

# **Site: Tree Impact Report**

***Project: North Manchester General Hospital, Manchester, M8 5RN***

**‘BS 5837 2012: Trees in Relation to Design, Demolition and Construction – Recommendations’**



**ROWBOTTOM'S TREE SERVICES LTD**

***INDEPENDENT ARBORICULTURAL CONSULTANCY***

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***North Manchester General Hospital, Central Drive, Manchester, M8 5RN:***

Following our recent pre-development survey and appraisal of trees on and adjacent to the above site; (ref WJR/07082020 dated 7<sup>th</sup> August 2020), it is apparent that the proposed office building and infrastructure work is likely to affect a number of the existing trees.

This follow up report is an arboricultural impact assessment of the office building and infrastructure proposal, together with an arboricultural method statement (AMS) for working within tree root protection areas (RPA).

The report and associated plans have been produced for the sole purpose: - to accompany the above planning submission.

- 1.1** The design of the temporary office building (south of Ellis Drive and west of Eyam Road) together with its associated infrastructure will require overlap of the calculated root protection areas (RPA) of some of the existing trees. This report is an assessment of the possible affect such overlap may have on tree health, recommendation for tree removal to facilitate the design and an arboricultural method statement to mitigate any negative affect on trees that are to be retained.
- 1.2** I have undertaken this arboricultural impact assessment following the guidance and recommendations of; ‘BS 5837: 2012 Trees in Relation to Design, Demolition and Construction-Recommendations’.
- 1.3** The proposed temporary office building will be located on existing hard standing land, but will require three category C trees and one category U tree within G1 to be removed. The remaining rowan and elder trees within this group are to be retained, see photo 001 at appendix 2.
- 1.4** The associated infrastructure will require a pedestrian footpath to link the building with car parking areas to the north of the site. Also proposed are underground utility services to link necessary equipment to the building from a nearby pump station. Both of these will require overlap of the RPA of trees; G148, T30, T31, T32, T145, T146, G147, T33 and T34.
- 1.5** The following method statement sets out the necessary arboricultural requirements to facilitate the office building, footpath and the underground utilities.

## 2 RECOMMENDATIONS: Arboricultural Method Statement;

- 2.1 To facilitate the design proposals (Sheppard Robson dwg No 6512-SRA-E1-XX-DR-A90201 P02) there will be a requirement to remove the following trees; the ash trees and goat willow trees within G1, T145 and T146.

Prior to any other activity on the site the following arboricultural works should be undertaken.

**Table 1 Tree works:**

| Tree                                             | Tree Work                                                | Priority                      |
|--------------------------------------------------|----------------------------------------------------------|-------------------------------|
| Ash and Goat Willow trees within G1, T145 & T146 | Fell to ground level and grind out the remaining stumps. | Prior to any other site works |

- 2.1.1 All the recommended tree works should be of a standard that is in accordance with BS 3998:2010 Tree Work-Recommendations. All the arboricultural work on this site should be undertaken by an arboricultural contractor who is able to comply with the above BS standard. The arboricultural contractor should hold public liability insurance to a minimum of £5 million and employer's liability insurance as required by law. The arboricultural contractor should be able to show competency by means of relevant certification and health and safety policy. Suitable arboricultural contractors can be sourced from the Arboricultural Association approved contractor list or the Local Planning Authority occasionally has lists of competent contractors.
- 2.1.2 The advised tree works within this report are recommended in order to facilitate the proposed office building and footpaths. None of these tree works should be undertaken until there has been full approval from the Local Planning Authority.
- 3.0 After the above tree works have been completed, protective fencing should be erected at the locations indicated on the Tree Protection Plan (3654/TPP/004); the protective fencing should be constructed similar to the specifications at appendix 4. Or in this case the protective fencing could be of 2.0 metre tall herras fencing on rubber feet. The fence panels should be joined together using a minimum of two anti-tamper couplers, the vertical distance between the couplers should be at least 1 metre and uniform throughout the fencing. Signs should be attached to the fencing advising the contractors that this is a construction exclusion zone (CEZ); **keep out**.
- 3.1 Upon completion of the above arboricultural works and erection of the protective fencing, site construction may proceed following the guidance of this AMS. Only on completion of all building activity should the tree protective fencing be removed.

