

Land to the East of Longwater Road, Finchampstead

Transport Technical Note 1

Rev B



1.0 INTRODUCTION

- 1.1 This Technical Note has been produced in relation to a current planning application for the erection of 38 dwellings, on land to the east of Longwater Road, Finchampstead. The Wokingham Borough Council planning application reference is 241567.
- 1.2 The application was supported by Transport and Travel Plan Statements (DTA Reports 19200-03e & 19200-04). Since the application was submitted, the Local Highway Authority as a statutory consultee as has reviewed the submissions and have provided comments (**Appendix A**) on the scheme.
- 1.3 The purpose of this Technical Note is to provide a response to the various highways comments that have been raised on the application.
- 1.4 For ease of reference, relevant highways comments have been shown in coloured italics prior to any DTA commentary. Furthermore, it should be noted that the layout has been revised to respond to comments raised by the Landscape and Tree Officer. Were relevant this response shows how the revised layout responds to the comments made.



2.0 RECEIVED COMMENTS

2.1 Parking

5. Parking Plan (PP01 Rev) shows all the allocated and visitor spaces but requires showing the 3 unallocated spaces.

2.1.1 DTA Response: The layout has been updated to reflect the requirements.

6. In addition, there needs to be a better distribution of visitor spaces as there are none in the eastern section of this development.

2.1.2 DTA Response: Visitor parking has now been added to the east of the site.

8. The width of the single drives would need to be a minimum of 3.1m. The drive for plot 21 needs to be widened.

9. For plots 1 and 2, highways would recommend that the parking for plot 1 be moved to the west of plot 1 rather than where it is proposed.

10. Highways is also concerned with the design of the area set out below. There is insufficient turning space for the parking for plots 26 and 29 to manoeuvre safely. Indeed parking for plot 29 would need to be moved closer to plot 29.

2.1.3 DTA Response: The layout has undergone significant alterations therefore, all matters should now be addressed.

2.2 Cycle Parking

11. It is welcome that cycle parking will be provided to Borough standards with on plot provision. These would need to be in rear gardens with direct access. Both the location and the direct access would need to be shown on a plan and submitted.

2.2.1 DTA Response: A drawing (SL01) showing these are submitted with the application, however, for ease of reference it is appended to this note.



2.3 Electrical Vehicle Charging

12. No mention has been made of electric vehicle charging in the transport statement.

13. The provision will need to be in line with Building Regulations Approved Document S which states that each dwelling would need to have a charging provision.

14. This will need to be shown on the parking plan.

2.3.1 DTA Response: Drawing PP01 presents this information.

2.4 Access

18. There is no mention that the existing speed limit signs would need to be moved or that there is any proposal for extending the 30mph speed limit further down Longwater Road, this would have been expected.

2.4.1 DTA Response: Para 4.2.2 of the submitted TS acknowledges the speed limit will need to be extended to incorporate the site access proposals. It is suggested this is extended to a point 50m south of the current location, with relocation of the terminal signs.

2.4.2 It would be typical for this obligation to sit within any associated legal agreement (S106) for the developer to pay the Council an agreed sum to progress, consult and deliver the alterations to the TRO.

2.4.3 DTA would welcome the LHA's view on the delivery mechanism and appropriateness of the suggested 50m.

19. It is welcome that visibility splays for this proposed access have been design to actual 85th percentile speeds. The lengths of the splays have been calculated using the equation that is contained within MfS which is welcome. These calculations would need to be submitted.

2.4.4 DTA Response: To derive the necessary splays the 85th percentile speeds have been used. Therefore, as shown above, the average 85th percentile northbound speed of 41.4mph and southbound speed of 44mph have been used.



2.4.5 Reference to updated CA 185 of the DMRB that states stopping sight distance ("SSD") should now be based on dry weather speeds, no reductions to the recorded speeds have been applied. The visibility splays were calculated to align with the requirements of Manual for Streets 2, where:

$SSD = vt + v^2/2(d+0.1a)$ where:

v = speed (m/s)

t = driver perception-reaction time (seconds)

d = deceleration (m/s²)

a = longitudinal gradient (%) (+ for upgrades and – for downgrades)

2.4.6 Due to the speed of traffic being higher than 60kph (37mph) the driver perception/reaction time (t) has a value of 2s.

2.4.7 The desirable deceleration rate for traffic is 0.25g which results in (d) having a value of 2.45m/s².

Northbound SSD (Southerly Visibility Splay).

2.4.8 The recorded 85th percentile speed was 41.4mph/ 66.7kph, which results in a design speed of 18.5m/s.

2.4.9 Therefore, using the rates set out above, results in an SSD of 107m.

Southbound SSD (Northerly Visibility Splay).

2.4.10 The recorded 85th percentile speed was 44mph/ 70.7kph, which results in a design speed of 19.7m/s.

2.4.11 Therefore, using the rates set out above, results in an SSD of 118m.

2.4.12 These distances are presented on the site access drawing **19200-01 Rev F**.



20. Any landscaping within the visibility splay would need to be maintained to less than 0.6m in height. This would involve the removal and/or maintenance of more hedgerow.

- 2.4.13 DTA Response: It is expected that there will be a condition attached to any future planning consent requiring the visibility splays to be retained in perpetuity. The submitted landscaping strategy intends for the area within the visibility splay to be kept as grass.

2.5 Sustainability Assessment

22. The nearest bus service to the proposed site is bus route 145 which operates 1 return journey every Tuesday. There is one school service which runs between California Cross Roads to Yateley and Farnborough from a stop some 600m away from the site. There is one service in the morning at 07:46 and 2 in the afternoon arriving back at 15:51 and 17:21 which runs only during the term time.

23. Therefore, the bus service for this development cannot be classed as a good service under CP6 and would not offer a reliable and attractive alternative to the motor car.

- 2.5.1 DTA Response: As set out in the submitted transport statement discussions have been ongoing with Thames Valley Buses who are one of the lead operators in the area. In line with the previous application for the site and request for enhanced services, it is proposed that the current route 145 bus service is supplemented to cater for working weekday commuters to/from Bracknell, Reading and London, as well as in Wokingham itself, through connections at Wokingham Interchange with Reading Buses 'Lion' service-4 and train services at the adjacent railway station. This bus route would also enable connection with Reading Buses 'Leopard' service-3 in Finchampstead for travel to/from Reading.

- 2.5.2 AM: a bus to arrive at Wokingham Interchange at 07:10, or 07:00 if a greater connectional time onto key connecting departures is considered desirable, and then arrive at Broad Street in the town centre two or three minutes later; this journey could start Wood Moor adjacent to the development at around 06:55 or 06:45, or in Everley subject to a routeing, turning and timing assessment; and



2.5.3 PM: a bus to leave Wokingham Interchange at 19:20, or perhaps a few minutes earlier, and run via Station Road and Wellington Road and on to Finchampstead arriving at Wood Moor around 19:35 and potentially extending to Eversley too; depending on operational scheduling, this journey might be able to start from or run via Denmark Street in the town centre.

2.5.4 A proposal has been received from Thames Valley Buses to deliver this for a period of 5 years. A letter confirming the offer has been received from TVB which can be shared with the LHA. It is anticipated that the service would be secured in an appropriately worded obligation in a S106 legal agreement.

25. The nearest primary school is Finchampstead Church of England Primary school some 650m from the site. This is an acceptable walk distance, however if the child is accompanied that would imply 2 journeys a day of 1.3km.

2.5.5 DTA Response: As set out in the submitted transport statement (para 3.7.1) the national travel survey shows that 86% of primary school pupils are recorded to walk where distances are under 1.6km in length. As acknowledged, the round trip would be less than this distance and therefore, it is reasonable to assume the primary school is within reasonable walking distance.

2.5.6 It is noted that the existing primary schools in Finchampstead North are located towards the southern end of the settlement, meaning that many existing properties in Finchampstead North are located further away from primary education than the application site is from Finchampstead Church of England Primary School.

26. There is at the Greyhound Pub some 450m north of site a Goswell & Birds Farm Shop and Coffee House selling various farm produce. However, this would not be classed as weekly food shop, and the nearest supermarket is the Co-op at California Cross around 3km from the site. Therefore, this would not be a walk trip as this would be a round trip of 6km.

2.5.7 DTA Response: It is uncommon for weekly food shops to be undertaken on foot or by public transport due to the volume and weight of shopping. Furthermore, there has been an increase in home delivery for food shopping which will be an options for future residents. Otherwise, future residents of the site, like existing residents would drive to undertake their weekly shop.



2.5.8 The local facility would be more appropriate for top up shopping, which could be undertaken on foot, or as a bypass trip undertaken as a wider journey either by bus or car.

27. Highways would have expected to see a full audit of the walk routes to local services be submitted.

2.5.9 DTA Response: Para 4.6 of the submitted transport statement includes an audit of walking routes following a site visit and a plan showing suggested minor improvements.

2.5.10 In addition to assist with those existing and future residents that may have minor mobility issues the received highway boundary confirms it would be possible to the developer to deliver a new bench. This would provide a suitable rest point.

2.5.11 There are two areas where it would be possible to deliver this. The first would be in the verge on the southwest corner of the Longwater Road and Longwater Lane junction. The alternative would be in the verge of the southern corner of Longwater Lane opposite property "Fair Green".

28. Highways is off the view that due to the lack of attractive alternatives sustainable alternatives, the car will be the main mode of choice and therefore this site is unsustainable.

2.5.12 DTA Response: The NPPF tests are clear that in assessing development sites it should be ensured that:

- Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- Safe and suitable access to the site can be achieved for all users; and
- Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.5.13 It also acknowledges that Opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account decision making. This has also been the conclusion in several recent planning appeals relating to similar sites in the district.



2.5.14 The Applicants are proposing to deliver enhancements to the local bus service & improvements to footway crossing points (Appendix E of TS), to ensure that safe and suitable access and a realistic travel choice is provided for those work related journeys.

2.5.15 The NPPF is clear that development should only be refused on highway grounds where there is an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe. It is clear from the submitted transport statement that this cannot be the case for this application.

2.6 Pedestrian

30. Dropped kerbs and tactile paving will need to be provided on the site roads.

32. There are pavements on the development side of Longwater Road, though highways would have expected to see proposals to clear the over growth.

2.6.1 DTA Response: As part of the technical approval for the internal road layout (S38 agreement) the final location and specification of the dropped kerbs and tactile paving will be agreed with the Highway Authority.

2.6.2 All necessary vegetation will be cleared to ensure the footways are usable and the visibility splays from the site access are delivered.

2.7 Site Visibility Splays

33. For every private driveway that crosses a pavement, 2m x 2m pedestrian splays are required. These have not been submitted and are required.

35. Forward splays have been provided but are these to 20mph design speeds or actual speeds. Forward visibility splays should not go through private gardens.

2.7.1 DTA Response: All properties are set back at least 2m from the back of footway, therefore, 2m x 2m pedestrian splays can be achieved in all locations.

2.7.2 The forward visibility splays will be protected by either the provision of a footway or grassed areas. No planting will be provided within any visibility splay.



2.8 Road Safety Audit

37. Highways would need to see an up-to-date Road Safety Audit and designer comments be submitted.

2.8.1 DTA Response: An audit has been undertaken and associated RSA response report are attached in **Appendix B**.

2.9 Access Junction Modelling

38. A PICADY junction model has been submitted for the proposed access.

39. Before this model can be assessed, a turning flows plan and junction geometries will need to be submitted.

2.9.1 DTA Response: Due to the scale of development a site access assessment was provided for context given the minimal impact and for consistency with the previous submission. However, to assist the following matrices represent the future year with development flows:

2029 AM PCU + DEV	Longwater Rd N	Site Access	Longwater Rd S		2029 PM PCU + DEV	Longwater Rd N	Site Access	Longwater Rd S
Longwater Rd N	0	4	220		Longwater Rd N	0	9	169
Site Access	8	0	4		Site Access	4	0	2
Longwater Rd S	213	2	0		Longwater Rd S	181	4	0

2.9.2 **Drawing 19200-01-02 Rev D** is appended to present the relevant geometry.

2.9.3 The capacity assessment has been updated to reflect the correct visibility from a set back of 10m as per the requirements and to remove the short flare to represent a more robust assessment.

2.9.4 As can be seen in the attached updated outputs (**Appendix C**) and in the summary table below, due to the minimal traffic flows, the changes to the geometry have no material impact.



	AM + Development			PM + Development		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
	2024					
Stream B-AC	0.0	8.41	0.03	0.0	7.99	0.01
Stream C-AB	0.0	4.70	0.00	0.0	4.75	0.01
	2029					
Stream B-AC	0.0	8.48	0.03	0.0	8.05	0.01
Stream C-AB	0.0	4.68	0.00	0.0	4.73	0.01

2.10 Swept Path Assessments

41. Highways would require swept paths for a refuse vehicle and a fire tender using the dimensions below be assessed and submitted.

42. In addition, highways would need to see swept paths assessment for a large car entering and leaving the parking spaces for plots 26 to 29.

2.10.1 DTA Response: The site access and layout vehicle tracking has been updated to test the larger refuse vehicle. Due to the manoeuvring requirements of the refuse vehicle being more onerous than the fire tender, is not considered necessary. This is shown on **Drawing 19200-01-1 Rev F** and **Drawing 19200-09 Rev D**.

2.10.2 The vehicle tracking for plots 31 and 33 has also been undertaken to show as a worst case how the tandem parking would work with a vehicle waiting having moved to allow the other vehicle to leave.

2.10.3 Should this not be required then the additional space for the waiting vehicle would be used by the vehicle manoeuvring.



2.11 Construction Method Statement

49. Due to the size and location of this site, highways would have expected a framework, none was submitted, and this is required.

2.11.1 DTA Response: Until a contractor is appointed it is unknown how the site will be constructed, including the site access, internal layout or where for example the site compound will be located. It is commonplace for a condition to be imposed for a construction management plan to be submitted and agreed prior to works commencing on site. DTA would expect this to be imposed for this application.

Drawings



2.4m x 118m
Visibility Splay
(ATC 85th %ile
speed 44mph)

'y' distance 160m

2.4m x 107m
Visibility Splay
(ATC 85th %ile
speed 41.4mph)

'y' distance 160m

5.5m Carriageway
2x2m Footways
8m Radii

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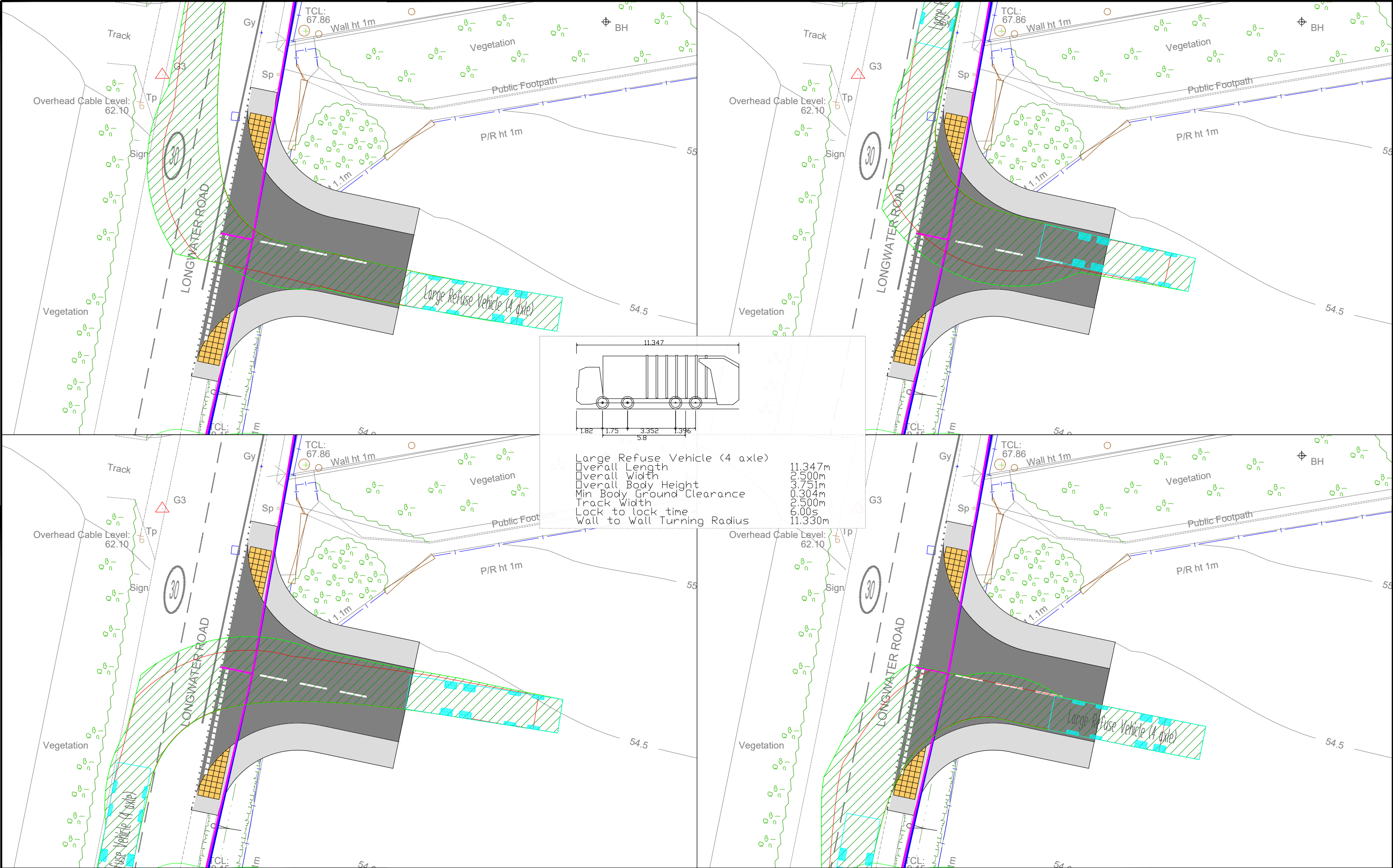
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REV	DESCRIPTION	DRAWN	INITIALS	DATE



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JOB TITLE Finchampstead			CLIENT Catesby Strategic Land Ltd	
DRAWING TITLE Proposed Site Access & Visibility Splays				
SCALE 1:500@A3	DRAWN BY DN	DATE Sept 24	DRAWING No 19200-01	REVISION F



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REV	DESCRIPTION	DRAWN	INITIALS	DATE

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JOB TITLE		CLIENT	
Finchampstead		Catesby Strategic Land Ltd	
DRAWING TITLE			
Proposed Site Access			
Refuse Vehicle Tracking			
SCALE	DRAWN BY	DATE	REVISION
1:250@A3	DN	Sept 24	F
DRAWING No		19200-01-1	



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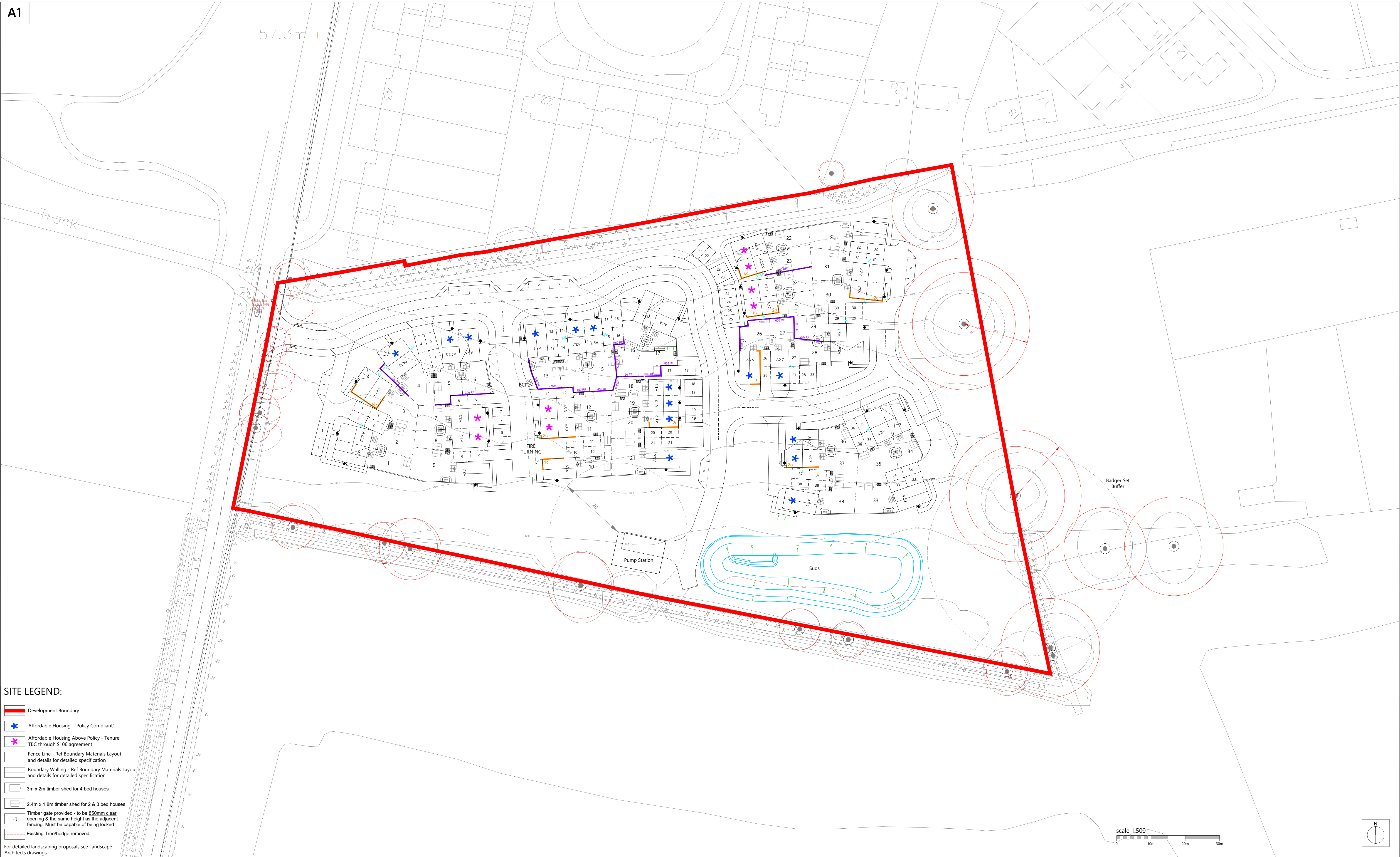
REV	DESCRIPTION	DRAWN	INITIALS	DATE



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JOB TITLE		Finchampstead		CLIENT		Catesby Strategic Land Ltd	
DRAWING TITLE							
Site Layout							
Vehicle Tracking (Refuse, Home Delivery and MPV)							
SCALE	DRAWN BY	DATE	DRAWING No		REVISION		
1:500@A3	DN	Nov 24	19200-09		D		

Site Plans



Romsey T:01794 367703
Portishead T:01275 407000
London T:01794 367703

www.thrivearchitects.co.uk

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Rev	Description	Date	Au	Ch
A	Issued for Planning	31.05.24	MK	
B	Amended to suit CMP-02	16.10.24	MK	
	Amended to suit Client comments	21.10.24	MK	
	Amended to suit Engineer's comments	23.10.24	MK	
	Amended to allow 19.2m RPA.	01.11.24	RA/MK	
	Affordable annotations added, engineer's info added.	19.11.24	MK	

Project	Land at Longwater Road, Finchampstead		
Drawing	Site Layout		
Client	Catesby Estates PLC & Stonebond Properties (Guildford) Limited		
Job no.	CATE230603	Date	26.03.24
Dwg no.	SL01	Rev.	B
Author	MK	Checked	
Status	PLANNING	Scale	1:500 at A1
Client ref.		Office	Romsey





Appendix A

Highway Consultation Response

Date: 3 July 2024
Application: 241567



WOKINGHAM
BOROUGH COUNCIL

WBC Highways

Development Management &
Compliance

P.O. Box 157

Shute End, Wokingham

Berkshire, RG40 1BN

Tel: (0118) 974 6000

Minicom No: (0118) 974 6991

Dear WBC Highways,

Full Planning Approval Consultation

Application Number: 241567

Applicant: .

Site Address: Land To The East Of Longwater Road, Finchampstead, RG40 3TS

Parish: Invalid code

Grid Reference: Easting - 479637, Northing - 162696

Type of Development: Major Dwellings (10+)

Proposal: Full application for the proposed erection of 40no. dwellings (Use Class C3), together with associated outdoor space and landscaping, drainage infrastructure, hard and soft landscaping, parking, access, and associated works.

Case Officer: Adriana González

Development Management has received the above application and we require your comments on the proposal using the recommended memorandum below. The documents associated with this are available to view in NEC DM using the application number 241567. Alternatively, public documents are available to view on the Council's planning application search page: [Wokingham Borough Council Online Planning](#).

Please index your response into NEC DM against the application. If you are recommending conditions, you should give a reason with reference to relevant policies. A list of standard conditions can be found on the Z Drive at: [Z:\Standard Planning Conditions](#).

Your observations are required in respect of this application within **10 working days** of the above date or **15 working days** if the development type is classed as a major development.

Yours sincerely,
Development Management & Compliance

MEMORANDUM

From:	Gordon Adam Development Control		
Service	WBC Highways	App No:	241567
Address:	Land To The East Of Longwater Road, Finchampstead, RG40 3TS.		
Proposal:	Full application for the proposed erection of 40no. dwellings (Use Class C3), together with associated outdoor space and landscaping, drainage infrastructure, hard and soft landscaping, parking, access, and associated works.		
Type of Development:	Major Dwellings (10+)		
Site Visit Made:	Yes/No		

Summary Of Recommendations

- ☐ No comment
☐ No objection
☐ No objection subject to conditions (and reasons) **stated below**
☐ Request further information before determination as **stated below**
☒ Objection due to the reason(s) **stated below**

Comments On Proposal

General

1. Highways understands that this is a full application for 40 dwellings on this site.
2. Highways would have expected that pre-application discussion would have been held. However, none were.
3. This application is supported by a travel plan and Transport Statement which is welcome.

Parking

4. It is welcome that the Borough's Parking Calculator has been used and submitted. This has been assessed and is accepted. The level of parking would be 80 allocated spaces, 8 visitor spaces and 3 unallocated spaces giving a parking ratio of 2.3 which is in line with Borough Parking standards.
5. Parking Plan (PP01 Rev) shows all the allocated and visitor spaces but requires showing the 3 unallocated spaces.
6. In addition, there needs to be a better distribution of visitor spaces as there are none in the eastern section of this development.
7. The dimensions of the parking spaces are in line with Borough standards.
8. The width of the single drives would need to be a minimum of 3.1m. The drive

for plot 21 needs to be widened.

9. For plots 1 and 2, highways would recommend that the parking for plot 1 be moved to the west of plot 1 rather than where it is proposed.
10. Highways is also concerned with the design of the area set out below. There is insufficient turning space for the parking for plots 26 and 29 to manoeuvre safely. Indeed parking for plot 29 would need to be moved closer to plot 29.



Cycle parking

11. It is welcome that cycle parking will be provided to Borough standards with on plot provision. These would need to be in rear gardens with direct access. Both the location and the direct access would need to be shown on a plan and submitted.

Electric Vehicle Charging

12. No mention has been made of electric vehicle charging in the transport statement.
13. The provision will need to be in line with Building Regulations Approved Document S which states that each dwelling would need to have a charging provision.
14. This will need to be shown on the parking

Trip Rates

15. The trip rates for this site have been calculated using TRICS data. However, no comparative assessment has been carried out to assess whether or not these represent this site.
16. That being said, highways have carried out an assessment using the Borough's approved Trip rates and there would be an increase of 4 and 2 trips in the AM and PM respectively. These are not significant and therefore the trip rates are acceptable.

Access

17. It is proposed that this site will be accessed from Longwater Road via a priority junction to the south of the entrance into the Public Right Off Way.
18. There is no mention that the existing speed limit signs would need to be moved or that there is any proposal for extending the 30mph speed limit further down Longwater Road, this would have been expected.
19. It is welcome that visibility splays for this proposed access have been design to actual 85th percentile speeds. The lengths of the splays have been calculated using the equation that is contained within MfS which is welcome. These calculations would need to be submitted.
20. Any landscaping within the visibility splay would need to be maintained to less than 0.6m in height. This would involve the removal and/or maintenance of more hedgerow.

Sustainability Assessment

21. A sustainability assessment has been carried out and included in the Transport Statement.
22. The nearest bus service to the proposed site is bus route 145 which operates 1 return journey every Tuesday. There is one school service which runs between California Cross Roads to Yateley and Farnborough from a stop some 600m away from the site. There is one service in the morning at 07:46 and 2 in the afternoon arriving back at 15:51 and 17:21 which runs only during the term time.
23. Therefore, the bus service for this development cannot be classed as a good service under CP6 and would not offer a reliable and attractive alternative to the motor car.
24. Whilst it is true that MfS states that for journeys less than 2km walking would provide a good alternative. The document also goes on to state that walking to local services would need to be available for all no matter their ability or age.
25. The nearest primary school is Finchampstead Church of England Primary school some 650m from the site. This is an acceptable walk distance, however if the child is accompanied that would imply 2 journeys a day of 1.3km.
26. There is at the Greyhound Pub some 450m north of site a Goswell & Birds Farm Shop and Coffee House selling various farm produce. However, this would not be classed as weekly food shop, and the nearest supermarket is the Co-op at California Cross around 3km from the site. Therefore, this would not be a walk trip as this would be a round trip of 6km.
27. Highways would have expected to see a full audit of the walk routes to local services be submitted.
28. Highways is of the view that due to the lack of attractive alternatives sustainable alternatives, the car will be the main mode of choice and therefore this site is unsustainable.

Pedestrian

- 29. The proposed side roads have 2 m pavement on both sides which is welcome.
- 30. Dropped kerbs and tactile paving will need to be provided on the site roads.
- 31. It is proposed that there would be dropped kerbs and tactile paving as part of the access which is welcome.
- 32. There are pavements on the development side of Longwater Road, though highways would have expected to see proposals to clear the over growth.

Site Visibility Splays

- 33. For every private driveway that crosses a pavement, 2m x 2m pedestrian splays are required. These have not been submitted and are required.
- 34. Visibility splays for the internal junction have been submitted for a 20mph design speed which is welcome.
- 35. Forward splays have been provided but are these to 20mph design speeds or actual speeds. Forward visibility splays should not go through private gardens.

Road Safety Audit

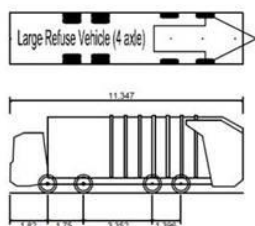
- 36. A previous Road Safety Audit dated 2017 was submitted as part of this application which raised no safety issues. The reason for submitting the previous Audit was that there had been no changes since 2017.
- 37. Highways would need to see an up-to-date Road Safety Audit and designer comments be submitted.

Access Junction Modelling

- 38. A PICADY junction model has been submitted for the proposed access.
- 39. Before this model can be assessed, a turning flows plan and junction geometries will need to be submitted.

Swept path Assessments

- 40. Swept paths assessments have been submitted for a refuse vehicle and a minivan.
- 41. Highways would require swept paths for a refuse vehicle and a fire tender using the dimensions below be assessed and submitted.
- 42. In addition, highways would need to see swept paths assessment for a large car entering and leaving the parking spaces for plots 26 to 29.



Large Refuse Vehicle (4 axle)
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to Lock Time
Wall to Wall Turning Radius

11.347m
2.500m
3.751m
0.304m
2.500m
6.00s
11.330m



DB32 Fire Appliance
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Max Track Width
Lock to Lock Time
Kerb to Kerb Turning Radius

8.680m
2.180m
3.452m
0.337m
2.121m
6.00s
7.910m

Travel Plan

43. A travel plan statement has been submitted in support of this planning application which is welcome.
44. Due to the size of the development, there is no requirement for targets or monitoring.
45. A travel plan co-ordinator will be appointed prior to occupation which is welcome.
46. The statement includes action plans for walking and cycling which is welcome.
47. Funding will be made available for administration of the statement and for implementation of initiatives which is welcome.
48. Highways is content to secure this document through a planning condition.

Construction Method Statement.

49. Due to the size and location of this site, highways would have expected a framework, none was submitted, and this is required.

Conditions & Reasons (if required)

1. The applicants have failed to demonstrate to the Council's satisfaction that the site is sustainable in transport terms with regards to its location and access to services. The proposed development is not within walking distance of local facilities, amenities and schools and will result in a high level of car dependency contrary to the sustainable goals of the NPPF and core strategies policies CP1, CP3, CP6 and CP9 and will therefore result in an unsustainable intensification of a use of land.
2. Insufficient information has been submitted with the planning application to enable the highways, parking and transportation implications of the proposed development to be fully assessed. This is due to the absence of an acceptable Transport Assessment and no submission of a Road Safety Audit. The applicant has failed to demonstrate that this major development would not have a significant adverse impact upon highway safety. This is contrary to core strategies policies CP1, CP3 and CP6.

Date: 30th July 2024 **Signed:** Gordon Adam

Appendix B

Road Safety Audit & Safety Audit Response Report

Land to the East of Longwater Road, Finchampstead

Creation of new residential access and internal layout

Road Safety Audit Response Report

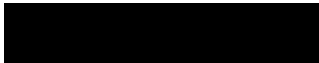


F1 Project details

Table F.1 Project Details

Report title:	Land to the east of Longwater Road, Finchampstead
Date:	12 th September 2024
Document Reference and revision:	19200-06
Prepared by:	DTA Transportation
On behalf of:	Wokingham Borough Council

Table F.2 Authorisation Sheet

Project:	Land to the east of Longwater Road, Finchampstead
Report title:	Road Safety Audit Response Report (RSA1)
Prepared by:	
Name:	Dave Neale
Position:	Associate Director
Signed	
Organisation:	DTA Transportation
Date:	12 th September 2024

F2 Introduction

This report sets out the design organisation response to problems raised in the Stage 1 Road Safety Audit carried out by Meraki Alliance (reference MAL/LRFRSA1Rev0, 8th September 2024).

This audit formally considered the creation of a new access and the associated works. The auditor was also asked to consider the internal layout to highlight any concerns. The received audit is attached as **Appendix A**.

For ease, the responses below use the same references as the received audit.



F3 Key personnel

Table F.3 Key personnel

Overseeing Organisation:	<u>Wokingham Borough Council</u>
RSA Team:	Jonathan Birkett – Audit Team Leader Gillian Kidd – Audit Team Member Meraki Alliance Ltd Riverside Court Wetherby LS22 6LE
Design organisation:	<u>DTA Transportation</u> Dave Neale (dn@dtatransportation.co.uk) Forester House, Doctors Lane, Henley in Arden, Warwickshire B95 5AW T: 01564 793598



F4 Road Safety Audit Decision Log

Table F.4 Road Safety Audit decision log

RSA Problem	RSA recommendation	Design organisation response	Overseeing Organisation response	Agreed RSA action
Problem: 1-1 Location: Site Access Junction Summary: Obstructed visibility will increase the risk of failure to give way type collisions. It is proposed to construct a new access onto Longwater Road. There are significant amounts of vegetation within the verges that are blocking the proposed visibility splays. Obstructed visibility will increase the risk of failure to give way type collisions.	At detailed design ensure that the vegetation is removed and that stringent measures are put in place that ensure continual maintenance is undertaken if the vegetation is only cut back.	The problem and recommendation are accepted.		

Land to the east of Longwater Road, Finchampstead

Road Safety Audit Response Report



Problem: 1-2 Location: Site Access Junction Uncontrolled Crossing Summary: Obstructed visibility will increase the risk of pedestrian/vehicle collisions It is proposed to construct a new access with an inset uncontrolled crossing. Based on the levels of vegetation and possible obstructions to intervisibility between pedestrians on the crossing and vehicles either turning left or right into the access there is a considerable risk of pedestrian/vehicle collisions.	Ensure that visibility splays of 1.5m x 40m are provided at the uncontrolled crossings and if these cannot be provided the crossing will need to be moved so that rather than an inset crossing an inline crossing is provided.	The problem and recommendation are accepted. The crossing has been moved to be in line with the desire line along Longwater Road.		
--	--	---	--	--

Land to the east of Longwater Road, Finchampstead

Road Safety Audit Response Report



Problem: 1-3 Location: Site access uncontrolled crossing. Summary: Pedestrian crossings away from the pedestrian desire line will both increase the risk of trips and falls as well as pedestrian/vehicle collisions. It is proposed to construct a new site access junction that will bisect an existing footway along Longwater Road. The design provided shows an inset crossing. The inset crossing is away from the pedestrian desire line for those pedestrians walking along Longwater Road, the Audit Team considered it unlikely that pedestrians would walk into the access to cross the road but would simply cross following the natural desire line. Increasing both the risk of trips and falls as well as pedestrian/vehicle collisions.	It is recommended that the crossing is moved towards Longwater Road and inline with the existing footway this will both allow pedestrians on Longwater Road to cross safely but will also provide a means to cross the access, if necessary, by residents of the development.	The problem and recommendation are accepted. The crossing has been moved to be in line with the desire line along Longwater Road.		
---	--	---	--	--

Land to the east of Longwater Road, Finchampstead

Road Safety Audit Response Report



Problem: 1-4 Location: Site access Summary: Manhole covers where vehicles are turning will increase the risk of loss of control type collisions.. It is proposed to construct a new site access junction onto Longwater Road. There is an existing manhole within the carriageway, and this will be within the area where vehicles (especially cycles and powered two wheelers) are turning left into the development. There is a serious risk that this will result in loss of control type collisions.	Either move the manhole into the footway/verge or replace the cover with one that is skid resistant.	The problem and recommendation are accepted. As part of the technical approval process for the S278 works, the final arrangement of either relocating the manhole or replacing the cover will be agreed with the Highway Authority.		
--	---	---	--	--

Land to the east of Longwater Road, Finchampstead

Road Safety Audit Response Report



Problem: 1-5 Location: Longwater Road. Summary: A lack of street lighting will increase the risk of darkness collisions. It is proposed to construct a new development to the north of Longwater Road. This development will both increase the number of pedestrians using the footway and vehicles entering and exiting Longwater Road. Currently street lighting is only available at the junction with Burnmoor Meadow. A lack of street lighting will increase the risk of darkness collisions.	Carefully consider the need for street lighting.	The problem and recommendation are accepted. As part of the technical approval process for the S278 any need for street lighting will be agreed with Wokingham Borough Council.		
--	---	---	--	--

Land to the east of Longwater Road, Finchampstead

Road Safety Audit Response Report



Problem: 1-6 Location: Longwater Road/Site Access. Summary: Signing inappropriately located will increase the risk of collisions. It is proposed to construct a new development access this is currently where there is a change in speed limit 60/30. These signs will need to be moved away the junction. Signage inappropriately located will increase the risk of collisions.	As the signs will need to be moved to accommodate the new access it is recommended that these are also moved further to the south away from the access junction which will help to further reduce speeds in advance of the access.	The problem and recommendation are accepted. It is proposed to extend the 30mph limit to the south to fully incorporate the site access. The associated signage will be relocated.		
--	---	---	--	--

Land to the east of Longwater Road, Finchampstead

Road Safety Audit Response Report



Problem: 1-7 Location: Internal Roads. Summary: A lack of suitable safe crossings locations will increase the risk of pedestrian/vehicle collisions. The drawing provided of the new internal road layout associated with the development does not show any uncontrolled crossings of the internal road layout. A lack of suitable safe crossings locations will increase the risk of pedestrian-vehicle collisions.	Provide uncontrolled crossings within the internal road layout.	The problem and recommendation are accepted. The detail and location of all dropped crossings (with and without tactile paving) will be set out and agreed with WBC during the detailed design process of the internal layout as part of the S38 approval.		
--	--	--	--	--

**F5 Design organisation and Overseeing Organisation statements**

Table F.5 Design organisation statement

On behalf of the design organisation I certify that:	
1) The RSA actions and other matters identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation; or	☐
2) The RSA actions and other matters identified in response to the road safety audit problems in this road safety audit cannot be agreed and I wish to proceed to an exception report	☐
Name:	Dave Neale
Signed:	
Position:	Associate Director
Organisation:	DTA Transportation
Date:	12 th September 2024

Table D.5 Overseeing Organisation statement

On behalf of the Overseeing Organisation I certify that:	
1) The RSA actions and other matters identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation and will be progressed; or	☐
2) The RSA actions and other matters identified in response to the road safety audit problems in this road safety audit cannot be agreed and I wish to proceed to an exception report	☐
Name:	
Signed:	
Position:	
Organisation:	Wokingham Borough Council
Date:	

Drawings



2.4m x 118m
Visibility Splay
(ATC 85th %ile
speed 44mph)

'y' distance 160m

2.4m x 107m
Visibility Splay
(ATC 85th %ile
speed 41.4mph)

'y' distance 160m

5.5m Carriageway
2x2m Footways
8m Radii

Based upon the ORDNANCE SURVEY MAPS with the permission of
THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE
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© David Tucker Associates

REV	DESCRIPTION	DRAWN	INITIALS	DATE



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Fax: +44(0)1564 793983
www.dtatransportation.co.uk

JOB TITLE Finchampstead		CLIENT Catesby Strategic Land Ltd		
DRAWING TITLE Proposed Site Access & Visibility Splays				
SCALE 1: 500@A3	DRAWN BY DN	DATE Sept 24	DRAWING No 19200—01	REVISION F

Appendix A

Received Road Safety Audit



meraki alliance
Highways, Transportation & Safety Consulting

Access Junction: Longwater Road, Finchampstead

Road Safety Audit: Stage 1

Wokingham Borough Council
Civic Offices
Shute End
Wokingham
RG40 1BN

Jonathan Birkett
Meraki Alliance Ltd
Riverside Court
Castle Gate
Wetherby
LS22 6LE
[Tel: +44 \(0\) 7966296302](tel:+441753796629)



meraki alliance

Highways, Transportation & Safety Consulting

Access Junction: Longwater Road, Finchampstead

Road Safety Audit: Stage 1

Report Produced for:	Wokingham Borough Council
Report Produced by:	Jonathan Birkett
Report Dated:	08 Sept 2024
Report Reference:	MAL/LRFRSA1Rev0
Road Safety Audit Team Leader:	Jonathan Birkett

Access Junction: Longwater Road, Finchampstead

Road Safety Audit: Stage 1

Contents Amendment Record

This report has been issued & amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Draft Report	07 Sept 2024	JB
1	0	FINAL REPORT	08 Sept 2024	JB/GK

Report Circulation Record

This report has been circulated, as follows:

Person	Organisation	No. of Copies	Date
	Wokingham Borough Council		
D Neale	DTA	Electronic	08 Sept 2024
G Kidd	Meraki Alliance Ltd	Electronic	08 Sept 2024

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1.4	<i>Details of Site Visit</i>	5
1.5	<i>Road Safety Audit Team and Format</i>	5
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1 Introduction

1.1 General

This report has been prepared in response to a request to undertake a Stage 1 Road Safety Audit (i.e. carried out prior to detailed design), by Dave Neale of DTA on behalf of Wokingham Borough Council.

The scheme submitted for Audit is the proposed site access Longwater Road, Finchampstead.

Longwater Road is a single carriageway road. At the location of the site access the speed limit of Longwater Road changes from the National speed limit (60mph) to 30mph. There is no street lighting in this location or even the first several hundred metres of the 30mph speed limit.

Overseeing Organisation

Wokingham Borough Council.

Client

Catesby Strategic Land Ltd.

Designers

DTA.

The audit comprised an examination of documents forming the Audit Brief and an examination of the site.

1.2 Documents Forming the Brief

The documents were made available to the Road Safety Audit Team by Dave Neale of DTA on behalf of Wokingham Borough Council. The total documents forming the Audit Brief are listed in Appendix 1:

Generally, the Brief comprised:

- Drawings.
- Highways comments.
- Technical Note.
- Transport Statement.

1.3 Collision Traffic and Speed Data

Personal Injury Collision (PIC) data has been obtained from Wokingham Borough Council (as part of the Transport Statement) for the most recent five-year period held on file from 01/09/2018 to 30/08/2023, as shown in Figure 1 below.

A total of 3 incidents were recorded over the last five-year period stated above. The study area included.

- B3016 Longwater Road and associated junctions
- B3348 and associated junctions

The serious PIC occurred at the B3016 Longwater Lane J/W Longwater Lane, Finchampstead when a reckless driver hit a cyclist head on.

The second serious PIC occurred at the Longwater Dell Road J/W Lower Sandhurst Road, Finchampstead when a car was passing too close to a cyclist and lost control.

The slight PIC occurred on B3348 Jubilee Road APPX 41M SW J/W Church Lane, Finchampstead when a driver didn't look properly and collided with another car.

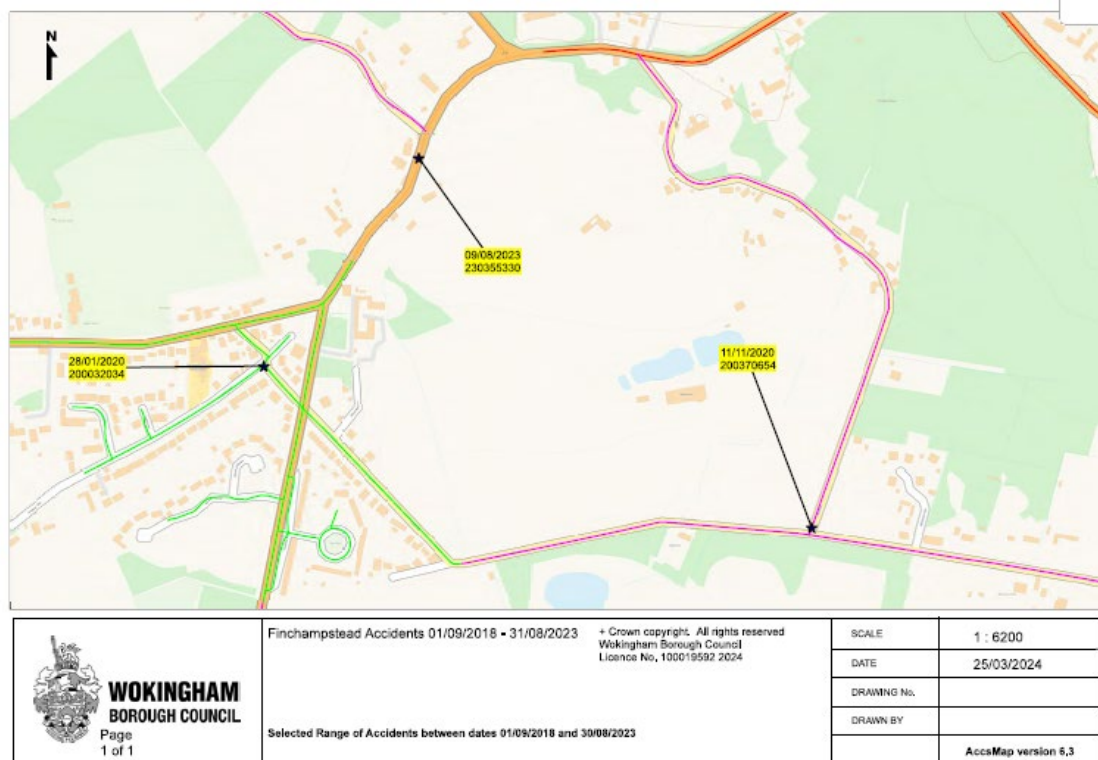


Figure 1: WBC Collision Data

Traffic count data was available from the Transport Statement and is shown below.

Direction	5 Day Ave.	7 Day Ave.	Average 85%ile (mph)	Average Mean (mph)	AM Peak	PM Peak
Northbound	1765	1626	41.4	34.5	198	204
Southbound	1709	1581	44.0	37.3	168	157

Traffic speed data was provided as part of the Transport Statement and has been used to calculate the visibility splays at the access junction.

1.4 Details of Site Visit

A site inspection was undertaken on 05 Sept 2024 between 06:00 and 06:30 to understand the proposed works and their interaction with the local road network.

The weather was fine and dry. No incidents were noted whilst on site.

1.5 Road Safety Audit Team and Format

It was considered that the information provided was sufficient for the purpose of carrying out the Road Safety Audit Stage 1 requested.

The Road Safety Audit Team membership approved on behalf of the Highway Authority was:

JONATHAN BIRKETT IENG MICE FIHE
Holder of Certificate of Competency
Road Safety Audit Team Leader

G KIDD MIHE BSc (HONS)
Road Safety Audit Team Member

The Road Safety Audit comprised an examination of the documents and drawings supplied to the Road Safety Audit Team (referenced in Appendix 1 of this report). No member of the Road Safety Audit Team has had any previous input to the design of the scheme.

The Terms of Reference are as described in the National Highways Design Manual for Roads and Bridges document GG119 'Road Safety Audit'. The scheme has been examined and this report compiled only with regard to safety implications to road users of the scheme as presented. It has not been verified for compliance with any other Standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. However, any audit comments should not be construed as implying that a technical audit has been undertaken in any respect.

Furthermore, any recommendations included within this report should not be regarded as being prescriptive design solution to the problem raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, as stipulated in GG119, and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which should be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.

It is the Project Sponsor's responsibility to ensure that all problems raised by the Road Safety Audit Team are given due consideration.

In the event of a collision and any resulting legal action, Meraki Alliance Ltd would have to defend its actions on the basis that it took such care, as in all circumstances was reasonably required, to ensure that the highway was not dangerous to road users. It is important therefore that recommendations contained in the report are acted upon wherever possible.

1.6 Departures or Relaxations from Standards

No departures from standard have been provided to the RSA Team.

1.7 Information Not Provided at this Road Safety Audit Stage 1

All information has been provided.

1.8 Items Considered as Part of the Road Safety Audit Stage 1

No items considered.

2 Items Raised at Stage 1 Road Safety Audit

This section details the findings of this Stage 1 Road Safety Audit. All locations of identified problems are illustrated on the plans included at **Appendix 2**.

2.1 Road Safety Audit - Problems (Site Access S278)

PROBLEM		1-1
Location:	Site access junction.	
Summary:	Obstructed visibility will increase the risk of failure to give way type collisions.	
It is proposed to construct a new access onto Longwater Road. There are significant amounts of vegetation within the verges that are blocking the proposed visibility splays. Obstructed visibility will increase the risk of failure to give way type collisions.		
RECOMMENDATION		
At detailed design ensure that the vegetation is removed and that stringent measures are put in place that ensure continual maintenance is undertaken if the vegetation is only cut back.		

PROBLEM		1-2
Location:	Site access junction uncontrolled crossing.	
Summary:	Obstructed visibility will increase the risk of pedestrian/vehicle collisions.	
It is proposed to construct a new access with an inset uncontrolled crossing. Based on the levels of vegetation and possible obstructions to intervisibility between pedestrians on the crossing and vehicles either turning left or right into the access there is a considerable risk of pedestrian/vehicle collisions.		
RECOMMENDATION		
Ensure that visibility splays of 1.5m x 40m are provided at the uncontrolled crossings and if these cannot be provided the crossing will need to be moved so that rather than an inset crossing an inline crossing is provided.		

PROBLEM		1-3
Location:	Site access uncontrolled crossing.	
Summary:	Pedestrian crossings away from the pedestrian desire line will both increase the risk of trips and falls as well as pedestrian/vehicle collisions.	
It is proposed to construct a new site access junction that will bisect an existing footway along Longwater Road. The design provided shows an inset crossing. The inset crossing is away from the pedestrian desire line for those pedestrians walking along Longwater Road, the Audit Team considered it unlikely that pedestrians would walk into the access to cross the road but would simply cross following the natural desire line. Increasing both the risk of trips and falls as well as pedestrian/vehicle collisions.		
RECOMMENDATION		
It is recommended that the crossing is moved towards Longwater Road and inline with the existing footway this will both allow pedestrians on Longwater Road to cross safely but will also provide a means to cross the access, if necessary, by residents of the development.		

PROBLEM		1-4
Location:	Site access.	
Summary:	Manhole covers where vehicles are turning will increase the risk of loss of control type collisions.	
It is proposed to construct a new site access junction onto Longwater Road. There is an existing manhole within the carriageway, and this will be within the area where vehicles (especially cycles and powered two wheelers) are turning left into the development. There is a serious risk that this will result in loss of control type collisions.		
RECOMMENDATION		
Either move the manhole into the footway/verge or replace the cover with one that is skid resistant.		

PROBLEM		1-5
Location:	Longwater Road.	
Summary:	A lack of street lighting will increase the risk of darkness collisions.	
It is proposed to construct a new development to the north of Longwater Road. This development will both increase the number of pedestrians using the footway and vehicles entering and exiting Longwater Road. Currently street lighting is only available		

At the junction with Burnmoor Meadow. A lack of street lighting will increase the risk of darkness collisions.
RECOMMENDATION
Carefully consider the need for street lighting.

PROBLEM		1-6
Location:	Longwater Road/Site Access.	
Summary:	Signing inappropriately located will increase the risk of collisions.	
It is proposed to construct a new development access this is currently where there is a change in speed limit 60/30. These signs will need to be moved away the junction. Signage inappropriately located will increase the risk of collisions.		
RECOMMENDATION		
As the signs will need to be moved to accommodate the new access it is recommended that these are also moved further to the south away from the access junction which will help to further reduce speeds in advance of the access.		

2.2 Road Safety Audit - Problems (Site Access S38)

PROBLEM		1-7
Location:	Internal roads.	
Summary:	A lack of suitable safe crossings locations will increase the risk of pedestrian/vehicle collisions.	
The drawing provided of the new internal road layout associated with the development does not show any uncontrolled crossings of the internal road layout. A lack of suitable safe crossings locations will increase the risk of pedestrian-vehicle collisions.		
RECOMMENDATION		
Provide uncontrolled crossings within the internal road layout.		

**END OF PROBLEMS IDENTIFIED AND RECOMMENDATIONS PRESENTED IN THIS
STAGE 1 ROAD SAFETY AUDIT**

3 Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119	
ROAD SAFETY AUDIT TEAM LEADER	
NAME:	JONATHAN BIRKETT
SIGNED:	
POSITION:	DIRECTOR
ORGANISATION	MERAKI ALLIANCE LTD
DATE:	08 SEPT 2024
ROAD SAFETY AUDIT TEAM MEMBER	
NAME:	GILLIAN KIDD
SIGNED:	
POSITION:	AUDIT TEAM MEMBER
ORGANISATION	MERAKI ALLIANCE LTD
DATE:	08 SEPT 2024

Appendix 1 – Audited Drawings

19200-01d Site Access GA

19200-01e-1 Vehicle Tracking

19200-03e Transport Statement

19200-05 Technical Note 1

19200-09c Site Tracking

382187-TPN-ITD-041-A Covering Letter

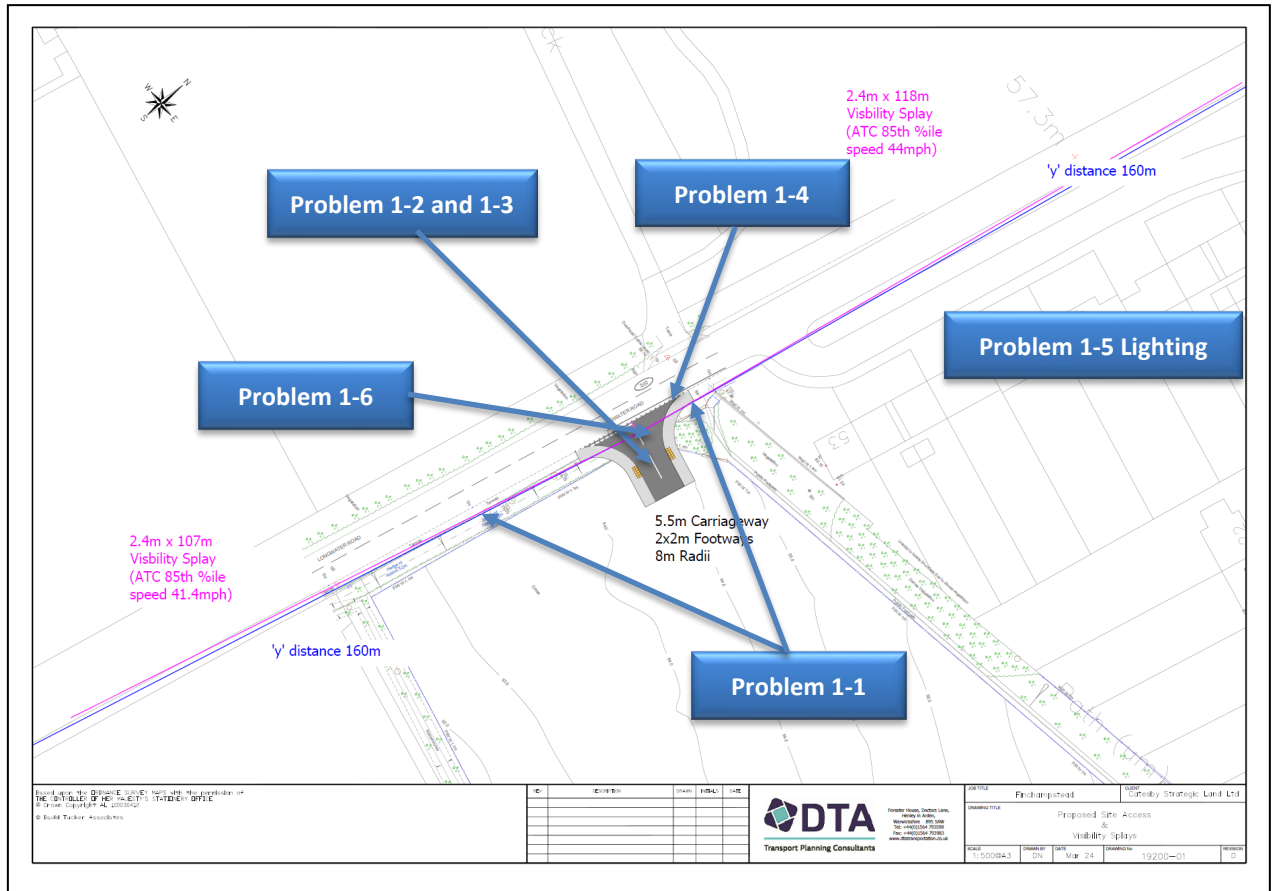
382187-TPN-ITD-041-A

CATE230603 SL.01 A1

Highways

Appendix 2 – Problem Location Plan

S278 Problem Location Plan



S38 Problem Location Plan





Forester House
Doctor's Lane
Henley-in-Arden
Warwickshire
B95 5AW

Tel: +44(0)1564 793598
inmail@dtatransportation.co.uk
www.dtatransportation.co.uk

Appendix C

Site Access PICADY outputs

Junctions 10						
PICADY 10 - Priority Intersection Module						
Version: 10.1.1.1905						
© Copyright TRL Software Limited, 2023						
For sales and distribution information, program advice and maintenance, contact TRL Software:						
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com						
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution						

Filename: Site Access Rev A.j10
Path: P:\19000's\19200\Technical\Junction Assessment
Report generation date: 08/08/2024 14:09:00

- »2024, AM + Development
- »2024, PM + Development
- »2029, AM + Development
- »2029, PM + Development

Summary of junction performance

	AM + Development			PM + Development		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2024						
Stream B-AC	0.0	8.41	0.03	0.0	7.99	0.01
Stream C-AB	0.0	4.70	0.00	0.0	4.75	0.01
2029						
Stream B-AC	0.0	8.48	0.03	0.0	8.05	0.01
Stream C-AB	0.0	4.68	0.00	0.0	4.73	0.01

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

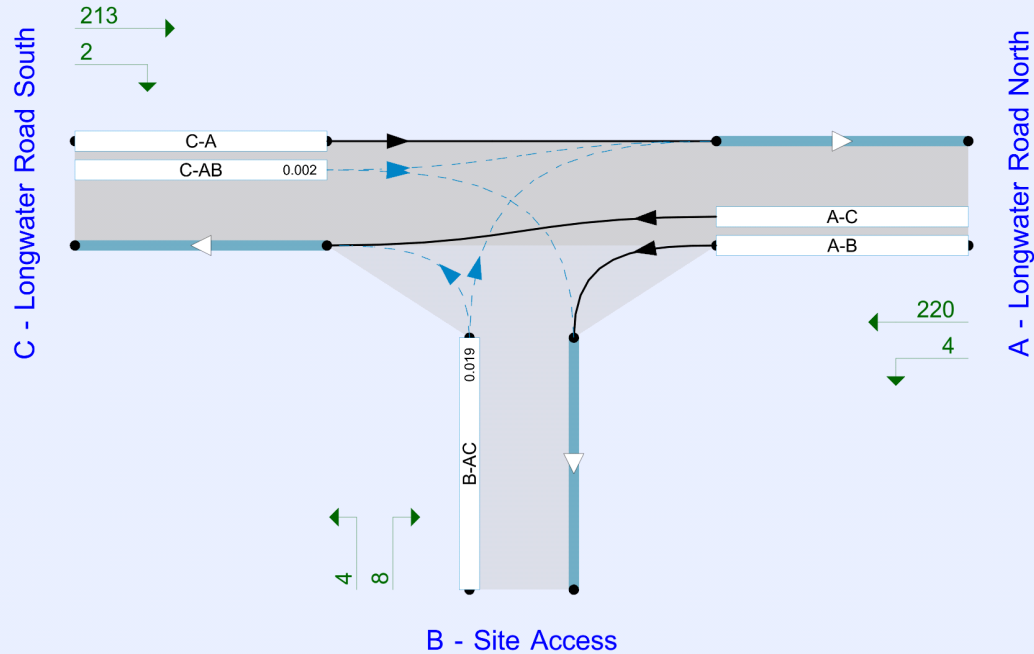
File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/06/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DTA\arcady
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/hr).
Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	AM + Development	ONE HOUR	07:45	09:15	15	✓
D2	2024	PM + Development	ONE HOUR	16:45	18:15	15	✓
D3	2029	AM + Development	ONE HOUR	07:45	09:15	15	✓
D4	2029	PM + Development	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024, AM + Development

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.26	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.26	A

Arms

Arms

Arm	Name	Description	Arm type
A	Longwater Road North		Major
B	Site Access		Minor
C	Longwater Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Longwater Road South	6.00			250.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane	2.75	22	19

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	482	0.088	0.222	0.140	0.317
B-C	620	0.095	0.240	-	-
C-B	719	0.278	0.278	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	AM + Development	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Longwater Road North		ONE HOUR	✓	214	100.000
B - Site Access		ONE HOUR	✓	12	100.000
C - Longwater Road South		ONE HOUR	✓	205	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	4	210
	B - Site Access	8	0	4
	C - Longwater Road South	203	2	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	0	1
	B - Site Access	0	0	0
	C - Longwater Road South	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.03	8.41	0.0	A	11	17
C-AB	0.00	4.70	0.0	A	2	4
C-A					186	279
A-B					4	6
A-C					193	289

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	467	0.019	9	0.0	0.0	7.866	A
C-AB	2	0.47	769	0.002	2	0.0	0.0	4.698	A
C-A	152	38			152				
A-B	3	0.75			3				
A-C	158	40			158				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	456	0.024	11	0.0	0.0	8.085	A
C-AB	2	0.59	780	0.003	2	0.0	0.0	4.637	A
C-A	182	45			182				
A-B	4	0.90			4				
A-C	189	47			189				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	441	0.030	13	0.0	0.0	8.406	A
C-AB	3	0.77	796	0.004	3	0.0	0.0	4.554	A
C-A	223	56			223				
A-B	4	1			4				
A-C	231	58			231				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	441	0.030	13	0.0	0.0	8.406	A
C-AB	3	0.77	796	0.004	3	0.0	0.0	4.555	A
C-A	223	56			223				
A-B	4	1			4				
A-C	231	58			231				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	456	0.024	11	0.0	0.0	8.087	A
C-AB	2	0.59	780	0.003	2	0.0	0.0	4.639	A
C-A	182	45			182				
A-B	4	0.90			4				
A-C	189	47			189				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	467	0.019	9	0.0	0.0	7.868	A
C-AB	2	0.47	769	0.002	2	0.0	0.0	4.701	A
C-A	152	38			152				
A-B	3	0.75			3				
A-C	158	40			158				

2024, PM + Development

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.21	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	PM + Development	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Longwater Road North		ONE HOUR	✓	169	100.000
B - Site Access		ONE HOUR	✓	6	100.000
C - Longwater Road South		ONE HOUR	✓	176	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	9	160
	B - Site Access	4	0	2
	C - Longwater Road South	172	4	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	0	1
	B - Site Access	0	0	0
	C - Longwater Road South	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.01	7.99	0.0	A	6	8
C-AB	0.01	4.75	0.0	A	5	7
C-A					157	235
A-B					8	12
A-C					147	220

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	477	0.009	4	0.0	0.0	7.616	A
C-AB	4	0.91	764	0.005	4	0.0	0.0	4.744	A
C-A	129	32			129				
A-B	7	2			7				
A-C	120	30			120				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	469	0.012	5	0.0	0.0	7.770	A
C-AB	4	1	773	0.006	4	0.0	0.0	4.693	A
C-A	154	38			154				
A-B	8	2			8				
A-C	144	36			144				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	457	0.014	7	0.0	0.0	7.994	A
C-AB	6	1	786	0.007	6	0.0	0.0	4.623	A
C-A	188	47			188				
A-B	10	2			10				
A-C	176	44			176				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	457	0.014	7	0.0	0.0	7.994	A
C-AB	6	1	786	0.007	6	0.0	0.0	4.624	A
C-A	188	47			188				
A-B	10	2			10				
A-C	176	44			176				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	469	0.012	5	0.0	0.0	7.771	A
C-AB	5	1	773	0.006	5	0.0	0.0	4.696	A
C-A	154	38			154				
A-B	8	2			8				
A-C	144	36			144				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	477	0.009	5	0.0	0.0	7.616	A
C-AB	4	0.91	764	0.005	4	0.0	0.0	4.747	A
C-A	129	32			129				
A-B	7	2			7				
A-C	120	30			120				

2029, AM + Development

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.25	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.25	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2029	AM + Development	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Longwater Road North		ONE HOUR	✓	224	100.000
B - Site Access		ONE HOUR	✓	12	100.000
C - Longwater Road South		ONE HOUR	✓	215	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	4	220
	B - Site Access	8	0	4
	C - Longwater Road South	213	2	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	0	1
	B - Site Access	0	0	0
	C - Longwater Road South	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.03	8.48	0.0	A	11	17
C-AB	0.00	4.68	0.0	A	2	4
C-A					195	292
A-B					4	6
A-C					202	303

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	464	0.019	9	0.0	0.0	7.910	A
C-AB	2	0.48	772	0.002	2	0.0	0.0	4.682	A
C-A	160	40			160				
A-B	3	0.75			3				
A-C	166	41			166				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	453	0.024	11	0.0	0.0	8.141	A
C-AB	2	0.60	784	0.003	2	0.0	0.0	4.617	A
C-A	191	48			191				
A-B	4	0.90			4				
A-C	198	49			198				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	438	0.030	13	0.0	0.0	8.482	A
C-AB	3	0.78	800	0.004	3	0.0	0.0	4.530	A
C-A	234	58			234				
A-B	4	1			4				
A-C	242	61			242				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	438	0.030	13	0.0	0.0	8.482	A
C-AB	3	0.78	800	0.004	3	0.0	0.0	4.531	A
C-A	234	58			234				
A-B	4	1			4				
A-C	242	61			242				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	453	0.024	11	0.0	0.0	8.144	A
C-AB	2	0.60	784	0.003	2	0.0	0.0	4.620	A
C-A	191	48			191				
A-B	4	0.90			4				
A-C	198	49			198				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	464	0.019	9	0.0	0.0	7.914	A
C-AB	2	0.48	772	0.002	2	0.0	0.0	4.685	A
C-A	160	40			160				
A-B	3	0.75			3				
A-C	166	41			166				

2029, PM + Development

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.20	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.20	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2029	PM + Development	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Longwater Road North		ONE HOUR	✓	178	100.000
B - Site Access		ONE HOUR	✓	6	100.000
C - Longwater Road South		ONE HOUR	✓	185	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	9	169
	B - Site Access	4	0	2
	C - Longwater Road South	181	4	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Longwater Road North	B - Site Access	C - Longwater Road South
From	A - Longwater Road North	0	0	1
	B - Site Access	0	0	0
	C - Longwater Road South	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.01	8.05	0.0	A	6	8
C-AB	0.01	4.73	0.0	A	5	7
C-A					165	248
A-B					8	12
A-C					155	233

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	475	0.010	4	0.0	0.0	7.653	A
C-AB	4	0.92	766	0.005	4	0.0	0.0	4.729	A
C-A	136	34			136				
A-B	7	2			7				
A-C	127	32			127				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	466	0.012	5	0.0	0.0	7.817	A
C-AB	5	1	776	0.006	5	0.0	0.0	4.675	A
C-A	162	40			162				
A-B	8	2			8				
A-C	152	38			152				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	454	0.015	7	0.0	0.0	8.055	A
C-AB	6	1	790	0.007	6	0.0	0.0	4.601	A
C-A	198	49			198				
A-B	10	2			10				
A-C	186	47			186				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	454	0.015	7	0.0	0.0	8.055	A
C-AB	6	1	790	0.007	6	0.0	0.0	4.602	A
C-A	198	49			198				
A-B	10	2			10				
A-C	186	47			186				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	466	0.012	5	0.0	0.0	7.817	A
C-AB	5	1	776	0.006	5	0.0	0.0	4.679	A
C-A	162	40			162				
A-B	8	2			8				
A-C	152	38			152				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	475	0.010	5	0.0	0.0	7.654	A
C-AB	4	0.92	766	0.005	4	0.0	0.0	4.730	A
C-A	136	34			136				
A-B	7	2			7				
A-C	127	32			127				



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