Arboricultural Assessment

Clondalkin Rugby Football Club

Kingswood Farm, Moneenalion Commons Lower, Clondalkin, Dublin 22

Prepared for: -
SCEG Limited

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20-June-2022

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Introduction

Veon Ltd. has been commissioned by SCEG Limited to assess the tree and hedge vegetation at Kingswood Farm, Moneenalion Commons, Lower Clondalkin, Dublin 22 and to produce an arboricultural report containing the following.

- Tree Survey Plan: all trees and hedges on and adjacent to the subject site (i.e. within falling distance thereof) accurately plotted, tagged, and shown on a scaled drawing of a topographical survey of the site.
  (See DWG 'Clondalkin Tree Survey Plan' attached)

- Tree Survey Schedule: a summary of the surveyed trees and hedges, recording tag nos., digital photograph, species, size, age, condition, management recommendations, useful life expectancy and category grade in line with BS 5837:2012.
  (See PDF 'Clondalkin Tree Survey Schedule' attached).

- Arboricultural Impact Assessment: a thorough, detailed, and realistic analysis and assessment of the likely impacts of the proposed development on the surveyed trees and hedges; along with a summary table of the tree population and quantification of impacts and losses etc. (total number surveyed and total numbers and percentage to be retained and removed respectively).

- Tree Constraints Plan: a scaled site plan showing the impacts of all surveyed trees in relation to the site layout of the proposed development.
  (See DWG 'Clondalkin Constraints Plan' attached).

- Tree Protection Plan: a scaled site plan of the proposed development, clearly showing and distinguishing (by colour coding) those trees and hedges to be retained and protected and those to be removed; showing alignments of Tree Protection Fencing and areas to be excluded from construction activities and compound(s), site office(s), plant, equipment, and materials storage. Root Protection Areas (RPAs') of all trees and hedgerows will be clearly shown on this drawing.
  (See DWG 'Clondalkin Tree Protection Plan' attached).

- Arboricultural Method Statement: clear and practically achievable measures to be used during the construction period, for the protection and management of all trees and hedges that are to be retained.

Site Inspection and Methodology

The tree and hedge vegetation were visually assessed from ground level on the 16th of June 2022. The information recorded is in accordance with BS 5837:2012 Trees in Relation to Design, Demolition and Construction. This report should be read in conjunction with the attached site drawings and Tree Survey Schedule. Our Tree Survey Schedule records the following:

- Tree number (metal tags attached to each tree @ 1.5m). Where access to trees was not possible i.e. growing outside of the site are, they have been numbered numerically. Tree groups and hedges growing as one coherent unit have also been numbered numerically.
- Tree species (common and scientific name).
- Positioned and plotted on ArcGIS software (accurate to 10cm).
- Dimensions (height, trunk diameter, crown spread cardinal points, lowest branch and calculated rootzone).
- Age class (young, semi mature, early mature, mature, over mature).
- Physiological and structural condition (good, fair, poor, dead).
- Comments and observations.
- Targets (roads, properties etc.).
- Management recommendations.
- Useful Life Expectancy in years.
- Category grade (see page 29 for the BS 5837:2012 category grading method)
- Digital photograph of each tree.

Overall Site Description

Site area outlined below.

The site area is located at Kingswood Farm, Moneenalion Commons, Lower Clondalkin, Dublin 22. It is irregularly shaped and is bordered to the north by the public road (R136); to the east by an off ramp from the public road (N7); to the south by a private farm (located centrally) and a public road outside of this farm; and to the west by an agricultural field in grass.

The site area consists of three fields in grass with agricultural hedgerows making up the boundaries along with a small size tree belt along the northern and eastern boundaries; and there is a stream running north to south along the western boundary. The trees within the site area are growing out of the boundary hedgerows.

Hedge No. 1 extends east to west along the southern boundary of the site area and consists of species such as, hawthorn (*Crataegus monogyna*), dog-rose (*Rosa canina*), bramble (*Rubus fruticosus*), honeysuckle (*Lonicera periclymenum*) and elder (*Sambucus nigra*). It has received regular maintenance to contain its spread and there is a c.1m grass verge on the public roadside. Hedge No.1 has been divided into Hedge No.1A, B and C as there are gaps in the hedge and structural differences in it (see pics below). At the eastern end of Hedge No.1 there is a small group of early-mature ash (*Fraxinus excelsior*) and alder (*Alnus glutinosa*), the alder trees have potential for the long-term tree cover in this area, but the ash trees will likely succumb to 'ash dieback' (*Hymenoscyphus fraxineus*).

Above image shows Hedge 1A.

Above image shows Hedge 1B.

Above image shows Hedge 1C.

Above image shows a grey alder growing out of Hedge No.1A.

At the western end of Hedge No.1, a stream extends north-east to south-west and makes up the western boundary of the site area with the adjoining field. There is also an open wet drainage ditch running parallel with Hedge No.1C on the site side that connects to this stream.

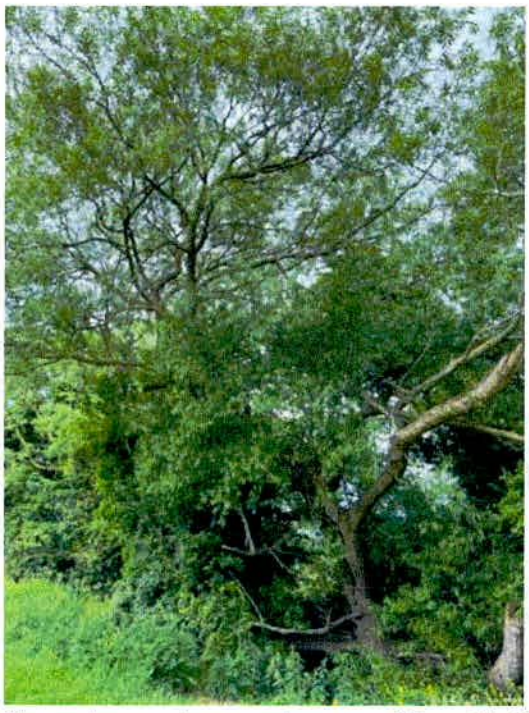
Above image shows the bridge that the stream and open drainage ditch pass under at the western end of Hedge No.1.

