



Arboricultural Impact Assessment

Client	Kronospan
Agent	AXIS
Site Address	East Log Yard, Kronospan
Arboricultural Consultant	Mike Wood <i>Dip Arb. PTI, TechArbor A</i>
Local Authority	Wrexham County Borough Council (WCBC)
Proposal	Construction of new 3 bay Warehouse Unit on an Existing Area of the Log Yard Site.
Survey Date	1 st March 2021
Report Date	18 th May 2021
Report Reference	210518_1.3_AIA_ELYK_T21-MW

Executive Summary

- This report provides an assessment upon the impact of trees and a proposed 3 bay warehouse and associated external infrastructure, at the existing east log yard at the Kronospan factory in Chirk. The report identifies any required tree removal, or pruning works required to facilitate the proposal and considers the local and wider impact on the landscape and makes recommendations to protect and mitigate the impact where possible.
- A survey in accordance with BS5837:2012 was undertaken on 1st March 2021, to inform this assessment. The survey recorded 3 tree groups and 16 individual trees which may be influenced by the proposal. The report was undertaken in accordance with BS5837:2012 *Trees in Relation to design, Demolition and Construction - Recommendations*.
- Four tree records were recorded as category B and 15 recorded as category C. There were no category A or U trees on site.
- Nine individual trees will need to be removed to facilitate the proposal. 8 are category 'C' and 1 is category 'B'. There may also be some minor impact/tree removal required upon the western margin (top of bund) of G09.
- T01, a mature Oak, protected by TPO No. 80 2002 (TPO ref: T1) is included in those proposed for removal. This tree is directly in the footprint of the proposal. T02, is a young Oak which was a replacement for TPO tree (ref: T2). This tree will be transplanted or replaced with a similar size Oak to a more suitable space and environment within the wider Kronospan site. A replacement Oak tree is also proposed for the loss of T01.
- All other trees proposed for removal, are of low value (C category), situated within the site on the west bank of a large bund. G09 is situated on top of and to the east of the bund.
- Compensation replanting is proposed as part of this scheme.

Appendices

- Appendix A: Tree Schedule
- Appendix B: Tree Constraints Plan
- Appendix C: Tree Protection and Removal Plan
- Appendix D: Tree Evaluation Method for Preservation Orders (T01)

1.0 Qualifications and Experience

- 1.1** The survey and report has been prepared by Mike Wood *Dip Arb. TechArborA*, 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.

2.0 Introduction

- 2.1** This report and appendices have been produced to assess the impact upon trees and a proposed 3 bay warehouse and associated infrastructure at the Kronospan site in Chirk. The report provides information on trees which will need to be removed to facilitate the proposal, considers the local and wider landscape impact, and makes recommendations to mitigate and compensate the impact wherever possible.
- 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. Not all trees were plotted on the topographical survey. These trees were plotted using GPS and an aerial map layer.
- 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 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 tree, crown spread in four cardinal directions, retention category and Root Protection Areas (RPA) in

accordance with BS5837:2012. Tree groups are recorded as polygon outline shapes.

3.0 Scope

3.0.1 A tree survey was undertaken on 1st March 2021, further to instruction from the client. The resulting survey data was then used to produce a Tree Schedule (Appendix A), TCP (Appendix B) and TPRP (Appendix C) to inform this assessment.

3.1 Purpose of the Report

3.1.1 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.

3.1.2 The report, and the accompanying information, is supplied to:

- Identify suitable protection measures during the construction of the proposal.
- Report on any tree removal or facilitation pruning works required.
- Make recommendations to improve the landscape with additional tree planting and replace the protected Oak tree.
- Provide a “Heads of Terms” Arboricultural Method Statement

3.2 Documents Provided to Tree 21 Limited

- Location Plan
- Topographical Survey Plan
- Proposals and Elevations
- Copy of TPO No. 80 2002.

3.3 Limitations

- 3.3.1 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.
- 3.3.2 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.
- 3.3.3 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.
- 3.3.4 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.

4.0 Site Visit and Tree Assessment Methodology

- 4.0.1 A site survey was undertaken, on March 1st, 2021. 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.

- 4.0.2 Weather conditions were dry with adequate light and visibility to observe the trees and surrounding environs.
- 4.0.3 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.
- 4.0.4 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

4.1 Data Collection

- 4.1.1 Data collected includes a designated tree (T) or group (G) number, tree 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.

4.2 Presentation of the Data Collected

- 4.2.1 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*.
- 4.2.2 The tree survey data is provided in the Tree Schedule (Appendix A) and illustrated on the Tree Constraints Plan (Appendix B). The Tree Removal and Protection Plan (Appendix C) provides the proposals, 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.

