Mr & Mrs F Braddock
The Paddock
High Street
Thurnscoe
South Yorkshire

ARBORICULTURAL INFORMATION

PLANNING APP NO 2010/0878

PREPAIRED BY :

QUILL ARCHITECTURE

Chapelfield House,
25 Hough Lane, Wombwell, Barnsley,
South Yorkshire, S73 0DP
Tel:- 01226 755446

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1.0 Instruction and Purpose of the Report

1.1 I have been instructed to qualify by statement, additional information required by the local authorities planning department's tree officer, pertaining to national planning requirements in accordance with BS 5837 : 2005 (Trees in relation to construction).

1.2 To provide design details as identified in correspondence via email to Quill Architecture dated the 9th August 2010, which are supplementary to the original tree survey carried out in July 2008, by Mr D. A. Goben of Birchwood Forestry

1.3 The details are in respect of a planning application No 2010/0881.

Variation of condition 2 of a previously approved application 2009/0042.

Re planting works within time limit.

1.4 In addition Planning application 2010/0878.

Erection of 1No detached dwelling with ancillary detached garage within the sites curtilage.

2.0 Methodology and Limitations

2.1 The design processes consisted of an above ground visual inspection only. Soil type has not been assessed.

2.2 All the remedial works including removals of existing trees within the curtilage of the site has been carried out, which were controlled by conditions imposed by the previous planning application

2.3 All trees which remain on the site have been affixed with a number as highlighted on Plan ref CAD/QA/P1000 & CAD/QA/P1001 respectively.

2.4 All measurement during the survey was carried out using two modes of instrument.

1. Steel measuring tape. 2. Leica electronic distance metre.

3.0 Root protection Area Schedule

3.1 This is an assessment of the Root Protection Area, based on individual tree data collected during the recorded survey and Table 2 of BS5837 : 2005

TREE REF No	SPECIES	SINGLE/MULTI S/M	STEM DIAMETER (mm)	INITIAL LINEAR ROOT PROTECTION DIST (RADIUS m)	RPA m2
T3	Sycamore	S	515	6.18	120.00
T4	Sycamore	S	500	6.00	99.95
T6	Sycamore	S	850	10.2	326.86
T7	Sycamore	M	500/300/300	5.0	75.44
T8	Sycamore	S	500	6.0	99.95
T9	Sycamore	M	550/320	5.5	88.26
T10	Sycamore	S	600	7.2	162.86
T11	Sycamore	S	850	10.2	326.86
T12	Sycamore	S	650	7.8	191.13
T1427	Horse Chestnut	S	850	10.2	326.86
T1438	Sycamore	M	400/300	4.0	50.26

3.1 Prior to commencement of any work what-so-ever. The root protection area associated with the existing retained trees shall be protected from damage by the erection of a primary tree protection fence. On a scaffold framework. All barriers are to be in accordance with BS5837: 2005 Fig 2. These barriers shall be maintained in position and in good condition during the course of the development of the site area.

3.2 No removal of the barriers must take place other than to be relocated to construct phase 2 of the build which will be the detached garage.

3.3 The extent of the tree root protection area as shown on drawing CAD/QA/P1006 & CAD/QA/P1007 in the tree protection plan is in accordance with Table 2.0 'calculating the RPA' as an area equivalent to a circle radius 12 times the stem diameter for single stem trees or 10 times the basal diameter (trees with more than one stem arising below 1.5m above the immediate ground level) clause 5.2.2.

3.4 Due to the sites constraints the sycamore T7 is growing within 400mm of the 2000mm high stone boundary wall which forms the north boundary of the site. Therefore from BS 5837 this wall is assumed to be a pre – existing root barrier and the normal root development would have been interrupted and expected to have developed asymmetrically. Therefore to achieve the area required the protection fence will be erected as shown in drawing CAD/QA/P1006.

4.0 Protection Fencing & Signage

4.1 Protective fencing/barriers shall be in strict accordance with BS5837 Tree protection fencing.

4.2 Tree protection fencing to comprise of standard scaffold poles complete with clamps, Swivel couplers, double couplers and sleeve couplers. Providing a skeletal frame, Frame to be well braced to resist impact. Vertical tubes to be spaced at a maximum of 3m intervals and set at a depth of 600mm into ground. Infill panels to be 2.3m high Heras steel galvanised panels which are to be securely fixed to the frame using scaffold clamps or wired in position.