Hedge No.2 extends parallel with this stream along the western boundary, the vegetation is predominantly on the adjoining landside, outside of the site area, with some isolated clumps on the site side. The hedge vegetation consists of hawthorn (*Crataegus monogyna*), dog-rose (*Rosa canina*), bramble *(Rubus fruticosus*), elder (*Sambucus nigra*) and blackthorn *(Prunus spinosa),* with an upper canopy of ash *(Fraxinus excelsior),* crack willow *(Salix x fragilis)* and sycamore

(Acer pseudoplatanus). Tree No.4, a sycamore, holds this highest value - category B - along this boundary. A lot of the ash trees are being suppressed by ivy and showing symptoms of 'ash dieback' (*Hymenoscyphus fraxineus).* At the northern end of this hedge there is a concrete bridge providing access into the adjoining field.

Above image shows Tree No.2 & 3 becoming suppressed by ivy and showing symptoms of 'ash dieback'. They are growing out of the southern end of Hedge No.2 on the adjoining landside of the stream, but their crowns overhang the site area.

Above image shows Tree No.0393, a crack willow, growing out of the southern end Hedge No.2 on the adjoining landside of the stream with its crown overhanging the site area.



Above image shows a close-up of Tree No.0393, this tree has been cut back on the site side in the past and it has also suffered limb failure near its base; it is a poorly structured tree.

Above image shows the concrete bridge providing access to the adjoining field at the northern end of Hedge No.2.

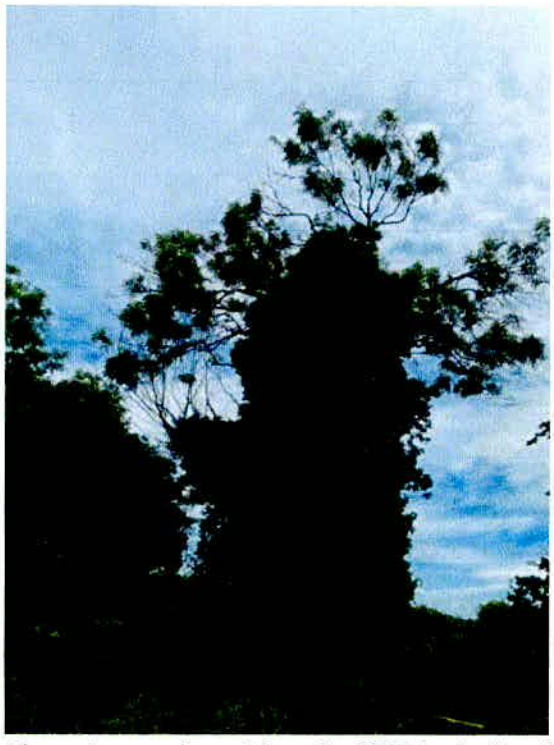
Hedge No.3 connects to Hedge No.2 at ninety degrees and extends east to west making up the northern boundary of the site area. It contains hawthorn *(Crataegus monogyna)* and honeysuckle *(Lonicera periclymenum)*, it is a good-quality hedge and there is a timber fence extending along its length adding strength to it. Tree Belt No.1A, located outside of the site area, is growing on an ascending sloped bank behind Hedge No.3. This tree belt makes up the northern boundary with the adjoining public road (R136); the ground level of the road is c.3m higher than the ground level of the site area. I suspect these trees were planted as part of the development of the public road, they are of a semi-mature age class and the species present includes ash *(Fraxinus excelsior)*, sycamore (*Acer pseudoplatanus*), cherry *(Prunus avium)* and

birch *(Betula pendula).* Hedge No.3 and Tree Belt No.1A provide valuable screening along this boundary with the public road (R136) and will provide the long-term tree cover in this area.

Above image shows Hedge No.3 with Tree Belt No.1A growing behind it.

Hedge No.4 connects to Hedge No.3 at ninety degrees and extends north to south creating an internal boundary between two fields within the site area and there is a gap at the southern end of this hedge providing access into the adjoining field. It contains hawthorn (*Crataegus monogyna*), dog-rose (*Rosa canina*), bramble *(Rubus fruticosus*) and elder (*Sambucus nigra*) with an upper canopy of ash *(Fraxinus excelsior)* and elm *(Ulmus glabra).* The hedge lacks definitive structure and a lot of the ash trees are being suppressed by ivy and showing symptoms of 'ash dieback' (*Hymenoscyphus fraxineus).* There are also two elm trees standing dead in this hedge, death likely due to 'Dutch elm disease' (*Ophiostoma* spp.)

Above image shows Tree No.0395, a dead elm, in Hedge No.4



Above image shows Tree No.0396 in decline from 'ash dieback', with extensive basal decay present and ivy beginning to cause suppression. A dead elm tree can also be seen in the background.

Above image shows Hedge No.4 with an upper-canopy of ash.

Hedge No.5 extends north-west to south-east through the site area and it forms an internal boundary between two fields, with the farmyard located in the field to the south. The hedge is well structured and has received regular maintenance to contain its height and spread, it is comprised of hawthorn (*Crataegus monogyna*), dog-rose (*Rosa canina*), bramble *(Rubus fruticosus*), elder (*Sambucus nigra*) and ash (*Fraxinus excelsior*). There are two openings in this hedge, at the northern and southern end, allowing access into the adjoining field.

Above image shows the northern end of Hedge No.5 with access into the adjoining field.

Hedge No.6 connects to Hedge No.3 and Hedge No.1 at ninety degrees and extends north to south making up the eastern boundary of the site area with Tree Belt No.1B growing outside of it. The hedge is comprised of hawthorn *(Crataegus monogyna),* honeysuckle *(Lonicera periclymenum)*, elder (*Sambucus nigra*) and blackthorn (*Prunus spinosa)*. Tree Belt No.1B is a continuation of Tree Belt No.1A. Together, they form a good buffer between the site area and the off ramp of the public road (N7) to the east.

