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Arboricultural Tree Constraints Plan for the Predevelopment of 1 Ferndale, Waterloooville, PO7 7NZ.

The proposal to redevelop 1 Ferndale, Waterloooville, PO7 7NZ.

The following Arboricultural Tree Constraints Plan and Tree Survey details describe the areas of root protection required to minimise damage to preserved trees within and close to this property. This is to facilitate the design predevelopment as recommended in the British Standard 5837: 2012 BS5837: 2012 Trees in relation to design, demolition, and construction recommendations.

Tree Survey: Schedule

Method: Visual Tree inspection references, Principles of Tree Hazard Assessment and Management by David Lonsdale and The body language of trees by Claus Mattheck and Helge Breoer. The Arboricultural Association guidance note 7 tree surveys a guide to good practice. Lantra award Professional tree inspection. BS5837: 2012 Trees in relation to design, demolition, and construction recommendations.

Easting	Northing	Tree ID	TPO No	Tree Type	Latin Name	Maturity	Height (m)	Number of Stems	Stem 1 (mm) Enter average diameter for trees with more than 5 stems	Spread - N (m)	Spread - E (m)	Spread - S (m)	Spread - W (m)	BS5837 Clasifaction Category	Condition
468828.4	109364.6	T1	G1	Oak	Quercus robur	EM	9	1	300	1	3	3	1	C	Bark wound, front wall leaning
468829.3	109364.8	T2	G1	Oak	Quercus robur	Y	7	1	100	2	1.5	1.2	1.5	C	Young tree
468832.4	109369.8	T3	G1	Oak	Quercus robur	M	18	1	550	6	8	5	4	B	Mature fair condition/ deadwood and cavities in crowns monitor
468831.6	109371.5	T4	G1	Oak	Quercus robur	M	18	1	550	6	5	5	4	B	Mature fair condition/ deadwood and cavities in crowns monitor
468828.6	109372.7	T5	G1	Oak	Quercus robur	M	18	1	550	3	6	6	4	B	Mature fair condition/ deadwood and cavities in crowns monitor
468832	109377.3	T6	G1	Oak	Quercus robur	M	18	1	650	6	7	6	5	B	Mature fair condition/ deadwood and cavities in crowns monitor
468832.5	109382.5	T7	Dead stump					1	400	N/a	N/a	N/a	N/a	U	Dead stump fell
468830.7	109383.8	T8		Yew	Taxus baccarta	EM		1	300	2.5	2.5	2.5	2.5	U	Leaning yew fell
468832.5	109385	T9		Cypress	Leylandii	Y		1	200	2	2	2	2	U	Leaning fell
468836.2	109387.5	T10		Hawthorn		EM	4	1	250	2	2	2	2	U	Hawthorn poor by wall fell
468818.3	109357.9	T11		Ash	Fraxinus excelsior	EM	18	1	300	4	4	4	4	C	Leaning north
468815.8	109358.7	T12		Ash	Fraxinus excelsior	Y	6	1	150	2	2	2	2	C	Ash sapling