5 Site Description and Context

- 5.1 The site occupies an existing timber storage (log yard) at the north east of the wider Kronospan site. There is a large earth bund to the east of the log yard which provides

screening between Chirk and the site. Trees have been planted on the east face and top of this bund, which are semi-mature/early-mature. There are further trees to the east on the original level which is the same level as the adjacent B5070. These trees and bund provide screening, softening and noise buffering between the Kronospan site and the town of Chirk.

6 Proposals and Tree Impact

- 6.1 The proposal is to construct a 3 bay warehouse facility on the log yard site to provide further improvements to the Kronospan facility. A 4m wide working area is also required to the east and north of the proposed warehouse. The warehouse has been positioned to ensure there is no conflict with an underground gas main which runs north-south, to the west of the proposed warehouse.
- 6.2 The west side of the bund will need to be removed to facilitate the proposal. A retaining structure will be installed to maintain the remaining area of the bund. The bunds to the north will also be removed or reduced to increase storage space.
- 6.3 Tree protection barriers have not been identified as a precaution to protect retained trees for this proposal, as they are not considered necessary, due to the character of the site and the existing soil bund which, due to the elevated position already provides adequate protection from any site works.
- 6.4 All construction work will be undertaken from the west working east and north. However, it is recommended that an Arboricultural Consultant is appointed to provide a 'toolbox talk' informing site operatives on the potential damage to trees before any excavation works begin and a pre-commencement meeting with the Site Manager to discuss and explain the approach to works. In addition, all works within the RPA of retained trees will either be directly supervised, or tree protection fencing will be prescribed, and the locations shown to the Site Manager on site, during the pre-site meeting. If tree protection fencing is recommended during this pre-commencement meeting, there will also be a requirement for the Arboricultural Consultant to visit site, check the fencing and sign off if installed correctly. All fencing will comply to BS5837:2012 criteria (figure 2 or 3).
- 6.5 A further inspection will be a requirement, following the completion of the excavation works and retaining structure and any further recommendations as

appropriate, will be made and recorded, with the findings provided to the WCBC Tree Officer.

- 6.6 The impact upon trees, along with proposed compensation details are detailed in the table below and in the tree schedule at Appendix A.

Table 1 – Tree Impact Summary Table

Tree No.	BS5837: 2012 Category	Species	Impact	Proposed Mitigation
T01	B1	Oak	Remove tree and stump to facilitate the warehouse	Replant a heavy standard tree in the landscaped area of the site or in the wider Chirk community in a position to be agreed with Wrexham County Borough Council and Kronospan.
T02	C1	Oak	Remove or transplant tree to facilitate construction.	Transplant or replace tree with heavy standard in the landscaped area of the site or in the wider Chirk community in a position to be agreed with Wrexham County Borough Council and Kronospan.
T03	C2	Elder	Remove tree to facilitate construction.	Focus improvements along the top of bund (increase planting and initiate silvicultural management of G09).
T04	C2	Elder	Remove tree to facilitate construction.	Focus improvements along the top of bund (increase planting and initiate silvicultural management of G09).
T05	C2	Elder	Remove tree to facilitate construction.	Focus improvements along the top of bund (increase planting and initiate silvicultural management of G09).
T06	C2	Goat Willow	Remove tree to facilitate construction.	Focus improvements along the top of bund (increase planting and initiate silvicultural management of G09).
T07	C2	Elder	Remove tree to facilitate construction.	Focus improvements along the top of bund (increase planting and initiate silvicultural management of G09).
T08	C2	Elder	Remove tree to facilitate construction.	Focus improvements along the top of bund (increase planting and initiate silvicultural management of G09).
G09	B2	Mixed	Possible minor impact/tree removal on west margins of group at mid-north end.	Improve the growing environment of existing established trees. Remove stakes and guards, undertake sympathetic silvicultural management of tree belt along top and east of bund. Increase planting to improve the screening with appropriately selected species, including evergreen understory, such as <i>Ilex aquifolium</i> and <i>Taxus baccata</i> .
T010	C2	Elder	Remove tree to facilitate construction.	Focus improvements along the top of bund (increase planting and initiate silvicultural management).

7 Arboricultural Constraints

- 7.1 Constraints are presented in the Tree Schedule in Appendix A and the TCP in Appendix B. These constraints are also considered further below.
- 7.2 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.
- 7.3 The TRPP (Appendix C), illustrates trees proposed for removal and provides information on tree retention and protection.

8 Proposed Tree Works

- 8.1 The proposed tree pruning works are provided in the Tree Schedule at Appendix A and illustrated on the Tree Protection Plan (Appendix C). Further context is provided below.

