

**TREE SURVEY REPORT**

**FOR:**

**WESTGATE, DROGHEDA**

**M. LARGE TREE SERVICES LTD.**

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# M. LARGE TREE SERVICES LTD

## TREE SURVEY AND REPORT

SITE:

**WESTGATE, DROGHEDA**

CLIENT:

LOUTH COUNTY COUNCIL

TERMS OF REFERENCE:

- **To survey and produce a report on the health and condition of trees growing on the above site.**
- **To make recommendations for tree works to ensure site safety and good arboricultural management.**
- **To provide a photographic record of the trees on the site.**

SURVEY DATE (S)

**25<sup>th</sup> October 2021**

SURVEYED BY

**Stephen Warren**

TREE SURVEY AND REPORT FOR:  
**WESTGATE, DROGHEDA**

1. OVERVIEW.

A total of thirty-eight individual trees and one small group have been surveyed on the site. Of these, the majority are in a healthy condition, and require only minimal remedial attention. The group, and three individual trees are in poor health, and are recommended for removal.

As the trees are growing in public areas, monitoring is necessary out to ensure the lateral or lower branch growth does not become a hazard for pedestrians. This may be regarded as only a minor part of the management of the trees, but should be carried out in addition to the specific recommendations and on an ongoing basis.

Specific observations and recommendations for individual trees and groups are recorded in the attached survey schedule. All tree works carried out should follow British Standard (BS) 3998: 2010: *Tree works recommendations*.

There is a proposed development and regeneration of the area. Any and all construction or development operations carried out within the RPA of any tree must follow British Standard (BS) 5837:2012: *Trees in relation to design, development, and construction – Recommendations*.

**Stephen Warren BSc (Hons)**

## 2. SURVEY METHODOLOGY.

- The site was surveyed on the 25<sup>th</sup> of October 2021. Trees were assessed visually in accordance with standard Visual Tree Assessment and the report compiled in the attached survey schedule follows as per BS 5837:2012.
- The trees were inspected from ground level only, and no decay detection equipment was used.
- No tissue samples were taken, nor were any internal investigations of the subject trees undertaken.
- No soil samples were taken.
- All trees have been surveyed individually.
- Trees below 75mm diameter at a height of 1.5m are not covered under BS5837 2012 and any examples growing on the site have not been included in this survey.
- All trees surveyed have been marked on a map plan supplied by Turleys Architects. This plan shows the tree number, category, Root Protection Area (RPA), accurate crown spreads and Construction Exclusion Zones (CEZ).
- Root Protection Areas (RPA) are recorded in the schedule and highlighted on the map with red circles around the trees. These are minimum areas in m<sup>2</sup> and should be left undisturbed around each tree. Those described as in poor condition, have still been marked with an RPA.

The following information was recorded for each tree:

**Tree Number.**

Trees are designated a number that is unique to them throughout the survey.

**Tree Species.**

The common name.

**Life stage.**

The relative age within its species and is expressed as young (y), semi-mature (sm), mature (m) and over-mature (om).

**Tree height.**

The approximate height of the tree in metres from ground level to the top of the crown.

**Diameter at breast height.**

The diameter of the main stem (cm) measured at 1.5m from ground.

**Crown spread.**

The crown extent (m) from the stem centre to the North, South, East, and West. These figures were estimated by pacing.

**BS5837 Root Protection Area (m<sup>2</sup>).**

An assessment of the Root Protection Area (RPA) required, based on the individual tree data collected and calculations found in BS5837: 2012.

**BS5837 Root Protection radius (m).**

The distance measured, in metres, from the stem centre and used to calculate the Root Protection Area.

**Observations.**

Notes on the trees structure and health.

**Recommendations for remedial works.**

Notes on recommended tree surgery to maintain the tree.

**BS5837 tree categorization rating.**

See table 1.

Table 1 Adapted from BS 5837: 2012 (p.9)

Table 1 Cascade chart for tree quality assessment				
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
<b>Trees unsuitable for retention</b> (see Note)				
<b>Category U</b> 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	<ul style="list-style-type: none"> <li>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)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>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</li> </ul> <p><i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p>			See Table 2
	<b>1 Mainly arboricultural qualities</b>	<b>2 Mainly landscape qualities</b>	<b>3 Mainly cultural values, including conservation</b>	
<b>Trees to be considered for retention</b>				
<b>Category A</b> <b>Trees of high quality</b> 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
<b>Category B</b> <b>Trees of moderate quality</b> 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
<b>Category C</b> <b>Trees of low quality</b> 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

Table 2 Adapted from BS 5837: 2012 (p.10)

### Identification of tree categories

Category (from Table 1)	Colour <sup>A)</sup>	RGB code <sup>A)</sup>
U	Dark red	127-000-000
A	Light green	000-255-000
B	Mid blue	000-000-255
C	Grey	091-091-091

<sup>A)</sup> Colours verified against <http://safecolours.rigdenage.com/palettefiles.html#files> [viewed 2012-03-26].

### 3. TREE PROTECTION MEASURES.

All construction operations carried out within the RPA should follow *British Standard (BS) 5837:2012: Trees in relation to design, development, and construction – Recommendations*.

#### 3.1.1 Protective fencing.

The protective fencing shall be erected to form a Construction Exclusion Zone (CEZ) and will be erected prior to any site works. BS5837 defines this zone as an 'area based on the root protection area from which access is prohibited for the duration of a project' (p.3). As a guideline, it may be described as a square of length and breadth equal to the diameter of the RPA (figure 1).

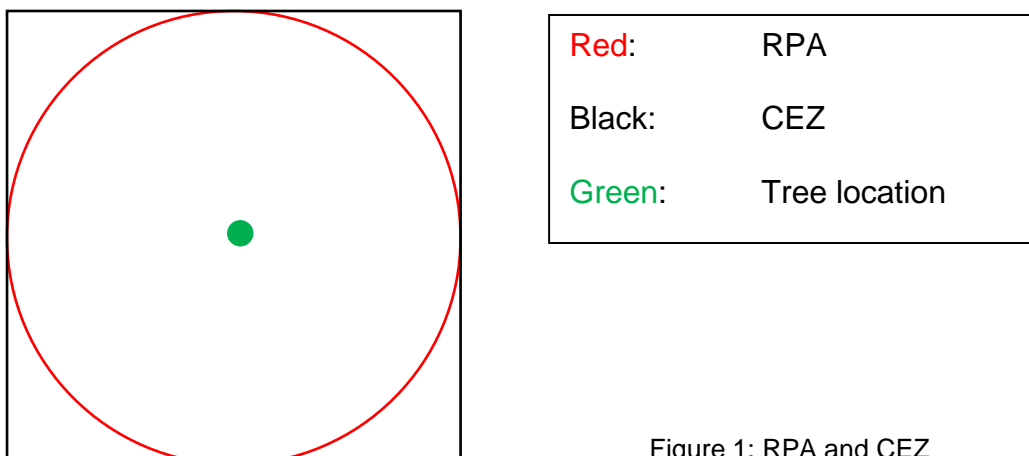


Figure 1: RPA and CEZ

The barrier will comprise of a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weld mesh panels will be fixed securely with wire or scaffold clamps (Figure 2). Weld mesh panels on rubber or concrete feet are not resistant to impact, and should not be used.

