



Arboricultural report in support of a planning application to develop two sites off Derwent Crescent, Acton, Wrexham.

Client. Wrexham Council

1.0 Instructions and scope of this report

1.1 My instructions are.

- 1) To undertake a BSS 5837 survey of trees within and near to two proposed development sites off Derwent Crescent, Acton, Wrexham.
- 2) To provide a report commenting on the general condition of the trees, a tree survey schedule, tree survey plans, root protection area plans and arboricultural impact assessments.

2.0 Instructions received from

2.1 Mark Jowett, Wrexham Council, Wrexham County Borough Council, Ruthin Road, Wrexham, LL13 7TH.

3.0 Designations

3.1 No checks have been made to establish if any of the trees are protected by Tree Preservation Orders or if the site falls into a Conservation Area. Such checks should be completed before undertaking any tree work on this site.

4.0 Tree survey

4.1 The trees were surveyed in accordance with British Standard Specification 5837 (2012). The Standard applies to trees whose diameters exceed 75mm measured 1.5 metres from the ground. The findings of the survey are appended; they should be read in conjunction with the appended drawing SR1 which indicates the locations of the trees, the extent and shape of their crowns, and the BSS 5837 category into which they have been placed. The survey method is described in BSS 5837 (2012) "Trees in Relation to Construction."

4.2 A detailed inspection of individual trees with respect to decay, defects and hazards was not made. No investigations were made to determine the impact of the trees on existing structures both within and outside the site's boundaries. These investigations fall outside the scope of BSS 5837.

5.0 Site description

- 5.1 The proposed development sites are currently occupied by garages and car parking spaces. Both are off Derwent Crescent and are mostly surfaced with concrete. Trees and woody shrubs occupy small amenity areas adjacent to the sites or they occur in gardens bordering the sites. The underlying geology comprises mudstones, sandstones and conglomerate; superficial geology comprises glacial till.

6.0 Development proposals

- 6.1 The development proposals are shown on the appended drawing SR2. They comprise the construction of three residential units.

Arboricultural Impact assessment

6.2 Tree removal.

- 6.2.1 The development proposals require the removal of Tree 6 shown on SR2. The removal of Trees 2,3,4 7,8 and 9 is also proposed. Although these trees could be protected through development, they are all poorly formed trees which make little contribution to local amenities. If retained, they are likely to become a nuisance to occupiers of and neighbours to the proposed development. Their removal provides an opportunity to replace them with better quality trees. Table 1 identifies the trees whose removal is proposed and the reasons for their removal.

Table 1 Trees identified for removal

Tree number	Species	Reason for removal
2	Sycamore	Multi-stemmed growing from base of garage
3	Sycamore	Multi-stemmed growing from base of garage
4	Sycamore	Multi-stemmed, poorly formed, growing through hedge
6	Crack Willow	Poorly formed, basal decay, overlapped by development proposals
7	Crack Willow	Poorly formed, basal decay
8	Crack Willow	Poorly formed, cavities with decay.
9	Rowan	Poorly formed growing through crown of neighbouring tree. .

6.3 Impact on tree roots

- 6.3.1 BSS 5837 describes a Root Protection Area (RPA) and the tree it encloses as concentric circles. The radius of a single stemmed tree's RPA is assumed to be twelve times its stem diameter measured approximately 1.2m from the ground. The RPA radius of a multiple stemmed tree with no more than five stems, is derived from the square root of the squared sum of its stem diameters. The RPA radius of a tree with more than five stems is derived from the square root of its mean squared stem diameter, multiplied by the number of its stems. Irrespective of these rules, the Standard indicates that the radius of an RPA should rarely (if ever) exceed 15 metres. The area and shape of an RPA may be changed if local conditions dictate, or if a tree's condition indicates that a larger zone is required. The buff circles on SR2 indicate the boundaries to the retained trees RPAs. None are overlapped by the proposed development.