8.2 Oak Tree T01 – Context

- a. T01 is a mature Oak tree. This tree is currently protected under Tree Preservation Order 80 2002 (Wrexham County Borough Council – Community of Chirk). Tree Preservation Orders affords tree with *amenity* protection and are usually applied to trees which can be easily seen from a public place, within a community.
- b. This tree is within the log yard of the Kronospan site. The context and environment where the tree is located has led to compaction related damage of the soil environs which the tree depends on to sustain itself. Soil compaction within rooting environments causes asphyxiation, as roots struggle to obtain sufficient oxygen from the soil. This is displayed in the tree by die back, small, sparse leaf cover and general low vitality and vigour.
- c. The tree cannot easily be seen from any public space, with only very limited views through the existing trees along the east of the site and over the soil bund. It is

unlikely that the tree could be seen at all from a public space in the summer months when all deciduous trees are in leaf. Therefore, the TPO itself is questionable, due to the lack of public amenity (see Appendix D: Tree Evaluation Method for Preservation Orders).

- d. Due to the unfortunate location of this tree, if it were retained and conditions were not improved, in my opinion, it would likely decline within the next 10 years. Due to the location, intervention and soil improvement works such as decompaction, soil amelioration and fencing the rooting environment off permanently are simply not practical as this is a working yard which is needed as part of the facility.
- e. The tree is within the footprint of the proposed warehouse and this cannot be altered otherwise the proposal would not provide adequate facilities.
- f. The information combined above therefore provides very reasonable justification to the reasons this tree should not be a constraint to this proposal.
- g. However, it is recommended that before removal the tree is fully inspected by an Ecologist for the presence of roosting bats and any requirements to mitigate such findings are provided. The timber should also be retained in large sections and stored, ideally in on site woodland areas to provide on-going habitat opportunity.
- h. A replacement tree of a reasonable size, such as a heavy standard (12-14cm girth) should be planted as compensation in a location to be agreed with WCBC and Kronospan.

8.3 T01 Taken from the North Aspect.

Die back and extensive dead wood, open cavities and low vigour can all be observed in this photograph (taken March 1st, 2021).



Compaction related damage can be observed in this photograph (taken March 1st, 2021)



9 Additional Proposed Tree Removal and Improvements

- 9.1 Other trees proposed for removal, are low value specimens, situated on the west bank of the soil bund (site side). These trees are listed in Table 1 above. These trees are mostly self-set, with the exception of T02. Compensation for these trees is not considered to be necessary, however, T02 should be replaced with another Oak of the same size in a location to be agreed with WCBC and Kronospan.

- 9.2 Further additional planting to focus on the retained bund and improving the screening and wildlife value of this cohesive arboricultural feature would also be provided. Recommended species are native broadleaved and evergreen species with a maximum mature height of 20m. This could include, Hawthorn, Rowan, Holly, Yew, Wild Cherry. Improvement planting works should avoid planting common Ash (*Fraxinus excelsior*) due to the increasing presence of Ash die back (*Hymenoscyphus fraxineus*).
- 9.3 Silvicultural thinning of existing and most recently planted trees upon the bund would also improve conditions for maturing specimens. This would also improve mature form space, ensuring a more sustainable and visually aesthetical woodland feature was formed.

10 Tree Protection

- 10.1 Tree protection barriers have not been identified as a precaution to protect retained trees for this proposal, due to the character of the site and the existing soil bund which, due to the elevated position already provides adequate protection from any site works. This assumes that all construction work will be undertaken from the west working east and north. However, it is recommended that an Arboricultural Consultant inspects the retained trees on completion of the excavation works and retaining structure and makes any further recommendations as appropriate. Notes are also provided on the Tree Protection and Removal Plan at Appendix C.

11 Underground Service Installation

- 11.1 No underground service plans have been provided. Consultation with the client, confirmed that all required underground services will be installed outside of the Root Protection Area of any retained trees.
- 11.2 Any alterations or plans to install underground services within RPAs of the tree should be discussed with the Arboricultural Consultant and suitable methodology, to be agreed with the WCBC Tree Officer and approved in writing before being implemented.

12 Arboricultural Method Statement Heads of Terms

12.1 In order to ensure any potential damage to the retained tree is minimised, the following points should be followed.

- a. Agreed tree clearance will be undertaken before any other works associated with the proposal begins. These trees will be marked with spray paint by the Arboricultural Consultant, to ensure that only trees agreed for removal as listed in the Tree Schedule are removed.
- b. All excavation works will be undertaken from the west side of the bund (site side) and machinery will only operate from the existing site level of the log yard and not operate on the raised levels of the bund itself. Any alteration to this agreement will need to be approved in writing by the Arboricultural Consultant or WCBC Tree Officer.
- c. Machinery, storage of materials, welfare areas or any other storage or activity including access and egress haul routes to remove the spoil will not occur within the Root Protection Area of any retained trees.
- d. On completion of the spoil clearance, an Arboricultural Consultant will inspect the site and the retained trees and make any further tree management recommendations. These works will be listed in an additional Tree Schedule, photographed, and agreed with WCBC Tree Officer before being implemented.
- e. Once all works are complete, including the construction of the warehouse and external infrastructure works, such as the 4m maintenance area around the building, agreed compensatory tree planting will be provided.
- f. Tree planting Plans and Specifications will be drawn up and approved by WCBC before being implemented.
- g. If any tree dies within 5 years of planting, they will be replaced on a 1 for 1 same species basis.
- h. Any damage arising to any retained tree will initiate an inspection by an Arboricultural Consultant, who will provide appropriate management specifications, which will be agreed with the WCBC Tree Officer before implementation.