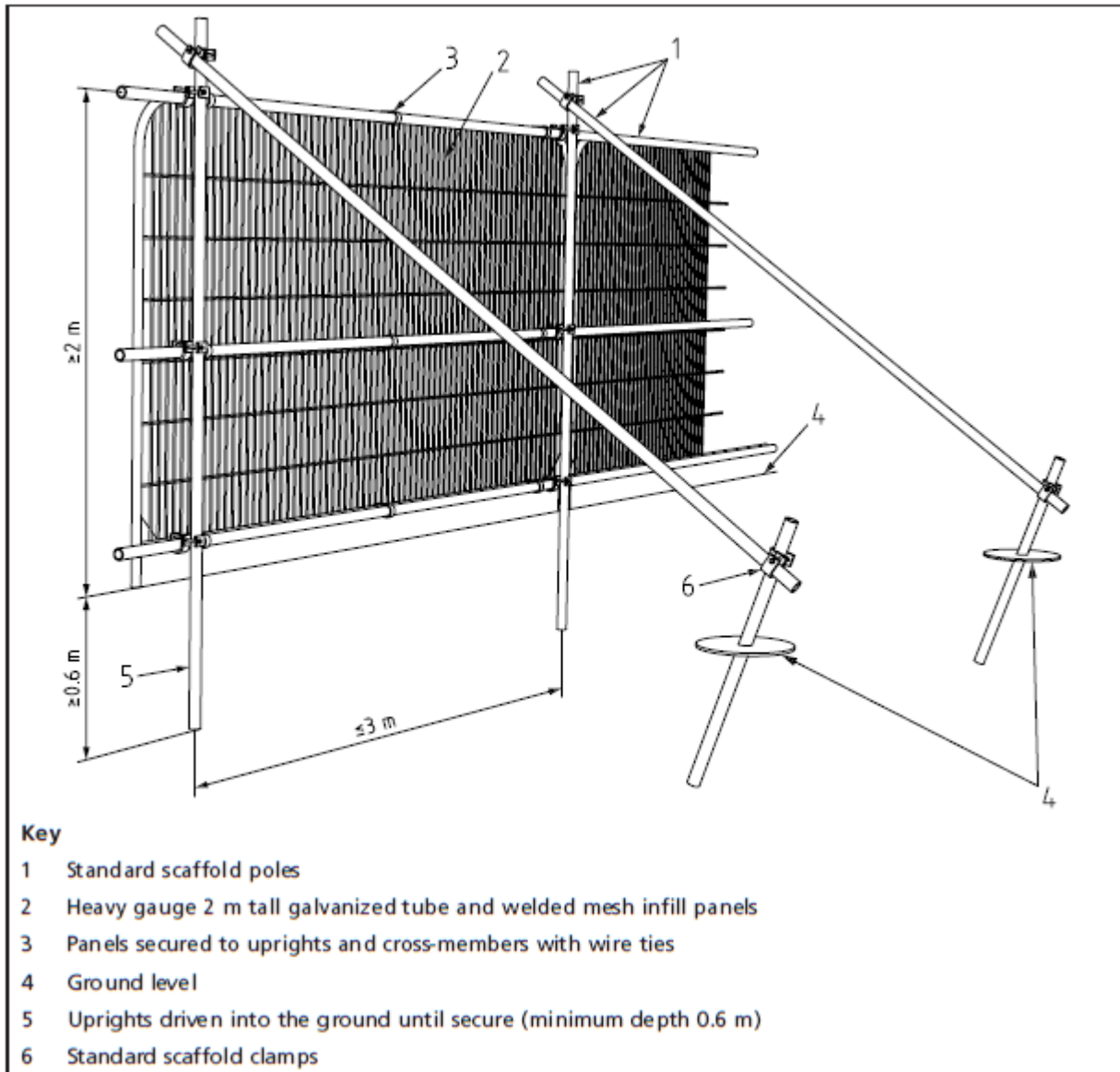


Figure 2 - Tree Protective fencing specification (adapted from BS5837:2012, p.20).

Once the fencing is in place, it must remain in-situ throughout the following:

- Contractor occupancy
- Plant and Materials delivery
- Construction works
- Installation of porous surfacing
- Utility installation
- Completion of development
- Landscaping



### 3.1.2

The area within the CEZ will be regarded as sacrosanct and the tree protective fencing shall not be taken down, or relocated, at any time without the consultation of an arboriculturalist.

### 3.1.3

Ground protection within a Root Protection Area (RPA) can take the form of scaffold boards or trakway. This will enable the provision of working space within the RPA. And allow pedestrian movements.

### 3.1.4

Removal of existing surfacing, built forms or other excavations within the Construction Exclusion Zone of retained trees, must be done by hand (where feasible and in line with Health and Safety polices), to avoid any surface root damage, and shall be supervised on-site by the retained Arboricultural Consultant.

### 3.1.5

Any removal of hard surfacing, built form, or other excavations near trees, will be undertaken by working only from the existing hard surface or protected ground area. The required work should then be completed with hand operated tools or appropriate machinery, but under the supervision of an arboriculturalist. Any machinery or equipment to be used will need to be lightweight, and run on additional ground protection, or working from the existing hard standing only.

If the area of the zone of protection around the retained trees is to be left following the removal of the existing hard surface, before a new hard surface is laid, or the area receives soft landscaping treatment, then ground/tree protection **MUST** be correctly re-established immediately after the hard surface removal work has been completed. If for whatever reason there is a delay before the area that was previously protected by hard surfacing is left exposed, and is awaiting new surfacing, then a temporary surface must be implemented, and/or Hessian sacking must be placed over any exposed roots.