468810.4	109364.9	T13		Ash	Fraxinus excelsior	M	18	1	500	6	6	6	6	C	Dieback poor condion
468815.3	109377	T14		Ash	Fraxinus excelsior	Y	5	1	150	6	6	6	6	C	Dieback poor condion
468814	109376.1	T15		Ash	Fraxinus excelsior	Y	5	1	150	2	2	2	2	C	Dieback poor condion
468803.7	109377.5	G16		Laurel	Prunus	M		20	150				2	C	overgrown
468799.2	109383.3	T17		Ash	Fraxinus excelsior	M	350	3	300	6	3	6	6	C	Dieback poor condion
468800.2	109387.4	T18	A1	Oak	Quercus robur	M	20	1	800	8	4	8	8	B	Next-door
468803	109394.4	T19	A1	Oak	Quercus robur	M	20	1	800	8	4	8	8	B	Next-door
468809.4	109407.7	T20	A1	Oak	Quercus robur	M	20	1	700	8	8	8	8	B	Next-door
468823.4	109416	T21	A1	Oak	Quercus robur	M	18	1	600	4	6	6	4	B	Mature fair condition/ deadwood and cavities in crowns monitor
468820.3	109418.7	T22	A1	Oak	Quercus robur	M	18	1	600	4	6	6	4	B	Mature fair condition/ deadwood and cavities in crowns monitor
468816.9	109412.7	G21	A1	Stumps				2						U	2 stems storm damaged fell
468826.3	109426	T24	A1	Oak	Quercus robur	M	20	1	1000	8	8	8	8	B	Mature fair condition/ deadwood and cavities in crowns monitor
468833	109422.6	T25	A1	Ash	Fraxinus excelsior	M	20	1	400	5	5	5	5	U	Dieback poor condion
468838	109416.3	T26	A1	Oak	Quercus robur	M	20	1	1000	8	8	8	8	B	3 stems Inclusive union monitor
468842.4	109414.1	T27	A1	Oak	Quercus robur	M	20	1	1000	8	8	8	8	B	Mature fair condition/ deadwood and cavities in crowns monitor
468797.2	109376.8	T28		Oak	Quercus robur	M	20	1	700	6	6	6	6	C	Outside boundary
468799.9	109372.8	T29		Oak	Quercus robur	M	20	1	400	6	6	6	6	C	Outside boundary
468803.2	109366.8	T30		Ash	Fraxinus excelsior	M	20	1	550	6	6	6	6	C	Outside boundary
468806.3	109363.9	T31		Ash	Fraxinus excelsior	M	20	1	550	6	6	6	6	C	Outside boundary

468818.1	109351.3	T32		Oak	Quercus robur	M	18	1	650	5	5	5	5	B	Outside boundary
		H1													Conifer hedging
		H2													Conifer hedging
		H3													Laurel understory
		H4													Mixed understory.

Contacts:

1. Local Authority Arboricultural officer
2. Site Agent
3. Appointed arboriculturist

No contractors have been appointed at this stage. If there is a need to review any of the protection plans/method statements considering additional requirements identified by contractors, written approval for any such modifications will be obtained from the LPA prior to commencement of any work.

1.1.1 The methodology of the tree protection measures follows a logical sequence of development events. Variations to the sequence could significantly reduce the efficiency of the tree protection measures. Variations to the proposed development will require input prior to commencement of the variations, from the appointed arboriculturist and/or the LPA Arboricultural officer.

1.1.2 The LPA will be given notice in writing 5 full working days prior to the date of commencement of development to check all tree protection in place.

1.1.3 Works will be strictly in accordance with the Arboricultural method statement.

1.1.4 It is recommended that only agreed works within the RPA, will only be carried out under supervision by an arboriculturist. It is the responsibility of the client to appoint an arboriculturist prior to commencement of works. Details of the appointed arboriculturist will be forwarded to the LPA.

1.1.5 A schedule of activities that will require Arboricultural supervision at various stages has been produced. This should form the minimum site attendance by the appointed arboriculturist, as well as the Local Authority tree officer (where relevant).

1.1.6 Periodic reports, along with supporting evidence, will be submitted to the LPA on the tree protection measures, as well as the results of activities within the RPAs of retained trees.

1.2 Preliminary tree maintenance.

1.2.1 Prior to carrying out any tree work, all trees recommended for tree work/removal including their immediately adjacent trees, will be inspected for bird nests (wholly and partially built ones). In the event nests are found, the tree work will not be carried out until the trees are found to be free of the nesting birds & their young. This is a requirement under the Wildlife & Countryside Act 1981 & The Countryside & Rights Of Way Act 2000.

1.2.2 All tree work will be carried out in accordance with **BS3998:2010** & will be carried out without harming the adjacent retained trees.

1.3 Preliminary vegetation control.

1.3. • Clear ground vegetation using a systemic herbicide and gather organic material. Care must be used to select (by reading the label) a herbicide that will not affect the roots of the trees or vegetation. This operation must be carried out by an appropriately trained individual.