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.

Arboricultural Impact Assessment BS5837 Report

Agent: AXIS
Client: Kronospan
Site: East Logyard



Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Condition	Recommendations
G014	Scots Pine x3 (Pinus sylvestris)	Group 3 trees	Height (m): 5 3 stems, avg.(mm): 250 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Lowest Branch (m): 1 Life Stage: Early Mature Rem. Contrib.: 30+ Years	N:2 E:2 S:2 W:2	Group of 3 Pine, Edge of woodland.	B2	Area: same as Group - 48 sq m.		Physiological Cond: Good Structural Cond: Good	
G019	Oak (Quercus sp.) Ash (Fraxinus sp.)	Group 3 trees	Height (m): 14 3 stems, avg.(mm): 400 Spread (m): 6N, 6E, 6S, 6W Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 10+ Years	N:6 E:6 S:6 W:6	Woodland character group outside of perimeter fence. Ivy clad.	B2	Area: same as Group - 454 sq m.		Physiological Cond: Good Structural Cond: Good	
G09	Holly (Ilex sp.) Silver Birch (Betula pendula) Common Alder (Alnus glutinosa) Ash (Fraxinus sp.) Mixed Species Group (Group, mixed species)	Group	Height (m): 7 Stem Diam (mm): 150 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 1 Lowest Branch (m): 1 Life Stage: Semi Mature Rem. Contrib.: 40+ Years	N:3 E:3 S:3 W:3	Tree group position on top and to east of bund. The majority of trees have been planted and shelter guards are still present. The tree provide screening/softening between the village and the site. Would benefit from silvicultural thinning work and removal of stakes and guards.	B2	Area: same as Group - 6539 sq m.		Physiological Cond: Good Structural Cond: Good	During construction: On completion of the earthworks, it is recommended that an arboricultural consultant re-assesses the site and makes final tree management recommendations.
T01	Oak (Quercus sp.)	Tree	Height (m): 13 Stem Diam (mm): 1030 Spread (m): 5N, 2.5E, 8S, 6W Crown Clearance (m): 7 Lowest Branch (m): 3(E) Life Stage: Mature Rem. Contrib.: 10+ Years	N:5 E:2.5 S:8 W:6	Poor overall Physiological and Structural condition. Root damage (compaction) Dieback - poor foliage. Broken branches Deadwood through mid-low crown Decay entry points	B1	Radius: 12.4m. Area: 483 sq m.	Tree is covered by a TPO. The tree cannot be seen from any public viewpoint. The tree is in poor condition. The landscape context has altered since the TPO.	Physiological Cond: Poor Structural Cond: Physical Defect	This tree and the stump, will need to be removed to facilitate the project as it is within the footprint of the proposed warehouse. It is recommended to have the tree inspected for the preence of roosting bats due to suitable features within the tree.
T010	Elder (Sambucus nigra)	Tree 10 stems	Height (m): 3 10 stems, avg.(mm): 50 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Self set on bund.	C2	Radius: 1.9m. Area: 11 sq m.		Physiological Cond: Fair Structural Cond: Fair	Remove low value tree to facilitate earthworks associated with the proposal.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Condition	Recommendations
T011	Elder (Sambucus nigra)	Tree 3 stems	Height (m): 5 3 stems, diam(mm): 140, 120, 100 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Self set on bund.	C2	Radius: 2.5m. Area: 20 sq m.		Physiological Cond: Fair Structural Cond: Fair	
T012	Oak (Quercus sp.)	Tree 2 stems	Height (m): 5 2 stems, diam(mm): 110, 120 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1 Life Stage: Semi Mature Rem. Contrib.: 40+ Years	N:4 E:4 S:4 W:4	Twin stems, mammal damage, fused branches, minor deadwood.	C1	Radius: 2.0m. Area: 13 sq m.		Physiological Cond: Fair Structural Cond: Physical Defect	
T013	Hazel (Corylus avellana)	Tree 20 stems	Height (m): 4 20 stems, avg.(mm): 30 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Edge of woodland group.	C1	Radius: 1.6m. Area: 8 sq m.		Physiological Cond: Good Structural Cond: Fair	