### 3.2 AREAS OF ROAD OR PARKING WITHIN RPA.

The areas of road or parking within the Root Protection Area of the trees will be constructed using a cellular confinement system on top of Geotextile membrane. This system, which uses no-dig techniques for its installation means that:

- No roots will be severed.
- No soil will be compacted.
- The free action of oxygen and carbon dioxide into and out of the soil is maintained.
- Water infiltration into the soil is not impeded.

When installing the system, the following guidelines should be adhered to:

- The ground must be protected at all stages of installation. There is little point in using this technique if the damage to the roots and soil is done by other site activities before it is installed.
- Geotextile membrane will be used underneath the cell system to prevent penetration into the soil of fill material.
- The fill material should be granular and permit water and air flow.
- Any edging should be carefully designed to prevent excavation and root severance.
- A permeable and gas porous wearing course should be installed above the Geocell.

The method for installing this system will be as follows:

- 1 Remove grass and other vegetation and the upper organic layer of soil by hand digging. Arisings should be wheel-barrowed out of the tree protection area. Machinery (even low ground pressure tracked vehicles) should not be used due to the danger of soil compaction.
- 2 Small depressions may be filled with sharp sand.
- 3 Lay out Geotextile over the area.
- 4 Lay out Geocell and carefully peg in place.
- 5 Fill the cells working from the area furthest from the tree first. Further filling should be carried out using the filled Geocell as a platform.
- 6 Install a permeable wearing course, e.g. porous tarmac, block pavements on a sharp sand base (a further layer of Terram above the filled Geocell will be needed in this case to prevent the sand mixing with the granular fill below).

### 3.3 UTILITY SERVICE CONNECTIONS.

The following services should avoid the Root Protection Areas of trees and their roots:

- Foul and surface water drains
- Electricity
- Land drains
- Telephone
- Soakaways
- Lighting
- Gas Signage
- Oil Water

### 3.4 TRENCHLESS TECHNIQUE.

If, for whatever reason this is not possible, service runs will be installed using a trenchless technique. This will be in the form of either auger boring, 500mm below the existing ground hand dug trenches level, or by use of an air spade, so that most roots are retained and therefore the installation is not detrimental to the retained trees. These services will be installed following the guidelines as set out in National Joint Utilities Group Technical Publication, Vol. 4 (2007) – “Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees”.

### 3.5 AVOIDING DAMAGE TO STEMS AND BRANCHES.

Care shall be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs, and counterweights, can operate without coming into contact with retained trees. Such contact could result in serious damage to them, and might make their safe retention impossible. Consequently, any transit or traverse of plant near trees, should be conducted under the supervision of a banksman, to ensure adequate clearance from trees is always maintained.

### 3.6 REPORT DAMAGE TO TREES AND TREE PROTECTION FENCING.

Should any damage occur to trees noted for retention, either by the above works or as the result of any other action, the damage should be reported to the site supervisor immediately. The site agent shall report up the chain of responsibility to the retained Consultant Arboriculturalist, or in the absence of such an appointment, to an appropriately qualified Arboriculturalist, to enable remedial measures to be implemented as necessary.

Should protective fencing become so damaged that its function in protecting trees is impaired, all work shall cease near the damage, until the fence has been returned to standard.

### 3.7 COMPENSATORY AND PRE-EMPTIVE PRUNING.

Where root damage is expected and unavoidable, or where the crown of a tree may infringe upon the development, it is appropriate to reduce a tree by pruning. This can, in the case of root loss, limit the die back and loss of vigor presented in the crown common with this problem. In the case where the crown infringes upon the development pre-emptive pruning can mean that the tree is undamaged and will not interfere with construction resulting in possible damage.

### 3.8 REMOVAL OF PROTECTIVE FENCING.

When the development phase is complete, all drainage and service runs are in place, all site machinery has been removed, and any landscaping for the principal area of the site has been implemented, the protective fencing will be dismantled. This fence dismantling must be done with great care, and will need to be supervised to avoid heavy machinery being used. Hoarding, scaffolding and other fencing materials will need to be removed from site immediately.

#### 4. SUMMARY OF TREE SURVEY.

There is a minor amount of ivy growth on several trees throughout the site. Ivy has a high biodiversity value and, in woodland environments, the cutting and removal of it is not recommended. However, it may also disguise underlying problems as well as increasing the sail effect of crowns and all trees on the site with ivy growth should have that growth be cut at the base.

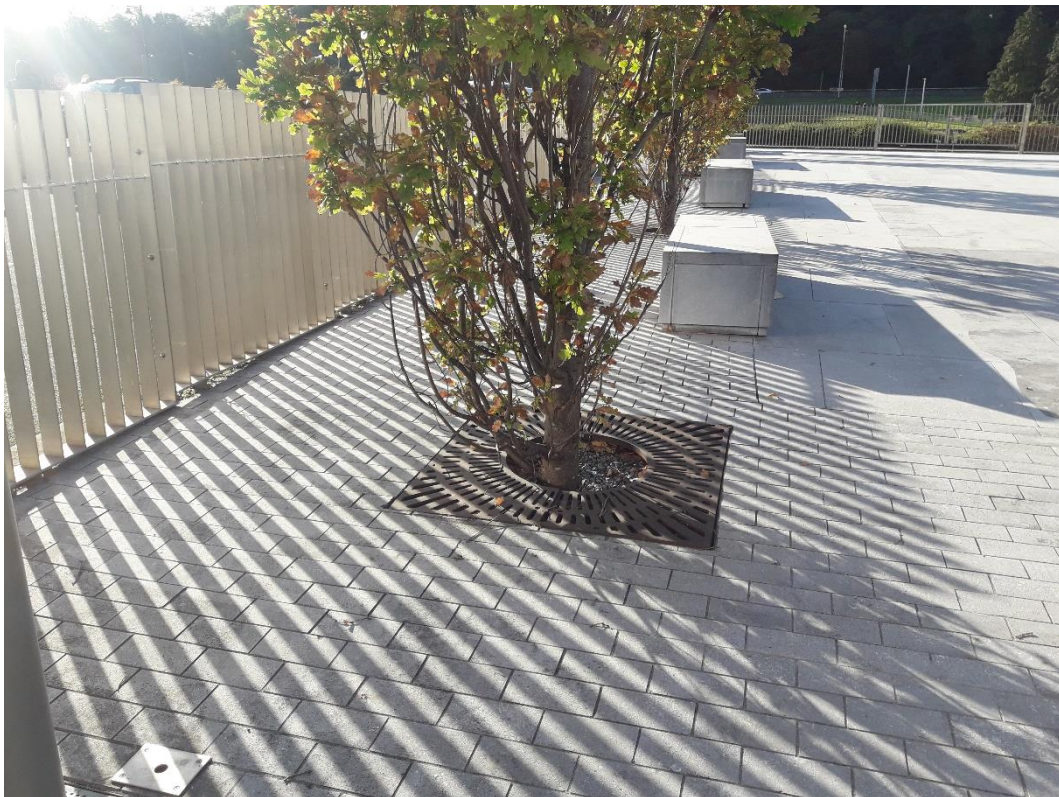
There is also a build-up of deadwood in many of the larger trees. Whilst this is a natural occurrence, and does not reflect the overall health of an individual tree, there is considered to be a risk of damage to persons or property beneath the crown caused by falling deadwood. It should therefore be kept to a minimum, and crown cleaning has been recommended. This consists of the removal of all unwanted material from the crown of the tree and may be regarded as the basic safety prune. It should include the removal of all dead, dying, broken or diseased material from the tree.



*Photograph 1: An overview of trees 16 (right) to 25.*

In conifer species, there is often a significant amount of natural dieback of the lower branches. As the crown of the tree grows, it effectively suppresses its own lower branches. This is generally not as large as the deadwood occurring in the crowns of broadleaved trees and is not considered to be as hazardous. Examples of trees with such natural dieback need not be crown-cleaned, unless immediately overhanging roads or paths.

Many trees are growing close to paths, roads, and other hard surfaces. These surfaces act as a barrier to root development and trees affected should be monitored for any loss of vigour. In addition, damage may be caused by the weight of vehicles to any roots that have grown under these surfaces. Root growth may even cause damage to the surfaces, potentially creating a risk to the public or vehicles. In all cases, regular monitoring is required to identify potential problems as early as possible.



*Photograph 2: The base of tree 1 growing within a hard, paved surface.*

Crown reduction has been recommended for many trees and may be used to reduce mechanical stress on individual branches or the whole tree, making the tree more suited to its immediate environment. Any reduction should retain the main structure of the crown and a significant proportion of the foliage, leaving a similar, but smaller outline. Pruning cuts should be as small as possible and in general not exceed 10cm diameter. Measurements for reduction recommended in the report should be regarded as approximate, with pruning cuts made at an appropriate branching point rather than removing exactly the specified length. Please note, a general reduction of 4m (for example) is a reduction of 4m from the height and 4m from the *total* width of the tree. Where necessary, more detailed measurements are given.

The term “reduce endweight to balance crown” is used where a tree has more branching in one direction, causing it to become unbalanced. Whilst an unbalanced crown is not necessarily an immediate problem, uneven weighting in a tree can increase the likelihood of wind-throw. The shortest “extent” of each crown-spread should be taken as a guide and the remaining branches pruned close to that length.



*Photograph 3: Note how number 10 (right) is becoming slightly unbalanced due to suppression from the tree.*

## ADDITIONAL PHOTOGRAPHIC RECORD



*Photograph 4: An overview of trees 1-5 (left to right).*



*Photograph 5: Minor damage at the base of tree 10. This type of wounding is unlikely to have long term detrimental effects of the tree.*





*Photograph 6: Tree 12, growing from the wall of the bridge.*



*Photograph 7: As they expand, the roots of tree 12 will push and weaken the structural integrity of the wall.*



*Photograph 8: The base of tree 31. Note close proximity of the carpark and the pavement/road. These surfaces will affect the growth and development of the roots.*



*Photograph 9: Group 38. These self-seeded trees are growing on top of (or at the base of) the old stone wall. As with tree 12, the root systems are unlikely to fully develop, resulting in the failure of the trees, and the weakening of the wall.*

## **KEY TO SURVEY SHEETS**

- 1) TREE NO: REFERENCE TAG NUMBER ON TREE.
- 2) TREE SPECIES.
- 3) AGE:       y: YOUNG.  
              sm: SEMI MATURE.  
              m: MATURE.  
              om: OVER MATURE.
- 4) CONDITION\*:  
    GOOD: A SUPERIOR TREE WITH NO VISIBLE FAULTS.  
    FAIR: A HEALTHY TREE WITH ONLY MINOR DEFECTS.  
    POOR: SEVERAL OR SEVERE DEFICIENCIES HEALTH.  
    DEAD: DEAD OR DEATH IMMINENT. FAILURE IRREVERSIBLE.
- 5) HT: TREE HEIGHT IN METERS.
- 6) DBH: DIAMETER AT BREAST HEIGHT (1.5m).
- 7) RPR: ROOT PROTECTION RADIUS.  
    THE RADIUS, IN METRES, USED TO CALCULATE THE RPA.
- 8) RPA (ROOT PROTECTION AREA):  
    THE MINIMUM AREA AROUND A TREE DEEMED TO CONTAIN  
    SUFFICIENT ROOTS AND ROOTING VOLUME TO MAINTAIN THE TREE.  
    PROTECTION OF THE ROOTS AND SOIL STRUCTURE IS TREATED AS  
    A PRIORITY. CALCULATED AS PER GUIDELINES IN BS 5837 (2012).
- 9) CROWN SPREAD:  
    THE DISTANCE IN METRES FROM THE CENTRE OF THE TREE TO THE  
    NORTH, SOUTH, EAST, AND WEST.
- 10) OBSERVATIONS:  
    COMMENTS REGARDING THE GENERAL HEALTH AND CONDITION OF  
    THE TREE.
- 11) RECOMMENDATIONS:  
    ACTION TO BE TAKEN BASED ON OBSERVATIONS.
- 12) BS5837 TREE CATEGORISATION RATING (SEE TABLE 1).

**\*Please note:**

*The condition of a tree is based on its physiological health when inspected, and does not include any external environmental factors (such as restrictions to root growth) or predicted development of issues (such as spread of existing decay). Therefore, a direct correlation between the condition of a tree and its category SHOULD NOT BE ASSUMED. As an extreme example, a tree may in theory be described as in "good" condition, but still have a low Categorisation Rating (12).*

No	Species	Age	Cdtn	Ht (m)	DBH (cm)	RPR (m)	RPA (m <sup>2</sup> )	Crown Spread (m)				Observations	Recommendations	Cat
								N	S	E	W			
1	Oak	y	Fair	5	8	0.96	3	1	1	1	1	This single stemmed tree has a healthy crown. It is growing in a small bed, surrounded by hard surfaces. There is branching from ground level.	No action is required at this time.	B
2	Oak	y	Fair	5	8	0.96	3	1	1	1	1	This single stemmed tree has a healthy crown. It is growing in a small bed, surrounded by hard surfaces. There is branching from ground level.	No action is required at this time.	B
3	Oak	y	Fair	5	8	0.96	3	1	1	1	1	This single stemmed tree has a healthy crown. It is growing in a small bed, surrounded by hard surfaces. There is branching from ground level.	No action is required at this time.	B
4	Oak	y	Fair	5	7	0.84	2	1	1	1	1	This single stemmed tree has a healthy crown. It is growing in a small bed, surrounded by hard surfaces. There is branching from ground level.	No action is required at this time.	B
5	Oak	y	Fair	5	8	0.96	3	1	1	1	1	This single stemmed tree has a healthy crown. It is growing in a small bed, surrounded by hard surfaces. There is branching from ground level.	No action is required at this time.	B
6	Lime	y	Fair	5	11	1.32	5	2	2	2	2	This single stemmed tree has a healthy crown. There is minor wounding at points of branch loss, and epicormic growth at the base. The tree has a minor inclusion at the fork union.	Remove epicormic growth.	B
7	Lime	y	Fair	7	13	1.56	8	3	3	2	2	This single stemmed tree has a healthy crown. There is minor wounding to the lower part of the stem.	No action is required at this time.	B
8	Lime	y	Fair	7	12	1.44	7	2	3	1	2	This single stemmed tree has a healthy crown. The tree has minor epicormic growth at the base.	No action is required at this time.	B
9	Hazel	y	Fair	4	to 12	1.44	7	3	4	5	4	This multi-stemmed tree has a healthy, partially suppressed crown. It is self-seeded, natural regeneration growing at the edge of a river.	No action is required at this time.	C

No	Species	Age	Cdtn	Ht (m)	DBH (cm)	RPR (m)	RPA (m <sup>2</sup> )	Crown Spread (m)				Observations	Recommendations	Cat
								N	S	E	W			
10	Lime	y	Fair	7	14	1.68	9	1	3	2	2	This single stemmed tree has a healthy, partially suppressed crown. There is slightly more branching to the south due to suppression from tree 9, and the crown may become unbalanced. The tree has old, minor wounding to the lower part of the stem.	No action is required at this time.	B
11	Lime	y	Fair	6	12	1.44	7	2	3	2	3	This single stemmed tree has a healthy crown. There is an inclusion at the fork union and epicormic growth at the base.	Remove epicormic growth.	B
12	Sycamore	y	Poor	5	to 13	1.56	8	1	0	1	2	This multi-stemmed tree has a healthy crown, but is self-seeded, natural regeneration growing from a wall. The location will have an adverse effect on the long-term health of this tree, and damage the structural integrity of the wall.	Fell to maintain site safety.	U
13	Sycamore	y	Poor	6	12	1.44	7	2	1	2	1	This single stemmed tree has a healthy crown, but is growing at the base of a wall. The location will have an adverse effect on the long-term health of this tree, and damage the base of the wall.	Fell to maintain site safety.	U
14	Sycamore	y	Fair	9	to 16	1.92	12	3	3	4	3	This multi-stemmed tree has a healthy crown that contains minor crossed/fused branches, and has an inclusion at the fork union. The tree is partially overgrown with ivy. It is growing between a path and a road, and may have a restricted root system as a result.	Cut ivy.	B
15	Willow	y	Fair	5	to 11	1.32	5	2	3	3	3	This multi-stemmed tree has a healthy crown. It is self-seeded, natural regeneration growing at the edge of a river. There is minor deadwood throughout the crown, and the tree is partially overgrown with ivy.	No action is required at this time.	C

No	Species	Age	Cdtn	Ht (m)	DBH (cm)	RPR (m)	RPA (m <sup>2</sup> )	Crown Spread (m)				Observations	Recommendations	Cat
								N	S	E	W			
16	Cypress	m	Fair	16	to 25	3.00	28	2	3	2	2	This multi-stemmed tree has a healthy, partially suppressed crown that contains minor deadwood. There is also natural dieback of the inner and lower branches. The tree has a sweep at the base, and minor wounding to the buttress. It is growing close to a wall, and may have a restricted root system as a result.	No action is required at this time.	B
17	Cypress	m	Fair	17	to 30	3.60	41	4	3	3	3	This multi-stemmed tree has a healthy, partially suppressed crown that contains deadwood. There is also a broken (split) branch to the north, and natural dieback of the inner and lower branches. The tree is heavily overgrown with ivy and is overhanging a path.	Remove deadwood and broken branch. Cut ivy.	B
18	Lime	m	Fair	17	51	6.12	118	4	5	3	4	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is deadwood throughout the crown, and lateral branch growth overhangs a path and a streetlight. There is minor epicormic growth at the base. It is growing close to a wall, and may have a restricted root system as a result. There is a decayed wound to the lower part of the main stem.	Remove epicormic growth. Crown clean. Reduce endweight to balance crown. Reduce height by 4m.	B
19	Lime	m	Fair	17	50	6.00	113	4	6	6	4	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is deadwood throughout the crown, and lateral branch growth overhangs a path and a playground. There is minor epicormic growth at the base and minor ivy growth on the main stem. It is growing close to a wall, and may have a restricted root system as a result.	Remove epicormic growth. Crown clean. Reduce endweight to balance crown. Reduce height by 4m.	B
20	Lime	m	Fair	17	52	6.24	122	6	4	5	4	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is deadwood throughout the crown, and lateral branch growth overhangs a path and a playground. There is minor epicormic growth at the base. It is growing close to a wall, and may have a restricted root system as a result. There is a large inclusion at the fork union.	Remove epicormic growth. Crown clean. Reduce endweight to balance crown. Reduce height by 4m.	B

