Ref: HA/SN/AL/H258/16P
Date: 03 October 2023

Mr Amit Patel
East Herts Council
Wallfields
Pegs Lane
Hertford
SG13 8EG

By e-mail only to: Amit.Patel@eastherts.gov.uk

Dear Mr Patel,

Re: Land East of A10 Buntingford, Hertfordshire (Ref: 3/23/1447/OUT)

Outline planning for the development for up to 350 dwellings, with up to 4,400 sqm of commercial and services floorspace (Use Class E and B8) and up to 500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space, and landscaping.

We write to respond to the statutory consultee comments received to date in relation to the above referenced planning application.

We are aware that the Council is still awaiting comments from key consultees including archaeology, planning policy, urban design, the NHS, HCC Highways, ecology, landscape, the Town Council and the LLFA. We understand from recent correspondence that these are being chased and responses were due last week. We would appreciate an update on these and should further responses be required to those additional consultee comments, we will respond accordingly by separate cover.

The Statutory Consultee comments received to date are as follows:

1. Active Travel England;
2. Affinity Water;
3. Environment Agency;
4. Herts Fire and Rescue;
5. Herts and Middlesex Wildlife Trust;
6. Housing Development Unit;
7. Planning Obligations (East Hertfordshire District Council);
8. Planning Obligations (Hertfordshire County Council);
9. Spatial Planning;
10. Sports England;
11. CPRE;
12. Waste and Recycling; and,
13. Thames Water.

Active Travel England

Active Travel England (ATE) have requested deferral of any decision and have requested further clarification and information on the proposed mitigation and improvements to the active travel network, trip generation, qualitative review of external active travel routes, permeability and access to the site, Development Framework Plan, Site Access Arrangement, cycle parking, bus services and the travel plan.

Appended to this letter is the response prepared by the Applicant's transport consultants (WSP) in relation to the Active Travel England comments, as well as correspondence with Hertfordshire County Council (HCC) regarding the ongoing discussions and additional information requested for their consideration.

Affinity Water

Affinity Water raise no objection to the application but advise that because the application site is located near a Source Protection Zone (SPZ), construction works and operation should accord with relevant British Standards and best management practices to reduce groundwater pollution risk.

Affinity Water have set out that any excavations below the ground water table should be avoided. If these are necessary a ground investigation should be first carried out to identify appropriate techniques and to avoid displacing shallow contamination to a greater depth, which could impact the chalk aquifer. They have also indicated that water efficiency fixtures and fittings should be used in the development as the site is within a water stressed area.

The Applicant is satisfied with the wording of suggested condition 1 – *'Contaminated Groundworks'* given that the proposed works would not seek to penetrate the Chalk aquifer or intentionally discharge to the groundwater (such as deep bore soakaway) and are instead discharging surface water to the local Thames Water network.

The Applicant is satisfied with the wording of suggested condition 2 – *'Contamination During Construction'*.

The Applicant does however query the necessity of condition 3 – *'Contamination through Surface Water Drainage'* given that the proposal does not seek to discharge any surface water to the aquifer i.e. a direct pathway to the aquifer should not be present as a result of the drainage network. Groundwater at the site was found to be ~15m deep based on borehole records so based on the low infiltration rate and relatively shallow nature of the drainage network, the risk of contamination from the surface water drainage would be low. The proposals have been designed for storage capacity to prevent surface water flooding up to the 1 in 100 year + 40% climate change event, as demonstrated by the FRA&ODS report, in line with local and national policy so the requirements of this condition are in many ways satisfied by default.

Environment Agency

The Environment Agency do not raise an objection to the application. They have however suggested the imposition of planning conditions in relation to unidentified contamination and infiltration of surface water onto the ground.

The Applicant is satisfied with the wording of suggested condition 1 – *Unidentified Contamination* given the sensitivity of the groundwater at the site and the agricultural use of the site (and historic maps showing this use).

The Applicant does however query the necessity for the of condition 2 – *Infiltration of Surface Water* onto the Ground given that the proposal does not seek to infiltrate any surface water at the development on the basis that infiltration testing found that it was not a feasible discharge method at the site and the means of surface water discharge is to the local Thames Water Sewer network.

The Environment Agency comments go further to provide standing advice on flood risk, and specifically the need for a Sequential Test. The vast majority of the site located withing Flood Zone 1 with only the southeastern corner located within Flood Zone 2. There is no development proposed

within the area of Flood Zone 2. We would therefore welcome your confirmation that a sequential test is not required.

Hertfordshire Fire & Rescue Service

Hertfordshire Fire and Rescue do not raise an objection to the application but suggest the imposition of a condition on any planning permission requiring the provision and installation of fire hydrants at no cost to the County Council or fire and rescue service. The Applicant has no objections to the imposition of this condition as suggested.

Herts and Middlesex Wildlife Trust

Herts and Middlesex Wildlife Trust do not raise an objection to the application but have requested that the full Biodiversity Net Gain (BNG) Metric be provided. This was re-provided to the Council via e-mail on the 16th August 2023 and we await further comments from the Trust.

As demonstrated by the supporting Biodiversity Net Gain Report and Metric, the proposals would deliver a 20.81% net gain for habitat units and a 32.08% net gain for hedgerows/linear features and a net gain of 58.10% for 'river units'. Furthermore, with the inclusion of the additional enhancement land, the BNG score for habitat units is increased to a 41.98% net gain and is considered a significant benefit.

Herts and Middlesex Wildlife Trust have also suggested the imposition of a condition for the installation of swift and bat boxes to the brickwork of the proposed houses. The condition wording clarifies the trigger as being 'prior to occupation'. The Applicant is happy to accept the imposition of this condition.

Housing Development Unit

The Housing Development Unit do not raise an objection to the application but has set out comments on the quantum of affordable housing proposed, tenure, property type and size, size and layout, affordability, accessible housing, and integration of affordable housing units into the open market housing development. The Applicant raises no concerns in respect of the response from the Housing Development Unit and will secure relevant matters by the Section 106 as necessary.

It is noted that the comments do not make any reference to self-build plots, however, the proposal would also seek to allocate self-build plots in accordance with Policy HOU8 Self-Build and Custom House Building, and this would be a matter for agreement at Reserved Matters Stage.

Planning Obligations East Hertfordshire District Council and Hertfordshire County Council

The Applicant acknowledges the Section 106 requests made by HCC's Growth & Infrastructure Unit and East Herts. The Applicant will be writing to EHDC and HCC shortly with our initial views and would welcome a meeting to discuss in more detail.

Spatial Planning

Whilst the application site lies entirely beyond the 'Sand and Gravel Belt', given that the latest available British Geological Survey data indicates there are superficial sand and gravel deposits on and beyond but adjacent to parts of the application site, the Applicant acknowledges that the Minerals Planning Authority, would like to encourage the opportunistic use of sand and gravel deposits within the development, should any be found when creating the foundations/footings.

It is noted that the Spatial Planning Officer raises no objection to the proposals subject to the provision of a Site Waste Management Plan (SWMP) in accordance with the Hertfordshire County

Council Waste Core Strategy and Development Management Policies Development Plan Document 2012. The comments set out a suggested condition to be imposed should a SWMP not be submitted pre-determination. The Applicant would be happy for the imposition of such a condition.

The comments further request that the Applicant consider the HGV movements to and from the waste facilities and the impacts that this proposal would have on road users associated with these facilities and other road users, should this proposal be approved. The Waste Planning Authority would not wish to see the movements from the existing waste facilities negatively impacted and it is recommended that full assessment of this impact/risk be carried out.

In response, it is noted that the nearest junction to the facility is the A507 Baldock Road /A10/ B1038 Baldock Road roundabout which were accessed for capacity and is within acceptable limits post development. Furthermore, HCC have now implemented an HGV restriction on the A507 in Cottered which means lesser HGVs could be expected at the roundabout i.e., more capacity could be enjoyed.

Sports England

We note that Sports England have raised an objection to the application subject to the financial obligations towards the provision of indoor and outdoor sport facilities being confirmed; the expected level of contributions and the projects that the contributions will be used towards.

On confirmation of the above, Sports England are willing to remove their objection.

The Applicant will be writing to EHDC shortly with our initial views and would welcome a meeting to discuss in more detail.

Thames Water

Thames Water comments that the infrastructure of sewage, surface water and foul water infrastructure is inadequate for the new development but suggests that this matter is addressed by a pre-occupation condition.

It is acknowledged that the suggested conditions are typical conditions imposed by Thames Water (it is further noted that the same comments were put forward by Thames Water to the 2022 application) where the development site is located within an area that will require an upgrade to the local sewer network. Thames Water would undertake any requisite modelling or upgrades at their cost as a statutory requirement should planning consent be forthcoming. The Applicant considers the condition to be reasonable.

A response from Thames Water was received by the applicant's drainage consultants during pre-application consultation (and this is appended to the FRA which makes clear there is a process to resolve capacity issues that may be caused by the development).

Until hydraulic modelling is completed by Thames Water, the extent of improvement works they will choose to pursue (they might assess a range of options for cost-benefit-feasibility for example) is unknown. As such, currently it is not possible to agree an exact position regarding upgrades. Notwithstanding, we wish to use this opportunity to provide reassurance to the case officer and any objectors that Thames Water are aware of the development through extensive pre-planning engagement; that Thames Water have stated in writing that they are prepared to undertake any required upgrade works to the network and have suggested the imposition of planning conditions.

Thames Water also raised concerns regarding the potential impacts on amenity from the Sewage Treatment Works including odour, noise, lighting, and flies. It would appear that Thames Water did not realise that the Odour Assessment that they suggest has already been undertaken and was

provided with the planning application. Odour contour assessments have been considered and as a result, the highest sensitivity receptors (such as residential areas) are to be located away from odour sources. The proposed location of the employment area has also been carefully considered to ensure that accessible areas and buildings are located within appropriate odour contours and a buffer is provided along the boundary with the Waste Water Treatment Works.

Appended to this letter is a detailed response from our consultant, WSP responding to Thames Water.

Waste and Recycling

The Council's Waste and Recycling Officer has objected to the application on the basis of insufficient information provided. However, the majority of comments are detailed design matters and on the basis that this application is submitted in outline, details surrounding the storage of waste and waste collection will be provided as part of any future reserved matters application.

Delivery Programme

In order to provide comfort to the local planning authority that this particular site is available and deliverable in the short term, please find appended to this letter a housing delivery statement prepared by the Applicant which sets out the anticipated delivery programme. This confirms the commitment to the delivery of the development within a 5-year period and as such will contribute significantly to the Council's five-year housing land supply.

We trust the above is clear and we would welcome any further feedback you may be able to provide as early as possible in response to queries raised within this letter so that we can respond pro-actively should any issues arise. We also look forward to confirmation of availability for a meeting to specifically discuss Planning Obligations.

Should you have any queries or require any further information, please do not hesitate to contact me.

Yours sincerely,

Hannah Albans MRTPI
Director

Encl – Appendix 1 - Response to ATE prepared by WSP
Appendix 2 - E-mail correspondence dated the 13th September 2023 between WSP and HCC Highways and relevant plans
Appendix 3 - Thames Water Consultation Response Note – Air Quality and Odour prepared by WSP
Appendix 4 - Housing Delivery Statement

dynamic development solutions ™

Appendix 1

Response to ATE prepared by WSP

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

INTRODUCTION

This Technical Note (TN) has been prepared by WSP on behalf of Vistry Home Group in response to Active Travel England (ATE) comments raised regarding the Buntingford West application (ref 3/23/1447/OUT), ATE ref ATE/23/00368/OUT on 22 August 2023.

Description of development: Outline planning for the development of 350 dwellings, with up to 4,400 sqm of commercial and services floorspace (Use Class E and B8) and up to500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space and landscaping.

ATE as statutory consultee have recommended **DEFERRAL** (ATE is not currently in a position to support this application and requests further assessment, evidence, revisions and/or dialogue as set out in this response) for the reasons discussed below to which WSP has provided responses accordingly. The full ATE comments to the Planning Application is included as Annex A of this TN.

Following the above, the report follows the structure below:

Active Travel England (ATE)

- Overall areas of Concern
- Trip Generation
- Qualitative review of external active travel routes
- Permeability and access to the site
- Comments on Development Framework Plan (DR-A-1002)
- Comments on Site Access Arrangement (7498-GA-02-REV G)
- Cycle Parking
- Bus Services
- Travel Plan

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

AREAS OF CONCERN

It is not clear from the application what mitigation and improvements to the active travel network are proposed. While there are references to improvements of public rights of way, bus services and mobility hubs in the transport assessment it not clear what will actually be provided and what the likely impact of the proposals will be. Proposals to improve infrastructure between the site and High Street/Station Road do not appear to have been identified.

Active travel infrastructure and schemes need to be agreed and secured at outline stage to ensure that that the site is connected to the village and facilities in it and to build upon the work that is being carried out in Buntingford to improve active travel infrastructure. The consequence of not doing this is likely to mean routes are unattractive to many users, contributing to car-reliance and the resultant negative impacts upon the local environment and physical and mental health.

RESPONSE

The application is outline and details of mobility hub, cycle/walking connections and bus service will be provided at the reserved matters stage. Following comments from HCC (Appendix A of the TA), the design was reviewed with HCC highways and Public Transport Team at a meeting in November 2022. The necessary changes to the design were made including public transport arrangement and contributions (Appendix A of the TA).

That said, initial intensions have been set out in Section 2.3.9 of the TA. The overall vision is to deliver a sustainable development as the site affords a good opportunity for this (due to its location) which the development via design seeks to capitalise on. As demonstrated in Section 2.3.12 of the TA, the design of the development is such that it adopts the principles of a 20 minutes neighbourhood, the justification is set out in Table 2-1 of the TA. This coupled with the proposed connections to key locations around the site including Buntingford and Aspenden aims to deliver the sustainability objectives of the development.

The connection via Luynes Rise and Aspenden Road will provide direct active travel access to Station Road / High Street. Luynes Rise and Aspenden Road are both lightly trafficked with daily flows below 2500 vehicles making it safe for cyclist to mix with traffic to access the active travel infrastructure on Station Road. There are approximately 2.0m wide footways on both sides if Luynes Rise and Aspenden Road to provide safe walking opportunities to Station Road and onwards to the town.

That said, the infrastructure between the site and the Station Road /High Street[1] is outside the boundary of the development. Hertfordshire County Council (HCC) Highways operate two levels of S106 agreements, with items directly mitigating the impact of a development agreed through Strand 1 S106 agreement and those items mitigating the wider cumulative impact of development on non-car networks being addressed in a Strand 2 S106 agreement.

[1] Buntingford cycling and walking improvements as part of the Active Travel Fund (https://storymaps.arcgis.com/collections/d398ab88e56b4461a033343e36148574?item=1)

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

In the first instance (Strand 1) HCC envisages that agreed improvements and the travel plan support and monitoring fees (£1,200pa for 5 years, indexed via the RPI from May 2014) are delivered via a Strand 1 S106 agreement.

In the second instance (Strand 2) HCC calculated an appropriate headline figure based on the findings of HCC's adopted Developers Planning Obligation Toolkit. For 350 residential units the Appendix 1 of the toolkit suggests a headline figure of £2,389,100. For the commercial element of the site the TRICS database estimates that circa 104 employees would be on site which suggests that a contribution of up to £43,888 would be expected.

The suggested improvements would be agreed with HCC and delivered via the contributions set out above.

The Applicant will commit to improving all existing routes within the redline boundary as well as provide additional routes. It is expected that the contributions made will help deliver further improvements as set out above to provide wider connectivity to help alleviate the anticipated impact of the proposed development on the existing infrastructure.

TRIP GENERATION

Quantification of active travel movements generated by the development is limited in both the transport assessment and travel plan and therefore the analysis presented provides very little evidence upon which to build an effective strategy for a healthy and inclusive development. Although the transport assessment emphasises that this development will prioritise walking and cycling the trip generation in section 5 does not reflect this ambition. The transport assessment should contribute to the government's vision for half of all journeys in towns and cities being walked, wheeled or cycled by 2030 and reflect the targets in the travel plan, rather than simply provide forecasts based on historic peak hour data.

The number of all day active travel trips should be forecast based on the vision for the site. This information combined with traffic flows is required ensure that appropriate active travel infrastructure to key facilities is provided and then its use embedded from an early stage through travel plan measures.

RESPONSE

The trip generation methodology adopted within the TA was discussed and agreed with HCC who provided the mode shares to be used, via pre-application meeting and is in line with standard industry traffic impact assessment criteria.

The active travel demand resulting from the mode share calculation is therefore considered acceptable. 2.0m footways will be provided within the development including a 3.5m footway/cycleway connecting to Luynes Rise as well as improvements to the PROWs within the site (consistent 2.0m width and surface treatment).

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

LTN/120 sets out in Table 6-3 the recommended minimum widths for shared use routes carrying up to 300 pedestrians per hour and 300 cyclist per hour should not be less than 3.0m. Assuming 50% of all trips are via active modes, the peak demand will be much less than 600 (walk +cycle) trips. Thus, the proposed 3.5m shared walking/cycling route and 2.0m (in line with DfT guidance) footways and footpaths through the development is considered adequate to provide the necessary capacity to accommodate the anticipated footfall and cycle demand.

Beyond the site, S106 contribution would be made towards further improvements, yet to be fully agreed to ensure routes connections from the development are provided to key destinations.

QUALITATIVE REVIEW OF EXTERNAL ACTIVE TRAVEL ROUTES

The location of the site means that it is more than 800m from most key facilities and 7km from the nearest rail station, making the shift to active travel modes more challenging. It is not clear how the isochrone accessibility maps in the transport assessment have been developed as, for example, the Co-op on Station Road appears to be more than 800m from the centre of the site and from all the proposed residential areas of the site but is shown as being within in the 800m isochrone. The cycling isochrone map appears to use footpaths or narrow alleyways where cycling is prohibited or that are unsuitable for shared use. These should be checked and information provided on the assumptions underlying the maps (note that the maps in the appendices have been incorrectly produced as the layers do not coincide with the base map).

While the maps provide information on the distances to key facilities they do not provide information on the quality of the routes and therefore whether they are of the required standard to incentivise walking, wheeling and cycling trips. Key to this site include the routes to the facilities on High Street/Station Road, routes to education facilities (primary school, middle school and college) and places of work, and to the village of Aspenden.

Routes to key facilities must be carefully considered to ensure that they are designed in accordance with the standards in LTN 1/20 and can accommodate future walking, wheeling and cycling trips. A more detailed analysis of them is required in order to provide an understanding of the design and deliverability of schemes which are required to embed active travel and ensure that the modal share targets are met. The Level of Service Tool and Junction Assessment Tool in LTN 1/20, and the Walking Route Audit Tool, should be used to assess key routes and develop appropriate schemes compliant with current standards.

RESPONSE

The point of interest for the isochrones have been based on the various access points available. If the Co-opp is accessed via Monks Walk, it will be within 700m of the nearest point of access from the site. The isochrones have been updated and links prohibiting cycle use or difficult to cycle have been restricted. This has been provided at Annex B. The reduced connectivity reduces the cycling range slightly, but key destinations continue to be within acceptable limits.

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

At the reserved matters stage, the development proposals will be subjected to the LTN 120 Level of Service Tool, Junction Assessment Tool and the Walking Route Audit Tool to ensure scheme compliance.

However, at this stage of the proposals the routes to key destinations within the area have been assessed using the LTN 120 Level of Service Tool, Junction Assessment Tool and the Walking Route Audit Tool to provide an assessment of the external infrastructure which the proposed development will be connecting to. Details of the assessment has been provided at Annex C.

The Cycle Level of service assessment was done by cycling all the routes highlighted in Annex C. The overall score for the routes within the immediate vicinity of the site was 46% with the lowest scoring on attractiveness and directness.

The walking route audit gave a score of 50% with the lowest scores around attractiveness and comfort.

The low scores both audits were mainly due to the lack of lighting, surveillance, pedestrian barriers, some pinch points and width restrictions.

PERMEABILITY AND ACCESS TO THE SITE

The transport strategy for this site relies on the provision of walking, wheeling, cycling and possible bus access from Lunes Rise. Two other pedestrian accesses are proposed using public footpaths 28 and 29. The all-modes access, and only vehicular access, is proposed as a roundabout on to the A10, which is likely to be of limited benefit for active travel.

The accesses that use the public footpaths are unlikely to be attractive to residents at all times as it appears that the sections through the existing development are narrow, constrained by fencing in places, not overlooked and possibly not lit. The detailed assessment outlined above will identify current conditions and whether improvements can be made.

There appears to be an opportunity to secure an active travel access onto Peasmead. This would be of benefit to the site, as would any opportunities to link the employment areas to the Watermill Industrial Estate for walking, wheeling and cycling. These options should be investigated.

Evidence that the proposed active travel accesses can be provided should be attained at the outline application stage. These, and additional active travel accesses where possible, must be secured by a Grampian condition to ensure that they are delivered before first occupation and not thwarted by any land ownership issues that arise at a later stage. The application will not be acceptable to ATE if the only access is onto the A10.

RESPONSE

The connection via Peasmead and Watermill Estate were previously investigated but could not be pursued due to land ownership issues. However, there remain some opportunity for a connection to be

made via Peasmead. This opportunity however has some width limitations due to land ownership issues. I have attached the boundary check of the site's red line application plan which shows a separate title ownership of the small triangle in the right top corner which is within a neighbour's ownership. This reduces the width available for a cycle/footpath nonetheless a form of access could be achieved at this point as shown in Annex D.

Due to landownership issues, the connection via the Watermill Estate cannot be pursued.

COMMENTS ON DEVELOPMENT FRAMEWORK PLAN (DR-A-1002)

a) The proposed internal footway/cycleway should extend to the employment area to the east and to the residential area to the north so that this serves and connects all of the site. The use of the shared surface should be reviewed against the requirements in LTN 1/20.

b) It is not clear what the distinction is between the footway/cycleway (purple) and the recreational route (orange). Both seem to serve the residential area and should be of the same standard.

c) The treatment of the public rights of way and whether they will be upgraded for cycling is not clear.

RESPONSE

a. Extending the shared cycle route to the north have been considered. There is limited opportunity for further connectivity beyond the site, cyclist may have to dismount for a small section of the route to join lightly trafficked routes off site. However, the lightly trafficked roads provides onward connectivity to the north. There is currently no LCWIP for East Herts to provide an indication for where connections could be made The main active travel provision in the area is the infrastructure on Station Road/London Road which the development has proposed a connection to via Luynes Rise and will make contributions for further improvements beyond the site.

    i. The use of the 3.5m shared route has been reviewed against LTN/120, initial proposals were 3.0m. This was discussed with HCC highways and has been increased to 3.5m as currently proposed.

b. The purple is a 3.5m shared waking and cycling route and the orange is 2.0m waking route through the development. As the development will generate less than 2500 trips per day with speeds at 20mph (upper limit for inclusive cycling within carriageway) the roads within the development by LNT/120 standards are considered safe and cyclist can mix with light traffic on-street throughout the development.

c. Public right of way through the development will be resurfaced and provided with a consistent width. The site is in a rural setting and this level of infrastructure provision ie upgrading all the footways to shared cycle routes is considered excessive. The connections of these routes outside the site are also via restricted alleyways so further connectivity will be restricted. Following the above, there is little justification for the full shared use upgrade of all the footpaths. The proposed cycle route

provides a suitable connection through the centre of the development, this coupled with the low speed and trafficked development roads provides ample cycling opportunity throughout the development and provides a key connection to the active travel infrastructure on Station Road/London Road for further travel.

COMMENTS ON SITE ACCESS ARRANGEMENT

d) The junction design should be assessed using the Junction Assessment Tool in LTN 1/20.
e) The need for a 30mph access road into the site should be reviewed as residential streets should be designed to keep vehicle speeds at or below 20mph in accordance with Manual for Streets (Section 1.6.1).
f) Appropriate junction treatment should be considered at the site access.
g) The proposed crossings of the do not appear to be LTN 1/20 compliant for the speed and traffic volume of the road. The public rights of way are likely to attract more use so the provision of a crossing in accordance with national standards is required.

RESPONSE

d) The junction has been assessed using the Junction Assessment Tool in LTN 1/20 and details provided at Annex E. The overall junction score was 25% for the standard refuge crossing. The design option for a signal crossing was also accessed and the score was 75%. It is worth noting that the previous design for the junction was a full signal T-junction which the Strategic Infrastructure Board (STIB) objected to.

Following the objection, the current roundabout design with refuge crossing was pursued given the low anticipated footfall and cycle demand at the junction.

The updated design is a sparrow crossing ie a signalised parallel crossing which provides a separate crossing for walking and cycling, increasing safety and making it easier to carry on a journey.

This design option has been shared with HCC Highways for comments.

e) At detailed design stage, details of a 20mph layout will be shown

f) The intension is to provide details of junction treatments at the detailed design stage

g) An LTN/120 Junction assessment has been undertaken and the crossing has been redesigned to achieve an acceptable score. The junction assessment is provided at Annex E.

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

CYCLE PARKING

The transport assessment proposes to use the minimum standard for car parking from the East Herts SPD Parking Provision at New Developments (2015) as the site is being designed to maximise active travel.

To support this ambition it is recommended that the cycle parking standards in LTN 1/20 Table 11-1 be adopted for all dwellings i.e. 1 per bedroom and that this be conditioned at outline stage. At reserved matters stage, more innovative ways of providing cycle parking should be considered than a shed in the back garden in order to provide convenient and secure cycle parking.

It should be noted that LTN 1/20 states that, as with car parking, a proportion of the commercial cycle parking (typically 5%) should be provided for non-standard cycles to accommodate people with mobility impairments. This should be subject to condition or identified for assessment at reserved matters stage as appropriate.

RESPONSE

The level of cycle parking and storage will be assessed as part of the wider masterplan at the reserved matters stage.

BUS SERVICES

The nearest bus stop is over 400m from the site. The transport assessment states that the applicant is seeking to establish a pick up point for the DRT in the development, or divert services through the site, and that contributions are planned. It is not clear what these contributions are or how they will improve bus services to the site. Further details and commitments are required to ensure that appropriate services to the site are provided. Discussion with the local highway and planning authorities should continue in this regard, with an agreed position forming part of the S106 agreement for the site

RESPONSE

Discussions with HCC highways and Public Transport Team took place in November 2022 . An agreement is in place including contributions towards rerouting Herts Lynx and a local bus service via the site as set out in Appendix A of the TA.

TRAVEL PLAN

The submitted travel plan requires further detail on the level of active travel trips that are forecast to be generated. Initial targets for mode share should be more ambitious to reflect the overall objectives for the site. Details of the infrastructure to be provided and how its use will be embedded by initiatives and incentives in the travel plan should be outlined and committed to. Details of actions to be taken if the targets are not met should also be outlined with the intention for these to be secured, implemented and monitored through planning conditions / S106 obligations. The final travel plan should be submitted for approval prior to first occupation of the development.

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

RESPONSE

As previously discussed under the trip generation section, the proposed infrastructure through the development is considered adequate to provide the necessary capacity to accommodate the anticipated footfall and cycle demand. It is noted that Gear Change sets out the government's vision for half of all journeys in towns and cities to be walked, wheeled or cycled by 2030. This was considered in determining the 30% sustainable travel mode share for the site. The 50% active travel mode share is more achievable in towns and cities, given the rural nature of the development site, the level of infrastructure and attractions in the area, the 30% target is considered a realistic and achievable.

That said a 50% active travel demand was utilised in the calculation for the design of the site access via the A10.

Details of the infrastructure and how its use will be embedded by initiatives and incentives are set out within the Travel Plans Section 6 which sets out the hard measures (infrastructure provision) and how these will be used in conjunction with the soft measures including incentives (eg bus taster tickets) to promote and sustain active travel at the site.

In line with HCC Travel Plan Guidance, remedial measures may be written into the planning obligation to supports the county council in pursuing sanctions to ensure that remedies are made if targets are not met. This can be secured through planning condition.

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex A

ATE COMMENTS

Active Travel England
West Offices
Station Rise
York
YO1 6GA
Tel: 0300 330 3000

Your Ref: 3/23/1447/OUT
Our Ref: ATE/23/00368/OUT
Date: 22 August 2023

Active Travel England Planning Response
Detailed Response to an Application for Planning Permission

From: Planning & Development Division, Active Travel England

To: Amit Patel, East Hertfordshire District Council

Application Ref: 3/23/1447/OUT

Site Address: Land East Of The A10, Buntingford

Description of development: Outline planning for the development of 350 dwellings, with up to 4,400 sqm of commercial and services floorspace (Use Class E and B8) and up to500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space and landscaping

Notice is hereby given that Active Travel England's formal recommendation is as follows:

a. ~~**No Objection:** ATE has undertaken a detailed assessment of this application and is content with the submission.~~

b. ~~**Conditional approval:** ATE recommends approval of the application, subject to the agreement and implementation of planning conditions and/or obligations as set out in this response.~~

c. **Deferral:** ATE is not currently in a position to support this application and requests further assessment, evidence, revisions and/or dialogue as set out in this response.

d. ~~**Refusal:** ATE recommends that the application be refused for the reasons set out in this response.~~

1.0 Background

These comments have been prepared by Active Travel England in response to application 3/23/1447/OUT. The site does not appear to be the allocated in the East Hertfordshire District Plan (2018). Policy TRA1 (Sustainable Transport) of the plan includes a requirement to *'Ensure that a range of sustainable transport options are available to occupants or users, which may involve the improvement of pedestrian links, cycle paths, passenger transport network (including bus and/or rail facilities) and community transport initiatives';* and '*Ensure that site layouts prioritise the provision of modes of transport other than the car (particularly walking, cycling and, where appropriate, passenger transport)*

which, where feasible, should provide easy and direct access to key services and facilities'.

Hertfordshire County Council was successful in securing funding from the Active Travel Fund for a scheme in Buntingford, situated on London Road to east of the application site. The scheme provides:

1. A shared use path along London Road/Station Road/High Street
2. New and improved crossing points for pedestrians and cyclists
3. Introduction of a 30mph speed limit
4. New and improved bus stops

The final phase of the London Road works is completed and open, while a second stage of the scheme, High Street (Hare Street Road - Vicarage Road), is currently in detailed design with construction expected to start in Summer 2024.

It is understood that a Local Cycling and Walking Infrastructure Plan (LCWIP) for East Herts is currently under development, but no details are currently available.

2.0 Summary

Active Travel England (ATE) considers that the application as submitted does not demonstrate that 'appropriate opportunities to promote sustainable transport modes can be - or have been - taken up' in accordance with the National Planning Policy Framework (NPPF), paragraph 110a. It is therefore recommended that this application should not be determined until further information has been submitted and reviewed.

As far as can be determined from the submitted documents the application does not provide sufficient information for ATE to be assured that the design of the development, proposed active travel infrastructure and travel plan will create an environment that supports and embeds active travel.

3.0 National Policy and Guidance

The National Planning Policy Framework (NPPF) states:
110. In assessing… specific applications for development, it should be ensured that:
a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location; [and]
b) safe and suitable access to the site can be achieved for all users;
112. …applications for development should:
a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas…;
b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport; [and]
c) create places that… minimise the scope for conflicts between pedestrians, cyclists and vehicles…;

Gear change: a bold vision for cycling and walking is the Government's cycling and walking plan for England. This sets the Government's vision for cycling and walking to be the natural first choice for many journeys with half of all journeys in towns and cities being cycled or walked by 2030. Active Travel England's responsibilities for walking also extend

to “wheeling”, such as the use of wheelchairs (self-propelled or powered) and mobility scooters.

Inclusive mobility: making transport accessible for passengers and pedestrians provides guidance on designing and improving the accessibility and inclusivity of public transport and pedestrian infrastructure.

Active Design (Sport England, supported by Active Travel England and the Office for Health Improvement & Disparities) sets out how the design of our environments can help people to lead more physically active and healthy lives.

Local Transport Note 1/20 (LTN 1/20) provides guidance to local authorities on delivering high quality, cycle infrastructure. It includes five core design principles which represent the ‘essential requirements to achieve more people travelling by cycle or on foot, based on best practice both internationally and across the UK’ and detailed design standards to cycle infrastructure.

4.0 Areas of Concern

It is not clear from the application what mitigation and improvements to the active travel network are proposed. While there are references to improvements of public rights of way, bus services and mobility hubs in the transport assessment it not clear what will actually be provided and what the likely impact of the proposals will be. Proposals to improve infrastructure between the site and High Street/Station Road do not appear to have been identified.

Active travel infrastructure and schemes need to be agreed and secured at outline stage to ensure that that the site is connected to the village and facilities in it and to build upon the work that is being carried out in Buntingford to improve active travel infrastructure. The consequence of not doing this is likely to mean routes are unattractive to many users, contributing to car-reliance and the resultant negative impacts upon the local environment and physical and mental health.

Trip generation
Quantification of active travel movements generated by the development is limited in both the transport assessment and travel plan and therefore the analysis presented provides very little evidence upon which to build an effective strategy for a healthy and inclusive development. Although the transport assessment emphasises that this development will prioritise walking and cycling the trip generation in section 5 does not reflect this ambition. The transport assessment should contribute to the government's vision for half of all journeys in towns and cities being walked, wheeled or cycled by 2030 and reflect the targets in the travel plan, rather than simply provide forecasts based on historic peak hour data.

The number of all day active travel trips should be forecast based on the vision for the site. This information combined with traffic flows is required ensure that appropriate active travel infrastructure to key facilities is provided and then its use embedded from an early stage through travel plan measures.

Qualitative review of external active travel routes
The location of the site means that it is more than 800m from most key facilities and 7km from the nearest rail station, making the shift to active travel modes more challenging. It is not clear how the isochrone accessibility maps in the transport assessment have been

developed as, for example, the Co-op on Station Road appears to be more than 800m from the centre of the site and from all the proposed residential areas of the site but is shown as being within in the 800m isochrone. The cycling isochrone map appears to use footpaths or narrow alleyways where cycling is prohibited or that are unsuitable for shared use. These should be checked and information provided on the assumptions underlying the maps (note that the maps in the appendices have been incorrectly produced as the layers do not coincide with the base map).

While the maps provide information on the distances to key facilities they do not provide information on the quality of the routes and therefore whether they are of the required standard to incentivise walking, wheeling and cycling trips. Key to this site include the routes to the facilities on High Street/Station Road, routes to education facilities (primary school, middle school and college) and places of work, and to the village of Aspenden.

Routes to key facilities must be carefully considered to ensure that they are designed in accordance with the standards in LTN 1/20 and can accommodate future walking, wheeling and cycling trips. A more detailed analysis of them is required in order to provide an understanding of the design and deliverability of schemes which are required to embed active travel and ensure that the modal share targets are met. The Level of Service Tool and Junction Assessment Tool in LTN 1/20, and the Walking Route Audit Tool, should be used to assess key routes and develop appropriate schemes compliant with current standards.

Permeability and access to the site
The transport strategy for this site relies on the provision of walking, wheeling, cycling and possible bus access from Lunes Rise. Two other pedestrian accesses are proposed using public footpaths 28 and 29. The all-modes access, and only vehicular access, is proposed as a roundabout on to the A10, which is likely to be of limited benefit for active travel.

The accesses that use the public footpaths are unlikely to be attractive to residents at all times as it appears that the sections through the existing development are narrow, constrained by fencing in places, not overlooked and possibly not lit. The detailed assessment outlined above will identify current conditions and whether improvements can be made.

There appears to be an opportunity to secure an active travel access onto Peasmead. This would be of benefit to the site, as would any opportunities to link the employment areas to the Watermill Industrial Estate for walking, wheeling and cycling. These options should be investigated.

Evidence that the proposed active travel accesses can be provided should be attained at the outline application stage. These, and additional active travel accesses where possible, must be secured by a Grampian condition to ensure that they are delivered before first occupation and not thwarted by any land ownership issues that arise at a later stage. The application will not be acceptable to ATE if the only access is onto the A10.

Comments on Development Framework Plan (DR-A-1002)
a) The proposed internal footway/cycleway should extend to the employment area to the east and to the residential area to the north so that this serves and connects all of the site. The use of the shared surface should be reviewed against the requirements in LTN 1/20.

b) It is not clear what the distinction is between the the footway/cycleway (purple) and the recreational route (orange). Both seem to serve the residential area and should be of the same standard.

c) The treatment of the public rights of way and whether they will be upgraded for cycling is not clear.

Comments on Site Access Arrangement (7498-GA-02-REV G)

d) The junction design should be assessed using the Junction Assessment Tool in LTN 1/20.

e) The need for a 30mph access road into the site should be reviewed as residential streets should be designed to keep vehicle speeds at or below 20mph in accordance with Manual for Streets (Section 1.6.1).

f) Appropriate junction treatment should be considered at the site access.

g) The proposed crossings of the do not appear to be LTN 1/20 compliant for the speed and traffic volume of the road. The public rights of way are likely to attract more use so the provision of a crossing in accordance with national standards is required.

Cycle Parking

The transport assessment proposes to use the minimum standard for car parking from the East Herts SPD Parking Provision at New Developments (2015) as the site is being designed to maximise active travel.

To support this ambition it is recommended that the cycle parking standards in LTN 1/20 Table 11-1 be adopted for all dwellings i.e. 1 per bedroom and that this be conditioned at outline stage. At reserved matters stage, more innovative ways of providing cycle parking should be considered than a shed in the back garden in order to provide convenient and secure cycle parking.

It should be noted that LTN 1/20 states that, as with car parking, a proportion of the commercial cycle parking (typically 5%) should be provided for non-standard cycles to accommodate people with mobility impairments. This should be subject to condition or identified for assessment at reserved matters stage as appropriate.

Bus Services

The nearest bus stop is over 400m from the site. The transport assessment states that the applicant is seeking to establish a pick up point for the DRT in the development, or divert services through the site, and that contributions are planned. It is not clear what these contributions are or how they will improve bus services to the site. Further details and commitments are required to ensure that appropriate services to the site are provided. Discussion with the local highway and planning authorities should continue in this regard, with an agreed position forming part of the S106 agreement for the site.

Travel Plan

The submitted travel plan requires further detail on the level of active travel trips that are forecast to be generated. Initial targets for mode share should be more ambitious to reflect the overall objectives for the site. Details of the infrastructure to be provided and how its use will be embedded by initiatives and incentives in the travel plan should be outlined and committed to. Details of actions to be taken if the targets are not met should also be outlined with the intention for these to be secured, implemented and monitored through planning conditions / S106 obligations. The final travel plan should be submitted for approval prior to first occupation of the development.

Continued ….

5.0 Next Steps

This advice should be forwarded to the agent/developer and highway authority. ATE would be content to review further submitted information to help address the identified issues; and with a view to providing a further response and recommended wording for planning conditions and obligations as appropriate.

If this application is to be presented to the Council's Planning Committee, ATE would like to be notified in advance of the meeting date and the publication of any agenda and report.

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex B

CYCLING ISOCHRONE WITH LINKS REMOVED

KEY:

- Site Location
- 5 minute cycle (1000m)
- 10 minute cycle (2000m)
- 15 minute cycle (3000m)
- 20 minute cycle (4000m)
- 25 minute cycle (5000m)

Links can not be used for cycling because of insufficient width
Possibility to dismount

0 1 2 km

wsp

Cycling Isochrone

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex C

ROUTE AUDIT

KEY:

Site Location

Routes Selected for Assessment

- 1a
- 1b
- 2a
- 2b
- 3a
- 3b
- 4a
- 4b
- 5
- 6
- 7

2a

2b

4a

4b

6

5

3a

3b

1a

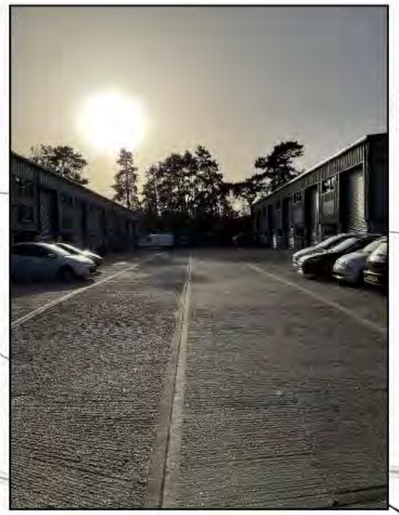
1b

7

0 250 500 m

wsp

Routes Selected for Assessment



KEY:

- Site Location
- Photo Locations
- 1a
- 1b

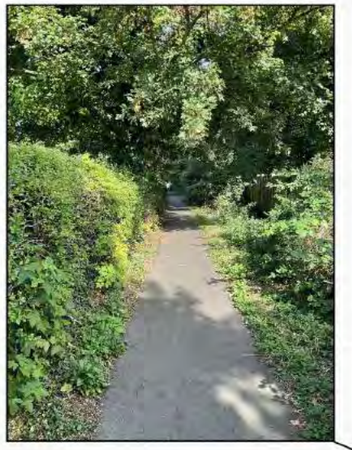
1a

1b

0 100 200 m

wsp

Active Travel Zone Map
Route 1: Knights Cl - Luynes Rise - Aspenden Road



2a

2b

KEY:

- Site Location
- Photo Locations
- Route 2a
- Route 2b

0 100 200 m

wsp

Active Travel Zone Map
Route 2: Baldock Road - Freman College

3a

3b

KEY:

Site Location

Photo Locations

Route 3a

Route 3b

Active Travel Zone Map
Route 3: Knights Close - High Street

0 100 200 m

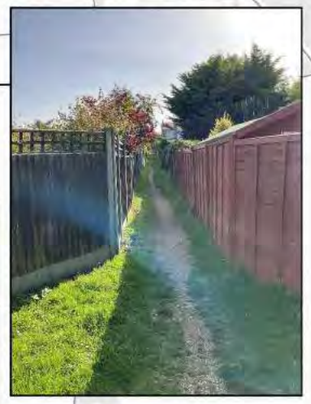










4a

4b

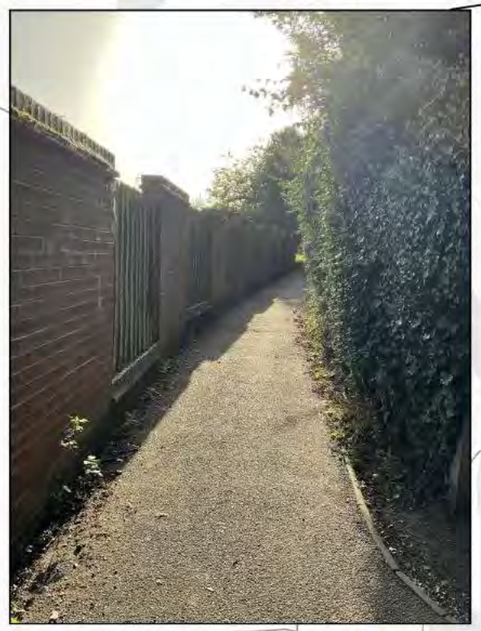
KEY:

- Site Location
- Photo Locations
- Route 4a
- Route 4b

wsp

Active Travel Zone Map
Route 4: Oak End - Layton First School

0 100 200 m



KEY:

Site Location

Photo Locations

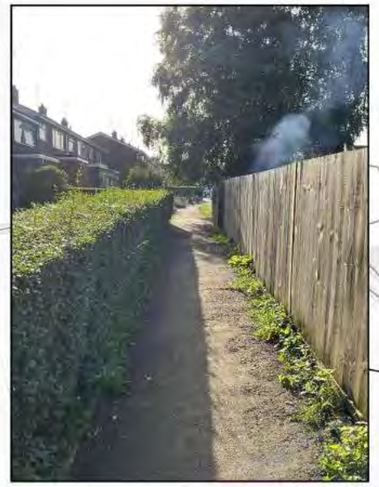
Route 5

5

0 100 200 m

wsp

Active Travel Zone Map
Route 5: Oak End - River Rib



KEY:

Site Location

Photo Locations

Route 6

6

0 100 200 m

wsp

Active Travel Zone Map
Route 6: Monks Walk - River Rib

KEY:

Site Location

Photo Locations

Route 7

0 100 200 m

wsp

Active Travel Zone Map
Route 7: A10 - Aspenden Road

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex C.1

LTN 120 CYCLE LEVEL OF SERVICE TOOL

Route name	Total Score	Score %
Route 1a: Knights Cl - Luynes Rise - Aspenden Road	27	54%
Route 1b: Knights Cl - Luynes Rise - Aspenden Road	14	28%
Route 2a: Baldock Road - Freman College	21	42%
Route 2b: Baldock Road - Bowling Green Lane	27	54%
Route 3a: Luynes Rise - High Street	25	50%
Route 3b: Knights Cl - Luynes Rise	31	62%
Route 4a: Oak End - Layton First School	17	34%
Route 4b: Monks Walk - Baldock Road	24	48%
Route 5: Oak End - River Rib	21	42%
Route 6: Monks Walk - River Rib	21	42%
Route 7: A10 - Aspenden Road	19	38%
	23	46%

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	0	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	0	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	2	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	1	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	1	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	1	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	1	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	2	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**27**	

ROUTE SUMMARY

Route Name	Route 1: Knights Cl - Luynes Rise - Aspenden Road
Length	960m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	Pinch point created by a tree in a sharp bend
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	1	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	0	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	0	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	0	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	0	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	0	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	1	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	0	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	0	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	0	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	0	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	0	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**14**	

ROUTE SUMMARY

Route Name	Route 1: Knights Cl - Luynes Rise - Aspenden Road
Length	960m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	1	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	0	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	0	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	0	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	0	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	1	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**21**	

ROUTE SUMMARY

Route Name	Route 2a: Baldock Road - Freman College
Length	600m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	0	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	2	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	2	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	0	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	2	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	0	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	2	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	1	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	0	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	0	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	0	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	2	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**27**	

ROUTE SUMMARY

Route Name	Route 2b: Baldock Road - Bowling Green Lane
Length	380m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	2	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	1	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	1	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	1	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	1	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	1	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**25**	

ROUTE SUMMARY

Route Name	Route 3a: Luynes Rise - High Stree
Length	708m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	0	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	2	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	2	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	2	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	2	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	1	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	1	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	1	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**31**	

ROUTE SUMMARY

Route Name	Route 3b: Knights Cl - Luynes Rise
Length	230m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	Barriers at end of route requiring cyclist to dismount
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	0	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	1	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	0	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	0	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	0	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	0	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	0	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	1	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	0	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	1	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	1	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**17**	

ROUTE SUMMARY

Route Name	Route 4a: Oak End - Layton First School
Length	1190m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	2	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	1	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	1	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	1	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	1	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	0	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	1	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	1	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**24**	

ROUTE SUMMARY

Route Name	Route 4b: Monks Walk - Baldock Road
Length	380m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	2	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	1	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	0	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	0	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	0	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	0	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	0	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**21**	

ROUTE SUMMARY

Route Name	Route 5: Oak End - River Rib
Length	570m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	1	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	2	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	1	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	1	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	0	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	0	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	0	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	0	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	0	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	1	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**21**	

ROUTE SUMMARY

Route Name	Route 6: Monks Walk - River Rib
Length	430m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

Appendix A: Cycling Level of Service Tool

Key requirement	Factor	Design principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Score	Comments
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	0	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	2	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	1	
Safety	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist. A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph.	2	
			13. Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and selfevident to all road users. All users should understand where they and other road users should be and what movements they might make	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	0	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	0	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	0	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/ gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	0	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closelyjointed blocks undisturbed by turning heavy vehicles.	0	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	1	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	0	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	0	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	0	
			23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	0	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	0	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure nonoverlooked areas	Some secure cycle parking provided but not enough to meet demand	Secure cycle parking provided, sufficient to meet demand	0	
							Audit Score Total	**19**	

ROUTE SUMMARY

Route Name	Route 7: A10 - Aspenden Road
Length	380m
of Assessor(s)	Helen Panfilova
of Assessment	05 September 2023

Comments	
Actions	

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex C.2

WALKING ROUTE AUDIT TOOL

Route name	Total Score	Score %
Route 1a: Knights Cl - Luynes Rise - Aspenden Road	26	65%
Route 1b: Knights Cl - Luynes Rise - Aspenden Road	14	35%
Route 2a: Baldock Road - Freman College	21	53%
Route 2b: Baldock Road - Bowling Green Lane	27	68%
Route 3a: Luynes Rise - High Street	29	73%
Route 3b: Knights Cl - Luynes Rise	29	73%
Route 4a: Oak End - Layton First School	21	53%
Route 4b: Monks Walk - Baldock Road	26	65%
Route 5: Oak End - River Rib	29	73%
Route 6: Monks Walk - River Rib	26	65%
Route 7: A10 - Aspenden Road	16	40%
	25	50%

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments	Actions
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**		
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**1**		
3. ATTRACTIVENESS - traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**2**		
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**		
ATTRACTIVENESS				**6**		
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**		
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**		
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**		
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**		
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**1**		
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**		
COMFORT				**6**		
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**1**		
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**1**		
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**1**		
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**1**		
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**		
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**1**		
DIRECTNESS				**7**		
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic	**2**		
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds.	Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.	**2**		
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	**2**		
SAFETY				**6**		
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**		
COHERENCE				**1**		
			Total Score	**26**		

ROUTE SUMMARY

Route Name	Route 1: Knights Cl - Luynes Rise - Aspenden Road
Length	960m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	6	
Comfort	6	
Directness	7	
Safety	6	
Coherence	1	
Total	26	65%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**0**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**1**	
3. ATTRACTIVENESS - traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**1**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	
ATTRACTIVENESS				**3**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**1**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**6**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**1**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**1**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**0**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**0**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**0**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**0**	
DIRECTNESS				**2**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic	**1**	
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds.	Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.	**1**	
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	**1**	
SAFETY				**3**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**0**	
COHERENCE				**0**	
			Total Score	**14**	

ROUTE SUMMARY

Route Name	Route 1: Knights Cl - Luynes Rise - Aspenden Road
Length	960m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	3	
Comfort	6	
Directness	2	
Safety	3	
Coherence	0	
Total	14	35%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**1**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**2**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**0**	Insufficient lighting Excessive use of guardrail or bollards
ATTRACTIVENESS				**5**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**0**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**0**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**0**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**2**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**4**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**1**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**1**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**2**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**1**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**0**	
DIRECTNESS				**7**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**2**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**5**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**0**	dropped kerbs but no tactile at crossing point
COHERENCE				**0**	
			Total Score	**21**	

ROUTE SUMMARY

Route Name	Route 2a: Baldock Road - Freman College
Length	600m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	5	
Comfort	4	
Directness	7	
Safety	5	
Coherence	0	
Total	21	53%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**1**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**1**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**2**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	Insufficient lighting and no natural surveillance, width 1m
ATTRACTIVENESS				**5**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**2**	There are unexpected holes in the ground
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	Footway width less than 1.5m
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**2**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**2**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**9**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**2**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**2**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**1**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**1**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**1**	
DIRECTNESS				**9**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**1**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**1**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**3**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**	
COHERENCE				**1**	
			Total Score	**27**	

ROUTE SUMMARY

Route Name	Route 2b: Baldock Road - Bowling Green Lane
Length	190m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	5	
Comfort	9	
Directness	9	
Safety	3	
Coherence	1	
Total	27	68%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**1**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	
ATTRACTIVENESS				**6**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**2**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**7**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**2**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**2**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**2**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**1**	
DIRECTNESS				**11**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**1**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**4**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**	
COHERENCE				**1**	
			Total Score	**29**	

ROUTE SUMMARY

Route Name	Route 3: Luynes Rise - High Street
Length	708m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	6	
Comfort	7	
Directness	11	
Safety	4	
Coherence	1	
Total	29	73%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**1**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	
ATTRACTIVENESS				**6**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**2**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**7**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**2**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**2**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**2**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**1**	
DIRECTNESS				**11**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**1**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**4**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**	
COHERENCE				**1**	
			Total Score	**29**	

ROUTE SUMMARY

Route Name	Route 3b: Knights Cl - Luynes Rise
Length	230m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	6	
Comfort	7	
Directness	11	
Safety	4	
Coherence	1	
Total	29	73%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**1**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	
ATTRACTIVENESS				**6**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**1**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**6**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**1**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**1**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**1**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**1**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**1**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**1**	
DIRECTNESS				**6**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**0**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**1**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**2**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**	
COHERENCE				**1**	
			Total Score	**21**	

ROUTE SUMMARY

Route Name	Route 4a: Oak End - Layton First School
Length	1190m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	6	
Comfort	6	
Directness	6	
Safety	2	
Coherence	1	
Total	21	53%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**2**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	
ATTRACTIVENESS				**7**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**2**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**2**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**2**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**9**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**0**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**0**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**0**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**0**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**2**	
DIRECTNESS				**4**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**1**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**4**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**2**	
COHERENCE				**2**	
			Total Score	**26**	

ROUTE SUMMARY

Route Name	Route 4b: Monks Walk - Baldock Road
Length	380m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	7	
Comfort	9	
Directness	4	
Safety	4	
Coherence	2	
Total	26	65%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**1**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**2**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	
ATTRACTIVENESS				**6**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**2**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**7**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**2**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**2**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**2**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**1**	
DIRECTNESS				**11**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**2**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**5**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**0**	
COHERENCE				**0**	
			Total Score	**29**	

ROUTE SUMMARY

Route Name	Route 8: Oak End - River Rib
Length	570m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	6	
Comfort	7	
Directness	11	
Safety	5	
Coherence	0	
Total	29	73%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**1**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**1**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**1**	
ATTRACTIVENESS				**5**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**1**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**2**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	
COMFORT				**7**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**1**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**1**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**2**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**1**	
DIRECTNESS				**9**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	
18.SAFETY	Traffic speeds low, or pedestrians	Traffic speeds moderate and	High traffic speeds, with pedestrians	**2**	
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result in	**1**	
SAFETY				**5**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**0**	
COHERENCE				**0**	
			Total Score	**26**	

ROUTE SUMMARY

Route Name	Route 6: Monks Walk - River Rib
Length	430m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	5	
Comfort	7	
Directness	9	
Safety	5	
Coherence	0	
Total	26	65%

Comments	
Actions	

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**0**	
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**1**	
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**0**	
ATTRACTIVENESS				**3**	
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**0**	
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**0**	
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**0**	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**0**	
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**0**	
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**0**	
COMFORT				**0**	
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**2**	
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**2**	
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**0**	
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**1**	
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**2**	
DIRECTNESS				**9**	
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**1**	
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds.	Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.	**1**	
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	**1**	
SAFETY				**3**	
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**	
COHERENCE				**1**	
			Total Score	**16**	

ROUTE SUMMARY

Route Name	Route 7: A10 - Aspenden Road
Length	380m
Name of Assessor(s)	Helen Panfilova
Date of Assessment	05 September 2023

Criterion	Performance Scores	
Attractiveness	3	
Comfort	0	
Directness	9	
Safety	3	
Coherence	1	
Total	16	40%

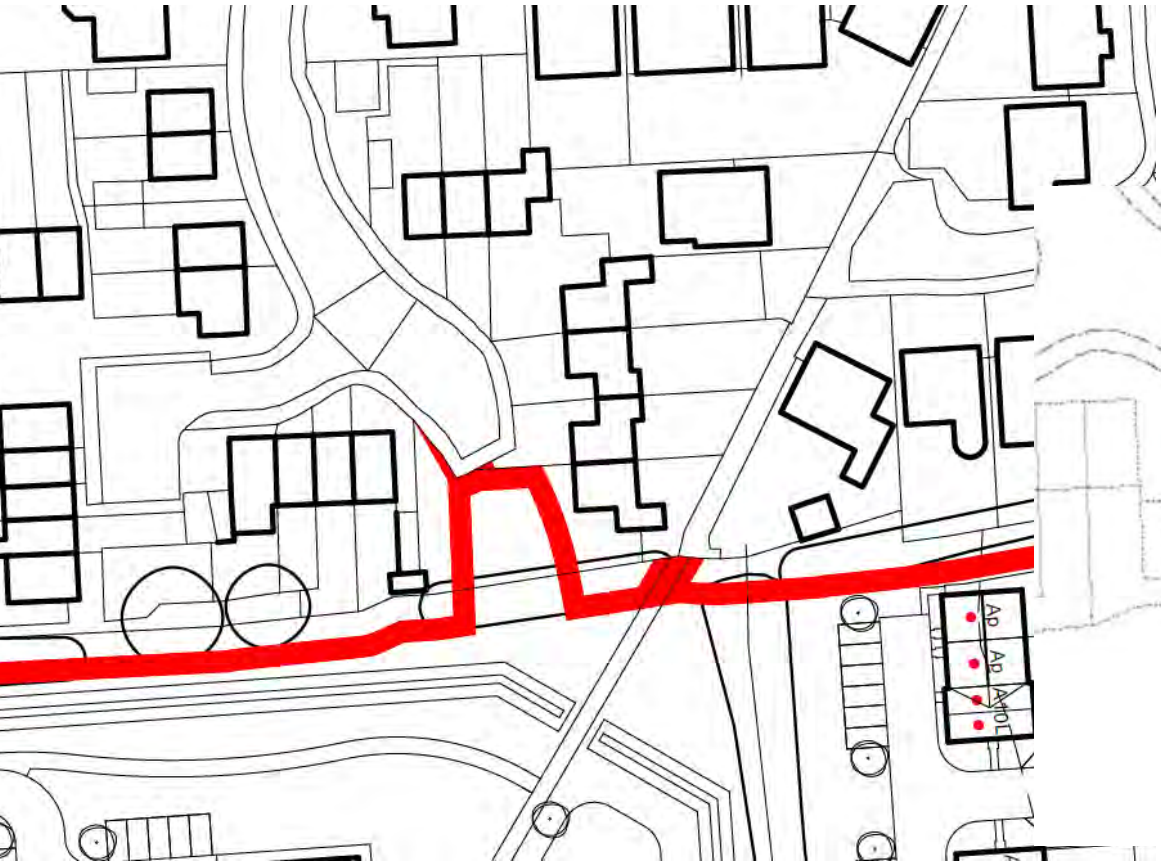
Comments	
Actions	

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex D

SITE REDLINE BOUNDARY SEARCH


9
AP
AP
AP


E1
10
6
7
9


ASMEAD
5
B1
9

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex E

JUNCTION ASSESSMENT TOOL

Refuge Crossing

Cycle Infrastructure Design

Type of junction	Cycle movement being assessed	Suitable only for confident existing cyclists, and may be avoided by some experienced cyclists Conditions are most likely to give rise to the most common collision types Score = 0	Likely to be more acceptable to most cyclists, but may still pose problems for less confident or new cyclists The risk of collisions has been reduced by design layout or traffic management interventions Score = 1	Suitable for all potential and existing cyclists The potential for collisions has been removed, or managed to a high standard of safety for cyclists Score = 2
Roundabouts *In addition* *"any junction" conditions*	All movements	a Any type of roundabout with high traffic throughput.[65] a Normal roundabout with multi-lane flared approaches. a Any type of roundabout with annular cycle lane marked on the circulatory carriageway.	a Compact roundabout or raised mini roundabout with no more than moderate traffic throughput.[66] a Off-carriageway cycle track with crossings of entries and exits without cycle priority, crossing single traffic lanes with traffic flows < 4000 vehicles per day or 400 HGV/bus flow.	a Off-carriageway cycle track with crossings of entries and exits with signals or cycle priority.

65 Heavy traffic throughput: >8000 motor vehicles per day and/or HGV and bus flow > 800 per day

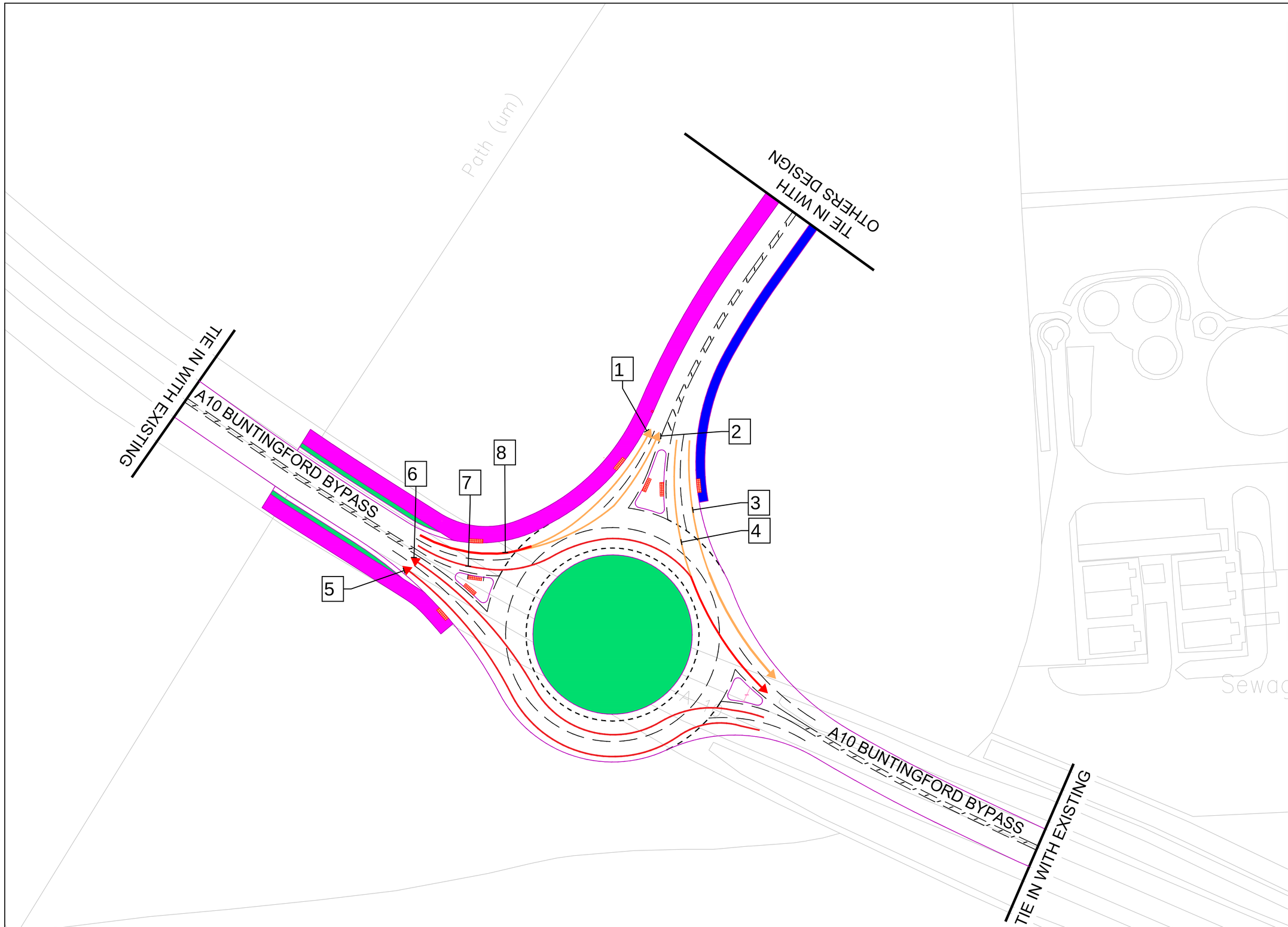
66 Moderate traffic throughput: δ8000 motor vehicles per day and/or HGV and bus flow δ 800 per day

Roundabout movement

16

Max Score 16

Movement	Score	%	Comment
1	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
2	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
3	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
4	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
5	0	0%	Heavy traffic throughput: >8000 motor vehicles per day and/or HGV and bus flow > 800 per day
6	0	0%	Heavy traffic throughput: >8000 motor vehicles per day and/or HGV and bus flow > 800 per day
7	0	0%	Heavy traffic throughput: >8000 motor vehicles per day and/or HGV and bus flow > 800 per day
8	0	0%	Heavy traffic throughput: >8000 motor vehicles per day and/or HGV and bus flow > 800 per day
OVerall Score (16)	4	**25%**	



DO NOT SCALE

NOTES:
1. STREET LIGHTING SCHEME TO BE PROVIDED, DETAILS TO BE IDENTIFIED AT DETAILED DESIGN STAGE.
2. THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND NOT TO BE USED FOR CONSTRUCTION.
3. INTRODUCTION OF OVERTAKING AREAS ON ROUNDABOUT A10 EXITS PROVIDED FOLLOWING HERTFORDSHIRE COUNTY COUNCIL (HCC) DIRECT REQUEST, AGAINST ADVICE OF RSA1. WSP | PARSONS BRINCKERHOFF WISH TO MAKE IT CLEAR THAT THE DESIGN DECISION RELATING TO THE A10 EXITS ARE THE RESPONSIBILITY OF HCC.

REV	DATE	BY	DESCRIPTION	CHK	APD
A	04/07/23	GG	FIRST ISSUE	DG	DG

DRAWING STATUS: PLANNING APPLICATION

WSP
Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
http://www.wspgroup.com

CLIENT: VISTRY GROUP

ARCHITECT: FPCR

PROJECT: BUNTINGFORD WEST

TITLE: PROPOSED ACCESS TO A10 AND LUYNES RISE

SCALE @ A1:	CHECKED:	APPROVED:
1:1000	GG	DG
CAD FILE:	DESIGN/DRAWN:	DATE:
7498-GA-02 REV G	VM	July 2023

PROJECT No:	DRAWING No:	REV:
7008893	7498-GA-02 REV G	G

0 1:1000 50 metres

Sparrow Crossing

Cycle Infrastructure Design

Type of junction	Cycle movement being assessed	Suitable only for confident existing cyclists, and may be avoided by some experienced cyclists Conditions are most likely to give rise to the most common collision types Score = 0	Likely to be more acceptable to most cyclists, but may still pose problems for less confident or new cyclists The risk of collisions has been reduced by design layout or traffic management interventions Score = 1	Suitable for all potential and existing cyclists The potential for collisions has been removed, or managed to a high standard of safety for cyclists Score = 2
Roundabouts *In addition* *"any junction" conditions*	All movements	a Any type of roundabout with high traffic throughput.[65] a Normal roundabout with multi-lane flared approaches. a Any type of roundabout with annular cycle lane marked on the circulatory carriageway.	a Compact roundabout or raised mini roundabout with no more than moderate traffic throughput.[66] a Off-carriageway cycle track with crossings of entries and exits without cycle priority, crossing single traffic lanes with traffic flows < 4000 vehicles per day or 400 HGV/bus flow.	a Off-carriageway cycle track with crossings of entries and exits with signals or cycle priority.

65 Heavy traffic throughput: >8000 motor vehicles per day and/or HGV and bus flow > 800 per day

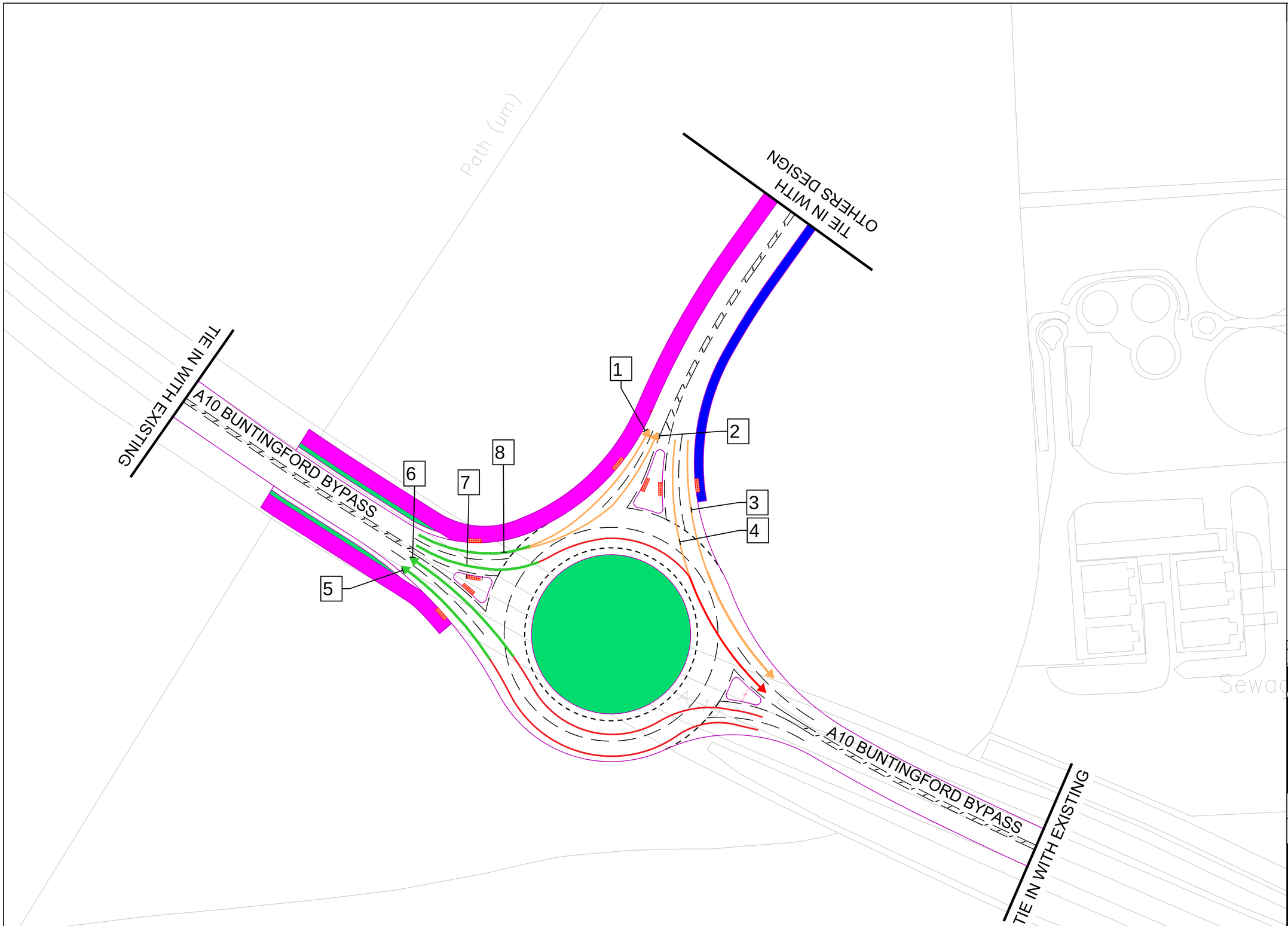
66 Moderate traffic throughput: δ8000 motor vehicles per day and/or HGV and bus flow δ 800 per day

Roundabout movement

16

Max Score 16

Movement	Score	%	Comment
1	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
2	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
3	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
4	1	6%	Multilane flared approach buth with low traffic flow: Traffic flow<4000 vehicles/day and HGV <400/day.
5	2	13%	Signal and cycle priority
6	2	13%	Signal and cycle priority
7	2	13%	Signal and cycle priority
8	2	13%	Signal and cycle priority
OVerall Score (16)	12	**75%**	



\\UK.WSPGROUP.COM\CENTRAL DATA\PROJECTS\700888XX\700888938 - LAND AT BUNTINGFORD WEST_APPLICATION\03 WIP\DRAWING\AUTO CAD\BUNTINGFORD WEST RBT JUNCTION\OPTION 1\7498-GA-02 REV G.DWG 06/09/2023 09:28:58 Gosinu, Gideon

0 1:1000 50 metres

DO NOT SCALE

NOTES:
1. STREET LIGHTING SCHEME TO BE PROVIDED, DETAILS TO BE IDENTIFIED AT DETAILED DESIGN STAGE.
2. THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND NOT TO BE USED FOR CONSTRUCTION.
3. INTRODUCTION OF OVERTAKING AREAS ON ROUNDABOUT A10 EXITS PROVIDED FOLLOWING HERTFORDSHIRE COUNTY COUNCIL (HCC) DIRECT REQUEST, AGAINST ADVICE OF RSA1. WSP | PARSONS BRINCKERHOFF WISH TO MAKE IT CLEAR THAT THE DESIGN DECISION RELATING TO THE A10 EXITS ARE THE RESPONSIBILITY OF HCC.

REV	DATE	BY	DESCRIPTION	CHK	APD
A	04/07/23	GG	FIRST ISSUE	DG	DG

DRAWING STATUS: PLANNING APPLICATION

WSP
Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
http://www.wspgroup.com

CLIENT: VISTRY GROUP

ARCHITECT: FPCR

PROJECT: BUNTINGFORD WEST

TITLE: PROPOSED ACCESS TO A10 AND LUYNES RISE

SCALE @ A1:	CHECKED:	APPROVED:
1:1000	GG	DG
CAD FILE:	DESIGN-DRAWN:	DATE:
7498-GA-02 REV G	VM	July 2023

PROJECT No:	DRAWING No:	REV:
7008893	7498-GA-02 REV G	G

TECHNICAL NOTE 1

DATE:	15 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to Active Travel England Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex E.1

UPDATED SITE ACCESS DESIGN

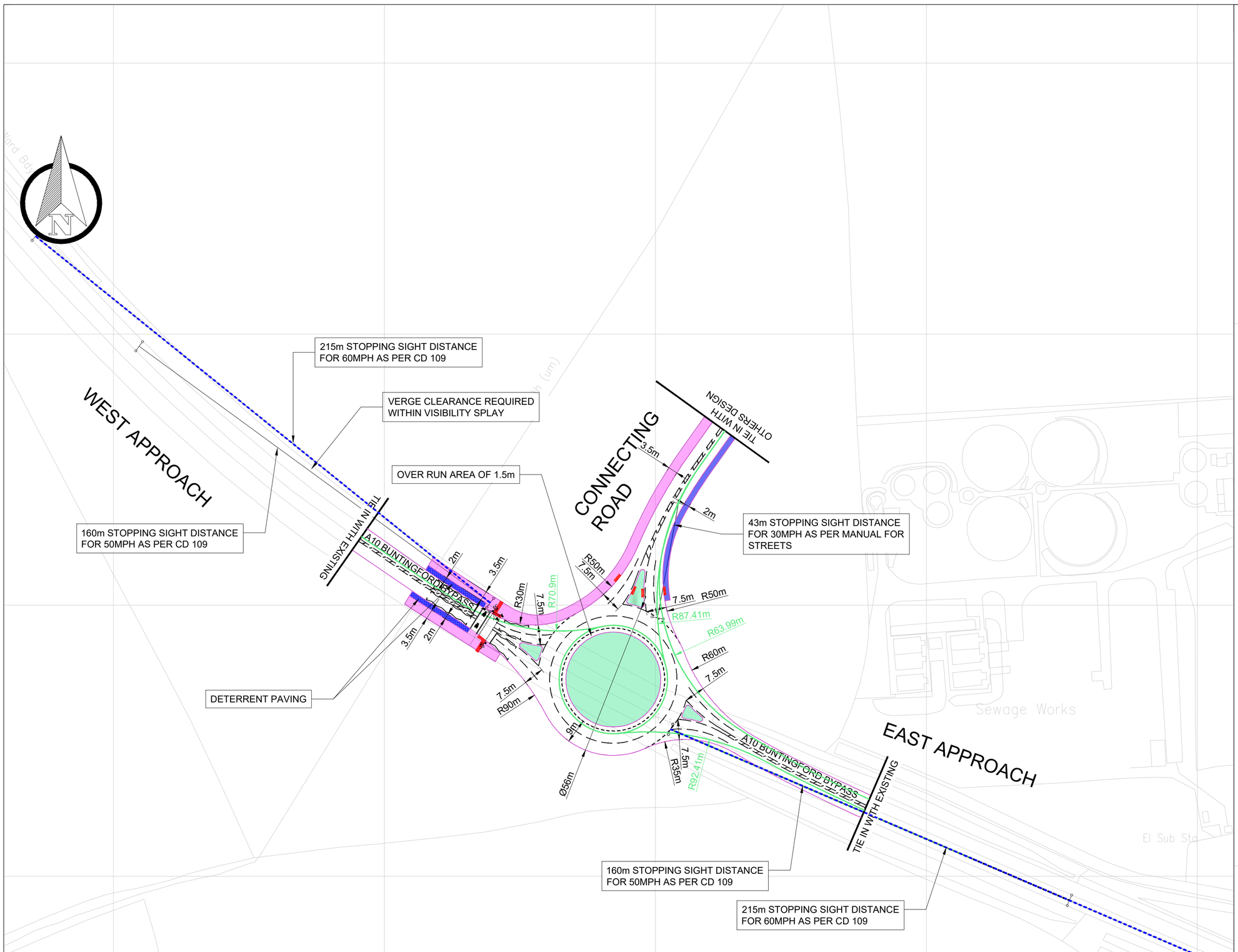
DO NOT SCALE

NOTES:

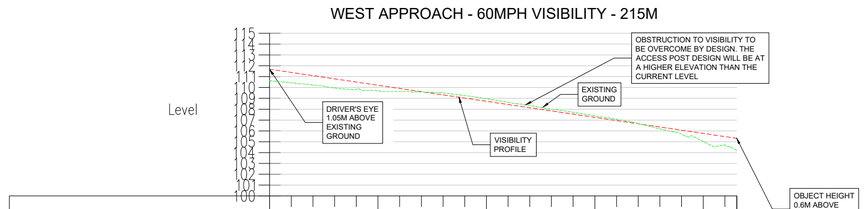
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. PROPOSED LAYOUT IS DEVELOPED BASED ON THE OS MAP INFORMATION.
3. DUE TO UNAVAILABILITY OF TOPOGRAPHICAL SURVEY INFORMATION, IMPACT ON EXISTING UTILITIES HAS NOT BEEN UNDERTAKEN FOR THIS DESIGN STAGE.
4. ALL PROPOSALS CONCEPT FOR CLIENT INPUT AND SUBJECT TO TRAFFIC MODELING.

KEY:

- PROPOSED KERB LINE
- ENTRY PATH RADIUS
- PROPOSED FOOTWAY
- VERGE
- SHARED USE PATH
- PROPOSED TACTILE PAVING
- DETERRENT PAVING

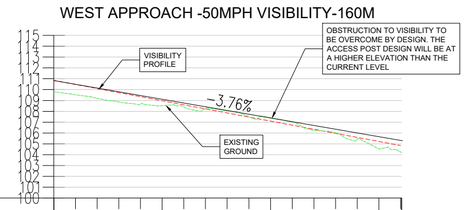


WEST APPROACH - 60MPH VISIBILITY - 215M



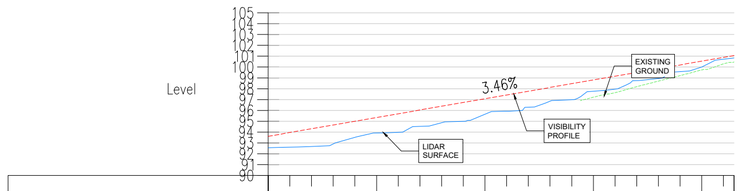
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	215.507
EXISTING LEVELS	110.637	110.432	110.232	109.956	109.843	109.693	109.635	109.592	109.505	109.256	108.969	108.630	108.355	108.003	107.715	107.385	107.073	106.670	106.182	105.716	105.025	104.193	104.708
VISIBILITY LINE LEVELS	111.687	111.391	111.095	110.799	110.503	110.207	109.911	109.615	109.319	109.023	108.727	108.431	108.135	107.839	107.543	107.247	106.951	106.655	106.359	106.063	105.767	105.471	105.308

WEST APPROACH -50MPH VISIBILITY-160M



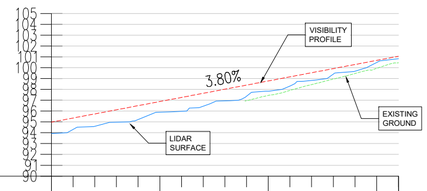
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	160.440				
EXISTING LEVELS	109.804	109.519	109.203	108.868	108.645	108.517	108.400	108.270	108.050	107.498	107.403	107.024	106.255	106.013	105.411	104.531	104.193	104.240				
VISIBILITY LINE LEVELS	110.854	110.478	110.102	109.726	109.350	108.975	108.599	108.223	107.847	107.471	107.095	106.719	106.344	105.968	105.592	105.216	104.840					

EAST APPROACH - 60MPH VISIBILITY - 215M



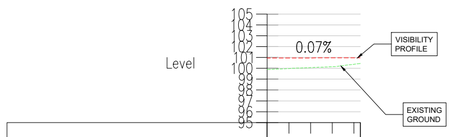
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	214.887
EXISTING LEVELS															97.217		97.635	98.193	98.704	99.204	99.736	100.291	100.457
EXISTING LEVELS LIDAR	92.563	92.609	92.670	92.911	93.521	93.916	93.978	94.531	94.867	94.994	95.646	95.926	96.287	96.851	96.987	97.770	97.967	98.745	98.951	99.574	99.999	100.721	100.837
VISIBILITY LINE LEVELS	93.613	93.959	94.306	94.652	94.999	95.345	95.691	96.038	96.384	96.731	97.077	97.424	97.770	98.116	98.463	98.809	99.156	99.502	99.848	100.195	100.541	100.888	101.057

EAST APPROACH -50MPH VISIBILITY-160M



CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.111	160.000				
EXISTING LEVELS										96.949	97.443	97.902	98.437	98.945	99.460	100.457	100.452					
EXISTING LEVELS LIDAR	93.928	94.305	94.587	94.966	95.217	95.897	95.971	96.448	96.939	97.368	97.832	98.307	98.829	99.407	99.664	100.484	100.837	100.834				
VISIBILITY LINE LEVELS	94.978	95.358	95.737	96.117	96.496	96.876	97.256	97.635	98.015	98.395	98.774	99.154	99.534	99.913	100.293	100.672	101.052					

PROPOSED CONNECTING ROAD- 30MPH VISIBILITY -43M



CHAINAGE	00.000	10.000	20.000	30.000	40.000
EXISTING LEVELS	99.897	99.983	100.068	100.147	100.378
VISIBILITY LINE LEVELS	100.947	100.954	100.961	100.969	100.976

SCALE 1::2000

DO NOT SCALE

REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: FOR INFORMATION ONLY

WSP
Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
http://www.wspgroup.com

CLIENT: VISTRY HOMES	PROJECT: WEST BUNTINGFORD
ARCHITECT: FPCR	TITLE: VISIBILITY ANALYSIS

SCALE @ A1:	CHECKED:	APPROVED:
AS SHOWN	GG	DG
CAD FILE:	DESIGN-DRAWN:	DATE:
OPTION-2	VM	JUNE- 2023
PROJECT No:	DRAWING No:	REV:
7008893	7498-GA-02	G

dynamic development solutions ™

Appendix 2

E-mail correspondence dated the 13th September 2023 between WSP and HCC Highways and relevant plans

Michelle Harris

From: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Sent: 13 September 2023 14:45
To: Adrian McHale
Cc: Ahmet, Mem; Anthony Collier1; Roger Flowerday
Subject: RE: Buntingford West
Attachments: 7498-GA-02 REV H.pdf; 7498-GA-02 REV G.pdf

Hi Adrian,

Following your comments below please find attached the design changes to the proposed access.

Regarding RSA Problem 1 & 2 I have attached the 3D visibility splays as requested. We have shown this for both 50mph and 60mph.
The drawing shows that there is vegetation within the driver's line of site. As indicated on the drawing this can be overcome by removing vegetation within the splay area which the client is committed to doing as set out within the RSA Designer's Response.

In response to Active Travel England's (ATE) comments on the access proposals we also attach an additional design which introduces a sparrow crossing ie a signalised parallel crossing which provides separate crossing for walking and cycling, increasing safety and making it easier to carry on a journey. The 3D visibility for this design has also been undertaken for your consideration. This design has been considered in line with ATE recommendation for an LTN/120 junction assessment to be undertaken for the access. The results for the refuge crossing was 25% whilst the sparrow crossing was 75%. We welcome your views on this proposals also.

Regarding RSA Problem 3 the updated drawing shows a 64m deflection on the northwestern arm which is the maximum achievable without worsening the deflection of the other arms. Hope you find this acceptable.

From a design perspective we would like to reiterate the need for a speed limit reduction southeastbound from 60mph to 50mph. This can be achieved by reducing visibility to 50mph which the existing vegetation can help provide alongside other speed reduction measures such as surface treatment and advance warning signs to deliver a safer design.

We welcome your views on the above.

We are in the process of completing our full response to ATE and woold keep you copied in the email.

Have you had any response from STIB yet?

Thanks

Kind Regards

Gideon Gasinu
Principal Transport Planner
BSc MSc MCIHT GMICE CMILT
T+ 44 (0)1992 526 051

From: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Sent: Thursday, August 31, 2023 2:57 PM
To: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Anthony Collier1 <Anthony.Collier1@wsp.com>; Roger Flowerday <Roger.flowerday@hertfordshire.gov.uk>
Subject: RE: Buntingford West

Hi Gideon,

WSP as the designers need to establish what can be achieved deflection wise given any constraints (the topography etc) and thus only then determine what is possible to achieve to increase the deflection.

Kind Regards,

Adrian

From: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Sent: 31 August 2023 14:20
To: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Anthony Collier1 <Anthony.Collier1@wsp.com>; Roger Flowerday <Roger.Flowerday@hertfordshire.gov.uk>
Subject: RE: Buntingford West

Hi Adrian,

Thanks for your email.
Regarding the deflection we are happy to rework the geometry to provide a safe and suitable design, what would you consider an acceptable deflection in this instance?

Apologies if I was not clear but the 3D element is being worked out and would be submitted for your consideration.

Thanks

Kind Regards

Gideon Gasinu
Principal Transport Planner
BSc MSc MCIHT GMICE CMILT
T+ 44 (0)1992 526 051

From: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Sent: Tuesday, August 29, 2023 7:22 PM
To: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Anthony Collier1 <Anthony.Collier1@wsp.com>; Roger Flowerday <Roger.flowerday@hertfordshire.gov.uk>
Subject: RE: Buntingford West

Hi Gideon,

As we've indicated we don't consider that the DMRB goes far enough on this occasion given the importance of an access on to the A10, therefore we cannot agree that no further changes will be required and we ask for a commitment in the response that it will be revisited. This is also in the interest of good placemaking beyond road safety to create more deflection.

Also as indicated and related to above we consider that the proposals to create a new junction onto the A10 are too important to disregard the 3D element just now. We need to demonstrate it is deliverable in all dimensions and not kick it down the line and find it can't be.

Kind Regards,

Adrian
.

From: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Sent: 29 August 2023 13:48
To: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Anthony Collier1 <Anthony.Collier1@wsp.com>
Subject: RE: Buntingford West

Hi Adrian,

Thanks for the comments.

Regarding point 3, we have demonstrated on the drawing that adequate deflection as recommended within DMRB is achievable within the current geometry.
The drawing previously provided deflection for through movements only but upon request, the deflection for the site access has now been provided to demonstrate its within the DMRB recommended limits (for all roundabouts except compact roundabouts the entry path radius must not exceed 100m) which I hope you will agree that the currently shown 68m deflection is acceptable and does not need any further changes.

Regarding point 1 and 2 we can prepare a long section to demonstrate adequate visibility from a 3D dimension which will be reviewed again at the detail design stage.
I will send this over for your consideration.

Happy to discuss, if any questions please let me know.

Thanks

Kind Regards

Please Note : I am working 4days a week (Fridays off) till end of August and seconding 2 days (Wednesday/Thursday) so I may not be able to respond to emails promptly

Gideon Gasinu
Principal Transport Planner
BSc MSc MCIHT GMICE CMILT
T+ 44 (0)1992 526 051

From: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Sent: Thursday, August 24, 2023 1:17 PM
To: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Anthony Collier1 <Anthony.Collier1@wsp.com>
Subject: RE: Buntingford West

Hi Gideon,

We have discussed the problems raised by the RSA1 and designers response to them and consider that:

- For Problems 1&2 (forward visibility and intervisibility) given the potential implications of an access on to the A10 that in addition to dimensions on a 2D plan long sections will be required to demonstrate the appropriate visibilities are achievable when 3 dimensions are considered.

- For Problem 3 (Development Arm Entry Deflection) the RSA team have raised a concern about the lack of deflection on the approach. You've added a dimension but the concern still remains, as you have made no physical changes to introduce more deflection. Given the applicants land control, it should in theory be possible to deliver greater deflection. In response to the remaining problems WSP have indicated a willingness to revisit the identified problems in detailed design and it is important that the response provides a similar commitment to revisit Problem 3.

Kind Regards,

Adrian

From: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Sent: 22 August 2023 09:44

To: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Anthony Collier1 <Anthony.Collier1@wsp.com>
Subject: RE: Buntingford West

Hi Adrian,

Please see attached the RSA and Designers response for your review and sign off.

Any questions please let me know.

Thanks

Kind Regards

Please Note : I am working 4days a week (Fridays off) till end of August and seconding 2 days (Wednesday/Thursday) so I may not be able to respond to emails promptly

Gideon Gasinu
Principal Transport Planner
BSc MSc MCIHT GMICE CMILT
T+ 44 (0)1992 526 051

From: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Sent: Thursday, June 8, 2023 6:00 PM
To: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Cc: Anthony Collier1 <Anthony.Collier1@wsp.com>; Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Anthony Collier1 <Anthony.Collier1@wsp.com>
Subject: RE: Buntingford West

Hi Gideon,

It's a pity that the turn around time for the HCC Road Safety team isn't what your after, as it would give more strength to your argument. However, we do accept 3rd party RSA however the road safety team will have to review it anyway so the overall turnaround will probably be the same or slower.

PS you've still got Anthony's address wrong.

Kind Regards,

Adrian

From: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Sent: 08 June 2023 17:50
To: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Cc: Anthony Collier1 <Anthony.Collier1@wsp.com>; Ahmet, Mem <Mehmet.Ahmet@wsp.com>
Subject: RE: Buntingford West

Hi Adrian,

I know some LHAs don't accept private RSAs, please can you confirm if we can go ahead with the private company and send over for your sign off?

Thanks

Kind Regards

Gideon Gasinu
Principal Transport Planner
BSc MSc MCIHT GMICE CMILT
T+ 44 (0)1992 526 051

From: Gasinu, Gideon
Sent: 08 June 2023 16:27
To: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Cc: anthony.collier1@hertfordshire.gov.uk; Ahmet, Mem <Mehmet.Ahmet@wsp.com>
Subject: Buntingford West

Hi Adrian,

Please see attached the junction design going for stage 1 RSA.
We have prepared two options: Option 1 with a signal crossing 20m from the give-way line (in line with standards) and Option 2 with a standard crossing.

We have contacted the HCC RSA team to arrange an audit for the two options, but the turnaround time (see attached) will significantly affect the scheme programme.

We have contacted a private company who can turn it around to keep us in programme.
Just to let you know we would be using the private company in this instance and will submit the RSA for your sign off before preparing an RSA response.

Thanks

Kind Regards

Gideon Gasinu
Principal Transport Planner
BSc MSc MCIHT GMICE CMILT
T+ 44 (0)1992 526 051

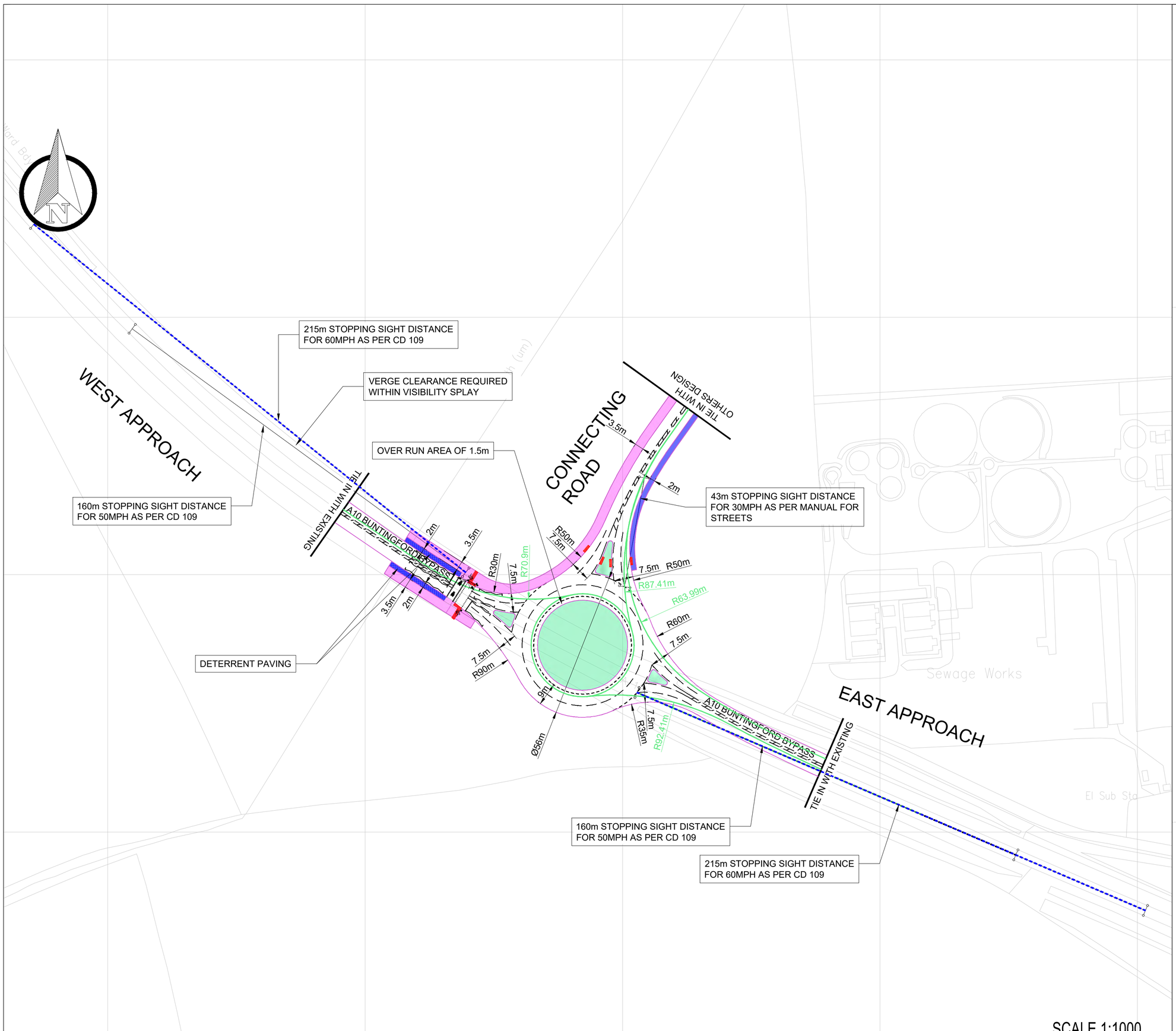
DO NOT SCALE

NOTES:

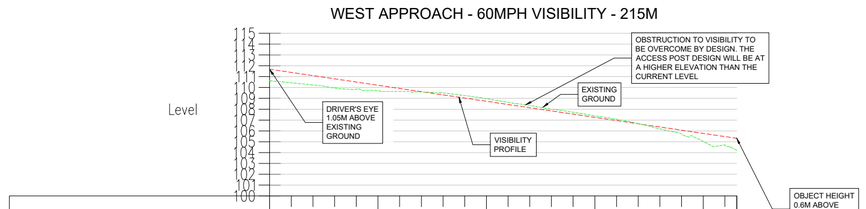
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. PROPOSED LAYOUT IS DEVELOPED BASED ON THE OS MAP INFORMATION.
3. DUE TO UNAVAILABILITY OF TOPOGRAPHICAL SURVEY INFORMATION, IMPACT ON EXISTING UTILITIES HAS NOT BEEN UNDERTAKEN FOR THIS DESIGN STAGE.
4. ALL PROPOSALS CONCEPT FOR CLIENT INPUT AND SUBJECT TO TRAFFIC MODELING.

KEY:

- PROPOSED KERB LINE
- ENTRY PATH RADIUS
- PROPOSED FOOTWAY
- VERGE
- SHARED USE PATH
- PROPOSED TACTILE PAVING
- DETERRENT PAVING

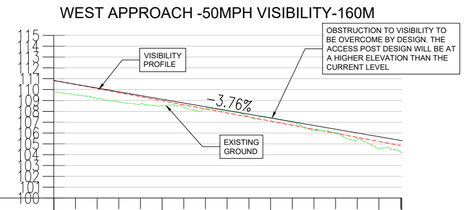


WEST APPROACH - 60MPH VISIBILITY - 215M



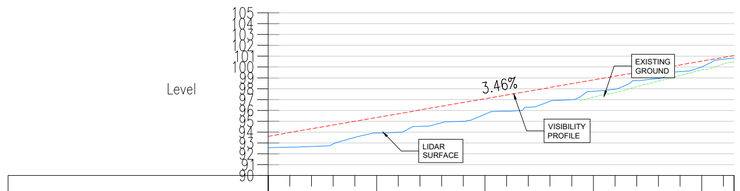
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	215.507
EXISTING LEVELS	110.637	110.432	110.232	109.956	109.843	109.693	109.635	109.592	109.505	109.256	108.969	108.630	108.355	108.003	107.715	107.385	107.073	106.670	106.182	105.716	105.025	104.193	104.708
VISIBILITY LINE LEVELS	111.687	111.391	111.095	110.799	110.503	110.207	109.911	109.615	109.319	109.023	108.727	108.431	108.135	107.839	107.543	107.247	106.951	106.655	106.359	106.063	105.767	105.471	105.308

WEST APPROACH -50MPH VISIBILITY-160M



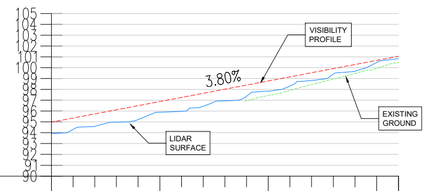
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	160.440				
EXISTING LEVELS	109.804	109.519	109.203	108.868	108.645	108.517	108.400	108.270	108.050	107.498	107.403	107.024	106.255	106.013	105.411	104.531	104.193	104.240				
VISIBILITY LINE LEVELS	110.854	110.478	110.102	109.726	109.350	108.975	108.599	108.223	107.847	107.471	107.095	106.719	106.344	105.968	105.592	105.216	104.840					

EAST APPROACH - 60MPH VISIBILITY - 215M



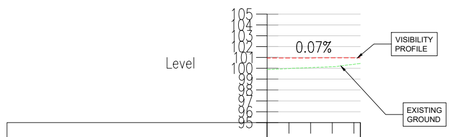
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	214.887
EXISTING LEVELS															97.217		97.635	98.193	98.704	99.204	99.736	100.291	100.457
EXISTING LEVELS LIDAR	92.563	92.609	92.670	92.911	93.521	93.916	93.978	94.531	94.867	94.994	95.646	95.926	96.287	96.851	96.987	97.770	97.967	98.745	98.951	99.574	99.999	100.721	100.837
VISIBILITY LINE LEVELS	93.613	93.959	94.306	94.652	94.999	95.345	95.691	96.038	96.384	96.731	97.077	97.424	97.770	98.116	98.463	98.809	99.156	99.502	99.848	100.195	100.541	100.888	101.057

EAST APPROACH -50MPH VISIBILITY-160M



CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.111	160.000				
EXISTING LEVELS										96.949	97.443	97.902	98.437	98.945	99.460	100.457	100.452					
EXISTING LEVELS LIDAR	93.928	94.305	94.587	94.966	95.217	95.897	95.971	96.448	96.939	97.368	97.832	98.307	98.829	99.407	99.664	100.484	100.837	100.834				
VISIBILITY LINE LEVELS	94.978	95.358	95.737	96.117	96.496	96.876	97.256	97.635	98.015	98.395	98.774	99.154	99.534	99.913	100.293	100.672	101.052					

PROPOSED CONNECTING ROAD- 30MPH VISIBILITY -43M



CHAINAGE	00.000	10.000	20.000	30.000	40.000
EXISTING LEVELS	99.897	99.983	100.068	100.147	100.378
VISIBILITY LINE LEVELS	100.947	100.954	100.961	100.969	100.976

SCALE 1::2000

DO NOT SCALE

REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: FOR INFORMATION ONLY

WSP
Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
http://www.wspgroup.com

CLIENT: VISTRY HOMES

ARCHITECT: FPCR

PROJECT: WEST BUNTINGFORD

TITLE: VISIBILITY ANALYSIS

SCALE @ A1:	CHECKED:	APPROVED:
AS SHOWN	GG	DG
CAD FILE:	DESIGN-DRAWN:	DATE:
OPTION-2	VM	JUNE- 2023

PROJECT No:	DRAWING No:	REV:
7008893	7498-GA-02	G

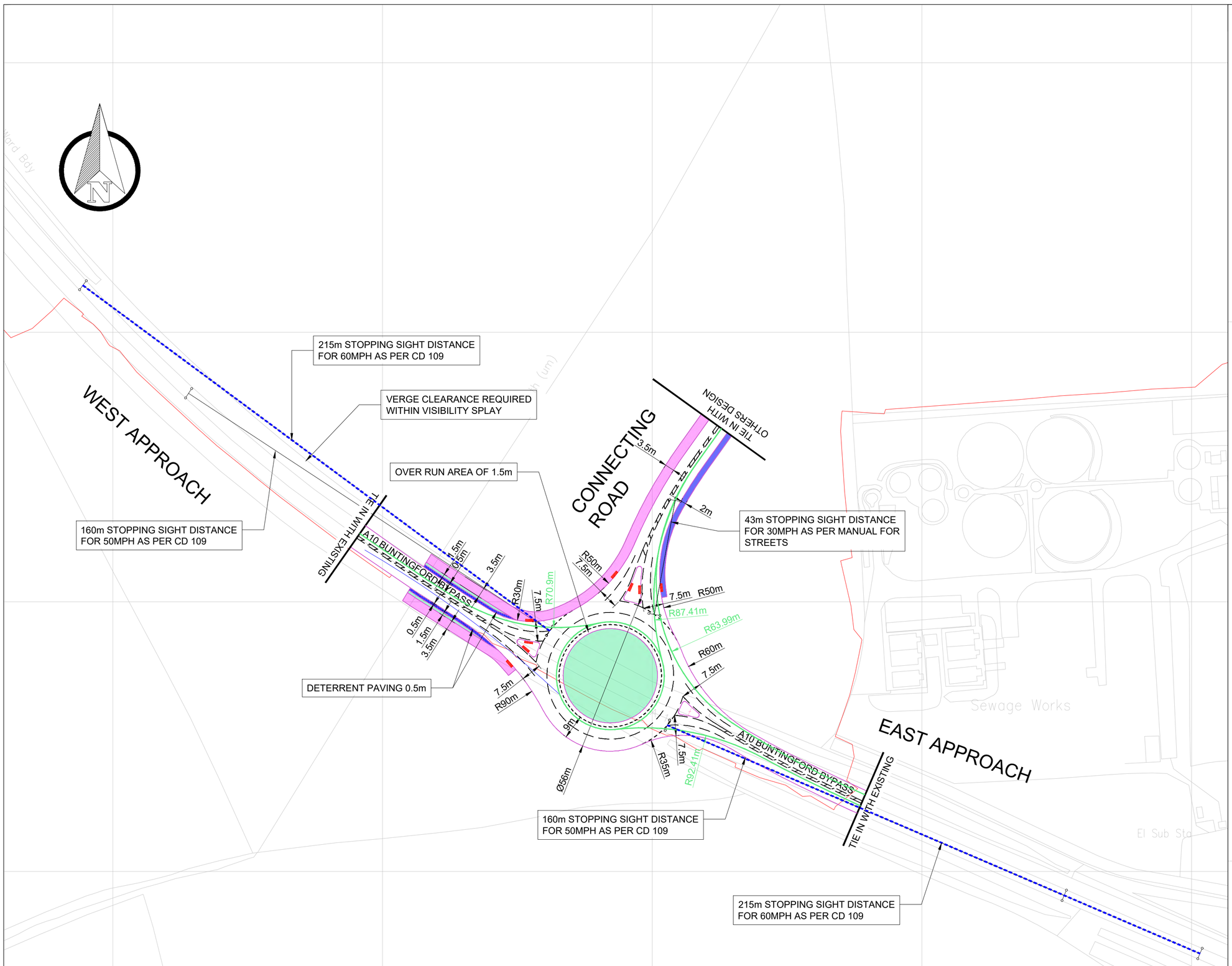
DO NOT SCALE

NOTES:

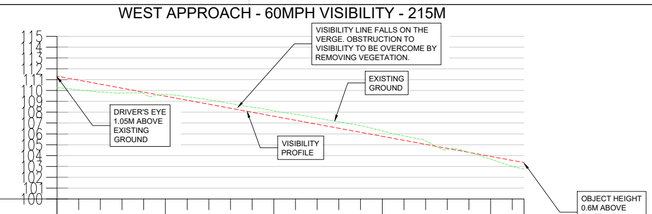
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. PROPOSED LAYOUT IS DEVELOPED BASED ON THE OS MAP INFORMATION.
3. DUE TO UNAVAILABILITY OF TOPOGRAPHICAL SURVEY INFORMATION, IMPACT ON EXISTING UTILITIES HAS NOT BEEN UNDERTAKEN FOR THIS DESIGN STAGE.
4. ALL PROPOSALS CONCEPT FOR CLIENT INPUT AND SUBJECT TO TRAFFIC MODELING.

KEY:

- PROPOSED KERB LINE
- ENTRY PATH RADIUS
- PROPOSED FOOTWAY
- VERGE
- SHARED USE PATH
- PROPOSED TACTILE PAVING
- DETERRENT PAVING

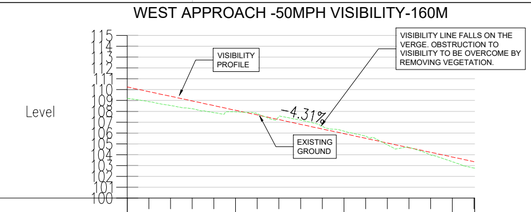


WEST APPROACH - 60MPH VISIBILITY - 215M



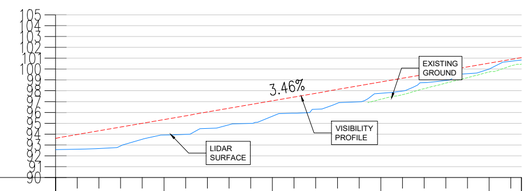
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	215.361
EXISTING LEVELS	110.278	110.054	109.845	109.774	109.699	109.636	109.430	109.156	108.798	108.470	108.119	107.814	107.465	107.119	106.764	106.274	105.815	105.356	104.570	104.301	103.672	102.987	102.757
VISIBILITY LINE LEVELS	111.328	110.958	110.588	110.218	109.848	109.477	109.107	108.737	108.367	107.997	107.627	107.257	106.887	106.516	106.146	105.776	105.406	105.036	104.666	104.296	103.926	103.555	103.357

WEST APPROACH -50MPH VISIBILITY-160M



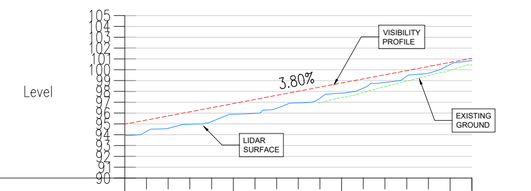
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.290	160.000
EXISTING LEVELS	109.199	108.895	108.538	108.237	107.883	107.956	107.789	107.515	107.185	106.618	106.177	105.722	104.911	104.675	103.973	103.353	102.757	102.770
VISIBILITY LINE LEVELS	110.249	109.818	109.388	108.957	108.526	108.095	107.664	107.234	106.803	106.372	105.942	105.511	105.080	104.649	104.218	103.788	103.357	

EAST APPROACH - 60MPH VISIBILITY - 215M



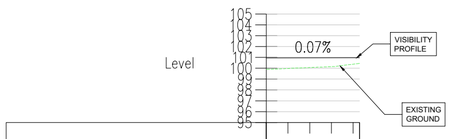
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	214.887
EXISTING LEVELS															97.217		97.635	98.193	98.704	99.204	99.736	100.291	100.457
EXISTING LEVELS LIDAR	92.563	92.609	92.670	92.911	93.521	93.916	93.978	94.531	94.867	94.994	95.646	95.926	96.287	96.851	96.987	97.770	97.967	98.745	98.951	99.574		100.721	100.837
VISIBILITY LINE LEVELS	93.613	93.959	94.306	94.652	94.999	95.345	95.691	96.038	96.384	96.731	97.077	97.424	97.770	98.116	98.463	98.809	99.156	99.502	99.848	100.195	100.541	100.888	101.057

EAST APPROACH -50MPH VISIBILITY-160M



CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.111	160.000
EXISTING LEVELS										96.949	97.443	97.902	98.437	98.945	99.460	99.934	100.457	100.452
EXISTING LEVELS LIDAR	93.928	94.305	94.587	94.966	95.217	95.897	95.971	96.448	96.939	97.368	97.832	98.307	98.829	99.407	99.664	100.484	100.837	100.834
VISIBILITY LINE LEVELS	94.978	95.358	95.737	96.117	96.496	96.876	97.256	97.635	98.015	98.395	98.774	99.154	99.534	99.913	100.293	100.672	101.052	

PROPOSED CONNECTING ROAD- 30MPH VISIBILITY -43M



CHAINAGE	00.000	10.000	20.000	30.000	40.000
EXISTING LEVELS	99.897	99.983	100.068	100.147	100.378
VISIBILITY LINE LEVELS	100.947	100.954	100.961	100.968	100.978

SCALE 1::2000

DO NOT SCALE

REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: FOR INFORMATION ONLY

WSP
Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
http://www.wspgroup.com

CLIENT: VISTRY HOMES

ARCHITECT: FPCR

PROJECT: WEST BUNTINGFORD

TITLE: VISIBILITY ANALYSIS

SCALE @ A1:	CHECKED:	APPROVED:
AS SHOWN	GG	DG
CAD FILE:	DESIGN-DRAWN:	DATE:
OPTION-1	VM	JUNE- 2023

PROJECT No:	DRAWING No:	REV:
7008893	7498-GA-02	H

dynamic development solutions ™

Appendix 3

Thames Water Consultation Response Note – Air Quality and Odour prepared by WSP

Thames Water Consultation Response Note – Air Quality and Odour

DATE:	27 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	WSP Air Quality Comments on Thames Water Buntingford West Consultation Response		
PROJECT:	70110466 - Buntingford West	**AUTHOR:**	Natalie Espelid
CHECKED:	Alex Jones	**APPROVED:**	Alex Jones

WSP prepared an air quality and odour assessment in July 2023 (report reference: 70110466 v1) for the Proposed Development at land east of the A10, Buntingford, Hertfordshire, SG9 9SF (planning reference: 3/23/1447/OUT).

Following submission of the planning application, full consultation response from Thames Water has been received, including objection of the proposals. Details of the consultation letter and WSP's air quality and odour responses are outlined below.

THAMES WATER COMMENTS AND WSP RESPONSE

Waste Comments

Thames Water request the following waste related planning conditions to be added, which are directly related to the ability to undertake an odour assessment:

Foul Water

> *"The development shall not be occupied until confirmation has been provided that either: - 1. All foul water network upgrades required to accommodate the additional flows from the development have been completed; - 2. A development and infrastructure phasing plan has been agreed with the Local Authority in consultation with Thames Water to allow development to be occupied. Where a development infrastructure phasing plan is agreed, p occupation shall take place ither than in accordance with the agreed development and infrastructure phasing plan."*

Surface Water

> *"The development shall not be occupied until confirmation has been provided that either: -1. All surface water network upgrades required to accommodate the additional flows from the development have been completed; or -2. A development and infrastructure phasing plan has been agreed with the Local Authority in consultation with Thames Water to allow development to be occupied. Where a development and infrastructure phasing plan is agreed, no occupation shall take place other than in accordance with the agreed development and infrastructure phasing plan."*

Sewage Treatment Works

> *"No development shall be occupied until confirmation has been provided that either: - all sewage works upgrades required to accommodate the additional flows from the development have been completed; or – a development and infrastructure phasing plan has been agreed with the Local Authority in consultation with Thames Water to allow development to be occupied. Where a development and infrastructure phasing plan is agreed no occupation shall take place other than in accordance with the agreed development and infrastructure phasing plan."*

Thames Water Consultation Response Note – Air Quality and Odour

DATE:	27 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	WSP Air Quality Comments on Thames Water Buntingford West Consultation Response		
PROJECT:	70110466 - Buntingford West	**AUTHOR:**	Natalie Espelid
CHECKED:	Alex Jones	**APPROVED:**	Alex Jones

WSP response: The above planning conditions were expected based on conversations with Thames Water and form part of the reason why a detailed odour assessment has not yet been completed at this stage. As the existing network is not able to accommodate the needs of the Proposed Development, upgrades to the Wastewater Treatment Works (WwTW) are required, as per the above planning conditions. Therefore, detailed modelling should be completed following agreement on the required updates, to fully capture the WwTW as it will be operating at the time of the proposed development. The detailed odour modelling assessment may be secured by a suitable planning condition (as outlined below).

Odour, Noise, Lighting and Flies

Thames Water objects to the planning application due to potential lack of amenity due to the proximity of the proposed development to the WwTW.

> *"Thames Water has contacted the developer in an attempt to discuss potential impacts on amenity from [add name] [sic] Sewage Treatment Works including (but not limited to) ODOUR, NOISE, LIGHTING and FLIES, but has been unable to do so in the time available and as such we request the following condition be added to any planning permission. Our response reflects our concern the applicant has failed to demonstrate future occupiers of the proposed development will have adequate amenity including (but not limited to) ODOUR, NOISE, LIGHTING and FLIES. Given the proposed development's proximity to the Sewage Asset, we object to the planning application."*

Furthermore, Thames Water suggested planning condition is as follows:

> *"No development shall commence until an odour modelling assessment has been submitted to and approved by the Local Planning Authority (LPA) in consultation with Thames Water (TW). The odour assessment should be based on assessing on-site odour emissions. The assessment should include an odour mitigation measures strategy. Where the odour modelling assessment identifies a need for mitigation there should be no occupation of the development until the recommendations of the odour mitigations strategy are agreed by the LPA in consultation with TW and have been implemented and are operational."*

WSP response: WSP consulted with Mark Dickinson (Development Planning Manager at Thames Water) extensively on the methodology and approach to the odour assessment. Consultation has been undertaken at each stage of the application process, starting in 2022 and continuing into 2023. In the most recent round of consultation communications, the communications consisted of:

- 5th June 2023 - WSP issued an outline of the proposed scope and methodology of the odour assessment via email to Mark Dickinson.
- 6th June 2023 - The email was followed up with a telephone call.

Thames Water Consultation Response Note – Air Quality and Odour

DATE:	27 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	WSP Air Quality Comments on Thames Water Buntingford West Consultation Response		
PROJECT:	70110466 - Buntingford West	**AUTHOR:**	Natalie Espelid
CHECKED:	Alex Jones	**APPROVED:**	Alex Jones

- 19th June 2023 - The Mark Dickinson clarified key points that were discussed on the telephone call, but confirmed that the proposed methodology was acceptable via email.

The finalised email on approach and understanding on how to proceed has been appended to this note. Within this, Mark Dickinson clarified that Thames Water would not object to the proposed development on the grounds of odour, subject to a pre-commencement condition for an odour assessment being attached to any approval. It is therefore surprising that the consultation response now received from Thames Water include an objection to the proposal. We wish to request further details as to what has changed between the conversation between WSP and Thames Water in June 2023 and now, to change from no objection to objection to the planning application. It is not clear whether there is a specific aspect of the *odour, noise, lighting and flies* work that led to the objection, however the subsequent planning condition suggestion on odour within the report (as above) suggests that odour should not have been a reason for the objection.

As outlined within the air quality and odour assessment prepared by WSP in July 2023, a dispersion modelling assessment of the potential odour impacts from the WwTW was carried out by ARUP in 2022 in support of a development east of Aspenden Road (X/20/0428/CND). The assessment by ARUP included odour contours of the area surrounding the WwTW. The contours prepared by ARUP show that majority of the Application Site is outside of the $1.5ou_E/m^3$ contour line, which is the threshold used for most offensive odours. The contours prepared by ARUP gives the indication that the proposal of 350 residential units can be accommodated outside of the $3ou_E/m^3$ line (which is the threshold considered suitable for residential development near the WwTW). Furthermore, less sensitive receptors, such as the proposed commercial and retail uses, may be accommodated within the higher odour contour brackets located closer to the WwTW. As the application is currently outline, the final location and choice of commercial and retail uses are not known. However, depending on the final choice of commercial and retail uses, these types of receptors may be suitable to be within the “moderately offensive” contour bracket, indicating that most of the Application Site is suitable for development. Therefore, the modelling already undertaken by ARUP establishing the principle of development within the Application Site.

However, as commented by Thames Water above, the current WwTW cannot currently accommodate the proposed development, and upgrades may be required to the WwTW. Furthermore, it is understood from discussion with Thames Water that the WwTW will undergo some upgrades in 2023 (other than those required to accommodate the proposed development).

Therefore, WSP agree with the suggested planning condition as outlined above regarding the requirement for a full detailed odour assessment to be carried out prior to any development. The dispersion modelling cannot be carried out at this stage, as upgrades to the work are required and details of these upgrades are not available at the time of writing.

Thames Water Consultation Response Note – Air Quality and Odour

DATE:	27 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	WSP Air Quality Comments on Thames Water Buntingford West Consultation Response		
PROJECT:	70110466 - Buntingford West	**AUTHOR:**	Natalie Espelid
CHECKED:	Alex Jones	**APPROVED:**	Alex Jones

Nonetheless, any upgrades to the WwTW will be required to demonstrate use of Best Available Techniques (BAT) such that the odour contours are not anticipated to change significantly, and therefore, the principle of development within the Application Site remains valid.

Thames Water Consultation Response Note – Air Quality and Odour

DATE:	27 September 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	WSP Air Quality Comments on Thames Water Buntingford West Consultation Response		
PROJECT:	70110466 - Buntingford West	**AUTHOR:**	Natalie Espelid
CHECKED:	Alex Jones	**APPROVED:**	Alex Jones

APPENEDIX

The bullet points below show the final agreement on the methodology and understanding agreed between WSP and Mark Dickinson of Thames Water.

For clarity, the text in black was provided by WSP in an email on 5th June 2023 and the red text was added to by Mark Dickinson via email on 19th June 2023, following a telephone call on the 6th June 2023.

- *"I understand Thames Water will not object to the application (on odour grounds), subject to a pre-commencement condition for an odour assessment being attached to any approval; our typical condition looks like this: "No development shall commence until an odour modelling assessment has been submitted to and approved by the Local Planning Authority (LPA) in consultation with Thames Water (TW). The odour assessment should be based on assessing on-site odour emissions. The assessment should include an odour mitigation measures strategy. Where the odour modelling assessment identifies a need for mitigation there should be no occupation of the development until the recommendations of the odour mitigation strategy are agreed by the LPA in consultation with TW and have been implemented and are operational."*
- *This is due to the potential requirement for upgrades to the WwTW due to the proposed development, and planned upgrades in 2023; This is to ensure that inappropriate development isn't located in areas where it has the potential to be affected by adverse odours. Please find more information here https://www.thameswater.co.uk/developers/larger-scale-developments/planning-your-development/water-and-wastewater-capacity our guidance is based on the IAQM management guide http://www.iaqm.co.uk/text/guidance/odour-guidance-2014.pdf*
- *However, the AQ report that will be submitted for the outline application will make reference to the Odour assessment prepared by Arup in 2020 for the East of Aspenden Road development; (Cranville Way) This is an indication as to how odour MAY look. At this stage I've no idea if there have been any operational changes / infrastructure upgrades / meteorological data improvements that could affect the contours in that report. These contours may change further as a result of upgrades at the STW that your proposed development (others in the catchment) may trigger*
- *Thames Water's position will be that no work will start on site prior to the Odour assessment is carried out and no occupation before an odour strategy is agreed based on the outcome of the odour modelling. See wording of condition above. No inappropriate development in inappropriate contours. If the Developer wishes to build in those contours then it may be they need to fund mitigation at the STW to reduce odours. No occupation of those buildings until mitigation in place."*

dynamic development solutions ™

Appendix 4

Housing Delivery Statement

Vistry Group Countryside Partnerships

HOUSING DELIVERY STATEMENT

Land East of the A10, Buntingford (Application Reference 3/23/1447/OUT)

Outline planning for the development of 350 dwellings, with up to 4,400 sqm of commercial and services floorspace (Use Class E and B8) and up to 500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space and landscaping.

Anticipated Delivery

Countryside Partnerships and Vistry Homes would develop the site and build the market and affordable homes. There would be a minimum of two sales outlets. The anticipated delivery following outline planning permission would be as follows:

- Year 1 - Submission and approval of reserved matters.
- Year 2 - Discharge of pre-commencement conditions and enabling works
- Year 2 - 50 dwellings
- Year 3 - 100 dwellings
- Year 4 - 100 dwellings
- Year 5 - 100 dwellings