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Brian Parker
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10 Orient Close
St Albans
Herts
AL1 1AJ

25th April 2024

Dear Brian,

Re: Arboricultural Assessment – Proposed Footpath along Lye Lane, Brickett Wood, Herts.

I have prepared an Arboricultural Method Statement (AMS) in relation to a proposal to install a footpath along Lye Lane to link a proposed development at Brickett Lodge - to the north of the M25 - down to its junction with West Riding. There is currently no footpath along this stretch of the road. The footpath will run from Brickett Lodge along the eastern side of Lye Lane which in part will be adjacent to ancient woodland (Blackgreen Wood). Where an existing public footpath crosses Lye Lane the proposed footpath will cross over to the western side of the lane and run adjacent to a Recreation Ground until it reaches West Riding. The footpath will be to a standard width of 2.0 m except where there are 'pinch points' arising from localised constraints where it may reduce to 1.2 m width. These constraints include the presence of specific trees. The footpath will extend over the existing ditch and this will necessitate the culverting of part of the existing ditch

The general arrangement along the lane (see Photographs A and B) is of the road surface of the lane with an adjacent grass verge. The grass verge has a variable width. Additionally, a ditch runs along the majority of the lane and is located between the grass verge and Blackgreen Wood or the Recreation Ground. The ditch appears not to have been 'cleared out' for several years and includes areas that are blocked or partly blocked by vegetation, debris and litter. The trees are set back from the grass verge and/or are growing beyond the ditch within Blackgreen Wood and the Recreation Ground respectively. They do not form a continuous line but are scattered along the length of the lane. Some are growing to the face of the ditch and some are set back at a significant distance from the verge or ditch. They are in a range of forms and conditions and contain developing trees and mature, established trees. Overall, the trees help add to the character of the lane and together are an important feature in the area. The trees within Blackgreen Wood are covered by Tree Preservation Order (TPO) 1665 'Mixed deciduous and broadleaved species'. The site is not located within a Conservation Area.

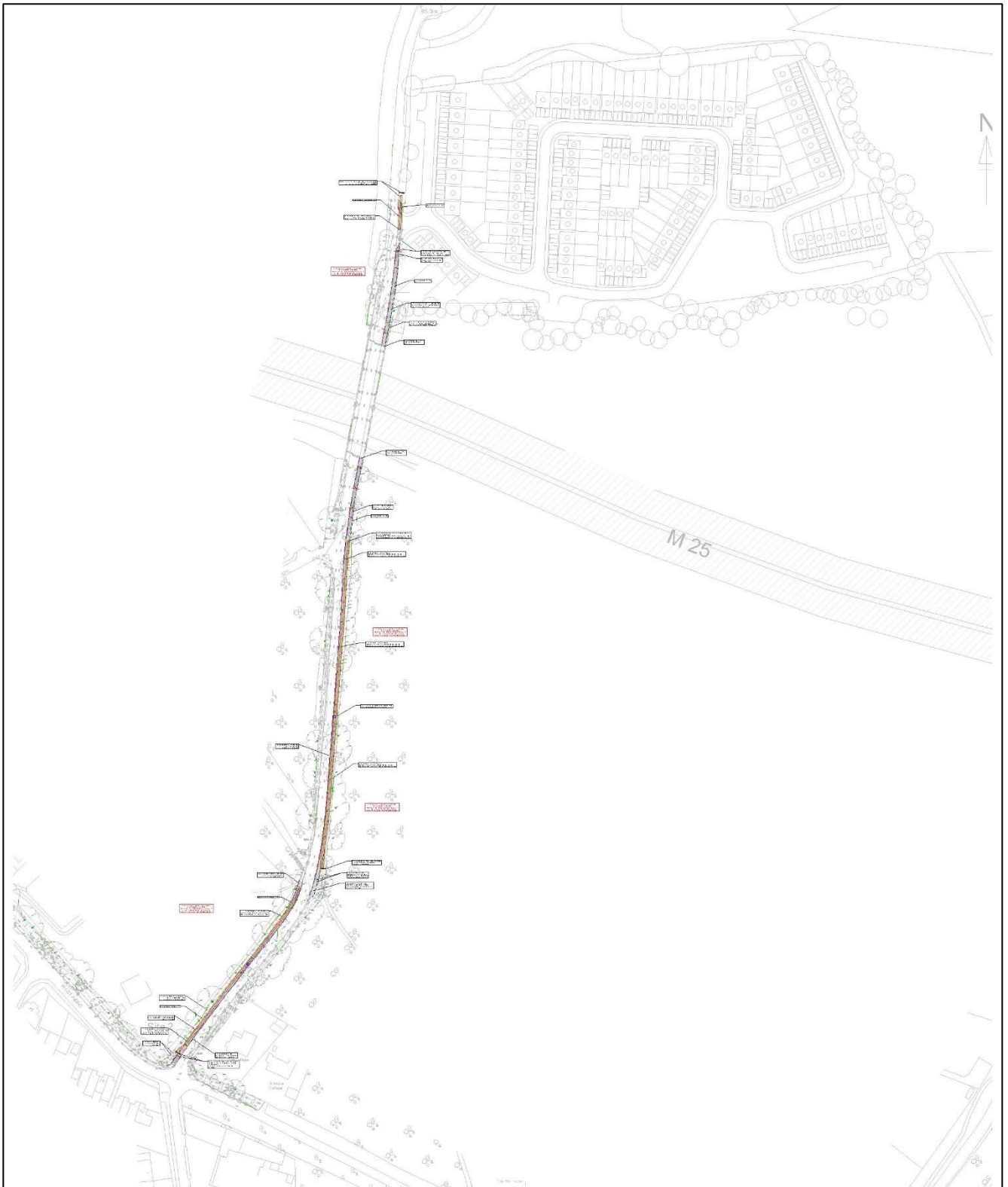
A full survey of the trees was not undertaken but a walking, visual survey was undertaken in March 2024 in association with the projects Highways and Drainage Consultants (Conisbee Ltd). The parameters and constraints of the proposals were discussed and agreed on site. They form the specification for the construction of the footpath and culvert which is used in the AMS. The assessment in relation to trees follows guidance set out in BS 5837:2012 'Trees in relation to design, demolition and construction. Recommendations' (BS 5837:2012). This is the British Standard that is used in assessing trees in relation to proposed site development.

If you should require any further information in relation to the proposed footpath and culvert please do not hesitate to contact me.

Yours sincerely,

David Clarke

David Clarke



Location Plan – showing the extent of the proposed footpath along Lye Lane.
From Brickett Lodge (to the north) to the junction with West Riding to the south.



Photograph A – showing the general arrangement along Lye Lane.



Photograph B – Looking south along Lye Lane. There is no ditch at this point.

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Arboricultural Method Statement

1.0 Introduction

- 1.1 This Arboricultural Method Statement (AMS) refers to the protection of trees in relation to the installation of a footpath and culvert along Lye Lane from Bricket Lodge to the north of the M25 down to its junction with West Riding. The footpath will partly be built within the existing grass verge and will partly include the existing ditch. Where the footpath covers the ditch then this will be cleared out and culverted. Where surfacing is within the RPAs of trees then a 'no dig' surface will be used. The proposed specifications within the AMS are proposed to prioritise the protection and retention of trees and to have a limited and insignificant impact on trees.
- 1.2 This is a general specification that assesses the overall tree stock and sets out the principles for the installation of a footpath and culvert. A standard construction specification(s) has been designed in consultation with Drainage and Highway Consultants but these may need to be modified (where required) to be tailored to the protection of trees on site. These measures will prioritise the protection and retention of the existing tree stock. A full Arboricultural Survey has not been undertaken but a walking, visual survey has established the constraints imposed by the trees. Tree protection measures are proposed. It is equally important to ensure the protection of trees both above and below ground. Guidance is provided in BS 5837:2012 'Trees in relation to design, demolition and construction. Recommendations' (BS 5837:2012) as to the protection of trees, before, during and after development.
- 1.3 There is a need to protect trees and provide an Arboricultural Method Statement where proposals could impinge, or impact on the Root Protection Areas (RPAs) of retained trees. Root Protection Areas (RPAs) are a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. As set out below some of the RPAs of trees within this assessment are asymmetrical due to constraints adjacent to the trees. These RPAs are defined as Construction Exclusion Zones and will be protected during the proposed installation of the footpath and culvert.
- 1.4 Proposals may impinge on RPAs but these should be minimal and construction techniques such as specialized construction techniques should be considered to reduce the impact of development. The proposals will relate specifically to the site conditions and each individual tree and its category within the BS 5837 grading system.
- 1.5 Relevant methodologies and specifications in relation to the protection and retention of retained trees are set out below and include:
 - Assessment of distribution of roots of trees;
 - Phasing of the Works;

- Site construction access;
- Pre-development tree works;
- Tree protection fencing;
- Construction of Footpath and Culvert
- `No Dig' Surfacing
- the space needed for construction works including storing materials and plant and the siting of temporary buildings (site organization);
- Arboricultural Supervision.

2.0 Assessment of Distribution of Roots of Trees

2.1 As set out above the RPAs have been assessed as part of the visual Arboricultural Survey. The shape of the RPA and its exact location will depend upon arboricultural considerations but the area will normally be represented on a plan as a circle. Pre-existing site conditions or other factors may indicate that rooting has occurred asymmetrically. Modifications to the shape of the RPA within this report reflect a soundly based arboricultural assessment of likely root distribution. The RPA may change its shape but not reduce its area whilst still providing adequate protection for the root system.

2.2 With regard to trees within this report there are potential restrictions on their root activity. This relates to:

- the existing road surface of Lye Lane. The presence of the surface of Lye Lane will reduce the availability of resources (such as water) to potential root activity and reduce gaseous exchange between the soils and the atmosphere. Factors such as soil compaction during the construction of the surface and its physical presence (including sub-base) would also influence and restrict rooting activity in these areas.
- ditches where they are located in close proximity to trees. The level changes and voids associated with the ditches will restrict and contain root activity.
- the waterlogged conditions within the ditch and the soil profiles below the ditch. This results in poor gas exchange thus depleting the roots of oxygen, which will lead to anaerobic conditions and eventually death.

It is assessed that there will be no root activity beneath the surface or within the ditch though root activity may have occurred in the face of the ditch bank around the trees. Root activity will have preferentially taken place where conditions for root growth are more favourable – the soft landscaped areas to the east of the trees. Asymmetrical RPAs have therefore been considered for these trees as part of the specification of the proposals.

3.0 Phasing of the Works

3.1 The works are proposed to be undertaken in the following phases:

3.2 • Pre-Development Works

Confirm temporary site structures, contractors parking and storage areas can be accommodated outside the Construction Exclusion Zones prior to start of the site development. It is currently assumed that these will take place within a fenced or defined compound on the tarmac surface of Lye Lane. It is assumed that the works will progress in phases along the lane and the compound may therefore also move along the lane to reflect this

- Confirm operation of the development site with relevant contractors and thereby ensure that proposed tree protection measures are suitable and 'fit for purpose'. If required modify proposed measures whilst still ensuring the protection of trees.
- Undertake pre-development tree works: Crown lifting of trees. Remove any vegetation not being retained as part of the installation of the footpath and culvert.
- Construction Phase
Confirm Tree Protection Fencing is in place and 'fit for purpose' prior to the start of the Construction Phase.
- Confirm temporary site structures - such as site huts and latrines – contractors parking and storage areas are outside the Construction Exclusion Zones.
- Commence Construction Phase. Undertake Arboricultural Supervision as set out in the AMS.
- Undertake regular monitoring of the Tree Protection Measures to ensure they remain fit for the purpose of preventing unnecessary damage to trees. Should any unforeseen damage occur then this should be reported to the Local Planning Authority. Remedial tree surgery should be undertaken at the earliest opportunity as approved by a competent and qualified Arboriculturist.
- Completion of Construction Phase and removal of any temporary site structures and stored materials.
- Removal of Tree Protection Fencing and any temporary Ground Protection Measures.
- It is advisable to carry out a further tree survey to identify any remedial trees surgery that may be required following the completion of the development. This will include any changes in the condition of the trees that may have occurred from the original survey.

4.0 Site Construction Access

4.1 During the site development access will from the existing surface of Lye Lane. This is outside the RPAs of retained trees. Therefore, Ground Protection Measures are not required as part of this element of the development.

5.0 Pre-development tree works

- 5.1 Where required tree canopies will be crown lifted to 3.0 m above the surface of the footpath. This will allow for the use of the footpath without having a negative impact on its users.
- 5.2 Pruning of these trees will involve the removal of secondary branches or branch shortening rather than removal of branches back to the main stem. The amount of material to be removed and the diameter(s) of the pruning cut(s) will be the minimum required for the purpose. If a stem or branch is to be shortened, the cut will be made distal to a union or group of unions where one or more healthy lateral branches bear enough foliage to sustain the parent stem or branch. If there is only one such union near the intended cut, the lateral branch will have as large a diameter as possible (i.e. at least one-third and preferably more than half that of the removed portion). Final pruning cuts should be made to avoid injury of the wood and bark of the parent stem or branch above the cut. This will help avoid colonization by decay organisms and pathogens. If a branch collar is visible, the final cut will be just outside it. The timing of the work, and its impact on habitat and wildlife, should be determined and form part of the proposed work schedule.
- 5.3 All proposed pruning works would follow guidance set out in the relevant British Standard (BS 3998:2010 - 'Tree work - Recommendations') and will be carried out by a qualified tree surgeon/arboricultural contractor to ensure that the health, amenity and viability of the trees is maintained. All Arboricultural works should also comply with relevant bio-security measures – such as those set out in the Arboricultural Associations position statement 'Biosecurity in Arboriculture and Urban Forestry'.

6.0 Tree Protection Fencing

- 6.1 Root Protection Areas (RPAs) are the minimum areas (in m²) which should be left undisturbed around each retained tree as Construction Exclusion Zones. These areas have been assessed as part of the visual Arboricultural Survey and asymmetrical RPAs will occur where trees are close to ditches or the surface of Lye Lane. These RPAs will be enforced by the use of robust protective fencing as outlined in BS 5837: 2012. The fencing will be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the trees.
- 6.2 In this instance it is proposed to use the following method:
- 2.0 m high metal mesh panels within the site. Examples would include Heras fencing (See Photograph C below). The panels will be joined together using a minimum of two anti-tamper couplers to prevent access except for maintenance operations. The distance between the fence couplers will be at least 1.0 m and they will be uniform throughout the fence. Where space does not allow for a full panel to be erected then panels may overlap each other to fill a gap. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to

rubber blocks. Where required the site the panels will be staked and secured in place so that they do not move during the development process. Dust' netting may be fixed to the fencing to prevent airborne material generated during the site development from coating the leaves of trunks of trees.

- 6.3 The exact composition of the soil is unknown. Clay soil, for instance, compacts very easily when wet, so it is essential that fenced areas remain undisturbed before and during construction to prevent root asphyxiation.



Photograph C – Example of Heras Tree Protective Fencing

- 6.4 Laminated site warning signs will be attached to the fencing. These signs will state:

‘CONSTRUCTION EXCLUSION ZONE – NO ACCESS

No storage of materials or use of machinery should take place within this area. These fences should remain intact unless under instruction from the site foreman following consultation with an Arborist.’

- 6.5 Tree Protection Fencing will be erected to protect trees as part of the section of footpath and culvert that is being constructed. It will be erected as follows:

- ‘No Dig’ Footpath – fencing will be erected to the edge of the proposed footpath.
- Footpath and Culvert – fencing will be erected to the edge of the ditch.

All access to install the footpath and culvert will take place from the surface of Lye Lane or from the previously installed section of footpath. Fencing will not be moved until that part of the development is complete.

7.0 Construction of Footpath and Culvert

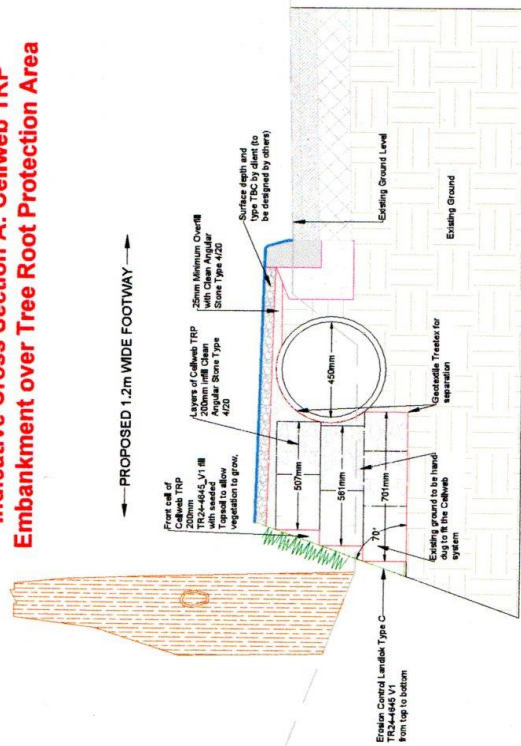
7.1 The proposed footpath will – in part - take place in the area of existing ditches which run along Lye Lane. As set out above the presence of the ditch and the anaerobic conditions within and below the ditch will have prevented or contained root activity of adjacent trees. The proposed footpath and culvert will be introduced within the area where there is no root activity. The bank of the ditch nearest the trees will not form part of the proposed installation as roots may be present here. This assessed distribution of roots has guided the proposed design and specification of the footpath/culvert – see below.

7.2 It is assumed that the footpath will be installed in sections to ensure the control of the works and to limit the potential impact on users of Lye Lane. Tree Protection Fencing will be installed along the edge of the ditch nearest to trees prior to the start of each section of the works. All access to the area will take place from the surface of Lye Lane or from the existing installed footpath. Where required a dedicated banksman will direct and control works which occur within the bottom of the ditch as these could affect the bank where tree roots may be present. A standard specification is proposed but with several design alternatives – especially in relation to the retention of the footpath - depending on:

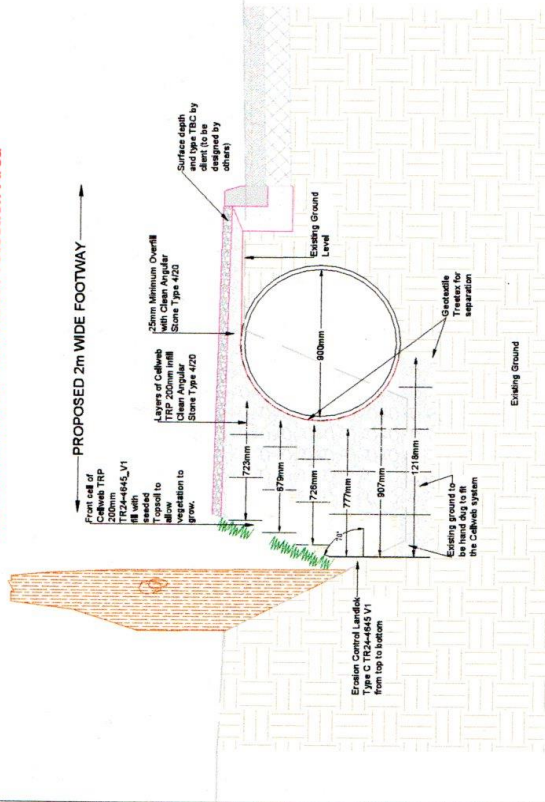
- the width of the footpath;
- localised topography;
- the profile of the ditch and
- the presence and location of trees.

These will be confirmed as part of site investigations prior to the start of each section of the works. The specification are included below. The surface will be formed of a permeable surface such as (compacted) gravel which will allow water percolation through the surface and underlying sub-base. All backfilling of the existing ditch will be with a permeable material.

**Indicative Cross Section A: Cellweb TRP
Embankment over Tree Root Protection Area**



**Indicative Cross Section B: Cellweb TRP
Embankment over Tree Root Protection Area**



DISCLAIMER:

Any calculations produced by us for you are provided for your assistance only and do not constitute any warranty as to fitness for purpose of any of our products in respect of any specific construction. It is your responsibility to determine the suitability of our products within a particular construction. Our calculations are based entirely on the information provided by you and/or any assumptions made by us in good faith. We shall not be liable to you, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, for any loss arising in consequence of incorrect, inaccurate or incomplete information provided to us by you or arising as a consequence of reasonable assumptions made by us in good faith. Any advice (including any calculations) that we give to you in any form is provided solely for your own use and we shall not be liable to any third party, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, for any loss arising as a result of or in connection with such advice.

Notes:-

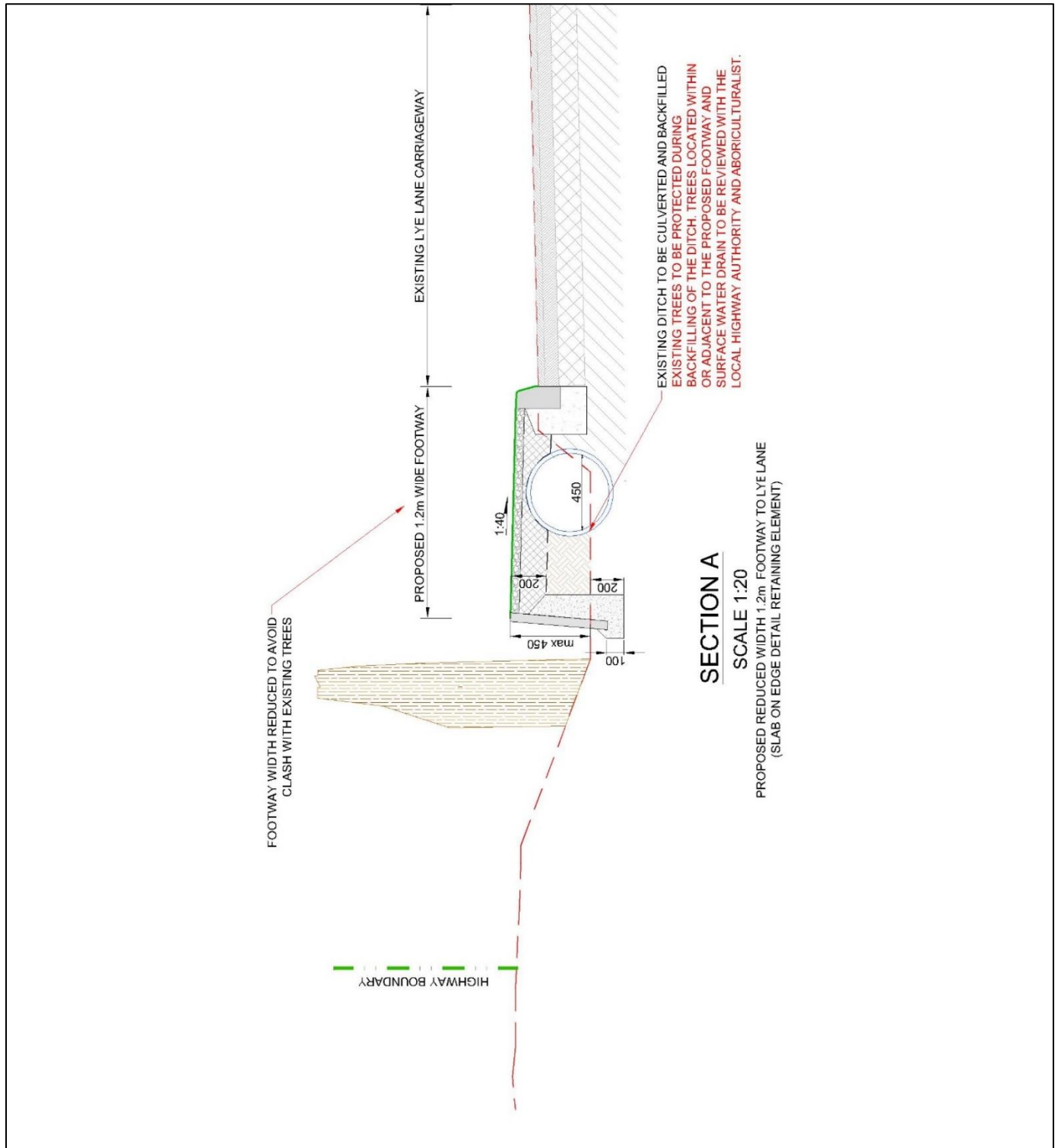
Soil Properties: All the properties of the soils (reinforced soil, retained soil and foundation soil) have been extracted from the information provided by the client and the parameters have been assumed in order to do the calculations. It is necessary to check the properties with the actual soils at the project site, so as to refine the calculations. Use of On-site won material as engineering fill: We recommend to check the properties and parameters of the on-site won material at the moment of installation and to perform new calculations if required. If the material is weather susceptible and prone to rapid deterioration we recommend to do more tests to determine if the material is suitable or not to use as engineering fill.

Fill material: Granular material. Please refer to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 - IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

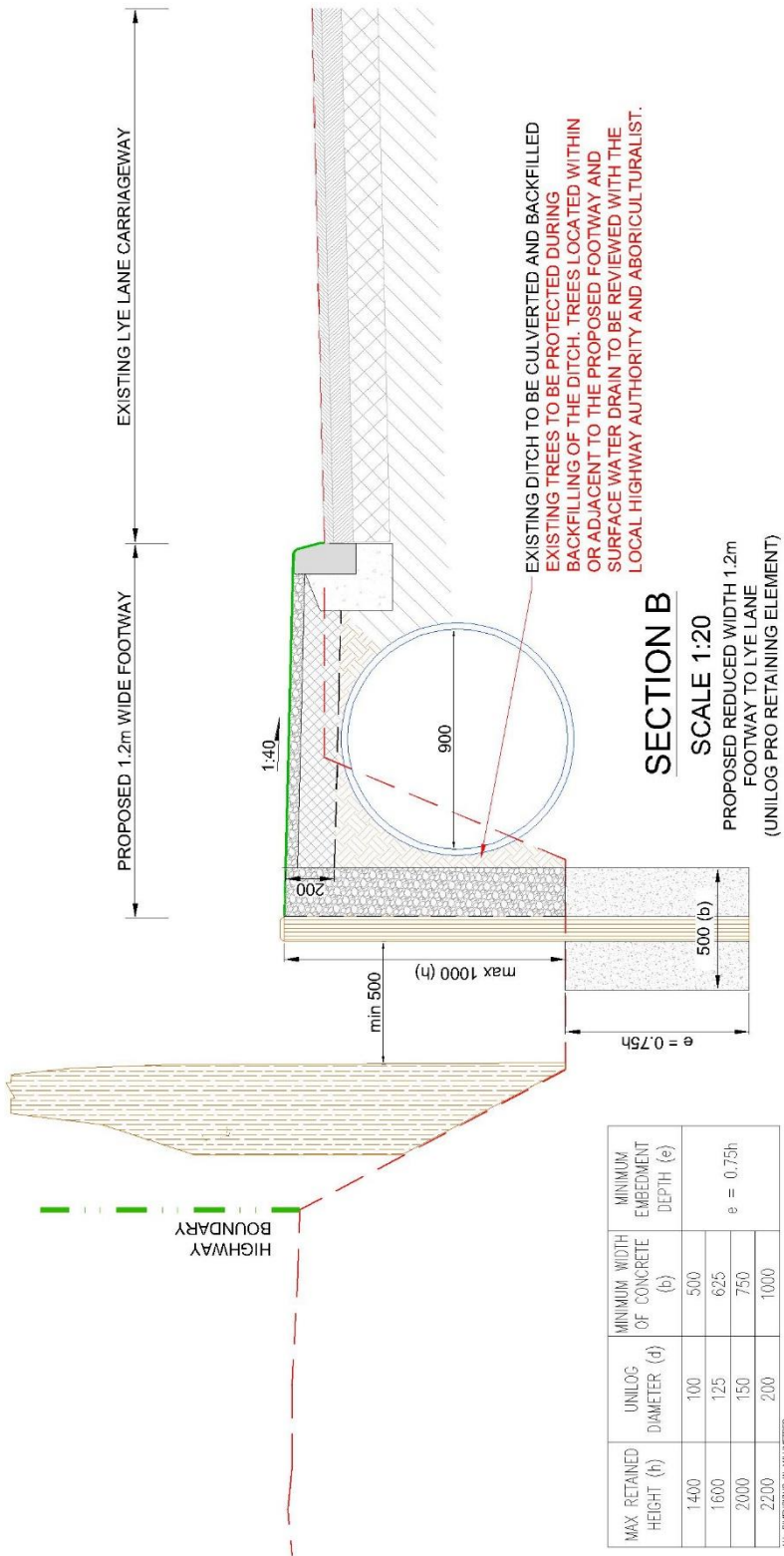
Indicative Drawing NOT FOR CONSTRUCTION

 Geosynthetics Ltd Planning Road, Harrogate Industrial Estate, ST ALBANS Tel: 01453 871138 Fax: 01453 871140 www.geosyn.co.uk	Project: LYE LANE, BRICKET WOOD ST ALBANS	Description: Indicative Cross Sections: Cellweb TRP Embankment over Tree Root Protection Area	Drawn By: MT Ref: TR24-645 RUR_CEL	Scale: NTS Version: V1	Checked By: PB
				Date: 18 April 2024 Sheet: 1/1	

Indicative Cross-Section using Cell Web



Section of proposed Footpath and Culvert - using vertical paving slab as a retention to the footpath



Section of proposed Footpath and Culvert - using Unilog Pro as a retention to the footpath

8.0 Construction of Footpath: 'No Dig' Surfacing

- 8.1 The majority of the works will involve works in relation to the existing ditch (see above). However a section will take place within a grass verge adjacent to trees. These trees form part of the Ancient Woodland (Blackgreen Wood). It is therefore proposed to use a specialised 'no dig' surface to protect the roots of these trees. This has been discussed and agreed with project Highway Consultants.
- 8.2 A permeable surface set on a suitable free draining sub-base will be used. The structure of the hard surface will be designed to avoid localised compaction, by evenly distributing the carried weight of any pedestrians using these footpaths.
- 8.3 The surfaces would be constructed from outside the RPAs using the laid surfacing for support to prevent damage to RPAs during the works. The 'no dig' approach may continue outside the RPAs of retained trees or revert to a standard construction. This will, in part, depend on levels within the area and the final design of the surfacing. Care will be taken during the works to prevent compaction of soils and therefore to ensure that roots are not damaged.
- 8.4 For the footpath a Terram 1000 geotextile membrane and a 100mm deep Eroccl 25/10 Geocell containment grid with a gravel surface on top (to a total maximum depth of approximately 165 mm) would be a suitable solution but the final design will be confirmed as part of the information required for conditions for a Planning Approval. The surface will therefore have a limited impact upon retained trees.

9.0 Site Organisation including Storage of Materials and Plant

- 9.1 During the proposed construction works attention will be paid to the protection and well being of trees. The site will be organised in such a manner so as to minimise the effects of the construction work on trees. This will include defining and containing the development footprint with Tree Protection Fencing.
- 9.2 All materials and plant to be used during, or generated by, the Development Phase will be stored outside the enforced tree protection areas. The operation of the site will be undertaken within the constraints imposed by the protection of trees. Where necessary materials will be brought to site in small loads which are applicable to that phase of the works. This would help to minimise the development footprint within the site.
- 9.3 All toxic substances such as oils, bitumen's and residues from concrete mixing will be retained by effective catchment areas. No toxic material will be discharged within 10 m of a tree stem. No fires will be lit within 10 m of a tree stem.
- 9.4 All access onto and from the site will be via the Designated Access Route which is the surface of Lye Lane. All contractors parking, temporary latrines and any other temporary structures will be outside the Construction Exclusion Zones.

10.0 Arboricultural Supervision

10.1 All retained trees within this report will be protected by Tree Protection Fencing or Ground Protection Measures offered by the 'no dig' footpath. Most of the trees within this report will in effect be quarantined during the Construction Phases. Arboricultural supervision and monitoring of the proposals will therefore predominately relate to ensuring that:

- protective fencing and ground protection measures are properly installed and remains in place and fit for purpose.
- Specific phases of the works where the position of the existing trees in relation to the proposals requires additional monitoring, discussions on site or adaptations of the specification. This will take place ensuring there is no greater impact on trees than those arising from the standard proposed specification.

10.2 Identification of individual responsibilities and key personnel

The Arboricultural Consultant will monitor all arboricultural works and schedule visits to confirm that Tree Protection Measures remain in place. This will be on a basis appropriate with the phase of work being undertaken as set out below. Additionally, the Site Foreman will have a responsibility to ensure that Tree Protective Fencing is retained in place and in a good condition. All contractors and others working on site will be aware of the Tree Protection Measures.

10.3 Induction and personnel awareness of arboricultural matters

Prior to the commencement of the proposed works the Site Foreman and other contractors will be inducted and made aware of the Tree Protection Measures, the reason they are being used and any penalties arising from a breach of the Tree Protection Measures.

10.4 Supervision schedule, indicating frequency and methods of site visiting/record keeping

An initial site visit will take place prior to the development commencing to cover site set up and confirm that Tree Protection Measures are in place or monitor their installation. Subsequently bi-weekly visits will be undertaken until the end of the project. Additional visits may be required depending on matters arising on site or in response to a particular work stage that could affect the trees. The frequency of site visits will be reviewed following each site visit and amended accordingly.

10.5 A report will be made of each site visit and will include any matters arising and action points in relation to the protection of trees. Additionally, the Site Foreman will also keep records of matters arising in connection with trees. A record of site visits will be maintained for inspection on site. All variations and incidents will be reported to the arboricultural consultant and the site owner either verbally and/or in writing. Where relevant these will be made available for the Local Authority Tree Officer.

10.6 Procedures for dealing with variations and incidents

All variations to the Tree Protection Measures will be agreed with the Arboricultural Consultant and sent to the Local Planning Authority before being enacted. All incidents will be noted by the Site Foreman within their report. The Arboricultural Consultant and Local Planning Authority will be made aware of each incident, their impact on the trees and any remedial action required to correct any damage.

11.0 Conclusion

- 11.1 This application is for installation of a footpath along Lye Lane from Brickett Lodge to the north of the M25 down to its junction with West Riding. Due to the presence of an existing ditch part of the works will require the culverting of this ditch.
- 11.2 Of the trees within this report none are currently proposed to be removed as part of this planning application.
- 11.3 A standard specification has been prepared for the installation of the footpath and culvert. This will ensure that no excavation takes place in areas where tree roots may be located. The specification may be modified or adapted where this is justified by site specific issues whilst adhering to the principles of protecting trees. Where necessary works will be directed by a dedicated banksman and/or supervised by an Arboriculturist. These will ensure that the proposals will be completed without having any undue impact on retained trees.
- 11.4 Retained trees will be protected during the site development. This report sets out how retained trees are an important part of the development of the site and how protection and retention of trees will be achieved. The effect on trees from the proposals will be minimal given the proposed site layout and conditions and providing that the Arboricultural Method Statement is implemented.
- 11.5 The development is therefore acceptable in arboricultural terms and should receive planning consent.