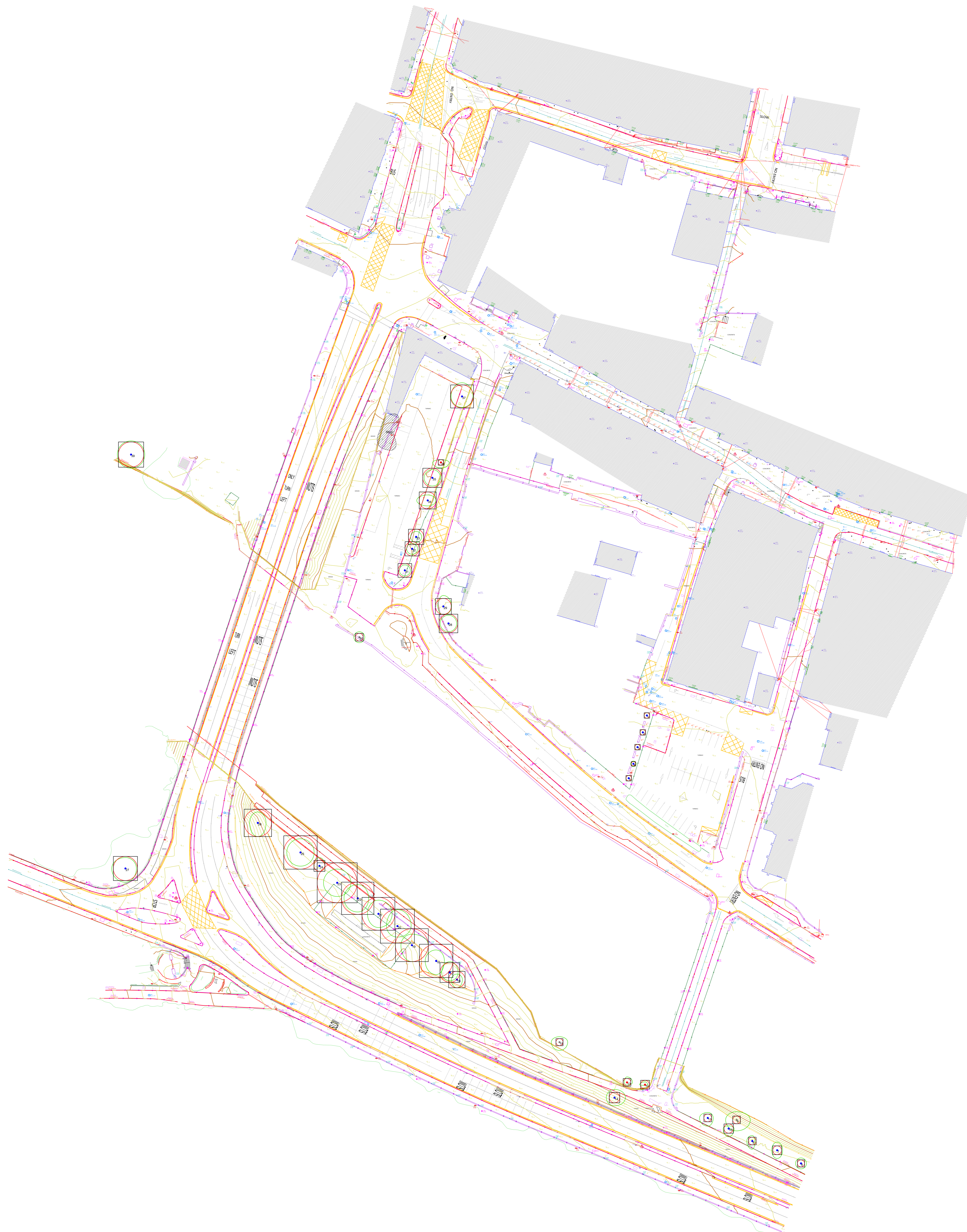
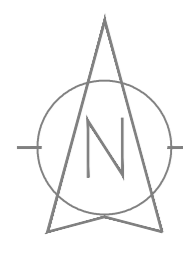
No	Species	Age	Cdtm	Ht (m)	DBH (cm)	RPR (m)	RPA (m <sup>2</sup> )	Crown Spread (m)				Observations	Recommendations	Cat
								N	S	E	W			
21	Lime	m	Fair	17	50	6.00	113	5	5	5	4	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is deadwood throughout the crown, and lateral branch growth overhangs a path and a playground. There is minor epicormic growth at the base and slight scraping wounds to the lower part of the stem. It is growing close to a wall, and may have a restricted root system as a result.	Remove epicormic growth. Crown clean. Reduce endweight to balance crown. Reduce height by 4m.	B
22	Lime	m	Fair	17	49	5.88	109	5	5	4	5	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is deadwood throughout the crown, and lateral branch growth overhangs a path and a playground. There is minor epicormic growth, ivy, and wounding at the base. It is growing close to a wall, and may have a restricted root system as a result.	Remove epicormic growth. Crown clean. Reduce endweight to balance crown. Reduce height by 4m.	B
23	Lime	m	Fair	17	61	7.32	168	5	5	5	5	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is deadwood and crossed/fused branches throughout the crown, and lateral branch growth overhangs a path and a playground. There is minor epicormic growth at the base. It is growing close to a wall, and may have a restricted root system as a result.	Remove epicormic growth. Crown clean. Reduce endweight to 4m. Reduce height by 4m.	B
24	Lime	sm	Fair	10	to 17	2.04	13	3	2	2	2	This multi-stemmed tree has a healthy, partially suppressed crown that contains minor deadwood and small crossed/fused branches. There is decayed wounding to the lower part of the stem. The tree is growing close to a wall, and is overhanging a streetlight and a path.	No action is required at this time.	B
25	Lime	m	Fair	14	51	6.12	118	5	5	5	5	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is minor deadwood throughout the crown, and lateral branches overhang a path. The tree is growing close to a wall and may have a restricted root system as a result. It is heavily overgrown with ivy, and has epicormic growth at the base.	Remove epicormic growth. Cut ivy. Crown clean. Crown reduce by 2m.	B

