



Arboricultural Impact Assessment

Client	Kronospan
Agent	AXIS
Site Address	Kronospan, Maesgwyn Farm, Wrexham LL14 5NT
Arboricultural Consultant	Mike Wood <i>Dip Arb. PTI, TechArbor A</i>
Local Authority	Wrexham County Borough Council (WCBC)
Proposal	Creation of an Engineering Store to the South West of the Kronospan site
Survey Date	21 st February 2022
Report Date	27 th June 2022
Report Reference	220627-1.1-AIA-ESK-T21-MW

Executive Summary

- This report provides an assessment upon the impact of trees and a proposal to install a new 'Engineering Store' building on the existing stockyard land to the south west of the Kronospan factory in Chirk. The land is within the existing Kronospan boundary.
- A survey in accordance with BS5837:2012 was undertaken on 21st February 2022, to inform this assessment and 6 trees and 3 tree groups were recorded to inform this report. These are trees/tree groups which are within the site boundary or possibly within influencing distance.
- Two groups; G01, made up of approximately 140 Leyland Cypress, 1 Hawthorn and 1 Sycamore and G06; made up of 6 Elder, along with 5 individual trees (T04, T05, T07-T09) will need to be removed to facilitate the proposal.
- The Leyland Cypress in G01 will be removed from their current location. If feasible, they will be translocated to a more suitable location, or if this is not feasible, new tree planting will be agreed with the local planning authority.
- Tree protection measures are not necessary, as the remaining two tree features (T02 and G03) are already protected with existing permeant fencing to prevent any foreseeable impact upon them.
- The survey, report and appended information has been undertaken in accordance with BS5837:2012 *Trees in Relation to design, Demolition and Construction - Recommendations*.

Appendices

- Appendix A: Tree Schedule
- Appendix B: Tree Constraints Plan
- Appendix C: Tree Protection Plan

1 Qualifications and Experience

- 1.1 The survey and report has been prepared by Mike Wood *Dip Arb. Tech* ArborA, Principal Arboricultural Consultant of Tree 21 Limited. Mike Wood has 25 years' experience in arboriculture, with 15 years' experience in providing BS5837 surveys and reports and is a certified LANTRA Professional Tree Inspector, a registered Quantified Tree Risk Assessment (QTRA) user and a member of the Arboricultural Association.

2 Introduction

- 2.1 This report and appendices have been produced to assess the impact upon trees and a proposal to build a new 'Engineering Store' at the Kronospan site in Chirk. The report provides an assessment of the trees which may be impacted by the proposal and considers protective measures, retention and removal which would be needed to facilitate the site preparation, earthworks, and construction stages of the proposal.
- 2.2 The survey was undertaken in accordance with BS5837:2012 Recommendations. A topographical survey base plan of the trees was used, in addition to a specialist tree survey programme on an android device, to record and plot the trees.
- 2.3 The Tree Schedule at Appendix A provides all data and information on each tree record. The Tree Constraints Plan (TCP) at Appendix B illustrates the tree in the current context. The Protection Plan (TPP) at Appendix C illustrates the proposed context, with tree protection barriers positioned along with measurements to aid installation. Text notes are also provided on the plan, which are reflected throughout this report. Both plans include the position of the trees, crown spread in four cardinal directions, retention category and Root Protection Areas (RPA) in accordance with BS5837:2012.

3 Scope

- 3.1 A tree survey was undertaken on 21st February 2022, further to instruction from the client. The resulting survey data was then used to produce a Tree Schedule (Appendix A), TCP (Appendix B) and TPP (Appendix C) to inform this assessment.

4 Purpose of the Report

- 4.1 This assessment is intended to report on any impact upon trees, evaluating the impact of above ground parts (stem and branches), expressed as crown spread and below ground parts (roots), which is expressed as the Root Protection Area (RPA). The report also considers the wider impact on the landscape and post development/long-term sustainability between the proposal and the treescape.
- 4.2 The report, and the accompanying information, is supplied to:
- Identify suitable protection measures during the construction of the proposal, where considered appropriate.
 - Report on any tree removal or facilitation pruning works required.
 - Provide information on proposed mitigation for loss of tree screening.

