

Arboricultural Impact Assessment

Lyan Packaging
Redwither Works,
Redwither Road,
Wrexham Industrial Estate
Wrexham

Ref:
AIA/RWW/11/21

Date:
26th November 2021

Commissioned by:
Mr S. Ellis
on behalf of
Lyan Packaging LTD

Prepared by
S. Shields

Arboricultural Impact Assessment

Lyan Packaging
Redwither Works,
Redwither Road,
Wrexham Industrial Estate
Wrexham

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'.

Planning permission is being sought to develop site to provide a covered storage area to the rear of the existing building.

All trees on and immediately adjacent to the site have been surveyed and assessed in accordance with the recommendations of BS5837: 2012. The survey assessed an area of woodland as having a quality and amenity value of medium.

No tree removal or tree works are required to implement this development.

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Instruction

- 1.1 Shields Arboricultural Consultancy received instructions from Mr S. Ellis on behalf of Lyan Packaging LTD. The client or their agents may copy and distribute this report as required for the purpose of applying for planning permission for or preparing any documents or plans for this or future applications at this site.
- 1.2 Planning permission is being sought to develop site to provide a covered storage area to the rear of the existing building.

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 and is based on a site assessment undertaken 14th October 2021 by S. Shields, principal consultant Shields Arboricultural Consultancy. 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 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 site is located within Wrexham Industrial Estate, a large industrial area to the east of the town of Wrexham. At present it is occupied by an industrial unit and associated hardstanding. The building is towards the north of the site and orientated east west. There is a car parking area to the rear (south) of the building. Redwither Road runs to the north and the site is accessed via a service road to the east of the building. There is an area of soft landscape between the building and Redwither Road and a small watercourse runs west east through this area with a linear belt of trees established along its length. To the south and west the site shares a boundary with an area of established secondary woodland extending to approximately 1ha and linking with the trees to the front of the site. The service strip between the boundary and the west elevation of the building is set to soft landscape
- 4.2 The site is at an elevation of approximately 25 metres above sea level and is generally level. It is within an industrial estate and there are numerous large industrial buildings in close proximity.
- 4.3 The woodland to the west comprises mixed broad leaf species in early to mid-maturity. The woodland has both habitat and landscape values and is linked to nearby wooded areas by corridors of trees running along Redwither Road and Redwither Brook.



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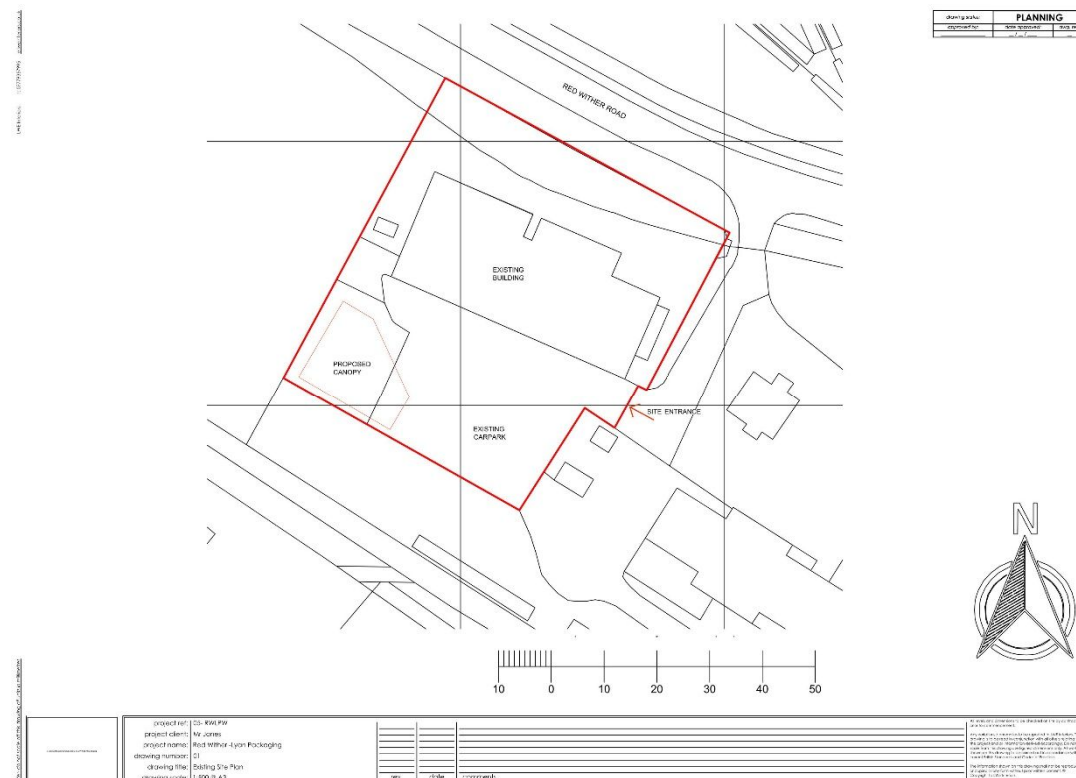
Soils