1.4 Preliminary tree protection methods.

1.4.1 Construction required of no dig solution as stated on the Tree Protection Plan.

1.4.2 All or any preliminary tree work: See schedule.

1.4.3 Protective fencing as specified in the BS5837:2012 document.

1.4.4 If necessary ground protection of the type specified in the protection plan will be placed in the positions shown on the plan. The type specified will be determined by the assumed load expected. Any loading in excess of 1t will require the use of heavy duty ground protection, as indicated. This will be supervised by the appointed arboriculturist.

1.4.5 Prior to commencing work on site, all contractors will be given an induction on the tree protection measures employed during the development project and on the potential consequences of disregarding them (pre-commencement meeting).

1.5 Arboricultural Methods and restrictions during all phases of development:

The following tree protection measures will be adopted throughout the life of the development:

1.5.1 The construction exclusion zone will not be moved, except if specified in the tree protection plans. All staff on site will understand the need for protective fencing, as well as any ground protection and to keep strictly within the designated access routes, when moving in/out the site.

1.5.2 No dig area will be maintained & inspected on a weekly basis by the site manager. Inspections will be recorded on an inspection form.

1.5.3 All accidental damage to trees will be reported to the site manager immediately. Works occurring within the incident vicinity will cease immediately until adequate tree protection measures are re-established. A record of the damage will be made by the site manager and, in consultation with the appointed Arboricultural consultant, remediation measures carried out.

1.5.4 No materials and/or plant will be stored within the designated root protection area of any of the trees and/or within the delimited construction exclusion areas. Any liquid materials to be stored on site, will be located where, in any event of spillage, will allow for natural run-off to be away from the designated root protection areas and buffer zones and/or stored within a pre-constructed spillage containment area.

1.5.5 The mixing of concrete and mortar will be performed outside any root protection areas, in such an area where in the event of any spills, any liquid will drain away from the root protection areas and any buffer zones and/or within a pre-constructed spillage containment area.

1.5.6 The use and movement of any cranes/heavy lifting arms/digger arms and booms of delivery vehicles will be carried out without damage to any part of the retained trees.

1.5.7 No dry construction materials will be stored within the RPA, unless adequate ground protection (approved by the appointed arboriculturist), has been installed within the storage area.

1.5.8 No soil, demolition debris, or any other arisings will be stored within the RPA or under canopy, whichever is the greater.

1.5.9 No ground level changes will occur (no grading/levelling/raising), within any RPA, unless consented to by the LPA & supervised by the appointed arboriculturist. Changes to the ground levels within RPA will follow the advice of the appointed arboriculturist.

1.5.10 No additional tree work will be carried out unless consented to in writing by the LPA

1.5.11 the positions of all site welfare & storage areas will also be located outside any canopy areas & RPA.

1.5.12 No fires will be lit within 20m of any RPA or canopy, whichever is the greater

1.5.13 for the purposes of this method statement, significant roots referred to, constitute individual roots of diameters of 25mm and above, as well as dense fibrous root masses. The significance of both will be determined by an appointed arboriculturist upon discovery of either.

1.5.14 If roots 20mm and smaller in diameter are damaged that belong to retained trees, these should be cut cleanly and covered in damp Hessian or soil. If roots 25mm and larger are damaged or if a large number of smaller roots are damaged, these should be covered in damp Hessian or soil
& advice should be sought from the appointed arboriculturist prior to treating them.

1.6 Preparation:

1.6.1 A pre-commencement site meeting will be carried out by all involved in the construction & the supervising arboriculturist, to clarify tree protection measures.

1.6.2 Tree protection measures will have been installed prior to any commencement of site preparation.

1.6.3 No plant machinery will encroach on the RPA, unless the ground is adequately protected & the machinery is incapable of striking the canopy or tree stem. If plant machinery is to encroach on protected RPA, this will be supervised by the appointed arboriculturist.

1.6.4 The no dig solution will be retained in situ until landscaping operations are to be undertaken. This will provide additional protection for the Root Protection Area.

1.6.5 Debris from any preparation work will not be stored within any RPA.

1.7 Construction:

1.7.1 The tree protection measures will be retained in the positions specified on the Protection Plan.

Structure foundations within RPA:

1.7.3 The foundations for the proposed encroach on the RPA. If roots are encountered, these will be cut cleanly. Excavations in this area will be supervised by the appointed arboriculturist.

1.7.4 Impermeable membranes will be used when pouring concrete for foundations, to avoid contamination of the soil & damage to any tree roots by wet cement, particularly within the RPAs of the retained trees.

Underground services:

1.7.5 The excavations for any underground services will (where possible) be routed outside any RPAs. If it is unavoidable that underground services be run inside RPAs, then the trenches for them will be excavated by hand or air-spade. Any roots that span the trench during digging will not be cut, but will have damp Hessian sacking placed around them. Damaged roots of up to 2cm diam will, where possible, be cut cleanly and covered. Any substantial roots (larger than 25mm diam), that become damaged or need to be removed, advice will first be sought from the supervising arboriculturist prior to any work being carried out on them. This will be carried out under Arboricultural supervision

1.7.6 If and when installing infrastructure for underground services, they will be done by hand within any RPA and care will be taken not to damage the exposed roots. Back-fill within an RPA will not be compacted and will possess the same soil profile as the surrounding soil. If there is a need to compact Backfill, in preparation for the reinstatement and/or installation of infrastructure within an RPA, then CU structural soil will be used as Backfill.

1.7.7 The timing of any excavations for underground services will coincide with the arrival of materials to be used for the construction of the underground services, to minimize the time that roots are exposed. Roots will not be left exposed for more than 24 hours.

1.8 Landscaping:

1.8.1 Landscaping operations will commence only when all main construction work has ceased. The protective measures will be removed immediately prior to commencing these operations.

1.8.2 No soil lowering will occur within the RPA.

1.8.3 The existing soil levels will not be raised by more than 150mm within RPAs of retained trees without seeking advice from the appointed Arboricultural consultant.

1.8.4 Excavations for planting within RPA of retained tree will be carried out by hand only. The same will apply for introduction of topsoil, plant transport & mulching.

1.8.5 All landscaping work within RPA will also be carried out by hand only.

Footpaths/hard surfaces:

1.8.6 Any exposed roots will be covered with damp Hessian. Debris from the excavation will not be stored in this area but will be immediately removed from the RPA.

1.8.7 General purpose topsoil to BS3882:2007 will be used to replace the previous hard surface. N/A

1.8.8 The proposed building will not impinge on the RPA.

Boundary treatments within RPA:

1.8.9 Where new boundary fences are proposed to be installed within the RPA, this will be carried out using hand tools only. Excavations will be undertaken using hand tools only at proposed fence post locations to confirm the existence of significant or insignificant roots. If significant roots are found, then an alternate location will be sought using the same method.

1.9 Post-development tree Care and amelioration

1.9.1 Once all construction & landscaping activities have been completed, any remaining ground protection/protective fencing will be removed.

1.9.2 A detailed visual inspection of the retained trees on the site & RPA, will be carried out, to check for signs of development damage to both the trees and their rooting environment. Appropriate remedial tree / soil work will then be recommended by an arboriculturist.

1.9.3 Any damaged branches will be removed or pruned cleanly in line with current good Arboricultural practice (BS3998:2010) and any specific Arboricultural advice. Any other remedial work will also be carried out as & when recommended.

1.9.4 An annual tree inspection regime will be implemented to monitor the health of the retained & replaced trees for an agreed period after the development project is complete. The appointed arboriculturist will provide reports to the client & the local authority tree officer at agreed times, on the condition of the retained trees & any remediation work recommended.

This concludes this draft method statement.

Kim Gifford
Arboricultural Consultant

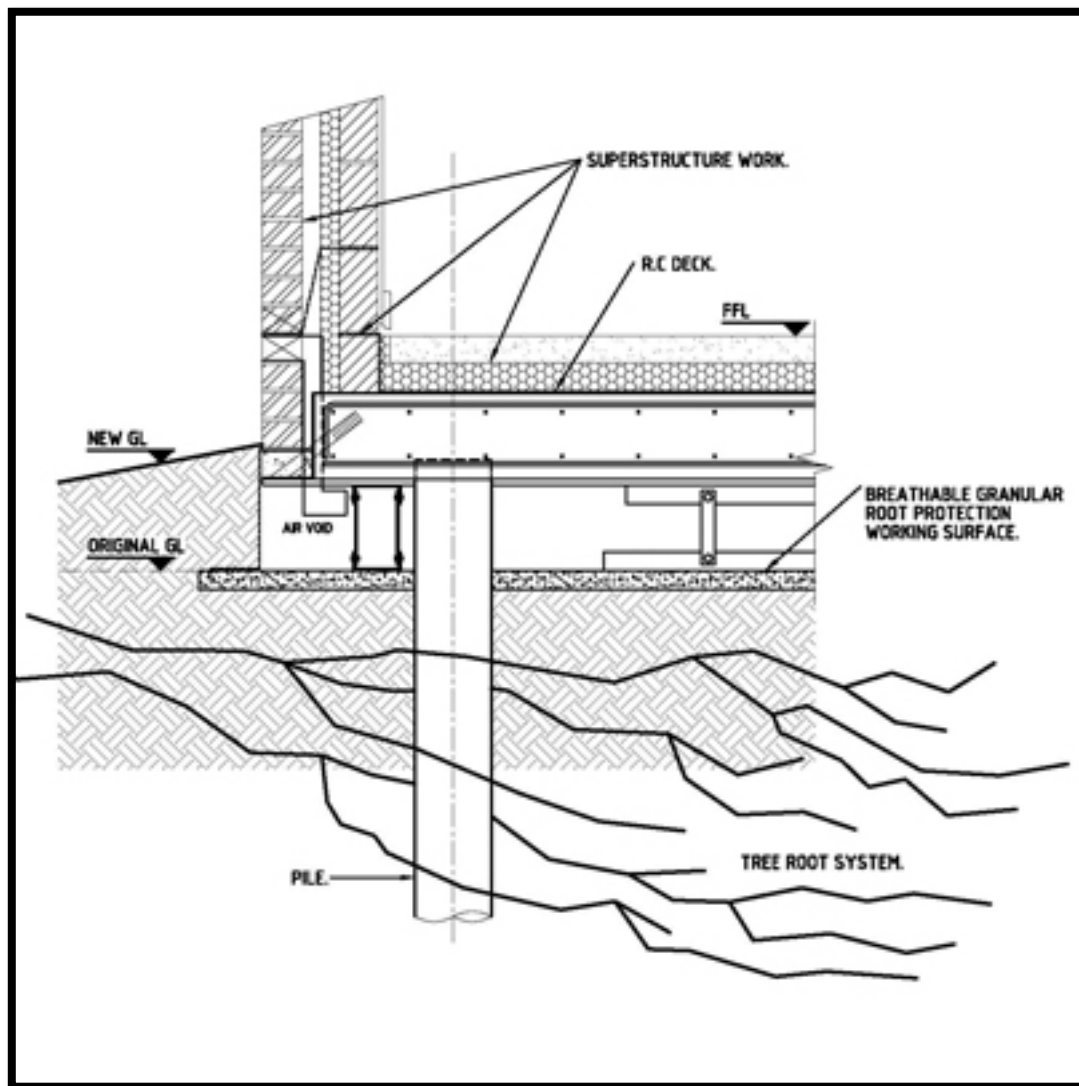


Figure 1. Pile and beam example.

Supervision schedule				
	Pre-development & preparation	During construction	During Landscaping	Post-construction
Site attendance by arboriculturist needed	1.Site meeting with all involved in the Development project	1.Site meeting with all involved in the Development project	1.Monitoring the removal of the existing hard surface within the RPA of trees	1.Visual inspection of trees within RPAs of retained trees to identify any construction related damage
	2.Supervising the initial construction & positioning of protective fencing &	2.Monitoring the excavations within the RPA of trees	2.Monitoring the introduction of new topsoil in to the RPA of trees	2.Submission of final report to LPA
	3. Periodic site visits to check integrity of protection measures	3.Supervising the installation of any underground services within the RPA of	3.Periodic site visits to check integrity of protection measures	
	4.Submission of report to LPA	4.Periodic site visits to check integrity of protection measures		
		5.Submission of report to LPA		

Figure 2: Supervision Schedule

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2