



Arborist Associates Ltd

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Ref: CRNM89676790

12th September 2018

For the Attention of Mr. Cormac Ross

Resident Engineer
Meath County Council
Buvinda House
Dublin Road
Navan
Co. Meath

Dear Mr. Ross,

**Re: An Arboricultural Assessment of the Trees along the Boundary of
'St. Michael's Loreto Convent' Grounds with 'Convent Road', Athlumney, Navan,
Co. Meath.**

I inspected the tree vegetation within the grounds of the above site area as requested and the proposals along the boundary with 'Convent Road' and am pleased to submit the attached report and drawings which give details of my findings.

Recommendations made in this report are subject to the knowledge and expertise of the qualified Arboriculturist that carried out the above inspections.

If you require further information please do not hesitate to contact us, and we will do our best to be of assistance.

Yours sincerely,
For Arborist Associates Ltd.

Felim Sheridan

Felim Sheridan
F. Arbor. A, RFS Dip, Nat. Dip & NCH in Arboriculture.

Felim Sheridan's qualifications:

Fellow of the Arboricultural Association (F. Arbor. A), Professional diploma Arboriculture (RFS), National diploma Arboriculture (ND) and National certificate Horticulture (NCH).

Arborist Associates Ltd.

An Arboricultural Assessment of the Trees Along the Boundary of 'St. Michael's Loreto Convent' Grounds with 'Convent Road', Athlumney, Navan, Co. Meath.

Prepared for: Meath County Council.

**Prepared by: Felim Sheridan F. Arbor. A, RFS Dip, Nat. Dip & NCH in
Arboriculture**

Date: 12th September 2018

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1.0 Instructions

1.1 I have been instructed by the Engineering Department of Meath County Council to assess the tree vegetation located along the boundary of 'St. Michael's Loreto Convent' with 'Convent Road', Athlumney, Navan, Co. Meath and to report on the following:

- A -** To assess the present condition of the tree vegetation within this site area. See 'Appendix 2' and drawing No.CRN001 for detail of my findings.
- B:** To assess the impact of the proposed road alignment works on the tree vegetation indicating on a drawing those for removal and retention. See 'Section 5' of our report and drawing No.CRN002 for detail.
- C:** To show on this drawing the line of protective fencing to be erected around the tree vegetation being retained along with other mitigation measures to aid in their successful retention.

2.0 Report Limitations

2.1 The inspection has been carried out from ground level only and is a preliminary report. It does not include climbing inspections or below ground investigations. Should a more detailed inspection be thought necessary on any tree/s, then this will be highlighted within my recommendations.

2.2 The assessment is based on what was visible at the time and recommendations made are subject to the knowledge and expertise of the qualified Arborist that carried out the above inspections.

2.3 Trees should be inspected on a regular basis as their health and condition can change rapidly due to biotic and abiotic agents. The recommendations within this report are valid for a 12-month period only and this may be reduced in the case of any change in conditions to or in the proximity of the trees.

2.4 Before undertaking any work to these trees, it would be advisable to ensure all tree works are compliant with the relevant acts such as the wild life act and in particular regarding bird nesting and Bats.

3.0 Survey Data Collection and Methodology

3.1 The Arboricultural data which is presented within the attached tree schedule (see appendix 2), has been recorded in line with BS 5837:2012. The tree survey was conducted by collecting and assessing the following information on all significant trees located on site and plotted on the land survey map provided.

- Tree Number (metal tags attached to each tree).
- Tree species both common and botanical.
- Dimensions (Trunk diameter, height, crown spread and crown clearance).
- Age Class
- Physiological Condition
- Structural Condition
- Preliminary Recommendations

- Estimated remaining contribution within their present environment
 - Retention category
- 3.2 Each tree included within this assessment has been marked with a small aluminum tag with a reference number that relates to the main condition report. The tag numbers are attached to the trees at a height of 1.5- 2m from ground level and are orientated in such a way to assist in their relocation and the range in numbers goes from 0560-0587 inclusive.
- 3.3 The inspection of the trees involves a visual assessment from ground level only and does not include any invasive means of assessing the trees internally, their below ground parts or the aerial parts that are not visible from the ground. Good, fair and poor have been used to summarise the physiological and structural conditions of these trees with the comments giving more detail. Other items that may limit the assessment of a tree included Ivy cover, scrub vegetation and/or basal suckers.
- 3.4 Their retention category has been assessed and categorised according to their quality and value within the existing context (BS-4.5), and not in conjunction with any proposed development plans. In making this assessment, particular consideration was given to;

Arboricultural Value:

An assessment of the trees health, structural form, life expectancy, species and its physical contribution to or affects on other features located on site.

Landscape Value:

An assessment of a trees locality, including its contributions to other features as well as to the site as a whole.

Cultural Value:

Additional contributions made such as conservation, historical or commemorative value.

- 3.5 The trees have been divided into one of the following categories, in accordance with the cascade chart illustrated in table 1 of BS 5837:2012. The classification process begins by determining whether the tree falls within the (U) category, if not then the process will continue by assuming that all trees are considered according to the criteria for inclusion in the high category (A). Trees that do not meet these strict criteria will then be considered in light of the criteria for inclusion in the moderate category (B) and failing this, they will be allocated a low category (C).

The following summarises each of the categories:

Category U – Those trees in such a condition that any existing value would be lost within 10 years.

These would be seen as trees that have little or no potential either due to their physiological and/or structural condition and their removal would be seen necessary either now or in the short-term (within 10 years) as the most appropriate management option.

Any category 'U' trees identified have been shown on our drawings (Nos.CRN001 & CRN002) with a 'Red' donut around their trunk positions. Due to the condition of these trees, they should not be considered a constraint on the design layout of the road alignment works.

Category A - Trees of high quality/value with a minimum of 40 years life expectancy.

These would be seen as trees that have the potential to contribute to the tree cover of these grounds for the long-term and consists of trees of all age classes from semi-mature to mature.

From our assessment of the trees in question, no trees have been allocated to this category grade.

Category B – Trees of moderate quality/value with a minimum of 20 years life expectancy.

These would be seen as trees that have the potential to contribute to the tree cover of these grounds for the medium term and consists of trees of all age classes from semi-mature to mature.

Any category 'B' trees identified have been shown on our drawings (Nos.CRN001 & CRN002) with a 'Blue' donut around their trunk positions.

Category C – Trees of low quality/value with a minimum of 10 years life expectancy

These trees would be seen as having the potential to provide tree cover for the short to medium term. As part of the future management, most of these would probably be removed for one reason or another. This category consists of trees of all age classes from young to mature. These trees should not be seen as a considerable constraint on the development of these lands, but should be considered for retention where viable.

Any category 'C' trees identified have been shown on our drawings (Nos.CRN001 & CRN002) with a 'Grey' donut around their trunk positions.

- 3.6 The bulk of the trees have been plotted onto the attached drawing (Dwg No.CRN001) by a land survey company and their positions are assumed accurate and where they have not been plotted, their positions have been placed by ourselves to the best of our ability. This drawing has been developed as a constraints drawing to aid the design team in the layout of the road alignment works and the tag numbers referred to in the condition tree report have been shown on this drawing along with their crown spreads and their retention category colour coded as recommended by BS 5837 2012. The constraint (Minimum Root Protection Area) for each tree has been shown with an 'Orange

Circle' and all proposed development should be planned to be positioned outside those trees proposed for retention allowing for additional space for construction activities.

The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is usually expressed as a radius in metres measured from the tree stem.