- 4.3 Soils appear to be reasonably free draining and geological maps indicated a glacial till drift over a sandstone lithology. The area for development to the south of the existing building has been excavated, compacted and stoned and this would create a significant barrier to root development.

*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 Planning permission is being sought to develop site to provide a covered storage area to the south 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, it is particularly important to consider the effects of shading where trees are to the south of houses and gardens. 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, however all the trees may be subject to the Forestry Act (see section 3.1) and some hedges subject to the Hedgerow regulations (see section 3.3). 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 one area of woodland, which was 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)	1
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.	0
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.	0

Arboricultural merits and the significance of the trees in the landscape

- 7.4 The site is within an industrial area that is characterised by industrial buildings, car parking and storage areas and access roads. There are a number of trees and small woodlands throughout the estate and the site is adjacent to one of these areas of woodland, which sits to the west and extends around the north and south boundaries. The woodland is recent secondary woodland and there is no indication that it is an ancient woodland and there are no ancient or veteran trees present.

- 7.5 The woodland is an important feature in the landscape and helps to screen the site from the highways to the west and north and from the footpath to the south. The woodland will also have value in terms of habitat and conservation.

Policy Considerations

- 7.6 Section 6.4.24 – 6.4.26 of Planning Policy Wales states that:

‘Trees, woodlands, copses and hedgerows are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make a valuable wider contribution to landscape character, sense of place, air quality, recreation and local climate moderation. They also play a vital role in tackling the climate emergency by locking up carbon, and can provide shade and shelter, a sustainable energy source and building materials. The particular role, siting and design requirements of urban trees in providing health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking.’

‘Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Where woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting.’

‘Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory.’

‘The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.’

- 7.7 The Wrexham Unitary Development Plan Policy EC4 – Hedgerows, Trees and Woodland advises that

'Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.'

This policy should be considered with reference to Local Planning Guidance Note 17 'Trees & Development' [Local Planning Guidance Note No 17 - Trees and Development \(wrexham.gov.uk\)](http://wrexham.gov.uk).

Design Considerations

- 7.8 The proposed new structure is to be formed within the site boundary on an area of land that has been lowered, graded, compacted and supports a hard surface. The significant trees in the woodland are between 5m and 9m from the boundary at the closest points and there will be no root activity within the development area and given the nature and use of the building issues with proximity and shade are unlikely to be significant and therefore the site can be treated as un-constrained.

Arboricultural Impact

Impact	Category A	Category B	Category C	Category U
Tree Removal				
Facilitative Pruning Required	W1			
RPA Encroachment				
Potential Shading				
Proximity Issues				

- 7.9 There is sufficient distance between the woodland and the proposed building to ensure that it is not significantly impacted by the development. There may be a need to periodically prune back encroaching branches to prevent them from contacting the building, but this would be minimal and would not negatively impact on the trees or the woodland as a whole.

Landscaping

- 7.10 Although no trees will be impacted by the development there may be an opportunity for tree planting on or close to the site if required.

Arboricultural Operations

Permission to remove any tree must be obtained from the Local Planning Authority and must not be undertaken until a Full Planning Permission has been granted and all pre-commencement conditions have been discharged. In cases where trees are protected by Tree Preservation Orders or Conservation Areas additional consent may be required.