Above image shows Hedge No.6 from the off ramp of the public road (N7).

Above image shows Tree Belt No.1B from the off ramp of the public road (N7).

Hedge No.7 extends north-east to south-west and creates and internal boundary between two fields. It is a mature hedge with good stockproof quality, comprised of hawthorn *(Crataegus monogyna),* honeysuckle *(Lonicera periclymenum)*, elder (*Sambucus nigra*) and blackthorn (*Prunus spinosa)*.

Category Grade Table:

Overall, 7 Trees were tagged individually (Tree Nos. 0391-0397), and 10 Trees, 4 Tree Lines, 6 Hedges and 1 Tree Belt were numbered numerically.

The following table gives a breakdown of the category grading allocation as per the cascade chart in BS:5837 2012.

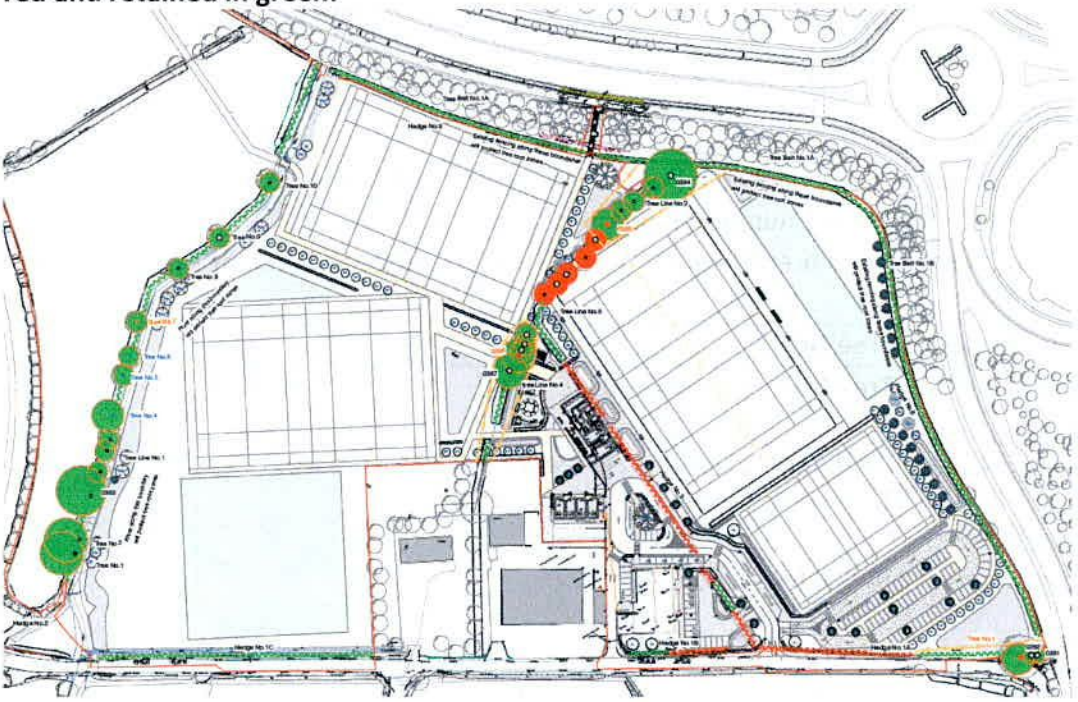
Category Grade	Tree Nos.
Category U (14%) 4 Trees	Tree No.1, Tree No.7, 0395, 0396
Category C (72%) 10 Trees 7 Hedges 4 Tree Lines	0391, 0392, Tree No.2, Tree No.3, 0393, Tree No.8, Tree No.9, Tree No.10, 0394, 0397, Hedge Nos.1, 2, 3, 4, 5, 6, 7 Tree Line Nos. 1, 2, 3, 4
Category B (14%) 3 Trees 1 Tree Belt	Tree No.4, Tree No.6, Tree No.6 Tree Belt No.1A & 1B
Category A (0%) 0 Trees	
Grand Total	**17 Trees, 6 Hedges, 4 Tree Lines, 1 Tree Belt**

Arboricultural Impact Assessment

The objective is to assess the impact of the proposed development layout on the existing tree and hedge vegetation on this site area and show how its impact can be mitigated.

The proposed development will see the relocation of the existing Clondalkin RFC grounds at Gordon Park to new lands at Kingswood Farm, Moneenalion Commons Lower Clondalkin and comprising of 4 new rugby playing pitches, including a high quality main competition pitch (with modern directional floodlighting comprising 18m high floodlighting columns either side) and a high quality Junior pitch both laid approximately level, and two back pitches as well as various grassed rugby training areas all laid on existing land cross fall levels; change of use of existing agricultural shed to accommodate new two storey changing facility and storage areas; a new two storey Clubhouse Pavilion with supporting facilities including dressing rooms, physio rooms, coffee dock, committee rooms, members bar and lounge, plantroom and toilets; all associated site development sustainability and infrastructure work including connection to existing public foul sewer, SUDs, sedum roof and PV roof panels; new landscaping throughout the site comprising trees, hedges and wild flower areas; new cycle track and pedestrian access and stairs off the R136, bicycle shelter, children's playground area, electrical car charging stations, vehicle parking and new vehicle entrance off the Old Country Roadway.

Proposed plan below shows the tree and hedge vegetation that will need to be removed in red and retained in green.



To facilitate the proposed development the following tree and hedge vegetation will need to be removed (see DWG 'Clondalkin Tree Protection Plan' attached for location of tree and hedge vegetation that will need to be removed to facilitate the development).

- c.115m (45%) of Hedge No.1 to allow for a vehicular and pedestrian entrance to the new car park and egress sightlines on the southern boundary.
- c.8m (7%) of Tree Belt No.1A and Hedge No.3 combined to allow for the pedestrian entrance on the northern boundary.
- c.45m (36%) of Hedge No.4 to allow for the sports field to the east.
- Tree Line No.3 (5 ash trees) to allow for the sports field to the east.
- c.145m (88%) of Hedge No.5 to allow for the two sports field to the east and access to the new clubhouse.
- C.5m of Hedge No.7 to allow for pedestrian access between the internal fields.