T015	Common Ash (Fraxinus excelsior)	Tree	Height (m): 9 Stem Diam (mm): 240 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1 Life Stage: Early Mature Rem. Contrib.: <10 years	N:4 E:4 S:4 W:4	Edge of woodland/top of bund. Spoil mounded around base.	C1	Radius: 2.9m. Area: 26 sq m.		Physiological Cond: Fair Structural Cond: Fair	
T016	Common Ash (Fraxinus excelsior)	Tree 2 stems	Height (m): 9 2 stems, avg.(mm): 170 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1 Life Stage: Early Mature Rem. Contrib.: <10 years	N:4 E:4 S:4 W:4	Edge of woodland/top of bund. Spoil mounded around base.	C2	Radius: 2.9m. Area: 26 sq m.		Physiological Cond: Fair Structural Cond: Fair	
T017	Common Ash (Fraxinus excelsior)	Tree	Height (m): 13 Stem Diam (mm): 500 Spread (m): 7N, 7E, 7S, 7W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 10+ Years	N:7 E:7 S:7 W:7	Ivy clad, outside of perimeter fence. Part of group.	C2	Radius: 6.0m. Area: 113 sq m.		Physiological Cond: Fair Structural Cond: Fair	
T018	Common Ash (Fraxinus excelsior)	Tree	Height (m): 13 Stem Diam (mm): 500 Spread (m): 7N, 7E, 9S, 7W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 10+ Years	N:7 E:7 S:9 W:7	Ivy clad, outside of perimeter fence. Extends into site and over bund. Edge of group.	C2	Radius: 6.0m. Area: 113 sq m.		Physiological Cond: Fair Structural Cond: Fair	
T02	Oak (Quercus sp.)	Tree	Height (m): 4 Stem Diam (mm): 50 Spread (m): 0.5N, 0.5E, 0.5S, 0.5W Crown Clearance (m): 1.5 Life Stage: Young Rem. Contrib.: 50+ Years	N:0.5 E:0.5 S:0.5 W:0.5	Planted around 2 years ago as a replacement for a protected tree which was removed.	C1	Radius: 0.6m. Area: 1 sq m.		Physiological Cond: Good Structural Cond: Good	The proposal includes transplanting or replacing this tree to another, more suitable area of the site, as the earthworks will cut into this area of the bund.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Condition	Recommendations
T03	Elder (Sambucus nigra)	Tree 10 stems	Height (m): 4 10 stems, avg.(mm): 60 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 0.5 Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Self set on bund.	C2	Radius: 2.3m. Area: 17 sq m.		Physiological Cond: Fair Structural Cond: Fair	Remove low value tree to facilitate earthworks associated with the proposal.
T04	Elder (Sambucus nigra)	Tree 5 stems	Height (m): 3 5 stems, avg.(mm): 50 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Self set on bund.	C2	Radius: 1.3m. Area: 5 sq m.	Surveyed from 15m due to access.	Physiological Cond: Fair Structural Cond: Fair	Remove low value tree to facilitate earthworks associated with the proposal.
T05	Elder (Sambucus nigra)	Tree 5 stems	Height (m): 3 5 stems, avg.(mm): 50 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Self set on bund.	C2	Radius: 1.3m. Area: 5 sq m.	Surveyed from 15m due to access.	Physiological Cond: Fair Structural Cond: Fair	Remove low value tree to facilitate earthworks associated with the proposal.
T06	Goat Willow (Salix caprea)	Tree 5 stems	Height (m): 4.5 5 stems, avg.(mm): 50 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Self set on bund.	C2	Radius: 1.3m. Area: 5 sq m.	Surveyed from 15m due to access.	Physiological Cond: Fair Structural Cond: Fair	Remove low value tree to facilitate earthworks associated with the proposal.
T07	Elder (Sambucus nigra)	Tree 5 stems	Height (m): 3 5 stems, avg.(mm): 50 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Self set on bund.	C2	Radius: 1.3m. Area: 5 sq m.	Surveyed from 15m due to access.	Physiological Cond: Fair Structural Cond: Fair	Remove low value tree to facilitate earthworks associated with the proposal.
T08	Elder (Sambucus nigra)	Tree 5 stems	Height (m): 3 5 stems, avg.(mm): 50 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Self set on bund.	C2	Radius: 1.3m. Area: 5 sq m.	Surveyed from 15m due to access.	Physiological Cond: Fair Structural Cond: Fair	Remove low value tree to facilitate earthworks associated with the proposal.