7.0 Method statements and Tree Protection

- 7.1 SR3 shows the trees RPAs enclosed within Construction Exclusion Zones (CEZs). These have been plotted by linking RPAs together, and/or by:
- (i) where possible, linking RPAs to canopy boundaries where these exceed the RPA boundaries, and/or,
 - (ii) where space permits, extending the CEZ boundary beyond the minimum calculated per the BSS formula and/or,
 - (iii) including vulnerable sections of hedgerow, and /or
 - (iv) excluding RPA areas breached by development.
- 7.2 The boundaries to the CEZs (indicated on SR3 as magenta coloured lines), shall be identified by white painted marker pegs driven into the ground along their perimeters. "Heras" type fencing shall be erected outside their boundaries and signs instructing people to keep out of the CEZs shall be fixed to it. The fencing and marker pegs shall remain until construction work has been completed. No site work shall begin until the CEZ boundary fencing has been erected.
- 7.3 SR3 indicates that the RPA of an Ash tree identified on this plan as Tree 10, will be overlapped by development. The extent of overlapping is indicated on this plan by brown hatching. The affected area is already covered by a hard surface of concrete. Levels above the existing concrete may be raised, but they cannot be reduced below the base of the slab. The slab may be broken and lifted by machines working outside the affected area or off

retained sections within it. The exposed ground below the slab shall be left undisturbed. If it must be crossed by plant and machinery, it shall be protected by installing heavy duty Eve Trakpanels over 100mm of bark mulch laid over a geotextile membrane. This protection shall remain in situ until a new surface is laid. Since the segment of the tree's RPA which is overlapped by the concrete slab is already exposed to levels of loading which are unlikely to change post development, I do not consider that it is necessary to install ground protection if the existing slab is removed and replaced.

7.4 Tree protection at all stages of the project including landscaping after removal of the CEZ boundary fencing.

7.4.1 Ground levels within the CEZs shall not be reduced.

7.4.2 Contaminants, for example, concrete mixings, diesel oil and vehicle washings, shall not be discharged within 10m of trees, or where they may leach into the CEZs.

7.4.3 Fires shall not be lit on sites where flames and smoke may be carried to within 5 metres of a tree's foliage, branches and stems.

7.4.4 Notice boards, telephone cables or other services shall not be attached to trees.

7.4.5 Ground cover vegetation may be killed with an appropriate non residual contact herbicide.

7.4.6 Although none is foreseen, any tree surgery considered to be necessary, may be done at the pre or post-development stages. It shall comply with BSS 3998 (2010). Arisings may be removed from site, chipped and left, or cut and mounded to form habitat piles. They shall not be burnt where fire and smoke may damage retained trees. Stumps should not be dug or pulled. They may be ground, but consideration should be given to their retention as habitats for flora and fauna. The extent of any tree surgery shall be agreed with the local authority tree officer beforehand.

7.4.7 If extensive pedestrian access is required over any unprotected RPA area it shall be protected by using scaffold boards as walkways. Additional protection can be provided by laying these over a compressible layer such as bark mulch spread over a porous geo-textile membrane.

7.4.8 Vehicles and machinery shall not cross unprotected RPA's.

7.4.9 Care shall be taken to ensure that machines can operate without damaging retained trees. Where adequate clearance cannot be maintained, trees may be pruned to facilitate access. Pruning shall be specified and supervised by an arboriculturalist and approved by the local authority tree officer beforehand.

- 7.4.10 Excavations within the CEZ are not envisaged. If later they are found to be necessary, they shall be undertaken after consultation with the supervising arboriculturalist. Digging within all RPAs shall be done by hand or air spade to avoid damaging larger roots. Exposed roots shall be wrapped in dry, clean

hessian sacking and protected from temperature changes. Roots smaller than 25 mm diameter shall be pruned back, preferably to a side branch, using a sharp tool (e.g. secateurs or handsaw) to make a clean cut and leaving as small a wound as possible. Roots larger than 25 mm shall only be severed following consultation with an arboriculturalist. If roots are accidentally damaged, the supervising arboriculturalist shall be notified. Prior to backfilling, any hessian wrapping shall be removed. Before soil or other material is replaced the retained roots shall be surrounded with a sharp sand and topsoil mix or other approved, loose, inert, granular fill. Fill material shall be free of contaminants and other foreign objects potentially injurious to tree roots.

- 7.4.11 Water levels shall remain unchanged in the RPAs. Permeable surfaces may be used where surface water is unlikely to be contaminated by materials toxic to trees. If contamination is likely, an impermeable surface may be specified. Land drainage may be required if excess water is likely to accumulate but drains shall not be located within root protection areas.

8.0 Conclusion

- 8.1 The direct impact of development on the local landscape is minimal. Subject to compliance with this report, I do not consider that the retained trees either on or near to both development sites will be threatened by the proposed developments.