The table below gives a breakdown of the Category Grading of the trees that need to be removed to facilitate the proposed development.

Category Grade Removal Table:

Category Grade	Tree Nos.
Category U (0%) 0 Trees	
Category C c.310m of Hedge (21% of the total 1435m of hedging in the site area) 5 ash trees c.8m of Tree Belt & Hedge	Hedge No.1 (c.115m), Hedge No 4 (c.45m), Hedge No 5 (c.145m), Hedge No.7 Tree Line No.3 (5 ash trees) Tree Belt No.1A combined with Hedge No.3 (c.8m)
Category B (0%) 0 Trees	
Category A (0%) 0 Trees	
Grand Total	c.305m of Hedge, 50m of Tree Line (5 trees), c.8m of Tree Belt & Hedge

The loss of the above trees is to be mitigated by the landscaping of this completed development with the use of trees, shrubs, hedging, herbaceous perennial, and bulb planting. This planting will be in the new beds that surround the car parking spaces, along the internal paths, and the tree lines and hedging that will partition the playing fields. This planting will complement the development and its incorporation into the surrounding area. It will also help to provide good quality, sustainable, long-term tree cover and, as it establishes and grows, it will be continuously mitigating any negative impacts created with the loss of the existing tree and hedge vegetation. A mix of tree species, forms, and sizes, including the use of semi-mature trees, will form a strong and unifying element to the landscape areas, ideally with the use native species such as oak, birch, alder, and Scots pine in open spaces; whitebeam, hornbeam, and cherry bird in smaller spaces and near structures; and hazel, yew, holly as hedging plants.

This replanting will provide more long-term tree cover for the area than the trees that need to be removed could provide, as they are all in decline from 'ash dieback' i.e. Tree No.0397 and Tree Line No.3.

A veteran ash tree, Tree No.0394, is showing some resistance to infection by 'ash dieback' and this tree, along with the northern section of Hedge No.4, is to be retained and incorporated into the finished development due to their value to the area.

The proposed development will see no alteration to existing ground levels, so water availability or waterlogging issues for the tree and hedge vegetation is not expected.

90% of the peripheral boundaries tree and hedge vegetation is to be retained, ensuring that this valuable ecological corridor is retained.

All tree and hedge vegetation that is to be removed can be replanted elsewhere in the site as part of the proposed landscape planting, ensuring that as much of the root systems is retained as practicably possible.

The main vegetation that will need removal is the internal hedges between fields, but the planned landscape planting for the development will outweigh the amount of vegetation lost to facilitate the development, and the regular maintenance that this facility will receive will add to the longevity of the vegetation within it.

For those trees proposed for retention, all necessary mitigation measures will need to be put in place to prevent or reduce impact to its very minimum.

Arboricultural Method Statement

The objective of this arboricultural method statement is to provide information on how trees need to be protected during the construction project so that their valuable integration into the finished development can be safely achieved.

It is necessary for tree protective fencing to be erected and all other mitigation measures in place prior to development works commencing on site, this is to prevent damage to the tree and its Root Protection Area.

The protection of the tree and hedge vegetation shown for retention is divided into three stages:
Pre-Construction stage, Construction Works Stage, Post-Construction Stage.

Pre-Construction Works:

Prior to the construction works commencing on site the following needs to be planned:

- The developer or main contractor needs to allocate an arboriculturist for the duration of the project. The arboriculturist is to visit regularly to ensure that tree protection measures are in place and adhered to.
- The main contractors and all sub-contractors need to be aware of the protection measures in place and all personnel should adhere to the recommendations of the appointed arboriculturist with regards to tree protection.
- Any issues in relation to the trees shown for retention must be discussed with the appointed arboriculturist and the necessary mitigation measures put in place without delay and prior to the works being carried out.

Site Meeting:

- Prior to construction work, several meetings may be necessary between the arboriculturist, the development team and local authority so that the tree protection plan and trees for removal and retention can be agreed upon.

Tree Works:

- Remedial tree surgery works are recommended to promote health and safety, both for the tree and its surroundings. The tree surgery company appointed to carry out these works need to be insured, qualified and competent in carrying out the tree works outlined by the arboriculturist. The tree surgery contractor must have a method statement detailing how they will undertake the works required in a safe, professional manner. The tree works should follow the guidance of BS:3998 2010 and ANSI A300.
- The appointed arboriculturist will highlight trees for removal and give detail on how this is to be done. The removal of a tree should not cause damage to another tree or its surroundings.
- When stumps are to be removed or grinded using heavy machinery, attention must be paid to the tree's Root Protection Area, and ground cover should be used to prevent soil compaction and/or soil and root damage.
- Clearance pruning may become necessary at times for various reasons, and the appointed arboriculturist must be consulted on this for guidance.

Tree Protection Fencing:

- Once the trees have been removed, the line of the protective fencing required around the retained trees must be erected as per the 'Tree Protection Plan Clondalkin' attached.
- The fencing needs to be 2.3m high and constructed in accordance with figure 2 page 20 of BS:5837 2012 (see 'Tree Protective Fencing Examples' below) using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres. Onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps.
- 'Keep Out' signs need to be secured to the fences (see 'Warning Sign Examples' below) and imperatively, personnel need to be informed why the fences have been erected and the importance of them for the planned development.

Storage of material, work yards and staff car parking:

- These areas must be identified on the work drawings prior to the construction works starting and they must be positioned outside the Root Protection Areas of the trees being retained.

Ground Protection, Installation for Pathways and Working Areas:

- Ideally, pathways and working areas should be outside of the Root Protection Area, where this is not possible, ground protection needs to be used. The ground

protection should be a product such as 'Cell Web' to dissipate the vertical load and prevent soil contamination (see step by step instructions for 'Cell Web' installation below).