- 8.1 The proposal will not require the removal of trees.

Arboricultural Method Statement

- 9.1 This arboricultural method statement (AMS) sets out the 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 ref: RWW/TPP/11/21. 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 (see 9.17).
- 9.6 All measurements are given in metric using standard abbreviations.

Fencing and Ground Protection

- 9.7 The TPP indicates the position of all protective fences.
- 9.8 Protective fencing will comprise herras fencing or as agreed with the Local Planning Authority. In this case the site boundary fence should suffice.
- 9.9 Ground protection is not required on this site.
- 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.

General Precautions

- 9.12 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. Spills kits, suitable for the type fluids, fuels and chemicals stored on site must be available on site and site operatives must have training in their use.
- 9.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.

- 9.14 Storage and mixing areas, contactor parking and all site huts must be outside the CEZ.
- 9.15 Access to the work area is via the main site entrance and must not traverse the CEZ.
- 9.16 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.
- 9.17 To ensure that all tree protection measures are properly installed and maintained the site shall 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. All tree protection measures must remain in place until development work is completed and only removed after receiving written confirmation from the LPA.

Schedule of Inspection

1. Prior to work commencing to inspect tree protection fencing.
- 9.18 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 It is possible to develop the site without having a significant impact on the wider arboricultural resource.

S.J.A. Shields

Uni Cert For. & F.P. (Bangor)

P. Dip. Arb. (RFS), MSc. Arb. & Urban For. (UCLan)

M.Arbor.A, MICFor.

Chartered Forester

26th November 2021

Arboricultural Assessment

Ref. No.	Species	Top Height	Stem Dia mm	N	E	S	W	CC	Age	Rem Cont.	Cat.	RPA m ²	Notes	AIA
W1	Crataegus monogyna (Hawthorn), Alnus glutinosa (Common Alder), Fraxinus excelsior (Ash), Quercus robur (Common Oak), Salix caprea (Goat Willow)	16	500	5.5	5.5	5.5	5.5	2	M	40+	A2	113	Condition: Good Notes: RPA restricted by existing hard standing.	Area of mixed broadleaf secondary woodland. Provides a significant feature in the local landscape, helps to screen the site from adjacent roads and footpaths and has conservation benefits. The proposed development is outside the RPA of the woodland, possible requirement for very minor pruning of encroaching branches in the future but the woodland can be retained and protected to the required standard.

T2	Quercus robur (Common Oak)	14	500	7	8.7	7	7	3	M	40+	A2	113	Condition: Good Notes: As G1	Component of W1, largest specimen within proximity to the construction area. Will not be impacted by the development and can be protected to the required standard.
T3	Salix caprea (Goat Willow)	12	450	4.2	5	5	5	1	M	20+	B2	92	Condition: Fair Notes: As G1	As W1
T4	Quercus robur (Common Oak)	14	400	8.8	8	8	8	3	M	20+	A2	72	Condition: Good Notes: As G1	As W1

Ultimate Heights of Main Species

Oak 18

Willow 16

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 with an estimated life expectancy of at least 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 with an estimated lifespan of at least 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 with an estimated lifespan of at least 10 years or young trees with a stem diameter below 150mm.

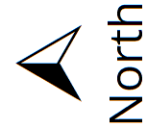
Category U: Trees in such a condition that they cannot realistically be retained as living in the context of the current land use for longer than 10 years. *NB. Category U trees can have an existing of potential conservation value which it might be desirable to preserve.*

Bat potential has been assessed in accordance with the guidance provided in BS 8596:2015 and is at the level of a non-specialist scoping survey. This assessment is for preliminary advice and does not negate the requirement for a specialist ecological survey

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		

Tree Constraints Plan
Lyan Packaging
Redwither Road
Redwither Industrial Estate
Wrexham