Table 1 Cascade chart for tree quality assessment

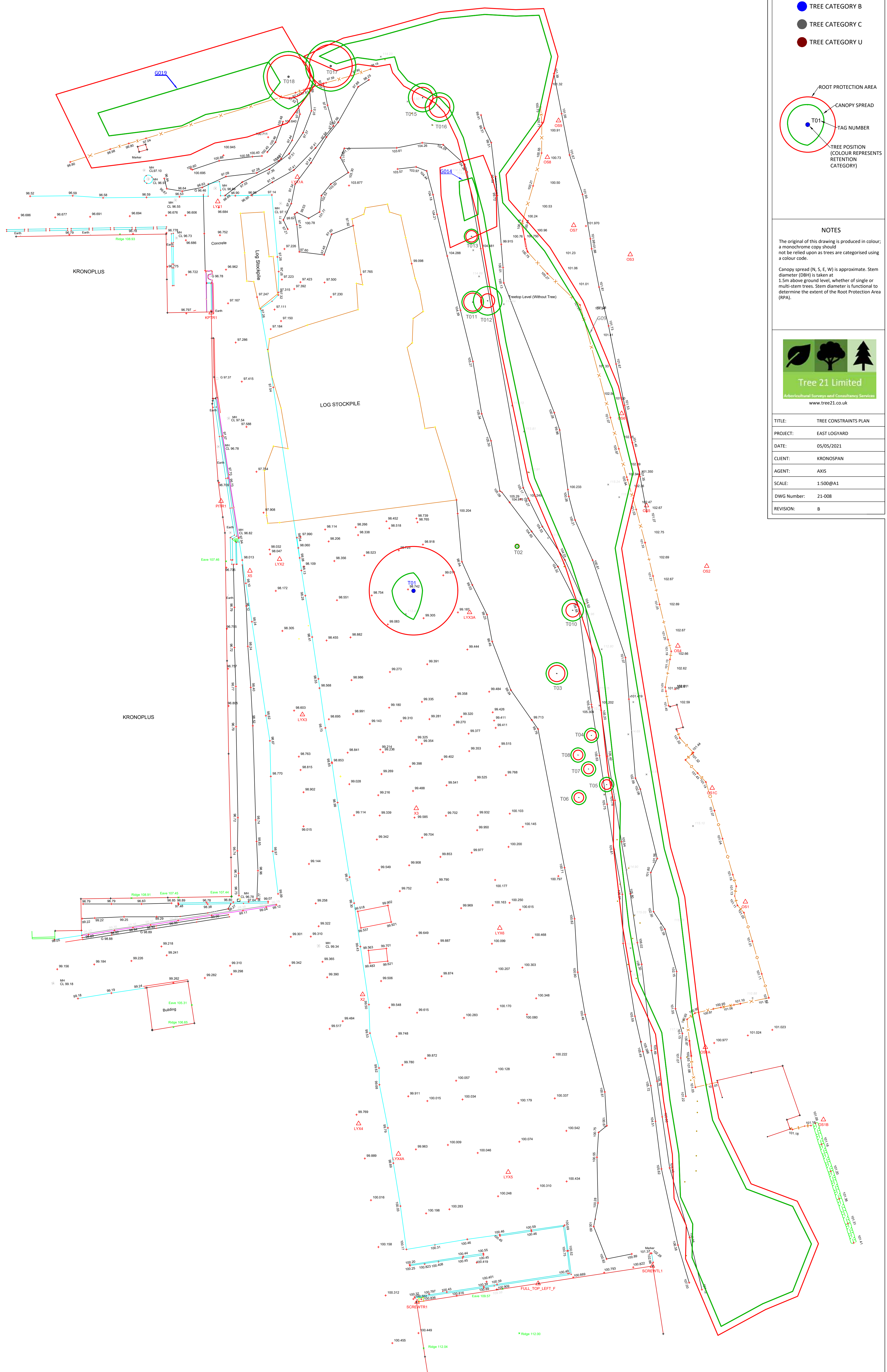
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 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

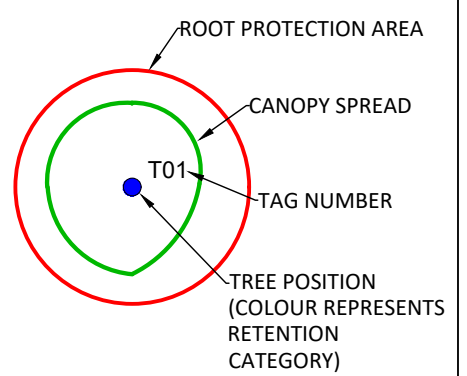
Tree Constraints Plan Drawing Number:

21-008-Rev A

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



- TREE CATEGORY A
- TREE CATEGORY B
- TREE CATEGORY C
- TREE CATEGORY U



The original of this drawing is produced in colour; a monochrome copy should not be relied upon as trees are categorised using a colour code.

Canopy spread (N, S, E, W) is approximate. Stem diameter (DBH) is taken at 1.5m above ground level, whether of single or multi-stem trees. Stem diameter is functional to determine the extent of the Root Protection Area (RPA).