Step 1

- The existing ground cover vegetation (e.g., grass and weeds), if necessary, is to be killed off using an appropriate herbicide (see Pesticides Handbook [15]). Herbicides that can leach through the soil, e.g., products containing sodium chlorate, should not be used.
- The soil surface is not to be excavated to establish a subbase for the finished surfaces.
- Loose organic matter, woody vegetation and/or turf are to be removed carefully using hand tools.
- If there is a delay in installing the surface following clearing, the soil surface once prepared is to be covered immediately either with hessian sacking or plastic to prevent the surface drying out until the new surface is installed.

Step 2

- Place the geotextile, fleece, separation filtration layer over the prepared ground surface. Use a Fibretex F4M non-woven geotextile with dry joints overlapping by 300mm.

Step 3

- Place constraints along the edges to contain the fill material. These can be of such material as treated timber or railway sleepers.

Step 4

- Place the required cellular confinement system (Cell Web150-200mm) over the geotextile and pin and anchor the cell walls open for infilling.

Step 5

- Place the infill material of a 20-40mm clean sharp stone in the open cells of the Cell Web pushing the infill ahead of you so that the machinery is driving on the filled Cell Web. Compact the infill material to the desired density.

Step 6

- Slightly surcharge the Cell Web product with 25mm of 40-20mm clean angular stone.

Construction Works Stage:

- Once works have commenced on site, the appointed arboriculturist must be informed of any works that are required within the Root Protection Areas, so that a suitable protective plan can be put in place.
- The arboriculturist must monitor the trees for any decline during the development and make recommendations towards their health and safety as they arise.

Tree Protective Fencing:

- During the works, the tree protective fencing must remain in place, upright and rigid. It must be checked daily by the main contractor or foreman and any faults immediately fixed.
- The appointed arboriculturist should be consulted when works are to occur behind the tree protective fencing and ground protection measures should be employed.
- The protective fencing and all other tree protection measures should only be removed when all the works are complete.

Excavations:

- Excavations can only commence once all the of the tree protective measures have been put in place.
- No excavations should occur with a tree's Root Protection Area.
- Where possible, excavation using an Air Spade should be employed to displace soil without causing root damage.
- Excavations that are to occur near retained trees should first be viewed on site by the development team and the appointed arboriculturist, so that any potential impacts can be assessed and mitigated.
- Ground levels should be built up where possible instead of excavated, and the use of retaining walls can preserve ground levels within the Root Protection Area.
- Where walls are to be within the Root Protection Area, secant piles and steel beams should be used to cantilever the wall over the Root Protection Area as excavating for footings causes root damage.
- Roots should not be severed during construction works. The appointed arboriculturist must be consulted if roots are encountered, so that they can be

properly pruned out of the excavation zone; if root pruning is not deemed possible, then alternative methods must be employed.

- Any exposed roots need to be covered with soil or with hessian sacking to prevent roots drying out; hessian sacks need to moist, particularly during prolonged dry periods.
- See BS:5837 2012, section 7.7, Table 3 for trenchless solutions for differing utility apparatus installation requirements.

Working within the RPA (Root Protection Area):

- The arboriculturist must be consulted if works are planned within the RPA. All works must be carried out manually and no machinery should be within the RPA. Root pruning is to be undertaken by an arboriculturist using proprietary cutting tools such as a secateurs or hand pruning saw.
- The ground within the RPA of the trees must be protected from damage as per the recommendations of section 6.2.3 of BS:5837 2012 (see 'Ground Protection Examples' below).

Finished Ground Levels & Landscaping:

- The existing ground levels of the RPA must be maintained and incorporated into the finished development. If there is a change in ground level between the finished landscape and the existing RPA, the levels should be graded into each other, starting where the RPA zone ends. Where this is not possible, retaining walls are to be used to compensate for the change in levels.
- Any landscaping to occur with the RPA must be done manually, ground levels are not to be altered and soil and/or root damage is to be avoided.
- All finished surfaces should be porous to allow gas and water movement.
- See 'sections 8' of BS:5837 2012 for landscape operations around trees.

Services:

- Services should be always routed around the RPA to avoid soil and root damage.
- The arboriculturist must be informed of the planned location for services and mitigation measures must be put in place to avoid soil and root damage.
- Service routes should be achieved through No-Dig methods (see 'No-Dig' example below), and where soil displacement is required, an Air Spade should be used.
- See BS:5837 2012, section 7.7, Table 3 for trenchless solutions for differing utility apparatus installation requirements or National Joint Utilities Group (NJUG) *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*. Volume 4, Issue 2 London NJUG 2007.

Boundary Treatments:

- The boundary treatments within the root zone of the tree vegetation being retained should be protected with fencing using small diameter holes for the uprights.

- These holes are to be dug manually with no machinery allowed inside the Root Protection Areas.
- Work zones within the Root Protection Areas for these trees will need to be protected during the construction of the boundary fences by boarding, as per BS:5837 2012 section 6.2.3.

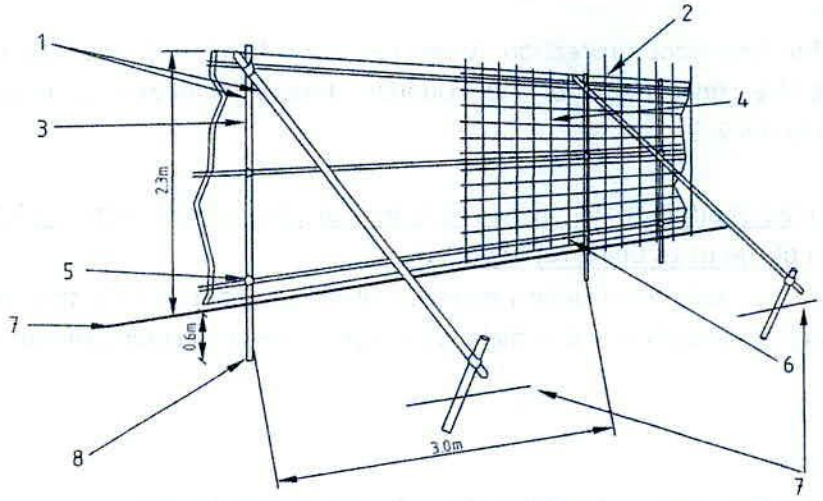
The following is a list of additional activities that are not allowed within the RPA or within the vicinity of the trees being retained:

- Storage of equipment, fuel, construction material which can contaminate the soil, e.g., concrete mixings, diesel oil and vehicle washings, or the stockpiling of soil or rubble.
- Burning rubbish.
- Washing of machinery.
- Attaching notice boards, cables, or other services to any part of the tree.
- Using neighbouring trees as anchor points.
- Care is required when using machinery such as Tele-porters, cranes or other equipment close to trees so as not to damage the crown or any other parts.