4.3 Details of protection fence shown in appendix 1 to this report.

4.4 All protective fencing shall be retained and maintained in good condition for the full duration of the construction period and considered sacrosanct unless otherwise agreed in writing with the LPA.

4.5 Site notices affixed to the fencing, are to be pre printed laminated waterproof signs a minimum of A3 in size and should be fixed securely to the fencing panels surrounding the enclosure.

4.6 Signs should be fitted in positions shown on site plan CAD/QA/P1006

4.7 Signs to read, Tree Protection Area

Keep out

(Town & Country Planning Act 1990)

Trees enclosed by this fence are protected by

Planning Conditions and/or are the subject of a

Tree Preservation Order.

Contravention of a tree preservation order May

Lead to Criminal Prosecution.

4.8 Any incursion into the tree protection area must be with written permission of the local planning authority.

5.0 Precautionary Measures taken within all construction exclusion zones.

5.1 Fencing to be erected prior to any development commencing on site or any materials or machinery associated with the development are brought to or onto the site.

5.2 All exclusion zone fencing shall be properly maintained for the duration of the development unless otherwise agreed with the local planning department.

5.3 No materials, machinery, or chemicals of any sort shall be stored within the root protection zone for the duration of the development.

5.4 All ground levels within the root protection area shall not be lowered or raised without the consent of the local planning authority.

5.5 Where any new planting is to be carried out to the landscape then the area is to be treated with a translocated herbicide. All vegetation shall be removed once dead by the use of hand tools only.

5.6 The use of machinery is forbidden within the exclusion zone for the digging of trenches i.e. drainage runs or specific plantings.

6.0 Protective Measures Outside the Root Protection Area.

6.1 At all times deliveries made to the site must be monitored to prevent damage or harm being caused to the tree or tree canopy by vehicular movement,

6.2 A banksman must be appointed to provide supervision for all vehicular movements.

6.3 Any materials likely to be injurious to the trees, such as the mixing of cement or the discharge of cement, oil, bitumen or other should not be permitted directly outside the protective fencing where contaminated fluids could drain towards the trees.

6.4 No fires should be lit in a position where their flames can extend to within 5m of any foliage, branches or stems.

6.5 Any notice boards, telephone cables or any other services should not be attached to any part of the tree.

6.6 Exploratory excavations for roots will be carried out on the proposed site of the garage in particular, prior to its construction phase. This will identify whether any substantial root systems exist in areas where foundations are to be laid.

6.7 The existing trees are not to be used as anchorages or for any other purpose.

6.8 No dumping of any spoil or rubbish or the placement of any temporary structure or storage of materials within the root protection areas is strictly prohibited.

6.9 No equipment, machinery or materials are to be brought on site for the purpose of development until written consent is obtained from Barnsley Metropolitan Borough Council.

7.0 Tree Protection Plan

7.1 Details of the tree protection plan is highlighted in drawing CAD/QA/P1006 of this report.

8.0 No Dig Surfacing Specification (new drive)

8.1 All surface vegetation shall be removed by spraying with a glyphosate herbicide, within the pre defined areas of the access drives, turning heads and parking areas leading to and adjacent to the proposed detached garage. Once the vegetation has been removed, fill any major hollows with sharp sand and remove any large rocks.

- Provide 1No layer of 'TENSAR TX 160' geogrid over the existing surfaces. With levels feathered into the main access road which runs parallel to the south boundary of the site. Provide an edge retaining system consisting of two-side butted 200mm width boards fixed in position by timber treated pegs. A no fines hard road stone sub base of Type1 material, as specified by the Department of Transport. (Department of Transport 1991; clause 803, is to be placed over the geogrid to a depth recommended by the manufacturers. The sub base when compacted should be freely draining allowing oxygen to diffuse into the soil.

- Provide a suitable aggregate wearing surface over the sub base construction with no fines, aggregate should be 12-21 mm to BS 822. Colour and type of aggregate used to be discussed with the local authority planning department for suitability regarding location.
- Geogrid specification drawing & No dig construction appendix 1.

9.0 Temporary Ground Protection to site entrance/new drive

9.1 This method is to be used as a temporary ground protection measure to minimise the risk of damage to the underlying root system of tress identified as T9 & T10 and to prevent soil compaction at the point of access to the site.

9.2 Geotextile membrane to be laid by hand over the existing hardened soil surface.

9.3 Spread sand or gravel in a 75mm deep layer over the membrane as an absorptive layer.

9.4 Lay 24mm thick external quality plywood sheets as required over sand/gravel layer, to act as a temporary surface for vehicular access.