Any deviation in the RPA from the original circular plot takes account of the following factors whilst still providing adequate protection for the root system:

- a) The morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures, drainage ditches and underground apparatus);
- b) Topography and drainage;
- c) The soil type and structure;
- d) The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

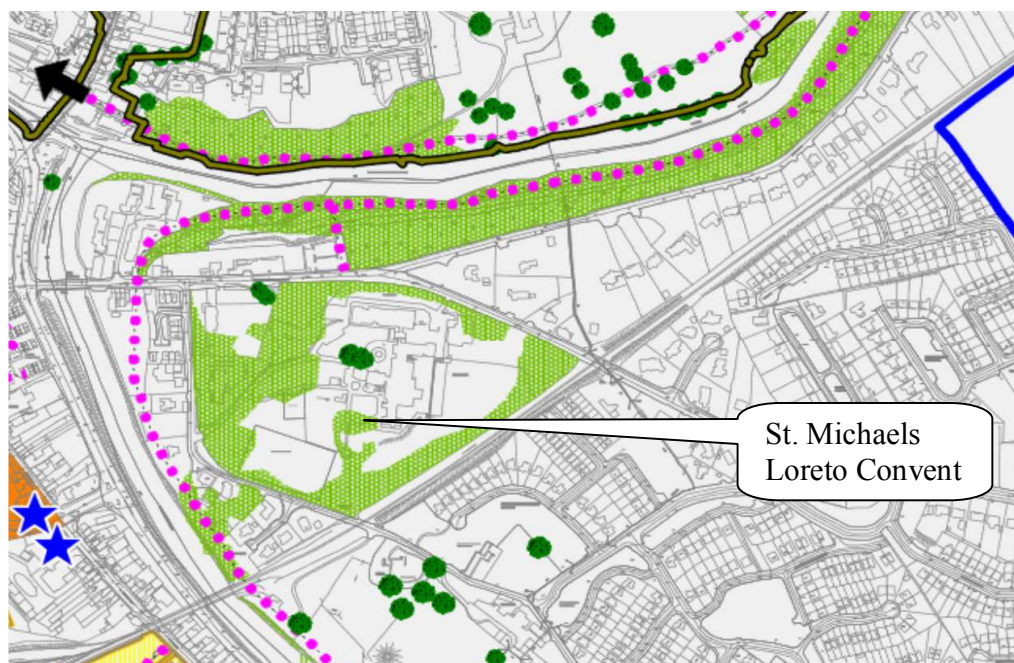
4.0 Summary of Survey Findings.

- 4.1 The site area is made up of a linear strip of land which runs along the inside of the boundary wall between the grounds of 'St. Michael's Loreto Convent' and 'Convent Road'. This linear strip of ground runs eastwards from near the entrance to the convent grounds off this road to the 'Athlumney Bridge' and the trees in question are located either against this wall or slightly in from it.



Google image showing areas where trees are located.

- 4.2 Within the Navan Development Plan 2009-2015 incorporating Variation No. 1, appendix III, map ref: STP3 identifies stands of mature coniferous & deciduous trees of special amenity value to be preserved within the grounds of 'St. Michael's Loreto Convent'.



Screen grab from map 2 of the Navan Development Plan showing the area in question.

- 4.3 Along this boundary, there are a number of large prominent mature trees (Nos.0561, 0565, 0568, 0570, 0578, 0583, 0584, 0585, 0586 & 0587) of Ash, Sycamore, Beech and Lime with the remaining trees being of an early-mature age class having established here from seed consisting of Goat Willow and Sycamore. There is also some understory of Elder and Cotoneaster which provides lower bulking along this boundary. The trees have received some pruning to their lower crowns in particular to maintain clearance over 'Convent Road'.
- 4.4 Within this site area, 28No. trees were tagged individually and the following table gives a breakdown of their category grading:

Category Grade	No. of trees
Category U 2 Trees	Tree Nos. 0578 & 0582.
Category A 0 Trees	--
Category B 9 Trees	Tree Nos. 0561, 0565, 0568, 0570, 0583, 0584, 0585, 0586 & 0587.
Category C 17 Trees	Tree Nos. 0560, 0562, 0563, 0564, 0566, 0567, 0569, 0571, 0572, 0573, 0574, 0575, 0576, 0577, 0579, 0580 & 0581.
Total	28 Trees

5.0 Arboricultural Impact Assessment

- 5.1 It is proposed as part of the Navan GDA Cycle Network Plan to carry out works along 'Convent Road' which will involve moving the boundary wall of the convent grounds in by c.4.5m with additional works space required behind this to facilitate the installation of a cycle path.
- 5.2 On drawing No.CRN002, I have shown the tree vegetation for removal due to the proposed development and condition/management with 'Red Hatched' crown spreads and those to be retained with a 'Green Hatched' crown spread.
- 5.3 On this drawing (No.CRN002), I have also shown the position of any necessary tree protection measures in order to protect the root zone of the tree vegetation being retained within the vicinity of where the construction works will occur. These work exclusion zones are shown on this drawing using 'Orange Hatching' and these areas will need to be cordoned off by the erection of fencing or other means at the start of the works and this will need to be maintained in place until all works are completed. This fencing is to protect the root zone of the trees and to ensure their successful integration into the development of this site area.
- 5.4 The comments made within this impact assessment study are based on my understanding of the proposed works and what is required to allow for its construction. Any errors in my understanding of this project should be brought to my attention by the project engineers/ architects.

5.5.0 Impact Assessment

5.5.1 To facilitate the proposed works, it will be necessary to remove the following tree vegetation from this site area:

Category Grade	No. of trees for removal
Category U 2 Trees	Tree Nos. 0578 & 0582 These trees need to be removed as part of management either now or in the short-term due to their condition physiologically and/or structurally irrespective of the proposed construction works.
Category A 0 Trees	Tree Nos. --
Category B 4 Trees	Tree Nos. 0561, 0565, 0568 & 0583
Category C 16 Trees	Tree Nos. 0560, 0562-0563, 0564, 0566, 0567, 0569, 0571, 0572, 0573, 0574, 0575, 0576, 0579, 0580 & 0581.

5.5.2 **So in summary**, 22 of the 28No. individually tagged trees included within this assessment area are proposed to be removed to facilitate the proposed road/boundary realignment works. This is made up of the following three categories:

- 2 category 'U' trees
- 4 category 'B' trees
- 16 category 'C' trees

The loss of the above tree vegetation on the treescape of the overall area is minor and on the objectives of the Navan Development Plan 2009-2015 to protect and preserve trees in this area. The loss of these trees is to be mitigated against within the landscaping of these completed works with new tree, shrub and hedge planting that will complement the existing tree cover in this area and will help provide good quality and suitable long-term tree cover. See landscape architects drawings and schedules for detail.

5.6.0 Tree Retention

5.6.1 The remaining tree vegetation shown with 'Hatched Green' crown spreads is proposed for retention and incorporation into this completed works. This will involve some trimming/maintenance works to deal with structural issues and to create a satisfactory juxtaposition within the completed development. A preliminary list of these works is included within the condition assessment within 'Appendix 2' of this report and this will need to be reviewed on site once the works are laid out to include any other additional works required.

To minimise impact during the construction works, protective fencing and other mitigation measures will need to be put in place at the start of the works and will

need to be maintained until all works are complete. See drawing No.CRN002 for detail and position of fencing.

5.7.0 Main items for consideration during the proposed construction process:

Item	Measures
Tree Pruning	<p>As part of the initiating works, the crowns of some of the trees being retained are to be pruned to clean out dead/unstable growth, the pruning of individual limbs/branches or entire crowns to reduce size due to structural weaknesses or to improve their juxtaposition within the built environment. A preliminary list of these works is given within the condition tree assessment in 'Appendix 2' of this report and these are to be reviewed on site prior to being carried out.</p> <p>All tree felling and pruning works need to be carried out by qualified and experienced tree surgeons <i>before</i> any construction work commences; all tree work should be in accordance with <i>BS3998 (2010) Tree Work – Recommendations</i>.</p> <p>All trees for removal will need to be felled to stumps and all stumps in particular those which are located within the root zone of trees being retained will need to be ground out using a mechanical stump grinder taking care not to cause root damage to the trees being retained.</p>
Tree Protection	<p>Trees being retained will need to be protected from unnecessary damage during the construction process by effective construction-proof barriers that will define the limits for machinery drivers and other construction staff.</p> <p>Ground protected by the fencing will be known as the 'Work Exclusion Zone' and sturdy protective fencing will need to be erected along the points identified in the Tree Protection Plan (Dwg No.CRN002) prior to any soil disturbance and excavation work starting on site. This is essential to prevent any root or branch damage to the retained trees.</p> <p>The British Standard BS5837: <i>Trees in relation to design, demolition and construction (2012)</i> specifies appropriate fencing, see 'Appendix 1' for details. All weather notices should be erected on the fences with words such as: "Tree Protection Fence — Keep Out".</p> <p>When the fencing has been erected, the construction work can commence. The fencing should be inspected on a regular basis during the duration of the construction process and needs to remain in place until heavy building and landscaping work have finished and its removal is authorised by the project Arboriculturist.</p>
Construction	<p>It will be important that good housekeeping is in place at all times so that the site area does not become congested.</p>