- 4.0** Construction of the temporary office accommodation may proceed to normal building practices with no further arboricultural restrictions. Access to the build site should be via the existing entrance gate on Ellis Drive.
- 4.1** The footpath construction to the north of the temporary office accommodation within the old garden allotments area will need to pass over the RPA of the adjacent trees. Therefore the footpath will be of a no dig construction. Any ground preparation along the route of the footpath (removal of shrubs weeds and turf etc.) should be done using hand tools only.
- 4.2** The proposed footpath is to be constructed using a cellular confinement subbase, which should be laid as per the manufactures instructions on top of the existing ground level using a geotextile membrane to restrict leaching of any fines into the underlying soil. Any requirement to optimise the level of the path due to undulating ground conditions can be acquired by over filling some of the confinement cells with aggregate, rather than skimming the existing ground to provide a level surface. The subbase aggregate should be washed with no fines. A suitable cellular confinement subbase may be Wrekin ProtectaWeb. Due to the footpath proposal to be for light pedestrian use only, a 75mm ProtectaWeb may be sufficient, but advice on this should be sort from the manufactures. Any kerb edge restraint should be keyed into the cellular subbase and not concreted into the underlying ground. The final footpath surface should be porous tarmac or resin to allow water percolation into the tree root zones below.
- 4.3** In order to supply underground utilities from a nearby pump house to the new office accommodation the proposal is to excavate a 400mm wide by 900mm deep trench tight against the kerb edge, but to solely be within the existing road adjacent to trees; T30, T31, T32, G147 and to a lesser extent T33 and T34. The excavation of this trench will require careful digging within the RPA of these trees. The RPA of a tree is calculated from its stem diameter and is depicted as a radius around the tree trunk that should remain undisturbed, assuming that the soil conditions within this area are favourable for tree root growth. Tree root morphology, however, is not always typically circular. Roots will exploit more favourable volumes of soil and avoid less favourable volumes. The carpark access road in which the utility trench excavation is to be dug will have been constructed for high traffic use and therefore the subbase will be highly compacted. Such highly compacted conditions are unfavourable for tree root growth. Therefore, although the proposed trench will be within the RPA of the linear row of trees, conflict with major tree roots is not anticipated.
- 4.4** When excavating the 400mm wide by 900mm deep trench within the RPA of the category B trees, this should be done with due care and vigilant observation for underlying tree roots. If tree roots greater than 25mm diameter are encountered further excavation of the trench within the RPA of the trees should be undertaken by use of hand tools, with assistance of an airspade to help de-compact the soil. If such conditions are encountered, this work should be done under observation of the arboricultural consultant. The utility ducting should then be passed underneath the exposed tree roots. Back filling of the trench should take care not to damage any retained tree roots.

- 5.0** Also, fires on the site should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect tree foliage or branches. The potential size of a fire and wind direction should be taken into account when determining its location and it should be attended at all times until safe enough to leave.
- 5.1** Any materials whose accidental spillage would cause damage to a tree (e.g. oil, cement washing and vehicle washings etc.) should be stored and handled well away from the outer edge of its RPA.
- 5.2** All operatives of machinery and heavy plant should be made aware of the construction exclusion zones (CEZ) and work required within a tree RPA. The operatives are to respect these zones and ensure that no damage occurs to trees due to careless use of machinery.
- 5.3** Siting of cabins and storage of building materials should be outside of the CEZ. Any proposal to install cabins or store materials within a CEZ should be agreed with the appointed arboriculturist and the Local Planning Authority prior to such installation.
- 5.4** A project arboriculturist should be appointed to ensure that compliance with tree protection requirements are upheld. The appointed arboriculturist should be an individual acceptable to the local authority. They must have a good understanding of the project requirements and be suitably qualified to understand the hazards associated with development near trees. They should work closely with the site manager, and have the authority to stop works until any major issues which could affect the retained trees have been resolved. They should keep the local authority updated at each stage of the project, including reporting of any unexpected issues which could affect the trees that are being retained. I can offer this service, or advice on the selection of a suitably qualified and experience individual.

## **6 Conclusion:**

- 6.1** Although there is a requirement to remove T148, T146 and 4 trees within G1, negative impact on the visual amenity of the area as a result is not anticipated. T146 is dead. G1 trees are of poor quality with self-seeded ash trees that are growing in contact with the adjacent security railings; their future growth is likely to result in the railings becoming embedded with their trunks. T145 is a category B tree; however, its visual impact is limited due to it being located behind the linear row of birch trees (T30, T31 and T32). Mitigation planting could be accommodated elsewhere within the hospital grounds and this would be acceptable as a condition of planning.
- 6.2** The proposed utility trench will pass through the RPA of the linear row of trees, as discussed in 4.3 above however, due to the highly compacted subbase structure of the road; conflict with major tree roots here is not anticipated.

