



Arboricultural Method Statement

Applicant	Kronospan
Site Address	East Log Yard, Kronospan, Chirk, LL14 5NT
Arboricultural Consultant	Mike Wood Dip Arb
Local Authority	Wrexham County Borough Council
Project	Development of a warehouse and ancillary works
Planning Reference	P/2021/0725
Survey Date	1 st March 2021
Report Reference	211019-1.0-ELYK-AMS-T21

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Appendix A – Tree Protection & Removal Plan

Appendix B – Tree Schedule

Appendix C – Tree Protection Specifications

Appendix D – Schedule of Arboricultural Supervision

1 Key Contact Details

Name	Company	Role	Contact Details
Unknown at time of document production	-	Site Manager	Tel: - Mobile: - Email: -
Chris Heather	Axis	Planning Consultant	Tel: 0844 8700 007 Mobile: 07983 026078 Email: chrisheather@axisped.co.uk
Mike Wood	Tree 21 Limited	Arboricultural Consultant	Mobile: 07971287767 Email: info@tree21.co.uk
Jon Brewin	Wrexham County Borough Council	Local Authority Tree Officer	Tel: 01978 298763 Email: Jon.Brewin@wrexham.gov.uk

2 Background

- 2.1 Treework Environmental Practice was commissioned by Axis to produce an Arboricultural Method Statement (AMS) and Tree Protection & Removal Plan (TP&RP) to inform construction contractors on tree protection measures and methods that will be required to safeguard retained trees on site, following planning consent.
- 2.2 The AMS follows best practice guidelines in accordance with BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations* and practical solutions, based on sound arboricultural knowledge and experience of the author.
- 2.3 This AMS has been produced following comments made by the Local Authority Tree Officer, in order to ensure that trees on site are managed as agreed. Any proposed works within Construction Exclusion Zones (CEZs) that are not covered within this AMS are to be agreed with the Local Planning Authority and/or the Arboricultural Consultant, and appropriate additional methodology provided. A CEZ is any area which is protected by Tree Protection Fencing. **Failure to adhere to the provisions of this document could result in breach of planning consent and subsequently may result in an official notice to stop works.**
- 2.4 The Document should be read along with the following appendices:
- Appendix A: Tree Protection Plan – Drawing Number: 21-051
 - Appendix B: Tree Schedule
 - Appendix C: Tree Protection Specifications
 - Appendix D: Schedule of Arboricultural Supervision

3 General Tree Welfare

- 3.1 When working near trees, it is important to be aware that the majority of tree roots are normally located in the top 600 mm of soil and can spread out horizontally to a distance at least equal to the height of the tree.
- 3.2 The distance from the tree in which damage is likely to occur is calculated by the Root Protection Area (RPA), which represents the minimum area around a tree deemed to contain sufficient roots and soil volume to keep the tree viable. RPAs should be treated as a precautionary area within which activities such as ground compaction, excavation, the storing of materials, ground stripping, raising of levels and building are likely to cause damage to trees and therefore should not take place. Usually, barriers are erected around the RPA to physically exclude such activities. The area within these barriers is known as the Construction Exclusion Zone (CEZ). Unavoidable activity within the CEZ must be carefully executed, and must be guided by this detailed method statement.
- 3.3 Damage can sometimes be avoided, or at least minimised, by suitable technical measures which can be devised with consultation with an Arboricultural Consultant. The protection measures and technical construction measures, applicable to this site, are included within this document.
- 3.4 Tree protection fencing will be installed as set out within the Tree Protection & Removal Plan at Appendix A. The fenced-off area will become a Construction Exclusion Zone (CEZ). Any works to be undertaken in the CEZ must follow the detailed method tables set out below.

4 General Precautions

- 4.1 In general, the following procedures will also be followed.
 - No materials that are likely to have an adverse effect on tree health will be stored or discharged within the CEZ.
 - Where storage of such materials is upslope of the trees, barriers will be put in place at ground level to minimise the risk of spillages leaching down-slope and contaminating the Root Protection Area of a tree. Such materials include:
 - Fuel and oil
 - Bitumen
 - Cement
 - Sand
 - Fires on sites should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and

