

Arboricultural Impact Assessment (AIA)

December 2021

Moneystone Quarry

Whiston

Stoke-on-Trent

ST10 2DZ

U R B A N
G R E E N



QUALITY MANAGEMENT

| | | | | |
|-------------------------|--|------------------------------------|------------------|-----------------|
| Project No.: | UG1329 | | | |
| Project: | Moneystone Quarry - Outfall | | | |
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1. Executive Summary

- 1.1.1. Urban Green has been instructed by Laver Leisure (Oakamoor) Limited to carry out an Arboricultural Survey to British Standard 5837:2012 guidelines at Moneystone Quarry, Whiston, Stoke-on-Trent, ST10 2DZ and produce our findings in a report.
- 1.1.2. It is proposed to create an outfall to connect the existing body of water to a stream. Full details of the proposed site layout can be seen on the plans included in Appendix 4.
- 1.1.3. The proposed development necessitates the removal of parts of 2 groups. However, it is noted that the majority of these are of low value. It is recommended that this tree loss is mitigated by replacement tree planting.
- 1.1.4. Visually important boundary trees and groups to the north and south of the site will be retained and can be protected during the development in accordance with current best practice.
- 1.1.5. Before any tree works are carried out trees should first be assessed for their suitability for protected species by a suitably qualified and experienced ecologist.
- 1.1.6. Tree protection fencing, and ground protection will need to be installed at the alignment shown on the Tree Protection Plan in Appendix 4 before any construction activity takes place.
- 1.1.7. It will also be necessary to carry out supervised root pruning of T18 as indicated on the Tree Protection Plan.

2. Introduction

2.1. Instructions and references

- 2.1.1. We have been instructed by Laver Leisure (Oakamoor) Limited to carry out a Arboricultural Impact Assessment (AIA) in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations at the site location and produce our findings in a report to be submitted with a detailed planning application.
- 2.1.2. All trees, regardless of their statutory status, are a material consideration in a planning application. BS 5837 recognises the potential conflict between trees and development. The standard sets out to assist those concerned with trees in relation to construction and aid with decision making. This is achieved by providing impartial and balanced information on trees and their potential impacts.
- 2.1.3. Due to the nature of the site, it was decided that the survey methodology would include broadly grouping trees that share very similar characteristics. This method is in line with point 4.4.2.3 of BS 5837:2012 that states ‘Trees forming groups...should be identified and considered as groups where the arboriculturist determines that this is appropriate... It may be appropriate to assess the quality and value of trees as a whole, rather than individuals.’
- 2.1.4. The site is located in the area shown in Figure 1.



Figure 1 – Site Location Plan

2.2. Scope

- 2.2.1. The AIA takes into account any potential impacts on existing trees including the effect of any tree loss required to implement the design and recommendation for the establishment of new trees.
- 2.2.2. The AIA will also assess any potentially damaging activities proposed in the vicinity of retained trees and the effect that the retained trees may have on the development such as potential nuisance caused by excessive leaf/fruit litter, lighting levels and potential damage to structures.

2.3. Documents provided

- 2.3.1. A scaled plan has been provided with tree positions already plotted. Any extra trees found on site that were not included on the original plan have been plotted according to measurements taken on site and/or using aerial photography.
- 2.3.2. Tree locations which have been estimated are illustrated on the Tree Protection Plan in Appendix 4. The exact locations of these trees must be verified, and any discrepancies discussed with the Arboricultural Consultant before starting works on site.
- 2.3.3. A plan outlining the development proposals has been overlaid with the Tree Constraints Plan in order to assess the potential impacts.

2.4. Limitations

- 2.4.1. The report is based upon a visual inspection. The consultant shall not be responsible for events that happen after the date of the report due to factors that were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- 2.4.2. The consultant accepts no liability in respect of the trees unless the recommendations of this report are carried out under his supervision.
- 2.4.3. Assessing the potential influence of trees upon load bearing soils, beneath existing and proposed structures resulting from water abstraction by trees or rehydration of shrinkable soils was not included in the contract brief and is therefore not considered in the report. The consultant cannot be held responsible for damage arising from such action.
- 2.4.4. Trees are living organisms whose health, condition and structure can change over time. The contents of this report are valid for a period of one year from the date of the report.
- 2.4.5. Potentially hazardous trees are highlighted, and appropriate recommendations are made. However, this report is not a substitute for a full tree risk assessment or management plan which are specifically designed to minimise risk and liability associated with responsibility for trees.

3. Legislation

3.1. Tree protection status

- 3.1.1. A Tree Preservation Order (TPO) is an order made by a Local Authority to protect specific trees, groups of trees or woodlands in the interests of amenity. A TPO prohibits the cutting down, topping, lopping, uprooting and wilful damage or destruction of trees without the Local Authority's written consent.
- 3.1.2. Staffordshire Moorlands District Council's interactive map on the 26/10/21 showed that there are no TPO on site nor is it within a conservation area.
- 3.1.3. It is recommended that the Local Authority is consulted before any tree works are undertaken, as new TPOs may have been created since the time of enquiry, and heavy fines exist for unauthorised works to protected trees.
- 3.1.4. All works to trees covered by a TPO require permission from the Local Authority, including any pruning. However, this does not include trees that are dead or have become dangerous. The removal of dead branches is also excluded from a TPO. Although the above exceptions exist, it is advisable to give the Local Authority five days' notice in writing of any intended removal. Permission is not needed where tree work is required to implement an approved planning application.
- 3.1.5. It is an offence to remove more than 5m³ of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission. It must be noted, however, that this excludes sites where planning permission has already been granted.

3.2. Wildlife

- 3.2.1. Prior to the commencement of any tree works, the trees should be assessed for the presence of species which are subject to protection under the *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species Regulations 2017*.
- 3.2.2. Where there is evidence that bats, birds or other protected species are present, the advice of a suitably qualified ecologist should be sought.
- 3.2.3. If tree works are carried out during the bird nesting season (March to September inclusive), trees would need to be inspected by a qualified ecologist no more than 48 hours prior to the commencement works.

4. Arboricultural Impact Assessment (AIA)

4.1. Summary of the development

- 4.1.1. It is proposed to create an outfall to connect the body of water to the stream. Full details of the proposed site layout can be seen on the plans included in Appendix 4.

4.2. Tree constraints

- 4.2.1. BS 5837:2012 recognises that conflicting requirements of the planning system for development means that trees are only one factor which need to be taken into consideration. Although there may be certain specimens that can pose significant constraints to development due to their importance, it is essential that inappropriate tree retention is avoided.
- 4.2.2. Trees can be adversely affected on development sites if their protection is not factored into the wider project management of onsite operations. We have transposed the tree survey plan over plans detailing current proposals in order to assess the impact on surveyed trees.
- 4.2.3. It is essential that roots are protected from construction works including physical damage from excavation and changes in soil structure from compaction and changes in ground levels.

4.3. Root Protection Areas (RPAs) explained

- 4.3.1. The RPA is an area of ground around the base of a retained tree, which is calculated in relation to the stem diameter, where disturbance should be kept to a minimum and avoided if at all possible.
- 4.3.2. The majority of tree roots grow within the upper 600mm of the soil profile where most nutrients are available as the result of the decomposition of organic matter close to the surface. Rooting conditions become less favourable at depth as the soil density increases, creating anaerobic conditions.

4.4. Impacts of development

- 4.4.1. A section of a B category group, G23 and part of a C category group, G22 will require removal to facilitate the development.
- 4.4.2. Root pruning is required on T18, T19, T21 to allow the construction of the outfall. Hand dig excavation supervised by an arboricultural consultant will be required, with any roots found up to 25mm able to be pruned.
- 4.4.3. Additional supervision in relation to the roots will be required around G22 and T21 to assess the gradient of the slope from the outfall as the gradient transitions from 1:1 and 1:3. The gradient transition will avoid affecting the roots of T21 and G22.
- 4.4.4. Ground protection will be required within the RPA of T18, T19, G20, T21, G22. It will be required to avoid compaction of the roots while completing the construction. It will need to be constructed inline with 4.7 of this report.