5 Documents Provided to Tree 21 Limited

- Location Plan
- Topographical Survey Plan: 21105-P-2 'Cadbury Land' stockyard area
- Proposed Layout: 7000_598-G

6 Limitations

- 6.1 This is a preliminary assessment from ground level and observations have been made solely from visual inspection for the purposes of assessment in terms relevant to planning and development. Only hand tools have been used which may include binoculars, nylon mallet, laser measure, compass, height measuring device and fine manual metal probe to aid tree assessment where considered necessary during the survey. No detailed internal decay detection devices have been used in assessing trunk condition.

- 6.2 The conclusions relate to conditions found at the time of the survey. The recommendations contained within this report are valid for a period of one year only. Any significant alteration to the site that may affect the tree or have a bearing on the planning implications (including level changes, hydrological changes, extreme climatic events, or other site works) will necessitate a re-assessment of the trees and the site.
- 6.3 It should be noted that this survey is not a tree safety inspection. It is carried out in order to inform the planning process. Where clear and obvious hazards have been observed, these have been addressed in Appendix A - Tree Schedule. A full assessment of the levels of risk posed by trees would be informed by considering site use together with hazards present within the tree. Changes in site use are likely to occur during, and result from, the proposed development. In the light of these changes, regular tree risk assessments are advised.
- 6.4 Trees are living dynamic organisms and their condition can change quickly, therefore this report is only valid for 12 months following the survey date. A follow up tree survey should be undertaken beyond 12 months to re-assess the condition of the trees, which informs the retention categories in BS5837:2012, unless work has already progressed.

7 Site Visit and Tree Assessment Methodology

- 7.1 A site survey was undertaken, on February 21st, 2022. The survey took place from ground level aided by the Visual Tree Assessment method (Mattheck and Breloer, 1994), in accordance with BS5837:2012 guidelines. The data was recorded in specialist tree data capture software.
- 7.2 Weather conditions were dry with adequate light and visibility to observe the trees and surrounding environs.
- 7.3 While this appraisal is not a tree risk assessment it nonetheless considers observed structural defects of the inspected tree, where applicable, to inform conclusions with regard to long term management.
- 7.4 Recommendations have been made, where considered appropriate to address immediate tree hazards/or to manage the trees within the context of the site

becoming a work area and a proposed development site with consideration to long term retention

8 Data Collection

- 8.1 Data collected includes a designated tree (T) or tree group (G) number, species, height, number of stems, diameter, crown clearance (height of periphery of crown spread above ground level), branch spread (to N, S, E and W), age class, physiological condition, useful life expectancy, tree structural condition, site notes (where this has a bearing on the present or future health or structural condition of the tree), preliminary management recommendations, and tree category.

9 Presentation of the Data Collected

- 9.1 Data collected during the Tree Survey is presented in the Tree Schedule table in Appendix A in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*.
- 9.2 The tree survey data is provided in the Tree Schedule (Appendix A) and illustrated on the Tree Constraints Plan (Appendix B). The Tree Protection Plan (Appendix C) provides the proposal, as a layer over the TCP and provides illustrative information on tree removal, tree retention and any recommended tree protection. All other relevant data are presented within the main body of this assessment.

10 Site Description and Context

- 10.1 The site occupies an existing stock pile area on the south west of the site. An early mature Leyland Cypress screen (G01) has been planted on an existing bund, which helps soften and screen the Kronospan Plan from the south. The stockpile area, located between G01 and the boundary fence to the south is generally level, with various paraphernalia associated with the Kronospan plant. There is another soil bund between the stock pile area and the boundary fence to the south, which continues to the west. Trees on this soil bund (T04, T05, G06, T07-T09), to the west are not considered valuable, although they do have some limited wildlife opportunity. T02 is a valuable mature Oak outside of the site and does not extend into the site, above or below ground. This tree is also separated by the existing boundary fence, to the south of the bund. G03, is situated in the onsite 'Farmhouse' land and is also separated by an existing fence.

11 Proposals, Tree Impact & Mitigation Proposals

- 11.1 The proposal is to install 2 x retaining walls, to the north and the south of the stockpile area and increase the level of the ground. The bund to the north and west will be removed to facilitate the Engineering Stores.

12 Arboricultural Constraints

- 12.1 Constraints are presented in the Tree Schedule in Appendix A and the TCP in Appendix B. These constraints are also considered further below.
- 12.2 The TCP, (Appendix B) illustrates the RPA for the trees identified in the Tree Data Schedule (Appendix A). This represents the minimum area in m² which should ideally be left undisturbed around the trees. The TCP also shows a representation of the crown spread of each tree measured in four cardinal directions. The RPA has been calculated in accordance with BS5837:2012 Trees in Relation to Design, Demolition & Construction – Recommendations.
- 12.3 The TPP (Appendix C), illustrates tree removal, retention and protective measures where considered appropriate.

13 Underground Service Installation

- 13.1 No underground service plans have been provided. All proposed underground service connections will be planned outside of the RPA of retained trees. If this is not possible and installation or underground services are required within the RPA of retained trees, an Arboricultural Method Statement will be produced which will need to be reviewed and approved by the Local Authority Tree Officer before the works set out within the AMS are implemented.

Legislation and Guidance

Town & Country Planning Act 1990

Town & Country Planning (Trees) Regulations 1999

The Town & Country Planning (Tree Preservation) (England) Regulations 2012

Health & Safety at Work Act 1974

Construction (Design & Management) Regulations 1994

BS 5837:2012 Trees in Relation to Design, Demolition & Construction - Recommendations

BS 3998:2010 Tree Work Recommendations

National Joint Utilities Group Publication No.4

REFERENCES

Mattheck, C. and Breloer, H. (1995). The Body Language of Trees: A handbook for failure analysis. Research for Amenity Trees **4**. HMSO, London, 240pp.

Matheny, N and Clark, J (1997) Trees and Development: A Technical Guide to Preservation of Trees During Land Development. ISBN 1-881956-20-2

STANDARDS PUBLICATIONS

Trees in Relation Design, Demolition & Construction – Recommendations. (BS5837), British Standards Institution, London (2012).

Tree Work - Recommendations. (BS3998), British Standards Institution, London (2010).

Appendix A

Tree Schedule

Tree Categories

Tree Data

Table 1 Cascade Chart taken from BS5837:2012 Trees in Relation to Design, Demolition & Construction – Recommendations.

BS5837 Survey Data



Ref.	Species	Measurements	General Observations	Category	Recommendations
G01	Sycamore (Acer pseudoplatanus) Common Hawthorn (Crataegus monogyna) Leyland Cypress x140 (Cupressocyparis leylandii X)	Height (m): 7 142 stems, avg.(mm): 280 Spread (m): 3.5N, 3.5E, 3.5S, 3.5W Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 20+ Years	Linear screening group, on top of a soil bund. Bramble scrub vegetation to south. Single row on top of bund and second row on North face of bund. 1 x Hawthorn and 1 x Sycamore on North bank.	C2 RPA Area: 2062 sq m, plus a 1m buffer.	Remove group and replace with an alternative planting scheme on land to the south of the red line boundary, or land within the Applicants control.
G03	Common Hawthorn x4 (Crataegus monogyna) Hazel x6 (Corylus avellana)	Height (m): 7 10 stems, avg.(mm): 120 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 10+ Years	East Side of chain link fence.	C2 RPA Area: 131 sq m, plus a 1m buffer.	No protection measures needed.
G06	Elder x6 (Sambucus nigra)	Height (m): 4.5 6 stems, avg.(mm): 60 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: 10+ Years	Growing on soil bund. Multi stem under 75mm dia.	C2 RPA Area: 110 sq m, plus a 1m buffer.	Fell and remove to facilitate the Engineering Store.

Ref.	Species	Measurements	General Observations	Category	Recommendations
T02	Pedunculate Oak (<i>Quercus robur</i>)	Height (m): 20 Stem Diam (mm): 1300 Spread (m): 10N, 10E, 10S, 10W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	19m from boundary fence, on adjacent Cadbury land.	A1 RPA Radius: 15.0m. Area: 707 sq m.	No protection measures needed.
T04	Elder (<i>Sambucus nigra</i>)	Height (m): 4.5 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: 10+ Years	Growing on bank/bund.	C1 RPA Radius: 1.2m. Area: 5 sq m.	Fell and remove to facilitate the Engineering Store.
T05	Hazel (<i>Corylus avellana</i>)	Height (m): 4.5 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: 10+ Years	Growing on bank/bund.	C1 RPA Radius: 1.2m. Area: 5 sq m.	Fell and remove to facilitate the Engineering Store.
T07	Common Hawthorn (<i>Crataegus monogyna</i>)	Height (m): 8 6 stems, avg.(mm): 100 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 20+ Years	2m from boundary fence and 1m from soil bund.	C1 RPA Radius: 2.9m. Area: 26 sq m.	Fell and remove to facilitate the Engineering Store.
T08	Elder (<i>Sambucus nigra</i>)	Height (m): 4.5 4 stems, avg.(mm): 60 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: <10 years	3m from boundary fence. 0.5m from bund.	C1 RPA Radius: 1.4m. Area: 6 sq m.	Fell and remove to facilitate the Engineering Store.
T09	Elder (<i>Sambucus nigra</i>)	Height (m): 4.5 4 stems, avg.(mm): 60 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: <10 years	0.5m from boundary fence. 2.5m from bund.	C1 RPA Radius: 1.4m. Area: 6 sq m.	Fell and remove to facilitate the Engineering Store.

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix B

Tree Constraints Plan Drawing Number:

220303-1.0-ESKC-TCP-AM

Plan showing constraints imposed on development layout by trees considered during the design process.



Symbol Guide

Root Protection Area

Canopy Spread

Tree Position,
(colour represents
retention category)

Tag Number

BS5837:2012 - Tree Category

Category A Trees
High Quality

Category C Trees
Low Quality

Category B Trees
Moderate Quality

Category U Trees
Poor Quality/Remove

Tree Protection & Removal

Proposed Tree
Removal

Tree Protection
Fencing



Tree Management & Consultancy Services

Project Name:

Site Engineering Stores, Kronospan, Chirk

Drawing Title:

Tree Constraints Plan

Drawing Number:

220303-1.0-ESKC-TCP-AM

Client:

Kronospan

Agent:

AXIS

Date:

March 2022

Scale:

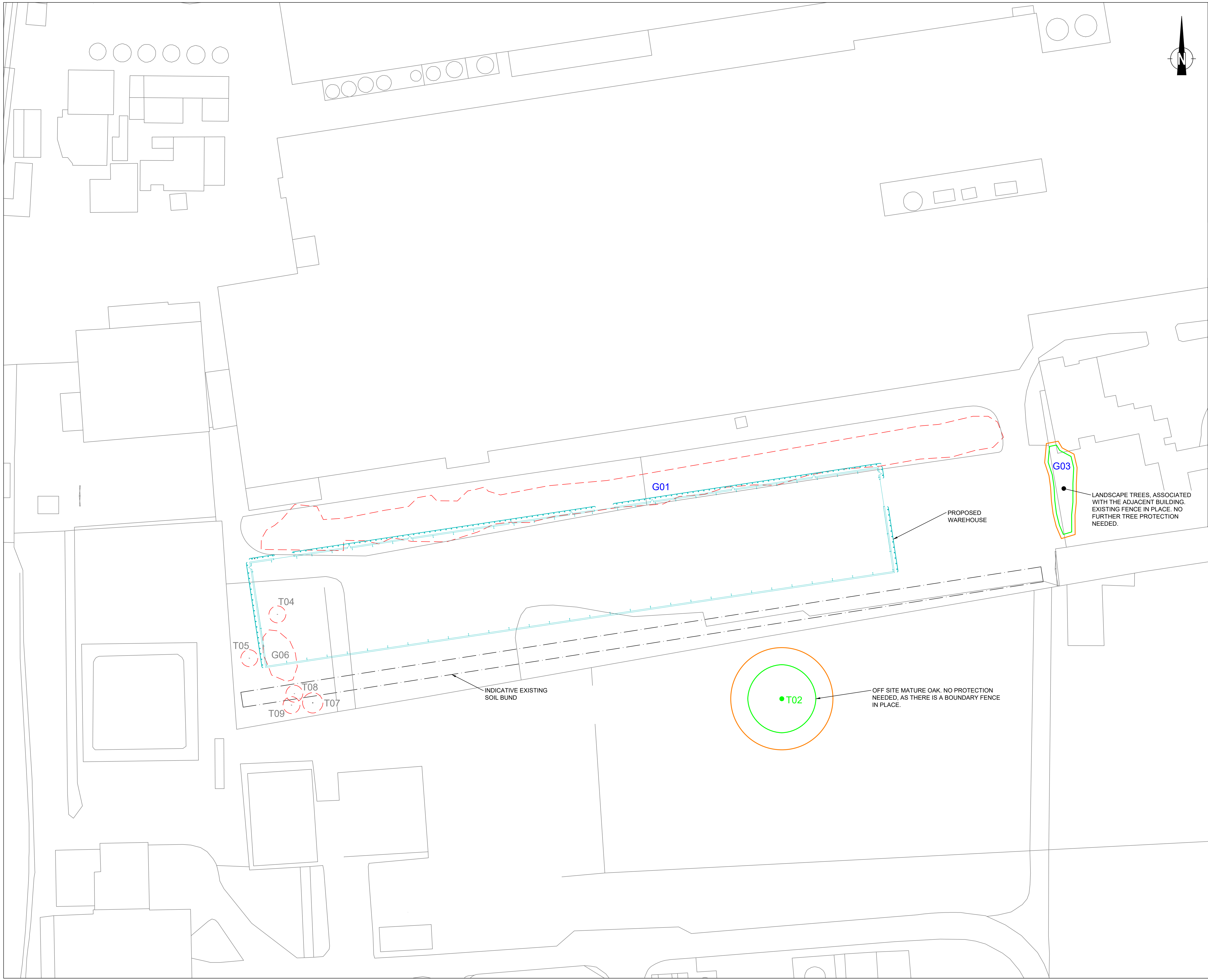
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Appendix C

Tree Protection Plan. Drawing Number:

220627-1.1-ESKC-TPP-MH

Plan showing Trees Proposed for Removal and General Arrangement with Notes on Tree Protection.



Symbol Guide

Root Protection Area

Canopy Spread

Tree Position,
(colour represents
retention category)

Tag Number

BS5837:2012 - Tree Category

Category A Trees
High Quality

Category C Trees
Low Quality

Category B Trees
Moderate Quality

Category U Trees
Poor Quality/Remove

Tree Protection & Removal

Proposed Tree
Removal

Tree Protection
Fencing



Tree Surveys & Consultancy Services

Project Name:

Site Engineering Stores, Kronospan, Chirk

Drawing Title:

Tree Protection Plan - Proposed overlay

Drawing Number:

220627-1.1-ESKC-TPP-MH

Client:

Kronospan

Agent:

AXIS

Date:

June 2022

Scale:

1:500 @A1

LANDSCAPE TREES, ASSOCIATED WITH THE ADJACENT BUILDING. EXISTING FENCE IN PLACE. NO FURTHER TREE PROTECTION NEEDED.

OFF SITE MATURE OAK. NO PROTECTION NEEDED, AS THERE IS A BOUNDARY FENCE IN PLACE.