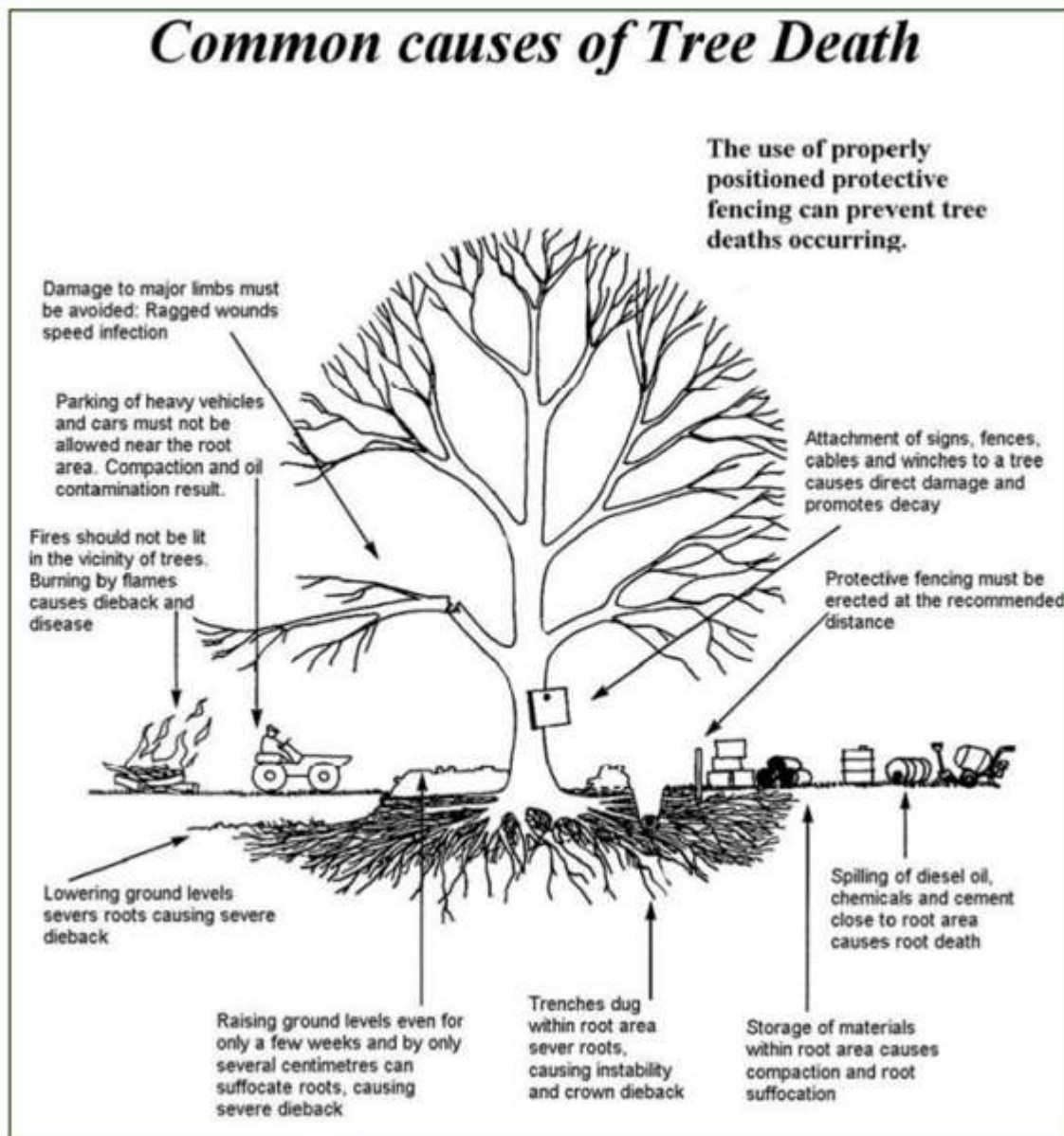
Development of a warehouse and ancillary works



the wind direction should be taken into account when determining its location in relation to trees, and it should be attended at all times until safe enough to leave.

- Concrete will not be mixed or transported over unprotected ground within the CEZ.
- Any incidents involving potential damage to retained trees will be recorded on site and a copy made available to the Local Authority Tree Officer.

The Poster below will be enlarged and installed in welfare areas to remind operatives of potential tree damage



5 Tables of Tasks and Detailed Method

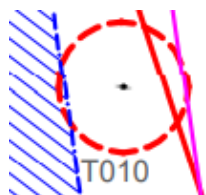
- 5.1 The tables below provide detailed method on each task and how they are to be undertaken, along with methods for other tasks which may be required to complete the works. Any deviation from the methods set out in the tables below will be discussed and agreed with the Arboricultural Consultant and/or the Local Authority before being implemented.