Item	Measures
	<p>All construction works are to be well planned in advance so as not to put pressure on the protective zone around the trees. All works are to occur from outside the protective zones.</p> <p>Where work space between the building lines and the protective fence lines is limited/ restricted, alternative work methods will need to be looked at so as to keep the work areas to their minimum in order to reduce the extent of soil and root damage occurring to the trees proposed for retention. See section 6.2.3 of BS5837 2012 for detail on working within the RPA and ground protection. For light access works within the work exclusion zone, the installation of suitable ground protection in the form of scaffold boards, woodchip mulch or specialist ground protection mats/plates may be acceptable. These are to be reviewed with the project Arboriculturist and installed to their recommendations in conjunction with the project engineers. See detail in 'Appendix 1' of this report for sample.</p> <p>Care should 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 can result in serious damage to them and might make their safe retention impossible.</p> <p>Materials, which can contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10m of a tree stem.</p> <p>Fires should not be lit in a position where their flames can extend to within 5 m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.</p> <p>Notice boards, wires and such like should not be attached to any trees. Site offices, materials storage and contractor parking should all be outside the work exclusion zone.</p>
Services	<p>See project engineer's drawings for detail for service routes.</p> <p>Prior to the installation of any services routed near trees, they are to be marked out on site for review by the project Arboriculturist and a detailed method statement is to be prepared by the installation contractor in conjunction with the project Arboriculturist on how these services are to be installed while providing protection to the tree vegetation shown for retention.</p>
Landscaping	<p>The existing ground levels within the RPA of the trees are to be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used</p>

Item	Measures
	<p data-bbox="544 320 1086 353">differentiating between the different levels.</p> <p data-bbox="544 383 1362 607">All soft and hard landscaping within the RPA of the trees to be retained are to be carried out manually and the soil levels are not to be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of sections 8 of BS5837 2012 are to be adhered to during the landscaping within the RPA's of these trees.</p>

5.8.0 Monitoring

- 5.8.1 Any construction works within close proximity to retained trees are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist is recommended to be retained by the principal contractor or site manager to monitor and advice on any works within the RPA of retained trees to ensure successful tree retention and planning compliance.
- 5.8.2 It is advised that tree protection fencing, any required special engineering and supervision works must be included in the main tender documents, including responsibility for the installation, cost and maintenance of tree protection measures throughout all construction phases.
- 5.8.3 Copies of the tree retention and protection plan (Dwg No. CRN002) a copy of BS 5837(2012) and NJUG 4 (2007) should all be kept available on site during the construction works and all works are to be in accordance with these documents.
- 5.8.4 On the completion of the construction works, all trees retained are to be reviewed by the project Arboriculturist and any necessary remedial tree surgery works required to promote the health of the trees and safety are to be implemented.

6.0 Arboricultural Method Statement/Tree Protection Strategy

- 6.1 The objective of this arboricultural method statement/tree protection strategy is to provide information for the main building contractor/site manager on how trees need to be protected during a construction project and so that they can prepare their own site specific detailed method statement for their works.
- 6.2 It is necessary for tree protective fencing to be erected and all other mitigation measures required to be put in place prior to the development works commencing on site and these are to enclose and protect the root zone of the tree vegetation proposed for retention. See drawing 'Dwg No.CRN002', for the position of the protective fencing and other mitigation measures.
- 6.3 The protection of the tree vegetation shown for retention is divided into three main sections starting with the preconstruction stage right through to post construction and the reassessment of the retained trees.

Stage 1

6.4.0 Pre-Construction Works

- 6.4.1 Prior to the main construction works commencing on site the following needs to be planned:
1. The main contractor needs to appoint an Arboriculturist for the duration of the project. The Arboriculturist is to make regular site visits to ensure that the tree protection measures are in place and adhered to.
 2. The main contractors and all sub-contractors work force are to be briefed on the tree protection and ensure that these measures are to be kept in place throughout the construction period.
 3. All personnel are to adhere to the recommendations of the appointed Arboriculturist.
 4. Any issues in relation to the trees shown for retention must be discussed with the appointed project Arboriculturist and the necessary mitigation measures put in place without delay and prior to the works being carried out.

6.5.0 Site meeting

- 6.5.1 Prior to any works commencing on site, it is necessary that a meeting be arranged between the project manager, site foremen, the project Arboriculturist and local authority to identify and finalise the trees for removal and the line of the protective fencing.

6.6.0 Tree works

- 6.6.1 The main contractor is to appoint a tree surgery company competent of carrying out the remedial tree surgery works and tree felling that are required on this site. The tree surgery contractor is to produce a method statement detailing how he plans to undertake the works and informing the site foreman of the process so the necessary steps can be taken to ensure the works are carried out safely and efficiently. The works are to be carried out by appropriately trained personnel taking account of the recommendations of BS3998 2010.
- 6.6.2 **Tree removal** - Trees for removal are to be identified by the project Arboriculturist and the method of removing the stumps is to be carried out to the recommendations of the project Arboriculturist. The trees in the way of the works are to be removed in such a manner not to cause damage to those being retained. Where necessary to avoid damage to the trees to be retained, these are to be removed in sections by a tree surgeon (Arborist). Where necessary, the roots and stumps are to be dug out with a digger except where the stumps are located within the RPA (root protection area) of trees being retained. In this instance, the stumps are to be ground out with a mechanical stump grinder taking care not to cause damage to the roots of trees being retained.
- 6.6.3 **Remedial tree surgery works** - The necessary remedial tree surgery works required to promote health and safety of the trees to be retained is to be carried out. A schedule of these works is to be produced by the project Arboriculturist

taking into consideration the trees within their new built environment and prior to these works being carried out; they are to be agreed with the local authority.

6.7.0 Erection of the protective fencing

- 6.7.1 Once the trees have been removed, the line of the protective fencing that is required around the trees being retained **must be** erected as per 'Dwg. No. CRN002'.
- 6.7.2 The fencing needs to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see fencing detail on drawing 'No.CRN002 & Appendix 1) 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.
- 6.7.3 Signs need to be attached to these fences warning people to 'keep out'. (See detail within drawing No.CRN002 & Appendix 1).
- 6.7.4 Once the protective fence line is erected, then the main construction works can commence on site.
- 6.7.5 **Storage of Material, Work Yards and staff car parking** - These areas must be identified on the work drawings prior to the construction works starting. These must be positioned outside the root protection areas around the trees being retained.

Stage 2

6.8.0 The Construction Works Stage

- 6.8.1 **Protective fencing** - During the course of the works, special attention must be paid to ensure that these tree protection measures are kept in place, in good order and remain upright, rigid and complete at all times. They must be checked daily by the main contractor/foreman and any damage noted must be fixed immediately.

If works need to take place inside the protective fence lines, then the project Arboriculturist must be informed in advance of the works taking place and the mitigation measures required to reduce impact on the tree vegetation agreed. These mitigation measures will include the supervisions of these works by the project Arboriculturist.

The protective fencing and all other protection measures are to remain in place throughout the construction works phase and must only be removed when all the works are complete and at this stage incorporated into the finished landscape.

- 6.8.2 **Excavations** - The excavation works are only to commence once the protective fence line and all other protection measures are in place.

The excavations in the vicinity of the tree vegetation being retained will need to be viewed on site once marked out with the project manager, site foreman and the project Arboriculturist in advance of excavation to determine the extent of the impact and the work space required to allow for the construction works to proceed and to assess what additional mitigation measures will be required to protect those trees to be retained. In certain areas, it may be necessary to use an alternative method of excavating to prevent encroachment into the RPA of the trees to be retained and this may include such methods as retaining walls or similar.

No roots are to be severed by the construction works without prior approval by the project Arboriculturist. Where roots are encountered, the project Arboriculturist is to assess these prior to cutting and these are to be pruned back to appropriate pruning points beyond the excavation line. Where roots cannot be cut; alternative methods of construction will need to be considered. The excavated face is then to be covered with soil or with Hessian sacking to prevent further drying out and the death of root material. Where the Hessian sacking is used, it will be necessary to keep this moist especially during dry periods.

- 6.8.3 **Working within the RPA (*Root Protection Area*)** – If it becomes necessary to carry out works within the RPA of a tree/trees, these must be discussed and agreed with the project Arboriculturist. All works must be carried out manually. 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 BS5837 2012. See detail within appendix 1 on ground protection using boarding for pedestrian loading.

- 6.8.4 **Finished ground levels/Landscaping** - The existing ground levels within the RPA of trees must be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels.