## 7 BIBLIOGRAPHY

### 7.1 BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations



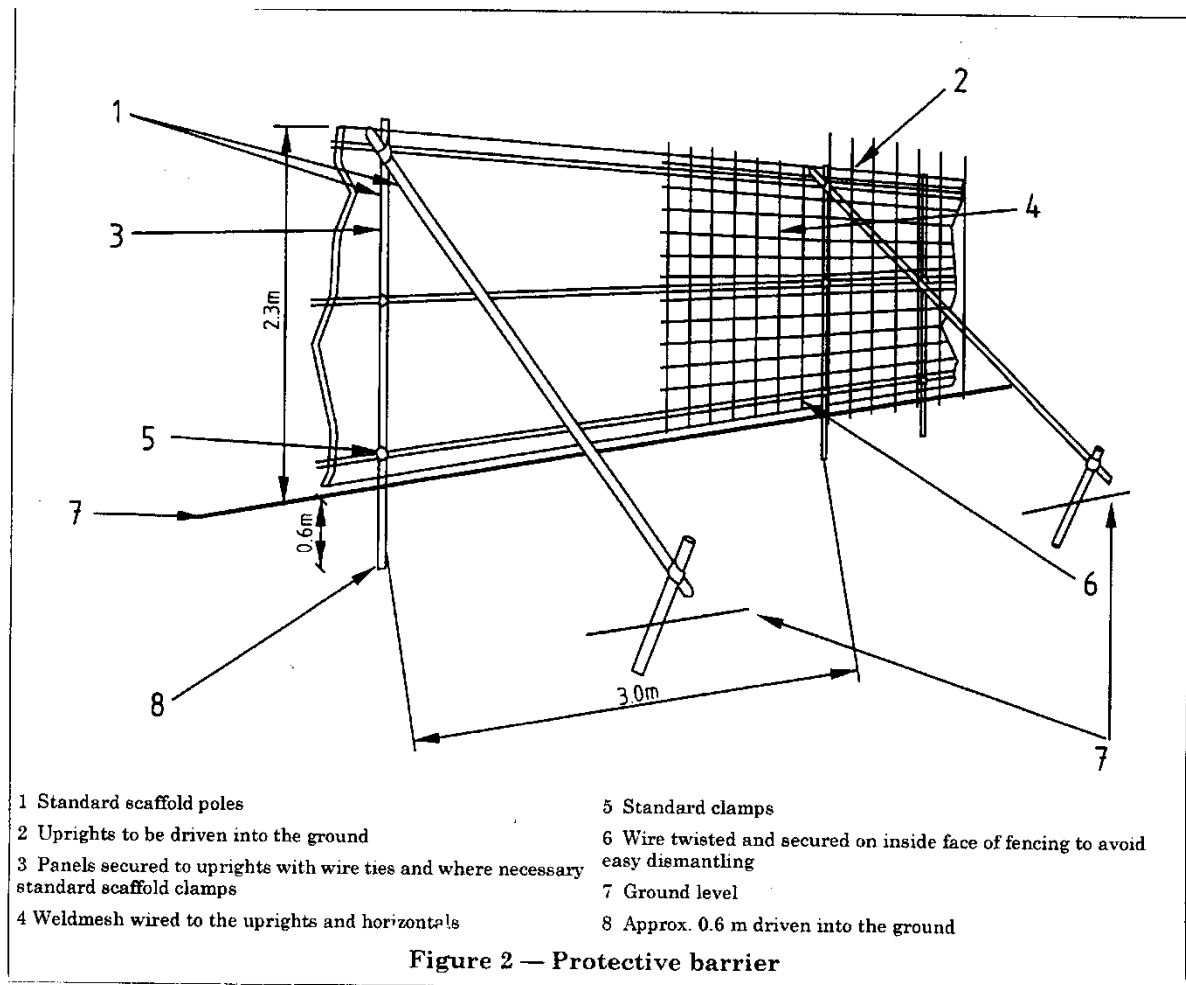
Mr W. J. Rowbottom. HN Dip ARB

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## Appendix 1

### Protective Fencing Specification



## Appendix 2

### Photo 001:

