refers to development sites in general and not specifically to this particular site. There are numerous construction related activities that can cause damage to trees on development sites. However, the compaction of soil within tree RPA's represents the principle cause of avoidable long-term damage.

3.2.2 To function effectively, roots require oxygen, water and nutrients and room to grow. Under normal conditions they use spaces between soil particles for these purposes. Day to day construction activities and in particular the use of self-propelled plant and machinery, compresses the soil pushing out the air spaces between soil particles, and severely limits or prevents proper root function.

3.2.3 Once damaged in this way a soil will stay compacted and roots will suffocate and die. The affected soil is no longer a viable resource for the tree. As a direct consequence, affected trees will start to die-back, although

symptoms may not appear for some time – often after the development has finished and the site is occupied by new owners.

3.2.4 Root damage can be prevented by the timely installation of appropriate protective measures – usually protective fencing and temporary ground protection, which will prevent access to, or protect underlying soil close to trees.

3.2.5 To be most effective, these measures **must** be installed as a primary site task before any construction or related activities (demolition) are commenced.

3.2.6 The attached diagram illustrates the common causes of tree damage on development sites which must be avoided. Copies of this should be displayed in prominent positions in the site office and/or preferably laminated and secured to the protective fencing.

3.2.7 The tree protection measures specified in section 4 of this report will likely form a condition of planning approval and **must** be maintained for the duration of the project. **Their unauthorised removal or re-positioning will be a breach of planning conditions and may lead to enforcement action by the local authority.**

3.4 Procedures for excavations within tree RPA's

3.4.1 The following procedures which comply with the guidance given in Chapter 7 and Chapter 8 of BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations and also given at Appendix 5, **must** be strictly adhered to:

- All excavations within RPA's **must** be undertaken by manual methods using hand tools only.
- Under the direct supervision of a qualified arboriculturalist, **all** such excavations **must** be undertaken using a pick or digging fork to loosen the exposed spoil. If considered appropriate, soil should then be cleared from around any exposed roots using a suitable compressed air tool such as a soil pick or air spade.
- Exposed roots will be assessed as they are encountered. All those of less than 25mm diameter will be cleanly cut back to a suitable point with sharp secateurs and removed. In the unlikely event that roots of a greater size are encountered these **must** be carefully retained and their condition, likely origin and the significance of their removal assessed by the arboriculturalist who will decide on an appropriate course of action.

3.5 Provision of services

3.5.1 At this stage, the access for services and drainage are unknown, however, they are likely to follow any existing services and drainage. Any new

drainage systems and services must be situated outside of any Root Protection Areas.

3.5.2 However, should a need for any additional below ground services be identified at a later stage, and in order to eliminate root damage in retained trees, the routing of all such services and foul/roof water drainage **must** be outside of defined RPA's. It will normally be a requirement to agree the finalised layout (in advance of installation) with the local authority tree officer. Where there is any conflict with the tree RPA's, all excavations and related activities **must** be undertaken in strict accordance with the guidance given at 3.4 above and **Appendix 5**.

4. Tree Protection and Management – Implementation and Phasing

4.1 General precautions

4.1.1 If not considered and properly protected, trees can be severely damaged by normal day to day construction site activities. To prevent accidents and damage (and avoid potential prosecution) the following activities **must** be prohibited:

- The setting of any fires whatsoever.
- The storage of any cementitious materials or liquids (apart from clean water) within a root protection area or within 5m of the outward edge of any such area.
- The tree root protection areas and tree protection zones **must** be considered as sacrosanct and off limits to all site staff and in particular any self-propelled machinery and plant.
- The protective fencing/temporary ground protection erected/installed to guard/protect the trees **must** on no account be moved or dismantled without the agreement of the project supervisor and/or the LPA arboricultural officer.
- No mixing of cementitious materials and mortars should take place on unprotected surfaces within defined RPA's or 5m from the outward edge of such areas.
- If these basic rules and the advice and guidance contained in this report are followed the protection and retention of selected trees on or adjacent to this site can be successfully achieved and planning conditions relating to them effectively discharged.

4.2 Order of implementation

4.2.1 The works can be divided into roughly 3 phases and supervision will be necessary to inspect and advise on the tree sensitive activities given at 4.3.

- i) Removal of trees and erection of specified tree protection measures and the fixing of warning signs on fencing, where required. These operations must be completed as a primary site task and before the commencement of any further site activities.

- ii) Site visit and certification of construction proactive measures by the arboricultural supervisor and/or local authority arboricultural officer.
- iii) **Phase 1.** – site enabling works, completion of tree works.
- iv) **Phase 2** – installation of fixing screws.
- v) **Phase 3** – construction of new activity and renovation/making good of the site, if necessary.
- vi) The protective fencing may not be removed until after phase 3 is complete and then only with the agreement of the arboricultural supervisor and/or local authority arboricultural officer.

4.3 Arboricultural supervision

4.3.1 To ensure compliance with planning conditions issued relating to the protection of trees on site, the client is normally advised to appoint an arboricultural supervisor, who holds an appropriate nationally recognised arboricultural qualification and who is acceptable to the LPA. It will be the responsibility of the client to make such an appointment

4.3.2 Supervision is recommended at the following points of works within tree RPA's:

- Approval of tree protection measures
- Execution of tree works
- Demolition of buildings/structures in close proximity to RPA's
- All other excavations within RPA's

4.3.3 A copy of this report must be available to the project team and kept on site and be freely available as a reference to those involved at all times.

4.4 Execution of tree works.

4.4.1 At this stage all trees identified for removal on safety grounds need be removed to enable the installation works to proceed.

4.4.2 All tree works must be undertaken by a qualified and adequately insured Arboricultural Association approved arboricultural contractor, in accordance with BS 3998:2010 – Tree works – recommendations.

4.5 Pre-commencement – tree protection measures are required.

4.5.1 If it were needed, all protective fencing, similar to that described in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations, must be erected as indicated on the Tree Constraints plan (**Appendix 2**), as a primary task before any further activities commence on the site. A suitable specification is given at **Appendix 4**. In addition, weatherproof warning signage should be attached to alternate panels of the fencing.

4.5.2 All the protective fencing must be removed once the construction works and renovation work are complete.

4.5.3 No requirements for any temporary ground protection have been identified at this stage. However, should a need for these arise, such measures can be achieved by laying geo-textile matting directly onto existing ground levels **without** any prior excavation or levelling a uniform layer of 100mm settled depth of compressible material, such as recycled woodchip or landscape mulch is then spread over the matting, onto which are laid abutted scaffold boards or heavy grade plywood to form a safe, level working surface.

4.5.4 Exterior construction gangways should follow a similar specification and both methods are depicted at **Appendix 4**.

4.5.4 Please note that prior to implementing any changes to the specified measures and procedures, further arboricultural advice should be sought, and such a variation will also require the prior approval of the LPA tree officer.

4.6 Site compound, storage and mixing areas

4.6.1 Cementitious materials are extremely toxic to roots and spillage from mixing and transporting these materials across a site can cause long-term contamination of underlying soil, poison roots and impeded the growth of grass, trees and shrubs. As such it is important to restrict such activities to established hard surfaces or areas well outside tree RPA's.

4.6.2 Cementitious materials and mortars **must** be mixed within designated areas. If there is any risk of contamination from mixing run-off draining into the RPA's, then heavy duty plastic sheeting and sand bag walls must be used to contain spillages – please refer to Appendix 4.

4.6.3 Any such material dropped onto the ground during construction **must** be immediately collected up and removed and the area washed down with clean, fresh water.

4.7 Post construction

4.7.1 As previously mentioned, upon completion of all construction activities, the protective fencing and any temporary ground protection may be carefully removed. However, to avoid any misunderstandings, it is advisable to give reasonable notice to the LPA tree officer prior to commencement.

5 Conclusions

5.0.1 Whilst no trees need to be removed to allow for the construction, there are trees that need to be removed for safety reasons and it will be easier to remove these before construction begins.

5.0.2 The tree survey indicates that with the current planned construction there are no tree mitigations to prevent the works on site, once the recommended tree removals are carried out and site protection measures taken.

Steve Maros – Arboricultural Manager

MA; BSc (Hons) Arb; BA (Hons)

APPENDICES

- 1. Experience and Qualifications**
- 2. Tree Constraints and Protection Plans**
- 3. Tree Survey Schedule**
- 4. Tree Protection Measures**
- 5. Arboricultural Method Statement (summary)**
- 6. Root Protection Areas for trees in the development area**

Appendix1 Experience and Qualifications

Steve Maros has over 45 years' experience in relation to arboriculture and horticulture, including 15 years as a senior lecturer and Head of Horticulture at Kingston Maurward College.

He has worked for several local authorities, including Milton Keynes Development Corporation, Tower Hamlets Borough Council, Hackney Borough Council, Westminster City Council and Woking Borough Council.

Steve is currently Arboricultural Manager for Dorset Council where he and his team manage Dorset Council's tree-stock on highways, in schools, libraries, adult service centres and other DC owned properties. In addition, they undertake work on behalf of several town and parish councils.

Steve holds a variety of qualifications in several disciplines, including:

MA in Human Resource and Strategic Management
BSc (Hons) in Arboriculture
BA (Hons) in Public Sector Studies

Steve is LANTRA certified to inspect trees at a professional level. He is QTRA registered. He is an associate member of the Arboricultural Association.

Limitations of use:

This report is for the sole use of the client and was produced in line with the terms of reference and is based upon the processes outlined in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. It should not be used for any other purposes or by any other parties without the permission of the author and client.

Appendix 2 Tree Constraints and Protection Plans

Tree Constraints are detailed above and protection plans are not required as the new installation will take place in amongst the existing ropes and net course with no vehicular or machinery access. There will be no excavations taking place.

Appendix 3 Tree Survey Schedule

Please see attached.

Appendix 4 Tree Protection Measures

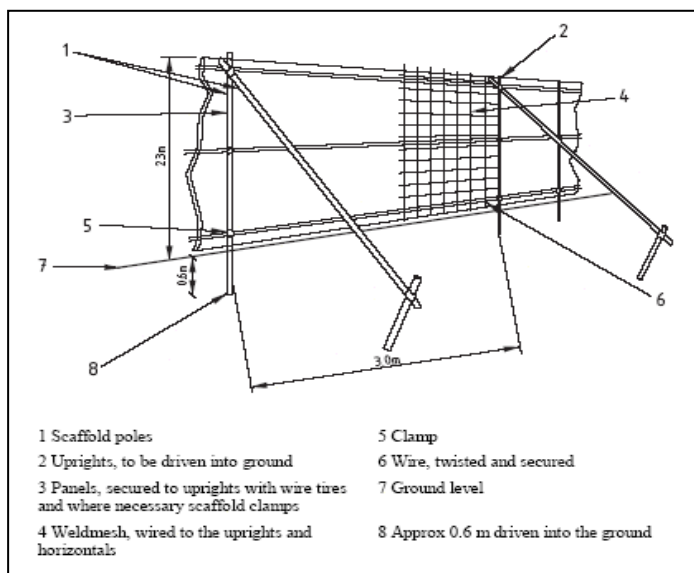
Tree Protection Details:

Protective fencing, if required, should be erected before any construction commences on site. It should also be in position to protect important trees prior to demolition.

Protective fencing should stay in position until all construction activity has finished.

'Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around retained trees. On all sites special attention should be paid to ensuring that barriers remain rigid and complete.' BS 5837 para 9.2.1.

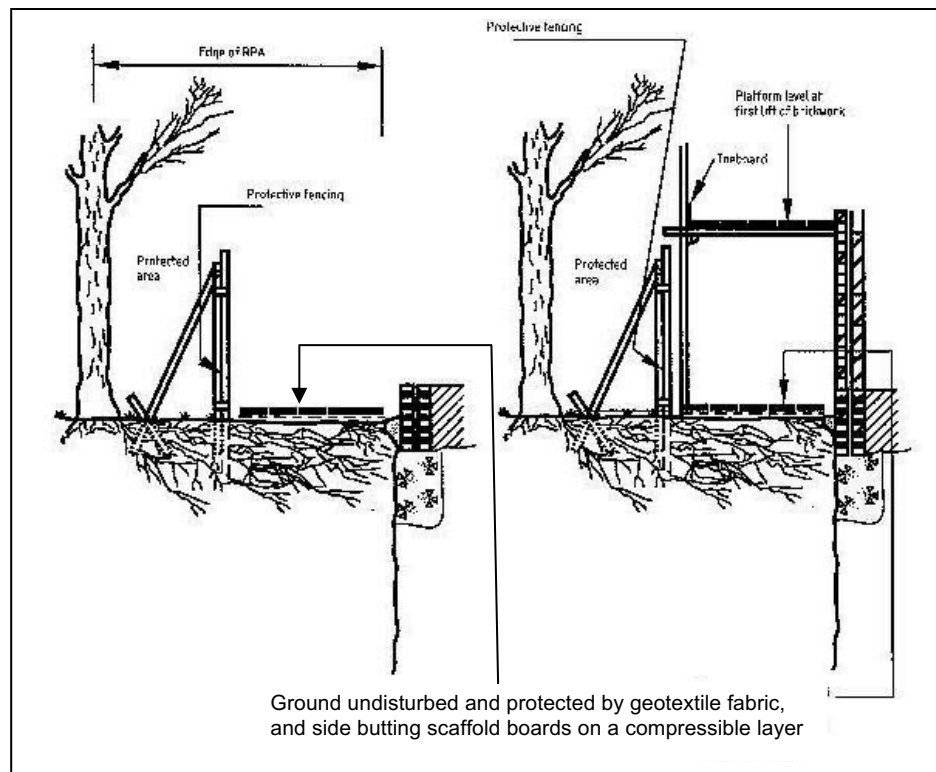
Fencing should be established at the minimum distance set out in British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations', or a greater protective distance should be provided. Excavations should not encroach to the fence position and it is appropriate to keep at least 0.5m between the fence and any changes in level.



