

**AECOM**

PROJECT

NORTHERN ARC
CENTRAL AVENUE
CLIENT

HOMES ENGLAND

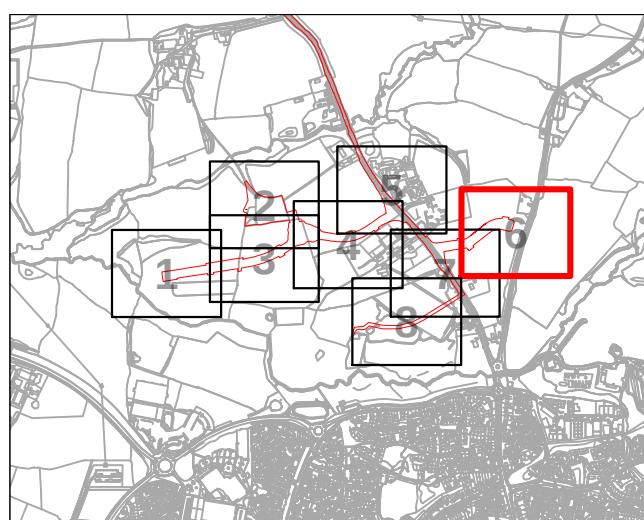
CONSULTANT

AECOM
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GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
2. TREE LOCATIONS ARE BASED ON THE TOPOGRAPHICAL SURVEY, AERIAL IMAGERY, AND GPS CO-ORDINATES FROM ON SITE WALKOVER
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM AIRBORNE PHOTOGRAMMETRY REPORT
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
 - OS_Map.dwg
 - 60610087-ACM-CS-ZZ-MZ-ZZ-0001.dwg
 - 60611087-ACM-CS-XX-MZ-HW-0200.dwg
 - 60612193-60610087-ACM-CS-XX-MZ-HW-0001.dwg
 - PROPOSED DRAINAGE 5.6.dwg
 - PROPOSED DRAINAGE 1.8.dwg

KEY PLAN



KEY

- TEXTURE ID TAGS**
(A PREFIX OF "T" DENOTES A SINGLE TREE, "G" A GROUP, "Y" A YUCCA, "W" A WOODLAND, AND AN APOSTROPHES SUFFIX "" MEANS THE FEATURE WAS PLOTTED INDICATIVELY)

SITE BOUNDARY

 -  EXISTING TREE, GROUP, WOODLAND, OR HEDGE TO BE RETAINED
 -  EXISTING TREE, GROUP, WOODLAND, OR HEDGE TO BE REMOVED
 -  **ROOT PROTECTION AREA OF RETAINED TREES**
(AS DEFINED BY BS S37:2012)
 -  **TREE PROTECTION FENCING**
 -  **CONSTRUCTION EXCLUSION ZONE**
(TRACKING OF PLANT, MATERIALS STORAGE, ERECTION AND ALL OTHER CONSTRUCTION ACTIVITIES ARE EXCLUDED WITHIN THESE AREAS FOR THE PURPOSES OF PROTECTING TREE HEALTH)
 -  **CONSTRUCTION WORKING ZONE**
(MANAGED CONSTRUCTION PROCESSES PERMITTED IN ACCORDANCE WITH THE PRINCIPLES SET OUT WITHIN THE ARBORICULTURAL IMPACT ASSESSMENT)
 -  **GROUND PROTECTION ZONE**
(MANAGED CONSTRUCTION PROCESSES PERMITTED IN ACCORDANCE WITH THE PRINCIPLES SET OUT WITHIN THE ARBORICULTURAL IMPACT ASSESSMENT)
 -  **PROPOSED DEVELOPMENT LAYOUT**
(BASED UPON DRAWING REVISIONS LISTED IN THE GENERAL NOTES SECTION)
 -  **VETERAN TREE MARKER**
(INDICATES POSITION OF TREE CATEGORISED AS A VETERAN STATUS)
 -  **ANCIENT WOODLAND (W15m BUFFER ZONE)**
(AREA CLASSIFIED AS AN ANCIENT WOODLAND)
 -  **PRIORITY HABITAT**
(CONSERVED AREA OF PRIORITY HABITAT)
 -  **TREE PRESERVATION ORDER**
(AREA COVERED BY A TREE PRESERVATION ORDER (TPO))

ISSUE/REVISION

P01	22.01.25	FIRST ISSUE
I/R	DATE	DESCRIPTION

DRAWING STATUS

ISSUE

PROJECT NUMBER

60610807

SHEET TITLE

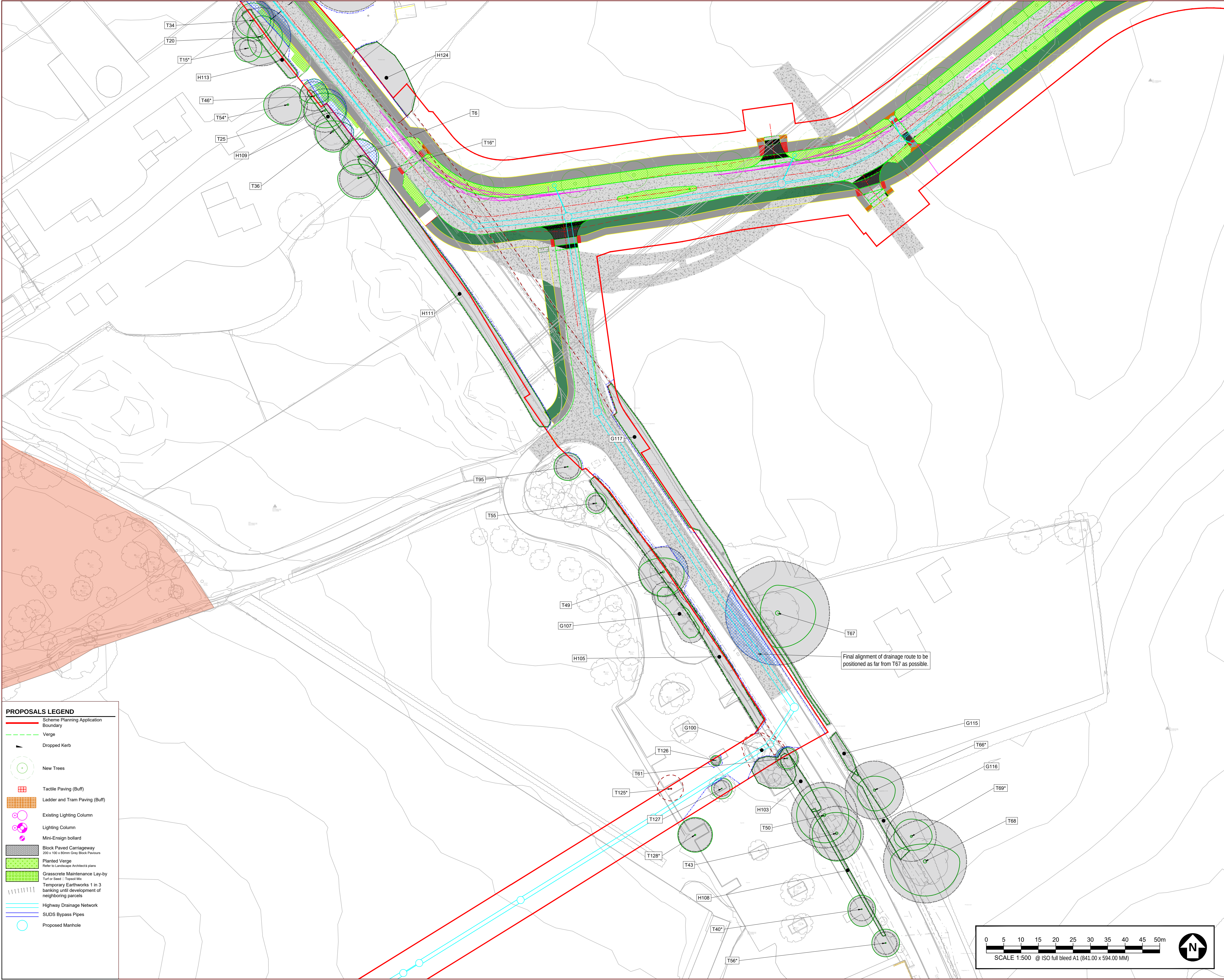
TREE PROTECTION PLAN
 (SHEET 6)

SHEET NUMBER

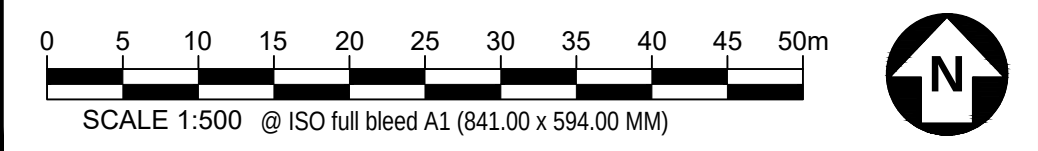
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REV.

P01



- PROPOSALS LEGEND**
- Scheme Planning Application Boundary
 - Verge
 - Dropped Kerb
 - New Trees
 - Tactile Paving (Buff)
 - Ladder and Tram Paving (Buff)
 - Existing Lighting Column
 - Lighting Column
 - Mini-Ensign bollard
 - Block Paved Carriageway
200 x 100 x 80mm Grey Block Pavement
 - Planted Verge
Refer to Landscape Architect's plans
 - Grasscrete Maintenance Lay-by
Turf or Steel - Topsoil Mix
 - Temporary Earthworks 1 in 3
banking until development of
neighboring parcels
 - Highway Drainage Network
 - SUDS Bypass Pipes
 - Proposed Manhole



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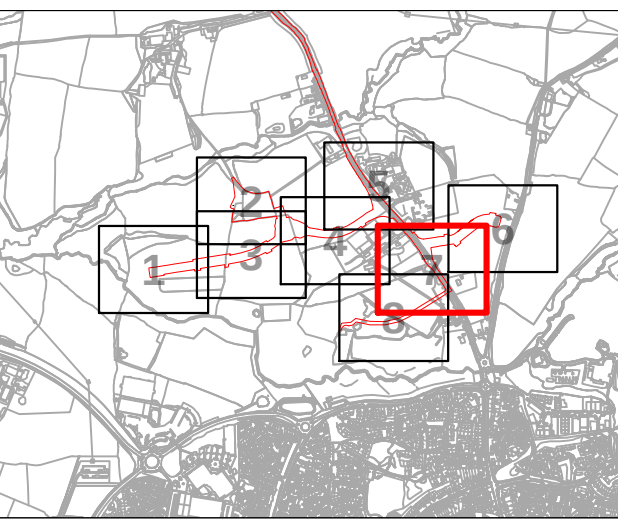
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20241219_60610807-ACM-CS-XX-M2-HW-0001.dwg
PROPOSED DRAINAGE 5.6.dwg
PROPOSED DRAINAGE 4.8.dwg

KEY PLAN



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NO	DATE	DESCRIPTION
P01	22.01.25	FIRST ISSUE
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DRAWING STATUS

ISSUE

PROJECT NUMBER

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SHEET TITLE

TREE PROTECTION PLAN
(SHEET 7)

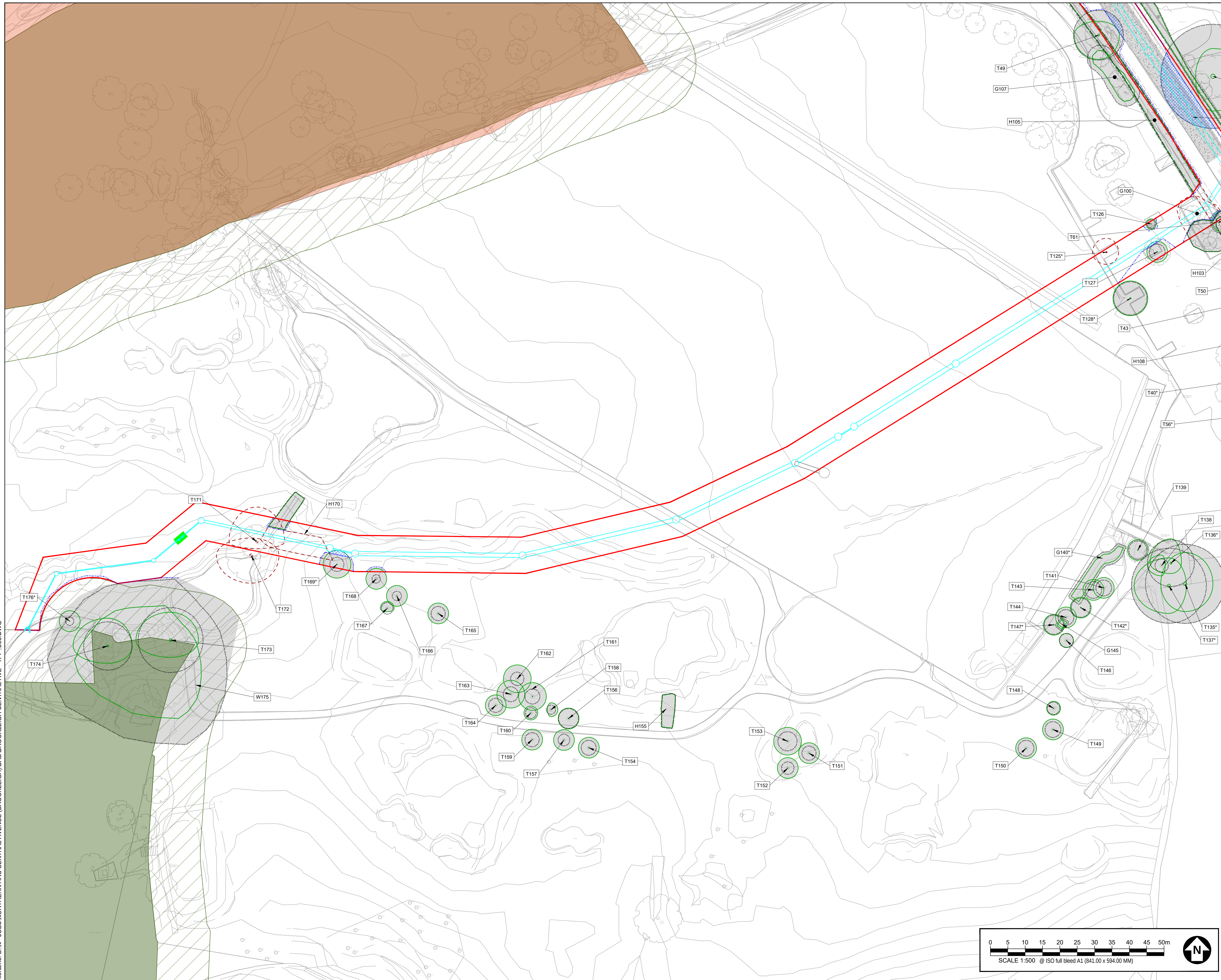
SHEET NUMBER

60610807-ACM-XX-XX-AB-TPP-07

REV.

P01

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Appendix E Outline Tree Protection Measures

E.1 Outline Tree Protection Measures

The default position as set out by BS5837:2012 is that retained trees must be protected from construction operations with the erection of robust protective fencing positioned on the outer edge of the RPA or crown spread (whichever is greatest). All site operations will be restricted to the area outside of tree protection fencing and this area will form a Construction Exclusion Zone (CEZ) unless agreed otherwise. Protection measures will be installed as set out in the Tree Protection Plan included as Appendix D of this report.

The area inside the fence and any additional tree protection measures will be sacrosanct and must not be removed or altered without the prior approval of the MSDC Tree Officer. Any damage to tree protection measures must be reported immediately.

Fencing shall be constructed with robust vertical and horizontal scaffold framework with weldmesh panels firmly attached as per BS 5837:2012 Figure 7 (included below). Vertical support poles and bracing poles must be located with care to avoid underground utility services and will be sited to avoid the structural roots of retained trees.

Alternative equivalent robust and immovable fencing specification including site hoarding will also be appropriate.

Suitable all weather signage will be fixed to fencing to notify site staff and visitors of the construction exclusion zone and its purpose (example included as Appendix F).

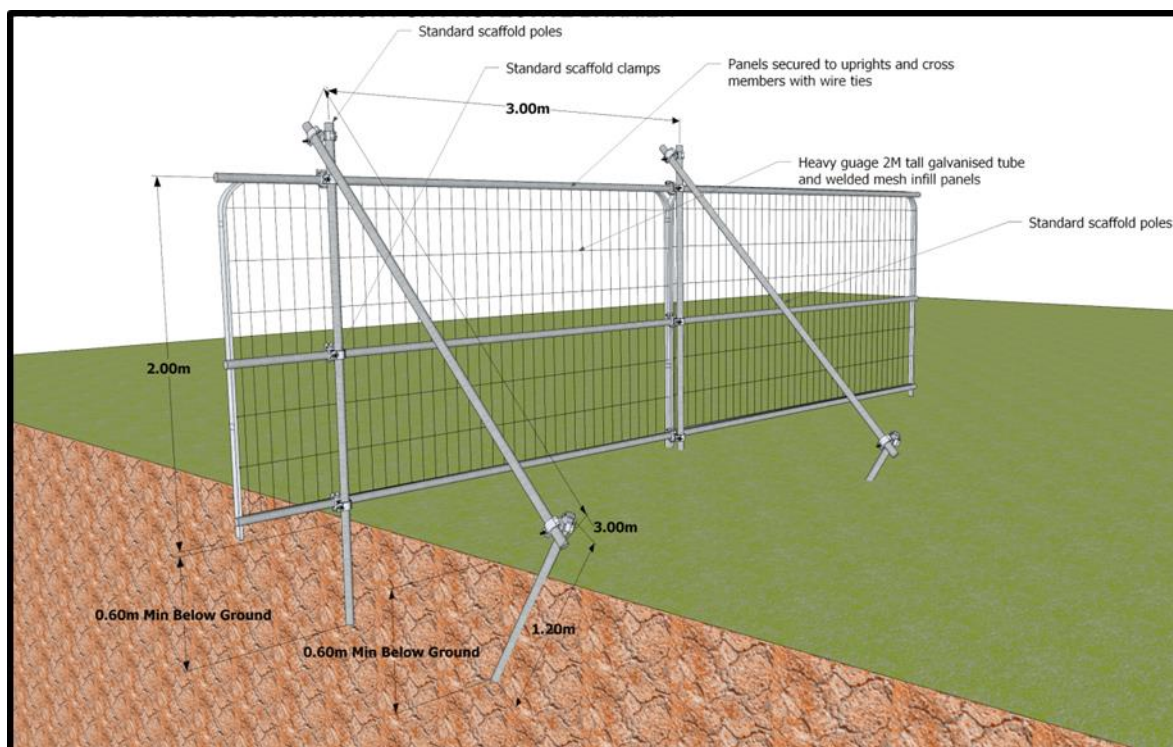


Figure 8 Default specification for protective barrier

When entering and exiting the Site the fencing contractor must avoid the production of ruts on the unprotected surface of the ground.

Protective fencing and ground protection shall stay in place until all development operations have been completed and the prior consent of the MSDC Tree Officer and/or an arboriculturist has been obtained.

E.2 Ground Protection

Should access be unavoidable within the RPA of a retained tree, fit for purpose ground protection must be in place which is sufficient to protect the structure of the soil from damage based on the heaviest anticipated load.

As set out in section 6.2.3.3 of BS5837:2012 the following ground protection measures will be appropriate:

- Suitable ground protection for pedestrian only access will comprise a single thickness of scaffold boards set on a compressible layer of 100mm of woodchip on a geotextile separation layer.
- Pedestrian operated plant up to two tonnes in weight would require the use of a proprietary ground protection system (such as Ground Guards or Eve Trakway or equivalent) set on a minimum depth of 150mm woodchip or sharp sand.
- Heavier loads will require ground protection to an engineering specification in conjunction with arboricultural advice.

As a guide the threshold beyond which root development is significantly affected is a bulk density ranging from 1.4g per cm³ for clay soils, to 1.75g per cm³ for sandy soils.

Tree protective measures shall stay in place until all construction operations are completed and removal is agreed with the Site arboriculturist and/or the MSDC Tree Officer as appropriate.

E.3 General guidance for the management of exposed roots

Excavation must only take place within the RPA of a retained tree with the prior agreement of an arboriculturist and the MSDC Tree Officer. All excavation must be undertaken using hand tools or compressed air (such as an air spade).

The following general principles will apply:

- Individual or small groups of roots less than 25mm in diameter will be retained where possible but can be severed with a sharp tool such as secateurs or pruning saws to leave a clean cut end (ideally 100mm back from the face of the excavation to account for future regrowth) where they pose an obstruction.
- Where roots are encountered which are larger than 25mm in diameter or where significant groups of smaller roots are found, the advice of an arboriculturist must be sought to decide an appropriate course of action (following consultation with the Local Authority Tree Officer where appropriate).
- Roots must only be exposed for the minimum period possible. In the interim period any exposed roots must be completely covered with dampened hessian sacking (which may require ongoing re wetting) to avoid drying out and exposure to light (which can result in the death of roots). Backfill for excavations should utilise the parent material and must not be significantly compacted.

E.4 Storage, use and mixing of materials

The use, mixing and washing of materials can lead to run off or inadvertent spillage into tree root zones. Many substances often used on construction sites can be toxic to tree roots (such as concrete, fuels, salts, builders sand and herbicides), can result in the death of tree roots and beneficial soil organisms; and have a significant impact on the future health and appearance of trees.

The storage of materials can result in an effective raised soil level. This buries tree roots at depths where air and water are less available and can lead to the decline or death of the tree.

For these reasons the storage of materials and any washing, mixing or refuelling must take place in agreed allocated areas at least 5m from the edge of the RPA of retained trees.

Any slope effect must be taken into account and where there is a potential for run off, heavy duty polythene sheeting and sandbags must be in place as bunding to prevent toxic materials reaching RPAs.

Appendix F Tree Protection Signage (Example)