Post Construction Works:

- This project is not to be considered complete until all retained trees have been re-examined by the site arboriculturist and he is satisfied that they can be safely implemented into the finished development.
- This report has been produced for the sole use of the above-named client and refers to only those trees and hedgerows identified within. Its use by any other person(s) in attempting to apply its contents for any other purpose renders the report invalid for that purpose.

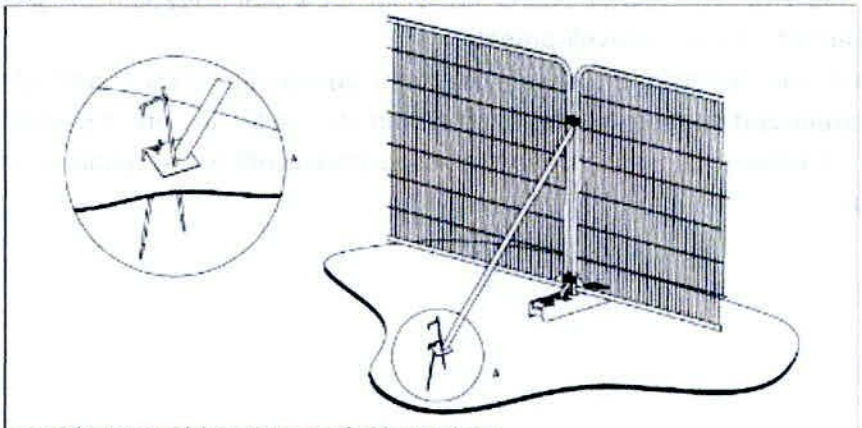
Tree Protective Fencing Examples:



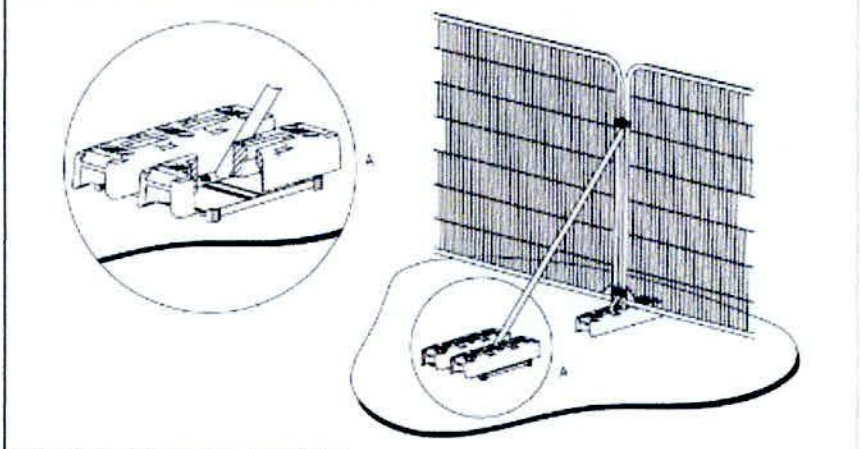
1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Figure 2. – Protective fencing for RPA

Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Ground Protection for Working Within Rootzones Examples:

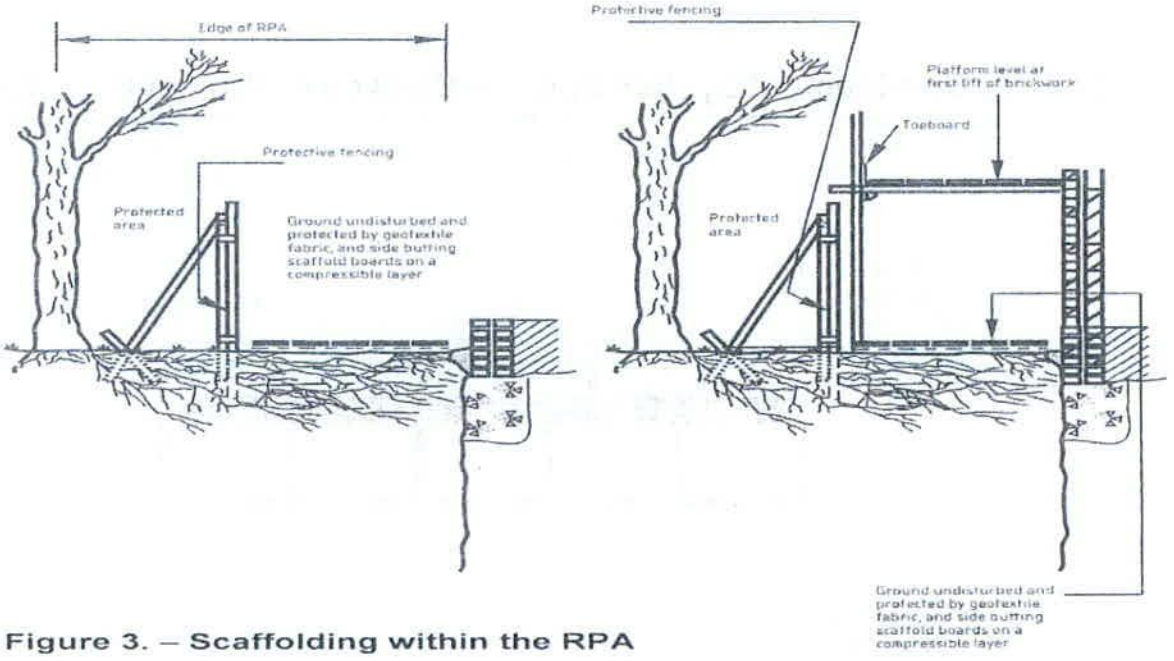
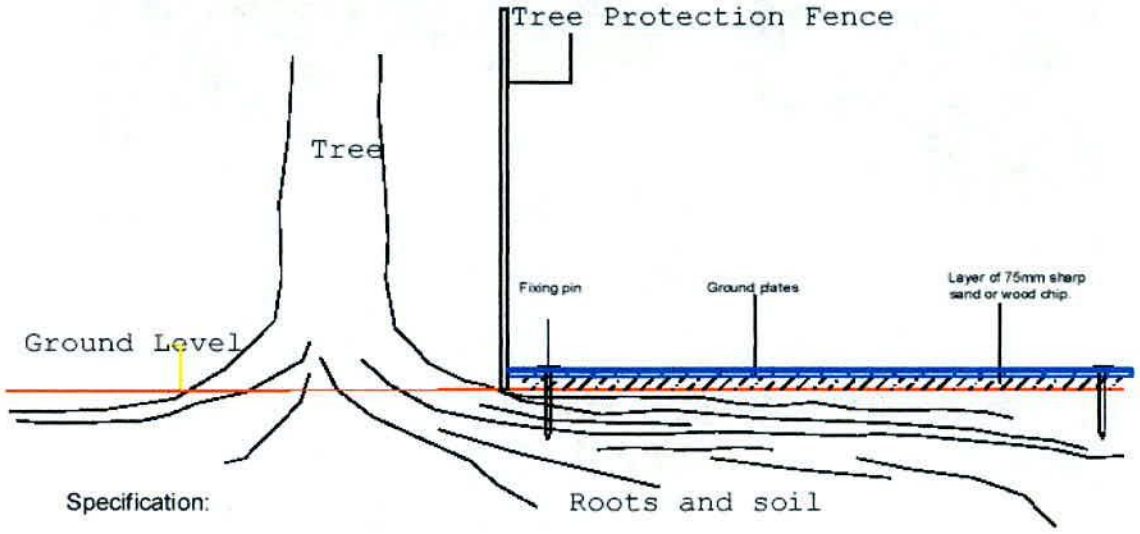