4.5. Tree surgery works

- 4.5.1. Tree works that are recommended within the Tree Works Schedule (Appendix 4) are works required to facilitate development and also include details or remedial works. Tree works stated in the Tree Data Schedule (Appendix 1) are of a general maintenance nature and can be carried out at any time per recommendations.
- 4.5.2. Tree works required to facilitate the development will be carried out prior to the commencement of any onsite operations. This should allow sufficient space for approved construction to be carried out.
- 4.5.3. Any unforeseen tree works that become apparent during the construction process will require written consent from the Local Authority Tree Officer.

4.6. Protective fencing

- 4.6.1. Temporary protective fencing will need to be installed at the alignment indicated on the Tree Protection Plan in Appendix 4, prior to the commencement of any construction activities on site including the delivery of materials and site facilities.
- 4.6.2. Any fencing that is damaged so that it is no longer able to protect retained trees must be replaced/repared immediately with appropriate fencing.
- 4.6.3. The required specification for protective fencing is illustrated in the Tree Protection Plan (Insert 1).
- 4.6.4. The 'in-ground' system involves driving vertical scaffold poles approximately 0.6m into the ground onto which are affixed horizontal scaffold poles and bracing struts. 2m high anti-climb weldmesh panels are then wired to the scaffold framework. The vertical scaffold poles should be at a maximum of 3m apart.
- 4.6.5. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to the tree roots when locating uprights.
- 4.6.6. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" shall be fixed to every 10m of protective fencing, as illustrated on the Tree Protection Plan (Insert 2).

4.7. Ground protection for pedestrians or light vehicles

- 4.7.1. The primary method of ground protection is the installation of a compressible layer (e.g. woodchip) over a geotextile fabric with side butting scaffold boards.
- 4.7.2. Ground protection measures whilst working the RPA must be capable of supporting the expected loads and avoid compaction of the soil.
- 4.7.3. The boarding will be left in place until the construction works are finished.
- 4.7.4. Scaffolding may first be erected with the uprights on spreader boards and the ground protection installed around the uprights.

4.8. Temporary site cabins

- 4.8.1. All storage facilities and deliveries will make use of existing hard surfaces to avoid unnecessary compaction within RPAs. The locations will be agreed in writing with the LPA prior to delivery and will remain in the agreed locations unless approved by the LPA.
- 4.8.2. If storage facilities require siting within RPAs, every effort will be made to ensure that any damage to aerial parts of retained trees is avoided and that appropriate footings are used to avoid root damage or compaction of the soil.

4.9. Recommendations

- 4.9.1. An Arboricultural Method Statement (AMS) will be required to provide solutions and working methods so that the impacts identified do not have a detrimental effect on retained trees.
- 4.9.2. All operations that could affect trees on and adjacent to the site must be considered as part of the project management of the Proposed Development. It is therefore recommended that an Arboricultural Consultant is appointed as part of the design and management team to advise on pre-development issues and supervise on-site operations.
- 4.9.3. The Arboricultural Consultant may also have an advisory role in the preparation of site including tree surgery works and the protection of trees during demolition processes.
- 4.9.4. The Arboricultural Consultant shall be responsible for inspecting all protective fencing prior to the commencement of all onsite activity.

Appendix 1 - Tree Data Schedule

The following pages contain information gathered during the site survey. The reader should refer to Appendices 2 and 3 in order to correctly interpret the tree data.

| Reference T= Tree G = Group H = Hedge W = Woodland | Age & Species | Height (m) | Crown Ht (m) | DBH (mm) | Crown Spread (m) | | | Notes | Recommendations | | Physiological Condition | Life Expectancy (yrs) | RPA Radius (m) |
|--|--|------------|--------------|----------|------------------|---|---|---|---------------------|--------------------|-------------------------|------------------------|----------------|
| | | | | | N | E | S | | Priority | Inspect Freq (yrs) | | | |
| T1 | Early-Mature Alder (common) Alnus glutinosa | 15 | 6 | 540 | 8 | 4 | 4 | 1: Trifurcated stem. 2: Typical woodland form. 3: No previous pruning. | No action required. | | Good | 20-40 B2 | 6.48 |
| | n/a | | | | | | | | 3 | Fair | | | |
| T2 | Early-Mature Alder (common) Alnus glutinosa | 18 | 8 | 400 | 6 | 4 | 6 | 1: Typical woodland form. 2: Not previously pruned. 3: South of outfall stream. | No action required. | | Good | 40+ B1.2 | 4.80 |
| | n/a | | | | | | | | 3 | Good | | | |
| T3 | Semi-Mature Alder (common) Alnus glutinosa | 11 | 3 | 200 | 3 | 5 | 2 | 1: Typical woodland form. 2: Canopy biased to north. 3: Not previously pruned. | No action required. | | Good | 40+ C1 | 2.40 |
| | n/a | | | | | | | | 3 | Fair | | | |
| T4 | Early-Mature Alder (common) Alnus glutinosa | 12 | 3 | 250 | 4 | 6 | 3 | 1: Not previously pruned. 2: Located adjacent to stream. | No action required. | | Good | 40+ B1.2 | 3.00 |
| | n/a | | | | | | | | 3 | Fair | | | |
| T5 | Early-Mature Alder (common) Alnus glutinosa | 15 | 5 | 450 | 4 | 6 | 4 | 1: Adjacent to stream. 2: Not previously pruned. | No action required. | | Good | 40+ B1.2 | 5.40 |
| | n/a | | | | | | | | 3 | Good | | | |
| T6 | Young Silver Birch Betula pendula | 6 | 3 | 130 | 1 | 3 | 1 | 1: Stem lean north, canopy biased north. 2: Suppressed by adjacent trees. | No action required. | | Good | 20-40 C | 1.56 |
| | n/a | | | | | | | | 3 | Fair | | | |

| Reference T= Tree G = Group H = Hedge W = Woodland | Age & Species | Height (m) | Crown Ht (m) | DBH (mm) | Crown Spread (m) N W E S | Notes | Recommendations | | Physiological Condition | Life Expectancy (yrs) | RPA Radius |
|--|--|------------|--------------|-----------|-----------------------------------|--|---------------------|--------------------|-------------------------|-----------------------|------------|
| | | | | | | | Priority | Inspect Freq (yrs) | Structural Condition | Retention Category | (m) |
| G7 | Semi-Mature Mixed Species | av 6 | av 0.1 | av 200 | av 3 3 3 each | 1: Dense thicket consisting of holly, blackthorn with alder and willow. 2: Standing deadwood throughout. 3: Potential wildlife habitat. | No action required. | | Good | 20-40 | 2.40 |
| | | | | | | | n/a | 3 | Fair | C1.2 | |
| T8 | Semi-Mature Silver Birch Betula pendula | 13 | 5 | 250 | 3 4 2 2 | 1: Typical woodland form. 2: Not previously pruned. | No action required. | | Good | 40+ | 3.00 |
| | | | | | | | n/a | 3 | Good | B1.2 | |
| T9 | Mature Crack Willow Salix fragilis | 13 | 5 | 750 | 12 12 | 1: Bifurcated at ground level. 2: Both stems have failed, one hung up the other on the ground. 3: Large decay cavities to both stems. 4: Acceptable condition at present due to current land use. | No action required. | | Good | 20-40 | 9.00 |
| | | | | | | | n/a | 3 | Poor | C1 | |
| T10 | Early-Mature Alder (common) Alnus glutinosa | 12 | 4 | 300 | 3 5 3 5 | 1: Typical woodland form. 2: Not previously pruned. | No action required. | | Good | 40+ | 3.60 |
| | | | | | | | n/a | 3 | Good | B1 | |
| T11 | Early-Mature Crack Willow Salix fragilis | 9 | 5 | 350 | 0 0 12 | 1: Tree has failed and is hung up in adjacent hawthorn. 2: Tree now self correcting with new vertical growth. 3: Acceptable condition at present due to current land use. | No action required. | | Good | 20-40 | 4.20 |
| | | | | | | | n/a | 3 | Very Poor | C1 | |
| T12 | Semi-Mature Alder (common) Alnus glutinosa | 15 | 9 | 300 | 3 3 3 3 | 1: Typical woodland form. 2: Not previously pruned. | No action required. | | Good | 40+ | 3.60 |
| | | | | | | | n/a | 3 | Good | B1 | |