All soft and hard landscaping within the RPA of the trees to be retained must be carried out manually and the soil levels must not be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of sections 8 of BS5837 2012 must be adhered to during the landscaping within the RPA of the trees being retained.

6.9.0 Other items

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

- 1 - Storage of equipment, fuel, construction material, or the stockpiling of soil or rubble.
- 2 - Burning rubbish
- 3 - The washing of machinery
- 4 - Attaching notice boards, cables or other services to any part of the tree.
- 5 - Using neighbouring trees as anchor points.
- 6 - 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.

Stage 3

6.10.0 Post Construction Works

6.10.1 This project is not to be considered complete until all retained trees have been re-examined by the project Arboriculturist and the remedial works necessary to ensure the health of the trees and the immediate safety of the end user of this development are implemented.

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.

Signed *Felim Sheridan*

Date September 2018

Felim Sheridan

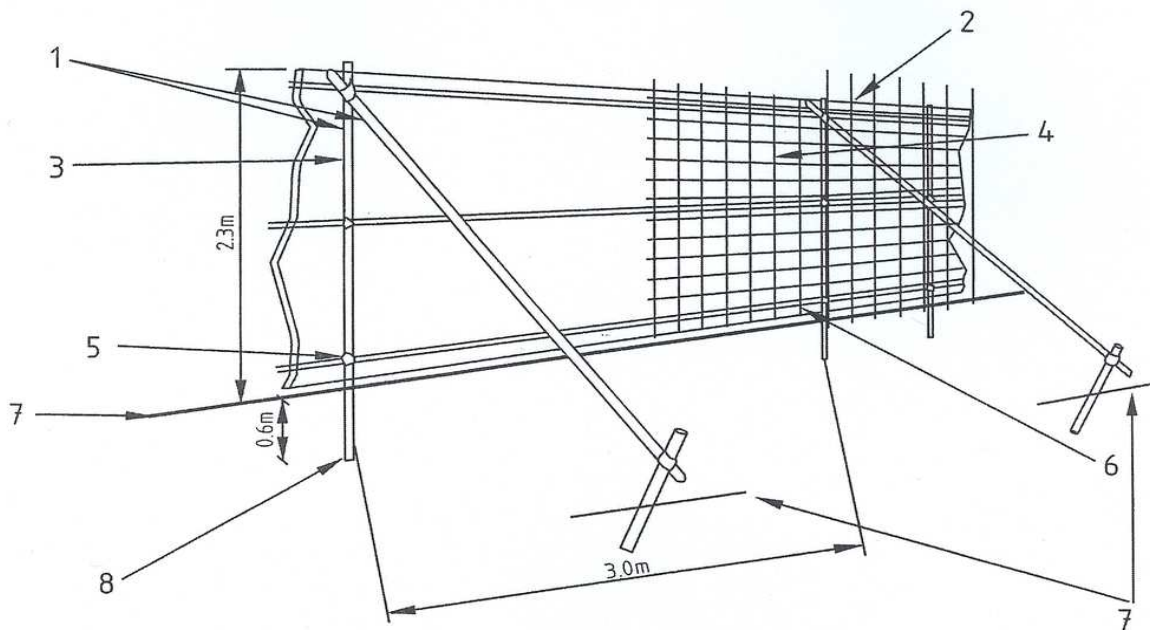
F. Arbor. A, RFS Dip, Nat. Dip & NCH in Arboriculture

Felim Sheridan's qualifications:

Fellow of the Arboricultural Association (F. Arbor. A), Professional diploma Arboriculture (RFS), National diploma Arboriculture (ND) and National certificate Horticulture (NCH).

Appendix 1

Sample of Temporary Tree Protection Fencing Detail and Ground Protection.



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

Figure 2. – Protective fencing for RPA

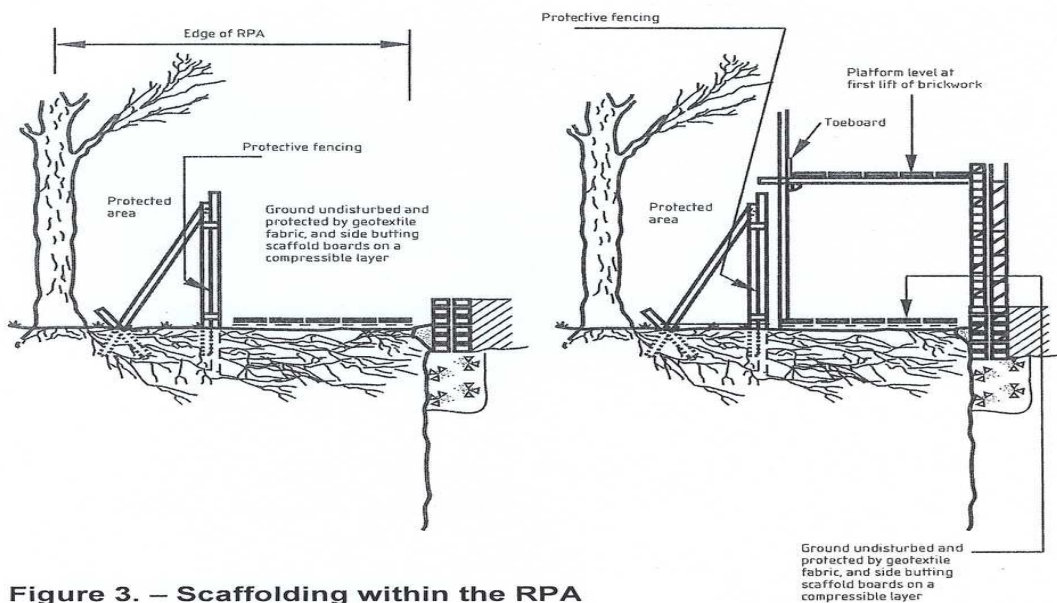


Figure 3. – Scaffolding within the RPA

Appendix 2

Condition Tree Assessment.

Along the Boundary of St. Michael's Loreto Convent
with 'Convent Road', Navan, Co. Meath.

Date: 12th September 2018

Survey Notes

All codes referred to in this report are approximate and serve as a general guide only.

Reference to Numbers: The trees have metal tags attached and these correspond with the numbers in this report.

Reference to age class is as follows:

Young: A tree, which has been planted in the last 10 years.

Semi Mature A tree that is less than 1/3 the expected height of the species in question.

Early Mature: A tree, which is between a 1/3 and 2/3's the expected height of the species in question.

Mature: A tree that has reached the expected height of the species in question, but still increasing in size.

Over Mature: A tree at the end of its life cycle and the crown is starting to break up and decrease in size.

Reference to Physiological, Structural Condition and other comments:

Physiological Condition

Good: A tree with no major defects, but possibly including some small defects.

Fair: A tree with some minor defects such as bark Wounds, isolated decay pockets or structure affected due to overcrowding.

Poor: A tree with more serious defects such as extensive deadwood, decay or defective to the point of being dangerous.

Structural condition and other comments –

This records noted visual defects and other information about the trees health and structure.

Estimated Remaining Contribution in years

This is based on an Arboricultural assessment of the tree and is estimated based of the findings noted at time. Trees still need to be reviewed on a regular basis, preferably annually.

Less than (<) 10 years remaining contribution

10 + years remaining contribution

20 + years remaining contribution

40 + years remaining contribution.

Retention Categories

The purpose of the tree categorization method is to identify the quality and value of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained should development occur.

It is carried out in accordance with section 4.5 (Tree Categorization Method) of BS 5837 2012.

Summary

Main categories.

Category U – Those trees in such a condition that any existing value would be lost within 10 Years. Most of these will be recommended for removal for reasons of sound Arboricultural practice.

Category A - Trees of high quality/value with a minimum of 40 years life expectancy.

Category B – Trees of moderate quality/value with a minimum of 20 year life expectancy.

Category C – Trees of low quality/value with a minimum of 10 years life expectancy

Sub categories

1 – Mainly Arboricultural Values

2 – Mainly Landscape values

3- Mainly Cultural and conservation value

Note: Whilst C category trees will usually 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.

If a layout design places Category U trees in an inaccessible location such that concerns over public safety are reduced to an acceptable level, it may be preferable or possible to defer the recommendation to fell.

The terms ‘Group, woodland or tree line’ is intended to identify trees that form cohesive Arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally including for biodiversity (e.g. parkland or wood pasture), in respect to each of the three subcategories.

Reference to Crown spread, Height and Trunk Diameter:

This gives a guide to the area taken up by the tree.

Trunk diameter is the diameter of the main trunk taken at a height of 1.5m and is recorded in millimeters (mm).

Height records the overall height of the tree and is given in meters (m).

Crown Spread records the extent of the branches normally in a north, south, east and west direction from the base of the tree and is given in meters (m).

Clear crown height records the distance between the ground and the first branch from the base of the tree and is given in meters (m).

Recommended Works

All tree works are to be performed to BS3998 and ANSI A300 pruning guidelines may also be referred to.

Pruning is defined as the selective removal of branches from the tree for specific results. All pruning is to be as specified in the schedule and all pruning cuts are to be made in accordance with 'natural target pruning' methods. All final cuts to be made outside the branch collar and at an angle equal but opposite to that of the branch bark ridge.

If during climbing works, a climber (tree surgeon) discovers any defects not noted in the Arborist report, he should inform and consult the Arborist in question. If it is a minor defect, it would be expected that the tree surgeon would deal with it as part of his contract. If it is deemed a serious problem, then there will be a need to consult with the client/owner and to carry out the agreed works at an additional cost. This problem may arise for example as a result of additional storm damage since the last inspection and it must be borne in mind that the survey is a visual inspection from ground level only and problems in the aerial part of the tree may not be visible from ground level or be hidden under Ivy.

Terms used in explaining this work:

Deadwooding

This is the removal of deadwood (>5cm) without attempting to remove it from the branch tips or green foliage areas as in conifers.

It is expected that major deadwood is removed from all trees that are climbed, even if it is not stated on the survey.

Crown Clean

This includes the removal of deadwood, diseased and dying wood, broken or split branches, epicormic growth, and basal suckers if requested and crossing or rubbing branches.

Crown Thinning (%)

This includes overhauling the crown and the thinning out of the crown in order to allow the wind to travel more freely through the crown and to reduce its wind sail. This mainly involves the removal of secondary branches in the inner crown. This is normally expressed as a percentage of the whole crown volume, which should be considered as an approximate guideline.

Reduction (m)

This includes overhauling the crown and the reduction (careful shortening) of the entire crown or an individual limb in length in all directions to leave a balance branch structure. The finished pruning cuts should not exceed one-third the size of the branch or stem that it is located on. The reduction works are normally expressed as in meters (m) from the outer canopy edge of the crown or branch end and should be considered as an approximate guideline.