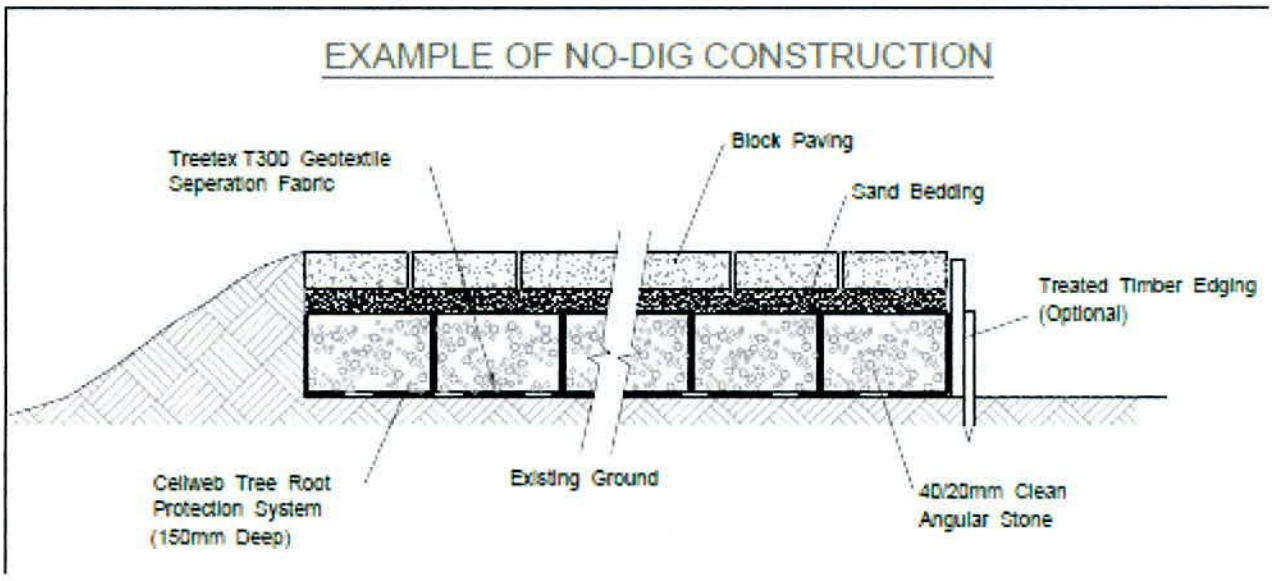
Figure 3. – Scaffolding within the RPA



Specification:

1. Lay min. 75m depth of sharp sand/wood chip over identified ground area
2. Lay side-butting scaffold boards/15mm poly propylene road plate over sand/wood chip
3. Fix ground protection cover into place with pins/pegs

Cellular Confinement System Such as Cellweb to Protect Root Zone.



Signage to be placed on fence pannels examples.

Imagery Information

Geotagged jpeg images of all surveyed trees are provided in a file geodatabase (GDB) that can be provided to you at any time. The GDB file is viewable using any GIS software (ArcMap, QGIS etc.). It can also be imported into a web map and shared with a contractor as a link so they can view the geotagged imagery either through a desktop pc or while in the field through a mobile phone.

Limitations of Survey

This tree survey was carried out from the ground, without increment boring, use of computerised tomography, dissection, coring, or excavation to establish structural integrity. All findings, observations and recommendations are based on the knowledge and experience of the surveyor. Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of the inspection. The trees have been inspected from ground level only. Trees are dynamic living organisms, whose health and condition can be subject to rapid change, depending on multiple external and internal factors. The conclusions and recommendations contained in this report relate to the trees at the time of inspection.

Every attempt was made to identify hazardous trees in this report however this survey was carried out from the ground and therefore cannot be held to have identified elements of decay which may be hidden out of sight within the crown or beneath ivy or other obstructions. Certain pathogens only produce seasonal fruiting bodies and consequentially may not have been noted during this assessment.