J C Terry MSc, MICFor, MRICS, CENV
Sylvan Resources Ltd.
13th August 2021

Findings of Tree Survey

OS Grid Ref		Tree Number	Species		Number of Stems	Stem diameter mm	Stem 2 (mm)	Stem 3 (mm)	Stem 3 (mm)	RPA mm	Canopy spread				BSS5837 Category	Life Expectancy	Physical Condition	Comments
Eastings	Northing		Common Name	Latin Name							N	E	S	W				
		1	Rowan	Sorbus aucuparia	4	180	80	120	90		3	4	3	1.5	B2	10-20	Fair	Multi stemmed, canopy in decline, some pruning on western side.
		2	Sycamore	Acer pseudoplatanus	3	90	80	100			2	2	2	2	C2	10-20	Good	Multi stemmed growing from the base of the garages.
		3	Sycamore	Acer pseudoplatanus	2	160	90				2.5	3	3	2	C2	10-20	Good	Multi stemmed growing from the base of the garages.
		4	Sycamore	Acer pseudoplatanus	4	90	110	90			3	3	3	2	C2	10-20	Good	Multi stemmed growing through a privet hedge, poorly formed leaning to the north.
		5	Crack Willow	Salix fragilis	2	300	300				6	4	2	2.5	C2	10-20	Fair	Poorly formed leaning to the north, basal decay
		6	Crack Willow	Salix fragilis	2	220	200				1	5	6	4	C2	10-20	Fair	Poorly formed bifurcated, some basal decay
		7	Crack Willow	Salix fragilis	1	220					4	1	1	5	C2	10-20	Fair	Poorly formed bifurcated, some basal decay
		8	Crack Willow	Salix fragilis	1	290					2	4	4	1	C2	10-20	Fair	Poorly formed leaning to the east, has some large cavities with decay.
		9	Rowan	Sorbus aucuparia	2	150	100				1	44	4	1	C2	10-20	Fair	Poorly formed growing through the crown of the crack willow.
		10	Ash	Fraxinus excelsior	1	500					6	4	6	6.5	B2	10-20	Good	Ash located on neighbouring property.
		A	Leyland cypress	Cupressus leylandii	20						2	3	2	3	B2	Oct-20	Good	Max dbh 300, Average 100, Large leylandii hedge.

Explanatory notes

For information about the tree survey schedule, refer to the guidance below. This guidance is generic, it does not apply to all tree survey schedules. Information which is not recorded has been omitted because it is not required.

Easting and Northing

The grid reference of the surveyed tree. This has been recorded using GPS. It does not appear if the survey is based on topographical data. Where trees have been surveyed as groups more than one number may have been recorded. These numbers indicate the group's boundaries.

Tree number

These numbers correspond to those referred to elsewhere in this report. Sometimes trees will have been numbered or given a barcode on site. Hedges and Groups may be recorded as H (hedge) or G (group) followed by a number. For example, H1, G1 etc.

Species

Common English and Latin names are listed unless the species is unknown. For groups or hedges species may be recorded under 'Comments'.

Maturity

Recorded as young, Semi mature, Mature, Over mature, Veteran. For groups or hedges this classification may be given under 'Comments'.

Likely Bat habitat

Rarely recorded. Will either be recorded as Yes or No. This is based upon the surveyor's knowledge and experience. It is indicative and should not be treated as authoritative. Where bats are likely to be found further expert guidance is likely to be required.

Height

Recorded in m.

Height and direction of first branch

The height of the first major branch and its direction are recorded. Heights are recorded in metres, and direction according to the nearest cardinal point.

Number of stems

The number of stems originating from the root collar.

Stem diameter

Recorded in mm at breast height (1.5m) wherever possible. Where measurement at 1.5m is not possible, one of the alternative methods set out in *Annex C of BS5837:2012* has been used.

RPA radius

The radius of each tree's Root Protection Area (RPA) as defined in *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations*. This is not always recorded in the Schedule. It is plotted according to the Standard on the Tree survey and other relevant plans.

Canopy spread

Radial crown spreads in metres have been recorded at the four cardinal points. The accompanying Tree survey plan shows approximate crown shapes based on these measurements.

Physiological condition

Recorded as poor, fair or good in the crown, stem and at the base of the tree.

