



TECHNICAL NOTE

DATE:	06 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent, Canterbury Campus Access Road Alignment		
PROJECT:	70080896	AUTHOR:	Sarah Thomas
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

INTRODUCTION

WSP has been appointed by the University of Kent (UoK) to provide transport and environmental advice for the development of proposals on land at their Canterbury Campus that has been identified as being surplus to requirement.

Disposal Sites BCD lie to the immediate north of the University Campus with vehicular access currently provided from Tyler Hill Road, a rural single carriageway road that connects Blean and the A290 in the west with Tyler Hill and Canterbury Hill in the east.

This Technical Note provides a summary of the access strategy for Sites BCD and the work undertaken to define the alignment of the access road proposed within the concept masterplan.

ACCESS STRATEGY

When considering vehicular access to Sites BCD the starting point was to investigate where the current sites connect with the public highway. The only existing point of connection to the public highway is Tyler Hill Road. Tyler Hill Road is a single carriageway road that connects the A290 Whitstable Road in the west with the village of Tyler Hill and Hackington Road in the east. In the vicinity of Sites BCD Tyler Hill Road is subject to national speed limit (60mph), varies in width between approximately 4m and 6m, is subject to a 7.5t weight restriction and in places features limited forward visibility.

In its current form Tyler Hill Road is not currently considered suitable to accommodate a significant increase in volumes of traffic. Due to the University's limited frontage onto Tyler Hill Road, constrained highway boundary extents and multiple land ownerships fronting the highway, the University has limited potential within its own land ownership to improve the existing Tyler Hill Road.

Consideration was given to whether access could be achieved through third party land acquisition. However, the multiple land ownerships restrict the ability to achieve this at this early stage (although opportunities may arise in due course). In addition, significantly increasing traffic volumes on this road could result in unacceptable impacts on the neighbouring village of Tyler Hill and upon the two junctions at either end (A290 and Hackington Road) which have been highlighted by Kent County Council during initial discussions as a concern.

On the basis of the above, the access strategy for unlocking Sites BCD recommended developing a new north-south route through the University Campus achieving access onto Whitstable Road. To discourage increased usage of Tyler Hill Road it was recommended that the existing road was downgraded where it passed through University owned land and the highway incorporated into the masterplan where design measures could be incorporated to manage through traffic and limit access from the development out onto the retained sections of road. Further benefits would be the ability to re-prioritise Tyler Hill Road as a

TECHNICAL NOTE

sustainable transport link and improve crossing conditions for the Crab and Winkle Way. Further information on this access strategy is provided within the accompanying WSP Transport Strategy.

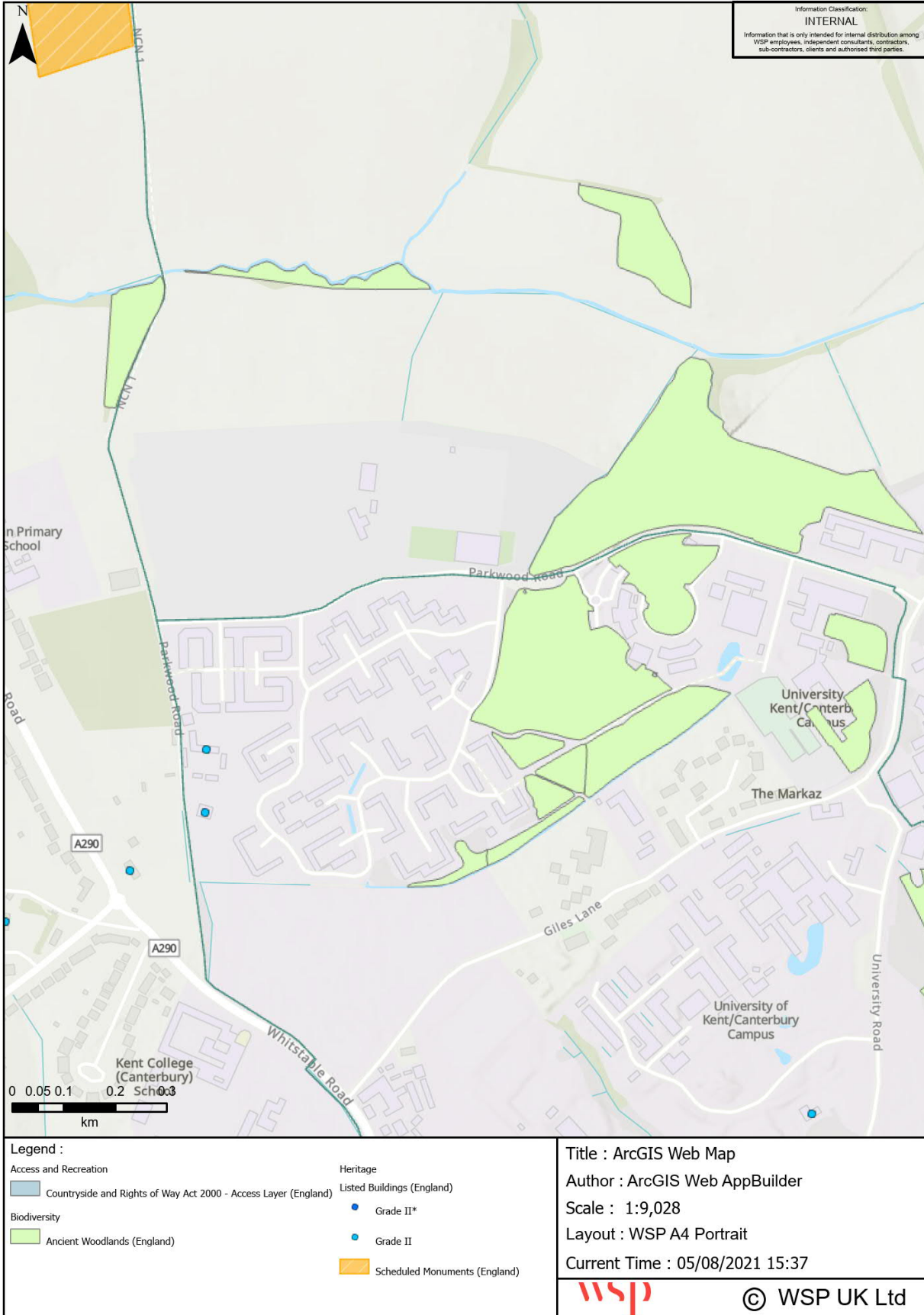
ACCESS ROAD CONSTRAINTS

Discussions with the UoK and outputs from the environmental constraints and opportunities analysis informed the constraints to provision of a new north-south access road through the University Campus. The key constraints identified and considered in the alignment options developed were as follows:

- The areas of ancient woodland identified in the south of Site B. Two parcels of ancient woodland were identified from information contained on the Magic Database and are shown in **Figure 1**;
- The Crab and Winkle Way which forms part of National Cycle Route 1;
- The watercourse that runs adjacent to the ancient woodland and would need to be either bridged or culverted to achieve access through Site B;
- The sports pitches on the University Campus which form part of the University of Kent Sports Centre;
- The various buildings and land uses on the University Campus to the south of Park Wood Road that might be impacted by provision of a new access road;
- The Oaks Nursery and adjacent car park;
- The playing fields to the south of The Oaks Nursery which are identified in the University Masterplan for car and coach parking; and
- The listed buildings of Hothe Court, Barn Adjoining Hothe Court and Blean House.

TECHNICAL NOTE

Figure 1 – Constraints Plan



ACCESS ROAD OPTIONS

Taking account of the constraints identified above a range of alignments were considered for the new access road (**Figure 2**) to determine the potential impacts these may have on the existing University Campus and other constraints identified as part of the environmental studies such as the ancient woodland and watercourse. These access road options are described in more detail below.

Figure 2 – Access Road Alignment Options



OPTION 1

The alignment seeks to utilise the Crab and Winkle Way through the southern part of the University Campus to Park Wood Road where a new junction would be formed. At this point the alignment would head to the east across the University Sports Pitches and into the southern part of Site B. The alignment would enable development parcels both to the west and east on the southern section of Site B before crossing the watercourse. Further north the alignment would cross Tyler Hill Road to enable access to Site D.

TECHNICAL NOTE

OPTION 2

The alignment seeks to avoid the Crab and Winkle Way through the University Campus by following the western boundary of the site and then heading across the playing fields to form a new junction with Park Wood Road. At this point the alignment would head to the east across the University Sports Pitches and into the southern part of Site B. The alignment would enable development parcels both to the west and east on the southern section of Site B before crossing the watercourse. Further north the alignment would cross Tyler Hill Road to enable access to Site D.

OPTION 3

The alignment seeks to follow the Crab and Winkle Way through the University Campus to Park Wood Road where a new junction would be formed. It then continues north on an alignment immediately to the east of the Crab and Winkle Way to minimise impacts on the University Sports Pitches before heading into the southern part of Site B. The alignment would then stay in the west of Site B, maintaining a buffer to the north-south aligned section of ancient woodland known as West Triangle Wood. The road then seeks to cross the east-west section of ancient woodland known as Long Thin Wood in the far west where the woodland is at its thinnest and at a point potentially within the buffer zones of the ancient woodland rather than impacting the ancient woodland itself. North of the watercourse the alignment ties back into that of Option 1 and 2 described above.

OPTION 4

This option is a variant of Option 1 which seeks to minimise impacts on Long Thin Wood by crossing the watercourse in the west at the approximate location of the Crab and Winkle way. North of the watercourse the alignment ties back into that of Option 1 and 2 described above.

JUNCTION WITH WHITSTABLE ROAD

The access road junction with Whitstable Road would take the form of a traffic signal junction. Proposals for a traffic signal junction were previously developed by Stantec (formerly PBA) as part of the University Masterplan. The proposals for the Whitstable Road junction as previously developed are shown in **Figure 3**.

TECHNICAL NOTE

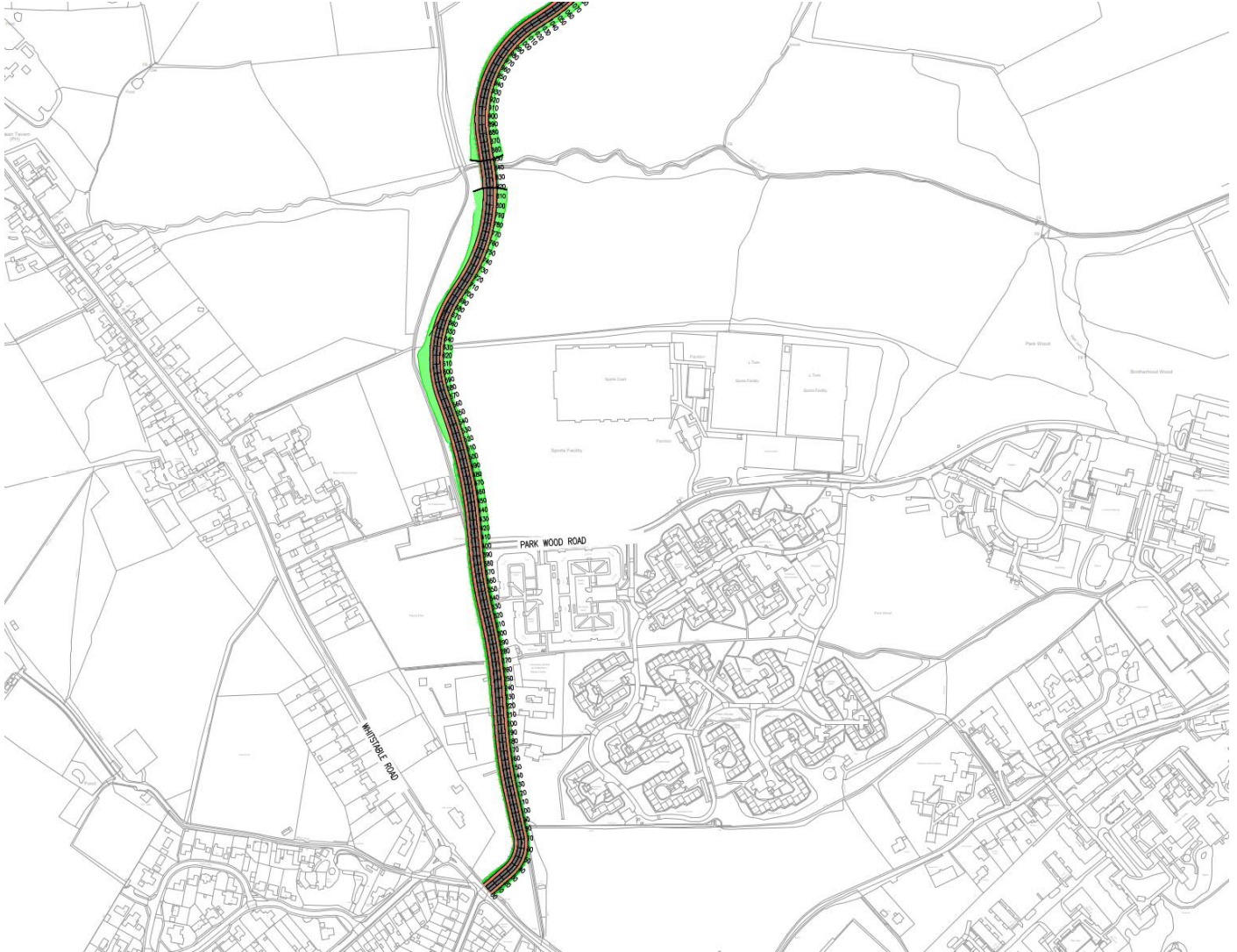
these were located throughout the band of woodland. The alignment of the road was therefore guided towards the narrowest part of the woodland, located close to where the Crab and Winkle Way passes through.

The preferred access road option selected for inclusion within the concept masterplan was Option 3. This alignment was selected for the following reasons:

- Minimised impacts on the University Campus including the Sports Pitches;
- Facilitated the University Masterplan by providing an access from Whitstable Road for provision of new car parks and amended bus routes;
- Minimised potential impacts on listed buildings when compared to other options explored;
- The road alignment, once consideration was given to likely earthworks could maintain a buffer to West Triangle Wood ancient woodland; and
- Through refinement of the design the road could potentially cross through the gap between the West Triangle Wood ancient woodland and the Long Thin Wood ancient woodland. To further minimise impacts in the vicinity of the ancient woodland a bridge could be used rather than a cheaper culvert type solution to narrow the alignment of the highway and potentially prevent any loss of ancient woodland.

Figure 4 shows the proposed preferred alignment of the access road including the indicative location for a bridge crossing the watercourse.

Figure 4 – Site BCD Access Road Option C Alignment



Reproduced from the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office. Licence no. 100048755. Crown copyright reserved.



TECHNICAL NOTE

Appendix A – Woodland Site Visit Technical Note

TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

INTRODUCTION

WSP has been appointed by the University of Kent (UoK) to provide transport and environmental advice for the development of proposals on land at their Canterbury Campus that has been identified as being surplus to requirement.

The access strategy for the masterplan identifies that an area of potential ancient woodland, referenced as Long Thin Wood could be impacted by the Proposed Development. This Technical Note provides a summary of the findings from a walkover survey undertaken on 16 July 2021 by Howard Booth and Daniel Stewart of WSP to assess the general characteristics of the woodland.

The walkover survey was a general survey of the site without sample plots. Throughout the walkover survey observations were made and evidence of past management such as earthworks were looked for along with recording tree species, size and evidence of tree work. The survey was not detailed and only sizes of the largest trees were recorded.

Long Thin Wood runs east west along the alignment of a stream. Woodland extends both side of the stream. As the woodland area to the south of the stream is potential ancient woodland this area is the main focus of this Technical Note.

LOCATION AND SCOPE OF SURVEY

Figure 1 illustrates the areas of Woodland surrounding and within the University Sites known as BCD. Long Thin Wood is identified as area two on **Figure 1**.

TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

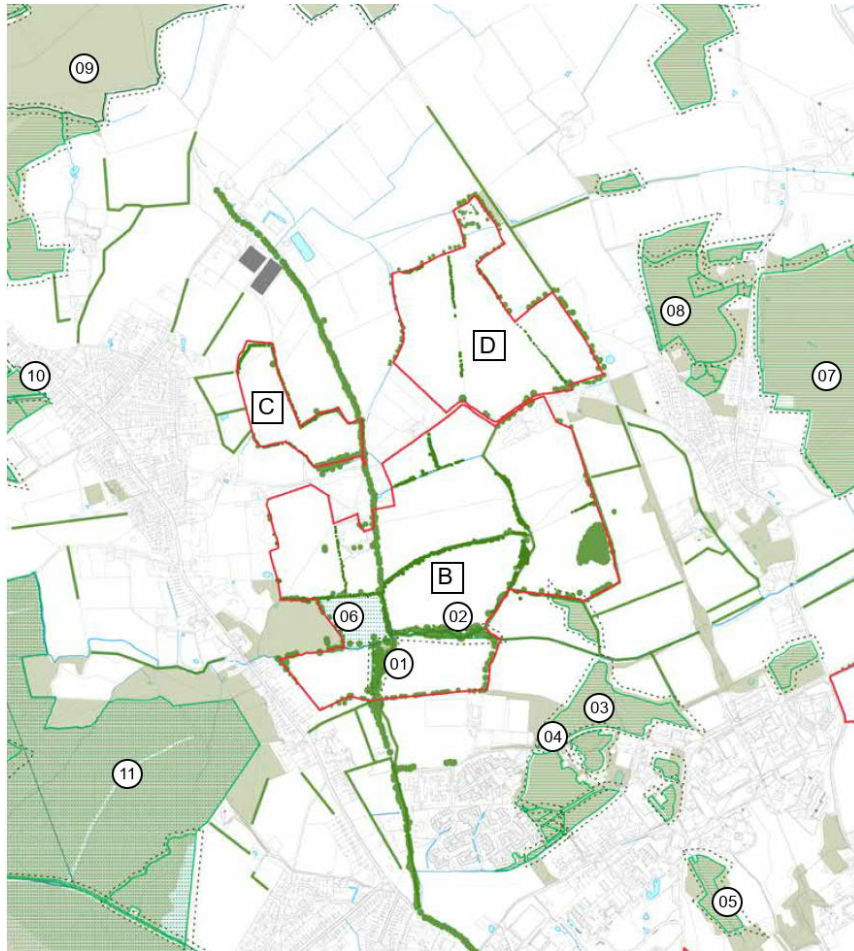


Figure 1: Woodland within vicinity of Site (Source: PRP)

The survey focused on the area of Long Thin Wood within the boundary of Site B only.

TREES

SPECIES

The woodland south of the stream is predominantly oak and ash. Common through the woodland is hazel and holly. Other trees present within the woodland include hawthorn, field maple, wild cherry, sweet chestnut, downy birch, willow, yew and alder.

Woodland north of the stream is dominated by willow and ash, other trees include oak, hazel, poplar, wild cherry, downy birch, hawthorn, field maple and elder.

TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

PAST MANAGEMENT

The oaks are maiden trees with the exception of one that was multi-stemmed at ground level and had probably been coppiced. Several ash trees have been coppiced but not for many years and these trees form part of the closed canopy of the mature woodland.

Along the southern edge of the woodland is evidence of hedge planting. These trees are suppressed by the larger woodland and herbaceous weeds from the field perimeter, the relatively small size of these plants and style of planting indicates this hedge is relatively modern.

Within the woodland there are several large trees that have collapsed, typically with root plate failure. Some have fallen across the stream and remain in-situ. There are two areas along the southern edge where wood chips were present within the woodland, it is assumed that these are arisings from branches that fell into the field and may have been in-situ for only a few years.

Along the southern side of the woodland there were two sections where barbed wire was present and attached to trees. No earth banks or mounds indicating historic boundaries or earth work were observed.

The ash trees appear to be infected with ash dieback. One stem of a coppiced tree is dead and other ash have sparse crowns. This disease could cause gaps within the woodland should more ash die or develop secondary infections reducing their safe retention.

Long Thin Wood is included within a Tree Preservation Order (TPO) which was made in 1970 and protects the site with an Area designation. Species scheduled in the TPO are oak, ash, poplar and willow, trees of these species present in 1970 are protected by the TPO. Work to those trees is restricted and would require consent from the local planning authority.

AGE

Establishing the age of trees can accurately be done if there are records of tree planting or core samples taken of the tree. In the absence of accurate information, estimates for age can be made based on the girth (circumference) of the tree. A method developed by Alan Mitchell assumes an average tree increases girth by 25mm each year for an open grown maiden tree. For trees in woodlands that value would be halved as they grow more slowly.

In the southern side of the woodland the oak were the largest diameter trees. The tree that appeared the largest was measured to have a girth at 1.5m above ground of 3420mm. The age of this tree would therefore be between 137 and 274 years old.

As the oak trees in Long Thin Wood typically have full crowns they are not typical of closed canopy woodland trees, that is to say their growth has only been slightly restricted. The nature of the site is such that using the woodland growth rate would overestimate their age, a more likely age range is in the region of 150 to 200 years old.

TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

Establishing the age of coppice stools is complicated by the centre of the stool having decayed away many years ago and unknown coppicing cycles. In his book *Trees and Woodland in the British Landscape* Oliver Rackham references aging of coppice stools. He gives an example of an ash stool on a poor quality waterlogged site being 0.6m diameter and 300 years old whereas an ash on a good site at 300 year old could be 1.5m diameter.

The ash coppice were approx. 1m in diameter, this was estimated as shapes were irregular and vegetation obstructed access around the base. Ground conditions on site appear to be good and based on the examples of Oliver Rackham the age of the ash coppice stools is likely to be much younger than 300 years, potentially younger than 200 years.

Other less common trees with multiple stems from the ground and indicative of coppice management were one sweet chestnut and a field maple. The sweet chestnut and field maple are of a similar size to the ash at approx. 1m diameter and may therefore be of a similar age to the ash.

Other tree species on site, given their sizes, are younger than the oak and ash. For example, a wild cherry is between 43 and 87 years old. Yew trees are particularly slow growing species, the two yew trees have diameters of 50mm and are relatively young.

ANCIENT WOODLAND

Ancient woodland in England is a classification used for an area of woodland that has been in continuous existence from before 1600AD.

Natural England owns the Ancient Woodland Inventory which is publicly accessible on DEFRA's MAGIC website and it was first developed in the 1980s and 1990s. In 2018 Natural England published *Ancient Woodland Inventory Handbook for England* which provides an overview of the inventory, its history and methods for improving its accuracy. At several points through the handbook it is referenced that the inventory is provisional by the nature in which it was compiled. It should therefore not be assumed that because a woodland is in the Ancient Woodland Inventory that it must be ancient and pre-date 1600AD.

Archives such as maps or estate records could be used to establish whether the site was woodland at different points of history.

It should be noted that if the site is confirmed not to be ancient woodland that there are several trees within it, especially the oak and ash that have some characteristics of being veteran trees. Further inspection is required to establish if they are veteran trees.

QUALITY ACROSS THE WOODLAND

Long Thin Wood does not appear in the Forestry Commission's woodland inventory as its area is less than 0.5ha. With regard to the area recorded as potentially ancient woodland, this only covers the south side of the stream and does not extend to the full extent of trees to the west.

TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

The woodland varies in width along its length and this appears to be influenced by the route of the stream. The narrowest part of the woodland is the western end and the widest is towards the middle.

While there is some variation in species and tree size through the woodland the general quality is relatively consistent. Areas of particular note highlighted in Image 1 are:

- A- The narrowest point of the woodland, the frequency of trees is reduced with gaps in the woodland canopy on the south of the stream
- B- Several coppiced ash with some veteran characteristics but also evidence of decline and disease
- C- Area of greatest variety of tree species

It should be noted that throughout the woodland, in areas A, B and C there are trees which have some veteran characteristics. There are several factors that influence whether a tree is a veteran; it is not based solely on size or age. A more detailed inspection of these potentially veteran trees is required to establish whether they should be classified as veteran trees.

Image 1 – Woodland overview



TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

SUMMARY AND CONCLUSIONS

Long Thin Wood has a mixture of native broadleaf trees with ash and oak the dominant species. There is evidence of past management of Long Thin Wood with coppice stools of predominantly ash. A more recent intervention was the planting of a hedge along the southern edge.

There is variation in the size of trees across the site and the largest oak are likely to be between 150 and 200 years old. There are several coppiced ash stools, the age of which is more difficult establish than maiden trees and those present are likely to be much younger than 300 years.

Long Thin Wood is shown in the Ancient Woodland Inventory, an inventory that records sites that have potential of being ancient. An ancient woodland is an area of woodland which has been continuously treed from before 1600AD. None of the trees within the woodland show signs of being in-situ prior to 1600AD. Other evidence such as maps or estate records Would be needed to confirm the status of Long Thin Wood as an ancient woodland.

Irrespective of the status of the woodland as ancient or not it has several trees which have some veteran characteristics. Further assessment of these trees is advised to ensure they are suitably considered in any potential work in or near the woodland.

Long Thin Wood is a mature woodland with typically closed canopy and the woodland varies in width. The western end of the woodland has the lowest frequency of trees relative to the rest of the woodland and includes trees which have some veteran characteristics.

ECOLOGY

Ground flora of the woodland habitat was not very diverse or had much variation throughout the site, mostly made up of ground Ivy. However, ground flora north of the watercourse running across the woodland had greater species diversity and flora cover than the habitat south of the watercourse. Although mostly dominated by ground ivy there were two small sections of Hyacinthoides sp in the south of the woodland. Due to the time of year and the plant not being in flower, it cannot definitely be identified down to species level, with it possibly being Common bluebell Hyacinthoides non-scripta which is an ancient woodland indicator or Spanish bluebell Hyacinthoides hispanica and Hyacinthoides hispanica x non-scripta (the most common hybrid) which have little ecological value as they are not native. Red campion which is also a species which is an ancient woodland indicator was also recorded throughout the Site in all areas. In addition to this another ancient woodland indicator Guelder rose was located on the woodland border on the south of the Site in very small quantities.

Throughout most of the habitat and at the woodland edge bramble and cleavers were present while garlic mustard was seen closer to the watercourse south west of the woodland. Areas of bracken made up the interior of the wood close to the watercourse embankment. As previously mentioned, Ash dieback was

TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

evident in the north and east of the Site, but as of present was not seen in the ash trees in the south and east of the site. Species were mostly native with Himalayan balsam heavily present in the north east of the Site which has replaced most of the native ground flora present within the inhabited area.

During the site visit a number of rabbit warrens and birds were observed throughout the site. There were multiple nests observed throughout the woodland in the canopy. In addition to this the woodland could support roosting bats due to splits, cracks and rot holes in the trunks and limbs, and ivy on the trees. Further information on protected species is found within the Preliminary Ecological Appraisal (PEA).

OTHER CONSIDERATIONS

A review of publicly accessible historical mapping has been undertaken to supplement the site visit and the recommendation to review historical records to determine whether the woodland pre-dates 1600AD. The review of publicly available sources identified a map produced by William Faden and published in 1809. Interpretation of this map¹ by WSP did not indicate the Long Thin Wood but does indicate wooded areas both to the east and west.

An older map published in 1769² by A. Dury and W. Herbert also does not indicate the woodland's presence at that time.

Further analysis of mapping available from the National Library of Scotland³ identified a map produced by Ordnance Survey that was surveyed between 1872-73 and published in 1877. This map⁴ does indicate the area of woodland referred to as Long Thin Wood.

The review of publicly accessible historic mapping indicates that the woodland dates back to at least the 1870s and this finding is commensurate with findings of the site visit. The earlier maps do not necessarily confirm the absence of the woodland as the scale of the mapping and cartography do not permit detailed analysis. However, they do suggest that the woodland may not have been present prior to the 1870s. Further work would be required to confirm this.

1

<https://www.davidrumsey.com/II/detailView.html?&manifestUrl=https%3A%2F%2Fwww.davidrumsey.com%2Fluna%2FServlet%2Fiif%2Fm%2FRUMSEY~8~1~253703~5519088%2Fmanifest&os=0&lc=RUMSEY~8~1&baseurl=%2F%2Fwww.davidrumsey.com%2Fluna%2FServlet%2Fas%2Fsearch&mediaType=Image#?c=0&m=0&s=0&cv=0&r=0&xywh=29397%2C11263%2C3071%2C1307> accessed 21/07/2021

² https://biblio.unibe.ch/web-apps/maps/zoomify.php?pic=Ryh_1806_34.jpg&col=ryh accessed 22/07/2021

³ <https://maps.nls.uk/geo/find/#zoom=14&lat=51.27718&lon=1.09406&layers=102&b=1&z=1&point=51.28003,1.08025> accessed 21/07/2021

⁴ <https://maps.nls.uk/view/102343537> accessed 21/07/2021



TECHNICAL NOTE

DATE:	05 August 2021	CONFIDENTIALITY:	Public
SUBJECT:	University of Kent: Long Thin Wood – Technical Summary		
PROJECT:	70080896	AUTHOR:	Howard Booth and Daniel Stewart
CHECKED:	Alan Heatley	APPROVED:	Justin Sherlock

SUMMARY

WSP has been appointed by the University of Kent (UoK) to provide transport and environmental advice for the development of proposals on land at their Canterbury Campus that has been identified as being surplus to requirement.

A potential area of ancient woodland located within Site B has been identified as being impacted by the masterplan proposals.

A site visit was undertaken to help establish the quality of the woodland (both from an arboricultural and ecological perspective) and the likely age.

The site visit found that the oldest tree (an oak) was likely to be between 150 and 200 years old, whilst coppiced ash stools are likely to be less than 300 years old.

Long Thin Wood is shown in the Ancient Woodland Inventory, an inventory that records sites that have potential of being ancient. An ancient woodland is an area of woodland which has been continuously treed from before 1600AD. None of the trees within the woodland show signs of being in-situ prior to 1600AD. Other evidence such as maps or estate records would be needed to confirm the status of Long Thin Wood as an ancient woodland. The review of publicly accessible historic maps confirms that the woodland was in existence around 1870 but may have not been present prior to this. Further work will be required to confirm this.

Irrespective of the status of the woodland as ancient or not it has several trees which have some veteran characteristics. This will need to be taken into account as the proposals are developed further.