Key

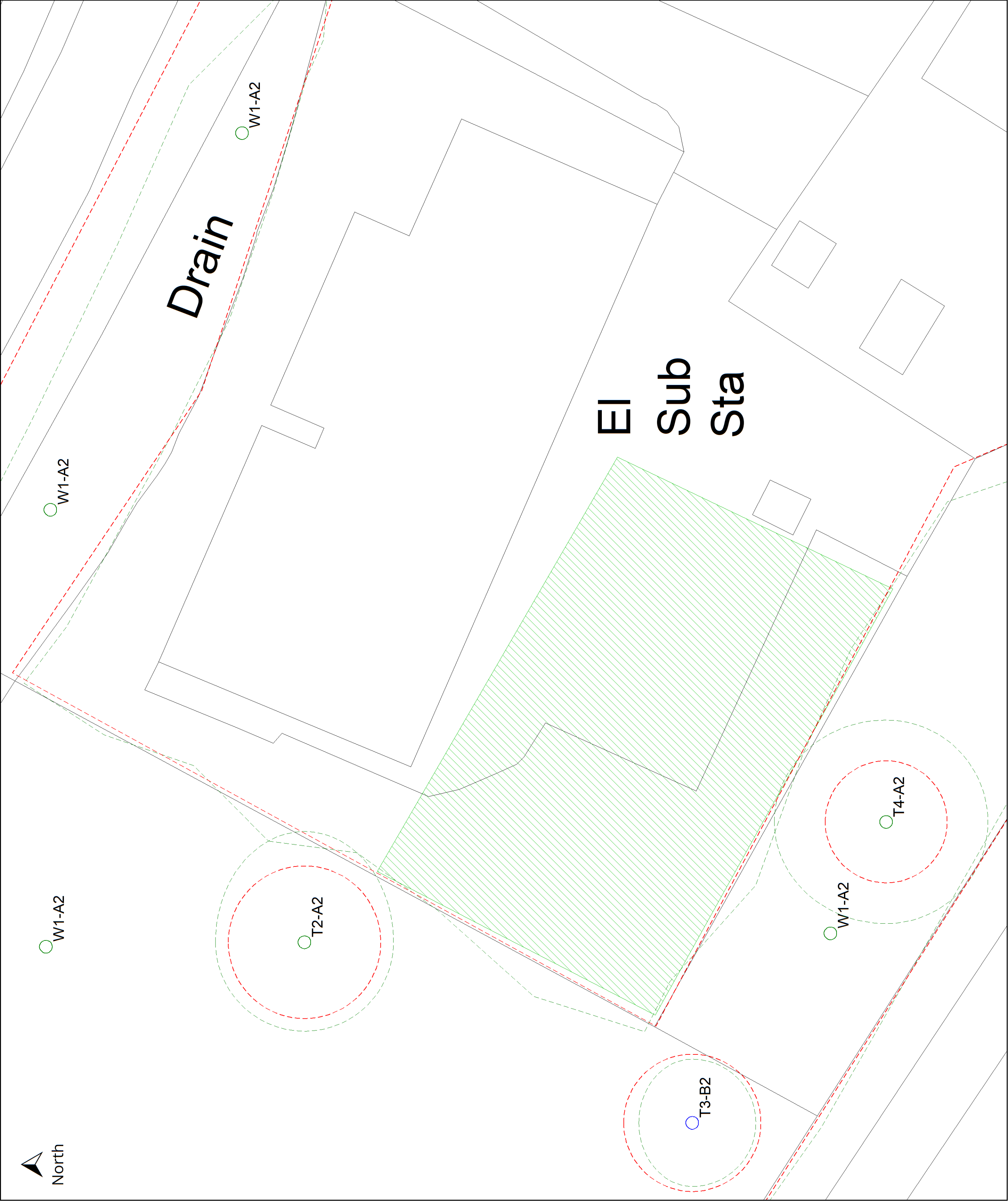
Cat A Tree

Cat B Tree

RPA

Canopy

Construction Area



Drawing No: RWW/TCP/11/21

Drawn By: S. Shields

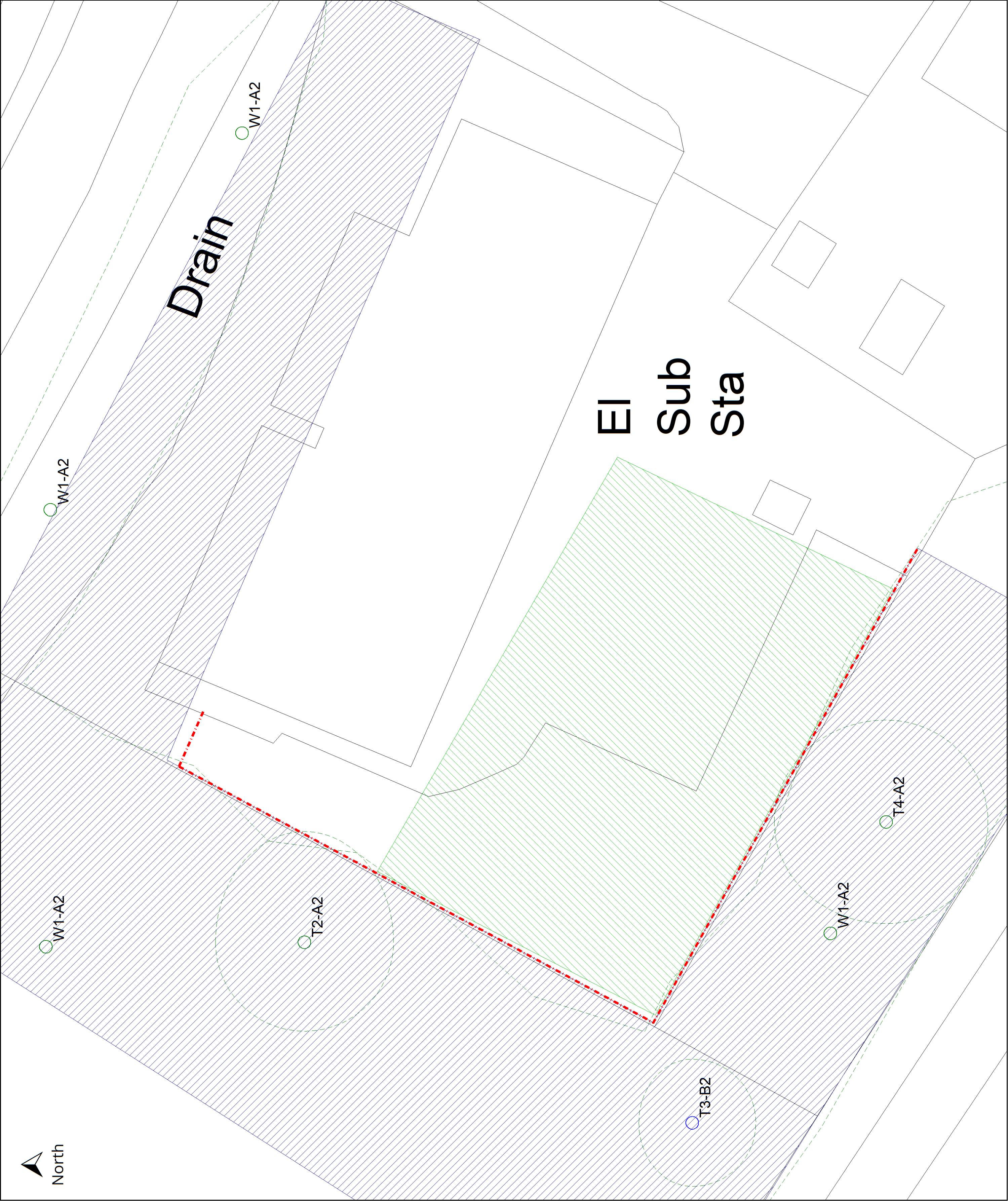
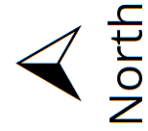
Scale: 1: @ A200

Date: 26th November 2021

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

Tree Protection Plan
Lyan Packaging
Redwither Road
Redwither Industrial Estate
Wrexham



- Cat A Tree
- Cat B Tree
- Canopy Spread
- Fencing
- CEZ

Drawing No: RWW/TPP/11/21

Drawn By: S. Shields

Scale: 1:200 @ A2

Date: 26th November 2021

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