BSS 5837 Category

This is based on the recommendations set out in *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations*. The categories are summarised in the standard as follows:

- A Trees of high quality with an estimated remaining safe life of at least 40 years
- B Trees of moderate quality with an estimated remaining safe life of at least 20 years
- C Trees of low quality with an estimated remaining safe life of at least 10 years, or young trees with a stem diameter below 150mm
- U Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

In addition, the British Standard requires one or more subcategories to be applied to the Retention Category. In summary these are as follows:

- 1 Mainly arboricultural qualities (that is individual aesthetic characteristics)
- 2. Mainly landscape qualities
- 3. Mainly cultural values, including conservation

Life expectancy

An approximate estimate for each tree's anticipated future safe life in the following ranges:

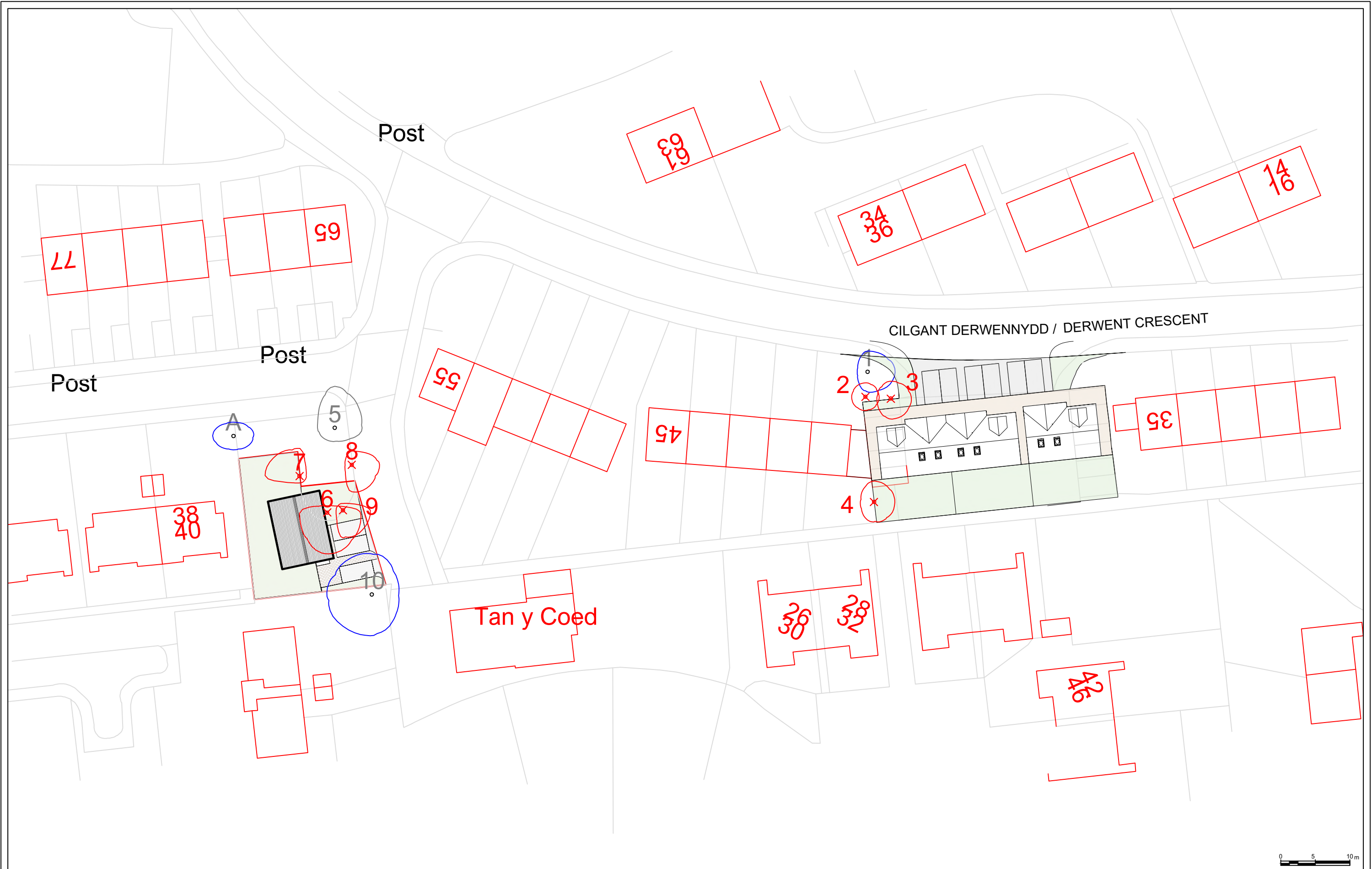
- <10 years
- 10-20 years
- 20-40 years
- 40+ years

Physical condition

Recorded as poor, fair or good. Relates to the structural rather than physiological condition.

Comments

Features identified by the surveyor and where relevant, recommendations for future management.