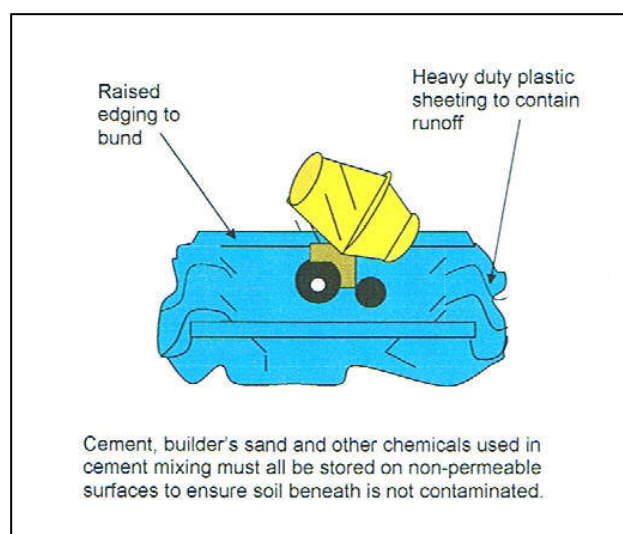
1. Scaffold poles
2. Uprights, to be driven into ground
3. Panels, secured to uprights with wire ties and where necessary scaffold clamps
4. Weldmesh, wired to the uprights and horizontals
5. Clamp
6. Wire, twisted and secured
7. Ground level
8. Approximately 0.6m driven into the ground



Where ground protection measures are necessary they can be provided by laying a geotextile mat onto the existing ground level and adding to this compressible materials, such as bark mulch or sharp sand to form a safe, level surface. Onto this surface is laid scaffold boards which become the working surface for the duration of the construction phase.



Illustrative bunding of cement mixing area





Appendix 5 Arboricultural Method Statement (summary)

Arboricultural Method Statement – Heaton Park, Manchester

Tree surgery/felling
Fifteen trees will require felling for safety reasons prior to the construction taking place.
Tree Protection Fencing
This will not be required as the area is already fenced off and there will be no vehicular access. The same applies to machinery. As there will be no excavation necessary, there will be no reason for machinery to be on site.
Ground Protection
- None will be required. But, should ground conditions deteriorate due to excessive rain, then some form of ground protection may be necessary.
Foundation Excavations
N/A
General tree protection measures
- Vehicle access must be prohibited within any tree root protection areas. - Cranes should only be used where there is no possibility of them damaging overhanging branches. - No fires are to be set within the site. - Cement mixing is to be carried out in designated locations only. No cement mixing is allowed near trees or within RPA's.. - Trees should not be used as an end stop for leaning paving slabs against after lifting, nor for security chaining of machinery
Siting of Storage Area and Contractor's Compound
- No materials or temporary buildings are to be stored within any tree protection zone. - All materials will be stacked and stored within designated areas outside tree protection zones. - Site office and worker facilities will be positioned away from any tree protection zone.
Demolition
N/A.
Excavations close to trees / hedges
No excavations will be needed within the RPA's of trees.
Installation of new parking areas
N/A
Installation of path
N/A
Removal of existing driveway
N/A
Supervision

- Before construction commences on site the arboricultural supervisor will be notified and the process outlined above is to be agreed with the constructors.

Appendix 6 – Root Protection Areas

This information is to be found in the tree inspection schedule at Appendix 3.