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
		A condition assessment of trees within the grounds of 'St. Michael's Loreto Convent', along the southern boundary with 'Convent Road', Athlumney, Navan, Co. Meath.									
		The assessment starts at the western end of the section of the boundary in question and works in an eastwards direction to finish at the railway bridge.									
0560	Sycamore <i>Acer pseudoplatanus</i>	11	370	4N 4S 4E 3W	3.5	Early Mature	Fair/ Good	Fair It is most likely self-seeded into this area and is growing from the base of the boundary wall (retaining wall). The lower branches have been pruned/ removed in the past in order to raise up its crown. Due to its close proximity to the boundary wall it has the potential to cause structural damage to this wall as it grows in size.	Prune stubs back to proper target pruning points. Remove basal suckers and lower epicormic growth. It may need to be removed as part of the future management of the boundary wall.	10+	C1
0561	Ash <i>Fraxinus excelsior</i>	14	540	4N 6S 6E 7W	5	Mature	Fair	Fair It is a tall, prominent tree with heavy Ivy cover on the main trunk extending up into its crown. It is located tight to the base of the boundary wall and is causing some structural damage to the wall. The lower branches have been removed in the past in order to raise up its crown and some pruning wounds have been created as a result. This pruning has also left its crown slightly top-heavy as a result.	Remove dead/unstable growth from within its crown. Cut Ivy at ground level and remove to a height of c.2m to allow a more detailed assessment of its base and lower trunk. Tidy up the undergrowth. Monitor the structural damage being caused to the boundary wall.	20+	B1
0562 & 0563	Sycamore <i>Acer pseudoplatanus</i> Goat Willow	A 9	A 90 X 6 Stems	A 3N 3S 3E	A 4	Early Mature	Fair	Fair/Poor It consists of a group of Sycamore seedlings growing into multi-stemmed trees from where they were cut down previously with one Goat	It would recommend the removal of those located closest to the boundary wall a part of management and to reduce pressure to the boundary wall.	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
	<i>Salix caprea</i> (1)			3W				Willow. They are self-seeded into this area and most of them have been cut/ coppiced near ground level in the past and have been allowed to grow up into multi-stemmed trees. Some of these are growing from the base of the boundary all and they provide lower bulking within this area. Their lower branches on the roadside have been trimmed/ removed in the past in order to raise up their crowns.			
0564	Goat Willow <i>Salix caprea</i>	9	180/ 210/ 100	4N 3S 4E 4W	2	Early Mature	Fair/ Good	Fair / Poor A multi-stemmed from low down with an acute union formation between some stems and is most likely self-seeded into this area. There are liquid exudations present on some stems, possibly indicating towards a possible phytophthora infection. The lower branches on the roadside have been trimmed back in the past in order to raise up its crown. A smaller stem forms part of the group canopy formation of this tree and is located closer to the boundary wall.	It would benefit from further trimming of lower branches in order to maintain clearance with the surrounding surfaces. The stem closest to the boundary wall should be removed as part of management.	10+	C1
0565	Sycamore <i>Acer pseudoplatanus</i>	25	720	5N 6S 5E 5W	1E/6W	Mature	Fair/ Good	Fair It is a large, prominent visual tree within this area. It has been left in isolation and I suspect that some other trees have been cut/ removed from this area in the past. The lower limbs/ branches have also been cut/	Cut Ivy at ground level and remove the smaller basal suckers. Carry out pruning to lower crown to maintain clearance over the surrounding surfaces.	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
								removed in the past in order to raise up its crown and this has left its crown slightly more open and top-heavy with decay pockets developing at the old pruning wounds up along the main trunk. Ivy cover on the main trunk is beginning to extend up into its crown. There are basal suckers and secondary stems developing from its base. The larger of the secondary stems have been cut back to stumps in the past and have re-sprouted. It is growing tight to the base of the boundary wall with some structural damage evident on this wall due to its close proximity.			
0566	Goat Willow <i>Salix caprea</i>	8	120 x 6 Stems	5N 4S 5E 4W	1	Early Mature	Fair/ Good	Fair It forms a twin-stemmed tree from base with further sub-divisions above this point with an acute union formation between some stems. Self-seeded into this area and is located in (north) from the boundary wall with the road. The lower crown is interfering with the old hockey pitch.	Tidy up the undergrowth at the present time. It will require pruning of lower branches in order to maintain clearance with the hockey pitch.	10-20	C1
0567	Sycamore <i>Acer pseudoplatanus</i>	12	150 x 7 Stems	5N 4S 5E 4W	1N/5S	Early Mature	Fair / Good	Fair / Poor It is most likely self-seeded and is growing from the base of the boundary wall and is pushing against the boundary wall. It is multi-stemmed from low down with an acute union formation between stems. The lower	Carry out pruning in order to maintain clearance over the surrounding surfaces. Cut Ivy at ground level. I would consider its removal in the	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
								branches, particularly on the roadside have been removed in the past in order to raise up its crown. Ivy cover on the main trunk is beginning to extend up into its crown.	short-term as the most appropriate management option and to prevent further structural damage occurring to the boundary wall.		
0568	Sycamore <i>Acer pseudoplatanus</i>	24	820	8N 6S 6E 5W	5	Mature	Fair / Good	Fair It is a large prominent, visual tree within this area. I suspect that it has been left in isolation by the removal/ failure of the trees along the boundary in the past. Heavy Ivy cover on the main trunk is extending up into its crown. It is located close to the boundary wall with the road with potential to cause some structural damage. There are suckers growing from its base and these have been cut back in the past and are re-sprouting.	Remove dead/ unstable growth and prune in end weight on heavy, exposed side branches throughout its crown, in particular those left open/ exposed by c. 1-2m. Carry out pruning of lower crown in order to maintain sufficient clearance over the surrounding surfaces/ structures, in particular on the roadside. Remove basal suckers	20+	B1
0569	Elder <i>Sambucus nigra</i>	5	120 x 3 Stems	4N 3S 3E 2W	2	Mature	Fair	Fair/Poor It is growing tight to the base of the boundary wall and is a large size bush. It is beginning to be suppressed by Ivy and its crown overhang towards the road has been cut back in the past.	Cut Ivy at ground level and tidy up the undergrowth. It may need to be removed in the future as part of management.	10+	C1
0570	Sycamore <i>Acer pseudoplatanus</i>	24	950	8N 6S 8E 6W	3	Mature	Fair/ Good	Fair It is a large prominent, visual tree set in from the boundary wall and is bordering with the hockey pitch. It may have been impacted upon by the past construction works, in particular on the hockey pitch side, however, its crown is not showing any significance	Cut Ivy at ground level and remove basal suckers to allow a more detailed assessment of its base and lower trunk. It may require further works based on this reassessment.	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
								signs of ill health that would be associated with such impacts. The lower limbs/ branches have been removed in the past in order to raise up its crow with some decay pockets developing up and down the main trunk. Ivy cover on the main trunk is beginning to extend up into its crown. There is a mass of suckers developing from its base limiting the visual assessment to some degree. There is an area of dead bark on the northern side of its base with some decay present at this point, this is difficult to assess due to the dense undergrowth of basal suckers.			
0571 & 0572	Sycamore <i>Acer pseudoplatanus</i>	A 15	A 140 x 4 Stems	A 3N 4S 3E 3W	A 5	Early Mature	Fair/ Good	Fair Self-seeded into this area and is growing from the base of the boundary wall. They are multi-stemmed from base and are tall, sheltered trees growing up forming part of the one group canopy formation. The lower branches on the roadside have been removed in the past in order to raise up their crowns. Ivy cover on the main stems is beginning to extend up into their crowns. There are acute union formations between some stems and due to the close proximity of the boundary wall; these trees have the potential to cause structural damage to the	Prune lower branches in order to maintain clearance over the surrounding surfaces. It may be necessary for their removal in the future as part of management. Monitor the boundary wall for structural damage.	10-20	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological. boundary wall in the long-term.	A- average		
0573	Sycamore <i>Acer pseudoplatanus</i>	16	170 x 9 Stems	5N 4S 3E 4W	0N/4.5S	Early Mature / Mature	Fair / Good	Fair It is multi-stemmed from base and forms part of the group canopy formation. It has been drawn up for the light due to competition and is a tall tree. It is most likely self-seeded into this area and is growing tight to the base of the boundary wall with the road with the potential to cause structural damage. The lower branches have been pruned/ removed on the roadside in the past in order to raise up its crown. Ivy cover on some stems is beginning to extend up into its crown.	Carry out pruning to maintain clearance with the surrounding surfaces/ structures. Cut Ivy at ground level and tidy up the undergrowth. Monitor the boundary wall for structural damage. It may need to be removed at some stage in the future as part of management.	10-20	C1
0574	Sycamore <i>Acer pseudoplatanus</i>	16	210/ 330/ 300	5N 5S 4E 2W	3N/5S	Early Mature	Fair / Good	Fair Self-seeded and is growing from the base of the boundary wall. Multiple-stemmed from base and is growing within a group environment and is a tall, sheltered tree. Ivy cover on the main trunk is extending up into its crown and is increasing its windsail. The lower branches have been pruned/ removed in the past in order to raise up its crown over the road.	Carry out pruning to maintain clearance over the surrounding surfaces/ structures. Cut Ivy at ground level. Monitor the boundary wall for structural damage. It may need to be removed as part of the future management of the wall.	10-20	C1
0575	Elder <i>Sambucus nigra</i>	4	A 150 x 4 Stems	6N 2S 2E 1W	0W/3S	Mature	Fair	Fair / Poor It is a large bush growing from the base of the boundary wall and is most likely self-seeded into this area. It has received pruning on the roadside in order to maintain	Prune/reduce heavy side limb/s branches. Cut Ivy at ground level. It could be considered for removal as	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
								clearance. Ivy cover on the main trunk is beginning to extend up into its crown. Some limbs are subsiding, breaking out under their own weight.	part of management of the boundary wall.		
0576	Sycamore <i>Acer pseudoplatanus</i>	18	330/ 420	6N 5S 2E 5W	1N/5S	Early Mature	Fair	Fair It is growing up within a group environment and is a tall sheltered tree. Self-seeded into this area and is growing from the base of the boundary wall. Twin-stemmed from base and has been left more open/ exposed due to the decline and dieback of a neighbouring tree, in particular on the east side. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its windsail. Due to its close proximity to the boundary wall it has the potential to cause structural damage. It has received pruning on the roadside in order to maintain clearance.	Remove large size dead/ unstable growth and prune in large heavy side limbs/ exposed branches by 1-2m to improve the shape/ balance of its crown. Carry out pruning to maintain clearance over the surrounding surfaces/ structures. Cut Ivy at ground level.	10-20	C1
0577	Cotoneaster <i>C. horizontalis</i>	5	100 x 3 Stems	5N 5S 3E 5W	5	Mature	Fair	Fair / Poor It forms part of the understory and is growing from the base of the boundary wall with an asymmetrical crown weighed towards the road. It has become more open/ exposed due to the partial failure of a neighbouring tree (No. 0578). Heavy Ivy cover on the main trunk is extending up into its crown. Multiple-stemmed from base and has received pruning to maintain clearance over	Prune heavy side limbs/ braches in order to improve the shape/ balance of its crown and to maintain clearance with the surrounding surfaces/ structures. Tidy up the undergrowth.	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological. the public road.	A- average		
0578	Lime <i>Tilia Cordata</i>	18	300/ 270	5N 5S 3E 5W	18	Mature	Fair	Poor It was initially multi-stemmed from base and a number of stems have broken out with one breaking out in recent times towards the road and is now lodged within the neighbouring trees. There is a mass of suckers growing from its base. Heavy Ivy cover on the main trunk is extending up into its crown. Due to the loss of limbs, the remaining upright limbs have been left more open/ exposed. Basal decay is present and due to structure, this tree is prone to further failure.	I would recommend its removal as part of management.	<10	U
0579	Sycamore <i>Acer pseudoplatanus</i>	16	350	4N 3S 2E 4W	4N/6S	Early Mature	Fair	Fair/ Poor It is located on the bank bordering with the road and is slightly in from the boundary wall. It is growing up within a group environment, has been drawn up for the light and has been left slightly more open/ exposed by the limb failure within tree No. 0578. Heavy Ivy cover on the main trunk is extending up into its crown.	Cut Ivy at ground level and tidy up the area around its base.	10-20	C1
0580	Cotoneaster <i>C. horizontalis</i>	5	100 x 5 Stems	1N 4S 2E 4W	4	Mature	Fair	Poor It forms part of the undergrowth and is located on the inside of the boundary wall. Its crown overhang towards the boundary wall has been cut back in the past. Ivy cover on some stems is beginning to extend up	Carry out pruning to maintain clearance with the surrounding surfaces/ structures. Cut Ivy at ground level.	10-20	C1