Task 1: Tree Pruning and Removal

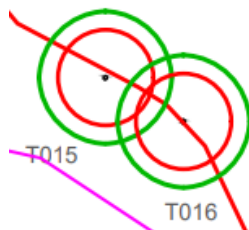
Method and Action Required

- 1) The tree work requirements are set out in the Tree Schedule (Appendix B). Trees shown for removal are illustrated by a dashed crown outline on the Tree Protection Plan to identify their location.
- 2) All tree works will be undertaken by suitably qualified Tree Surgeons and the work will be undertaken in accordance with BS3998:2010.
- 3) All tree work will be undertaken before any other operations on site.
- 4) Where stumps are to be removed, and the tree is within 15 m of a tree to be retained, the stump will be ground out using a mechanical stump grinder. If outside of this area, then the stump can either be ground out or grubbed out using an excavator.
- 5) Any variation to the tree surgery works will be agreed with the Arboricultural Consultant before being implemented.
- 6) All arisings will be removed from site, except where identified for reuse.

Example of tree to be removed in the Tree Protection Plan dashed with red



Example of tree to be retained with solid red and green rings

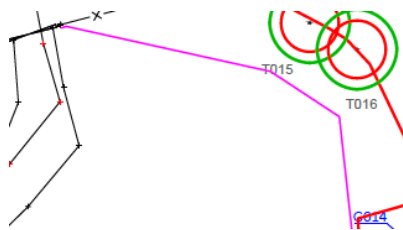


Task 2: Installation and Management of Tree Protection Fencing

Method and Action Required

- 1) The Tree Protection Fencing will be installed following completion of the tree work and before any other works associated with the construction works, begins on site.
- 2) Fencing should be aligned as shown on the Tree Protection & Removal Plan (Appendix A). Once the fencing alignment has been set out the Arboricultural Consultant will check the alignment, confirm any alterations, and sign this off. A second visit will also be undertaken once the fence has been installed to check it meets the specified criteria.
- 3) The tree protection fencing will only be re-aligned from full protection of Root Protection Areas (RPAs) where there is suitable existing hard surface or ground protection that acts as horizontal protection. This is illustrated on the Tree Protection Plan between T017 and T018.
- 4) The tree protection fencing will be constructed, following the criteria set out in BS 5837:2012. The fenced off area will form the Construction Exclusion Zone (CEZ) for the duration of the works, except where otherwise specified in this document. See Appendix C for details.
- 5) A tree protection information sign will be secured to every fourth fencing panel at eye level, facing into the site. This will aid identification of the CEZ and inform site operatives of its importance. An example sign is provided at Appendix C.
- 6) The tree protection fencing will remain in place, not moved, and kept in good condition until all works are complete, unless otherwise agreed with the Arboricultural Consultant.
- 7) Once installed and during the active construction stage, the tree protection fencing will be checked once per month by the Arboricultural Consultant and any repairs , damage or realignment advised on site which will be rectified within 48 hours.

Example of Tree Protection Fencing Alignment in Tree Protection Plan (pink line)



Task 3: Site Preparation, Clearance of Existing Materials & Welfare/ Storage Set up

Method and Action Required

- 1) Once the tree protection has been installed, the site can be cleared of stored timber and other materials in preparation for construction and earthworks.
- 2) During this phase, it is important that all operatives are aware of the tree protection measures and are briefed to understand that it must not be moved or damaged.
- 3) Construction equipment and plant can access and egress the site by using the designated route between T017 and T018. Other routes within the site are acceptable, providing the tree protection is not altered, moved or damaged.
- 4) Temporary welfare facilities and storage areas for construction equipment will be placed outside of the CEZ.
- 5) Any other movement around the site, outside of the CEZ is permitted.

Suggested Area for Material Storage and Welfare



Task 4: Part Removal of Soil Bund to Facilitate Construction

Method and Action Required

- 1) Removal of the soil bund and construction of the retaining structure of piles will be undertaken from the existing site, working into the bund/bank.
- 2) It is important that tree protection fencing remains in place during this stage of the work.
- 3) If access is required at the top of the bank by any plant machinery, it must operate from outside of the CEZ (tree protection area).
- 4) If the tree protection needs to be moved to facilitate any part of the work during the excavation/part removal of the bund, the Arboricultural Consultant will be contacted to advise on whether it is acceptable.
- 5) Once the removal of area of bund to facilitate construction is complete, the Arboricultural Consultant will visit the site and check the condition of the trees and the tree protection fencing.

Task 5: Storage and Movement of Earthworks and Ground Materials

Method and Action Required

- 1) Movement and storage of materials can be undertaken anywhere outside of the CEZ areas.
- 2) However, if storage of soil material is planned to be stored close to tree protection fencing, the face of the fencing should be altered by installing solid panels on the front, to prevent material entering the CEZ.
- 3) Preferably, there will be at least 5m between the edge any part of the tree protection fencing and soil/material storage.
- 4) Haul routes into/out of site can access/egress via the access gates between T017 and T018, or any other route providing there is no entry into the CEZ.

Task 6: Construction of the Building Facility, underground services and external surfaces

Method and Action Required

- 1) During the construction of the building, installation or alterations to underground services and installation, improvement or alteration of external surfaces, there should be no need to alter the tree protection fencing or enter the CEZ as they are all outside of the CEZ areas.
- 2) If this changes and access into any CEZ is required, the Arboricultural Consultant must be contacted and the reason for entry discussed. This may initiate the need for further methodology which will be provided and agreed before access into the CEZ.

Task 7: Removal of Tree Protection and Checking Retained Trees

Method and Action Required

- 1) On completion of all works associated with the construction, including movement of soil and ground materials and once all construction related equipment, machinery, storage, and welfare areas have been removed from site, the tree protection fencing can be removed.
- 2) Once removed the Arboricultural Consultant will visit the site and check all retained trees within 15m of the tree protection to ensure the site is left in satisfactory condition.
- 3) Any improvements required will be confirmed in writing and another visit will take place to check the improvements have been made.

Task 8: Landscaping Operations/Tree Planting

Method and Action Required

- 1) All new landscaping works including tree planting will be undertaken following completion of the works.
- 2) Trees will be sourced from reputable tree nurseries and movement and handling will follow the guidance of BS8545:2014 *Trees: from nursery to independence in the landscape – Recommendations*
- 4) Tree planting will take place between November and March when the ground is not frozen or waterlogged.
- 5) Tree Planting will follow best practice and be undertaken by landscape professionals.
- 6) Aftercare of newly planted trees will include:-
 - Ensuring the base is clear of vegetation within at least 0.5m radius from the tree, with a suitable mulch added into this clear area.
 - Adjusting stakes, ties and guards as the trees grow.
 - Undertaking appropriate formative pruning during the first 5 years.
 - Ensuring adequate water to is provided in dry/drought conditions (this means when there has been no rain for 2 weeks or more).
 - Removing stakes, ties, and guards once the trees have become established and independent within the landscape.
- 7) If any tree dies within 5 years of planting, it will be replaced in the next planting season.

Appendix A: Tree Protection Plan

Appendix B: Tree Schedule

BS5837 Survey Data



Ref.	Species	Measurements	General Observations	Category	Recommendations
G014	Scots Pine x3 (Pinus sylvestris)	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	Group of 3 Pine, Edge of woodland.	B2 RPA Area: same as Group - 48 sq m.	During construction: Protect and monitor tree group.
G019	Oak (Quercus sp.) Not identified (Not identified) Ash (Fraxinus sp.)	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	Woodland character group outside of perimeter fence. Ivy clad.	B2 RPA Area: same as Group - 454 sq m.	During construction: Protect and monitor tree group.
G09	Ash (Fraxinus sp.) Holly (Ilex sp.) Silver Birch (Betula pendula) Mixed Species Group (Group, mixed species) Common Alder (Alnus glutinosa)	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	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 RPA Area: same as Group - 6539 sq m.	Pre construction: Remove any trees and stumps which are within the footprint of the area of the bund to be removed. During construction: Protect and monitor remaining trees within group.

Ref.	Species	Measurements	General Observations	Category	Recommendations
T01	Oak (Quercus sp.)	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	Poor overall Physiological and Structural condition. Root damage (compaction) Dieback - poor foliage. Broken branches Deadwood through mid-low crown Decay entry points Additional Comments: 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.	B1 RPA Radius: 12.4m. Area: 483 sq m.	Remove tree and stump.
T010	Elder (Sambucus nigra)	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	Self set on bund.	C2 RPA Radius: 1.9m. Area: 11 sq m.	Remove tree and stump.
T011	Elder (Sambucus nigra)	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	Self set on bund.	C2 RPA Radius: 2.5m. Area: 20 sq m.	During construction: Protect and monitor tree.
T012	Oak (Quercus sp.)	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	Twin stems, mammal damage, fused branches, minor deadwood.	C1 RPA Radius: 2.0m. Area: 13 sq m.	During construction: Protect and monitor tree.
T013	Hazel (Corylus avellana)	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	Edge of woodland group.	C1 RPA Radius: 1.6m. Area: 8 sq m.	During construction: Protect and monitor tree.

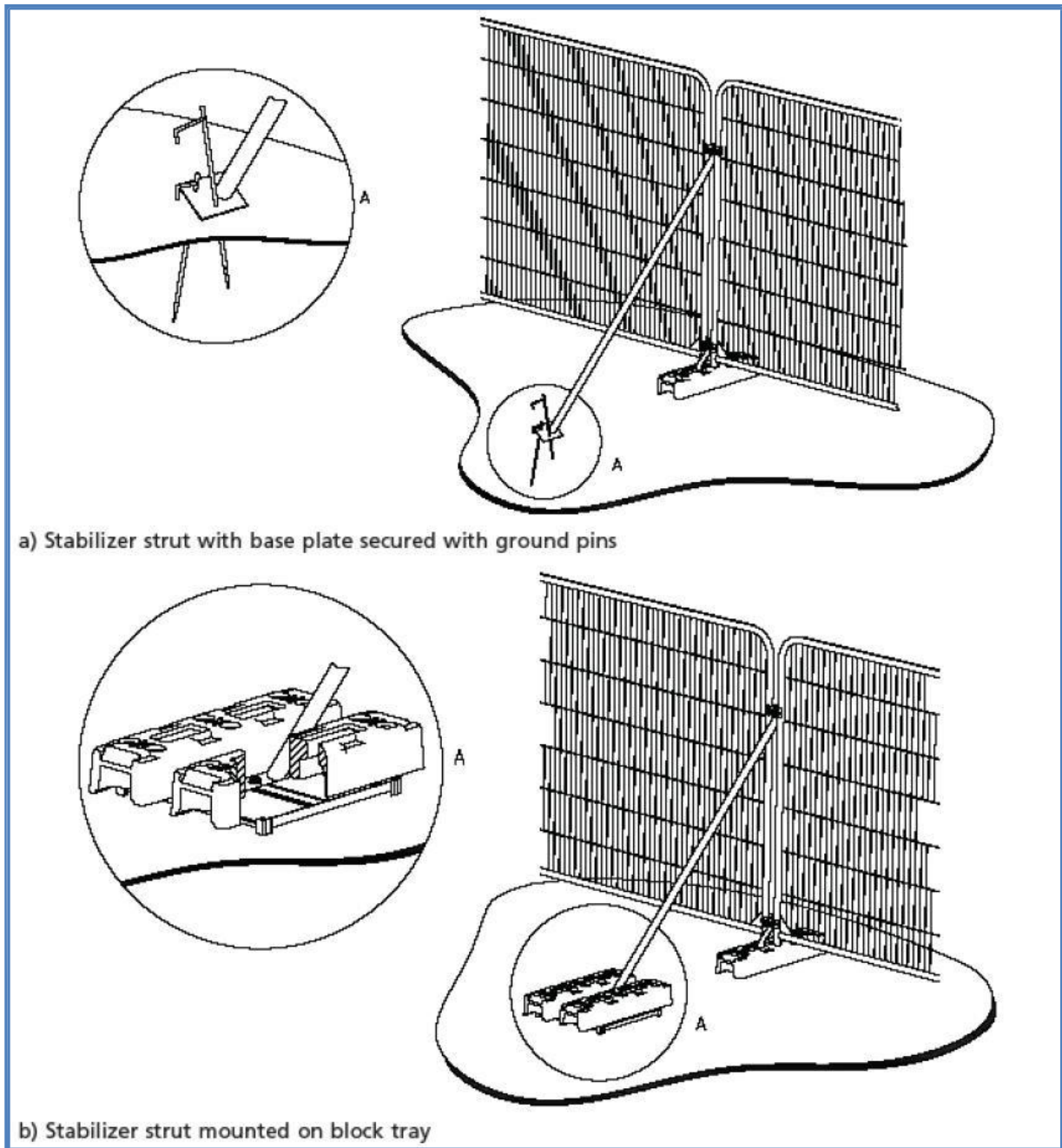
Ref.	Species	Measurements	General Observations	Category	Recommendations
T015	Common Ash (Fraxinus excelsior)	Height (m): 9 Stem Diam (mm): 240 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1 Life Stage: Early Mature Rem. Contrib.: <10 years	Edge of woodland/top of bund. Spoil mounded around base.	C1 RPA Radius: 2.9m. Area: 26 sq m.	During construction: Protect and monitor tree.
T016	Common Ash (Fraxinus excelsior)	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	Edge of woodland/top of bund. Spoil mounded around base.	C2 RPA Radius: 2.9m. Area: 26 sq m.	During construction: Protect and monitor tree.
T017	Common Ash (Fraxinus excelsior)	Height (m): 13 Stem Diam (mm): 500 Spread (m): 7N, 7E, 7S, 7W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 10+ Years	Ivy clad, outside of perimeter fence. Part of group.	C2 RPA Radius: 6.0m. Area: 113 sq m.	During construction: Protect and monitor tree.
T018	Common Ash (Fraxinus excelsior)	Height (m): 13 Stem Diam (mm): 500 Spread (m): 7N, 7E, 9S, 7W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 10+ Years	Ivy clad, outside of perimeter fence. Extends into site and over bund. Edge of group.	C2 RPA Radius: 6.0m. Area: 113 sq m.	During construction: Protect and monitor tree.
T02	Oak (Quercus sp.)	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	Planted around 2 years ago as a replacement for a protected tree which was removed.	C1 RPA Radius: 0.6m. Area: 1 sq m.	Remove tree and stump.
T03	Elder (Sambucus nigra)	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	Self set on bund.	C2 RPA Radius: 2.3m. Area: 17 sq m.	Remove tree and stump.

