

Arboricultural Impact Assessment

Land at
Land at
Gwenfro CP School
Caia Park
Wrexham

Ref:
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Rev. B

Date:
18th November 2015

Commissioned by:
Mr N. Bateman

Prepared by
S. Shields

Arboricultural Impact Assessment

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Gwenfro CP School
Caia Park
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This Arboricultural Impact Assessment has been prepared in accordance with the protocols, standards and procedures set out in BS 5837: 2012 'Trees in relation to design, demolition and construction'.

Summary

It is proposed to develop the site to provide a new school building with associated yards, playing fields and sports pitches, situated to the west of the existing school building which is to be demolished.

An assessment of the trees on site has recorded 25 individual trees. The most significant are the individual specimens to the north of the site.

Following the interim assessment of the site, tree T11 – T20 have been removed because of the long term implications of retaining these very large trees, with a propensity to lose limbs in stormy weather, in such close proximity to the school. The development will also require the removal of trees T1 – T7, and T21, T22 & T25.

Although the development will require the removal of a number of trees, none are particularly significant in terms of their public amenity value and their loss will not impact on the wider landscape. There is poor age diversity within the tree population on and adjacent to the site. The proposed development provides an opportunity to replace lost trees with new specimens that can be retained in this environment in the long term. This will mitigate the loss of amenity through a new planting scheme on the site and help to protect the wider landscape in the long term.

It is considered that the arboricultural impact associated with this development would be low to moderate in the short term, reducing to low in the longer term once new tree planting had become established.

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Date	Revision	
20 th May 2015	Original	
11 th November	A	Updated to reflect proposed site layout
18 th November	B	Trees added

Instruction

- 1.1 Shields Arboricultural Consultancy received instructions from Mr N. Bateman on behalf of Wrexham County Borough Council to provide an arboricultural implication assessment in respect of the above development site.
- 1.2 The site is to be redeveloped to provide a replacement primary school along with associated feature. A site layout plan ref: 41557 – DB3 – 00 – XX – DR – A – 90_02, which is based on a provisional arboricultural impact assessment of the site, has been provided and forms the basis for this assessment.

Scope & Limitations

- 2.1 The purpose of the report is to assess the environmental and amenity values of all trees on or adjacent to the area affected by the proposed development. The report will assess the long-term contribution that the trees can make to the area and the arboricultural implications of retaining them and seek to find a satisfactory juxtaposition between the trees and the new development. The report will assess the potential impact that may arise as a result of the proposed construction works and make recommendations for protecting trees, hedges and shrubs where appropriate
- 2.2 The report is prepared in accordance with the recommendations of the British Standard Document BS 5837: 2012 'Trees in relation to design, demolition and construction'
- 2.3 This report is not an ecological assessment and does not identify habitats or constitute a protected species survey.

Statutory Controls & Obligations

- 3.1 Forestry Act; the felling of trees is controlled by the Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.
- 3.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers under the Town & Country Planning Act 1990 as amended, to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence (subject to any exemptions for which provision may be made by the act or order) to undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.

- 3.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Site description

- 4.1 The proposed development site is situated within Caia Park, a large housing estate to the south east of the town of Wrexham. Gwenfro CP School is located to the south east of Caia Park.
- 4.2 The site extends to approximately 2.5 hectare and is at an elevation of 50m ASL and is sheltered. The site is generally level, with the exception of an area of land to the east of the school which slopes down to the east.
- 4.3 There are a number of trees on and adjacent to the site. The most significant trees are the individual specimens adjacent to the public highway, forming the north boundary of the site and a row of large mature poplars planted along part of the west boundary.

Soils

- 4.4 Soils at the appeared to be free draining, cultivated brown earths. There are also areas of existing hard standing within the site. Geological maps indicate deposits of clay and silt over mudstone, sandstone and conglomerate. Soils appeared to be free draining and of reasonable depth and there is no indication of any significant impediments to rooting other than the existing built structures and surfaces.

*NB. This soil assessment is undertaken in situ using visual and manual techniques and is **only** for the purpose of establishing the influence of site soils on tree growth. The assessment **must not** be relied upon to inform any engineering decisions.*

Development Proposal

- 5.1 It is proposed to develop the site to provide a new school building, and associated planning fields and sports pitches, situated on a playing field to the west of the existing building.

Tree Survey Methodology

- 6.1 All trees within and adjacent to the site have been assessed where they are within 15 m of any area that may be disturbed as a result of the proposed development and have a stem diameter over 75mm at 1.5 metres. Measurements have been taken in accordance with the

procedures and protocols set out in BS 5837: 2012 and the Forest Mensuration Handbook. Height measurements are approximate unless otherwise stated. Trees have been assessed as individuals, groups or woodlands as appropriate. Where access to trees has been restricted, either as a result of their situation on private land or where vegetation or ground conditions are unfavourable, an estimation of trunk diameter has been made. This entails using a set of callipers to approximate the measurement. Estimates are rounded up to provide a margin. This technique has only been used where there is a sufficient buffer between the RPAs and any area disturbed by development. Where trees are in woodlands or groups only the outside edge trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees.

- 6.2 BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A, B, C & U.

Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)

- 1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.
- 2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.
- 3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)

- 1 Trees that might be included in a higher category but are downgraded because of impaired condition.
- 2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.
- 3 Trees with clearly identifiable conservation or other cultural benefits.

Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

The most significant or valuable trees are placed in the categories, A & B. Site design should make provision to retain trees in these categories and most Local Planning Authorities will insist upon this (or

in exceptional circumstances will require that significant compensation planting is incorporated into the design), whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as U are in a poor condition and should be removed prior to the commencement of work.

- 6.3 Where trees are to be retained, it is necessary to ensure that they are suitably protected to avoid damage during the construction phase of the development. It is also important to consider any long term implications; such as issues with shading or leaf litter that may arise as a result of tree retention.
- 6.4 To ensure that trees are not adversely affected by the construction works it is necessary to:
- The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)
 - The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots
 - Preserve of the character of the soil, through the avoidance of any activity that would cause it to become compacted or otherwise disturbed or disrupted, and to avoid contamination by potentially harmful substances
 - To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere
 - To ensure adequate (but not excessive) water supply to the soil and hence to tree roots

This would normally be achieved by establishing an area, known as a construction exclusion zone (CEZ) around each tree. The CEZ is derived from the root protection area (RPA) and the crown spread of the tree. The RPA represents the area occupied by the tree's root system and is calculated for each tree based on its stem diameter and the ground conditions present taking account of and any impediment to rooting. The RPA should represent the most probable position of the tree's root system.

The CEZ must be considered sacrosanct and be maintained completely undisturbed. No construction should take place within this area and it should not be used for storage of materials or fuels. Access for vehicles machinery or personnel is prohibited and to ensure that it is not damaged by construction activity it must be suitably protected during the construction phase, using robust fencing or alternative ground protection methods, to prevent disturbance and damage occurring.

- 6.5 In addition to the implications that a new development may have for existing trees it is also important to assess any long term issues or concerns that may arise as a result of retaining trees close to a new dwelling or structure. This can include problems associated with leaf litter and other debris that may fall from trees, the potential that a tree

has to cause damage to a structure in the future, any on going maintenance requirements that may arise and the level of shade that the tree may cast. Trees can also cause feelings of apprehension to the occupiers of nearby buildings and can have an over bearing impact on a property if adequate space is not provided.

- 6.6 The report assesses all trees with regard to their size, position and natural characteristics, and taking into account of their future growth makes provides recommendations as to their long term suitability for retention.

Arboricultural Assessment

- 7.1 Full details of the tree surveyed are provided in appendix A. and their relative positions, crown spreads, root protection areas are indicated on the attached plans.
- 7.2 No checks have been undertaken to establish the status of the trees with regards to Tree Preservation Orders or Conservation Areas. No trees or hedges should be felled, lopped, topped or in otherwise removed or damaged without prior permission from the relevant authority.
- 7.3 The survey recorded 31 individual trees and 1 group of tree which were categorised as follows:

Category	Quantity
Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)	0
Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)	14
Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.	16
Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.	2

Arboricultural merits and the significance of the trees in the landscape

- 7.4 There are a number of large mature trees planted as individuals or as small groups, both on and adjacent to the site, which are significant features in the landscape. The trees help to soften the urban environment and define and reinforce the natural open space associated with the school site.

Arboricultural implications of the development

- 7.5 Following the interim assessment of the site, tree T11 – T20 have been removed because of the long term implications of retaining these very

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- large trees, with a propensity to lose limbs in stormy weather, in such close proximity to the school.
- 7.6 The development will also require the removal of trees T1 – T6, which although are reasonably prominent have a very short safe life expectancy, T7, again this tree provides some amenity to the site but has a limited life expectancy and trees T21, T22 & T25.
- 7.6 There are a number of trees in and around the boundary of the school that will not be directly affected by the proposed development and will be satisfactorily protected by the site boundary fence.
- 7.7 Although the development will require the removal of a number of trees, none are particularly significant in terms of their public amenity value and their loss will not impact on the wider landscape. There is poor age diversity within the tree population on and adjacent to the site. The proposed development provides an opportunity to replace lost trees with new specimens that can be retained in this environment in the long term. This will mitigate the loss of amenity through a new planting scheme on the site and help to protect the wider landscape in the long term.
- 7.8 The proposed development requires a fence to be erected within the RPA of G32. Providing any work within the Precautionary Area established around the trees is undertaken in accordance with the details provided in section 9 then there will be no negative impact on this group of trees.
- 7.9 All services both under and over ground must be located outside the CEZ around retained trees. All services must be installed in compliance with NJUG chapter 4 recommendations.
- 7.10 It is considered that the arboricultural impact associated with this development would be low to moderate in the short term, reducing to low in the longer term once new tree planting had become established.

Arboricultural Operations

- 8.1 If tree removal or pruning will be required, subject to a grant of planning permission, to implement this development the work should be undertaken by a suitably qualified person, holding public liability insurance for the sum of £5,000 000. All operators must hold relevant NPTC certificates. A site specific risk assessment must be prepared and operators must work to a health and safety method statement.
- 8.2 The contractor undertaking the work is responsible for any loss or damage arising as a result of the operations and agrees to indemnify the owner against such occurrences.
- 8.3 All tree protection measure specified in the following section and shown on the accompanying TPP are to be fully installed prior to the commencement of the arboricultural works. Where access is required

to the trees, then suitable ground protection must be used in lieu of the tree protection fences.

Arboricultural Method Statement

- 9.1 This arboricultural method statement (AMS) sets out the interim details of tree protection measures afforded to the retained trees on and adjacent to the site.
- 9.2 This document should be read in conjunction with the Tree Protection Plan (TPP) which will be issued when detailed plans are prepared for the site. The TPP indicates the construction exclusion zone (CEZ) that must be maintained around each retained tree. These areas must remain undisturbed during the construction process and must be protected using suitable fencing or ground protection as specified.
- 9.3 Copies of the TPP & the AMS must be available on site and all tree protection requirements explained to all persons undertaking activities on the site during the site induction process.
- 9.4 All tree protection measures must be installed and inspected prior to bringing onto the site any plant, materials or equipment or undertaking any construction works or demolition or any arboricultural works. The LPA must be informed in writing once the tree protection measures are installed.
- 9.5 The site is to be inspected by the consulting arboriculturalist in accordance with the schedule of inspections.
- 9.6 All measurements are given in metric using standard abbreviations.

Fencing and Ground Protection

- 9.7 The TPP indicates the position all protective fences.
- 9.8 Protective fencing will comprise a 2.4 m high scaffold frame work with vertical and horizontal poles, driven into the ground to a depth of 0.6 m and well braced to resist impact. Onto this framework 'weldmesh' or 'herres' fencing panels must be securely fixed using scaffolding clamps or as agreed with the Local Planning Authority.
- 9.9 Where ground protection is specified it will consist of a proprietary system such as Ground Guard protective plates which must extend over the entire area indicated on the TPP and be securely fastened in place. The type of guard used must be suitable for loads up to 40 tonnes or more.
- 9.10 The protective fencing and ground protection must be inspected on installation and will remain in place until completion of the construction phase and then only removed with the consent of the LPA.
- 9.11 Other than works approved in writing by the LPA, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

Works with the Precautionary Area

- 9.12 Where a Precautionary Area is indicated on the tree protection plan, no heavy plant or equipment are to enter the area unless ground protection is installed. The erection of the fence within the area must be undertaken using hand tools. Post holes are to be kept to the minimum size possible, where roots are encountered these are to be pruned back using sharp secateurs. Post holes are to be lined with strong, impermeable material such as visqueen if concrete is to be used to support the posts.

General Precautions

- 9.13 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10m of the trunk of a tree that is to be retained or within any part of the CEZ.
- 9.14 No fires will be lit within 20m of the trunk of any tree that is to be retained.
- 9.15 Storage and mixing areas must be outside the CEZ and must be identified prior to the commencement of the construction work. Contractor parking should be in areas indicated on the TPP. It may be possible to situate site huts and toilets within the CEZ, providing that they are:
1. Placed on load distributing pads.
 2. Can be positioned and serviced without coming into contact with the crown of the tree or allowing any vehicle to operate within the RPA.
 3. All services are connected above ground level.
 4. The buildings can be accessed from outside the CEZ or all routes are ground protected.
- The site buildings would then form part of the tree protection barrier.
- 9.16 Access to the work area is via the main site entrance and must not traverse the CEZ.
- 9.17 All service and drainage routes, below or above ground must avoid the CEZ. All services are to be installed in accordance with NJUG volume 4 Guidelines.
- 9.18 To ensure that all tree protection measures are properly installed the site must be monitored by Shields Arboricultural Consultancy to the following schedule. Details of the findings and photographic evidence of the site inspection visits will be reported to the LPA by email within 24 hrs of the visit.

Schedule of Inspection

1. On completion of erection of fencing and installation of ground protection prior to commencement of development works
2. Monthly through out the project
3. On completion of project

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- 9.19 Prior to the commencement on site of any work, a competent person is to be appointed to monitor the day to day activities on site. In the case of a tree being damaged or where an unexpected event arises it will be for this person to contact Shields Arboricultural Consultancy to seek advice on contingency measures.

Conclusion

- 10.1 Providing the recommendations of this report are adopted and a satisfactory landscaping scheme prepared and implemented as part of the development there should be no significant negative impact on the arboreal environment in the long term.

S.J.A. Shields

**Dip. Arb. (RFS), M.Arbor.A, MICFor.
Chartered Forester**

Rev B 18th November 2015

Arboricultural Assessment

Ref. No.	Species	Top Height	Stem Dia mm	Stems	N	E	S	W	CC	FSB	Age	Rem Cont.	Cat.	RPA m ²	Notes
T1	Birch (<i>Betula pendula</i>)	7	170		2.3	2.5	1.8	2.3	3	E	M	10+	C2	13	Condition: Fair AIA: Trees T1 –T6 form a linear group running between the existing access road and the school yard. The group is a reasonably attractive landscape feature; however, it has been down-graded owing to the short life expectancy of the individual trees. This group will be removed as part of the proposed development. Any loss of amenity associated with the removal will be mitigated through a new planting scheme on the site.
T2	Birch (<i>Betula pendula</i>)	12	330		3.5	3.8	3.6	4.3	2	S	M	10+	C2	49	Condition: Fair AIA: As T1

T3	Birch (<i>Betula pendula</i>)	12	270		4.7	3.2	2	3	4		M	10+	C2	33	Condition: Fair AIA: As T1
T4	Birch (<i>Betula pendula</i>)	12	310		4.8	4.9	3.4	4	3.8		M	10+	C2	44	Condition: Fair AIA: As T1
T5	Birch (<i>Betula pendula</i>)	11	240		2	5.2	2	3.5	2		M	10+	C2	26	Condition: Fair AIA: As T1
T6	Birch (<i>Betula pendula</i>)	12	300		3	4.5	3.6	4	2		M	10+	C2	41	Condition: Good AIA: As T1
T7	Willow (<i>Salix fragilis</i>)	16	800		5.8	5.6	6.6	7	4		M	20+	B2	290	Condition: Good AIA: Reasonably significant in the wider landscape. T7 will be removed to facilitate the development and allow for the long term landscape planting of the area. Although the tree has some amenity value, it has a relatively short life expectancy and its removal and replacement will not significantly impact on public amenity in the longer term.
T8	Larch (<i>Larix sp.</i>)	18	420		4.3	7.6	4	4.8	6		M	20+	B1	80	Condition: Good AIA: The tree is situated in a

															prominent position adjacent to the public highway and is reasonably significant in the wider landscape. This tree can be retained and protected in accordance with the recommendations of BS 5837: 2012 under the current site layout.
T9	Oak (<i>Quercus sp.</i>)	17	430		5	6.7	5.7	3.4	1	W	M	10+	C1	84	Condition: Good AIA: The tree is situated in a prominent position adjacent to the public highway and is reasonably significant in the wider landscape. The tree has been downgraded as it has poor form and is interfering with telephone cables. This tree can be retained and protected in accordance with the recommendations of BS 5837: 2012 under the current site layout.
T10	Lombardy Poplar (<i>Populus nigra</i>)	24	910		4.5	4.6	3.9	2.2	1		M	20+	B1	375	Condition: Good AIA: The tree is

	<i>Italica</i>)														situated in a prominent position adjacent to the public highway and is reasonably significant in the wider landscape. This tree can be retained and protected in accordance with the recommendations of BS 5837: 2012 under the current site layout. The proposed
T11	Balsam Poplar (<i>Populus trichocarpa</i>)	24	850		9.2	8.5	5	6	4		M	20+	B2	327	Condition: Good AIA: Trees T11 – T20 have been removed following provisional arboricultural recommendations. Any loss of amenity associated with the removal will be mitigated through a new planting scheme on the site.
T12	Lombardy Poplar (<i>Populus nigra Italica</i>)	18	650		1	1.2	1.2	1.2	4		M	< 10	U	191	Condition: Poor, tree is suppressed. AIA: As T11
T13	Lombardy Poplar (<i>Populus nigra Italica</i>)	25	800		3	9.6	3	7	4		M	20+	B2	290	Condition: Good. AIA: As T11

T14	Balsam Poplar (<i>Populus trichocarpa</i>)	25	610		3	10.5	3	7	4		M	20+	B2	168	Condition: Good AIA: As T11
T15	Balsam Poplar (<i>Populus trichocarpa</i>)	25	660		3	8.8	3	7	4		M	20+	B2	197	Condition: Good AIA: As T11
T16	Balsam Poplar (<i>Populus trichocarpa</i>)	25	720		5	9.6	7	7	4		M	20+	B2	235	Condition: Good AIA: As T11
T17	Lombardy Poplar (<i>Populus nigra Italica</i>)	25	480		1	4.3	3	7	4		M	20+	C2	104	Condition: Good AIA: As T11
T18	Birch (<i>Betula pendula</i>)	9	210		3	3.9	2	3	2.5		M	20+	C1	20	Condition: Good AIA: As T11
T19	Balsam Poplar (<i>Populus trichocarpa</i>)	12	270		2	3.8	2	2	2.2		M	20+	C2	33	Condition: Good AIA: As T11
T20	Balsam Poplar (<i>Populus trichocarpa</i>)	14	740		1	4.7	4.9	5	4		M	10+	C2	248	Condition: Good, tree has been pollarded. AIA: As T11
T21	Crab Apple (<i>Malus sp.</i>)	5	260		3.3	4.5	3.8	3.7	1	E	M	20+	B1	31	Condition: Good AIA: Tree is situated within the site and although an attractive specimen, it has limited public amenity value. The tree will be removed as part of the proposed development. Any loss of amenity

															associated with the removal will be mitigated through a new planting scheme on the site.
T22	Cherry Plum (<i>Prunus sp.</i>)	6	210		4	4.6	4.4	4.7	1.5		M	10+	C1	20	Condition: Fair AIA: Tree is situated within the site and although an attractive specimen, it has limited public amenity value. The tree will be removed as part of the proposed development. Any loss of amenity associated with the removal will be mitigated through a new planting scheme on the site.
T23	Lombardy Poplar (<i>Populus nigra Italica</i>)	25	790		4.5	5.9	3	5	2		M	20+	B2	282	Condition: Good AIA: Forms a group with T24 on the west boundary of the site. This group is reasonably significant in the wider landscape. This tree can be retained and protected in accordance with the recommendations of

															BS 5837: 2012 under the current site layout.
T24	Lombardy Poplar (<i>Populus nigra Italica</i>)	25	810		1	6.3	5.2	5	2.2	N	M	20+	B2	297	Condition: Good AIA: As T23
T25	Sycamore (<i>Acer pseudoplatanus</i>)	12	370, 370, 360, 320	4	4.7	6	6.9	5.3	3		M	20+	C1	229	Condition: Good AIA: Tree is situated close to existing buildings within the site and although a reasonably attractive specimen, it has limited public amenity value. T25 will be removed to facilitate the proposed development. Any loss of amenity associated with the removal will be mitigated through a new planting scheme on the site.
T26	Larch (<i>Larix sp.</i>)	12	420		4	4.5	5.4	5.5			M	20+	B2		Condition: Good AIA: T26 forms a group with T27 & T28. This group is situated in a prominent position adjacent to the public highway and is reasonably significant in the wider

														landscape. This tree can be retained and protected in accordance with the recommendations of BS 5837: 2012 under the current site layout.
T27	Lombardy Poplar (<i>Populus nigra Italica</i>)	20	1000		3.5	3.5	3.5	3.5			OM	10+	C2	Condition: Fair, lapsed pollard. AIA: As T26, but downgraded because of short life expectancy.
T28	Larch (<i>Larix sp.</i>)	16	400		4.3	6.1	6.2	3			M	20+	B2	Condition: Good AIA: As T26
T29	Oak (<i>Quercus sp.</i>)	10	180		2.5	2.2	2.7	2.3			SM	40+	B2	Condition: Good AIA: Young specimen in a prominent position. This tree can be retained and protected in accordance with the recommendations of BS 5837: 2012 under the current site layout.
T30	Birch (<i>Betula pendula</i>)	16	320		5.4	4.8	3.6	6.2			OM	<10	U	Condition: Poor – decay in main stem. AIA: Tree should be removed.
T31	Lawson Cypress (<i>Chamaecyparis</i>)	16	400, 420,	3	4.3	3.9	4.6	4.2			M	20+	C2	Condition: Good

	<i>lawsoniana)</i>		340												AIA: This tree can be retained and protected in accordance with the recommendations of BS 5837: 2012 under the current site layout.
G32	Lombardy Poplar (<i>Populus nigra Italica</i>)	20	900 ave		3.5	3.5	3.5	3.5			OM	10+	C2		Condition: Good AIA: Prominent row of trees, downgraded because of short life expectancy. Some minor works, including erecting a fence will take place within the RPA around this group, however providing precautions are taken then these trees will not be negatively impacted by this operation.
	Mixed														There are a number of trees in and around the boundary of the school that will not be directly affected by the proposed development.

Ultimate Heights of Main Species

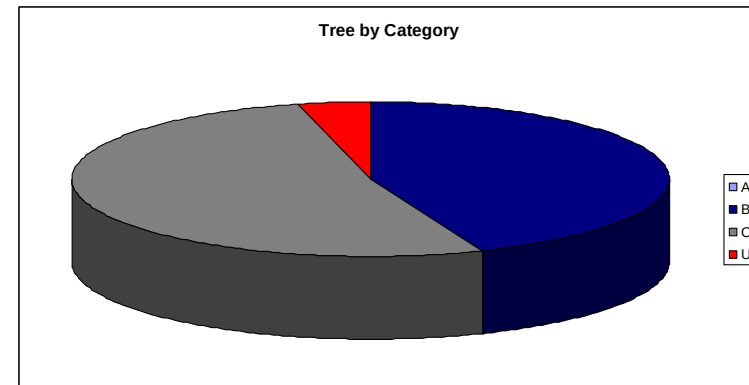
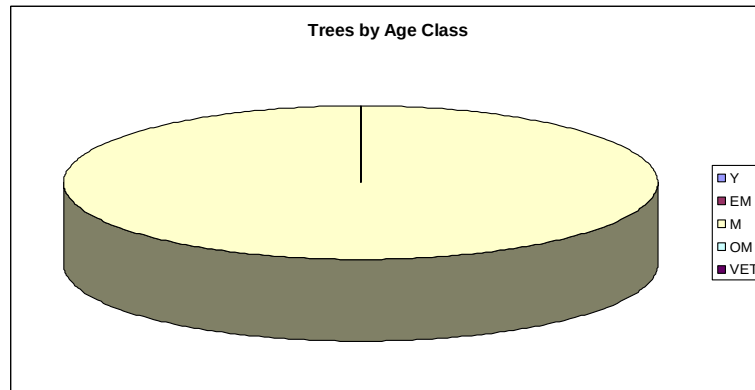
Poplar 30

Oak 20

Birch 15

Willow 20

Distribution of Trees by Category and Age Class



Notes

BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)

- 1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.
- 2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.
- 3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)

- 1 Trees that might be included in a higher category but are downgraded because of impaired condition.
- 2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.
- 3 Trees with clearly identifiable conservation or other cultural benefits.

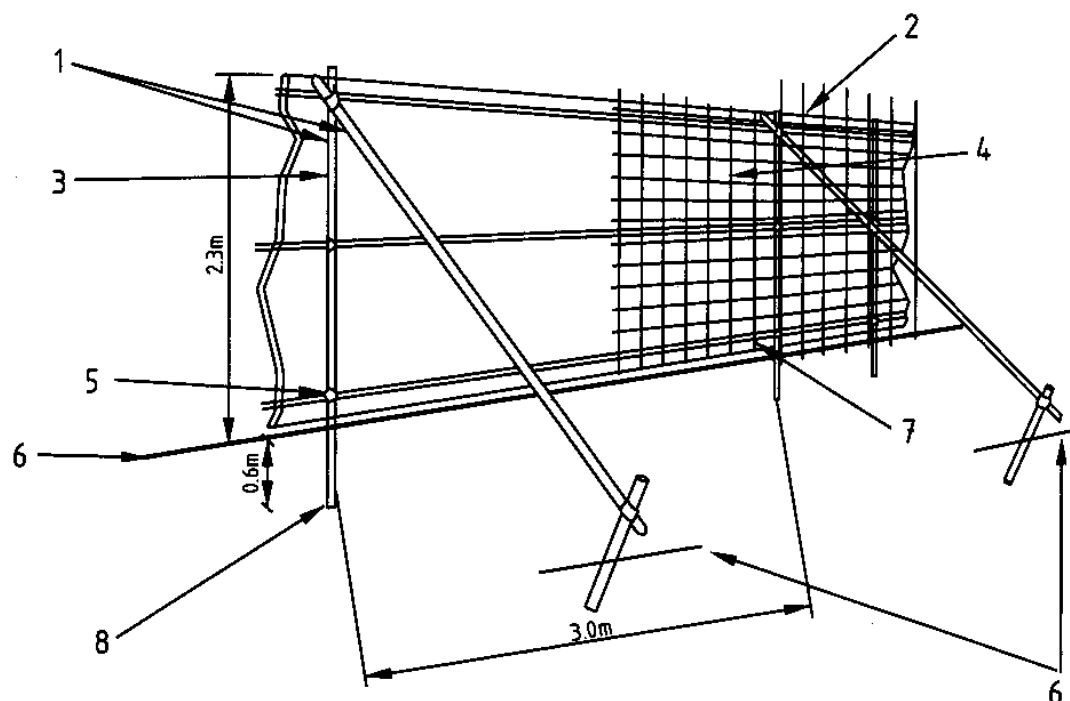
Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

Key

Tag No	Identification number for tree	Species	Species of tree
Top Height	Estimated height of tree	Stem Dia.	Diameter of stem at 1.5 metres
Stems	Number of stems	N, E, S, W	Crown spread at compass points
CC	Crown Clearance	FSB	Direction of first significant branch
Rem. Cont.	Remaining safe life expectancy in years	RPA	Root protection area in m ²
Cat.	BS Category (see above)	AIA	Arboricultural Implication Assessment
Age	Y - Young Trees SM Semi Mature EM Early Mature M Mature LM Late Mature exceeds normal life expectancy for species VET Veteran Tree		
Condition	Good Relatively free from defects and / or major pests and diseases Fair Some defects, which could be addressed through tree surgery or minor pests or early symptoms of diseases Poor Substantial defects or terminal decline Dead Dead		

Recommended Design of Tree Protection Fencing



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

Tree Removal Plan

Gwenfro CP School

Caia Park

Wrexham

Legend

-
- Tree Cat B
- Tree Cat C
- Tree Cat U
- Canopy Spread
- Tree Cat C to be Retained
- RPA tree to be Retained

Drawing No: GPA/TRP/05/15/01

DrawnBy: S. Shields

Scale: 1:500 @ A2

Date: 18th November 2015

Revision:

Do not scale from this drawing all dimensions to be checked on site

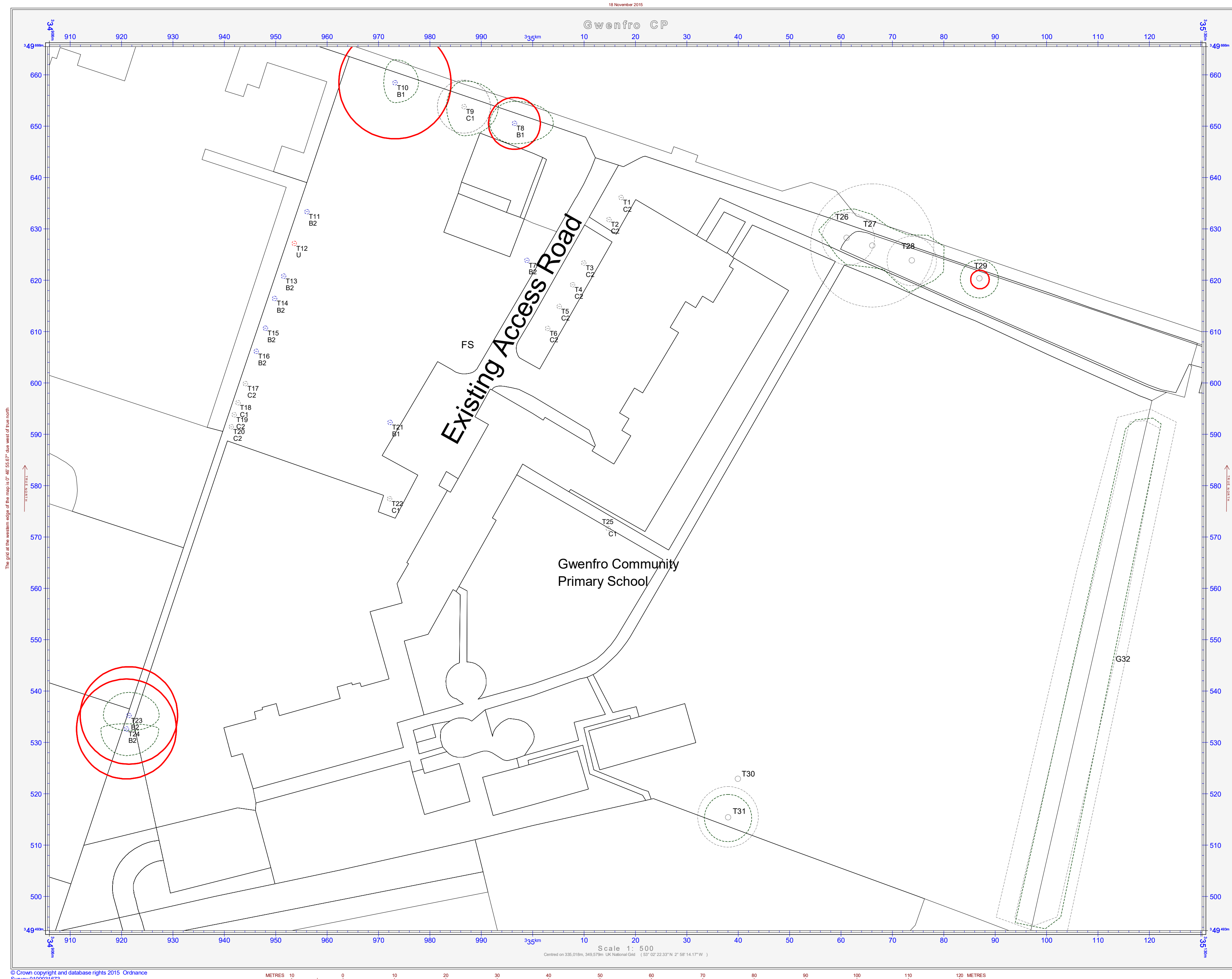
Drawing is colour coded and a monochrome copy should not be relied upon

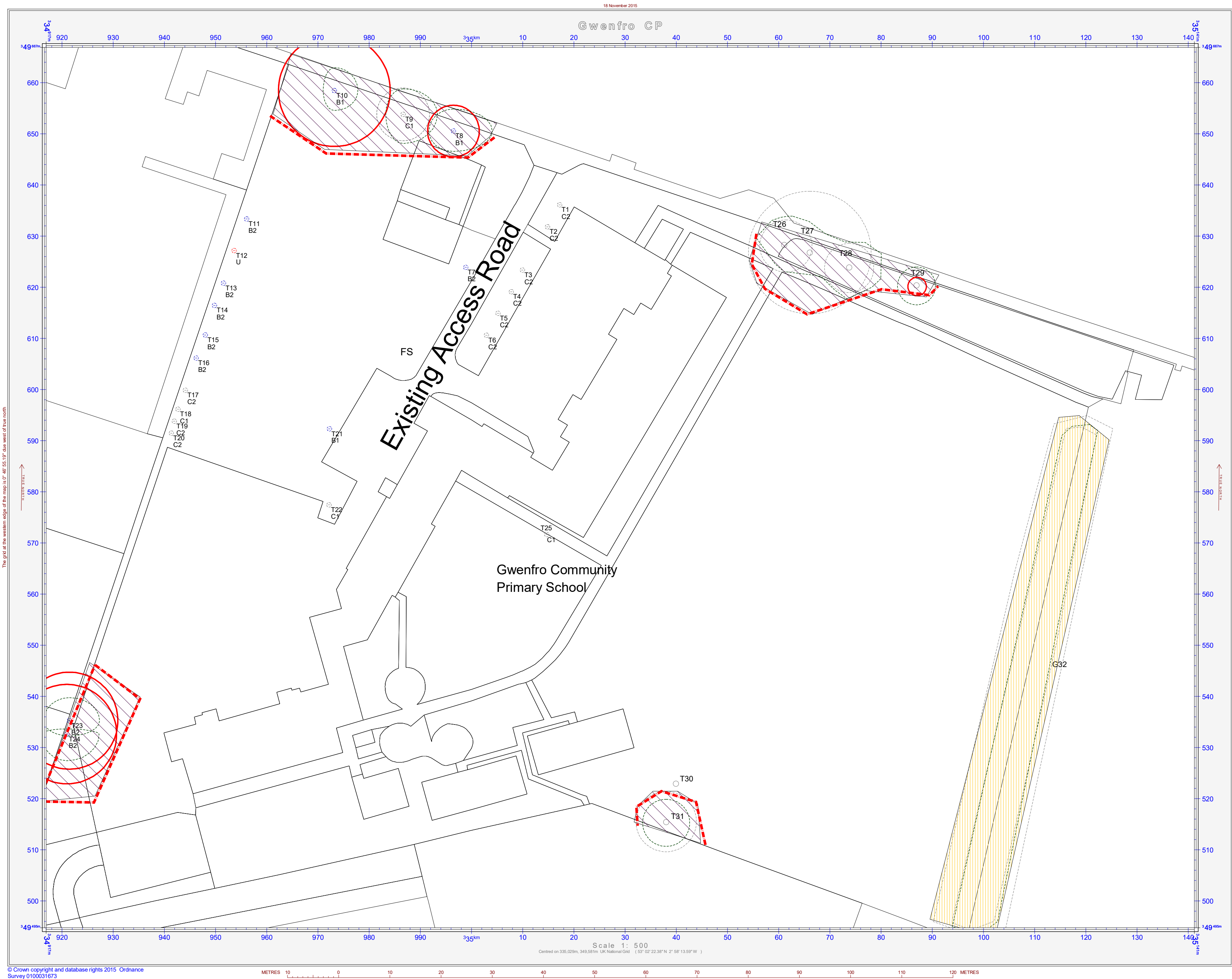
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Tree Protection Plan

Gwenfro CP School

Caia Park

Wrexham

- Legend
- Tree Cat B
 - Tree Cat C
 - Tree Cat U
 - CEZ
 - Precautionary Area
 - Tree Protection Fencing

Drawing No: GPA/TPP/05/15/01

DrawnBy: S. Shields

Scale: 1:500 @ A2

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