| Reference T = Tree G = Group H = Hedge W = Woodland | Age & Species | Height (m) | Crown Ht (m) | DBH (mm) | Crown Spread (m) | | | Notes | Recommendations | | Physiological Condition | Life Expectancy (yrs) | RPA Radius (m) |
|---|---|------------|--------------|----------|------------------|----|-----|--|---------------------|--------------------|-------------------------|-----------------------|----------------|
| | | | | | N | E | S | | Priority | Inspect Freq (yrs) | | | |
| T13 | Early-Mature Hawthorn <i>Crataegus monogyna</i> | 8 | 1 | 200 | 3 | | | 1: Growing adjacent to decaying stump. 2: Not previously pruned. | No action required. | | Good | 40+ | 2.40 |
| | 3 | | | | 3 | 3 | n/a | | 3 | Good | | | |
| T14 | Mature Crack Willow <i>Salix fragilis</i> | 4 | 1 | 600 | 0 | | | 1: Standing deadwood. 2: Acceptable condition at present due to current land use. | No action required. | | Dead | Dead | 7.20 |
| | 0 | | | | 0 | 6 | n/a | | 3 | Dead | | | |
| T15 | Mature Crack Willow <i>Salix fragilis</i> | 19 | 10 | 650 | 10 | | | 1: Bifurcated stem. 2: Hung up branch to south east. 3: Lesions and bleeding to stem. 4: Acceptable condition at present due to current land use. | Monitor. | | Fair | 10-20 | 7.80 |
| | 10 | | | | 5 | 10 | Low | | 3 | Fair | | | |
| T16 | Mature Crack Willow <i>Salix fragilis</i> | 12 | 6 | 700 | 0 | | | 1: Tree has failed to south and is hung up in adjacent hawthorn. 2: New vertical growth to failed stems. 3: Acceptable condition at present due to current land use. | Monitor. | | Fair | 10-20 | 8.40 |
| | 0 | | | | 12 | 14 | Low | | 3 | Very Poor | | | |
| T17 | Early-Mature Alder (common) <i>Alnus glutinosa</i> | 15 | 8 | 400 | 5 | | | 1: Typical woodland form. 2: Not previously pruned. | No action required. | | Good | 40+ | 4.80 |
| | 6 | | | | 6 | 6 | n/a | | 3 | Good | | | |
| T18 | Early-Mature Alder (common) <i>Alnus glutinosa</i> | 15 | 8 | 420 | 7 | | | 1: Bifurcated stem with natural brace. 2: Canopy biased to north west. 3: Tear wound exhibiting good closure. | No action required. | | Good | 20-40 | 5.04 |
| | 3 | | | | 3 | 3 | n/a | | 3 | Fair | | | |

| Reference T= Tree G= Group H= Hedge W= Woodland | Age & Species | Height (m) | Crown Ht (m) | DBH (mm) | Crown Spread (m) N W E S | Notes | Recommendations | | Physiological Condition | Life Expectancy (yrs) | RPA Radius (m) |
|---|--|------------|--------------|-----------|-----------------------------------|---|---------------------|--------------------|-------------------------|-----------------------|----------------|
| | | | | | | | Priority | Inspect Freq (yrs) | | | |
| T19 | Mature Alder (common) Alnus glutinosa | 18 | 7 | 690 | 7 8 5 8 | 1: Possibly lapsed coppice. 2: Many uprights from historic pruning points. 3: Included bark unions of codominant stems with no signs of failure. | Monitor. | | Good | 20-40 | 8.28 |
| | | | | | | | Low | 3 | Fair | B2 | |
| G20 | Early-Mature Alder (common) Alnus glutinosa | av 20 | av 5 | av 400 | av 8 8 5 6 each | 1: Five close growing trees. 2: Not previously pruned. 3: Canopies merged. 4: Wide buttresses. | No action required. | | Good | 40+ | 4.80 |
| | | | | | | | n/a | 3 | Good | B1.2 | |
| T21 | Mature Ash Fraxinus excelsior | 12 | 5 | 650 | 8 8 7 6 | 1: Pruned in the past to remove low hanging lateral branches on north side. 2: Evidence of ash dieback infection. 3: Acceptable condition at present due to current land use. | Monitor. | | Fair | 10-20 | 7.80 |
| | | | | | | | Low | 3 | Fair | B2 | |
| G22 | Early-Mature Hazel Corylus avellana | av 6 | av 1 | av 370 | av 3.5 3.5 3.5 3.5 each | 1: 3x trees all exhibiting typical growth patterns. 2: Western most tree exhibiting significant damage to canopy possibly due to plant machinery. | Monitor. | | Good | 20-40 | 4.44 |
| | | | | | | | Low | 3 | Fair | C1.2 | |
| G23 | Young Alder (common) Alnus glutinosa | av 6 | av 1 | av 100 | av 2 2 2 2 each | 1: Closely spaced natural colonisation adjacent to south bank of reservoir. 2: Would benefit from thinning in approximately 5 to 10 years. | No action required. | | Good | 40+ | 1.20 |
| | | | | | | | n/a | 3 | Fair | B | |

Appendix 2 - Tree Schedule Definition of Terms

| | |
|---------------------------------|--|
| Tree Referencing | Individual Trees T (+number) Grouped Trees G (+number) Hedgerows H (+number) Woodlands W(+number) |
| Age Category | Young Usually <15 years Semi-mature Significant growth expected, approximately one third of life expectancy complete Early-Mature Full height achieved with further significant growth possible, up to two thirds of life expectancy complete Mature Full height has been achieved with possible spreading of the canopy, usually past two thirds of overall life expectancy Veteran Usually a tree of significant age with characteristics that give additional cultural, landscape and conservation benefits, Over-mature A tree declining due to age as indicated by deterioration in the health and condition of its crown and trunk. |
| Species | Botanical Name conforming to the International Code of Nomenclature for algae, fungi, and plants (ICN). For universal plant recognition. Common Name commonly used names usually on a local and national scale. |
| Tree Height | The vertical distance between the base of the tree (where soil and buttress meet) and the tip of the highest branch on the tree. |
| Crown Height | Measured from ground level to the height at which the main crown begins. |
| Stem Diameter (DBH) | Stem diameter is measured at 1.5 m above ground level |
| Crown | Measurements taken from all four cardinal points in metres. |
| Notes | Notes are made to inform of any possible defects, peculiarities or points of interest that may relate to the trees position, physiology, safety and possible effects on developments. |
| Recommendations | Recommendations are made in accordance to good arboricultural practice. Recommendations are made regardless to the end usage of the site. |
| Priority Scale | Priority is given dependant on the perceived threat and the likelihood of failure given to a possible hazard. The priority of work is given regardless of the end usage of the site. Urgent To be carried out as soon as possible. Very High To be carried out within 1 month. High To be carried out within 3 months. Moderate To be carried out within 1 year. Low To be carried out within 3 years. |
| Physiological Condition: | Good Usually healthy with no symptoms of poor health or disease. Fair Exhibiting signs of poor health or minor disease infections that are not considered to be hazardous. Poor Disease present in considerable quantities or with very poor physiological vigour. Very Poor Tree is in a moribund state in extremely poor condition, usually with little chance of recovery. |
| Structural Condition: | Good A tree with no significant structural defects. Fair Minor defects may have been observed but are not considered to be immediately hazardous. Poor Significant defects found. Tree requires monitoring or remedial works. Very Poor Major defects that require immediate remedial work or the removal of the tree. |
| Life Expectancy: | The estimated number of years before the tree may require removal should no unexpected mechanical or environmental impacts occur to the tree. |
| Retention Category: | Please refer to Tree retention categorisation table on the next page. |