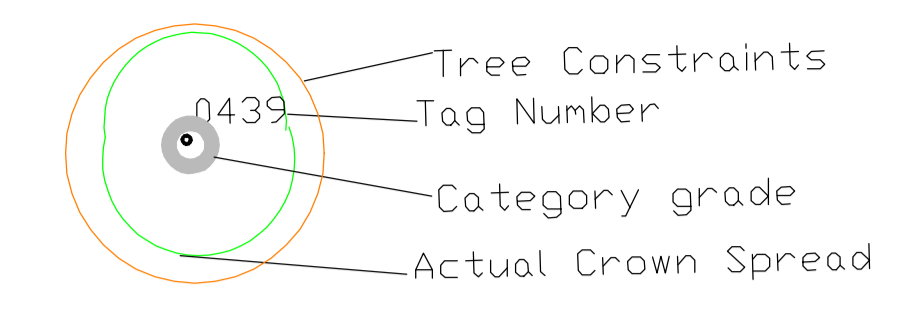
Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
								into its crown. It forms a multi-stemmed tree from base.			
0581	Sycamore <i>Acer pseudoplatanus</i>	18	200	3N 1S 2E 3W	6	Early Mature	Fair	Fair/ Poor It is growing on the side of the embankment and is growing up within a sheltered environment forming part of the group canopy formation. Heavy Ivy cover on the main trunk is extending up into its crown. There are secondary stems developing from its base.	Review for exposure if left isolated. Cut Ivy at ground level.	10+	C1
0582	Sycamore <i>Acer pseudoplatanus</i>	19	240/ 260/ 230	2N 5S 3E 4W	4	Early Mature	Fair	Fair / Poor Multiple-stemmed from low down and is growing from the base of the boundary wall with stems pushing against the boundary wall. This may lead to structural damage to the wall in the future. It forms part of the group canopy formation with heavy Ivy cover on the main trunk extending up into its crown. It has received pruning over the years in order to maintain clearance with the road and the surrounding surfaces.	I would recommend its removal as the most appropriate management option due to structure and its potential to cause structural damage to the boundary wall. Review the surrounding trees for exposure. These may require some pruning to address.	<10	U
0583	Sycamore <i>Acer pseudoplatanus</i>	24	720	4N 6S 5E 5W	6N/5S	Mature	Fair	Fair It is a large, prominent visual tree located on the railway soil embankment inside the boundary wall. It forms part of the group canopy formation, in particular with the neighboring Ash tree with an asymmetrical crown as a result leaning towards the road.	Remove dead/ unstable growth from its crown. Remove basal sucker and cut Ivy at ground level. Monitor the boundary wall for structural damage.	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
								It has received some pruning on the roadside in order to maintain clearance. Ivy cover on the main trunk is beginning to extend up into its crown. There are suckers present at its base.			
0584	Ash <i>Fraxinus excelsior</i>	26	740	7N 3S 9E 3W	6	Mature	Fair	Fair It is a large size tree growing on the soil embankment of the railway bridge. It is growing up with tree No. 0583 and forms part of the one group canopy formation. It has an asymmetrical crown weighed out to the north and the east due to its group growing environment. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its windsail and has limited the visual assessment to some degree. It contains deadwood throughout its crown and is sheltered at the present time.	Remove large size dead/ unstable growth and reduce end loading on heavy side limbs/ branches to lessen the risk of storm damage, in particular towards the road. Cut Ivy at ground level in order to improve the windsail of its crown and remove from base/lower trunk to allow for a more detailed assessment.	20+	B1
The following trees are located at the start of a treeline that extends northwards along the boundary with the railway line.											
0585	Beech <i>Fagus sylvatica</i>	21	610	5N 4S 7E 3W	4	Mature	Fair	Fair It forms part of a linear tree group that extends eastwards along the boundary with the railway line away from the road. It forms part of the outer canopy formation and its crown development/ structure has been slightly affected due to overcrowding/ competition. Heavy Ivy cover on the main trunk is extending up into its crown.	Cut Ivy at ground level and review for wind exposure.	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north S-south E-east W- west Phys.-physiological.	A- average		
0586	Lime <i>Tilia Cordata</i>	24	720	5N 4S 3E 5W	2	Mature	Fair	Fair It is a tall, central tree within this group. It forms part of the outer canopy formation with heavy Ivy cover on the main trunk extending up into its crown and this is increasing its windsail. There is a mass of suckers growing from its base limiting the visual assessment to some degree.	Cut Ivy at ground level and remove to a height of c.4m along with the basal suckers to allow for a more detailed assessment of its base and lower trunk. Review for wind exposure if the neighbouring trees are removed. It may require some pruning to address.	20+	B1
0587	Lime <i>Tilia Cordata</i>	24	710	4N 4S 3E 5W	2	Mature	Fair	Fair It forms part of the group canopy formation of a large linear tree belt extending northwards. It is a large size tree growing up within an open group environment. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its windsail. There is a mass of suckers growing from its base limiting the visual assessment to some degree. It contains deadwood throughout its crown.	Cut Ivy at ground level and remove basal suckers and remove lower epicormic growth to a height of c.3m to allow a more detailed assessment of its base and lower trunk. It may require some pruning to address structural weakness based on this review. It may also require some pruning to address exposure if left isolated by the removal of neighboring trees.	20+	B1
Notes:											



Notes:



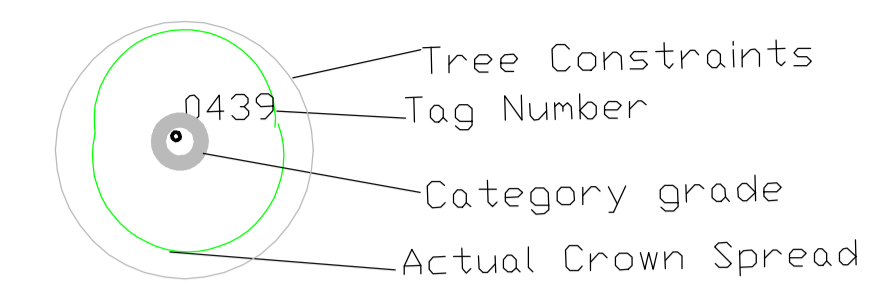
BS5837: 2012 - Category Retention Rating

- **Category U Trees-**
Trees in such a condition that any existing value would be lost within 10 years or being recommended for removal sound arboricultural practice.
 - **Category A Trees**
Trees of high quality/value with a min. of 40 years life expectancy.
 - **Category B Trees**
Trees of moderate quality/value with a min. of 20 years life expectancy.
 - **Category C Trees**
Trees of low quality/value with a min. of 10 years life expectancy.
- Sub Categories
 1- Mainly Arboricultural values
 2 - Mainly Landscape values
 3 - Mainly cultural and conservation values.

ARBORIST ASSOCIATES LTD.
 94 BALLYBAWN COTTAGES, ENNISKERRY, CO. WICKLOW
 TEL: 01-2742011 / 087-2629589

TITLE: Tree Constraints Plan
Site: Trees on Boudnary of Convent Road, Navan, Co. Meath.
DATE: Dwg No. CRN001 Scale 1:500 @ A1

Notes:



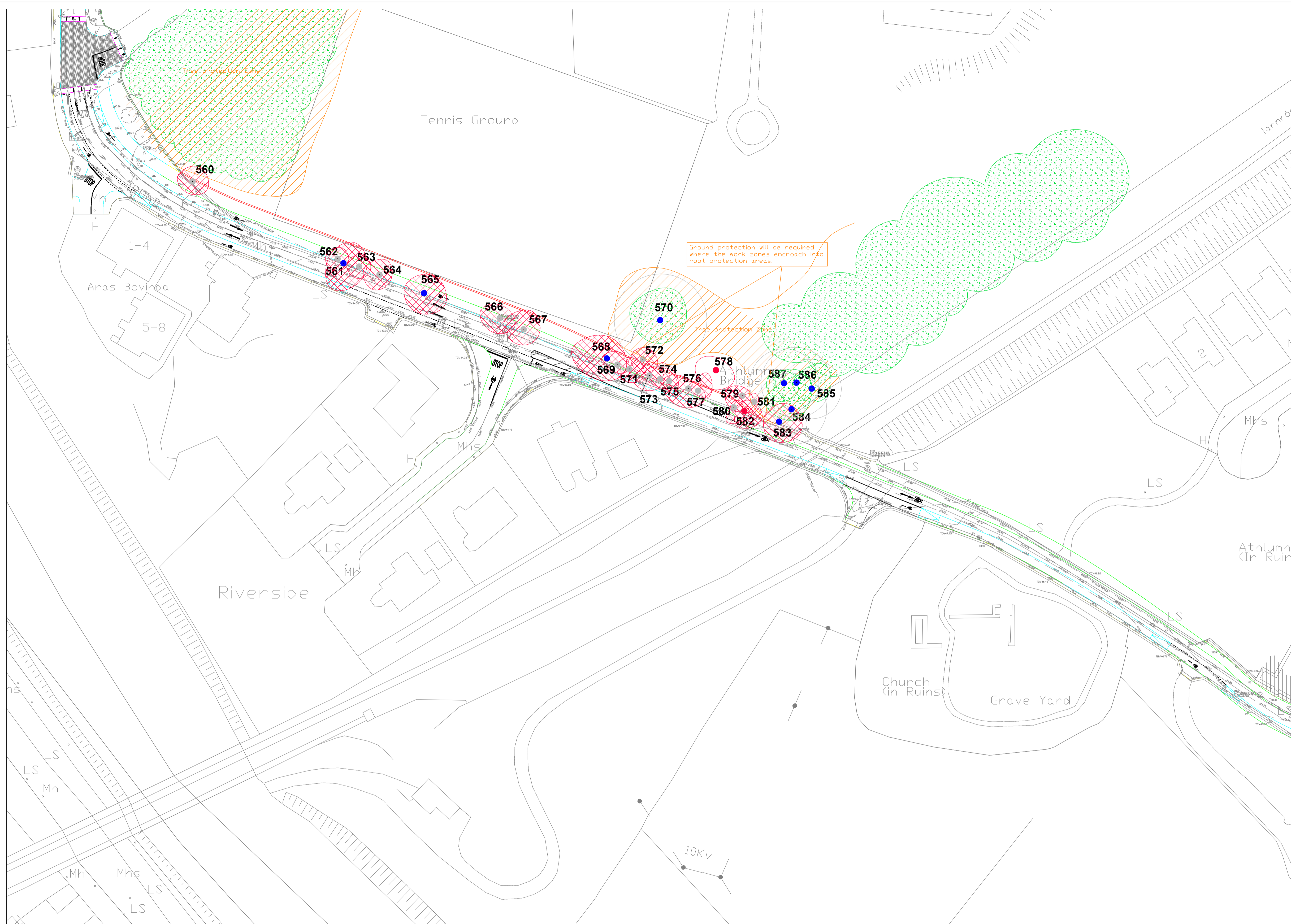
BS5837: 2012 - Category Retention Rating

