Arboricultural Impact Assessment

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

- To facilitate the proposed development the following tree and hedge vegetation will need to be removed.
    - Tree Nos. 0481, 0482, 0483, 0484, 0486, 0487, 0488, 0489, 0490, 0492, 0493, 0494, 0495, 0496, 0498, Tree Group No.1, c.50m of Tree Belt No.1, Tree Line No.1, Hedge Nos4.

- The above tree and hedge vegetation is of a semi-mature age class, <20 years old, and was planted as part of the landscaping of this industrial estate, as such, it holds less value and its loss is more easily mitigated through replacement planting elsewhere.

- Tree Belt No.1, along the northern boundary, will be bolstered with 5875m^2 of native species understory planting to mitigate the loss of vegetation on site.

- Tree Nos. 1-11 are growing just outside of the site area but they contribute to the value of this area; therefore, care will need to be taken to avoid damage to these trees during the construction process i.e. avoid storing materials around their bases and/or causing mechanical damage with machinery.

- The proposed Grasscrete surfacing will allow for water permeability on site, benefiting the retained trees.

- Services will be kept as close to the building as practicably possible and trenchless solutions employed to avoid root damage to the Tree Belt No.1.

The following table shows the Category Grading of the trees that need to be removed to facilitate the proposed design layout.

Category Grade	Tag Nos.
Category U 3 Trees 1 Tree Line	Tree Nos. 0488, 0489, 0491 Tree Line No.1
Category C 12 Trees 1 Tree Group 1 Hedge	Tree Nos. 0481, 0482, 0483, 0484, 0486, 0487, 0492, 0493, 0494, 0495, 0496, 0498 Tree Group No.1 Hedge No. 4
Category B c.70m of Tree Belt	c.50m of Tree Belt No.1
Category A 0 Trees	No Trees
Grand Total	15 Trees, 2 Hedges, 1 Tree Group, 1 Tree Line, c.50m of Tree Belt

Arboricultural Method Statement

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

It is necessary for tree protective fencing to be erected and all other mitigation measures in place prior to 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 a project 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 project arboriculturist with regards to tree protection.

- Any issues in relation to the trees shown for retention must be discussed with the project 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 project arboriculturist, the development team and local authority so that the tree protection plan and trees for removal and retention can be agreed upon.

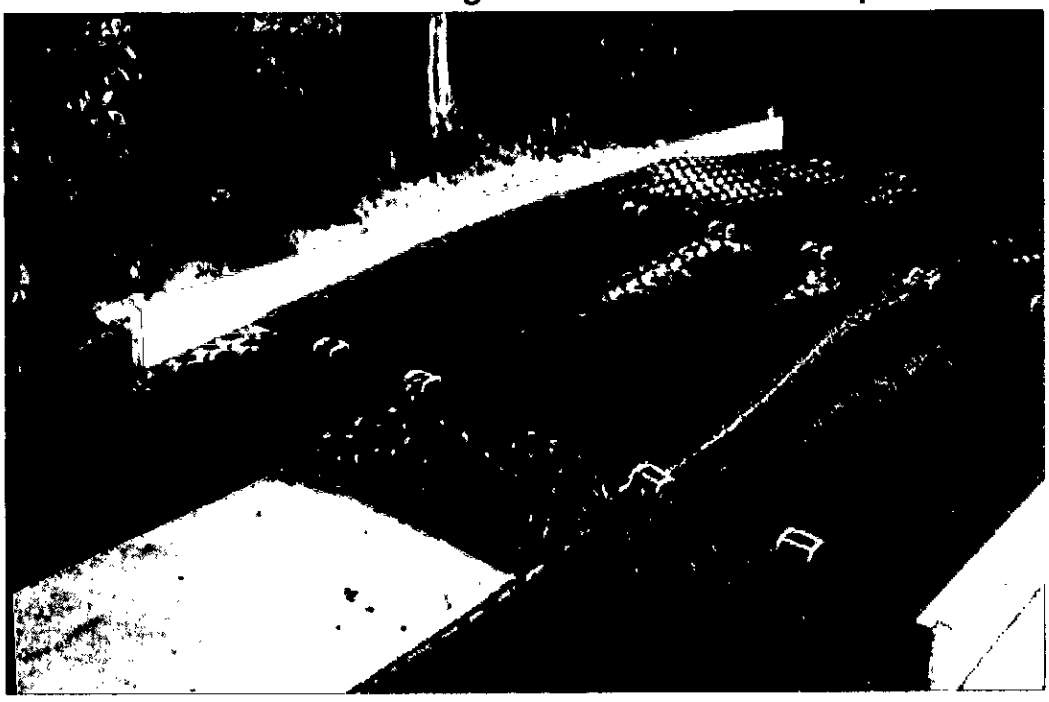
Tree Works:

- 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 project 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.
- The project arboriculturist will highlight trees for removal and give detail on how this is to be done. The removal of a tree must 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 must be used to prevent soil compaction and/or soil and root damage.
- Clearance pruning may become necessary at times for various reasons, and the project 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 per the 'Tree Protection Plan' drawing 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.

Ground Protection for Working Within Rootzones Examples:



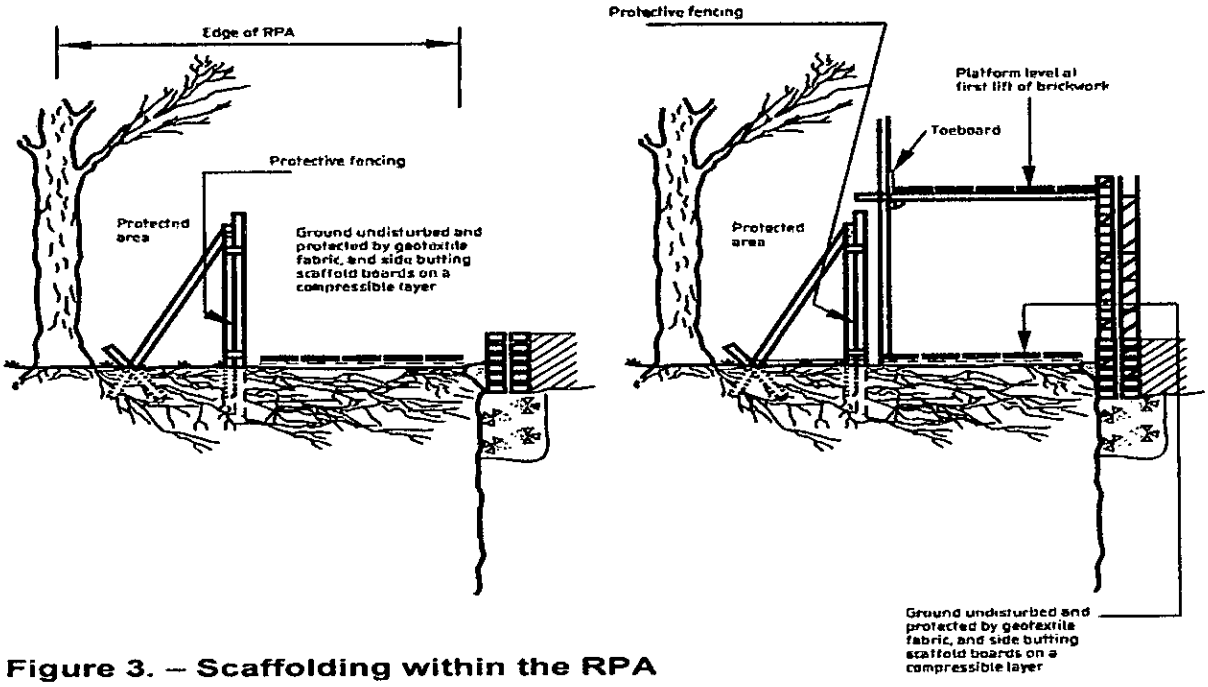
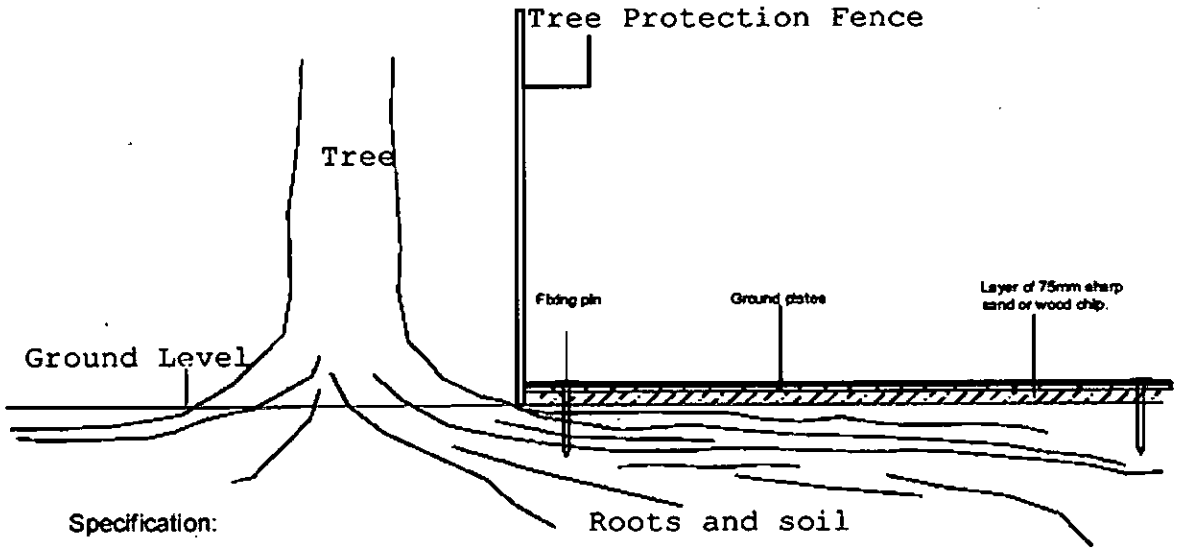


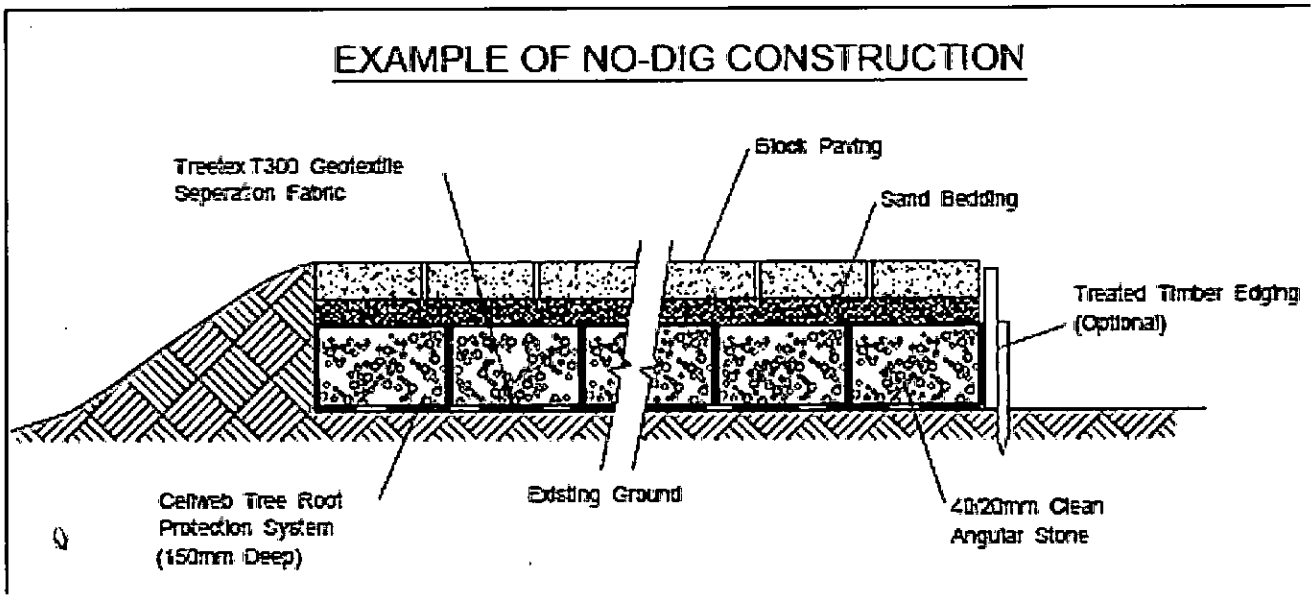
Figure 3. – Scaffolding within the RPA



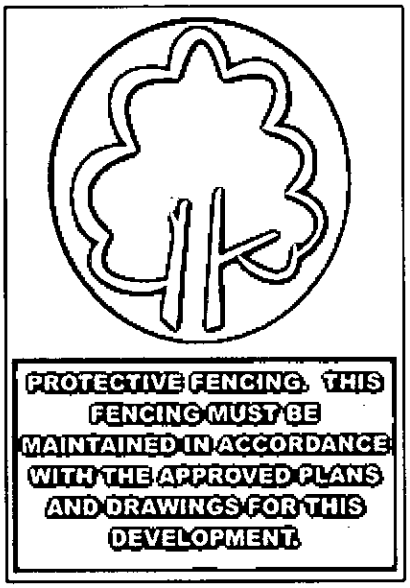
Specification:

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. Google street view and aerial view images have been used to aid this report.

Limitations of Survey

This tree survey was carried out from the ground, without the use of decay detection equipment. 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.

At your request we are providing you with AutoCAD drawings. Because the CAD information stored in electronic form can be modified by other parties intentionally or otherwise, without notice or indication of said modifications, Veon reserves the right to remove all indices of its ownership and/or involvement in material from each electronic medium not held in its possession. This material shall not be used by you or transferred to any other party for use in any other projects, additions to the current project or for any other purpose for which the material was not strictly intended by Veon without our express written permission. Any unauthorized modification or reuse of the material shall be at your sole risk, and you agree to defend, indemnify, and hold Veon harmless for all claims, injuries, damages, losses, expenses, and solicitors' fees arising out of the unauthorized modification or use of these materials. The recipient understands that the use of any project related computer data constitutes acceptance of the above conditions. On this basis, Veon is pleased to be able to provide CAD files related to the project.

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: Physiological and structural condition.
Crown: 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: Fungi that break down wood and cause structural issues.
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.
Included bark: A potentially structurally weak union between two stems of equal size.
Ash dieback (*Hymenoscyphus fraxineus*): A pathogenic disease that leads to the decline and demise of infected ash trees.

Monitor: Trees that need to be re-assessed within a set timeframe.
Tag No: Tag fixed to tree for identification.
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, reached maximum height.
Over Mature: A mature tree in natural decline.

Physiological condition:
Good: Crown full of foliage and good vigour.
Fair: Sparseness of foliage and/or low vigour.
Poor: Dieback of foliage/shoot development, disease affecting growth.
Dead: The tree is dead.

Structural condition:
Good: No major structural defects observed (possibly some minor defects).
Fair: Minor defects present, such as bark wounds and isolated decay pockets, structure affected due to overcrowding and dependent on group structure.
Poor: Major structural defects present such as extensive deadwood, decay cavities, splitting/cracking.

Dead wood diameter sizes:
Small: <50mm.
Medium: Between 50 – 100mm.
Large: >100mm.

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.			