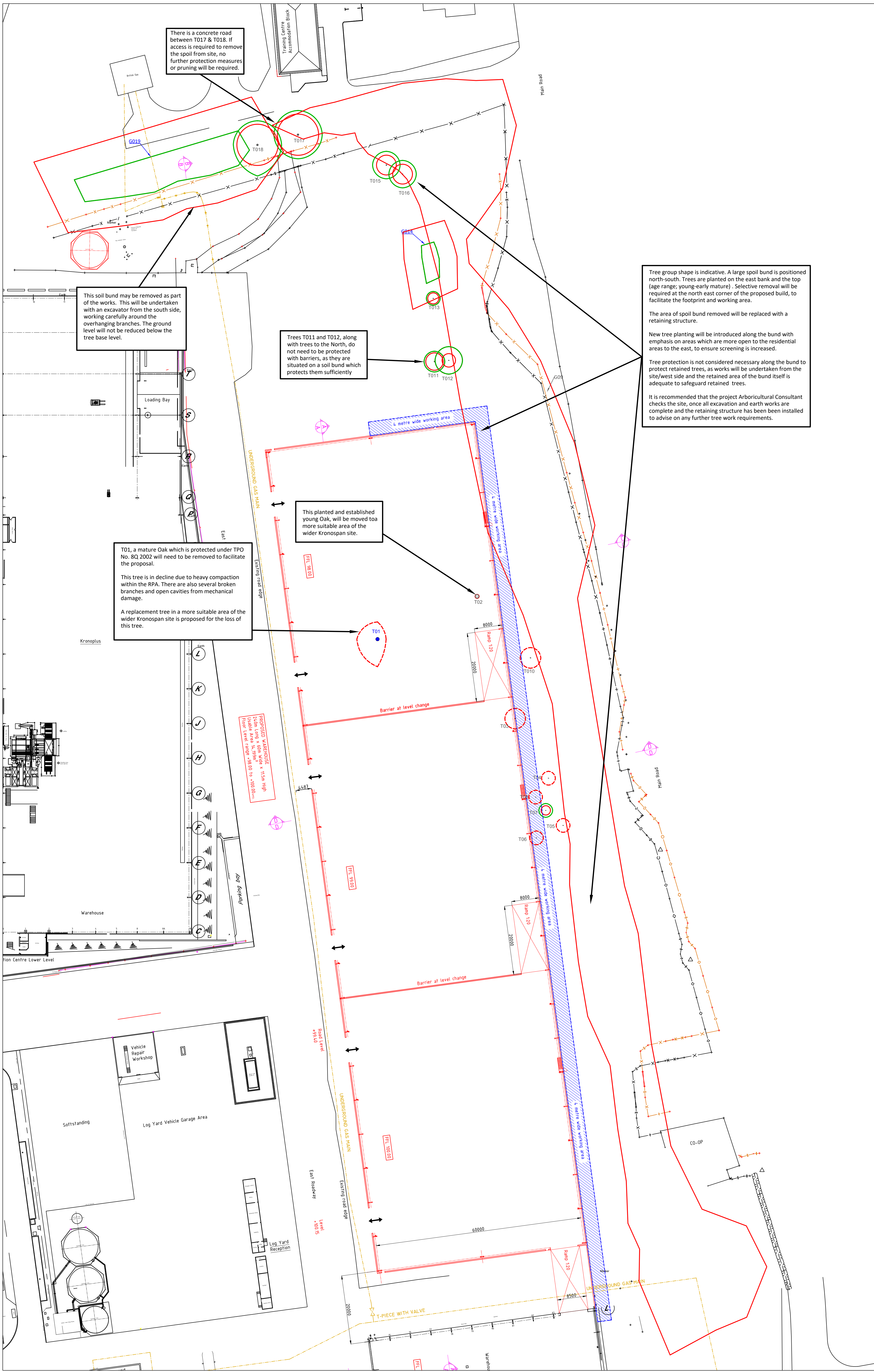
TITLE:	TREE CONSTRAINTS PLAN
PROJECT:	EAST LOGYARD
DATE:	05/05/2021
CLIENT:	KRONOSPAN
AGENT:	AXIS
SCALE:	1:500@A1
DWG Number:	21-008
REVISION:	B

Appendix C

Tree Retention & Protection Plan Drawing Number:

21-009-Rev B

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



There is a concrete road between T017 & T018. If access is required to remove the spoil from site, no further protection measures or pruning will be required.

This soil bund may be removed as part of the works. This will be undertaken with an excavator from the south side, working carefully around the overhanging branches. The ground level will not be reduced below the tree base level.

Trees T011 and T012, along with trees to the North, do not need to be protected with barriers, as they are situated on a soil bund which protects them sufficiently

Tree group shape is indicative. A large spoil bund is positioned north-south. Trees are planted on the east bank and the top (age range; young-early mature). Selective removal will be required at the north east corner of the proposed build, to facilitate the footprint and working area.

The area of spoil bund removed will be replaced with a retaining structure.

New tree planting will be introduced along the bund with emphasis on areas which are more open to the residential areas to the east, to ensure screening is increased.

Tree protection is not considered necessary along the bund to protect retained trees, as works will be undertaken from the site/west side and the retained area of the bund itself is adequate to safeguard retained trees.

It is recommended that the project Arboricultural Consultant checks the site, once all excavation and earth works are complete and the retaining structure has been been installed to advise on any further tree work requirements.