Key

Existing Tree

Category A - Green
Category B - Blue
Category C - Grey
Category U - Red

Tree to be removed for development purposes

Trees are coloured on plan to correspond to the Revision Category specified in the Arboricultural Report. Trees marked with a red 'X' are to be removed for development purposes. Trees marked with a blue circle and 'A' are existing trees. Trees marked with a blue circle and '10' are existing trees.

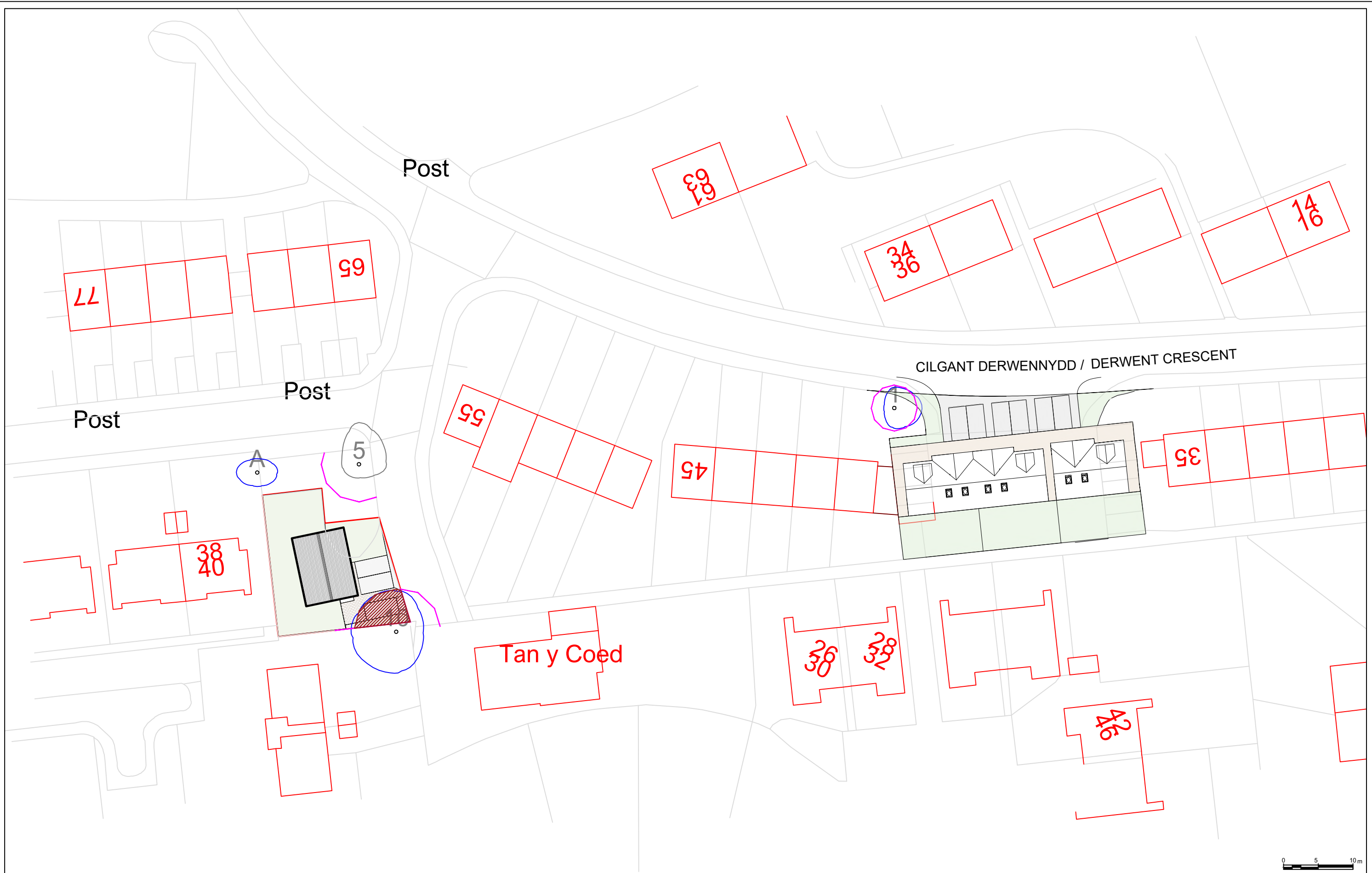
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Ordnance Survey 0100031673



Project: Derwent Crescent, Wrexham
Client:
Drawing Title: Arboricultural Report

Drawing: SR2 Tree Removal
Scale: 1:500 @ A3
Date: 09.09.2021







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