Best wishes

Graham

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APPENDIX C. THIRD POST-APPLICATION TECHNICAL RESPONSE & CORRESPONDENCE

i-Transport LLP
33 Queen Street, London, EC4R 1AP

Tel: 0204 531 3660

Land east of Oxhey Lane, Carpenders Park: Sustainable Transport Improvements

Ref: PH/RW/ITL200107-009B TN
Date: 7 November 2025

SECTION 1 Introduction

1.1 Burlington Property Group proposes to develop Land east of Oxhey Lane, Carpenders Park to provide a residential development of 256 homes, housing with care and a children's home. A planning application was submitted to Three Rivers District Council (TRDC) for the proposal in July 2025 *(TRDC application reference: 25/1020/OUT)*.

1.2 Hertfordshire County Council (HCC) as the local highway authority provided a response to the application dated 6 August 2025. i-Transport LLP subsequently provided a technical note (*report reference: ITL200107-006 TN*) addressing the matters raised which was submitted on 9 September 2025. HCC has since provided a response (to the technical note) dated 1 October 2025. Subsequently, there was a meeting between the Applicant, HCC and TRDC to discuss sustainable transport improvements on 20 October 2025.

1.3 This technical note clarifies the package of sustainable transport improvements that are proposed as part of the planning application, including elements that are proposed to be delivered by the Applicant (secured by Condition) and proposed contributions (secured through a s106 agreement). Specifically, it covers the improvements pedestrian and cycle facilities along with public transport improvements. It has been prepared to inform further discussions with HCC including its public transport officers.

SECTION 2 Sustainable Travel Opportunities

2.1 To provide context when assessing what are appropriate improvements and contributions a further review of how and where future residents of the site may travel has been undertaken. As set out in the Transport Assessment (Image 5.1) the most popular journey purpose is shopping which accounts for 27% of all journeys. There are numerous shopping opportunities within walking and cycling distance of the site in Carpenders Park and South Oxhey as demonstrated in the TA. There are also leisure, education and healthcare facilities located within walking and cycling distance (Table 3.3 of the TA) which account for up to 35% of journey purposes. Thus, active travel offers a genuine opportunity for up to 62% of journeys and improvements to existing connections would provide a substantial contribution to delivering the transport vision for the site. Further details on active travel improvements are set out in Section 3.

2.2 In addition, a wider range and higher order retail and leisure facilities are available in nearby Watford which is accessible by public transport. With a bus or rail journey taking around 20 minutes (See Table 2.1 below).

2.3 The second most popular journey purpose is commuting/business which accounts for 21% of journeys. To inform where sustainable travel improvements would be best focussed for employment journeys, a more detailed appraisal of the accessibility of the likely workplace destinations by sustainable modes for residents of Carpenders Park using 2011 Census Journey to Work has been undertaken.

2.4 Table 2.1 provides a summary of the proportion of journeys possible by each mode and journey times to each workplace destination.

Table 2.1: Likely Workplace Destinations (Three Rivers 010 MSOA)

Destination	Existing Employment Trips %	Journey Time			
		Accessible via walking	Accessible via cycling	Accessible by Overground[1]	Accessible by Bus[2]
Greater London (excl. areas below)	18.4%	-	-	45-60 mins	-
Watford Central	12.5%	-	18 mins	19 mins	21 mins via 346
Harrow	11.0%	-	-	22 mins	-
Wembley	6.2%	-	-	31 mins	-
Ruislip	5.8%	-	-	60 mins (inc. one change)	-
Carpenders Park	4.8%	14 mins	6 mins	-	-
Bushey / Oxhey	4.7%	-	7 mins	17 mins	12 mins via 346
Watford West	4.5%	-	16 mins	-	-

Destination	Existing Employment Trips %	Journey Time			
		Accessible via walking	Accessible via cycling	Accessible by Overground[1]	Accessible by Bus[2]
Rickmansworth	4.2%	-	-	1 hour (inc. one change)	-
South Oxhey	3.8%	16 mins	7 mins	-	-
Hendon	3.3%	-	-	65 mins (inc. one change)	-
Other East	3.1%	-	-	-	-
Hemel Hempstead	2.8%	-	-	42 mins (inc. one change)	-
Other West	2.5%	-	-	-	-
St Albans	2.4%	-	-	64 mins (inc. one change)	-
Other North	2.3%	-	-	-	-
Other South	2.2%	-	-	-	-
Watford North	2.2%	-	-	33 mins	-
Borehamwood	1.7%	-	-	-	-
Kings Langley	1.6%	-	-	40 mins (inc. one change)	-
Total	**100%**	**9%**	**26%**	**76%**	**9%**

Source: Consultant. Notes:
[1] Includes 14 minute walk to Carpenders Park Overground Station
[2] Includes 8 minute walk to Upper Hitch (By The Wood) Bus Stop

2.4.1 Table 2.1 shows that of the likely workplace destinations for existing and future residents of Carpenders Park, 76% of existing employment destinations are accessible using London Overground services from Carpenders Park. Around 9% of workplace destinations are accessible using bus services from Carpenders Park, all of which are also accessible by London Overground services.

2.4.2 Clearly, the majority of future trips from the site by public transport will therefore be made by London Overground.

2.4.3 In summary:

- 62% of journeys could be undertaken by active travel;
- 76% of employment destinations are accessible by London Overground Services;
- Necessary improvements to need to be considered in this context.

2.5 Bus Strategy

2.5.1 The HCC response (1 October 2025) identified potential improvements to bus services which may be required by way of Section 106 contributions. The HCC response states:

> ***'HCC's public transport team propose a new service - to complement Service 328 - from South Oxhey to Watford, and extending it to the new site. This new service would operate from the site via A4008 and B4542 down to Prestwick Road, then via a variation of the current 328 route into Watford. There would be the option of extending this up to Watford Junction. An hourly service should be achievable with two vehicles, at an estimated annual cost of £350k.***
>
> ***HCC is therefore seeking an index-linked Strand 1 financial contribution of £350k per annum for a period of five years totalling £1,750k. This would need to secured by a Section 106 agreement.'***

2.5.2 At the subsequent meeting alternative options for bus service improvements were discussed and it was agreed that further details would be provided by the Applicant with a clear proposal being provided to HCC. It was agreed that any contribution would need to be commensurate with the scale of the development. Subsequently, HCC (via email dated 4 November 2025) have provided some further clarity on their suggested new service as follows:

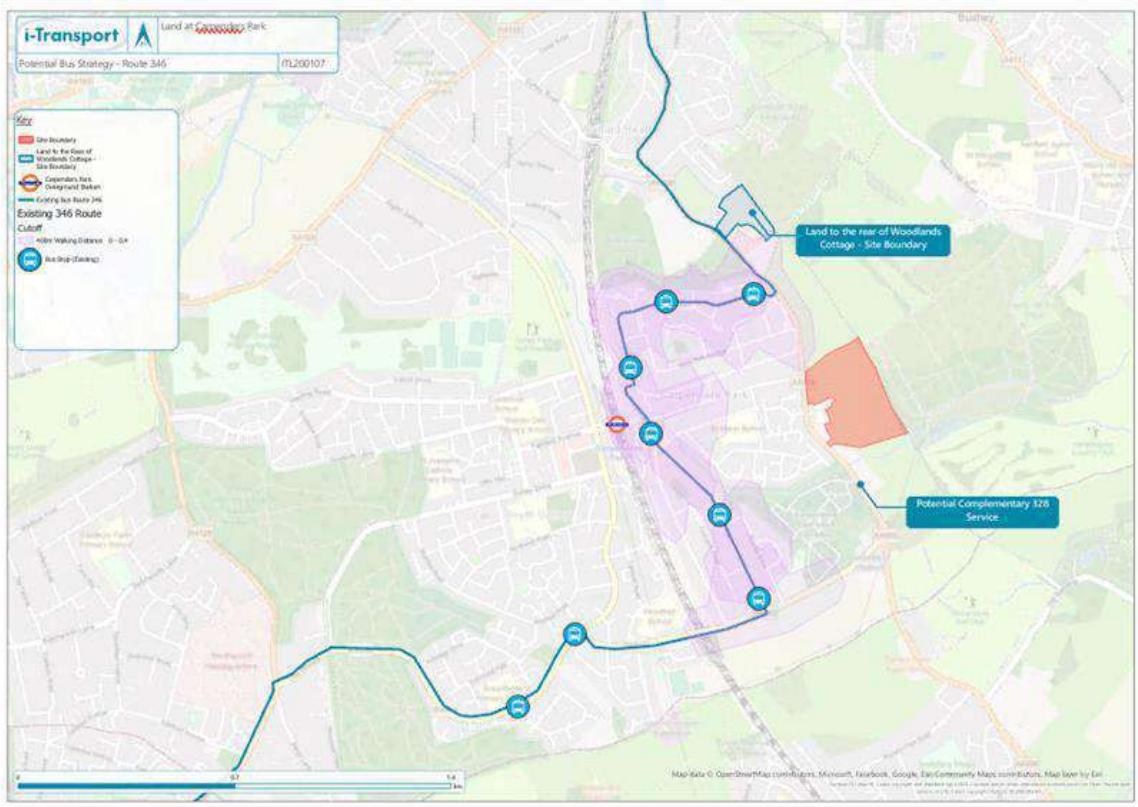
- The new service (328a) is envisaged to operate on a loop around Carpenders Park passing the site on Oxhey Lane;
- Details of a new timetable and hours of operation; and
- Refined contribution calculation allowing for revenue of £1,520,832.40.

2.5.3 Accordingly, alternative options are set out below with details on suitable contribution provided in Section 3.

Existing Bus Service

2.5.4 The existing 346 operates hourly throughout the day Monday to Saturday (07.00 to 18.00) with no evening or Sunday service. Figure 1 shows 400m bus catchment of existing 346 bus route, with circa 1,500 properties within Carpenders Park this walk distance of existing bus stops (estimated using Census 2021 output areas).

Figure 1: Existing 346 service (bus stop catchment)



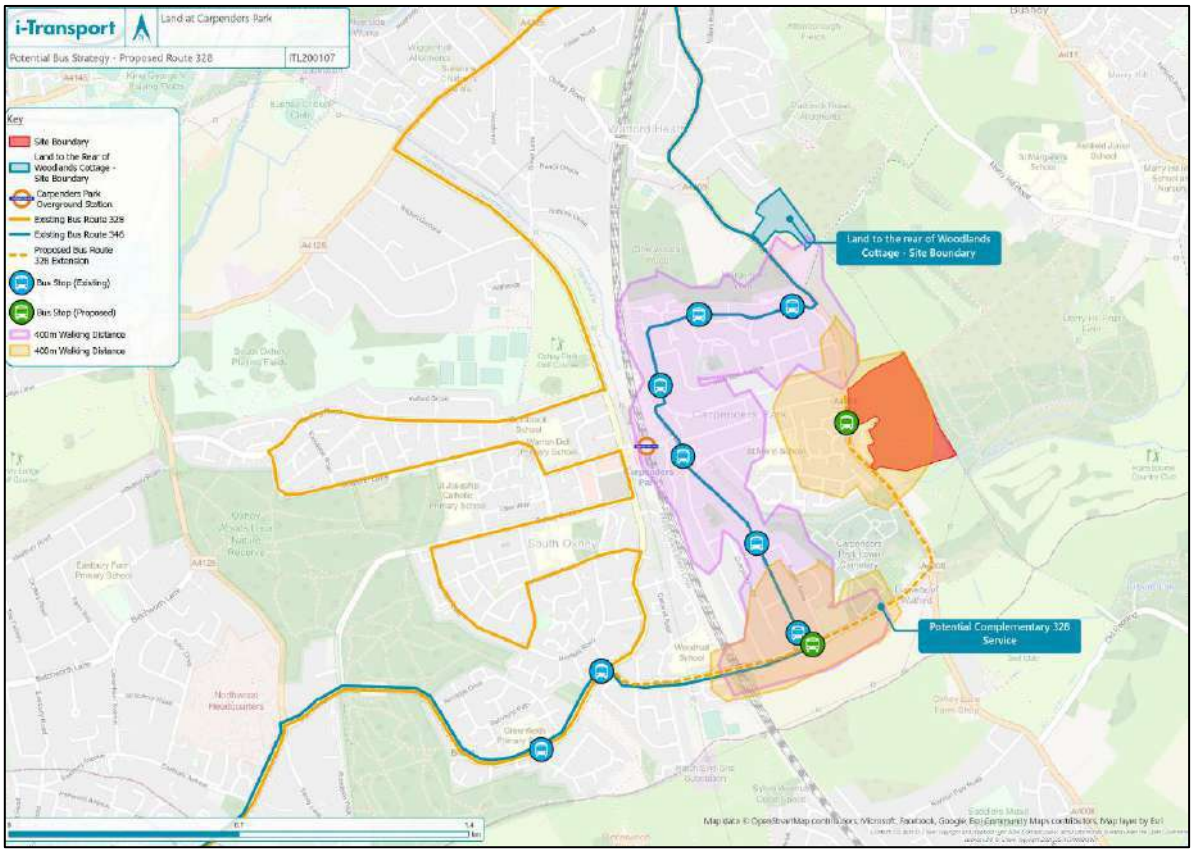
Option A - 328 Service Improvements

2.5.5 The 328 service routes between Watford Junction and Watford High Street to Northwood, via South Oxhey. It currently operates an hourly service in both directions (06.00-20.00 Monday to Friday; 07.00-18.00 Saturday: 09.00-17.00 Sunday).

2.5.6 The HCC proposal would provide a new service to complement the 328 from South Oxhey to Watford, and extending it to the Site. This new service would operate on a loop through Carpenders Park past the site via A4008 and B4542 down to Prestwick Road, then via a variation of the current 328 route into Watford. It would complement the existing 328 timetable operating throughout into the early evening Monday to Friday with a reduced number of services on Saturdays, with no service on Sundays. Combined with the existing 328 it would therefore offer a half hourly service along much of its route to the benefit of existing residents of South Oxhey and Northwood.

2.5.7 The potential route in the vicinity of the site is shown in **Figure 2**, an extract of which is provided below. It shows a 400m bus catchment of additional 328 service (suggested by HCC). Within the Carpenders Park area (east of the railway line) the existing 346 and proposed 328 routes would serve circa 2,000 households (based on Census 2021) including 256 homes at the proposed development.

Figure 2: Potential complementary 328 service – (bus stop catchment)



2.5.8 This route would offer some benefit to existing and future residents of the Site for journeys to South Oxhey, although the majority of services in South Oxhey are within a 'reasonable' walking or cycling distance. Bus journey times to Watford High Street are likely to be around 35-40 minutes due to the indirect route through South Oxhey (this compares with a journey time of 21 minutes using the 346 service or 19 minutes via the Overground).

2.5.9 This option would require two new bus stops on Oxhey Lane.

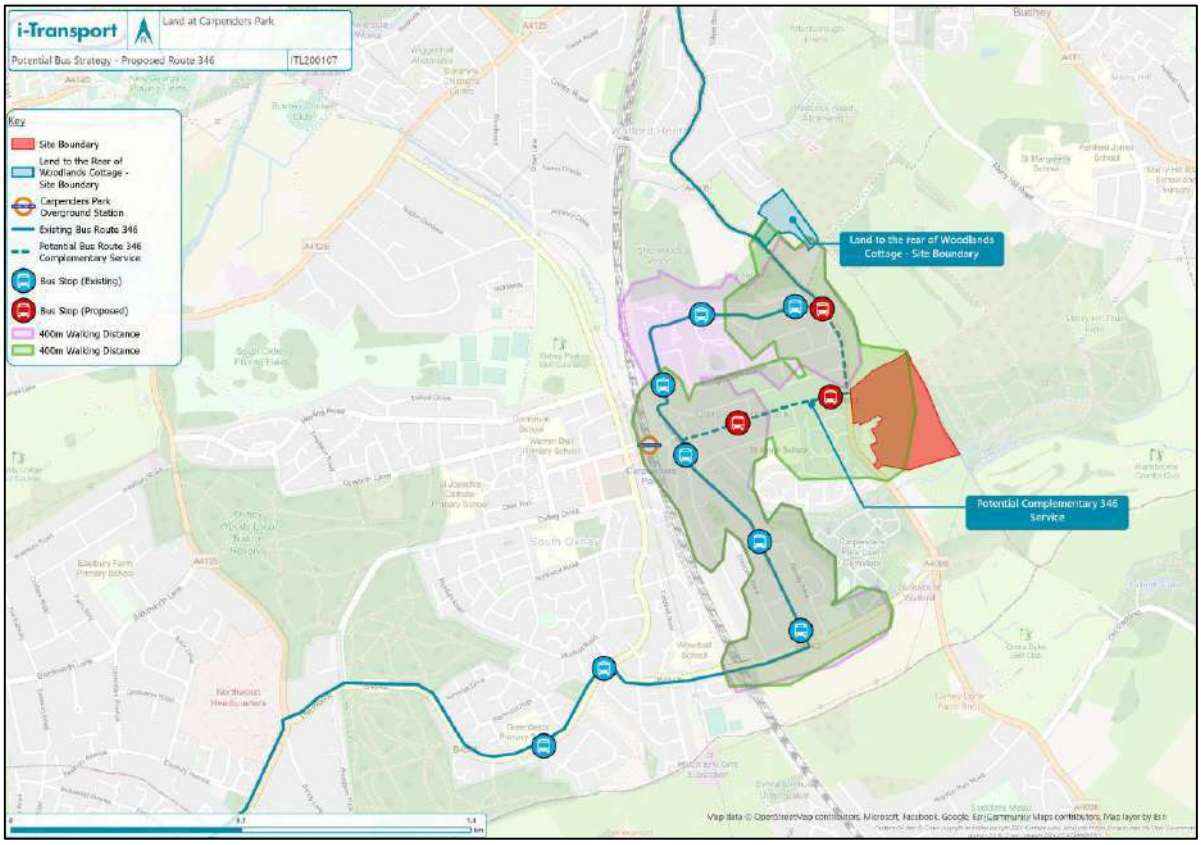
Option B (Alternative Option) - Revised 346 service

2.5.10 An alternative solution could therefore be to provide a revised 346 service. The 346 service currently routes between Watford High Street and Northwood routing through Carpenders Park via By The Wood, Delta Gain and Harrow Way.

2.5.11 A revised 346 service could route via Carpenders Avenue and the Site on Oxhey Lane, providing improved provision for Carpenders Park itself and future residents of the Site. It could provide an uplifted level of service extending services into the early evening Monday to Saturday and operating on Sundays, which would be of benefit to all residents along the route.

2.5.12 Figure 3 shows 400m bus catchment of potential revised 346 service (suggested by Applicant). This would cover around 2,136 households (estimated using Census 2021 output areas) including 256 homes at the proposed development.

Figure 3: Potential complementary 346 service (bus stop catchment)



2.5.13 Carpenders Avenue is wide (circa 7.3m) and generally straight and has direct access to the A4008, and should therefore be well suited to support a bus route. It also serves a large number of existing housing and would improve the bus catchment area compared to the existing route.

2.5.14 Three additional bus stops would be required to cater for this service change.

Option B (Variation) – 346 Service

2.5.15 A variation (similar to the 328 option) would be for an additional loop service running alongside the current 346 service. In this option, the 346 service at present would remain. This would be supplemented by additional hourly service between Watford and Carpenders Park, operating as a loop through Carpenders Park routing along Oxhey Lane past the site. This service could extend operations into the evenings and Sundays too.

Land to the Rear of Woodlands Cottage, Oxhey Lane

2.5.16 It is noted that a planning application has been submitted for 96 residential units at Land to the Rear of Woodlands Cottage (*TRDC ref: 25/1055/FUL*), located circa 1.0km north of the Site. This Site is also proposed to be accessed via Oxhey Lane, and is within 480m of southbound bus stops and 700m of a northbound bus stops for the 346 bus service (it is circa 1.7km walk from Carpenders Park Overground).

2.5.17 An extended 346 service would provide benefits for future residents of land to the rear of Woodlands Cottage and could therefore reasonably be supported by contributions from this development too.

Summary

2.5.18 The table below provides a summary comparison of the bus service options. The 328 would increase the catchment but does not offer an attractive alternative to the Overground and does not offer evening or Sunday services. The revised 346 Service would be more attractive to users and offer benefits to existing residents with evening and Sunday services, whilst offering a similar improvement to catchment.

Service	Catchment (households)	Journey Time to Watford (mins)		Evening Services	Sunday Services	New Bus Stops
		Bus	Overground			
346 Existing	1,500	21	19			0
328 Complementary	2,000	40	19			1
346 Revised/Extended	2,100	21	19			3
346 Variation	2,100	21	16			1

2.5.19 Further comment is set out in the following section.

SECTION 3 Improvements and Contributions

3.1 Walking Improvements

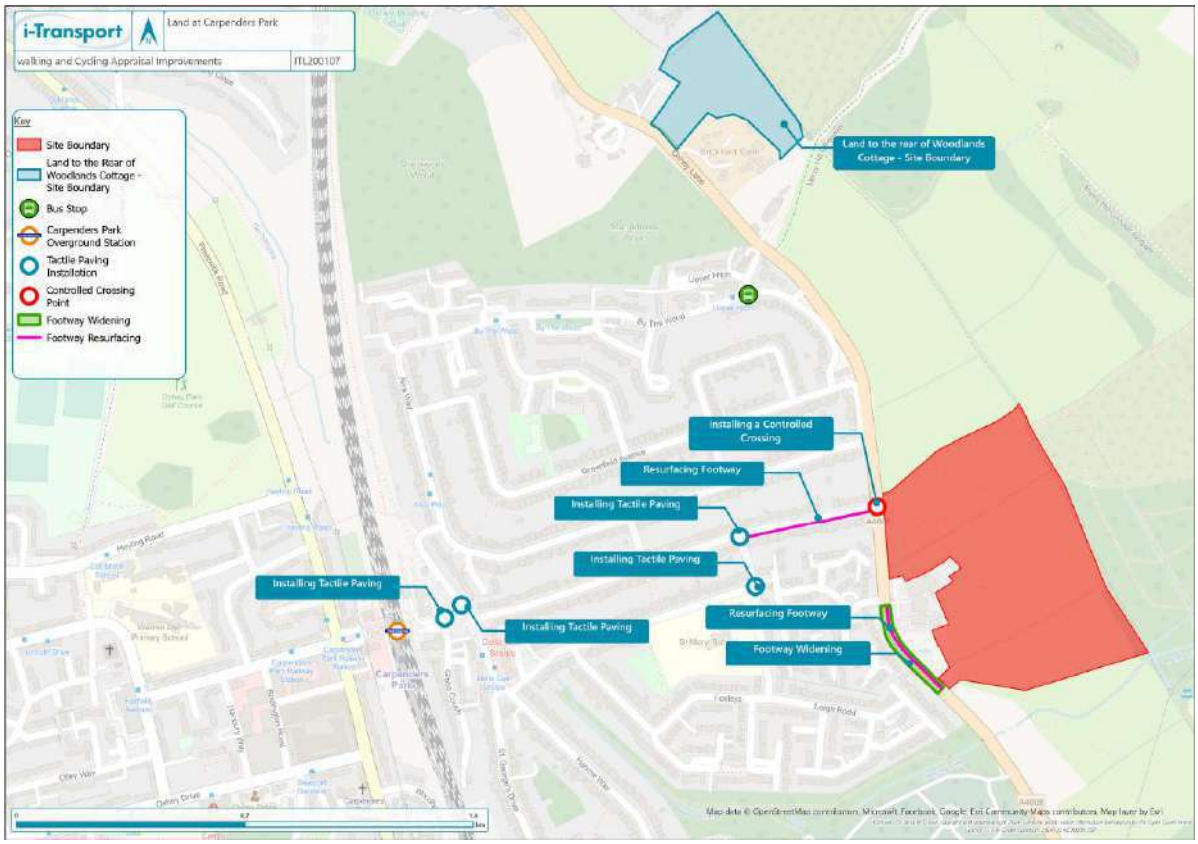
3.1.1 The first technical response note to HCC *(report reference: ITL200107-006)* included a walking and cycling appraisal which identified areas for improved provision across several routes that future users would utilise.

3.1.2 The Applicant is willing to deliver the following improvements to the walking and cycling network, if agreed by HCC:.

- Resurfacing and footway widening on Oxhey Lane south of the existing care home
- Installation of a controlled signalised crossing (to be delivered as part of the site access works) at Oxhey Lane / Carpenders Avenue. This may in turn support the provision of a future secondary school that may be allocated to the north of the site.
- Resurfacing of footway on Carpenders Avenue
- Installation of tactile paving at:
  - Carpenders Avenue / Foxleys junction
  - Foxleys / The Mead junction
  - Delta Gain / Gibbs Couch junction
  - Gibbs Couch near Carpenders Park Overground station

3.1.3 The location of these improvements are shown on Figure 4, an extract of which is provided overleaf.

Figure 4: Walking and Cycling Improvements



3.1.4 These improvements could be secured by an appropriately worded condition.

3.2 Cycling Improvements

Cycle Parking at Carpenders Park station

3.2.1 Walking times to Carpenders Park station from the site will be circa 14 minutes. Cycle times to the station would be around 6 minutes. At Carpenders Park station there is cycle parking provided on the South Oxhey side of the railway line in the form of a small shelter providing four Sheffield stands, and several unsheltered stands located in the public realm at South Oxhey local centre. There is however no cycle parking provided on the Carpenders Park side of the railway line. Therefore there is an opportunity to provide a cycle parking shelter on the Carpenders Park side of the station to further encourage cycling.

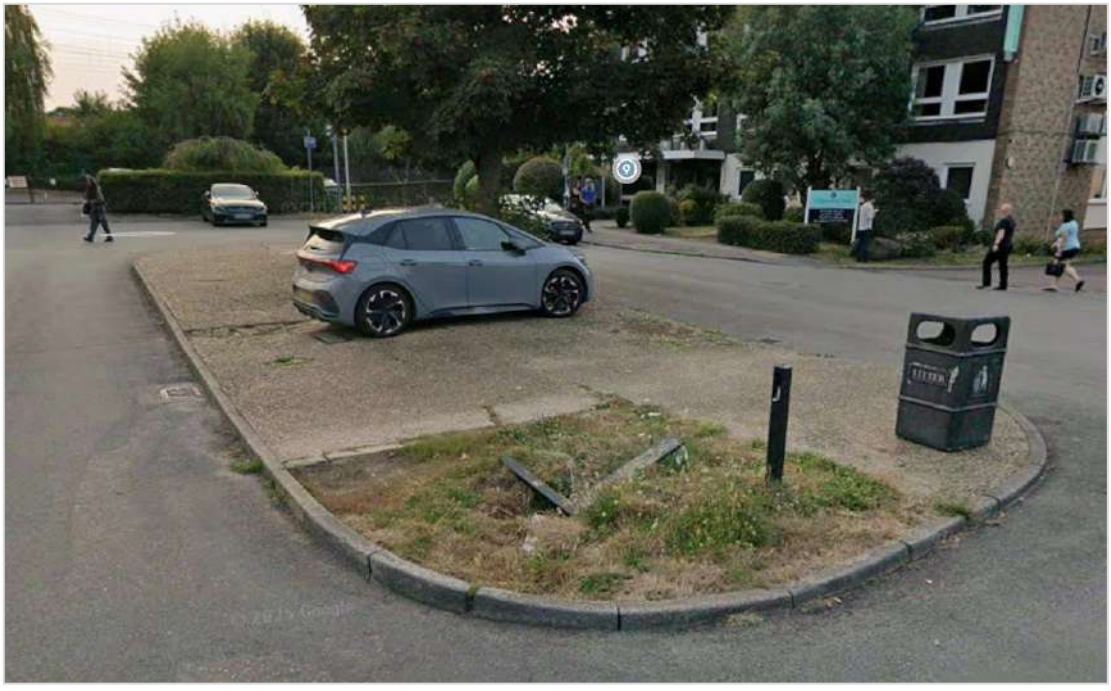
3.2.2 The station is accessed from the east side of the railway line from Gibbs Couch. There is currently unrestricted on-street parking on and around the station approach on Gibbs Couch. An island of hardstanding (encircled red on **Image 3.1** and shown in **Image 3.2**) in the middle of Gibbs Couch turning area is used for unrestricted car parking, although this is clearly not its original function.

3.2.3 The island is circa 18m in length and 6m in width. A cycle parking shelter equipped with 5 Sheffield stands (10 spaces) could be provided on the hardstanding, alongside a dropped kerb for cyclists to manoeuvre. This would help prioritise active travel in this location and provide existing and future residents with a visible, overlooked and sheltered opportunity to park bicycles.

Image 3.1: Gibbs Couch car parking

Source: Google Maps

Image 3.2: Gibbs Couch hardstanding



Source: Google Maps

3.2.4 The Applicant is willing to deliver a cycle parking shelter in this location, secured by a suitably worded Condition.

Beryl Bike Contribution

3.2.5 A recent TRDC Committee Report recommends that the Beryl Bike scheme within Watford is expanded to South Oxhey / Carpenders Park, Rickmansworth and Leavesden. The total cost of the proposals are estimated at £138,000.

3.2.6 A CIL bid seeking £138,000 of Strategic CIL funding to provide 36 additional e-bikes and 13 new bays across these three areas has been submitted by TRDC / WBC / Beryl and is currently being assessed by Officers to be approved by the Committee.

3.2.7 A suitable location would be in Carpenders Park along the Delta Gain parade where shops and services are located along with the nearby station. This scheme would benefit all existing residents of Carpenders Park and South Oxhey which total around 7,500 households. A reasonable contribution towards this scheme would be £4,600 which based on the proportionate increase in the number of households.

3.2.8 Alongside this the Applicant is willing to provide a dedicated area within the site for up to 5 new bays. This could be secured by Condition.

3.3 Bus Contributions

Bus Services

3.3.1 HCC have suggested that a complementary 328 bus service would have an estimated annual cost of £350k and are seeking this for a period of five years totalling £1,750,000. This was subsequently refined to £1,520,832.40

3.3.2 Paragraph 58 of the National Planning Policy Framework (NPPF) states that:

'Planning obligations must only be sought where they meet all the following tests:

a) Necessary to make the development acceptable in planning terms'

b) Directly related to the development; and

c) Fairly and reasonably related in scale and kind to the development.

3.3.3 Contributions to any new bus services required to make the development acceptable in planning terms should therefore be proportionate to the scale of the proposed development.

3.3.4 The request for a contribution of £1.5m is unlikely to meet the above tests, particularly when the suggested complementary 328 service offers limited benefit to future residents of the site. With reference to the review of service improvements in Section 2 the main beneficiary would be existing residents of South Oxhey (3,223 households) and Northwood (4,757 households). Should this option be taken forward then a proportionate and reasonable contribution would be £48,000 or 3%[1] of the £1.5m required to fund the service.

3.3.5 A revised 346 service (as set out above) would offer more benefit to future residents of Land East of Oxhey Lane as well as those on Land to the rear of Woodlands Cottage. It would operate on a more direct route to Bushey and Watford with the benefit of an extended service. In addition there could be benefits for existing residents. The cost of a revised route and extended route would need to be confirmed with HCC's public transport officers but based on experience elsewhere it is estimated that to fund the changes an annual cost would be £160,000.

3.3.6 The 346 variation would have a similar cost of some £130,000 per year.

3.3.7 The development comprises a total of 256 homes of which 50% would be affordable. Any new or extended service would reasonably only commence once there is a suitable level of occupation to generate new demand. The expected build out of the development is around 3 years. Thus, a service which commenced 12 months following first occupation would provide the right balance between offering a service early in the development phase to encourage use and to generate a reasonable level of new demand. A contribution for 3 years would therefore provide a full 12 months of subsidy following full occupation. An agreement could be framed such that any revenue received during the the 3 years of subsidy is re-invested as an ongoing subsidy for the service. Thus, extending the funding.

3.3.8 Thus, suitable level of contribution would be between £390,000 and £480,000. This could be supplemented by contributions from other developments and/or HCC's Bus Service Improvement Plan funding. If further funding is not forthcoming it would be sufficient to fund the improvement for over three years (assuming no revenue clawback).

Bus Stop provision

3.3.9 The HCC response also states:

[1] 256 new homes equates to broadly 3% of existing 7980 households in South Oxhey and Northwood

'In addition, provision would be required for new bus stop infrastructure. HCC's public transport team has identified a need for a pair of new stops outside the site to support the potential new service and future proof the site. These would serve both new residents and the nearby care home. They suggest a location between the islands along Oxhey Lane to facilitate safe crossing. It would be useful if the applicant could look at their potential placement by way of a plan.'

3.3.10 The suggested locations for both the 328 and 346 service improvements are indicated on Figure 2 and 3. There would be the need for 2 sets of bus stops for the 328 and 1 set for the 346. The applicant is willing to accept a suitably worded Condition to secure the delivery of at least one set of appropriately specified bus stops. The specification set out in the HCC response requires further discussion particularly need for RTI screens when bus operators use QR codes and Apps to provide such information to passengers.

Bus stop improvements

3.3.11 The HCC response note set out that they would want the improvement of bus stops located on By The Wood which are served by the 328 bus service secured by Condition. Such improvements are not necessary with either bus service improvement option.

3.4 Summary of Package of Improvements

3.4.1 The Applicant is willing to help support and deliver the following package of improvements:

1. The works to walking and cycle infrastructure, including:
   - Resurfacing and footway widening on Oxhey Lane south of the existing care home
   - Installation of a controlled signalised crossing (to be delivered as part of the site access works) at Oxhey Lane / Carpenders Avenue (which may in turn support the provision of a future secondary school that may be allocated to the north of the site)
   - Resurfacing of footway on Carpenders Avenue
   - Installation of tactile paving at four junctions
2. Provision of a new cycle shelter and cycle parking near Carpenders Park Overground station;
3. Contribution (£4,600) towards the introduction of Beryl Bikes in the Carpenders Park / South Oxhey area and a dedicated parking bay in the development site;
4. Contributions towards a bus services of a proportionate scale with a choice of:
   - 328 complementary service - £48,000; or
   - 346 Revised Service - £390,000 – 480,000

3.4.2 Secure the delivery of one set of new bus stops on Carpenders Avenue or Oxhey Lane.

3.4.3 Such a comprehensive package of improvements would substantially improve the accessibility of the site location prioritising sustainable modes of transport.

FIGURES

i-Transport

Land at Carpenders Park

Potential Bus Strategy - Existing Route 346 | ITL200107

Key

- Site Boundary
- Land to the Rear of Woodlands Cottage - Site Boundary
- Carpenders Park Overground Station
- Existing Bus Route 346
- Bus Stop (Existing)
- 400m Walking Distance

Land to the rear of Woodlands Cottage - Site Boundary

0 0.7 1.4 km

i-Transport

Land at Carpenders Park

Potential Bus Strategy - Proposed Route 328 | ITL200107

Key

- Site Boundary
- Land to the Rear of Woodlands Cottage - Site Boundary
- Carpenders Park Overground Station
- Existing Bus Route 328
- Existing Bus Route 346
- Proposed Bus Route 328 Extension
- Bus Stop (Existing)
- Bus Stop (Proposed)
- 400m Walking Distance
- 400m Walking Distance

Land to the rear of Woodlands Cottage - Site Boundary

Potential Complementary 328 Service

0 0.7 1.4 km

i-Transport

Land at Carpenders Park

Potential Bus Strategy - Proposed Route 346

ITL200107

Key

- Site Boundary
- Land to the Rear of Woodlands Cottage - Site Boundary
- Carpenders Park Overground Station
- Existing Bus Route 346
- Potential Bus Route 346 Complementary Service
- Bus Stop (Existing)
- Bus Stop (Proposed)
- 400m Walking Distance
- 400m Walking Distance

Land to the rear of Woodlands Cottage - Site Boundary

Potential Complementary 346 Service

0 0.7 1.4 km

Ronan Wilson

From: Robert Handbury <robert.handbury@hertfordshire.gov.uk>
Sent: 16 December 2025 09:48
To: Matthew Roberts; Ronan Wilson; Graham Burrell; Alan Story
Cc: Nathan Stevenson; Philip Allin; Alice Moore; Steven Gough; Jonny Hill; Phil Hamshaw
Subject: RE: RE: Carpenders Park - HCC ref: TR/25536/2025
Attachments: 328a Watford - Oxhey Lane (November 2025) (version 1).xlsx

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning all

Please find attached the revised figures as promised. There are now three separate options:

1. Base level of service.
2. Base with Monday to Saturday evening operation.
3. Bells and Whistles operation over seven days.

With the minimal increase in cost, I would suggest looking at Option 3 as the most cost-effective for the development. The bottom line figure on the spreadsheet is post-revenue, therefore I would be optimistic that, using South Oxhey as a prop to support it, the service may be able to self-fund after the three years suggested by yourselves. The other option, and maybe safer, would be to taper the funding downwards over the 5 years, with the final two years of funding being 50% of the annual figure as below.

Year 1 £153389.67
Year 2 £153389.67
Year 3 £153389.67
Year 4 £76694.84
Year 5 £76694.84

Unfortunately, Rachel is on leave until tomorrow, so I will be unable to provide an infrastructure cost at this time.

Kindest regards
Rob

Hertfordshire

Rob Handbury
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Update me

APPENDIX D. HCC ROAD SAFETY REVIEW

Road Safety Review

Scheme	Land at Carpenders Park, Oxhey Lane, Watford				
App Ref:	Road Safety Audit carried out by Burlington Property Group	Audit Stage Stage 1 Road Safety Audit Report		Date of Audit May 2025	
Review prepared by:	Dimitris Nonas	Date:	4 November 2025	RSR Ref:	DC8/628/2025

The following observations and comments are recorded in relation to the following "Problems" identified in the Stage 1 Road Safety Audit Report for the Section 278 works at the above site. The Reference Numbers quoted in the later sections of this Road Safety Review document refer to the items identified in the Road Safety Audit prepared by Burlington Property Group.

Any other concerns that Hertfordshire County Council consider are relevant are reported at the end of this document.

Safety Assessment (to be completed by HCC Officer)	
Consideration:	In consideration of the comments recorded in the following sections of this review and on the basis that the additional HCC comments and recommendations are incorporated within the highway designs, the risk of a reduction in the level of road safety associated with the development proposal is assessed as:
HCC	**Low Risk of reduction in service level** DMI will need to check that all proposed amendments in the designer's response, which have been accepted by the Reviewer, have been implemented in the design.

** Assessments judged at "High Risk Reduction" will be followed up with a letter advising that the proposals will be the subject of a formal Road Safety Audit process at the current design stage. The primary concerns identified can be notified to the Applicant in the letter.

* Assessments judged as "Medium Risk Reduction" will be discussed via a Safety Review meeting to confirm the Assessment and agree if the proposal should be the subject of a formal Road Safety Audit at the current design stage.

- Assessments judged as "Low Risk Reduction", "Safety Neutral" or "Safety Positive" are considered appropriate to proceed to the next stage in the design process.

RSA Problem Reference: 1	
Consideration:	Possible risk of stop / slow down and subsequent collisions with preceding or opposing traffic.
Road safety audit concern and recommendation:	Risk of overshooting the stop line.   The north and south bound approaches to the junction are straight and on inclines. In addition, there are trees located relatively close to the carriageway. The proposals only indicate primary traffic heads for the signal-controlled junction. This may cause approaching traffic not to detect the single traffic heads if obscured by vegetation or high-sided vehicles. This may result in failure to stop / slow down and subsequent collisions with preceding or opposing traffic. Recommendation: Provide additional / secondary signal heads.
Designers' response:	The problem and recommendation are accepted, although an alternative solution is to provide advanced warning signage to indicate the presence of traffic light signals 50m north/south of the junction. The drawings have been updated and are shown at Appendix B. The specific location of signage can be dealt with at detailed design stage.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 2	
Consideration:	Possible risk of side-swipe type collisions between turning vehicles.
Road safety audit concern and recommendation:	Risk of side-swipe collisions. The arrangement of the right turning facilities at the junction appears to be insufficient to allow vehicles to carry out right-turn manoeuvres without impeding right-turning traffic in the opposite direction. This may result in side-swipe type collisions between turning vehicles. Recommendation: Increase the separation of the site access and Carpenders Avenue arms.
Designers' response:	There is limited scope to increase the separation of the site access and Carpenders Avenue within the existing constraints. However, swept path analysis is provided at Appendix C and demonstrates that there is sufficient space to allow vehicles to carry out right-turn manoeuvres in opposite directions.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 3	
Consideration:	Possible risk of rear-end shunt type collision with through traffic.
Road safety audit concern and recommendation:	Risk of rear-end shunt collisions. The arrangement of the right turning facilities at the junction appears to be insufficient to allow vehicles to carry out right-turn manoeuvres without impeding right-turning traffic in the opposite direction. This may cause additional queuing to form, which may result in rear-end shunt type collision with through traffic. Recommendation: Increase the separation of the site access and Carpenders Avenue arms.
Designers' response:	There is limited scope to increase the separation of the site access and Carpenders Avenue within the existing constraints. However, swept path analysis is provided at Appendix C and demonstrates that there is sufficient space to allow vehicles to carry out right-turn manoeuvres in opposing directions.
HCC Road Safety Review comment:	The designer's response is considered acceptable. Designer response in RSA problem 4 below notes that the right turning facilities have sufficient storage capacity to accommodate the expected level of right turning traffic, hence the risk of queue formation phenomena due to right-turning traffic is deemed unlikely.

RSA Problem Reference: 4	
Consideration:	Possible risk of rear-end shunt type collisions for southbound vehicles.
Road safety audit concern and recommendation:	Risk of obstruction of through lanes. The right turning queuing lane appears to be insufficient to accommodate the expected levels of turning vehicles. This may cause turning vehicles to obstruct the through lane. This may result in rear-end shunt type collisions for southbound vehicles. Recommendation: Review capacity of right turn lane and extend queuing capacity if necessary.
Designers' response:	Drawing ITL200107-SK-001 at Appendix C shows that three vehicles can be stored within the right turn into the site facilities, and five vehicles can be stored with the right-turn into Carpenders Avenue. The number of right-turning vehicles expected is as follows: Right-turn into the site: • AM – 15 vehicles per hour, average demand per cycle = 0.25 • PM – 36 vehicles per hour, average demand per cycle = 0.6 Right-turn into Carpenders Avenue: • AM – 79 vehicles per hour, average demand per cycle =1.3 • PM – 122 vehicles per hour, average demand per cycle = 2.0 This demonstrates that there is more than sufficient storage capacity within the proposed design to accommodate the expected level of traffic turning right into the site access or right into Carpenders Avenue each cycle.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 5	
Consideration:	Possible risk of side-swipe type collisions between right-turning vehicles.
Road safety audit concern and recommendation:	Risk of side-swipe collisions. The stages within the LinSig outputs indicate that there will be simultaneous right turn movements allowed at the junction. There is no swept path analysis provide to demonstrate that safe vehicle movements can be undertaken at the proposed junction. This may result in side-swipe type collisions between right-turning vehicles. Recommendation: Carry out swept path analysis to demonstrate all permitted vehicle movements at the junction can be carried out safely. Also see Problem 2.
Designers' response:	The problem and recommendation are accepted. The updated swept path analysis, at Appendix C, illustrates that safe right-turn movements can be undertaken at the proposed junction.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 6	
Consideration:	Possible risk of visually impaired pedestrians falling in the carriageway when encountering full-height kerbs.
Road safety audit concern and recommendation:	Risk of pedestrian falls.  There is an existing strip of tarmac opposite The Cottage, between verges, and leading to a driveway. When the new controlled pedestrian crossing (E-W) is installed, the tarmac strip may be confused by visually impaired pedestrians (VIPs) as leading to a crossing point to access the northern side of Carpenders Avenue. This may result in VIPs falling in the carriageway when encountering full-height kerbs. Recommendation: Remove the tarmac strip.
Designers' response:	The problem and recommendation are accepted. The drawing has been updated to show that the tarmac strip is to be removed, the detail of which can be dealt with at detailed design stage.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 7	
Consideration:	Possible risk of visually impaired pedestrians colliding with the streetlight if they are tapping the back of footway for guidance.
Road safety audit concern and recommendation:	Risk of pedestrian collisions. It is proposed to widen the existing eastern footway along Oxhey Lane. There are existing street lighting columns at the edge of the footway. This will cause the street lighting to be positioned in the middle of the amended footway, which may result in VIPs colliding with the streetlight if they are tapping the back of footway for guidance. Recommendation: Relocate streetlight to the back of the amended footway.
Designers' response:	The problem and recommendation are accepted. The updated drawing illustrates the location of street lighting at the back of the footway.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 8	
Consideration:	Possible risk of cyclists and pedestrians exiting the site and failing to stop on the footway and fall in the carriageway.
Road safety audit concern and recommendation:	 Risk of overshoot. There is currently a significant level difference between the site and the adjacent footway along Oxhey Lane. This may cause the gradient of the emergency access (predominantly for cycle and pedestrian use) to be too steep. This may result in cycles and pedestrians exiting the site to fail to stop on the footway and fall in the carriageway. Recommendation: Ensure appropriate gradient is provided for the access.
Designers' response:	The problem and recommendation are accepted and can be dealt with at detailed design stage.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 9	
Consideration:	Possible risk of collisions between visually impaired pedestrians and cyclists.
Road safety audit concern and recommendation:	Risk of collisions with cyclists. It is proposed that the emergency access will be used by cyclists. There is no hazard paving proposed at the interface to inform VIPs entering from Oxhey Lane, that there may be cyclists present. This may result in collisions between VIPs and cyclists. Recommendation: Provide hazard paving at the interface of surfaces.
Designers' response:	The problem and recommendation are accepted. The updated drawing, at Appendix B illustrates the location of corduroy paving on either side of the emergency access.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

RSA Problem Reference: 10	
Consideration:	Possible risk of cyclist getting trapped in the gully and falling in the carriageway.
Road safety audit concern and recommendation:	 Risk of cyclist falls. There appears to be a gully in close proximity to the emergency access. The access will have a dropped kerb and will be used by cyclists. This may cause cyclists to ride onto the carriageway, which may result in getting trapped in the gully and falling in the carriageway. Recommendation: Ensure gully is not in line with the emergency access or provide cycle-friendly grating.
Designers' response:	The identified gully located circa 15m north of the proposed emergency access, as demonstrated in the updated drawing at Appendix B. Should the access move north and cycle-friendly grating be required, this can be dealt with at detailed design stage.
HCC Road Safety Review comment:	The designer's response is considered acceptable.

Applicant's consideration shown in Access Options Appraisal note, provided through correspondence	
Consideration:	A Stage 1 road safety audit has now been provided by the applicant alongside a Designer's Response in Appendix C of the 1st attachment. One particular issue was identified in an earlier note from the applicant of which I have taken an extract (2nd attachment). This is the question of inter-visibility at the junction as described in paragraphs 3.2.3 – 3.2.5 and shown in Image 2.6.
Road safety audit concern and recommendation:	N/A Stage 1 Road Safety Audit recommendation – N/A
Designers' response:	A junction intervisibility zone as per the requirements of CD123, shows that intervisibility is achieved on three of four arms. Intervisibility is restricted on one of four arm arms where the intervisibility encroaches land outside of the highway in the northwestern corner. However, as explained in Section 2, Manual for Streets 2 is the appropriate design code in this location which states the following on junction intervisibility with reference to the requirements of DMRB: *..designers may need to consider whether the strict application of these visibility requirements is always appropriate, particularly in urban situations where speeds are low; or where stop lines are set back considerable distances due to swept requirements or other reasons, giving rise to large intervisibility zones. (MfS 2, paragraph 9.8.7)* Therefore there should be some flexibility in the provision of intervisibility on every arm of a junction in urban environments. Thus, adherence to the requirements of CD123 on inter-visibility is not necessary. Indeed given the uphill gradient on Carpenders Avenue approach to A4008 Oxhey Lane the speed of vehicles emerging Carpenders Avenue will be low. Coupled with which the southbound traffic on the far side of A4008 Oxhey Lane will be visible to drivers emerging Carpenders Park before any conflict could occur. The access design would be subject to a Stage 1 RSA which would review any safety implications of the design.
HCC Road Safety Review comment:	The designer's response is considered acceptable The hedgeline is located on third-party property, however, where it extends into the highway boundary the highway authority should ensure it is trimmed back.

RSR HCC Problem Reference HCC: 1	
Consideration:	Potential collision risk between mainline traffic and emergency vehicles exiting, and between vulnerable road users (VRUs) and vehicles entering, due to vegetation obscuring visibility at the emergency access.
Road safety audit concern and recommendation:	N/A Stage 1 Road Safety Audit recommendation – N/A
Designers' response:	N/A
HCC Road Safety Review comment:	The reviewer is concerned that visibility splays are likely to be obstructed by overgrown vegetation increasing the potential for collisions between emergency vehicles and mainline traffic or VRUs. This may be exacerbated if the road alignment and gradients also affect forward visibility.

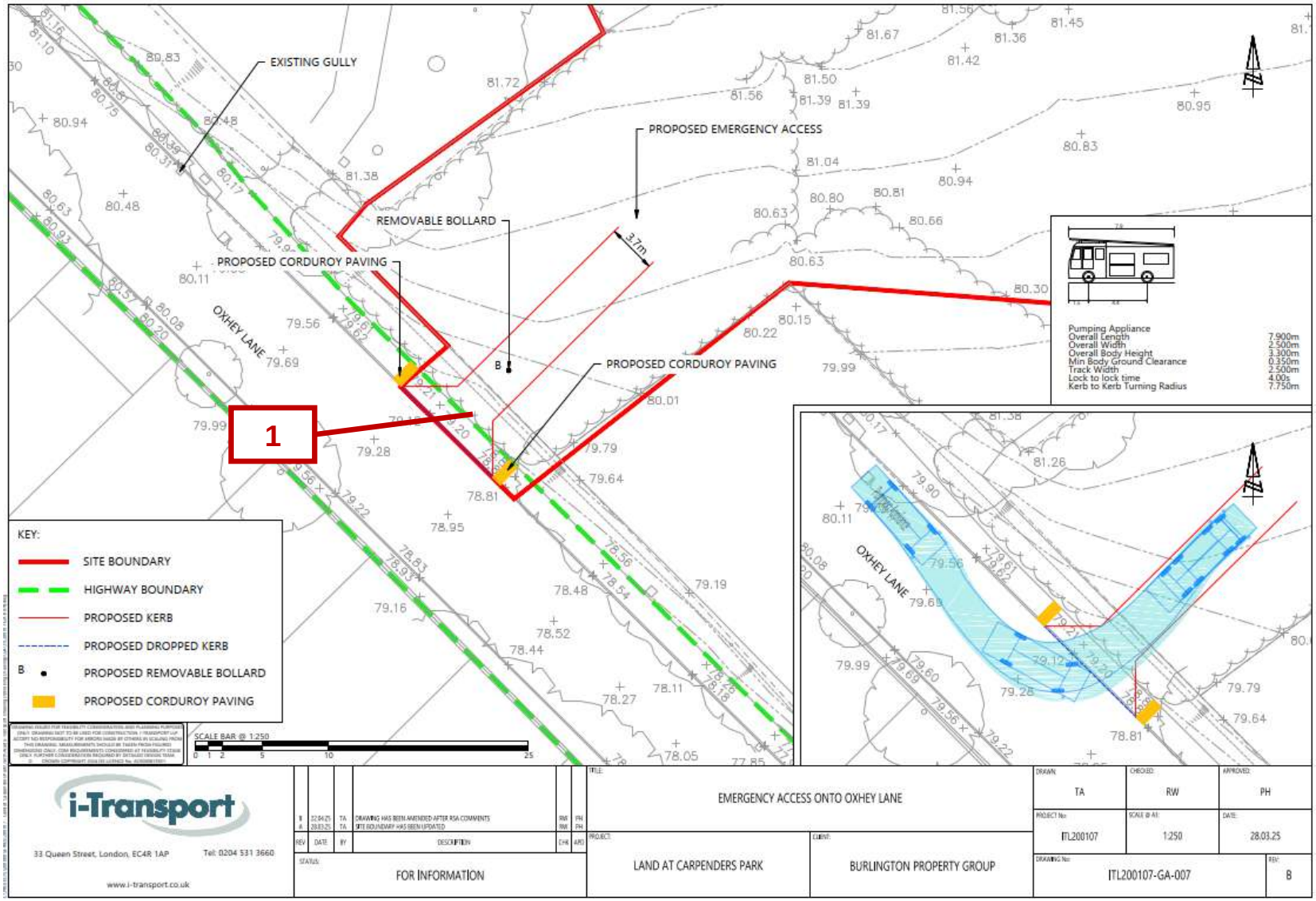
RSR HCC Problem Reference HCC: 2	
Consideration:	Possible risk of vehicle conflicts as a result of insufficient space to manoeuvre within the site access.
Road safety audit concern and recommendation:	N/A Stage 1 Road Safety Audit recommendation – N/A
Designers' response:	N/A
HCC Road Safety Review comment:	Vehicle tracking drawing provided as part Road Safety Audit Stage 1 (ITL200107-GA-006 Rev B) indicates turning conflicts at the site access, where inbound and outbound turning manoeuvres overlap. Limited space available impact manoeuvrability and increases the likelihood of side swipe collisions.

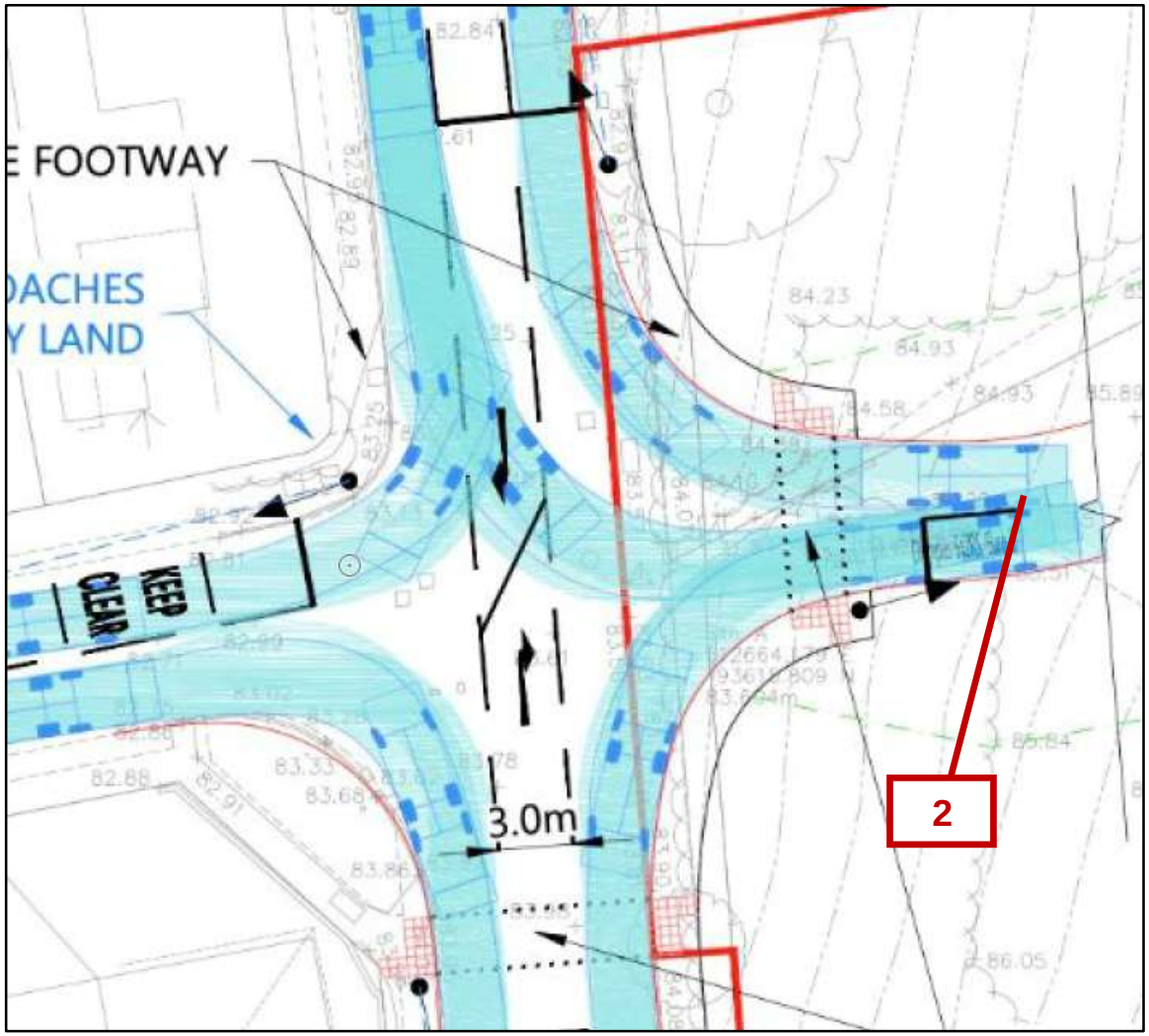
The comments recorded above are made with reference to my 6+ years' experience in Road Safety Engineering including Road Safety Audit and the design of casualty reduction proposals. They are provided to promote safety related and general improvements considered appropriate to the proposal but do not represent any approval of the scheme.

Signed: 

Date: 4 November 2025

Dimitris Nonas
Hertfordshire County Council
Operational Road Safety, The Lincoln, Lincoln Square, 9 Brazennose Street, Manchester, M2 5AD


EXISTING GULLY
PROPOSED EMERGENCY ACCESS
REMOVABLE BOLLARD
3.7m
PROPOSED CORDUROY PAVING
PROPOSED CORDUROY PAVING
OXHEY LANE
B
1
Pumping Appliance
Overall Length 7.900m
Overall Width 2.500m
Overall Body Height 3.300m
Min Body Ground Clearance 0.350m
Track Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 7.750m
KEY:
SITE BOUNDARY
HIGHWAY BOUNDARY
PROPOSED KERB
PROPOSED DROPPED KERB
PROPOSED REMOVABLE BOLLARD
PROPOSED CORDUROY PAVING
SCALE BAR @ 1:250
0 1 2 5 10 25
i-Transport
33 Queen Street, London, EC4R 1AP
Tel: 0204 531 3660
www.i-transport.co.uk
B 02.04.25 TA RW DRAWING HAS BEEN AMENDED AFTER RSA COMMENTS
A 28.03.25 TA PH SITE BOUNDARY HAS BEEN UPDATED
REV DATE BY DESCRIPTION CHK APP
STATUS: FOR INFORMATION
PROJECT: LAND AT CARPENDERS PARK
CLIENT: BURLINGTON PROPERTY GROUP
TITLE: EMERGENCY ACCESS ONTO OXHEY LANE
DRAWN: TA
CHECKED: RW
APPROVED: PH
PROJECT No: ITL200107
SCALE @ A1: 1:250
DATE: 28.03.25
DRAWING No: ITL200107-GA-007
REV: B


FOOTWAY
KEEP CLEAR
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