Appendix 3 - Tree Retention Category

The following table provides an explanation of retention categories used.

| Trees to be removed | | Colour on Plan |
|---|--|----------------|
| Category U Includes trees of very low quality that offer little or no amenity value. | Trees that are in such a condition that they should be removed as a matter of good arboricultural practice regardless of given proposals. | RED |
| Trees to be considered for retention | | |
| Category A Trees of a high quality, with an estimated life of expectancy of at least 40 years | Trees that are excellent examples of their species, usually mature, especially if rare or unusual including veteran trees. Category A trees are likely to enhance a development and should be retained wherever possible. | GREEN |
| Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. | Trees that are good examples of their species. B category trees are usually mature or younger trees with the potential to reach A category in the future. Although the retention of these trees is desirable, some losses may be acceptable. | BLUE |
| 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. | GREY |

NOTE: Trees that are viewed as borderline and do not fit neatly into either of the categories are given a plus or minus rating (+/-) in the tree data schedule. Therefore, C+ would denote a tree being borderline C/B although C is deemed to be the most appropriate category. Similarly, B- would denote a tree being borderline B/C with B seen as the most appropriate category.

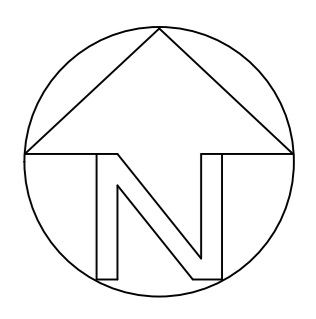
Appendix 4 - Site Plans

The site plans referred to in the report follow this page which include the following:

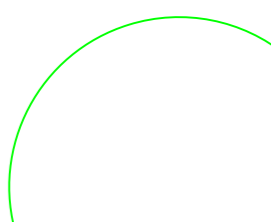
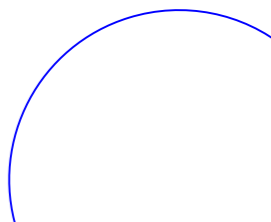
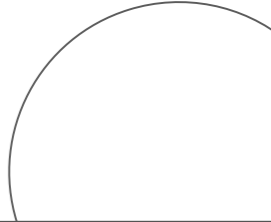
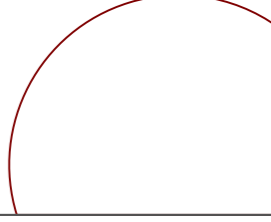
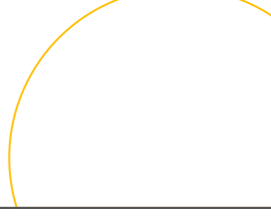
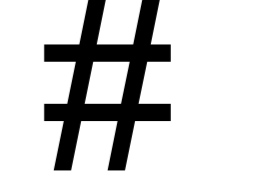
- Tree Constraints Plan
- Tree Removal Plan
- Tree Works Schedule
- Tree Protection Plan
- Tree Protection Inserts

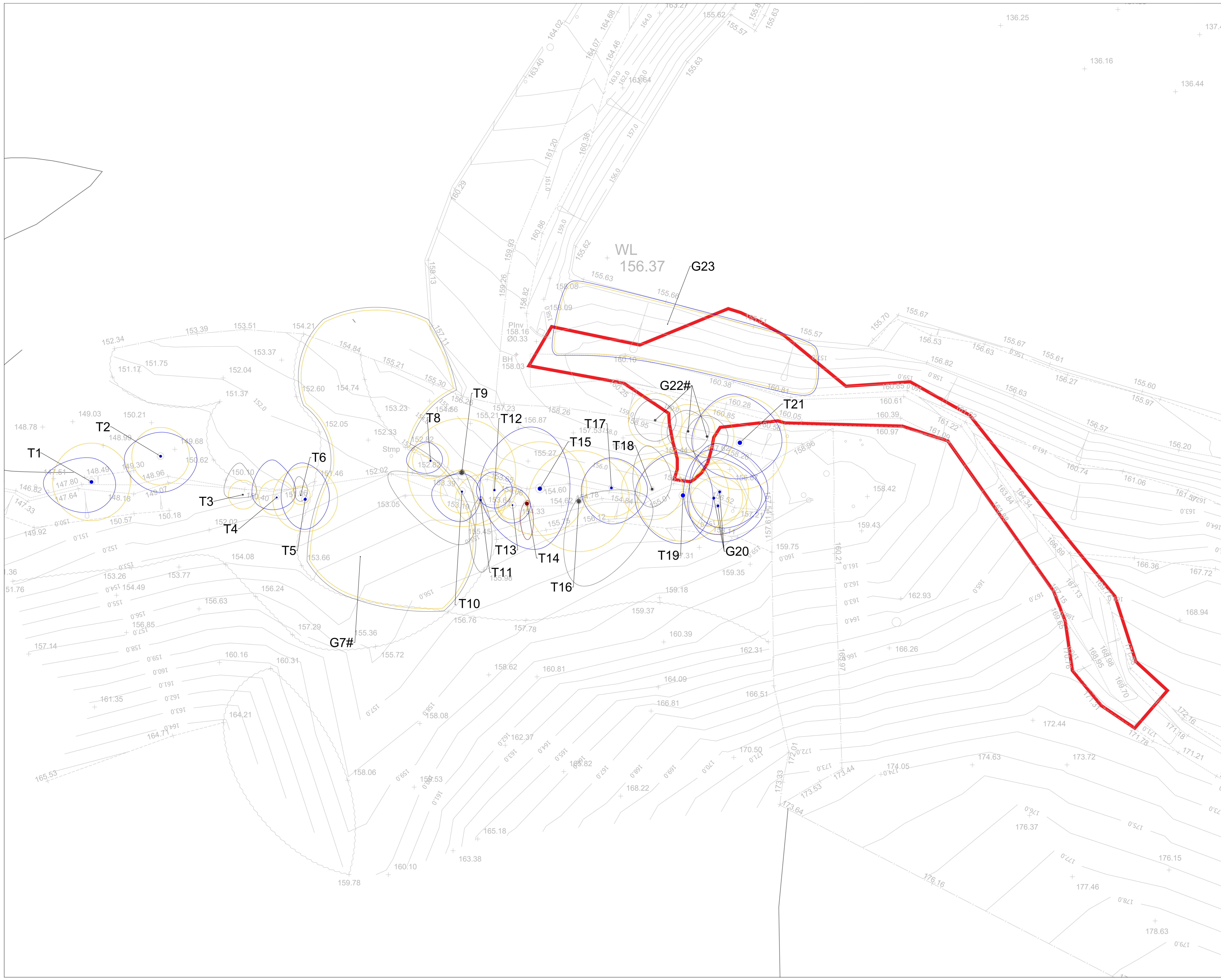
Although included plans are usually to scale, they are only intended to indicate positions of surveyed trees and dimensions should not be taken from these drawings.

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Notes:-

-  Category A tree, group or hedge
-  Category B tree, group or hedge
-  Category C tree, group or hedge
-  Category U tree, group or hedge
-  Root Protection Area (RPA)
-  Position estimated on site



| | | | | |
|------|----------|-------------------------|-------|-------|
| 01 | 15/12/21 | REDLINE BOUNDARY UPDATE | EA | RH |
| REV. | DATE | DESCRIPTION | DRAWN | CHK'D |

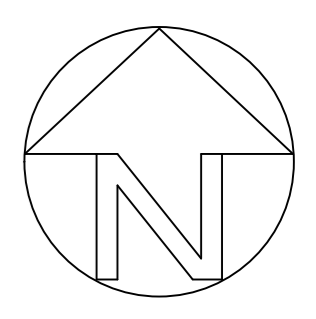


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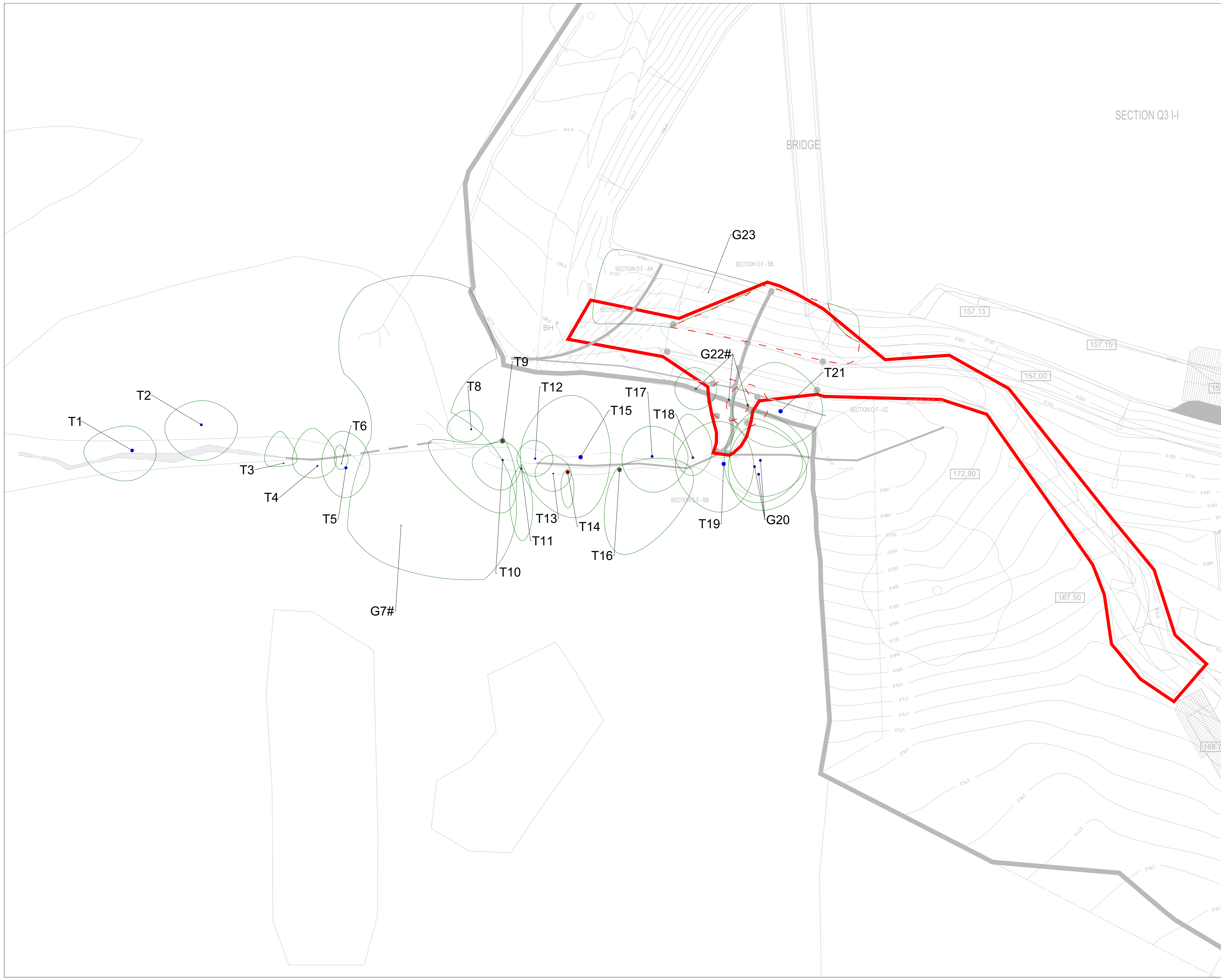
| | | | |
|-----------|---|-------------|-------|
| Client: | LAVAR LEISURE (OAKAMOOR) LIMITED | | |
| Project: | MONEYSTONE QUARRY | | |
| Title: | TREE CONSTRAINTS PLAN | | |
| Issue: | PLANNING | | |
| Drawn: | EA | Checked: | RH |
| Approved: | EA | | |
| Project: | UG1329 | Scale @ A0: | 1:200 |
| Date: | 25/10/21 | | |
| Dwg No: | UG_1329_ARB_TCP_01 | Revision: | 01 |

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Notes:-



- Category A tree, group or hedge
- Category B tree, group or hedge
- Category C tree, group or hedge
- Category U tree, group or hedge
- Retained tree
- Removed tree
- Extents of pruning
- # Position estimated on site



| REV. | DATE | DESCRIPTION | DRAWN | CHK'D |
|------|----------|-------------------------|-------|-------|
| 03 | 22/12/21 | UPDATED PROPOSAL | EA | RH |
| 02 | 15/12/21 | REDLINE BOUNDARY UPDATE | EA | RH |
| 01 | 15/11/21 | ADDITIONAL INFORMATION | EA | RH |



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| | | | |
|-----------|--------------------|--|-------|
| Client: | | LAVAR LEISURE (OAKAMOR) LIMITED | |
| Project: | | MONEYSTONE QUARRY | |
| Title: | | TREE REMOVAL PLAN | |
| Issue: | | PLANNING | |
| Drawn: | EA | Checked: | RH |
| Approved: | EA | | |
| Project: | UG1329 | Scale @ A0: | 1:200 |
| Date: | 25/10/21 | | |
| Dwg No: | UG_1329_ARB_TRP_01 | Revision: | 03 |

Tree Works Schedule

| Tree Number | Species | Works Required | Reason |
|-------------|---------|---------------------------------------|-------------------------------|
| G22 | Hazel | Partial removal see Tree Removal Plan | To facilitate the development |
| G23 | Alder | | |

| | | | | |
|------|----------|-------------------------|-------|-------|
| 02 | 15/12/21 | REDLINE BOUNDARY UPDATE | EA | RH |
| 01 | 15/11/21 | ADDITIONAL INFORMATION | EA | RH |
| REV. | DATE | DESCRIPTION | DRAWN | CHK'D |



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Client: **LAVAR LEISURE
(OAKAMoor) LIMITED**

Project: **MONEYSTONE
QUARRY**

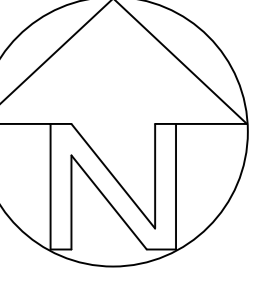
Title: **TREE WORKS SCHEDULE**

Issue: **PLANNING**

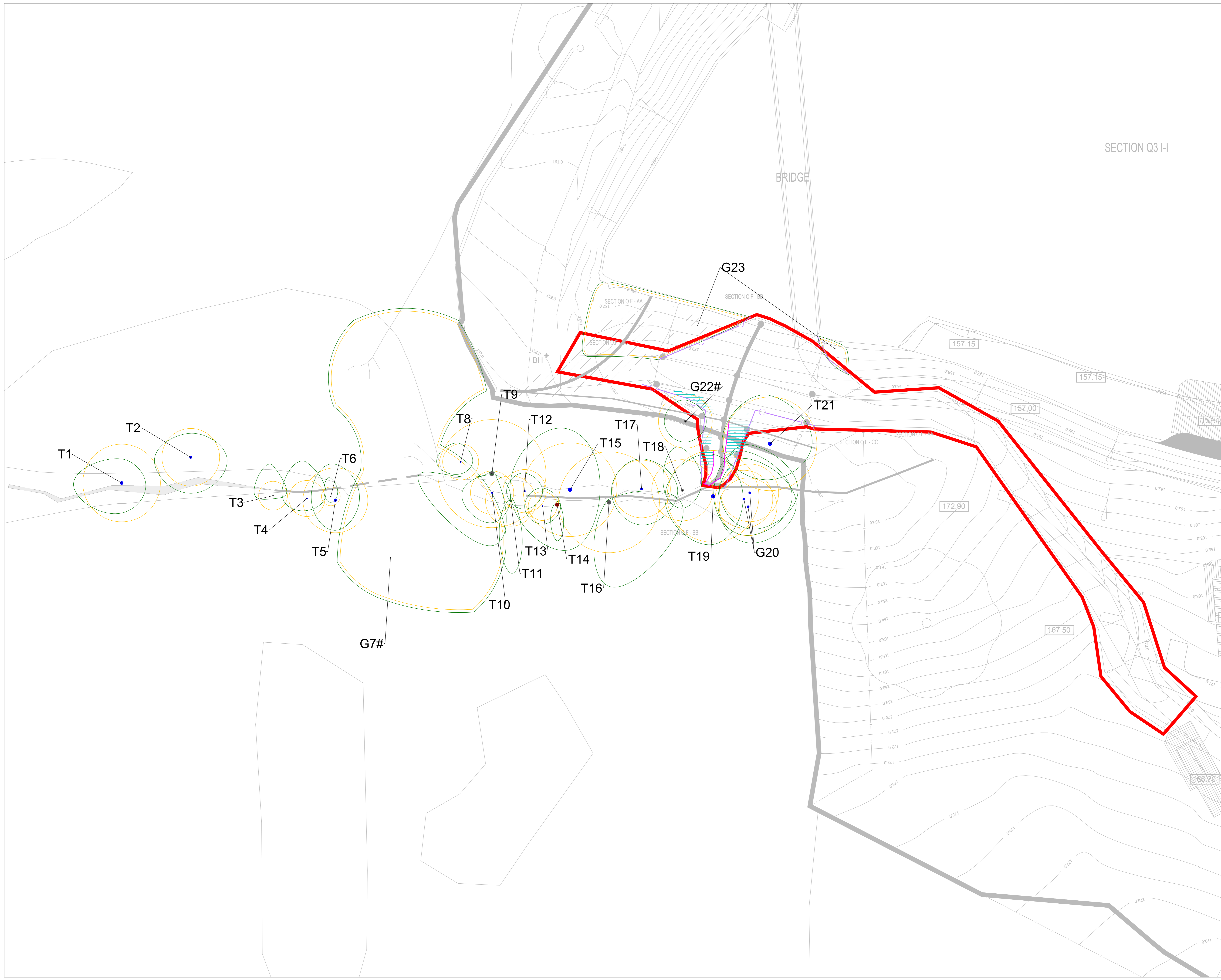
| | | |
|----------------------------|-----------------|----------------|
| Drawn: EA | Checked: RH | Approved: EA |
| Project: UG1329 | Scale @ A0: NTS | Date: 25/10/21 |
| Dwg No: UG_1329_ARB_TWS_01 | Revision: 02 | |

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Notes:-



- Category A tree, group or hedge
- Category B tree, group or hedge
- Category C tree, group or hedge
- Category U tree, group or hedge
- Retained tree
- Root Protection Area (RPA)
- # Position estimated on site
- Redline Site Boundary
- Protective fencing (See Insert 1 & Insert 2)
- Arboricultural Supervised Excavations
- Ground protection (See Insert 3)



| 03 | 22/12/21 | UPDATED PROPOSAL | EA | RH |
|------|----------|-------------------------|-------|-------|
| 02 | 18/12/21 | REDLINE BOUNDARY UPDATE | EA | RH |
| 01 | 15/11/21 | ADDITIONAL INFORMATION | EA | RH |
| REV. | DATE | DESCRIPTION | DRAWN | CHK'D |

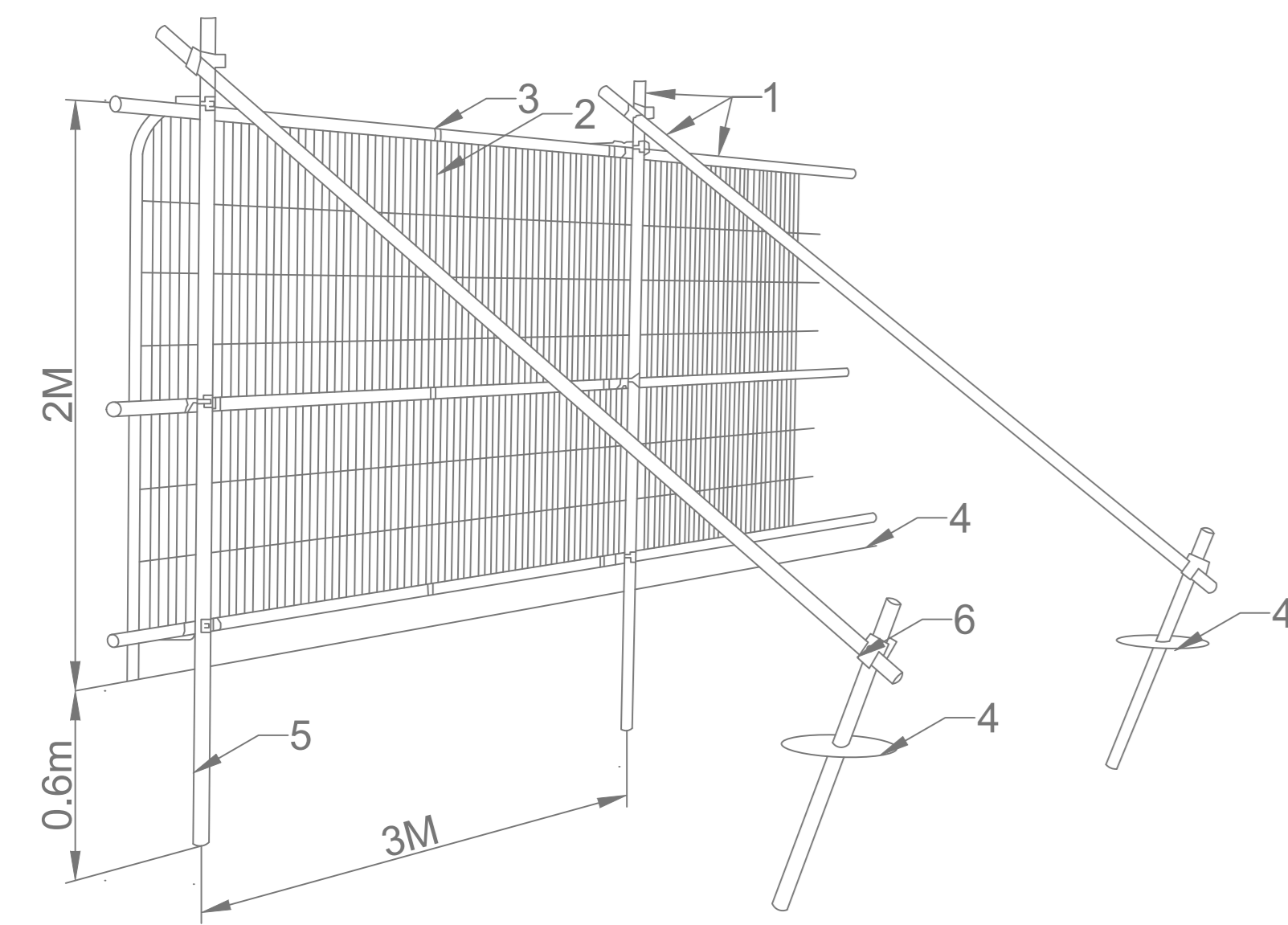


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| | | | |
|-----------|---|-------------|-------|
| Client: | LAVER LEISURE (OAKAMoor) LIMITED | | |
| Project: | MONEYSTONE QUARRY | | |
| Title: | TREE PROTECTION PLAN | | |
| Issue: | PLANNING | | |
| Drawn: | EA | Checked: | RH |
| Approved: | EA | | |
| Project: | UG1329 | Scale @ A0: | 1:200 |
| Date: | 25/10/21 | | |
| Dwg No: | UG_1329_ARB_TPP_01 | Revision: | 03 |

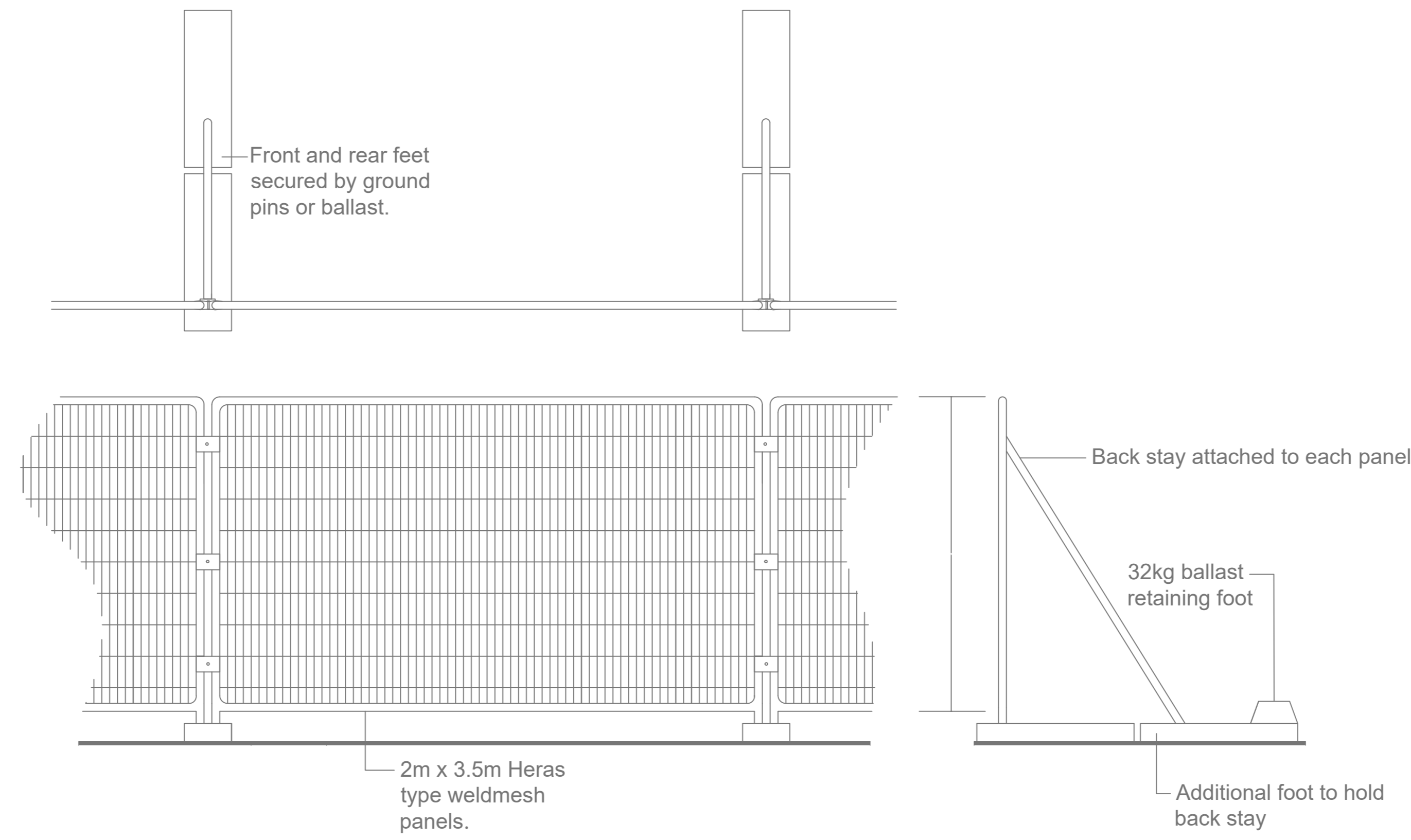
Insert 1: Tree protective fencing specification

Default specification for protective barrier

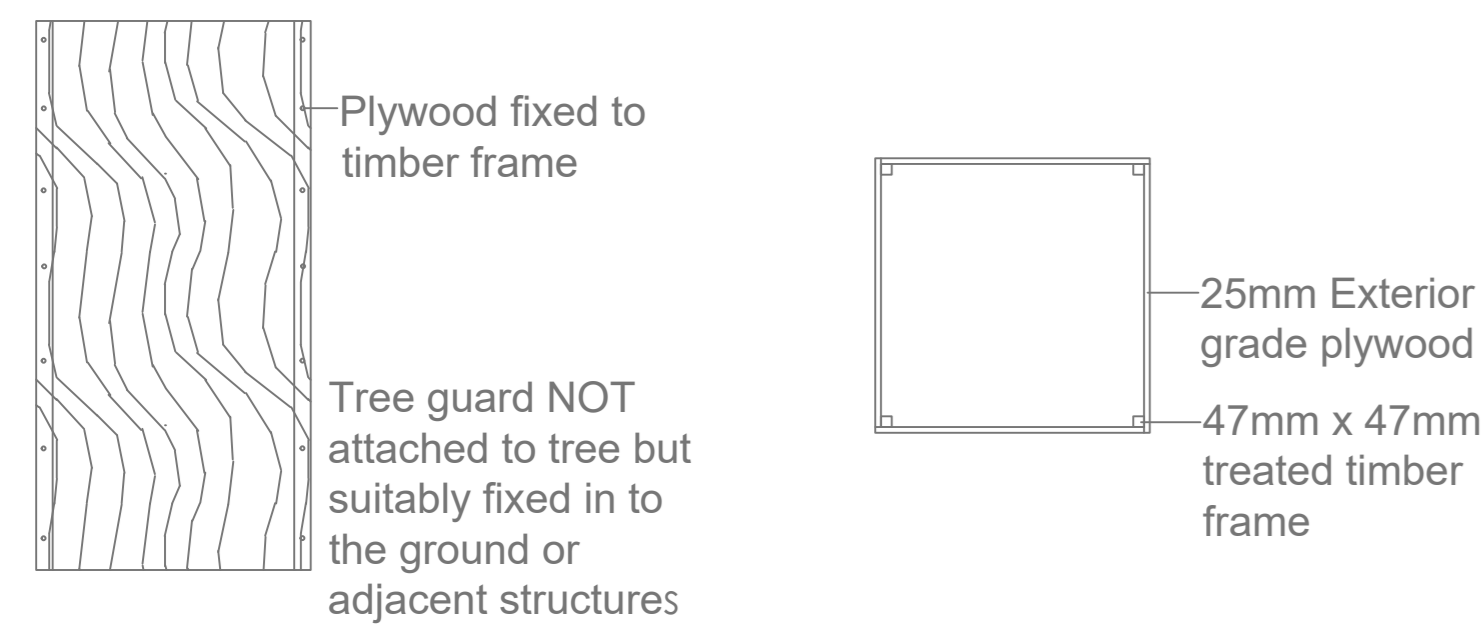


- Key
- 1 Standard scaffold poles
 - 2 Heavy gauge 2m tall galvanised tube and welded mesh infill panels
 - 3 Panels secured to upright and cross-members with wire ties
 - 4 Ground level
 - 5 Uprights driven into the ground until secure (minimum depth 0.6m)
 - 6 Standard scaffold clamps

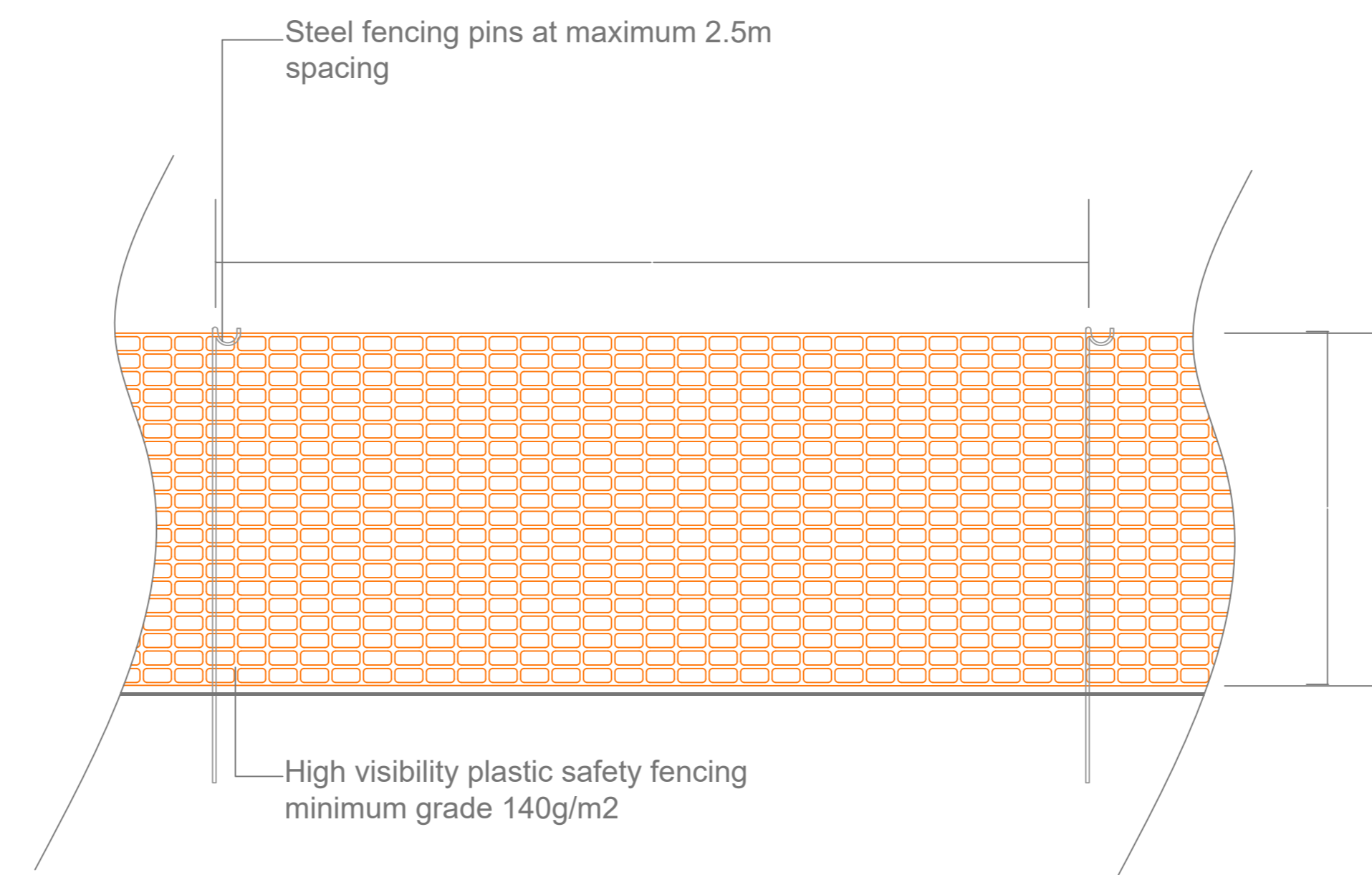
Back-stay support



Temporary tree guard specification



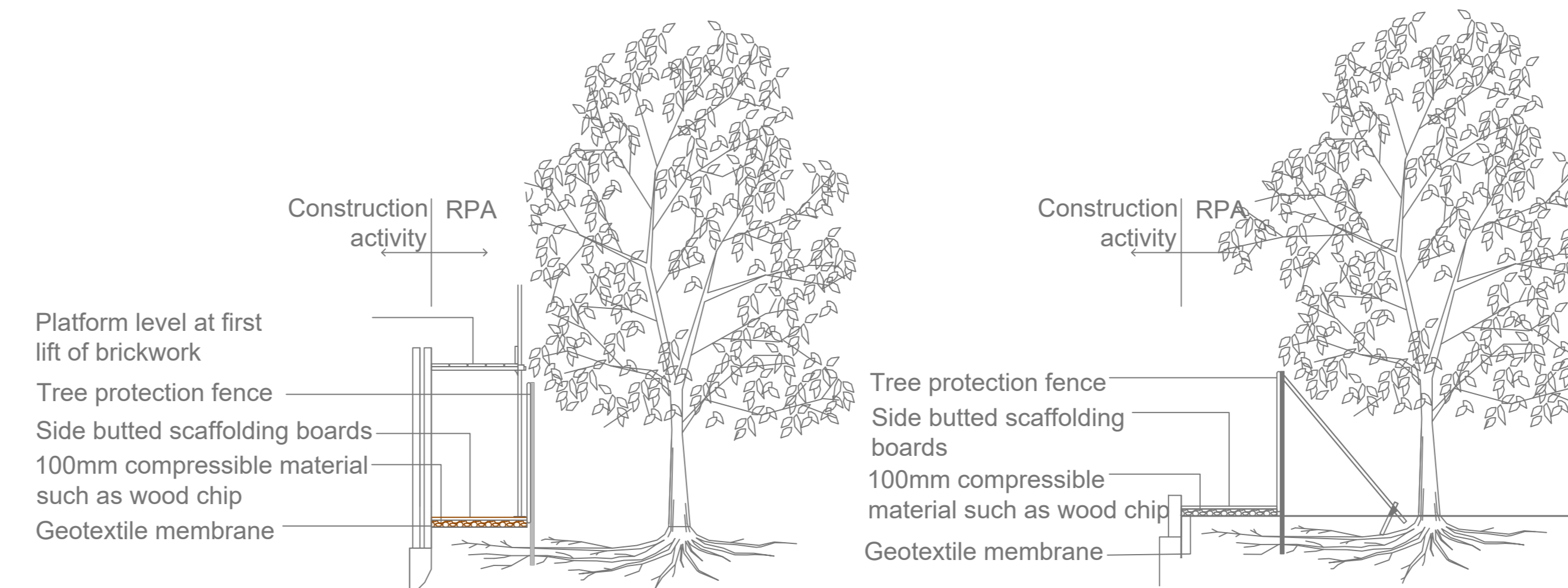
Barrier mesh specification



Insert 2: Tree protection notice

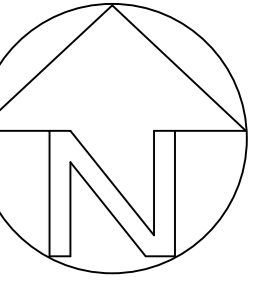


Insert 3: Ground protection specification



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Notes:-



| REV. | DATE | DESCRIPTION | DRAWN | CHK'D |
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Client: **LAVER LEISURE (OAKAMOR) LIMITED**

Project: **MONEYSTONE QUARRY**

Title: **TREE PROTECTION INDEX**

Issue: **PLANNING**

| | | |
|----------------------------|-----------------|----------------|
| Drawn: EA | Checked: RH | Approved: EA |
| Project: UG1329 | Scale @ A0: NTS | Date: 25/10/21 |
| Dwg No: UG_1329_ARB_TPI_01 | Revision: 00 | |