All trees should be monitored on a regular basis for signs of defects and should be reported to a person qualified to diagnose them and to recommend treatment. In the event of adverse weather conditions, there is the possibility of any tree, despite having a good report, falling over, or suffering crown damage. In the event of a falling tree causing damage to residential or non-residential buildings in their proximity, or to any person, any property public or private, or any mechanical vehicle or otherwise no liability will attach to this firm.

There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future. The author takes no responsibility for any actions taken by the landowner or their agents by reasons of this report unless subsequent contractual arrangements are made. This report is intended solely for the benefit of the parties to whom it is addressed, and no responsibility is extended to any third party for the whole or any part of its contents. All trees mentioned in this report should be subject to reassessment every year to assess physiological and environmental changes.

Relevant Legislation

Local authorities should be consulted with in relation to the presence of Tree Protection Orders (TPOs) on any of the trees on this site. However, unless planning permission which clearly identifies trees for removal has been granted then under Section 7 of the Forestry Act 2014 a person wishing to fell trees must apply to the minister for a licence to do so.

Exempted trees: Section 19 states that the requirement for a felling licence for the uprooting or cutting down of trees does not apply where:

- The tree in question is standing in an urban area
- The tree is considered dangerous and hazardous.
- The tree is within 10m of a public road and regarded as hazardous
- The tree in question is less than 100 ft./30m from a dwelling other than a wall or temporary structure.
- The tree in question is a hazel, apple, plum, damson, pear, or cherry tree grown for the value of its fruit or any ozier; (willows grown for their rods).

Other exceptions apply in the case of local authority road construction, road safety and electricity supply operations.

The Act is administered by the Forest Service (Department of Agriculture, Fisheries and Food). The Felling Section of the Forest Service is based in Johnstown Castle, Co. Wexford (053-9160200 or 1890-200223).

Bats:

Trees may contain bats. Bats are afforded legal protection under Irish and EU legislation and agreements (Wildlife Act (1976), Wildlife (Amendment) Act (2000), S.I. No. 94 of 1997 and S.I. No. 378 OF 2005 implementing the EU Habitats Directive, Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animal) and the Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats).

Trees provide roosting opportunities for bats. Mature trees are the most likely to have potential as roost sites. This may be provided by cavities, crevices, limb fractures, storm damage or mechanical damage and may even be by way of loose bark. Felling of mature trees and even surgery to large limbs may place bats at risk and both procedures remove roosting sites for bats.

Professional advice from a licenced surveyor should be sought prior to any works commencing on trees.

Terminology

A: Average.
C: Circa.
T: Tree, **TL:** Tree Line, **TB**: Tree Belt, **TG**: Tree Group, **H**: Hedge, **SB**: Shrub Border
Ht: Height measured in metres.
ULE: Useful life expectancy of the tree in years.
Condition: Refers to the tree's physiological and structural condition.
Common name: Most widely used non botanical name.
Scientific name & species: Refers to the taxonomy classification and nomenclature
Crown: Is the branches, leaves, and reproductive structures extending from the trunk or main stems. Shapes of crowns are highly variable.
Constraints: The Root Protection Area of a tree.
Decay fungi: Refers to those species of fungi which degrade living wood and may, depending on the degree of degradation, render the tree structurally unsound.
Defects: Refers to cracks, decay cavities, deadwood, and any other damage mechanical or biological.
Diameter: Diameter of the trunk in millimetres measured at 1.5m.
Compression fork: Codominant stems that are weekly attached.
Included bark: When the bark in between two stems cannot be seen and the wood fibres have not integrated each other, creating a structurally weak union.
Ash dieback (*Hymenoscyphus fraxineus*): A pathogenic fungus that causes the infected tree to shut down sections of its system in an attempt to contain the spread of the pathogen, resulting in deadwood and potentially a dead tree.
Management Recommendations: Works to be carried out.
Monitor: Refers to trees which need to be re-assessed within a set time to see if a situation has gotten better or worse e.g., a tree leaning at a certain angle.
Tag No: Refers to numbered tag fixed to tree during survey.
Air Spade: A mobile lance that uses compressed air to displace soil.

Age classes:
Young: <10 years old.
Semi-Mature: >10 years old, but still in the first third of normal life expectancy.
Early Mature: In the middle third of normal life expectancy.
Mature: In the final third of normal life expectancy, but not in natural decline.
Over mature: In the final third of normal life expectancy and in natural decline.

Physiological/ Structural condition:
Good: No major structural defects observed (possibly some minor defects).
Fair: Minor defects present (such as bark wounds, isolated decay pockets or structure affected due to overcrowding), that could be alleviated by management.
Poor: Major structural defects present such as extensive deadwood, decay or defective to the point of being dangerous.
Dead: The tree is dead.

TREES FOR REMOVAL				
Category and Definition	**Criteria**			**Identification on Plan**
Category U Those in such a condition that any existing value would be lost within 10 years, and could, in the current context, be removed for reasons of sound arboricultural management.	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 U category trees (i.e., 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 (e.g., Dutch elm disease), or very low-quality trees suppressing adjacent trees of better quality.** (**NOTE**: Habitat reinstatement may be appropriate (e.g., U category tree used as a bat roost: installation of bat box in nearby tree).			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	Criteria - Subcategories **1.Mainly Arboricultural Values**	**2. Mainly Landscape Values**	**3. Mainly Cultural Values, including Conservation**	Identification on Plan
Category A **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g., the dominant and/or principal trees within an avenue).	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g., avenues or other arboricultural features assessed as groups).	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g., veteran trees or wood-pasture).	LIGHT GREEN
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested).	Trees that might be included in the high category but are downgraded because of impaired condition (e.g., presence of unsympathetic past management and minor storm damage).	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals, but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g., trees of moderate quality within an avenue that includes better. A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality.	Trees with clearly identifiable conservation or other cultural benefits.	MID BLUE
Category C Those of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm.	Trees not qualifying in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.	Trees with very limited conservation or other cultural benefits.	GREY
	NOTE: Whilst C category trees will not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation.			