9.5 The above specification is for short term/temporary access routes only and not to remain as a permanent construction method.

10.0 Ground protection and scaffolding within the Root Protection Area

10.1 This method is to be adopted to minimise the risk of damage to the roots of trees T3,4,6,10 and 11 during the construction phase of the detached garage.

10.2 Erect protective fencing/barriers as described in section 4.0

10.3 To the build side of the protective fence provide 1layer of 'TENSAR TX 160' geogrid directly over the undisturbed ground, with side butting scaffold boards on a compressible layer of sand. (see Appendix 1) specification drawing.

10.4 When the construction is at the first lift of brickwork, vertical scaffold poles to be placed on outer boards laying over the ground this construction will distribute the load evenly over the ground surface.

11.0 Excavation and Foundation type (Phase 1 Bungalow)

11.1 Foundation to phase 1 new dwelling to be as Building regulations deposit strip foundation.

11.2 Footprint of foundation to incorporate Monarflex MRB 500 high performance membrane which consisting of both blown and flat extruded layers of virgin LDPE combined to give a homogeneous sheet. Membrane to be installed by the manufacturer using an extrusion welding technique to ISO 9001 : 2000. A certificate to be issued on completion of works.

11.3 Provision to be made for the incursion of an additional rigid root protection barrier if required to the east elevation of the dwelling house.

12.0 Excavation and Foundation type (Phase 2 Garage)

12.1 Foundation to phase 2 detached garage, with the possibility of tree roots within the area, a structural raft foundation would be a more appropriate method of construction. This will alleviate cutting through any established root system.

12.2 The structural raft foundation is envisaged to be in the order of 300mm in thickness with a limestone base layer of 250mm. This will cut into the existing ground surface by 150mm. leaving all roots in tact.

12.3 The method of excavation for the garage base is to be with hand tools "**only**" "**no**" mechanical machinery is to be used on the garage site area.

12.4 During the garage base excavations within the root protection area any damage to the bark surface of exposed larger roots should be minimised. Exposed larger roots over 25mm in diameter should be wrapped in clean dry Hessian sacking to prevent desiccation and buffer temperature variation. Smaller roots less than 25mm in diameter may be pruned back using clean bypass secateurs. Severing any root that exceeds 25mm in diameter may have an adverse effect upon the health of the tree.

12.5 The severing of any root above 25mm in diameter is prohibited. The accidental severing of root exceeding 25mm within a RPA or within 1metre margin is to be noted and advice sought with appropriate action taken.

12.6 As dwelling garage to incorporate a Monarflex MRB 500 high performance membrane fitted under the concrete raft.

13.0 Schedule for Works (Phase 1 Bungalow)

13.1 Table 1

Task	Prep	Construction	Comments
1	X	X	Identify all areas for protective fencing and delineate private zone from construction zone and erect fencing
2	X		Treat all identified surfaces with glyphosate herbicide within the construction zone and prepare ground.
3		X	Construct temporary site access as identified on CAD/QA/1000
4	X		Identify and peg out new areas for Dwelling.
5		X	Excavate foundations for dwelling with mechanical equipment as discussed with the L.A. planning dept.
6		X	Erect first lift scaffold as required, for special requirements see specification.
7		X	Identify all drainage and service runs. Set out accordingly and excavate, Outside root Protection areas with mechanical machine. Inside the root Protection areas by hand only. Root barriers to be installed. Note all external rainwater gutters to be fitted with protective grilles to prevent blockages within the gutter system and within down pipes.
8		X	Complete building process to main dwelling.
9	X		Prepare to occupy main dwelling
10		X	After occupation of dwelling remove site caravan.

14.0 Schedule for Works (Phase 2 Detached Garage)

14.1 Table 2

Task	Prep	Construction	Comments
1	X		Identify and peg out new areas for garage
2		X	Excavate for the structural raft foundations. Excavation is to be by hand on no account must mechanical machinery be used within the whole garage area, as predicted root spread may be encountered.
3		X	Erect first lift scaffold in accordance with this report as ground protection is required.
4		X	Identify all drainage and service runs. Excavate by hand only, install protective root barrier. Note all external rainwater gutters to be fitted with protective grilles to prevent blockages within the gutter system and within down pipes.
5		X	Complete building process to garage.
6		X	Construct turning/parking area and form permanent access to site utilising the No dig method of construction (section 4 of this report)
7		X	Remove all constructional materials from the site and protective fencing