- Category U Trees** - Trees in such a condition that any existing value would be lost within 10 years or being recommended for removal sound arboricultural practice.
 - Category A Trees** - Trees of high quality/value with a min. of 40 years life expectancy.
 - Category B Trees** - Trees of moderate quality/value with a min. of 20 years life expectancy.
 - Category C Trees** - Trees of low quality/value with a min. of 10 years life expectancy.
- Sub Categories**
- 1- Mainly Arboricultural values
 - 2 - Mainly Landscape value
 - 3 - Mainly cultural and conservation values.

- Tree vegetation being retained
- Trees Vegetation being removed.
- Trees being recommended for removal as part of management and not directly affected by the proposed development layout.

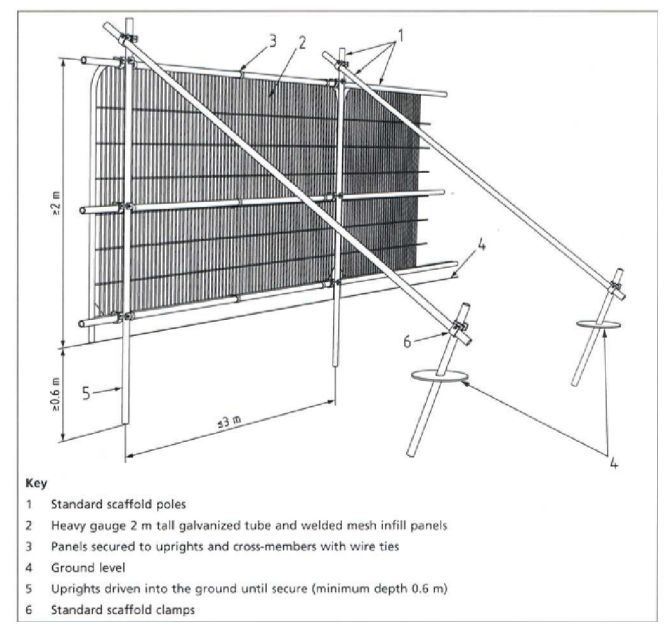
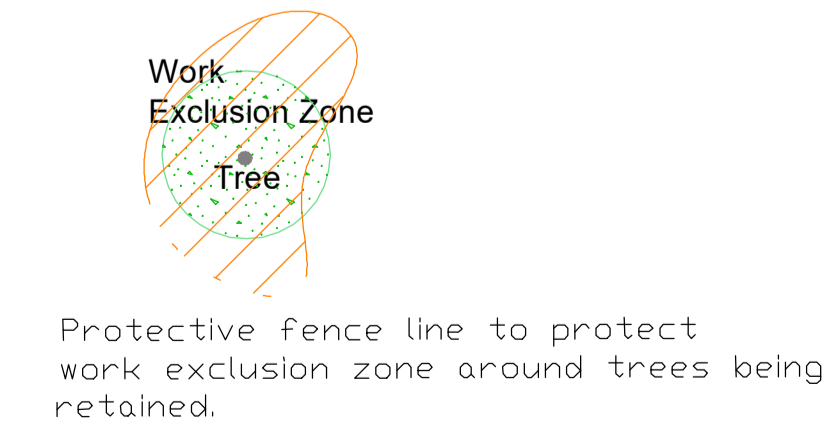
Schedule of events

Works	Schedule
Site Meeting	Prior to any works commencing.
Tree Works - Felling & Pruning	Prior to any construction works commencing.
Tree Protection	After tree removal and pruning is complete and prior to any construction works commencing. The erection and removal of the protective fencing is to be scheduled in accordance with the phasing of the construction works.
Site Monitoring	Ongoing throughout the construction works.
Removal of Tree Protection	Once all the main construction works are completed and in order to incorporate the area into the finished development.
Tree Review and Certification	Once all works are complete.



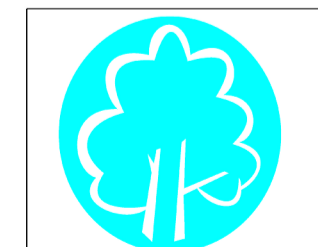
Tree Protection Detail

Protective fence detail as per BS 5837 2012.



- Key**
1. Standard scaffold poles
 2. Heavy gauge 2 m x 1.8 galvanized tube and welded mesh infill panels
 3. Panels secured to uprights and cross members with wire ties
 4. Ground level
 5. Uprights driven into the ground until secure (minimum depth 0.6 m)
 6. Standard scaffold clamps

Detail of singage



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

The tree protection fencing is to be erected enclosing the root protection areas around the trees being retained as shown on this drawing and appendix 1. In some areas, the site hoarding may be sufficient to act as the protective fencing if the tree and its root zone are positioned outside and no works are envisaged within the area outside the site hoarding. This will need to be discussed and agreed at the initial site meeting.

Where tree protection fencing is needed, this will need to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see detail on drawing & appendix 1) using vertical and horizontal scaffold bars or similar well braced together with the verticals spaced out at a maximum of 3m centres. Onto this, weld mesh panels (harris fence panels) are to be securely fixed with wire or scaffold clamps.

Signs are to be attached to these fences warning people that this is a protective area and that the fencing must be maintained in good condition in accordance with the approved plans and drawings for this development.

Once the protective fence line is erected, then the main construction works can commence on site.

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

- o Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials.
- o Protect root systems from ponding, eroding, or excessive wetting caused during construction operations.
- o Do not store construction materials, debris, or excavated material inside tree protection zones. When excavating, place excavated soil on opposite side of trench away from the tree.
- o Do not permit vehicles or foot traffic within tree protection zones; prevent soil compaction over root systems.
- o Do not allow fires under or adjacent to remaining trees or other plants.
- o Do not attach notice boards, cables or other services to any part of the tree.
- o Do not use neighbouring trees as anchor points.
- o Do not use high machinery such as tele-porters, cranes or other equipment close to trees to avoid damage to the crown or any other parts.

During the construction works the following is required:

1. The main contractor or site manager is to brief all people working on site on the tree protection measures and the procedure if works need to be carried out within these areas.
2. Storage of Material, Work Yards and staff car parking - are to be identified on the work drawings prior to the construction works starting. These need to be positioned outside the root protection areas around the trees being retained. The main contractor or site manager is to check the tree protective fencing daily and carry out any repairs required to ensure its stays upright and secure.
3. The main contractor or site manager is to liaise with the project Arboriculturist if and when works are to be carried out close to or within the root protection areas around the trees.
4. Any works to occur within the protection areas such as landscaping is to be carried out manually with no machinery allowed. All soft and hard landscaping within the Root Protection Area (RPA) of the trees to be retained are to be carried out manually and the soil levels are not to be lowered or raised resulting in root damage to the trees. Recommendations of sections 8 of BS5837 2012 are to be adhered to during the landscaping within the RPA's of the trees being retained.
5. The protective fencing around the trees is to stay in position until all the construction works are complete and are only to be removed following discussions and agreement with the project arborist.

ARBORIST ASSOCIATES LTD.
 94 BALLYBAWN COTTAGES, ENNISKERRY, CO. WICKLOW
 TEL: 01-2742011 / 087-2629589

TITLE : Tree Protection Plan
Site : Trees on Boudnary of Convent Road, Navan, Co. Meath.
DATE: Dwg No.CRN002 Scale 1:500 © A1