No	Species	Age	Cdtn	Ht (m)	DBH (cm)	RPR (m)	RPA (m <sup>2</sup> )	Crown Spread (m)				Observations	Recommendations	Cat
								N	S	E	W			
26	Lime	m	Fair	10	42	5.04	80	4	5	3	3	This single stemmed tree has a healthy crown that has previously been reduced. It is growing on a slope and has epicormic growth at the base. The tree is heavily overgrown with ivy. There an inclusion at the main fork union, and smaller inclusions at several forks throughout the crown.	Remove epicormic growth. Cut ivy. Reduce endweight to balance crown.	B
27	Sycamore	m	Fair	15	37	4.44	62	4	5	4	5	This single stemmed tree is forking at 2m and has a large inclusion at the fork union. The tree has a healthy, partially suppressed crown. It is growing on a slope and is overhanging a path.	No action is required at this time.	B
28	Willow	sm	Fair	7	28	3.36	35	3	3	3	3	This single stemmed tree has a healthy, partially suppressed crown that contains minor deadwood. It is growing at the base of a streetlight, and has previously been crown-lifted over a pavement. A large secondary stem has been removed from the base.	No action is required at this time.	B
29	Rowan	m	Fair	6	24	2.88	26	4	3	3	2	This single stemmed tree has a healthy, partially suppressed crown that has previously been reduced. There is minor deadwood in the crown, and the tree is overhanging a pavement. There are old wounds at the base, likely due to strimmer damage. The root system is slightly exposed in the lawn, and minor damage has occurred.	No action is required at this time.	B
30	Sycamore	y	Fair	4	to 12	1.44	7	2	2	2	2	This multi-stemmed tree is self-seeded, natural regeneration growing on top of a wall at the edge of a river. It has a healthy, partially suppressed crown, but the root system is restricted by the wall and river.	No action is required at this time.	C
31	Hornbeam	sm	Fair	7	21	2.52	20	2	2	2	2	This single stemmed tree has a healthy crown. It is forking at 1m, so the DBH has been measured at the base. The tree is growing in a shrub bed between a pavement/road and a carpark area; the growth of the root system is likely to be restricted as a result.	No action is required at this time.	B



No	Species	Age	Cdtn	Ht (m)	DBH (cm)	RPR (m)	RPA (m <sup>2</sup> )	Crown Spread (m)				Observations	Recommendations	Cat
								N	S	E	W			
32	Hornbeam	sm	Fair	7	22	2.64	22	2	2	2	2	This single stemmed tree has a healthy crown. It is forking at 1m, so the DBH has been measured at the base. The tree is growing in a shrub bed between a pavement/road and a carpark area; the growth of the root system is likely to be restricted as a result.	No action is required at this time.	B
33	Hornbeam	sm	Fair	7	23	2.76	24	2	2	2	2	This single stemmed tree has a healthy crown. It is forking at 1m, so the DBH has been measured at the base. The tree is growing in a shrub bed between a pavement/road and a carpark area; the growth of the root system is likely to be restricted as a result.	No action is required at this time.	B
34	Hornbeam	sm	Fair	7	26	3.12	31	2	2	3	4	This single stemmed tree has a healthy, but slightly unbalanced and partially suppressed crown that contains minor deadwood and minor dieback. It is forking at 1m, so the DBH has been measured at the base. The tree is growing in a shrub bed between a pavement/road and a carpark area; the growth of the root system is likely to be restricted as a result.	Reduce endweight west by 2m. Monitor vigour.	B
35	Hornbeam	sm	Fair	8	29	3.48	38	3	3	3	3	This multi-stemmed tree has a healthy crown, but there are minor inclusions at several forks throughout the crown. It is forking at 1m, so the DBH has been measured at the base. The tree is growing in a shrub bed between a pavement/road and a carpark area; the growth of the root system is likely to be restricted as a result.	No action is required at this time.	B
36	Ash, Sycamore	y	Poor	to 6	to 8	0.96	3	1	2	3	3	These two multi-stemmed trees are self-seeded, natural regeneration growing at the base of a wall. The sycamore is too small to be subject to BS5837, but is growing so close to the ash that they should be managed together. There is inadequate area for sufficient root material to grow, and this will have an adverse effect on the long-term health of both trees.	Fell to maintain site safety.	U

No	Species	Age	Cdtn	Ht (m)	DBH (cm)	RPR (m)	RPA (m <sup>2</sup> )	Crown Spread (m)				Observations	Recommendations	Cat
								N	S	E	W			
37	Hornbeam	sm	Fair	9	35	4.20	55	5	4	4	4	This single stemmed tree is forking at 1.2m, so the DBH has been measured at the base. The tree has a large branch to the north that is developing into a secondary leader and causing a slight imbalance in the crown. The tree is growing in a shrub bed between a wall and a carpark area; the growth of the root system is likely to be restricted as a result. The tree is partially overgrown with ivy.	Cut ivy.	B
38	Mixed species	y	Poor	to 4	to 16	1.92	12	to 3				This group of sycamore and cypress trees are self-seeded, natural regeneration growing on top of a wall. There is ivy growth throughout. One sycamore is growing at the edge of the car park, at the base of the wall. This location will not allow the growth of an adequate amount of root material, and will eventually lead to the failure of the trees or significant damage to the wall.	Fell to maintain site safety.	U
39	Sycamore	m	Fair	16	38	4.56	65	5	5	5	5	This single stemmed tree has a healthy, partially suppressed crown that contains deadwood and minor dieback. It is growing at the base of a wall, and at the edge of a river. It is heavily overgrown with ivy and has minor wounding to the lower part of the stem.	Cut ivy. Crown clean. Reduce endweight to 4m. Reduce height by 4m.	B



**LEGEND**  
**Street furniture & Services**

5.12 Over Head Wires (LUAS) - Pylon ESB	5.12 Bus Stop	5.12 Bench Seat	5.12 Phone Box
5.12 Flowerbed	5.12 Bollard	5.12 Kiosk	5.12 Gas Cover
5.12 Pipe	5.12 Beacon	5.12 Gully	5.12 CP Box
5.12 Lift	5.12 Coashole Cover	5.12 UG Valve	5.12 JUG Car Park Vent
5.12 Barrier	5.12 Bore Hole	5.12 Waste Bin	
5.12 Pump	5.12 Electricity Pole	5.12 Hydrant	
5.12 Traffic Pole	5.12 Telegraph pole	5.12 Fire Hydrant	
5.12 Bus/Tram Shelter	5.12 OCS Pole	5.12 ESB Box	
5.12 Postbox	5.12 CCTV Camera Pole	5.12 ESB Inspection Cover	
5.12 Valve - General	5.12 Lamp Post	5.12 Traffic Control Box	
5.12 Water Valve	5.12 Foul Manhole	5.12 LUAS Technical Cubicle	
5.12 Gas Valve	5.12 Surface Water MH	5.12 Ticket Vending Machine	
5.12 Sluice Valve	5.12 Manholes	5.12 Water Meter Cover	
5.12 Air Valve	5.12 Air Conditioning Vents	5.12 Telecom Inspection Cover	
5.12 Street Curb	5.12 Services Inspection Cover	5.12 Monument / Toilets	
5.12 CP Post	5.12 Traffic Inspection Cover	5.12 Tank Storage	
5.12 Marker Post	5.12 Cable TV Inspection Cover	5.12 Basement: MHL Cover & Pipe	
5.12 Traffic Light	5.12 ESAT Inspection Cover	5.12 Dished Aerial Mark	
5.12 Parking Meter	5.12 NTL Inspection Cover	5.12 Stay for pole	
5.12 Plane Aerial Marker	5.12 Ercorn Inspection Cover	5.12 Pipe Protection	
5.12 Smart Card Validator	5.12 Rocking Eye	5.12 Washout	
5.12 Unknown Valve			

**Natural Features**

5.12 Surface Change	5.12 Water Level	5.12 Golf
5.12 Land Drain	5.12 Cover Level	5.12 Fair Way
5.12 Bottom of Slope	5.12 Invert level	5.12 Tee Box
5.12 Top of Slope	5.12 Bed Level	5.12 Other
5.12 Ditch	5.12 Spotlight	5.12 Survey Station
5.12 Water Edge / Lake / Pond		5.12 Photo point
5.12 Hedge / Trees Dip Line / Vegetation		
5.12 Tree Contourous	5.12 Tree Deciduous	5.12 Top of Tree

**Built Features**  
**Roads & Road Markings**

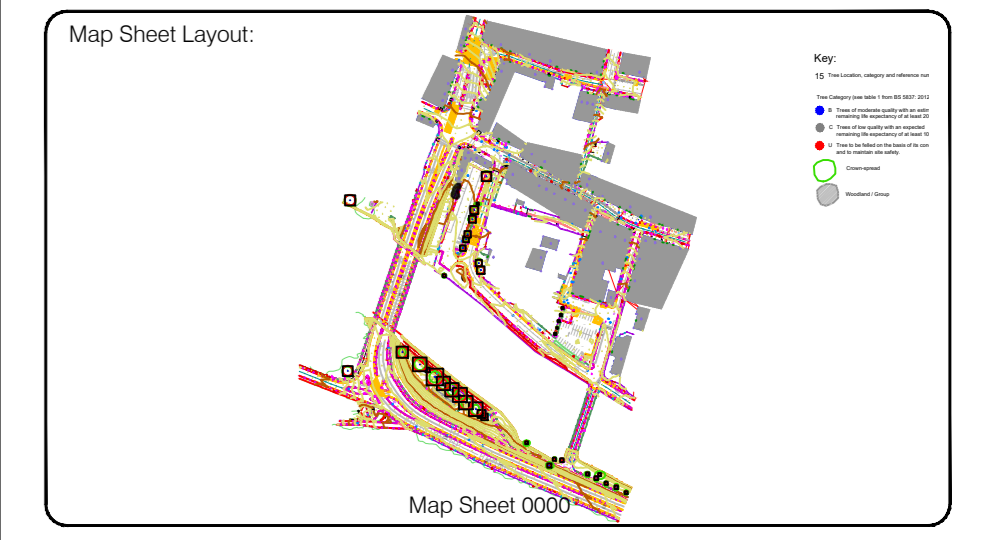
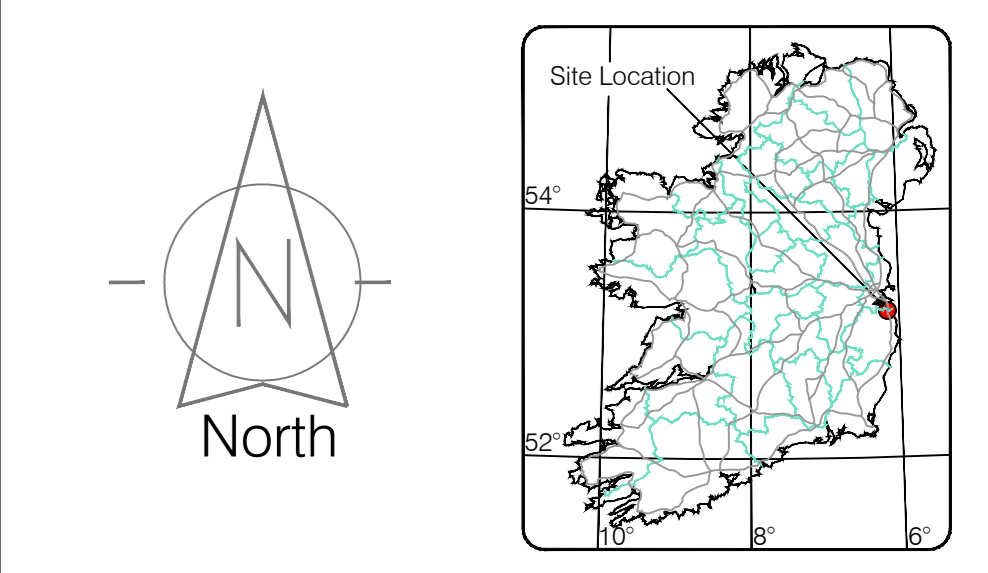
5.12 Building	5.12 Fence	5.12 Floor Level
5.12 Edge of Road	5.12 Gate	5.12 Apex Height
5.12 Kerb Bottom	5.12 Road Centreline	5.12 Eaves Height
5.12 Kerb Top	5.12 Top of Wall	5.12 Parapet Height
5.12 Bridge Abutment	5.12 Hoarding	5.12 Soffit Elevation
5.12 Bridge Deck	5.12 Property Line	5.12 Step Level
5.12 Bridge Parapet	5.12 Road Scar	5.12 Concrete Pad
5.12 Building Facade	5.12 Top of Fence	5.12 Track
5.12 Footpath / Platform / Tram & Tram	5.12 Wall / Retaining Wall	
5.12 Stamp / Post / Course / Vene	5.12 Railway / Tram Rail / Crossing / Ramp	
5.12 Bridge Pier / Wall & Gate Pier / LUAS Trackbed	5.12 Building Canopy / Roof / Overhang	
5.12 Cycleway / Private Landing Area		

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Drawn by: MP	Date: August 2021	Datum: Mean High
Drawn by: VMS	Date: September 2021	Grid System:
Checked by: PK	Date: 28.09.2021	Irish National Grid: ITM

No	Date	Description
1	28.09.2021	First Drawing

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<b>Client:</b>	Turley Property Advisors
<b>Project:</b>	Westgate, Drogheda
<b>Date:</b>	28.09.2021
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MSG42384_T_ITM_Rev0

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