Ref.	Species	Measurements	General Observations	Category	Recommendations
T04	Elder (Sambucus nigra)	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	Self set on bund. Additional Comments: Surveyed from 15m due to access.	C2 RPA Radius: 1.3m. Area: 5 sq m.	Remove tree and stump.
T05	Elder (Sambucus nigra)	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	Self set on bund. Additional Comments: Surveyed from 15m due to access.	C2 RPA Radius: 1.3m. Area: 5 sq m.	Remove tree and stump.
T06	Goat Willow (Salix caprea)	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	Self set on bund. Additional Comments: Surveyed from 15m due to access.	C2 RPA Radius: 1.3m. Area: 5 sq m.	Remove tree and stump.
T07	Elder (Sambucus nigra)	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	Self set on bund. Additional Comments: Surveyed from 15m due to access.	C2 RPA Radius: 1.3m. Area: 5 sq m.	Remove tree and stump.
T08	Elder (Sambucus nigra)	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	Self set on bund. Additional Comments: Surveyed from 15m due to access.	C2 RPA Radius: 1.3m. Area: 5 sq m.	Remove tree and stump.

Appendix C: Tree Protection Specifications



Example Tree Protection Fencing Sign



BS5837: 2012 - Figure 3 – Examples of Above Ground Stabilisation Systems

Appendix D: Schedule of Arboricultural Supervision

Schedule of Arboricultural Supervision and Site Visits

Site	Kronospan East Log yard development
Contractor	TBC
Site Contact	TBC
Telephone	TBC
Email	TBC
Local Authority	Wrexham County Borough Council
Arboricultural Consultant	Mike wood Telephone: 07971 287767 Email: info@tree21.co.uk

Task Number & Description	Arboricultural Role	Expected Duration
Task 2: Checking alignment Of Tree Protection Fencing	Once the tree protection alignment has been set out with wooden pegs or similar the Arboricultural Consultant (AC) will check the setting out against the Root Protection Area radius of retained trees. A site operative will be required to assist and alter the alignment if this is required by the AC.	2 hours on site
Task 2: Post-Installation of Tree Protection Fencing	The AC will need to check the specification of tree protection fencing and confirmed it is suitable once installed. Note: Any deviation to the tree protection specification set out in the AMS will need to be confirmed with the AC before it is used, as it may not be acceptable.	2 hours on site
Task 2: Inspecting the Tree Protection fencing	The tree protection fencing will be checked once per month by the AC and any repairs , damage or realignment advised on site which will be rectified within 48 hours. During these visits a general check retained the welfare will be undertaken and any improvement required, will be advised.	0.5 day per visit
Task 4: Post removal of soil bund material	The AC will visit the site and check the condition of the trees and the tree protection fencing following removal of the bund/during/after the installation of the retaining structure.	1-2 hours on site
Task 7: Final tree welfare checks	The AC will inspect the site and the welfare of trees, following completion of all associated construction works and advise on any measures required to improve the welfare of retained trees if applicable.	0.5 day