T01, a mature Oak which is protected under TPO No. 8Q 2002 will need to be removed to facilitate the proposal.

This tree is in decline due to heavy compaction within the RPA. There are also several broken branches and open cavities from mechanical damage.

A replacement tree in a more suitable area of the wider Kronospan site is proposed for the loss of this tree.

This planted and established young Oak, will be moved to a more suitable area of the wider Kronospan site.

PROPOSED WAREHOUSE
24m Long x 6m Wide x 11.5m High
Usable Area approx 9800 to 10000sqm
Floor level range +9800 to +10000

LEGEND

TREE CATEGORY A

TREE CATEGORY B

TREE CATEGORY C

TREE CATEGORY U

ROOT PROTECTION AREA

CANOPY SPREAD

TAG NUMBER

TREE POSITION (COLOUR REPRESENTS RETENTION CATEGORY)

TREE REMOVAL

NOTES

The original of this drawing is produced in colour; a monochrome copy should not be relied upon as trees are categorised using a colour code.

Canopy spread (N, S, E, W) is approximate. Stem diameter (DBH) is taken at 1.5m above ground level, whether of single or multi-stem trees. Stem diameter is functional to determine the extent of the Root Protection Area (RPA).

Tree 21 Limited

Arboricultural Survey and Consultancy Services

www.tree21.co.uk

TITLE: TREE PROTECTION AND REMOVAL PLAN

PROJECT: EAST LOGYARD

DATE: 05/05/2021

CLIENT: KRONOSPAN

AGENT: AXIS

SCALE: 1:500@A1

DWG Number: 21-009

REVISION: B

Appendix D

Tree Evaluation Method for Preservation Orders (T01)

National Evaluation Method of Trees to Determine a TPO as used by Many Local Authorities. Copyright: CBA Trees

TREE EVALUATION METHOD FOR PRESERVATION ORDERS - TEMPO

SURVEY DATA SHEET & DECISION GUIDE

Date: 1 st March	Surveyor: Mike Wood
Tree details	
TPO Ref (if applicable): No. 80 2002	Tree/Group No: T1 Species: Oak
Owner (if known): Kronospan	Location: E28900 N38781

REFER TO GUIDANCE NOTE FOR ALL DEFINITIONS

Part 1: Amenity assessment

a) Condition & suitability for TPO

- | | |
|--------------------------|-------------------------|
| 5) Good | Highly suitable |
| 3) Fair/satisfactory | Suitable |
| 1) Poor | Unlikely to be suitable |
| 0) Dead/dying/dangerous* | Unsuitable |

Score & Notes

1

* Relates to existing context and is intended to apply to severe irremediable defects only

b) Retention span (in years) & suitability for TPO

- | | |
|-----------|-----------------|
| 5) 100+ | Highly suitable |
| 4) 40-100 | Very suitable |
| 2) 20-40 | Suitable |
| 1) 10-20 | Just suitable |
| 0) <10* | Unsuitable |

Score & Notes

1

* Includes trees which are an existing or near future nuisance, including those clearly outgrowing their context, or which are significantly negating the potential of other trees of better quality

c) Relative public visibility & suitability for TPO

Consider realistic potential for future visibility with changed land use

- | | |
|---|---------------------|
| 5) Very large trees with some visibility, or prominent large trees | Highly suitable |
| 4) Large trees, or medium trees clearly visible to the public | Suitable |
| 3) Medium trees, or large trees with limited view only | Suitable |
| 2) Young, small, or medium/large trees visible only with difficulty | Barely suitable |
| 1) Trees not visible to the public, regardless of size | Probably unsuitable |

Score & Notes

2

d) Other factors

Trees must have accrued 7 or more points (with no zero score) to qualify

- | | |
|--|--|
| 5) Principal components of formal arboricultural features, or veteran trees | Score & Notes

Does Not Qualify |
| 4) Tree groups, or principal members of groups important for their cohesion | |
| 3) Trees with identifiable historic, commemorative or habitat importance | |
| 2) Trees of particularly good form, especially if rare or unusual | |
| 1) Trees with none of the above additional redeeming features (inc. those of indifferent form) | |
| -1) Trees with poor form or which are generally unsuitable for their location | |

Part 2: Expediency assessment

Trees must have accrued 10 or more points to qualify

- | | |
|---|--|
| 5) Immediate threat to tree inc. s.211 Notice | Score & Notes

Does Not Qualify |
| 3) Foreseeable threat to tree | |
| 2) Perceived threat to tree | |
| 1) Precautionary only | |

Part 3: Decision guide

- | | |
|-------|-----------------------|
| Any 0 | Do not apply TPO |
| 1-6 | TPO indefensible |
| 7-11 | Does not merit TPO |
| 12-15 | TPO defensible |
| 16+ | Definitely merits TPO |

Add Scores for Total:

4

Decision: