



Land Adjacent to Windhover Roundabout
Bursledon

Response to Highway Authority Comments

For

Wates Developments Ltd

Document Control Sheet

Land Adjacent to Windhover Roundabout

Bursledon

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1.0 Introduction

- 1.1 This Note has been prepared to respond to the latest Hampshire County Council Highways Consultee Response in relation to a planning application (reference: O/26/101417) at land adjacent to Windhover Roundabout, Bursledon.
- 1.2 The development proposal includes warehouse development (Use Classes B2 and B8 applied flexibly) of up to 200,000ft² (GIA), together with ancillary offices (Use Class E(g)(i)) and other ancillary building and structures, parking, servicing and manoeuvring areas, landscaping and sustainable drainage features.
- 1.3 Comments were provided by the Hampshire County Council (HCC) Highways on 13th August 2026, which are included for reference at **Appendix A**. In addition, this Note seeks to address additional comments raised by National Highways on the scheme, which are included at **Appendix B**.
- 1.4 The remainder of this Note is structured as follows:
 - ▶ Section 2 addresses comments raised by Hampshire County Council Highways;
 - ▶ Section 3 addresses comments raised by National Highways; and
 - ▶ Section 4 provides a summary of the Note.

2.0 Response to Hampshire Highways Comments

Preamble

- 2.1 For ease of reference, the HCC comments are provided in italics below. These are addressed in the order raised within the HCC response, however comments which do not require any additional detail are not included.

Existing Highway Conditions

"Notwithstanding the above, whilst the historic collision records do not indicate a specific existing safety issue for vulnerable road users, this should be considered alongside the findings of the WCHAR, which identifies existing deficiencies in pedestrian and cycle provision at Windhover Roundabout. The low number of recorded pedestrian and cycle collisions at this location may therefore reflect the limited existing pedestrian and cycle activity resulting from these deficiencies, rather than confirming that the junction is inherently safe for these users once activity increases as a result of the development proposals."

- 2.2 The WCHAR includes a review of personal injury collision data to identify potential safety improvements on the network. This indicates that collisions involving pedestrians and cyclists are most prevalent along the A27 Providence Hill section of the network, which is also noted to be the longest arm of the network as this forms a route to Bursledon railway station.
- 2.3 It is noted that HCC are expecting to commence work in 2027 on a network of cycle improvements along the A27 Providence Hill which would improve a large swathe of this route, including where the majority of collisions were recorded occurring within the collision analysis.
- 2.4 As part of the updated scheme presented within this Note, additional signalised crossing points are suggested over the A27 West End Road, A3024 Bursledon Road and A3025 Hamble Lane arms of the Windhover Roundabout junction to improve linkage around the roundabout and provide net benefits to the active travel network in the area.

Site Access and Proposed Highway Works

Bursledon Road

"The submitted drawings show a red dashed line which is assumed to be represent the highway boundary. There are also banking 'tadpoles' which are also shown in red. Further clarity is requested on these points."

- 2.5 Noted, these were blocks illustrating a bank within the topographical survey. These blocks have been amended and recoloured within the CAD drawing of the accesses, within the updated access drawings included at **Appendix C**.

"No information appears to have been provided in relation to the proposed junction geometry, such as lane widths, island widths, forward visibility to signal heads, intervisibility zone, etc."

- 2.6 The updated drawings at **Appendix C** include junction intervisibility zones and geometry labels.

"There are significant concerns regarding the internal site layout in relation to the proposed signalised access junction. Drawing 1803014-TK09 illustrates an articulated HGV ingress and egress from the western facility. A HGV is required to give way to traffic exiting the eastern facility. A HGV driver, positioned on the offside of the vehicle cab, will not be able to see traffic exiting the eastern facility. Car driver visibility to a car exiting the eastern site would also be very limited due to the layout. In addition, the car park accesses join in this vicinity with further vehicle movements occurring to which there may be limited visibility. There is also concern that a second HGV exiting from the western site would block across the ingress to the development leading to vehicles blocking back to the main Bursledon Road"

junction. These factors are considered to represent significant safety hazards, which may have a knock on effect on safety at the adjacent signalised junction."

- 2.7 Noted, although the internal layout is not subject to detailed design, the priority arrangement illustrated has been altered with the eastern unit required to give way to traffic from the western unit. This ensures that vehicles can look adjacent to the vehicle to see oncoming traffic along the access road.
- 2.8 Internal site layout will be subject to a reserved matters application, at which point the access road and servicing arrangements will be fixed.

"The swept path driven speeds should be confirmed, noting that a minimum of 10mph and/or expected driven speeds are required, in accordance with HCC Technical Guidance Note 2.

Drawing 1803014-TK01 C illustrates a max legal length HGV ingressing and egressing the junction. The right turn manoeuvre into the site is very tight and would require a HGV to position itself perfectly and not continue in the ahead lane, blocking the junction. There is a high probability that the HGV will partially obstruct the ahead traffic in the westbound offside lane. To avoid ahead drivers attempting to steer around the back of the HGV the right turning storage area within the junction would need to be wider to ensure it can fully accommodate an HGV.

The left turn movement out of the site shows the HGV in an unnatural position, and appears to be positioned across both exit lanes:"

- 2.9 Swept path analysis has been undertaken at 10 miles per hour in accordance with HCC guidance. The swept path analysis has been updated to reflect the updated internal site layout and is included at **Appendix D**.

"The merge on the westbound Bursledon Road exit is very short and does not provide clear priorities. Geometrically the generally slower moving nearside lane traffic would need to merge into the faster moving offside lane traffic. As shown, it is unacceptable and would need to be significantly improved. This would require the merge distance to be extended and for the offside lane to clearly merge into the nearside lane. Furthermore, waiting eastbound rightturning traffic is directly next to the merge, with no separation or kerb, which could result in head on conflict. Centre hatching would also be required in this area to separate the opposing traffic."

- 2.10 An additional island has been provided on the eastbound Bursledon Road arm to allow for the provision of a signal head to separate out the right turning phases into a separate stage as requested within the HCC response.
- 2.11 As a result of this, the ahead lanes for westbound traffic has been reduced to one lane at the junction and therefore no lane drop is provided on the updated layout. This is illustrated on the updated access plans at **Appendix C**.

"The existing junction road markings have not been shown. These should be illustrated to provide context for the proposals. It is also unclear why the existing yellow box markings have been removed from the proposed junction."

- 2.12 Noted, the existing yellow box junction elements have been incorporated into the updated layout included at **Appendix C**.

"While it is acknowledged that the offset staggered junction has been provided in order to allow for a non-hooking right turn from the A3024, consideration should be given to moving the site access closer to align better with Le Marechal Avenue side road. This would provide a more compact junction and reduce intergreen times."

- 2.13 The access location was selected to avoid the requirement to remove the established tree along the site frontage alongside the number of services located adjacent to the existing stop line for the eastbound Bursledon Road carriageway.

- 2.14 Notwithstanding this, a LinSig model of a layout directly opposite Le Marechal Avenue has been tested to see if this can accommodate the full development traffic flows, alongside accounting for modelling comments provided later in the HCC response. The LinSig output is included at **Appendix E**, with Table 2.1 summarising the LinSig results for the site access/Bursledon Road/Le Marechal Avenue junction only. For simplicity, this has been tested in the sensitivity test parcel distribution use only.
- 2.15 In terms of the model set up, the right turning stage assumes that traffic into Le Marechal Avenue and the development site can run simultaneously.

Arm	Weekday Morning Peak		Weekday Evening Peak	
	Degree of Saturation (%)	MMQ (PCU)	Degree of Saturation (%)	MMQ (PCU)
A3024 Bursledon Road (West)	99.0	49.3	75.9	19.4
A3024 Bursledon Road (East) Ahead Left	72.2	19.3	82.3	23.2
A3024 Bursledon Road (East) Right	93.1	7.2	68.0	3.6
Le Marechal Avenue	120.4	23.2	57.4	1.7
Site Access	65.3	7.0	91.3	7.5

Table 2.1: Single Development Access Test LinSig Summary

- 2.16 The above demonstrates that a single point of access would not be able to accommodate the full development quantum and therefore a second access is required in capacity terms.
- "As a general point, the tails of the tactile paving should be three deep in all circumstances."*
- 2.17 Noted, whilst this could be considered at the detailed design, the tactile paving has been updated in the access drawings at **Appendix C**.
- "The existing crossing over Bursledon Road is a Toucan crossing. The proposals include staggering this crossing, which appears sufficient. However, the central island is shown at a width around 3m, and this would need to be 4m minimum to accommodate cyclists. Furthermore, the 4m width would need to be maintained with the inclusion of guardrails."*
- 2.18 Noted, the central island has been widened to 4 metres to accommodate this and is illustrated at **Appendix C**.
- "The route to the west of the site access appears to have been designed wide enough to be shared use pedestrian/ cycle. However, the crossings provided over the site access are not wide enough for Toucans (they should be 4m minimum) and the centre island is also not wide enough."*
- There doesn't appear to be an onward connection for cyclists into the site on the east side of the site access road. This would require all pedestrians and cyclists accessing the development to wait 4 separate times at each crossing which could take a significant amount of time to get across the whole junction. It is recommended that a route on the eastern side of the site access road is provided which would provide a quicker more direct route into the development. It also allows the possibility of removing the staggered crossing over the site access road arm."*
- 2.19 In view of the above, we have revisited the internal site layout to provide an improved pedestrian and cycle experience.
- 2.20 The design iteration now includes provision of a shared foot/cycleway along the eastern side of the Bursledon Road access and providing an indicative crossing in front of the barrier. It is envisaged this would be a raised table crossing to allow pedestrians and cyclists to cross at grade, though these will be

confirmed during the Reserved Matters application as the site layout is finalised. This negates the requirement for a toucan crossing over the site access junction, given no pedestrian and cycle facilities are present on the northern side of Bursledon Road to the west of the site access. This amended internal connection is illustrated on the access drawings at **Appendix C**.

"Bursledon Road often experiences peak time congestion between Windhover roundabout and Botley Road junction. The junction layout should consider Keep Clear markings within the junction to allow vehicles to exit the junction into the side roads."

- 2.21 As referenced above, the existing yellow box junction has been provided on the site access drawings at **Appendix C**.

"There is an existing pedestrian refuge crossing on Bursledon Road between the roundabout and site access. This section of Bursledon Road would be changed to 2 lanes in both directions which will make this uncontrolled crossing very difficult to use. With Bursledon Road arm of the roundabout already signalised it is recommended that this includes a signalised pedestrian crossing. A standalone signal crossing should also be provided on the Bursledon Road westbound exit from the roundabout for route continuity. These facilities would replace the existing pedestrian refuge crossing which should be removed."

- 2.22 Noted, a scheme design for a signalised pedestrian crossing over Bursledon Road is incorporated into the mitigation scheme design, alongside crossings at the A27 West End Road and A3025 Hamble Lane arms of the junction. This is subject to traffic modelling later within this report.

Windhover Roundabout

"The general arrangement drawings for the roundabout have not been provided in sufficient detail to allow a full assessment of the proposed lane geometry, stop line positions, and circulatory carriageway widths. On this basis, the following comments are made on a preliminary basis and should be revisited once the detailed general arrangement drawing for the roundabout is made available."

"It is not clear how the additional lanes at each signalised arm tie into the existing circulatory carriageway, or whether the circulatory carriageway itself is proposed to be widened to accommodate the additional lanes. This should be clarified, together with confirmation of circulatory carriageway lane widths and lane discipline at each arm."

- 2.23 The Windhover Roundabout works are designed to tie into the existing roundabout centre island, as denoted on both the topographical survey or OS mapping. The proposed kerb and marking works to the junction are illustrated in black lines, with the baseline OS or topographical survey provided in grey.
- 2.24 The scheme plans have been updated to include dimensions, with existing road markings added for the remainder of the roundabout in grey to demonstrate how this ties into the remainder of the roundabout.
- 2.25 The scheme is subject to detailed design, therefore it is acknowledged that the road markings, signage, signal heads and maintenance bay locations may be subject to change, though with the scheme demonstrating that this can be provided in accordance with relevant HCC and DMRB design guidance.

"Vehicle tracking does not appear to have been provided for the roundabout itself. This should be provided to confirm that the proposed lane widths and stop line positions at each signalised arm can accommodate vehicle movements without encroachment into adjacent lanes."

- 2.26 Swept path analysis has been provided for the roundabout works at **Appendix F**. This has been undertaken at 10 miles per hour, noting that large vehicles will slow down and stop at the signal stoplines and be slow to accelerate when the lights turn green. This couples with the low speed manoeuvres to turn on a roundabout to demonstrate that this is a suitable speed to undertake the tracking in accordance with the HCC Technical Guidance.

- 2.27 It is noted that larger vehicles route around the roundabout at present, with these manoeuvres likely to result in vehicles straddling multiple lanes to route around the junction. As such, this situation is retained within the scheme design. If required, changes to the mitigation scheme arrangement can be addressed at the detailed design stage.

West End Road

"No geometric information has been provided to allow the Highway Authority to fully assess the proposed junction design."

- 2.28 The updated access arrangement drawings, included at **Appendix C**, include geometry information.
- "The submitted drawings show a red dashed line which is assumed to be represent the highway boundary. There are also banking 'tadpoles' which are also shown in red, and further clarity is required on these points."*
- 2.29 As referenced above, the tadpole features were denoting banks on the topographical survey. These have been converted into the background colour to ensure the highway boundary remains visible.
- "Junction visibility splays are shown as 2.4m x 120m in each direction, and a 2.4m x 90m visibility splay has also been shown. While it accepted that the 120m visibility splay to the south is not appropriate given the amount of land take necessary, the revised 90m visibility splays are also considered to be unacceptable at this time. In accordance with HCC Technical Guidance Note 3, Stopping Sight Distances (SSD) and visibility splays must be based on surveyed vehicle speeds. On this basis, two speed surveys should be undertaken in order to calculate the required junction visibility splays."*
- 2.30 Two Automatic Traffic Counters (ATCs) have been placed along the A27 West End Road to record vehicle speeds to the north and south of the proposed access junction. These counters were placed between the 17th and 23rd September 2026. The ATC data is included at **Appendix G** for reference.
- 2.31 Given one ATC counter has been placed north and a second south of the access, northbound speeds have been taken from the southern ATC counter and southbound speeds from the northern ATC counter and are summarised below:
- ▶ Northbound: 36.2 miles per hour; and
 - ▶ Southbound: 42.6 miles per hour.
- 2.32 No significant rainfall was recorded during the survey period, therefore no dry weather adjustments have been made to the recorded vehicle speeds.
- 2.33 The Hampshire Stopping Sight Distance Calculator has been utilised to identify the visibility splay requirements. For the northbound speeds, this is below 60 kilometres per hour and with 0.9% HGVs recorded therefore the 'light vehicles only' and 1.5 second reaction time has been applied. For the southbound speeds, these exceed 64 kilometres per hour, therefore the 'All Vehicles >64kph' and 2 second reaction time have been selected. This has identified the following visibility splay requirements:
- ▶ Northbound: 56 metres (including bonnet length); and
 - ▶ Southbound: 112 metres.
- 2.34 The visibility splay calculator outputs are included at **Appendix H**, with the updated visibility splays included within the updated access drawings at **Appendix C**.
- "In terms of the access strategy, the TA states that two site accesses are proposed on capacity grounds, with modelling indicating that a single access could not accommodate the combined predicted peak hour flows; HGV movements are routed via Bursledon Road, with staff car trips split across both accesses. However, it is not clear whether this capacity constraint has been robustly tested, or whether an enlarged*

or reconfigured junction on Bursledon Road alone could accommodate the combined vehicular demand, avoiding the need for a separate access onto West End Road.

This has a direct bearing on the scale of works proposed at Windhover Roundabout, as signalisation of the West End Road arm is understood to be required, at least in part, to manage movements generated by this access. Should a single-access solution via Bursledon Road be shown to be feasible, the requirement to signalise the West End Road arm should be reviewed, offering some offset to the concerns raised above regarding the scale of the mitigation package. It is requested that the applicant provide evidence demonstrating that a single access via an enlarged Bursledon Road junction could not accommodate the combined trip generation, before the West End Road access and its associated signalisation are accepted as necessary."

- 2.35 Assessment of a single access junction has been undertaken at Table 2.1 and indicates that this would not be able to accommodate the full development traffic demand.

"The submitted HGV tracking plans shows that a HGV cannot access the site without crossing the site access centreline. Similarly, the exit manoeuvres show the HGV swept path taking up the full West End Road carriageway width. With two examples shown below:

This suggests that the access cannot adequately accommodate HGV movements and has the potential to lead to vehicle conflicts, to the detriment of highway safety."

- 2.36 Given the site levels, HGV access is proposed via the Bursledon Road access as gradients on site would make it difficult for HGVs to route within the site to the West End Road access. As such, the 16.5 metre articulated vehicle tracking was designed to demonstrate that larger vehicles could access the site, albeit using the full width of the A27 or the site access to complete the manoeuvre.

- 2.37 It is considered that this can be addressed at the reserved matters stage should the site come forward with a HGV use on the West End Road portion of the site.

"Consideration is also given to CD 123 guidance on the selection of priority junction type based on major and minor road two-way AADT flows. Taking into account the background traffic flows and proposed development traffic generation, the estimated AADT could push the junction into the ghost island category, when plotted against CD 123 Figure 2.3.1.

When taking this into account, along with the other concerns raised in this response, the proposed West End Road site access is not currently accepted, pending further justification and junction modelling."

- 2.38 This junction has been subject to a Junction 9 (PICADY) assessment, as requested later within the HCC response, alongside being subject to a Stage 1 Road Safety Audit.

- 2.39 The junction has been modelled using the one-hour profile for the with development scenarios. The Junctions 9 (PICADY) output is included at **Appendix I**, with Table 2.2 summarising the modelling results.

Arm	Weekday Morning Peak		Weekday Evening Peak	
	RFC	Queue	RFC	Queue
2031 with Development (Warehousing)				
Site Access	0.00	0.0	0.04	0.0
A27 (Right Turn)	0.01	0.0	0.00	0.0
2031 With Development Sensitivity Test (Parcel Distribution Centre)				
Site Access	0.22	0.3	0.14	0.2
A27 (Right Turn)	0.02	0.0	0.01	0.0

Table 2.2: A27 Site Access Junctions 9 (PICADY) Results Summary

- 2.40 The above demonstrates that the junction would operate with minimal queuing or delay on the network. This, coupled with the Road Safety Audit, indicates that the junction would not have a severe impact on the local highway network in either road safety or highway capacity impacts and therefore that the junction design would be suitable for the proposed use.

Stage 1 Road Safety Audit (RSA)

"Problem 2.1 – vehicle swept path analysis should be provided at this stage."

- 2.41 As referenced above, this is provided at **Appendix E**.

"Problem 2.3 – the response provided is accepted however it should be annotated accordingly on the submitted drawings."

- 2.42 The access drawings at **Appendix C** have been updated to highlight locations where vegetation cut back is required to demonstrate visibility splays can be accommodated.

"Problem 2.11 – the response provided is accepted however the dimensions should be shown on the drawings."

- 2.43 Annotations and dimensions have been included within the drawings included at **Appendix C**.

"Problem 2.12 - Preliminary consideration should be given to this now. The current designs are 'goalposts' however the design has no margin and therefore signage would reduce the effective width. Given that space is limited, the preliminary design should be agreed at this stage."

- 2.44 An indicative signage location is included in the scheme at **Appendix C**. This will be subject to detailed design, but noting the sign would be provided at a 2.4 metre height to allow for pedestrians and cyclists to utilise the space under the sign in accordance with the HCC Technical Guidance.

Traffic Impact

"It is requested that the full survey data, including the peak hour calculations, are provided for review."

- 2.45 The full survey data, including saturation flows and signal timings, is included at **Appendix J**.

General Traffic Signalised Junction Comments

"In order to allow the Highway Authority to fully review the proposals, the following information is requested:

- 1. LinSig modelling files.*
- 2. Drawing(s) indicating visibility splays relevant to the traffic signals.*
- 3. Existing controller specification for the A3024 bursledon Road / Botley Road junction.*

4. Signal timings survey.

5. Saturation flow surveys and any subsequent calculations

6. Traffic survey results, including flows and queues.”

2.46 Noted, the above information is provided either in appendices to this report (for the drawings and traffic survey results including saturation flows and signal timings) or separately for the LinSig modelling outputs.

2.47 The junction modelling was prepared based on observed signal timings and saturation flows and therefore the controller specification for the Botley Road junction has not been obtained.

"All LinSig modelling - The traffic flow matrices presented in the LinSig outputs do not match the flows presented within the TA. For example, the 2025 Demand Flows AM scenario has a flow from D to E (Bert Betts way to Providence Hill) of 250 PCUs, figure L.1 of the TA suggests this should be 140 PCUs. Another example is D to F (Bert Betts Way to Hamble Lane), the LinSig shows 479 PCUs in the AM peak, whereas Figure L.1 has 673 PCUs. There are inconsistencies across all of the scenarios.

It is unclear how the junction survey flows been developed into an OD matrix across the whole network. If they have been 'finessed', please provide the calculations and/or describe the methodology employed."

2.48 Traffic flow matrices have been prepared by adding the arm by arm turning counts within the LinSig 'turning counts view' and using the LinSig matrix estimation tool. The input flows are demand flows including any recorded queues on the network. LinSig turning count view provides an output, including GEH values, which have been prepared for the weekday morning and evening peak hours and are attached at **Appendix K**. These indicate that all flows score below 0.5 GEH, reflecting a good match across the network.

"All LinSig modelling- It is unclear why different models have been provided for the AM and PM peak hours. All scenarios using the same link structure should be within one model to ensure consistency."

2.49 Given the levels of queuing on the network, an AM and PM version of the model was prepared to attempt to match queuing on the A3024 Bert Betts Way in the weekday evening peak hour. This arm experienced a mean maximum queue of 56 and 55 vehicles in the two lanes, far exceeding what the give way estimation predicted. As such an intercept correction was applied to this arm in the evening to reflect the levels of queueing observed in the surveys in the modelling within the Transport Assessment.

2.50 With the AM arm not experiencing this volume of queuing, two versions of the model were therefore presented within the TA.

A3024 Bursledon Road/Botley Road Existing Junction Model

The model includes DoS above 100% in the AM peak on both Botley Road approaches. It should not be possible to have a DoS above 100% within a calibrated model in a surveyed scenario, as the capacity must have been sufficient for the traffic to be counted through the junction.

The phase lettering does not match the controller specification; it should be:

A. Bursledon Road eastbound

B. Bursledon Road westbound

C. Le Marechal Avenue (Kestrel Park) right turn

D. Le Marechal Avenue (Kestrel Park) left turn

E. Bursledon Road eastbound right turn

F. Pedestrians across Bursledon Road

G. Pedestrians across Le Marechal Avenue (Kestrel Park)

The phase minimum greens are incorrect as they do not match the controller specification; the minimums should be:

Min E 3

Min F 6

Min G 5

Min H 7

The existing intergreens are incorrect; based on the correct phasing, the matrix should be:

The right turn into Le Marechal Avenue is an indicative arrow, yet this arm has not been set up as a give-way.

Lane J2:4/1 has a saturation flow but this should be an infinite saturation flow.

Bursledon Road is high speed (40mph speed limit) and therefore 2 seconds should be added to each of the Bursledon Road phases as they lose right of way."

- 2.51 Noted, the modelling in the existing layout has been updated to reflect the above. The updated modelling outputs are presented in Table 2.3, with the LinSig output included at **Appendix L**.
- 2.52 An intercept correction is applied to the A27 Providence Hill arm, with the Junctions 9 derived coefficient suggesting the arm operates with a degree of saturation in excess of 200%. Based on the observed survey data, this clearly does not occur in practice and therefore the capacity correction has been applied.

Arm	2025 Baseline – Weekday Morning Peak		2024 Baseline – Weekday Evening Peak	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
A3024 Bursledon Road/Botley Road Junction				
A3024 Bursledon Road (W)	70.0	22.6	67.7	23.9
Botley Road (N)	60.5	5.4	29.9	2.6
A3024 Bursledon Road (E)	76.5	24.7	74.1	23.2
Botley Road (S)	98.0	22.9	95.4	21.6
A3024 Bursledon Road/Le Marechal Avenue Junction				
A3024 Bursledon Road (W)	78.2	21.0	62.6	13.5
A3024 Bursledon Road (E)	60.0	12.4	66.6	16.1
Le Marechal Avenue	91.5	7.8	31.2	1.4
Windhover Roundabout				
A3024 Bursledon Road	77.9	11.0	55.8	5.9
	68.2	9.6	54.4	6.5
A3024 Circulation Stopline	91.1	11.8	71.1	5.4
	84.4	7.1	65.7	3.7
A3025 Hamble Lane	93.3	17.0	89.3	12.6
	93.6	17.4	86.9	12.0
Hamble Lane Circulation Stopline	48.5	0.5	44.2	0.4
	51.7	7.7	51.2	7.1
	58.5	8.7	54.6	7.3
A27 West End Road	105.2	34.5	87.8	8.8
A3024 Bert Betts Way	83.8	7.8	83.2	7.1
	72.5	4.8	82.0	6.7
A27 Providence Hill	97.0	14.1	68.9	2.8

Table 2.3: Observed Baseline LinSig Results Summary

- 2.53 The above demonstrates that Windhover Roundabout operates close to its theoretical capacity in the baseline peak hours. Whilst a degree of saturation above 100% is recorded on the West End Road arm in the weekday morning peak hour, no intercept correction has been applied on this arm. The queue and throughput results broadly match the surveys for this arm, when accounting for the LinSig matrix estimation adding 12 additional vehicle movements onto this arm. With this arm operating as a give way arrangement, there are limited gaps in the traffic created by the signals at the A3024 Bursledon Road arm of the roundabout to allow vehicles to exit the A27. From the above results, there is limited capacity in this arm of the junction to exit the junction should higher traffic flows occur in the future.
- 2.54 To aid model validation and calibration, consideration has been given to mean maximum queue results and throughput on each stopline to check the model operation. Table 2.4 summarises the model throughput data alongside the traffic survey flows for each arm, which reflect vehicles crossing each stopline of the junction within the survey time period.

Arm	Weekday Morning Peak		Weekday Evening Peak	
	Traffic Survey Throughput	Model Entry Flows	Traffic Survey Throughput	Model Entry Flows
Windhover Roundabout				
A27 West End Road	478	490	731	729
A3024 Bert Betts Way	1,339	1,322	1,197	1,197
A27 Providence Hill	671	662	487	491
A3025 Hamble Lane	1,242	1,216	1,085	1,084
A3024 Bursledon Road	1,151	1,171	874	870
A3024/Le Marechal Avenue				
A3024 Bursledon Road (East)	740	747	941	934
Le Marechal Avenue	174	171	58	57
A3024 Bursledon Road (West)	1,023	1034	872	869
A3024/Botley Road				
Botley Road (North)	102	109	51	52
A3024 Bursledon Road (East)	744	743	850	850
Botley Road (South)	348	341	320	323
A3024 Bursledon Road (West)	637	624	628	632

Table 2.4: Linked Junctions Throughput Comparison

- 2.55 The above demonstrates that all arms are provided with similar levels of throughput to those counted within the traffic surveys, indicating the junction validates well in this regard.
- 2.56 Table 2.5 provides a comparison of the mean maximum queue recorded within the model and within the traffic surveys.

Arm	Weekday Morning Peak		Weekday Evening Peak	
	Traffic Survey MMQ	Model MMQ	Traffic Survey MMQ	Model MMQ
Windhover Roundabout				
A27 West End Road	9.25 12.8	34.5	15.0 10.5	8.8
A3024 Bert Betts Way	8.75 6.0	7.8 4.8	56.5 55.0	7.1 6.7
A27 Providence Hill	9.0 15.0	14.1	12.8 18.0	2.8
A3025 Hamble Lane	1.25 11.5 10.8	17.0 17.4	1.75 11.0 10.5	12.6 12.0
A3024 Bursledon Road	5.0 10.3 10.8	11.0 9.6	3.75 9.75 8.5	5.9 6.5
A3024/Le Marechal Avenue				
A3024 Bursledon Road (East)	9.5	12.4	13.8	16.1
Le Marechal Avenue	2.25 6.75	7.8	1.75 2.0	1.4
A3024 Bursledon Road (West)	35.5 0.25	21.0	7.5 0.5	13.5
A3024/Botley Road				
Botley Road (North)	8.0	5.4	3.25	2.6
A3024 Bursledon Road (East)	5.5 29.3	24.7	42.3 53.3	23.2
Botley Road (South)	0.75 18.5	22.9	0.75 20.8	21.6
A3024 Bursledon Road (West)	36.8 0.0	22.6	19.0 2.5	23.9

Table 2.5: Linked Junctions Queueing Comparison

- 2.57 The above table indicates that queueing levels are broadly consistent with the recorded queue data in the weekday morning peak hour. In the weekday evening peak hour, additional queueing levels are recorded from Hamble Lane to the south of the model extent, which impacts on the recorded queues along Bert Betts Way in particular.

Windhover Roundabout Proposed Partial Signalisation

"The queue on the Providence Hill arm extends a significant distance in the PM peak, and an increase in circulating traffic resulting from the development will make getting out of Providence Hill even harder and will likely increase this queueing. The PM peak southbound queue on Hamble Lane is not reflected in the modelling, which is acceptable as the junction on Hamble Lane is outside the scope of the model, and in any case, LinSig may not be an appropriate tool for assessing this type of situation.

It is considered necessary to signalise the Providence Hill arm as well.

The model includes DoS above 100% in the PM peak. It should not be possible to have a DoS above 100% on a calibrated model in a surveyed scenario, as the capacity must have been sufficient for the traffic to have been counted through the junction.

The junction has been coded as two separate controllers; it should be 1 controller, 2 streams as per the existing configuration.

The phasing is incorrect; phasing should match the existing controller specification as follows:

The intergreen matrix is incorrect; The existing controller configuration has all intergreens set to 6 seconds, not 5.

The opposing Lane Coefficient used for Providence Hill does not match the Junction 9 modelling.

Additional checks on Windhover Roundabout will be completed once the LinSig files are received."

- 2.58 The above modelling points have been updated within the baseline modelling update provided in Table 2.3. This includes updating the Providence Hill coefficient in the baseline modelling, though this has been altered to provide intercept correction to provide more realistic modelling outputs to reflect the collected traffic survey data. To provide a robust mitigation scheme development, the coefficient has been raised to the Junctions 9 modelling output value within the with development modelling scenarios.
- 2.59 With regards to the weekday evening peak hour queuing, any queue on Hamble Lane occurred outside of the scope of the traffic surveys. As such this is difficult to replicate within the LinSig modelling, with the A3024 Bert Betts Way arm of the junction being the arm most impacted by increased queuing compared to the model predictions.
- 2.60 Despite this, the proposed junction modelling allows for the operation of the junction to be assessed. Should any queue onto the modelled network occur, the signal arrangements would allow vehicles to proceed into the junction within gaps of the traffic, using the existing keep clear arrangements on the A27 Providence Hill arm of the junction, alongside creating gaps through the traffic signals being called for the A3024 and roundabout circulatory arm at Bert Betts Way. In view of this, the conclusions of the modelling below are likely to reflect the development impact on the operation of the junction and demonstrate how signalisation could assist in the junction operation.
- 2.61 The future year modelling has also been updated to reflect these changes and is provided in Table 2.6, with the LinSig output included at **Appendix L**.

Arm	2025 Baseline – Weekday Morning Peak		2024 Baseline – Weekday Evening Peak	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
A3024 Bursledon Road/Botley Road Junction				
A3024 Bursledon Road (W)	72.2	23.8	69.3	24.7
Botley Road (N)	62.7	5.7	29.9	2.6
A3024 Bursledon Road (E)	76.2	24.4	74.6	23.7
Botley Road (S)	101.5	26.9	97.5	23.2
A3024 Bursledon Road/Le Marechal Avenue Junction				
A3024 Bursledon Road (W)	80.6	22.7	64.1	14.1
A3024 Bursledon Road (E)	59.7	12.3	67.1	16.2
Le Marechal Avenue	94.0	8.7	31.2	1.4
Windhover Roundabout				
A3024 Bursledon Road	76.6	10.5	57.1	6.2
	73.4	10.9	55.6	6.6
A3024 Circulation Stopline	89.5	10.4	74.0	6.0
	78.1	5.6	67.1	4.0
A3025 Hamble Lane	113.3	64.9	92.8	14.6
	84.2	12.6	90.8	13.8
Hamble Lane Circulation Stopline	52.7	0.6	45.2	0.4
	46.9	6.7	52.3	7.3
	60.8	8.7	55.6	7.5
A27 West End Road	112.5	51.4	93.9	11.4
A3024 Bert Betts Way	93.4	15.2	85.8	9.0
	73.5	5.3	82.6	7.7
A27 Providence Hill	122.9	82.5	71.0	2.9

Table 2.7: 2031 Future Year Modelling Results Summary

- 2.62 With a number of mitigation measures put forward to facilitate development traffic on the West End Road arm of the junction, the with development scenarios have been run in the with mitigation scheme scenario only. Table 2.8 summarises the weekday morning peak hour scenarios and Table 2.9 summarises the weekday evening peak hour scenarios, with the LinSig output for the with development scenario included at [Appendix M](#).
- 2.63 This model includes the HCC request for the junction to operate with separate right turning phases within the junction operation. To accommodate this request in capacity terms, the site access arm of the junction has been amended to be a left turn only egress arrangement.
- 2.64 Within the proposed model, the pedestrian intergreens associated with the existing junction have been retained, with 0 seconds intergreen provided for the pedestrian to vehicle intergreen periods.
- 2.65 Given the West End Road access has been modelled within Junctions 9 at Table 2.2 of this report, this arm is not summarised in the tables below though remains included within the LinSig outputs at [Appendix M](#).

Arm	2031 with Development (Warehousing)		2031 Sensitivity Test (Parcel Distribution)	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
A3024 Bursledon Road/Botley Road Junction				
A3024 Bursledon Road (W)	68.5	22.5	69.0	22.7
Botley Road (N)	83.6	7.1	83.6	7.1
A3024 Bursledon Road (E)	75.0	24.3	76.5	25.4
Botley Road (S)	87.4	18.3	87.4	18.3
A3024 Bursledon Road/Le Marechal Avenue Junction				
A3024 Bursledon Road (W)	97.3	44.8	97.7	45.6
A3024 Bursledon Road (E)	71.4	19.1	72.7	19.7
	21.3	1.5	42.1	3.0
Le Marechal Avenue	97.3	10.4	97.3	10.4
Site Access	25.8	1.5	92.5	9.2
Windhover Roundabout				
A3024 Bursledon Road	92.0	16.1	97.7	22.7
	87.8	14.3	95.7	20.4
A3024 Circulation Stopline	88.1	10.9	89.6	11.3
	77.5	5.9	79.1	6.0
A3025 Hamble Lane	91.3	17.0	92.7	17.9
	85.6	14.3	86.9	14.8
Hamble Lane Circulation Stopline	52.8	0.6	53.6	0.6
	58.7	9.7	61.4	10.8
	70.2	10.6	72.2	11.7
A27 West End Road	93.1	11.4	91.2	11.1
A27 Circulation	46.8	7.3	51.1	8.9
	77.8	23.9	84.6	25.9
A3024 Bert Betts Way	92.7	20.8	91.0	19.9
	75.0	12.6	78.4	14.0
A3024 Circulation	66.2	6.6	69.7	7.7
	9.8	0.9	11.7	1.2
A27 Providence Hill	90.4	10.5	96.3	13.5

Table 2.8: 2031 with Development Weekday Morning Peak Hour Scenarios

Arm	2031 with Development (Warehousing)		2031 Sensitivity Test (Parcel Distribution)	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
A3024 Bursledon Road/Botley Road Junction				
A3024 Bursledon Road (W)	69.5	24.9	70.5	25.5
Botley Road (N)	29.9	2.6	29.9	2.6
A3024 Bursledon Road (E)	81.4	29.5	82.3	30.5
Botley Road (S)	97.5	23.2	97.5	23.2
A3024 Bursledon Road/Le Marechal Avenue Junction				
A3024 Bursledon Road (W)	75.3	21.7	76.1	21.9
A3024 Bursledon Road (E)	82.9	26.6	83.6	26.9
	29.6	1.7	43.7	2.6
Le Marechal Avenue	31.7	1.5	31.7	1.5
Site Access	39.1	1.9	85.0	5.9
Windhover Roundabout				
A3024 Bursledon Road	65.1	6.6	70.7	7.8
	74.7	9.3	78.6	10.2
A3024 Circulation Stopline	60.3	6.5	61.3	6.7
	70.1	10.5	71.0	10.7
A3025 Hamble Lane	89.4	12.6	89.5	12.7
	89.0	12.8	89.3	12.9
Hamble Lane Circulation Stopline	45.5	0.4	46.0	0.4
	54.0	4.6	56.3	4.7
	64.0	3.2	65.5	3.4
A27 West End Road	82.0	10.2	84.5	11.2
A27 Circulation	62.1	8.8	64.2	9.5
	68.2	22.2	70.3	22.3
A3024 Bert Betts Way	81.6	12.1	81.6	12.1
	86.4	13.9	89.3	15.3
A3024 Circulation	79.9	7.1	81.5	7.4
	19.1	3.3	20.3	3.4
A27 Providence Hill	65.2	4.8	70.3	4.9

Table 2.9: 2031 with Development Weekday Evening Peak Hour Scenarios

- 2.66 The above tables demonstrate that the junction would operate within capacity in all scenarios assessed. Including the robust Junctions 9 lane coefficient, the A27 Providence Hill arm is forecast to operate within capacity with the remaining arms converted to a signalised arrangement, therefore it is not considered necessary to signalise this arm as a result of the development proposals impact on the junction.
- 2.67 Queuing on the A27 circulatory arm is shown to reach the capacity of the lane in the sensitivity test scenarios, however it is noted that the 25.9 PCU queue would be split across lanes as lanes 3 and 4 on the inside of the roundabout are grouped into one queue. As such, it is not considered that this queue would extend back to the next signalised arm of the roundabout junction.
- 2.68 Similarly, along the A3024 Bursledon Road westbound, the 26 PCU queue forecast in the sensitivity test weekday evening peak hour scenario can be accommodated across both arms of Bursledon Road, noting

that these vehicles would merge into the left lane to progress through the site access signal junction along this length of route between the signal junction and the roundabout.

- 2.69 Notwithstanding the above results, it is noted that there is flexibility in how the signal operation occurs in the future. As such, Table 2.10 summarises the sensitivity test (parcel distribution use) scenarios were the original give way right turning staging is retained at the junction. This output is included at **Appendix N** and demonstrates that there are options available during the detailed design of the signal junction operation as to how the phasing and staging occurs.

Arm	Weekday Morning Peak		Weekday Evening Peak	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
A3024 Bursledon Road/Botley Road Junction				
A3024 Bursledon Road (W)	74.1	24.8	70.5	25.5
Botley Road (N)	83.6	7.1	29.9	2.6
A3024 Bursledon Road (E)	81.8	28.4	82.3	30.5
Botley Road (S)	87.4	18.3	97.5	23.2
A3024 Bursledon Road/Le Marechal Avenue Junction				
A3024 Bursledon Road (W)	92.6	37.0	73.3	20.2
A3024 Bursledon Road (E)	65.8	16.4	41.9	7.9
	74.5	2.8	42.7	8.1
Le Marechal Avenue	97.3	10.4	26.0	1.4
Site Access	86.7	7.7	87.9	6.1
Windhover Roundabout				
A3024 Bursledon Road	96.7	21.3	64.0	6.5
	95.1	19.6	83.5	11.5
A3024 Circulation Stopline	90.0	11.5	62.1	6.6
	78.6	5.9	69.7	10.4
A3025 Hamble Lane	92.8	18.0	91.4	13.8
	86.8	14.7	87.5	12.2
Hamble Lane Circulation Stopline	53.6	0.6	46.0	0.4
	59.6	10.8	58.6	4.1
	73.1	12.1	62.4	3.2
A27 West End Road	95.3	13.6	81.9	10.5
A27 Circulation	52.1	9.1	67.4	11.1
	85.8	25.7	79.9	22.0
A3024 Bert Betts Way	91.0	19.9	85.2	13.0
	78.4	14.0	93.2	17.3
A3024 Circulation	74.1	7.7	84.1	7.4
	11.3	1.5	20.0	3.5
A27 Providence Hill	95.1	12.8	65.3	4.9

Table 2.10: 2031 with Development Sensitivity Test with Give Way Right Turning Modelling Results Summary

- 2.70 This arrangement provides a betterment in terms of A3024 Bursledon Road operation due to the removal of a stage of the junction when compared to the right turn movements forming a separate stage overall, with associated intergreen period time loss.

- 2.71 Whilst HCC have noted that traffic giving way across multiple lanes would form a road safety issue, a number of instances of this are noted in the Hampshire area which do not have a history of turning collisions within the latest available five-year period in line with the PPG collision review requirements. An example of this include the A2030 Havant Road/A2030 Eastern Road signal junction in Havant which involves right turn across two lanes of traffic. This has recorded four collisions in two years, none involving traffic turning from main road to minor arm.
- 2.72 Additional instances of non-signalised give-way arrangements of vehicles giving way across two lanes are noted along the A27 to the north of St Margaret's Roundabout, which would operate similarly to the potential signal operation, albeit with the signals providing an intergreen period to allow turning movements to clear the junction.
- 2.73 It is also noted that the junction staging arrangement was provided to the Road Safety Audit team ahead of the audit and no issues were raised regarding this within the Audit.
- 2.74 In view of the above, both staging arrangements are considered to provide a safe and suitable access into the development site.

A3024/Le Marechal Avenue/Site Access Proposed Junction

"The design illustrates both Bursledon Road right-turn lanes running under a full traffic phase (not indicative or separately signalled). The Eastbound right turn requires traffic to give way to two lanes of Westbound traffic with a 40mph limit. Experience in Hampshire has shown that this arrangement is unsafe both in terms of speed and number of lanes. Therefore, this staging arrangement is not acceptable on highway safety grounds.

In addition to the concerns previously raised in relation to the internal layout and the principle of two site accesses, from an operational perspective there is insufficient space available to locate the vehicle detection for the signals. A minimum distance of 30m is required to position the detection. The length of the 2 lane is very short and should be lengthened to make it effective. For the site access road approach to the signals, consideration should be given to either:

a single gated access is provided serving both sites located where the western site access gate is currently shown. This would be a straight approach to the signal junction which could flare out to 2 lanes for a meaningful distance. It would allow vehicle detection to be located in a single lane 30m from the stop line, or

the eastern site access road forms the side road to the main site access road serving the western site.

Another access solution."

- 2.75 The form of the junction in terms of the staging is provided within the previous junction modelling section of this report.
- 2.76 The internal arrangement is noted to be in outline for this application, however the indicative internal arrangement has been updated to allow the eastern unit to give way to the western unit on the access road. This provides a longer route on approach to the junction to allow for vehicle detection. The finalised layout for the internal site will be considered during the Reserved Matters stage.

M27 Junction 8/Dodwell Lane/A3024 Bert Betts Way

"Comparing the 2031 baseline and 2031 'with development' (parcel distribution) modelling results predicts that the junction would experience a reduction in capacity and an increase in queuing. This is of particular concern at the Dodwell Lane arm which is already overcapacity during the baseline scenario. Similarly, the A3024 is already approaching capacity during the baseline scenario."

- 2.77 This junction modelling has been validated and calibrated with consideration has been given to mean maximum queue results and throughput on each arm to check the model operation. Table 2.11

summarises the model throughput data alongside the traffic survey flows for each arm, which reflect vehicles crossing each give way line at the junction within the survey time period.

Arm	Weekday Morning Peak		Weekday Evening Peak	
	Traffic Survey Throughput	Model Entry Flows	Traffic Survey Throughput	Model Entry Flows
Dodwell Lane	767	689	611	548
M27 East	811	702	832	756
A3024 Bert Betts Way	1,696	1,499	1,450	1,304
M27 West	701	584	805	721

Table 2.11: M27 Junction 8 Throughput Comparison

- 2.78 The above demonstrates that the model underestimates throughput compared to the modelling results obtained. As such, this provides an underestimation of the junction capacity compared to the survey data.
- 2.79 Table 2.12 provides a comparison of the mean maximum queue recorded within the model compared to the survey data. Whilst reference is given to queues in terms of reviewing the model operation, it is noted that the Junctions 9 user guide states that "*individual observations of queue lengths on site on any one occasion may differ considerably from those predicted*". As such, throughput has been considered to reflect the key junction validation criteria for the purposes of assessment.

Arm	Weekday Morning Peak		Weekday Evening Peak	
	Traffic Survey MMQ	Model MMQ	Traffic Survey MMQ	Model MMQ
Dodwell Lane	12.5 9.25	5.9	4.5 12.3	1.0
M27 East	11.3 4.25	1.6	15.0 15.0	1.4
A3024 Bert Betts Way	20.8 31.8	2.9	12.0 12.3	2.0
M27 West	8.25 12.0	1.2	13.8 13.5	1.4

Table 2.13: M27 Junction 8 Queueing Comparison

- 2.80 Whilst the above indicates that the model underestimates queueing, it is noted that some external queueing factors have been noted following a subsequent review of the weekday morning peak operation. This is illustrated in Figure 2.1.



Figure 2.1: A3024 Bert Betts Way Collision

- 2.81 A collision on the A3024 occurred at approximately 07:35 and resulted in fewer vehicles being able to enter the roundabout due to a lane being partially blocked. Within the queue data, the final half of the peak hour experiences increased queuing compared to the first part of the hour, reflecting the lane blockage. Without this collision, the queuing recorded was 7 vehicles and 15.5 vehicles in each lane, increasing to 34.5 and 48 vehicles within the second half of the survey. As such, the MMQ figure for this arm would overestimate typical queuing on this approach.
- 2.82 Similarly, in the weekday evening peak hour, potential queuing from Hamble Lane could reach the junction based on the surveyed 55 vehicle queue from the weekday morning peak hour survey data. As such, queuing on the M27 and Dodwell Lane arms in the evening peak hour is likely to overestimate the true junction capacity in these periods.
- 2.83 Overall, the junction model provides an estimate of the junction operation and likely impacts of the development, identifying that the with development scenario would continue to operate within capacity. Dodwell Lane is forecast to operate over capacity in the sensitivity test scenario, though it is noted that this modelling does not make any allowance for measures included within the Travel Plan and additional elements to encourage active travel proposed by the development which would reduce the traffic impact in these scenarios.

West End Road/Site Access

"The proposed site access junction should also be modelled within Junctions10, given that it is proposed to be a simple priority junction."

- 2.84 Noted, this has been undertaken at Table 2.2.

Development Impact at Other Junctions

"The parcel distribution centre traffic flows suggest that the development is likely to have an impact at other junctions on the local highway network, with junctions potentially experiencing an increase of at least 30 trips during the weekday AM and PM peak periods. However, the submitted traffic flow diagrams do not show development trips at junctions beyond those tested in the TA, and the Highway Authority cannot determine whether additional junction modelling would be required."

- 2.85 The assessment covers the extent of junctions which experience a 30 vehicle increase in development associated with the proposed scheme.
- 2.86 The sensitivity test assessment of a worst case parcel distribution centre operation, with the traffic flow diagrams at Appendix L of the Transport Assessment demonstrating that no other junction on the local highway network would exceed 30 vehicles in either peak hour. The M27 arms would experience the highest increases outside of the traffic flow diagram extent, with these vehicles distributing across the wider strategic road network and not requiring additional assessment.

Summary

"Overall, the submitted junction modelling indicates that the development would result in a material reduction in capacity and an increase in queuing across multiple junctions on the local highway network, necessitating a package of direct mitigation measures. However, the significant number of coding errors, inconsistencies between the LinSig outputs and traffic flow diagrams, and discrepancies in relation to the model phasing, intergreens and minimum greens against the existing controller specifications mean that the modelling cannot currently be relied upon to demonstrate the effectiveness of the proposed mitigation package.

The proposed simple priority form of the West End Road/Site Access junction has not been tested using appropriate software (Junctions10) or checked against DMRB guidance on junction type selection. Until this information is provided and the modelling is corrected and re-run, the Highway Authority is unable to confirm that the proposed mitigation is either necessary or sufficient to accommodate the residual cumulative impact of the development, and the traffic impact of the proposal cannot be considered acceptable at this stage."

- 2.87 Overall, the above is considered to address the above comments raised by HCC and modelling comments raised by National Highways, demonstrating that the development would not result in a severe impact on the local highway network in either a capacity or road safety perspective.

Accessibility and Sustainability

Walking, Cycling and Horse-Riding Assessment and Review (WCHAR)

"However, these improvements are consistently framed in aspirational terms, and none are currently reflected in the mitigation package set out in the TA, which is limited to vehicular capacity works at Windhover Roundabout and the A3024 corridor. This is considered a significant omission, given the scale of the proposed development.

There is an existing uncontrolled crossing over the West End Road approach and adjacent circulatory carriageway; should this arm be signalised as part of the scheme, retaining an uncontrolled crossing at this location would not be acceptable on highway safety grounds.

There is also clear evidence of an established pedestrian desire line across the Hamble Lane approach splitter island, yet the only formal uncontrolled crossing provided is located well to the south, away from the direct route to Providence Hill.

The junction modelling predicts that the development will result in a material reduction in capacity and an increase in queuing at Windhover Roundabout, the A3024 corridor and M27 Junction 8, requiring direct mitigation in the form of additional lanes, signalisation and signal timing changes. Since this mitigation necessarily involves remodelling the same junction arms and stop lines that the WCHAR identifies as deficient for pedestrians and cyclists, there is a clear opportunity for the active travel opportunities identified in the WCHAR to be delivered as an integral part of that same highway mitigation, rather than treated as a separate, discretionary matter.

Given the scale of the proposed development, direct and indirect mitigation is considered proportionate and necessary to offset the residual vehicular impact identified through the junction modelling.

In order to provide a safe and convenient route to the trip generators identified in the WCHAR, and to properly accommodate existing pedestrian movements rather than displace them, it is considered that the following pedestrian/cycle provision could be incorporated into the Windhover Roundabout design as part of the signalisation works:

West End Road arm (linking the north of the site and West End Road to Providence Hill):

Puffin crossing over the West End Road approach

Toucan crossing over the West End Road exit

Toucan crossing over the West End Road circulatory carriageway

Upgrade of the route through the centre of the roundabout to a 3m shared use footway/cycleway

Providence Hill arm:

Puffin or Toucan crossing over the Providence Hill approach

Toucan crossing over the Providence Hill exit

Toucan crossing over the Providence Hill circulatory carriageway Hamble Lane arm:

Toucan crossing over the Hamble Lane entry

Toucan crossing over the Hamble Lane exit

Upgrades to tie the cycleway into surrounding links

Bursledon Road arm:

Puffin/Toucan crossing over the Bursledon Road entry

Puffin/Toucan crossing over the Bursledon Road exit

On this basis, it should be confirmed which of the WCHAR-identified

opportunities will be delivered as part of the development proposals, along with the above arm-by-arm crossing provision to be secured alongside the vehicular capacity mitigation."

- 2.88 In view of the above, and in accordance with the results on the network modelling undertaken above, additional signalised crossings are proposed over the A27 West End Road, A3024 Bursledon Road and the A3025 Hamble Lane to improve the situation for pedestrians and cyclists around the junction. These also improve the connectivity between the development site and residential areas to the east of the M27 accessed via Bert Betts Way, alongside providing improved links for all users over the Hamble Lane and Bursledon Road arms of the junction.
- 2.89 To review the junction operation with the pedestrian crossings installed, an additional modelling scenario has been run and is presented in Table 2.14 for the weekday morning peak hour and Table 2.15 for the weekday evening peak hour scenarios. The LinSig output including the additional pedestrian crossings is provided at **Appendix O**.
- 2.90 The pedestrian crossings have been designed with intergreens in accordance with the Traffic Signs Manual: Traffic Control, including vehicle to pedestrian and pedestrian to vehicle intergreens.

Arm	2031 with Development (Warehousing)		2031 Sensitivity Test (Parcel Distribution)	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
A3024 Bursledon Road/Botley Road Junction				
A3024 Bursledon Road (W)	68.5	22.5	69.0	22.7
Botley Road (N)	83.6	7.1	83.6	7.1
A3024 Bursledon Road (E)	75.0	24.3	76.5	25.4
Botley Road (S)	87.4	18.3	87.4	18.3
A3024 Bursledon Road/Le Marechal Avenue Junction				
A3024 Bursledon Road (W)	97.3	44.8	97.7	45.6
A3024 Bursledon Road (E)	71.4	19.1	72.7	19.7
	21.3	1.5	42.1	3.0
Le Marechal Avenue	97.3	10.4	97.3	10.4
Site Access	25.8	1.5	92.5	9.2
Windhover Roundabout				
A3024 Bursledon Road	94.7	17.9	103.0	33.7
	91.7	15.9	102.1	30.0
A3024 Circulation Stopline	93.8	14.6	94.3	15.4
	86.6	9.5	86.9	9.6
A3025 Hamble Lane	95.0	19.0	95.2	19.4
	95.3	19.6	95.3	19.6
Hamble Lane Circulation Stopline (Lane 1 Ped Crossing on Hamble Lane Exit)	71.4	7.8	72.2	7.8
	65.0	10.2	69.6	11.4
	75.5	11.0	78.0	11.8
A3024 Bursledon Road Exit Ped Crossing	40.9	1.1	43.2	1.1
	18.3	0.5	20.1	0.6
A27 West End Road	97.8	15.0	98.5	16.7
A27 Circulation (Lane 1 Ped Crossing on A27 Exit)	70.2	16.1	70.6	16.2
	46.8	7.9	50.1	9.0
	82.1	25.6	87.0	26.6
A3024 Bert Betts Way	92.7	20.8	92.7	20.8
	75.0	12.6	79.8	14.1
A3024 Circulation	66.2	7.0	68.0	7.7
	9.8	0.1	11.6	0.2
A27 Providence Hill	95.0	11.9	99.3	14.6

Table 2.14: 2031 with Development and Pedestrian Crossings Weekday Morning Peak Hour Scenarios

Arm	2031 with Development (Warehousing)		2031 Sensitivity Test (Parcel Distribution)	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
A3024 Bursledon Road/Botley Road Junction				
A3024 Bursledon Road (W)	69.5	24.9	70.5	25.5
Botley Road (N)	29.9	2.6	29.9	2.6
A3024 Bursledon Road (E)	81.4	29.5	82.3	30.5
Botley Road (S)	97.5	23.2	97.5	23.2
A3024 Bursledon Road/Le Marechal Avenue Junction				
A3024 Bursledon Road (W)	75.3	21.7	76.1	21.9
A3024 Bursledon Road (E)	82.9	26.6	83.6	26.9
	29.6	1.7	43.7	2.6
Le Marechal Avenue	31.7	1.5	31.7	1.5
Site Access	39.1	1.9	85.0	5.9
Windhover Roundabout				
A3024 Bursledon Road	63.3	6.4	69.0	7.4
	76.4	9.6	80.2	10.5
A3024 Circulation Stopline	73.1	7.9	74.3	7.8
	69.7	7.3	71.0	7.6
A3025 Hamble Lane	93.9	15.1	84.0	15.2
	93.1	14.7	93.4	14.9
Hamble Lane Circulation Stopline (Lane 1 Ped Crossing on Hamble Lane Exit)	64.3	7.4	65.0	7.4
	62.9	5.4	67.5	6.4
	72.9	7.4	72.6	6.2
A3024 Bursledon Road Exit Ped Crossing	46.8	1.1	48.9	1.0
	29.9	0.8	30.2	1.0
A27 West End Road	90.8	13.4	93.6	15.6
A27 Circulation (Lane 1 Ped Crossing on A27 Exit)	39.2	3.0	40.8	3.1
	70.1	12.8	72.1	12.8
	59.9	21.7	62.2	21.4
A3024 Bert Betts Way	81.6	12.1	81.6	12.1
	86.4	13.9	89.3	15.3
A3024 Circulation	79.9	7.1	81.5	7.8
	19.1	3.3	20.3	3.4
A27 Providence Hill	66.0	4.9	84.3	7.2

Table 2.14: 2031 with Development and Pedestrian Crossings Weekday Evening Peak Hour Scenarios

- 2.91 The above demonstrates that the Bursledon Road arm of the Windhover Roundabout junction would start to operate above capacity in the with development sensitivity test weekday morning peak hour scenario, as additional time is provided for the intergreen period associated with the crossing. The roundabout circulation would continue to operate within capacity, with queues able to be accommodated on the lanes predicted for the queuing. For some lanes, such as junction 3 arm 2 lanes 1/2, this would involve the queue dividing across both lanes depending on the vehicle destination.

- 2.92 Given this improvement seeks to provide active travel improvements in the area, negatively impacting vehicular capacity is not necessarily a negative as this would provide additional incentive to utilise active travel modes in this area. This improvement would be in accordance with the HCC Local Transport Plan, alongside meeting the vision led principles set out within the NPPF.
- 2.93 In view of the above, the provision of additional signalised crossings within the junction are considered to provide significant benefit in active travel terms that exceeds the potential vehicular impacts associated with reallocation of the stage timings to allow for the intergreens associated with pedestrian crossings over the junction.

Travel Plan

"The TA refers to the preparation of a Framework Travel Plan, however, this document does not appear to have been provided for review."

- 2.94 The Travel Plan was submitted as part of the planning application. This is provided at **Appendix P** for reference.

Accessibility Summary

"Overall, notwithstanding the comments made earlier in this response in relation to the Framework Travel Plan, the absence of additional mitigation and a package of proportionate committed active travel improvements, particularly given the acknowledged deficiencies identified in the WCHAR, is considered contrary to the HCC Local Transport Plan 4 (LTP4) objectives to prioritise and embed sustainable and active travel modes, and to the LCWIP's identified aspirational improvements for this location.

The development is also considered to be inconsistent with NPPF guidance on promoting sustainable transport and prioritising pedestrian and cycle movements, with the general principle that mitigation for a development's impact should address all modes affected.

On this basis, a Travel Plan alone cannot be relied upon to deliver the necessary mode shift, and further commitment to active travel improvements are required before the application can be considered acceptable in sustainability and accessibility terms."

- 2.95 In view of the above, this section has demonstrated additional active travel measures to incentivise active travel trips in the area. This, in conjunction with the Travel Plan seek to encourage staff to travel by active modes and meet the aims of local and national policy.

3.0 Response to National Highways Comments

Preamble

- 3.1 As with the Hampshire consultation response, comments within the latest National Highways response requiring action are replicated in italics below for ease of reference. Each comment is addressed following the National Highways comment.

Site History

"National Highways submitted a response advising that a parcel distribution 'worst case' test might be required in addition to the assessment proposed in the 2024 Transport Assessment [TA] Scoping Note. During pre-application discussions, National Highways advised that the proposed parcel distribution trip rates needed to be higher than those presented by Motion in the Technical Note dated the 19th of November 2024 and should reflect a worst-case scenario.

National Highways also concurred with advice provided by Hampshire County Council [HCC] that the applicant should use the parcel distribution trip rates utilised in a similar application (32 New Lane, Havant APP/21/00200), where the end user was known and was able to provide identified trip rates. The TA previously submitted as part of the application did not adopt the rates from the Havant application. Instead, the assessment in the TA was predicated on the average of two Trip Rate Information Computer System [TRICS] sites. The resulting trip rates in the PM peak were lower than those previously presented by Motion during pre-application discussions, which both HCC and National Highways previously advised were too low for the purposes of the assessment within the TA."

- 3.2 The trip rates within the TA reflected the identified peak periods from the traffic survey. The TRICS output remained unchanged from that presented to NH during the pre-application given the limited number of sites within the TRICS database of a larger size, as requested by HCC during pre-application discussions.
- 3.3 As a result of the traffic surveys identifying a different peak hour, the weekday peak hour trip rates were altered to match the corresponding peak hour within the TRICS output.

Trip Rates

"JSJV notes that these trip rates are significantly lower than the trip rates in the 2024 Technical Note dated the 19th of November 2024 and TA Table 5.5.

National Highways has the following concerns over site selection:

- *Site WS-02-G-02 has been removed due to it being an ATC survey. No justification is provided for this deselection and therefore the removal of this site has to be questioned.*
- *The new site in Hoyland has a particularly low trips rate. This associated with the large GFA for this site leads to this site heavily influencing the trip generation rates. The table below compares the two way trip rates for the 3 selected sites for each of the hours considered.*

This table shows that the additional Hoyland site has a particularly low trip rate which, coupled with the large site area, has led to a considerably lower overall calculated trip rate. It is also clear that the range in trip rates is significant and therefore there is a high risk that, should the development come forward as parcel distribution, the trip rate will be higher than that assessed. Therefore, the approach proposed by HCC and indorsed by National Highways is still considered reasonable and appropriate. JSJV cannot accept that these trip rates provide a 'worst case scenario' for a B8 distribution warehouse.

If the Applicant can demonstrate that the proposed mitigation can accommodate extra traffic associated with a high-operating parcel distribution site, then National Highways may be able to come to a consensus regarding any improvement works at the Windhover Roundabout."

- 3.4 Site WS-02-G-02 has been deselected as an ATC survey as this presents a resurvey of an existing survey picked up within the TRICS output presented (WS-02-G-01). A review of the TRICS trip rate graphs suggested that the ATC survey reflected lower trip rates for the unit, therefore providing the higher trip rate survey of the site provides a more robust site assessment.
- 3.5 The Technical Note presented to National Highways, included at **Appendix Q** for reference, sought to demonstrate that sites included within the parcel distribution centre category on TRICS don't have trip rates as high as the Amazon site surveys from the Havant application. The fact an additional site has been surveyed and provides trip rates lower than those presented within the TA demonstrates that the TA trip rates are robust to assess the worst case occupier of the development site, though without providing a worst-case assessment of this worst-case operation.
- 3.6 In terms of assessment, NPPF TR3 part 3 states *"in assessing movement patterns and potential impacts, including whether they are considered to be severe, reasonable future scenarios should be considered, taking into account impacts at relevant times of the day, potential cumulative impacts, multimodal trip generation and the promotion of sustainable modes of travel, and realising the transport vision for the development itself."*
- 3.7 By assessing a parcel distribution sensitivity test scenario, based on the TRICS trip rates, it is considered that a "reasonable future scenario" has been considered given this could be the highest traffic generating use of a B2/B8 unit.
- 3.8 It is noted that this scenario does not account for potential reductions in traffic generation associated with the active travel improvements put forward by the development, alongside measures contained within the Travel Plan.
- 3.9 In view of the above, it is considered that the trip generation presented within the TA remains a robust and reasonable assessment of the potential site operation.

Trip Distribution

"Motion should provide further detail as to the HGV trip distribution and overall traffic impacts at M27 Junction 8."

- 3.10 The HGV trip generation assumes that all HGVs route to and from the strategic highway network of the M27. In the absence of any operator data, these trips were distributed 50/50 between eastbound and westbound, to reflect the site location between Southampton and Portsmouth, with the M3 and A3(M) to route traffic in strategic directions to the north.
- 3.11 Reviewing the baseline traffic data suggests 61% of inbound HGV movements to Bert Betts Way in the weekday morning peak turn into the network from the M27 west, though compares to 55% of HGV from Bert Betts Way travelling onto the M27 east. As such, a 50/50 type distribution is considered reasonable based on the observed survey data.

Junction Model

- 3.12 Comments have been provided on the traffic models prepared and submitted as part of the application. In line with Hampshire's comments above, the modelling has been amended and the comments raised by National Highways has been incorporated into the modelling updates.

4.0 Summary

- 4.1 In summary, this Note seeks to address comments raised by Hampshire County Council Highway Officers within their consultee response in relation to a planning application (reference: O/26/101417) at land adjacent to Windhover Roundabout, Bursledon.
- 4.2 This Note also seeks to address comments received from National Highways.
- 4.3 This Note has updated details regarding:
- ▶ Access Strategy;
 - ▶ Active Travel Improvements;
 - ▶ Junction Capacity Modelling; and
 - ▶ Trip Generation and Distribution.
- 4.4 In view of the above, it is considered that the development would not result in severe adverse impact on the transport network in terms of capacity and congestion or an unacceptable impact on highway safety. Therefore, in accordance with the NPPF, there are considered to be no highway related reasons why the development should not be granted planning permission.

Appendix A

Hampshire County Council Highways Consultation Response

Universal Services
The Castle
Winchester, Hampshire SO23 8UD

Telephone 0300 555 1375
Fax 01962 847055
www.hants.gov.uk

Eastleigh Borough Council
Eastleigh House
Upper Market Street
Eastleigh
SO50 9YN

Enquiries to	Jonny Elliott	My reference	060627
Direct Line	N/A	Your reference	O/26/101417
Date	13 August 2026	Email	eastleighdc@hants.gov.uk

For attention of

Dear Sirs

**Re: O/26/101417 At Land adjacent to Windhover Roundabout, Bursledon,
Bursledon Road, Bursledon, SO31 8BN**

**Outline planning application (all matters reserved except for access) for
employment development (Use Class B2/B8) of up to 18,580 square
metres together with ancillary offices (Use Class E(g)(i)) and other
ancillary buildings, structures, parking, servicing and manoeuvring
areas, landscaping and sustainable urban drainage features, following
demolition of existing buildings**

I refer to your consultation for the above planning application and would offer
the following comments.

The proposed development is for a flexible B2/B8 warehouse of approximately
200,000 ft², with ancillary offices, buildings, parking and associated works.

Existing Highway Conditions

The application site is located to the north of Windhover Roundabout. This is a
five-arm part-signalised roundabout junction which consists of the A27 West
End Road / A3024 Bert Betts Way / A27 Providence Hill/ A3025 Hamble Lane
/ A3024 Bursledon Road arms.

The site is bound by the A27 West End Road to the east. This is a classified
highway which is subject to a 40mph speed limit. The road includes street
lighting, and a footway is present on the site frontage. The West End Road
arms meeting the roundabout junction via a give-way arrangement.

Director of Universal Services
Patrick Blogg

The A3024 Bursledon Road forms the west site boundary. This is a classified highway which is subject to a 40mph speed limit. The road is lit and a footway is present on the site frontage, with a shared footway / cycleway on the west side of the carriageway. The junction of Bursledon Road and the roundabout is signal controlled, and there is an uncontrolled pedestrian crossing with refuge present on the approach to the roundabout junction.

The signalised junction of Bursledon Road / Le Marechal Avenue is located opposite the site; this includes signalised pedestrian and cycle crossing facilities. A bus stop and layby are also present on the site frontage on Bursledon Road.

Section 3.0 of the TA presents an analysis Personal Injury Collision (PIC) data across the study network for the most recent 5-year period, identifying 67 collisions in total, comprising of 59 'slight' severity collisions and 8 with serious injuries. The TA concludes that the collision record does not identify any cluster or common causation factors attributable to the local highway network, and that the development would not result in an increase in either the number or severity of collisions. This assessment and conclusion is considered reasonable in principle, and no objection is raised to the methodology or findings presented in this section.

Notwithstanding the above, whilst the historic collision records do not indicate a specific existing safety issue for vulnerable road users, this should be considered alongside the findings of the WCHAR, which identifies existing deficiencies in pedestrian and cycle provision at Windhover Roundabout. The low number of recorded pedestrian and cycle collisions at this location may therefore reflect the limited existing pedestrian and cycle activity resulting from these deficiencies, rather than confirming that the junction is inherently safe for these users once activity increases as a result of the development proposals.

Site Access and Proposed Highway Works

Access to the site is proposed to be gained via two accesses from the A3024 Bursledon Road and the A27 West end Road:

A3024 Bursledon Road

The Bursledon Road site access is proposed to take the form of a signal-controlled junction, which would form a staggered crossroads junction with the Le Marechal Avenue opposite. Associated works include the carriageway alignment of Bursledon Road, controlled pedestrian crossings on Bursledon Road and at the site access, amendments to road markings, and pedestrian provision.

The submitted drawings show a red dashed line which is assumed to be represent the highway boundary. There are also banking 'tadpoles' which are also shown in red. Further clarity is requested on these points.

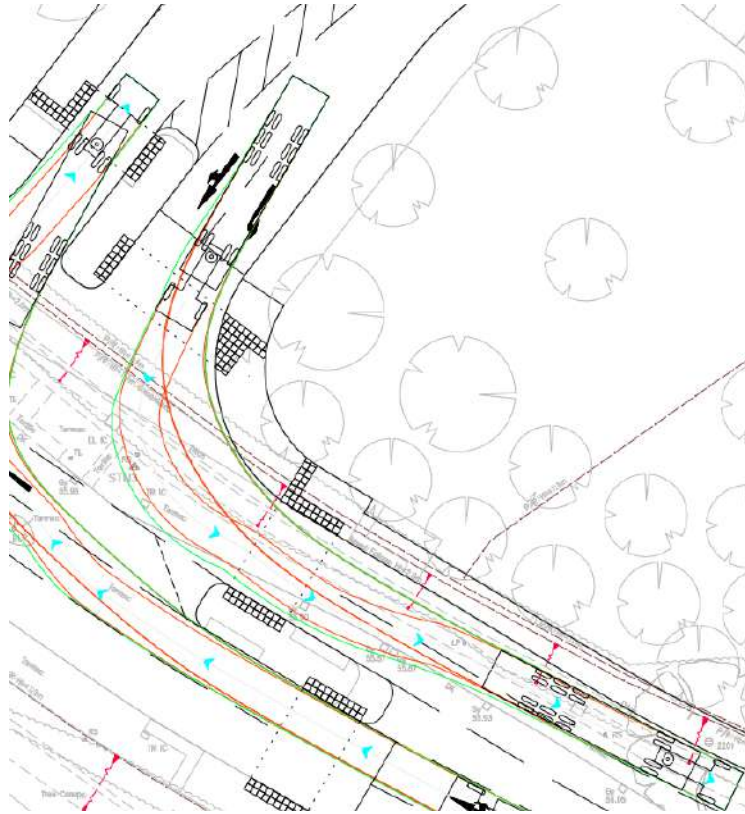
No information appears to have been provided in relation to the proposed junction geometry, such as lane widths, island widths, forward visibility to signal heads, intervisibility zone, etc.

There are significant concerns regarding the internal site layout in relation to the proposed signalised access junction. Drawing 1803014-TK09 illustrates an articulated HGV ingress and egress from the western facility. A HGV is required to give way to traffic exiting the eastern facility. A HGV driver, positioned on the offside of the vehicle cab, will not be able to see traffic exiting the eastern facility. Car driver visibility to a car exiting the eastern site would also be very limited due to the layout. In addition, the car park accesses join in this vicinity with further vehicle movements occurring to which there may be limited visibility. There is also concern that a second HGV exiting from the western site would block across the ingress to the development leading to vehicles blocking back to the main Bursledon Road junction. These factors are considered to represent significant safety hazards, which may have a knock on effect on safety at the adjacent signalised junction.

The swept path driven speeds should be confirmed, noting that a minimum of 10mph and/or expected driven speeds are required, in accordance with HCC Technical Guidance Note 2.

Drawing 1803014-TK01 C illustrates a max legal length HGV ingressing and egressing the junction. The right turn manoeuvre into the site is very tight and would require a HGV to position itself perfectly and not continue in the ahead lane, blocking the junction. There is a high probability that the HGV will partially obstruct the ahead traffic in the westbound offside lane. To avoid ahead drivers attempting to steer around the back of the HGV the right turning storage area within the junction would need to be wider to ensure it can fully accommodate an HGV.

The left turn movement out of the site shows the HGV in an unnatural position, and appears to be positioned across both exit lanes:



The merge on the westbound Bursledon Road exit is very short and does not provide clear priorities. Geometrically the generally slower moving nearside lane traffic would need to merge into the faster moving offside lane traffic. As shown, it is unacceptable and would need to be significantly improved. This would require the merge distance to be extended and for the offside lane to clearly merge into the nearside lane. Furthermore, waiting eastbound right-turning traffic is directly next to the merge, with no separation or kerb, which could result in head on conflict. Centre hatching would also be required in this area to separate the opposing traffic.

The existing junction road markings have not been shown. These should be illustrated to provide context for the proposals. It is also unclear why the existing yellow box markings have been removed from the proposed junction.

While it is acknowledged that the offset staggered junction has been provided in order to allow for a non-hooking right turn from the A3024, consideration should be given to moving the site access closer to align better with Le Marechal Avenue side road. This would provide a more compact junction and reduce intergreen times.

As a general point, the tails of the tactile paving should be three deep in all circumstances.

The existing crossing over Bursledon Road is a Toucan crossing. The proposals include staggering this crossing, which appears sufficient. However, the central island is shown at a width around 3m, and this would need to be

4m minimum to accommodate cyclists. Furthermore, the 4m width would need to be maintained with the inclusion of guardrails.

The route to the west of the site access appears to have been designed wide enough to be shared use pedestrian/ cycle. However, the crossings provided over the site access are not wide enough for Toucans (they should be 4m minimum) and the centre island is also not wide enough.

There doesn't appear to be an onward connection for cyclists into the site on the east side of the site access road. This would require all pedestrians and cyclists accessing the development to wait 4 separate times at each crossing which could take a significant amount of time to get across the whole junction. It is recommended that a route on the eastern side of the site access road is provided which would provide a quicker more direct route into the development. It also allows the possibility of removing the staggered crossing over the site access road arm.

Bursledon Road often experiences peak time congestion between Windhover roundabout and Botley Road junction. The junction layout should consider Keep Clear markings within the junction to allow vehicles to exit the junction into the side roads.

There is an existing pedestrian refuge crossing on Bursledon Road between the roundabout and site access. This section of Bursledon Road would be changed to 2 lanes in both directions which will make this uncontrolled crossing very difficult to use. With Bursledon Road arm of the roundabout already signalised it is recommended that this includes a signalised pedestrian crossing. A standalone signal crossing should also be provided on the Bursledon Road westbound exit from the roundabout for route continuity. These facilities would replace the existing pedestrian refuge crossing which should be removed.

Windhover Roundabout

The proposals include signalisation of the West End Road, Providence Hill, and Bursledon Road arms of Windhover Roundabout, with the Hamble Lane arm continuing to operate on a give-way basis to the circulatory carriageway. Associated works include additional running lanes at the signalised arms and amendments to the circulatory carriageway and stop lines.

The general arrangement drawings for the roundabout have not been provided in sufficient detail to allow a full assessment of the proposed lane geometry, stop line positions, and circulatory carriageway widths. On this basis, the following comments are made on a preliminary basis and should be revisited once the detailed general arrangement drawing for the roundabout is made available.

It is not clear how the additional lanes at each signalised arm tie into the existing circulatory carriageway, or whether the circulatory carriageway itself is

proposed to be widened to accommodate the additional lanes. This should be clarified, together with confirmation of circulatory carriageway lane widths and lane discipline at each arm.

Vehicle tracking does not appear to have been provided for the roundabout itself. This should be provided to confirm that the proposed lane widths and stop line positions at each signalised arm can accommodate vehicle movements without encroachment into adjacent lanes.

West End Road

The A27 West End Road site access is proposed to take the form of a simple priority junction and a footway with an uncontrolled crossing across the access. Section 6 of the TA states that a priority junction has been chosen on the basis that that traffic queues would not extend to the access junction.

No geometric information has been provided to allow the Highway Authority to fully assess the proposed junction design.

The submitted drawings show a red dashed line which is assumed to be represent the highway boundary. There are also banking 'tadpoles' which are also shown in red, and further clarity is required on these points.

Junction visibility splays are shown as 2.4m x 120m in each direction, and a 2.4m x 90m visibility splay has also been shown. While it accepted that the 120m visibility splay to the south is not appropriate given the amount of land take necessary, the revised 90m visibility splays are also considered to be unacceptable at this time. In accordance with HCC Technical Guidance Note 3, Stopping Sight Distances (SSD) and visibility splays must be based on surveyed vehicle speeds. On this basis, two speed surveys should be undertaken in order to calculate the required junction visibility splays.

In terms of the access strategy, the TA states that two site accesses are proposed on capacity grounds, with modelling indicating that a single access could not accommodate the combined predicted peak hour flows; HGV movements are routed via Bursledon Road, with staff car trips split across both accesses. However, it is not clear whether this capacity constraint has been robustly tested, or whether an enlarged or reconfigured junction on Bursledon Road alone could accommodate the combined vehicular demand, avoiding the need for a separate access onto West End Road.

This has a direct bearing on the scale of works proposed at Windhover Roundabout, as signalisation of the West End Road arm is understood to be required, at least in part, to manage movements generated by this access. Should a single-access solution via Bursledon Road be shown to be feasible, the requirement to signalise the West End Road arm should be reviewed, offering some offset to the concerns raised above regarding the scale of the mitigation package. It is requested that the applicant provide evidence demonstrating that a single access via an enlarged Bursledon Road junction

could not accommodate the combined trip generation, before the West End Road access and its associated signalisation are accepted as necessary.

The submitted HGV tracking plans shows that a HGV cannot access the site without crossing the site access centreline. Similarly, the exit manoeuvres show the HGV swept path taking up the full West End Road carriageway width. With two examples shown below:



This suggests that the access cannot adequately accommodate HGV movements and has the potential to lead to vehicle conflicts, to the detriment of highway safety.

Consideration is also given to CD 123 guidance on the selection of priority junction type based on major and minor road two-way AADT flows. Taking into account the background traffic flows and proposed development traffic generation, the estimated AADT could push the junction into the ghost island category, when plotted against CD 123 Figure 2.3.1.

When taking this into account, along with the other concerns raised in this response, the proposed West End Road site access is not currently accepted, pending further justification and junction modelling.

Stage 1 Road Safety Audit (RSA)

While the majority of the problems raised and the responses are accepted, we would offer the following comments on some of the problems raised in the RSA:

Problem 2.1 – vehicle swept path analysis should be provided at this stage.

Problem 2.3 – the response provided is accepted however it should be annotated accordingly on the submitted drawings.

Problem 2.11 – the response provided is accepted however the dimensions should be shown on the drawings.

Problem 2.12 - Preliminary consideration should be given to this now. The current designs are 'goalposts' however the design has no margin and therefore signage would reduce the effective width. Given that space is limited, the preliminary design should be agreed at this stage.

Development Traffic generation

The Transport Assessment sets out the proposed development trip rates and resultant traffic generation, which have been calculated based on TRICS data. Given the flexible uses proposed, the assessment considers B2 industrial, B8 warehousing (commercial) and B8 parcel distribution centre trip rates as a sensitivity test. It is noted that the parcel distribution centre trip rates have been used for assessing the traffic impact of the development. This is considered to be a robust approach, given that the parcel distribution centre trip rates are the highest within the three land use categories which are proposed.

The proposed parcel distribution centre trip rates and resultant traffic flows which are presented in the Transport Assessment are as follows:

	Weekday Morning Peak (07:00 – 08:00)		Weekday Evening Peak (17:00 – 18:00)	
	Arr	Dep	Arr	Dep
Vehicular Trip Rate	0.491	0.773	0.412	0.634
Vehicular Trips	91	144	77	118
OGV Trip Rate	0.12	0.231	0.097	0.12
OGV Trips	22	43	18	22
LGV Trip Rate	0.074	0.176	0.162	0.102
LGV Trips	14	33	30	19

Traffic Impact

The Transport Assessment includes an assessment of the traffic impact implications of the development proposals. This includes traffic surveys which were undertaken in 2024 and 2025 in order to determine exiting background traffic flows on the local highway network and the weekday network peak hours, which have been identified as 07:00 – 08:00 hrs and 17:00 – 18:00 hrs.

It is requested that the full survey data, including the peak hour calculations, are provided for review.

The background traffic flows have been factored with adjusted TEMPro growth factors and committed development flows, in order to create a 2031 assessment year traffic flow scenario.

Trips have been distributed onto the network using 2011 Census Travel to Work data, and first principles assumptions, and assigned at the site accessed based on the development floorspace as well as the level of parking located at each access point, with the following scenarios being considered in the TA:

- 2025 Baseline;
- 2031 Baseline;
- 2031 + Development (warehousing); and
- 2031 + Development (parcel distribution).

Following on from a review of the submitted junction modelling, we would offer the following comments.

General Traffic Signalised Junction Comments

In order to allow the Highway Authority to fully review the proposals, the following information is requested:

1. LinSig modelling files.
2. Drawing(s) indicating visibility splays relevant to the traffic signals.
3. Existing controller specification for the A3024 bursledon Road / Botley Road junction.
4. Signal timings survey.
5. Saturation flow surveys and any subsequent calculations
6. Traffic survey results, including flows and queues.

As a general observation, it is recognised that some of the comments within this review of the signals information, particularly in the Windhover Roundabout section, may require extensive works to accommodate. Once the items within the review have been addressed and/or investigated, it is suggested that discussions be initiated with the Councils ITS Team to agree on an appropriate package of measures, commensurate with the quantum of development.

All LinSig modelling - The traffic flow matrices presented in the LinSig outputs do not match the flows presented within the TA. For example, the 2025 Demand Flows AM scenario has a flow from D to E (Bert Betts way to Providence Hill) of 250 PCUs, figure L.1 of the TA suggests this should be 140 PCUs. Another example is D to F (Bert Betts Way to Hamble Lane), the LinSig shows 479 PCUs in the AM peak, whereas Figure L.1 has 673 PCUs. There are inconsistencies across all of the scenarios.

It is unclear how the junction survey flows been developed into an OD matrix across the whole network. If they have been 'finessed', please provide the calculations and/or describe the methodology employed.

All LinSig modelling- It is unclear why different models have been provided for the AM and PM peak hours. All scenarios using the same link structure should be within one model to ensure consistency.

A3024 Bursledon Road / Botley Road Existing Traffic Signal Junction Model

The model includes DoS above 100% in the AM peak on both Botley Road approaches. It should not be possible to have a DoS above 100% within a calibrated model in a surveyed scenario, as the capacity must have been sufficient for the traffic to be counted through the junction.

The phase lettering does not match the controller specification; it should be:

- A. Bursledon Road eastbound
- B. Bursledon Road westbound
- C. Le Marechal Avenue (Kestrel Park) right turn
- D. Le Marechal Avenue (Kestrel Park) left turn
- E. Bursledon Road eastbound right turn
- F. Pedestrians across Bursledon Road
- G. Pedestrians across Le Marechal Avenue (Kestrel Park)

The phase minimum greens are incorrect as they do not match the controller specification; the minimums should be:

Min E 3

Min F 6

Min G 5

Min H 7

The existing intergreens are incorrect; based on the correct phasing, the matrix should be:

		To Phase							
		A	B	C	D	E	F	G	H
From Phase	A			5			9	9	
	B			7	7	5	5	8	
	C	7	7			5	9		5
	D		7						5
	E		5	5				9	
	F	0	0	0					
	G	0	0			0			
	H			0	0				

The right turn into Le Marechal Avenue is an indicative arrow, yet this arm has not been set up as a give-way.

Lane J2:4/1 has a saturation flow but this should be an infinite saturation flow.

Bursledon Road is high speed (40mph speed limit) and therefore 2 seconds should be added to each of the Bursledon Road phases as they lose right of way.

Windhover Roundabout Proposed partial Signalisation

The proposals include signalisation of the A27 West End Road and Bert Betts Way arms of the junction. During peak periods, particularly the PM peak, a southbound queue forms on Hamble Lane blocking back around the Windhover roundabout circulatory carriageway. This queue blocks all the way back to, and past, the A27 Providence Hill arm of the junction, and traffic which is giving way often relies on being let out by slow moving circulating traffic, increasing queues on the circulatory carriageway.

The queue on the Providence Hill arm extends a significant distance in the PM peak, and an increase in circulating traffic resulting from the development will make getting out of Providence Hill even harder and will likely increase this queueing. The PM peak southbound queue on Hamble Lane is not reflected in the modelling, which is acceptable as the junction on Hamble Lane is outside the scope of the model, and in any case, LinSig may not be an appropriate tool for assessing this type of situation.

It is considered necessary to signalise the Providence Hill arm as well.

The model includes DoS above 100% in the PM peak. It should not be possible to have a DoS above 100% on a calibrated model in a surveyed scenario, as the capacity must have been sufficient for the traffic to have been counted through the junction.

The junction has been coded as two separate controllers; it should be 1 controller, 2 streams as per the existing configuration.

The phasing is incorrect; phasing should match the existing controller specification as follows:

Phase	Title
A	Circulatory (Northbound)
B	Bursledon Road
C	Circulatory (Westbound)
D	Hamble Lane
E	Stream 2, Stage 3 Dummy

The intergreen matrix is incorrect; The existing controller configuration has all intergreens set to 6 seconds, not 5.

The opposing Lane Coefficient used for Providence Hill does not match the Junction 9 modelling.

Additional checks on Windhover Roundabout will be completed once the LinSig files are received.

A3024 Bursledon Road / le Marechal Avenue / Site Access Proposed Junction

The design illustrates both Bursledon Road right-turn lanes running under a full traffic phase (not indicative or separately signalled). The Eastbound right turn requires traffic to give way to two lanes of Westbound traffic with a 40mph limit. Experience in Hampshire has shown that this arrangement is unsafe both in terms of speed and number of lanes. Therefore, this staging arrangement is not acceptable on highway safety grounds.

In addition to the concerns previously raised in relation to the internal layout and the principle of two site accesses, from an operational perspective there is insufficient space available to locate the vehicle detection for the signals. A minimum distance of 30m is required to position the detection. The length of the 2 lane is very short and should be lengthened to make it effective. For the site access road approach to the signals, consideration should be given to either:

- a single gated access is provided serving both sites located where the western site access gate is currently shown. This would be a straight approach to the signal junction which could flare out to 2 lanes for a meaningful distance. It would allow vehicle detection to be located in a single lane 30m from the stop line, or
- the eastern site access road forms the side road to the main site access road serving the western site.
- Another access solution.

M27 Junction 8 / Dodwell Lane / A3024 Bert Betts Way

The M27 J8 / Dodwell Lane / A3024 Bert Betts Way junction has been modelled using Junctions 9 ARCADY software.

A comparison of the 2031 baseline and 2031 'with development' (warehousing) predicts that the development is likely to result in a slight reduction in capacity and increase in queuing on all arms at the junction.

Comparing the 2031 baseline and 2031 'with development' (parcel distribution) modelling results predicts that the junction would experience a reduction in capacity and an increase in queuing. This is of particular concern at the Dodwell Lane arm which is already overcapacity during the baseline scenario. Similarly, the A3024 is already approaching capacity during the baseline scenario.

West End Road / Site Access

The proposed site access junction should also be modelled within Junctions10, given that it is proposed to be a simple priority junction.

Development Impact at Other Junctions

The parcel distribution centre traffic flows suggest that the development is likely to have an impact at other junctions on the local highway network, with junctions potentially experiencing an increase of at least 30 trips during the weekday AM and PM peak periods. However, the submitted traffic flow diagrams do not show development trips at junctions beyond those tested in the TA, and the Highway Authority cannot determine whether additional junction modelling would be required.

Traffic Impact Summary

Overall, the submitted junction modelling indicates that the development would result in a material reduction in capacity and an increase in queuing across multiple junctions on the local highway network, necessitating a package of direct mitigation measures. However, the significant number of coding errors, inconsistencies between the LinSig outputs and traffic flow diagrams, and discrepancies in relation to the model phasing, intergreens and minimum greens against the existing controller specifications mean that the modelling cannot currently be relied upon to demonstrate the effectiveness of the proposed mitigation package.

The proposed simple priority form of the West End Road/Site Access junction has not been tested using appropriate software (Junctions10) or checked against DMRB guidance on junction type selection. Until this information is provided and the modelling is corrected and re-run, the Highway Authority is unable to confirm that the proposed mitigation is either necessary or sufficient to accommodate the residual cumulative impact of the development, and the traffic impact of the proposal cannot be considered acceptable at this stage.

Accessibility and Sustainability

Existing Conditions

Pedestrian facilities in the vicinity of the site include footways on both the A27 West End Road and the A3024 Bursledon Road, although the footway on Bursledon Road is on the opposite side of the carriageway.

Cycle facilities include a shared footway / cycle way on the A3024 Bursledon Road which continues north and forms part of the Southampton Cycle Route. A Shared pedestrian / cycle route is also provided to the south of the Windhover roundabout.

While bus stops are located within a short walking distance from the site, these are served by infrequent bus services, and the closest bus stops which are better served are located on Jurd Way, approximately 900m from the site. These stops are served by services X4 and X5 with a frequency of between 30 minutes and hour.

Bursledon railway station is located approximately 2km from the site.

Walking, Cycling and Horse-Riding Assessment and review (WCHAR)

A WCHAR has been undertaken as part of the Transport Assessment. This identifies a number of opportunities for pedestrian and cycle improvements at and around Windhover Roundabout and along the A27 Providence Hill/Bridge Road and A3025 Hamble Lane corridors, including upgraded crossings, tactile paving and segregated cycle tracks in line with LCWIP routes 270, 338 and 339. The WCHAR identifies areas to the south and southwest of the site as key generators of walking and cycling trips, including Tesco (with bus stop), a pub/restaurant, Providence Hill bus stops, Jurd Way bus stops, and Bursledon railway station, and it goes on to identify specific opportunities for improved connectivity across Windhover Roundabout itself.

However, these improvements are consistently framed in aspirational terms, and none are currently reflected in the mitigation package set out in the TA, which is limited to vehicular capacity works at Windhover Roundabout and the A3024 corridor. This is considered a significant omission, given the scale of the proposed development.

There is an existing uncontrolled crossing over the West End Road approach and adjacent circulatory carriageway; should this arm be signalised as part of the scheme, retaining an uncontrolled crossing at this location would not be acceptable on highway safety grounds.

There is also clear evidence of an established pedestrian desire line across the Hamble Lane approach splitter island, yet the only formal uncontrolled crossing provided is located well to the south, away from the direct route to Providence Hill.

The junction modelling predicts that the development will result in a material reduction in capacity and an increase in queuing at Windhover Roundabout, the A3024 corridor and M27 Junction 8, requiring direct mitigation in the form of additional lanes, signalisation and signal timing changes. Since this mitigation necessarily involves remodelling the same junction arms and stop lines that the WCHAR identifies as deficient for pedestrians and cyclists, there is a clear opportunity for the active travel opportunities identified in the WCHAR to be delivered as an integral part of that same highway mitigation, rather than treated as a separate, discretionary matter.

Given the scale of the proposed development, direct and indirect mitigation is considered proportionate and necessary to offset the residual vehicular impact identified through the junction modelling.

In order to provide a safe and convenient route to the trip generators identified in the WCHAR, and to properly accommodate existing pedestrian movements rather than displace them, it is considered that the following pedestrian/cycle provision could be incorporated into the Windhover Roundabout design as part of the signalisation works:

West End Road arm (linking the north of the site and West End Road to Providence Hill):

Puffin crossing over the West End Road approach
 Toucan crossing over the West End Road exit
 Toucan crossing over the West End Road circulatory carriageway
 Upgrade of the route through the centre of the roundabout to a 3m shared use footway/cycleway

Providence Hill arm:

Puffin or Toucan crossing over the Providence Hill approach
 Toucan crossing over the Providence Hill exit
 Toucan crossing over the Providence Hill circulatory carriageway
 Hamble Lane arm:

Toucan crossing over the Hamble Lane entry
 Toucan crossing over the Hamble Lane exit
 Upgrades to tie the cycleway into surrounding links

Bursledon Road arm:

Puffin/Toucan crossing over the Bursledon Road entry
 Puffin/Toucan crossing over the Bursledon Road exit

On this basis, it should be confirmed which of the WCHAR-identified opportunities will be delivered as part of the development proposals, along with the above arm-by-arm crossing provision to be secured alongside the vehicular capacity mitigation.

Travel Plan

The TA refers to the preparation of a Framework Travel Plan, however, this document does not appear to have been provided for review.

Accessibility Summary

Overall, notwithstanding the comments made earlier in this response in relation to the Framework Travel Plan, the absence of additional mitigation and a package of proportionate committed active travel improvements, particularly given the acknowledged deficiencies identified in the WCHAR, is considered contrary to the HCC Local Transport Plan 4 (LTP4) objectives to prioritise and embed sustainable and active travel modes, and to the LCWIP's identified aspirational improvements for this location.

The development is also considered to be inconsistent with NPPF guidance on promoting sustainable transport and prioritising pedestrian and cycle movements, with the general principle that mitigation for a development's impact should address all modes affected.

On this basis, a Travel Plan alone cannot be relied upon to deliver the necessary mode shift, and further commitment to active travel improvements are required before the application can be considered acceptable in sustainability and accessibility terms.

Proposed Internal Layout

Given this is an outline application with all matters reserved except for access, the internal layout would be agreed at the reserved matters planning application stage. However, we would offer the following comments on the indicative internal layout details which have been provided in the submitted Transport Assessment.

Referring to the Eastleigh Borough Council Parking Standards SPD (September 2025), the proposed development would be expected to provide between 175 and 375 car parking spaces, depending on the end use. Operational parking provision would be decided on a site-by-site basis. Between 30 and 38 short-stay cycle spaces, and long-stay cycle parking provision would also be required.

The Transport Statement confirms that if a B8 use comes forward approximately 168 spaces would be provided, and 373 spaces could be provided if a B2 use were to come forward. This is considered to be acceptable in principle, subject to agreeing the internal layout at the reserved matters stage.

However, the case officer should note that the required level of parking provision and loading areas are likely to influence the layout, including the size and position of the buildings, with these matters being considered at the reserved matters stage.

Summary

The Highway Authority recommends a holding objection until further information has been provided which addresses the issues raised in this response.

Yours faithfully,

Jonny Elliott
Consultant Transport Planner - Highway Development Planning
Universal Services

Appendix B

National Highways Consultation Response

Bursledon AN001



Spatial Planning Framework Commission

Case Reference	DevSEArea3013		
Task Reference			
LPA Name	Hampshire County Council	LPA Reference	O/26/101417
Task Sponsor		Spatial Planning Manager	
Summary of Evidence Reviewed	Response to National Highways Comments, and LinSig and Junctions 9 junction models		
	Name	Date	Comments
Author	Martin Smith	30/07/2026	
Checker/ Approver	Richard Edwards	05/08/2026	

1) Introduction

On behalf of National Highways, the Jacobs Systra Joint Venture [JSJV] has undertaken a review of documents pertaining to planning application O/26/101417 for a warehouse development, (Use Classes B2 and B8 applied flexibly) of up to 200,000 sq ft (18,580 sqm) Gross Internal Area [GIA], together with ancillary offices (Use Class E(g)(i)) and other ancillary building and structures, parking, servicing and manoeuvring areas, landscaping and sustainable drainage features on land adjacent to Windhover Roundabout, Bursledon that have been submitted to Eastleigh Borough Council [EBC].

This JSJV Advice Note [AN] provides comments in relation to the additional information, which has been submitted to National Highways to inform discussions around the trip rate, trip generation and any modelling required.

The following information has been provided and is the subject of this review:

- Response to National Highways Comments, produced by Motion and dated the 17th of July 2026;
- LinSig models provided for the Windhover Roundabout for the baseline and future year scenarios; and
- Junctions 9 model provided for M27 Junction 8.

On the basis of this review, this JSJV AN comments on the suitability of the information with discussion provided in relation to the details relevant to understanding the impacts of the proposals at the Strategic Road Network [SRN], namely the M27 at Junction 8. These matters are the focus of this AN.

2) Development Location

The development site is located to the north of the Windhover Roundabout, between the A27 West End Road and the A3024 Bursledon Road. The development site lies approximately 0.3 miles west of the M27 at Junction 8. JSJV's prime interest is in relation to the impact of the application on the M27 Junction 8. Given the close proximity of the Windhover Roundabout to the M27 junction, National Highways will also need to understand the operation of the Windhover Roundabout to ensure that development traffic does not cause queuing back from this junction to the M27 junction.

3) Site History

National Highways previously provided pre-application advice to the Applicant's consultants (Motion) in 2024. Concerns were raised in relation to the possible land use of the proposal; National Highways was concerned that the site could come forward as a B8 parcel distribution centre.

National Highways submitted a response advising that a parcel distribution 'worst case' test might be required in addition to the assessment proposed in the 2024 Transport Assessment [TA] Scoping Note. During pre-application discussions, National Highways advised that the proposed parcel distribution trip rates needed to be higher than those presented by Motion in the Technical Note dated the 19th of November 2024 and should reflect a worst-case scenario.

National Highways also concurred with advice provided by Hampshire County Council [HCC] that the applicant should use the parcel distribution trip rates utilised in a similar application (32 New Lane, Havant APP/21/00200), where the end user was known and was able to provide identified trip rates.

The TA previously submitted as part of the application did not adopt the rates from the Havant application. Instead, the assessment in the TA was predicated on the average of two Trip Rate Information Computer System [TRICS] sites. The resulting trip rates in the PM peak were lower than those previously presented by Motion during pre-application discussions, which both HCC and National Highways previously advised were too low for the purposes of the assessment within the TA.

National Highways subsequently issued a National Highways Planning Response [NHPR] on the 23rd of June 2026, which placed a Holding Recommendation on the application, to allow National Highways sufficient time to understand the impact of the development on the safe and efficient operation of the M27 Junction 8 and the adjacent Windhover Roundabout. The outstanding issues identified within the Holding Recommendation, and responses from the Applicant's consultant, Motion, are outlined in subsequent sections of this AN.

4) Trip Rates

National Highways, along with HCC, previously requested the Applicant use trip rates derived from the Amazon site at Havant (APP/21/00200) to provide an assessment based upon a high operating parcel distribution centre. Motion has subsequently reanalysed TRICS, and added an additional site used by Evri in Hoyland, Barnsley near M1 Junction 36. The total vehicular trip rate obtained from this methodology and contained within Appendix B of the Response to National Highways Comments, has been replicated below, for ease of cross referencing.

Table 1: Vehicular Trip Rates per 100sqm

	19/11/24 Technical Note		TA Table 5.5		Response to National Highways Comments	
Time Range	Arr	Dep	Arr	Dep	Arr	Dep
07:00-08:00	0.491	0.773	0.491	0.773	0.209	0.334
08:00-09:00	0.477	0.352	N/A	N/A	0.233	0.150
17:00-18:00	0.412	0.634	0.412	0.634	0.248	0.299

Source – 2024 Technical Note, TA Table 5.5 and Response to National Highways Comments Appendix B

JSJV notes that these trip rates are significantly lower than the trip rates in the 2024 Technical Note dated the 19th of November 2024 and TA Table 5.5.

National Highways has the following concerns over site selection:

- Site WS-02-G-02 has been removed due to it being an ATC survey. No justification is provided for this deselection and therefore the removal of this site has to be questioned.
- The new site in Hoyland has a particularly low trips rate. This associated with the large GFA for this site leads to this site heavily influencing the trip generation rates. The table below compares the two way trip rates for the 3 selected sites for each of the hours considered.

Table 2: Vehicular Trip Rates per 100sqm

	SO-02-G-02, Slough	WS-02-G-02, Crawley	BY-02-G-01, Hoyland
Time Range	2 Way	2 Way	2 Way
07:00-08:00	1.339	0.831	0.065
08:00-09:00	0.911	0.382	0.098
17:00-18:00	1.155	0.515	0.215

Source – TRICS trip rates for each site

This table shows that the additional Hoyland site has a particularly low trip rate which, coupled with the large site area, has led to a considerably lower overall calculated trip rate. It is also clear that the range in trip rates is significant and therefore there is a high risk that, should the development come forward as parcel distribution, the trip rate will be higher than that assessed. Therefore, the approach proposed by HCC and indorsed by National Highways is still considered reasonable and appropriate.

JSJV cannot accept that these trip rates provide a 'worst case scenario' for a B8 distribution warehouse.

If the Applicant can demonstrate that the proposed mitigation can accommodate extra traffic associated with a high-operating parcel distribution site, then National Highways may be able to come to a consensus regarding any improvement works at the Windhover Roundabout.

5) Trip Distribution

5.1) Localised delivery vehicles

Motion has provided a breakdown of households by Middle Layer Super Output Area [MSOA] which could realistically be served by the site. The assumptions made by Motion seem reasonable, and, although JSJV surmise that trips are likely to be linked between areas and thus not form a simple to/from trip to each respective MSOA, the routing proportions form an adequate assumption as to movements to and from the site in relation to localised delivery vehicle movements. JSJV can therefore accept that approximately 45-50% of localised delivery movements will route through M27 Junction 8, as shown in Table 2.1 and Table 2.2.

Motion states that this will roughly equate to a maximum of 49 two-way localised delivery movements during the weekday evening peak hour, and 16 trips during the weekday morning peak hour.

5.2) HGV Movements

Motion has not provided any further Heavy Goods Vehicle [HGV] analysis in response to the following NHPR comment:

“given the proximity of the settlements to the north and the south of the proposed development site, the proposed 50/50 HGV trips split does not appear to reflect the areas that the HGV traffic will be travelling to/from. This will need further investigation before the proposed trip distribution can be accepted by National Highways for the purposes of the SRN assessments.”

Given that no further information has been provided in relation to HGV movements to and from the site, especially as these movements would likely route from further afield and therefore are more likely than localised delivery vehicle trips, to route via the SRN, comments made previously by National Highways remain.

Motion should provide further detail as to the HGV trip distribution and overall traffic impacts at M27 Junction 8.

6) Junction Model

6.1) Introduction

Two sets of modelling files have been provided. These are:

- A set of LinSig models which cover the Windhover Roundabout (partially signalised), Bursledon Road/ Le Marechal Avenue signalised junction, and Bursledon Road/ Botley Road signalised junction; and
- A Junctions 9 (ARCADY) model of M27 Junction 8.

Given the outcome of the reviews of the above, a full review of all the modelling has not been undertaken. Only a review of the Base Model has been undertaken to understand whether the models are representative of the existing operation of the junctions.

6.2) Windhover Roundabout, Bursledon Road/ Le Marechal Avenue, Bursledon Road/ Botley Road LinSig Model

The method of validation set out within the Response to National Highways identifies the main method of validation as being a throughput comparison. It is noted that the values in Table 2.3 for the Model Entry Flows do not match those within the model. However, as expected, the flows entered into the model broadly match the counted flows.

In addition to the flow assessment, a review of available signal timing data has been used to ensure the models are set up to accurately reflect the existing arrangement across the peak hours. Although

this is a useful starting point, the signal timings and arrangement should match the observed timings on the day of the survey.

Finally, for non-signalised junctions, a cross check with observed queue survey data has been undertaken to ensure the results are reflective of the existing operation. Although this is welcomed, the queue length data along with the survey videos should be provided for both signalised and non-signalised approaches to ensure the model is representative.

Notwithstanding the above, a high level review of the model has identified issues which could lead to the model not validating or predicting the operation of the junction with alternative flows. The list identified below is not considered exhaustive and once a more appropriate model is provided then a detailed review of the model will be undertaken to ensure it is fit for purpose for assessing the impact of the proposed development.

- The AM and PM peak models use different saturation flows on some of the lanes. Further information/ justification for the saturation flows across the model should be provided;
- Give way parameters for non-signalised approaches are questionable. The calculation of the give way parameters should be provided. Some of the issues are:
 - Inconsistencies between the AM and PM model; and
 - Which lanes the approach lanes give way to.
- Some give way movements within signal-controlled junctions do not have give way parameters.

It is noted that some lanes have Degree of Saturations [DoS] within the model in excess of 100% even though the entry flows appear to be the counted flow across the stop line and therefore the flow that can actually get through. As such, the DoS values should be limited to 100% with observed flows and demand flows should be used to show where the junction is currently over saturated.

The current model is not considered appropriately validated and is not suitable for use in the assessment of the impact of the proposed development. Once an updated model is provided addressing the issues identified above, a full review of the model will be undertaken which may identify further and as yet unrepresented issues.

6.3) M27 Junction 8, Junctions 9 (ARCADY) model

It is difficult to tell how well this model validates against the existing operation of the junction as the queue length surveys have not been provided. However, it is noted that the model shows little or no queueing on all approaches. A quick review of Google Traffic typical conditions suggests that extensive queueing may form on both of the M27 slip roads. The queue length surveys and videos of the survey periods will be critical to confirming the existing operation of the junction and therefore the validity of the model.

It is noted that the turning movement flows on the various approaches are not balanced. However, the ARCADY model assumes all vehicles can use all lanes on an approach. Where queueing only occurs or is predominant in one lane the ARCADY model over estimates capacity. The use of the Lane Simulation function within ARCADY may allow a better representation of the existing operation of the junction.

The current model is not considered appropriately validated and is not suitable for use in the assessment of the impact of the proposed development. Once an updated model is provided addressing the issues identified above, a full review of the model will be undertaken which may identify further and as yet unrepresented issues.

7) Summary and Conclusions

In summary, JSJV's review of the Response to National Highways Comments, along with the LinSig and Junctions 9 junction models has concluded the following:

- i. The range in trip rates used within the TRICS assessment is significant. There is a high risk that, should the development come forward as parcel distribution, the trip rate will be higher than that assessed. JSJV cannot accept that the trip rates presented by Motion provide a 'worst case scenario' for a B8 distribution warehouse;
- ii. If the Applicant can demonstrate that the proposed mitigation can accommodate extra traffic associated with a high-operating parcel distribution site, then National Highways may be able to come to a consensus regarding any improvement works at the Windhover Roundabout;
- iii. Motion has not provided any further HGV analysis in response previous NHPR comments. Motion should provide further detail as to the HGV trip distribution and overall traffic impacts at M27 Junction 8; and
- iv. The current LinSig and ARCADY models have not been appropriately validated and are not suitable for use in the assessment of the impact of the proposed development. Once updated models are provided, which address the issues raised within this AN, a full review of the models will be undertaken which may identify further and as yet unrepresented issues.

Appendix C

Site Access and Windhover Roundabout Updated Scheme

C:\Users\mfitzgerald\Motion\StaffSite - Whburs 1803014\Drawings\1803014 01F-06E.dwg



Notes

1. All levels and dimensions to be checked on site before any work commences. All dimensions in metres unless stated otherwise.
2. This drawing is based on survey information supplied by the client, and Motion cannot guarantee the accuracy of the data provided.
3. This drawing is based on OS mapping and Motion cannot guarantee the accuracy of the data.

F	Updated Yellow Box Markings	JB	MF	MF	28/09/2026
E	Updated Signalised Crossing Design	JB	MF	MF	10/09/2026
D	Updated per RSA1 Comments	MF	JNR	JNR	12/06/2025
C	Updated Site Layout	MF	JNR	JNR	22/05/2025
B	Updated Site Layout	MF	JNR	JNR	04/04/2025
A	Updated Site Access	MF	PB	PB	10/03/2025
-	First Issue	MF	JNR	JNR	26/02/2025
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
www.motion.co.uk

Client:

Wates Developments Ltd

Project:

Cranbury Site, Bursledon Road,
Bursledon

Title:

Highway Works Overview

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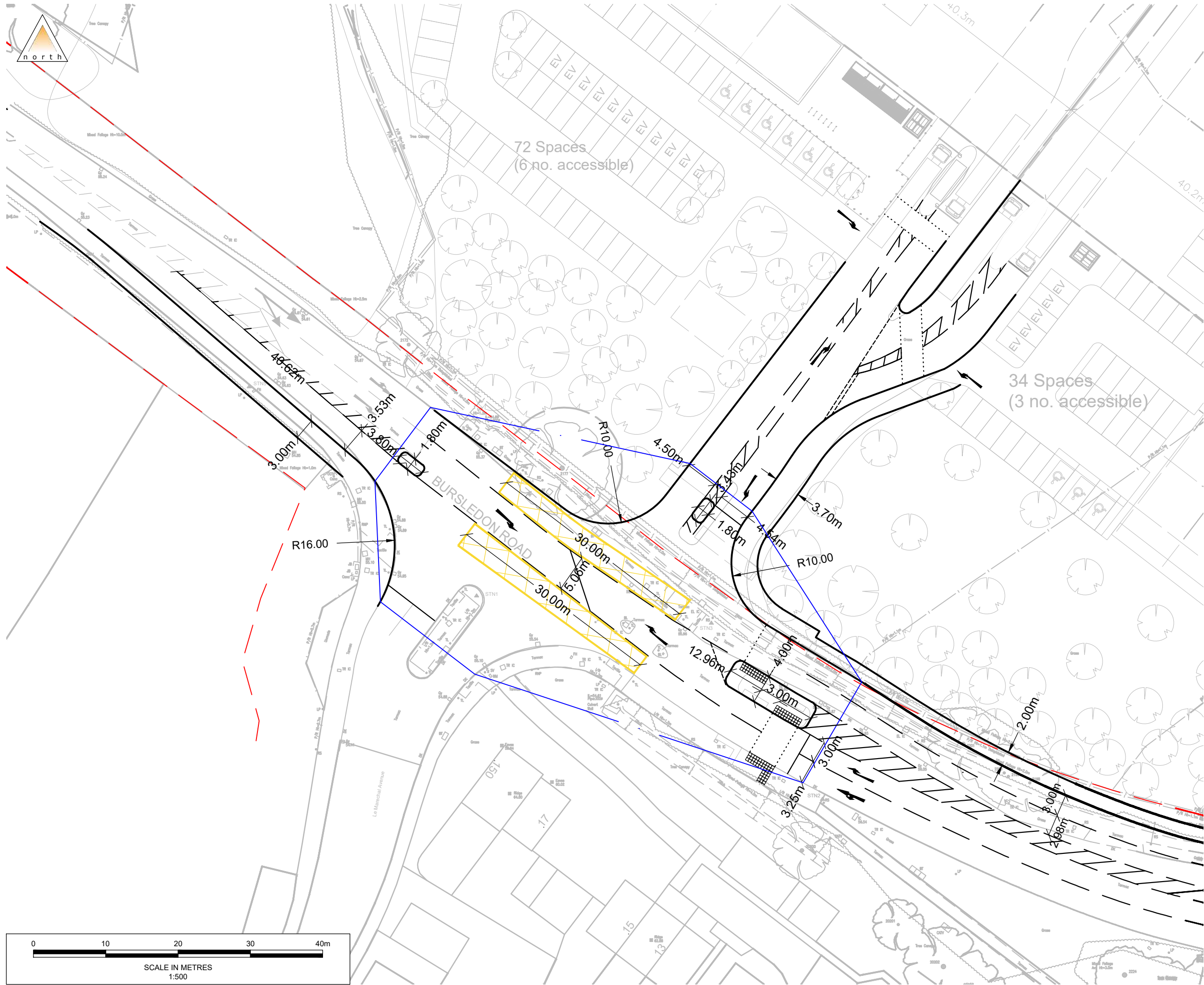
Drawing:

1803014-01

Revision:

F

C:\Users\mfitzgerald\Motion\Drawings\1803014 01F-06E.dwg



- Notes
1. All levels and dimensions to be checked on site before any work commences. All dimensions in metres unless stated otherwise.
 2. This drawing is based on survey information supplied by the client, and Motion cannot guarantee the accuracy of the data provided.
 3. This drawing is based on OS mapping and Motion cannot guarantee the accuracy of the data.

F	Updated Yellow Box Markings	JB	MF	MF	28/09/2026
E	Updated Signalised Crossing Design	JB	MF	MF	10/09/2026
D	Updated per RSA1 Comments	MF	JNR	JNR	12/06/2025
C	Updated Site Layout	MF	JNR	JNR	22/05/2025
B	Updated Site Layout	MF	CM	JNR	02/05/2025
A	Updated Site Layout	MF	JNR	JNR	04/04/2025
-	First Issue	MF	JNR	JNR	26/02/2025
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
www.motion.co.uk

Client:

Wates Developments Ltd

Project:

Cranbury Site, Bursledon Road,
Bursledon

Title:

Bursledon Road Site Access

Scale: 1:500 (@ A3)

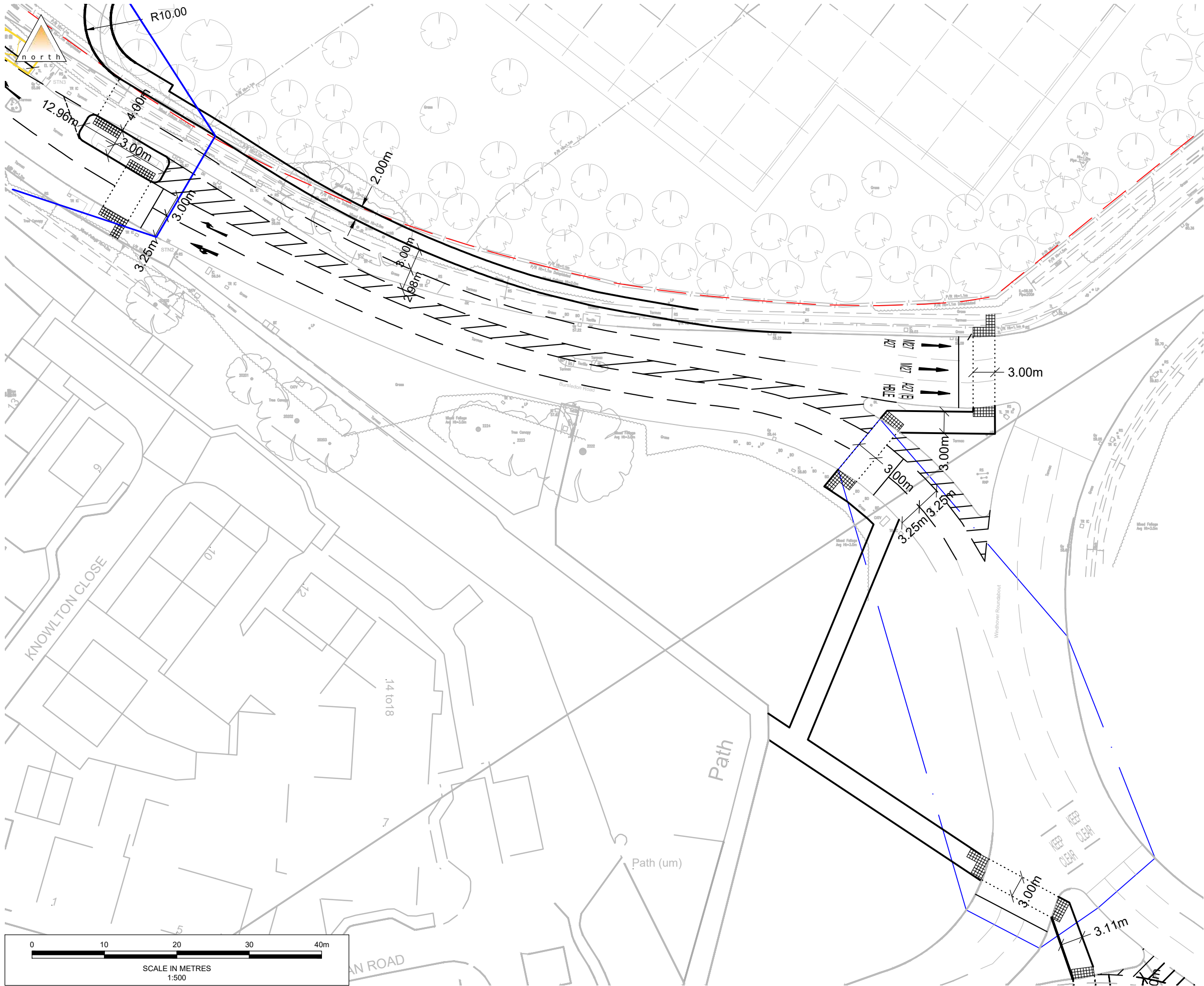
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Revision:

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Notes

1. All levels and dimensions to be checked on site before any work commences. All dimensions in metres unless stated otherwise.
2. This drawing is based on survey information supplied by the client, and Motion cannot guarantee the accuracy of the data provided.
3. This drawing is based on OS mapping and Motion cannot guarantee the accuracy of the data.

E	Updated Yellow Box Markings	JB	MF	MF	28/09/2026
D	Updated Signalised Crossing Design	JB	MF	MF	10/09/2026
C	Updated per RSA1 Comments	MF	JNR	JNR	12/06/2025
B	Updated Site Layout	MF	JNR	JNR	22/05/2025
A	Updated Site Layout	MF	JNR	JNR	04/04/2025
-	First Issue	MF	JNR	JNR	26/02/2025
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
www.motion.co.uk

Client:

Wates Developments Ltd

Project:

Cranbury Site, Bursledon Road,
Bursledon

Title:

Bursledon Road Carriageway Widening

Scale: 1:500 (@ A3)

Drawing:

1803014-03

Revision:

E

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2.4 x 112 metre
visibility splay

68.3m

Chartwell
Cottage

2.4 x 56 metre
visibility splay

R10.00

3.65m

3.00m

3.52m

3.25m

3.00m

3.26m

3.25m



SCALE IN METRES
1:500

Notes

1. All levels and dimensions to be checked on site before any work commences. All dimensions in metres unless stated otherwise.
2. This drawing is based on survey information supplied by the client, and Motion cannot guarantee the accuracy of the data provided.
3. This drawing is based on OS mapping and Motion cannot guarantee the accuracy of the data.
4. Visibility splays based on observed ATC data and calculated using HCC stopping sight distance calculator.

E	Updated Visibility Splays	JB	MF	MF	28/09/2026
D	Updated Signalised Crossing Design	JB	MF	MF	10/09/2026
C	Updated per RSA1 Comments	MF	JNR	JNR	12/06/2025
B	Updated Site Layout	MF	JNR	JNR	22/05/2025
A	Updated Site Layout	MF	JNR	JNR	04/04/2025
-	First Issue	MF	JNR	JNR	26/02/2025
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
www.motion.co.uk

Client:

Wates Developments Ltd

Project:

Cranbury Site, Bursledon Road,
Bursledon

Title:

West End Road Site Access

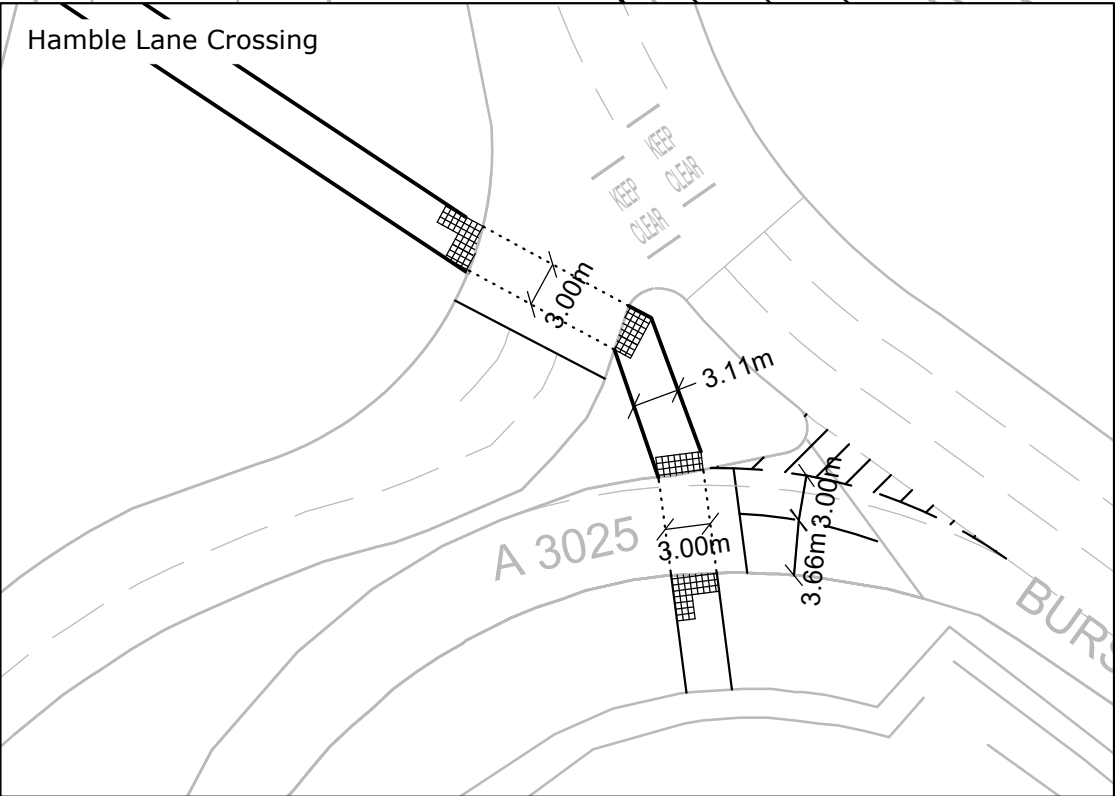
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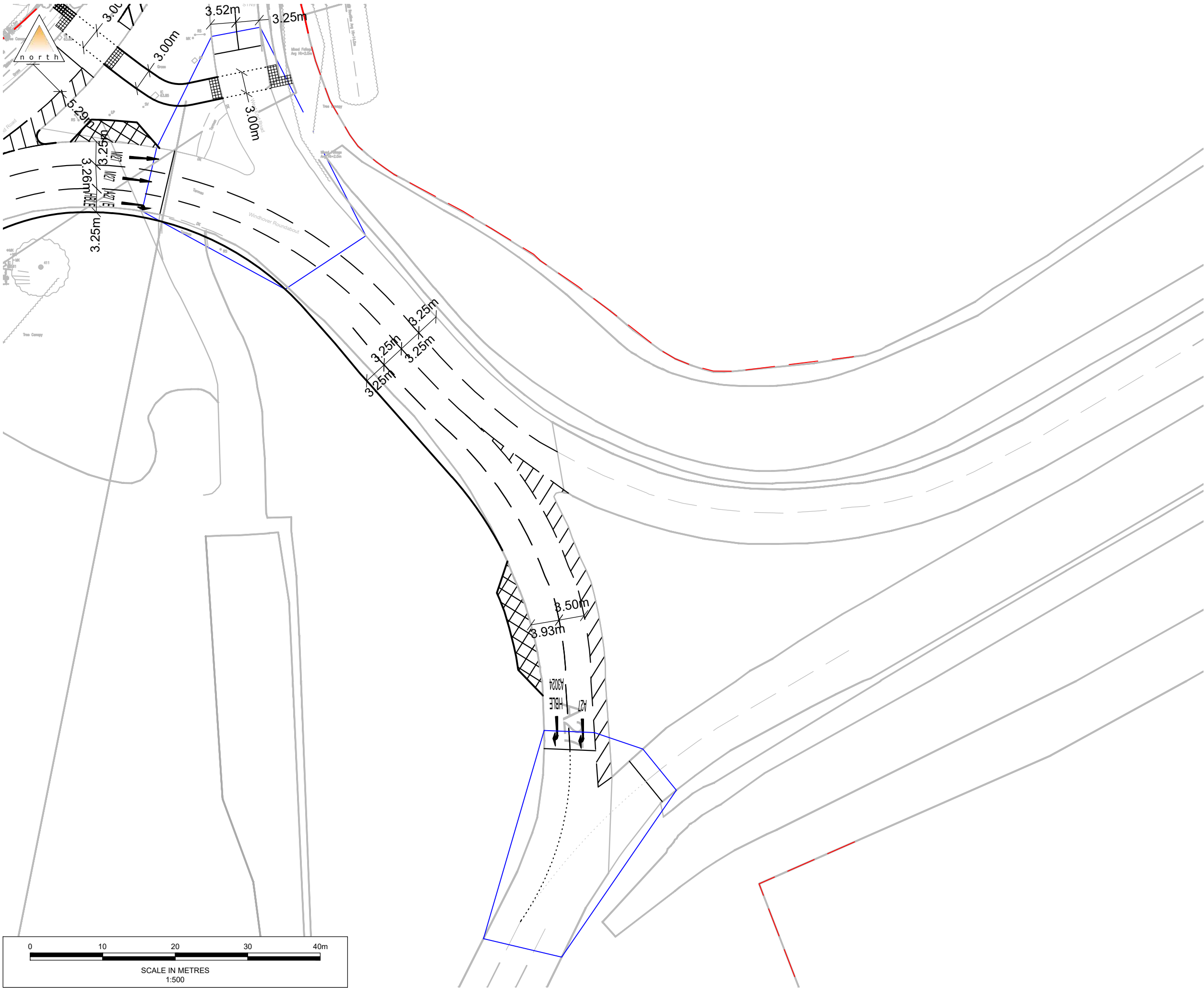
1803014-04

Revision:

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Notes

1. All levels and dimensions to be checked on site before any work commences. All dimensions in metres unless stated otherwise.
2. This drawing is based on survey information supplied by the client, and Motion cannot guarantee the accuracy of the data provided.
3. This drawing is based on OS mapping and Motion cannot guarantee the accuracy of the data.

D	Updated Signalised Crossing Design	JB	MF	MF	10/09/2026
C	Updated per RSA1 Comments	MF	JNR	JNR	12/06/2025
B	Updated Site Layout	MF	JNR	JNR	22/05/2025
A	Added Highway Boundary	MF	JNR	JNR	04/04/2025
-	First Issue	MF	JNR	JNR	26/02/2025
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
www.motion.co.uk

Client:

Wates Developments Ltd

Project:

Cranbury Site, Bursledon Road,
Bursledon

Title:

Windhover Roundabout Mitigation
A3024 Bert Betts Way Signalisation

Scale: 1:500 (@ A3)

Drawing:

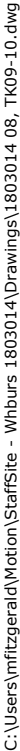
1803014-06

Revision:

D

Appendix D

Swept Path Analysis – Site Access and Internal Layout



1. All levels and dimensions to be checked on site before any work commences. All dimensions in metres unless stated otherwise.
2. This drawing is based on OS mapping and Motion cannot guarantee the accuracy of the data.

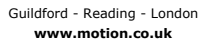


	meters		
Tractor Width	: 2.55	Lock to Lock Time	: 6.0
Trailer Width	: 2.55	Steering Angle	: 42.7
Tractor Track	: 2.55	Articulating Angle	: 70.0
Trailer Track	: 2.55		

D	Updated Swept Path	AC	MF	MF	23/09/2026
C	Updated Swept Path	DR	MF	MF	19/06/2025
B	Updated Site Layout	DR	MF	MF	02/05/2025
A	Updated Site Layout	LB	MF	MF	14/03/2025
-	First Issue	DR	MF	MF	06/03/2025
Rev.	Description	Drn	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION



Client:

Wates Developments Ltd

Project:

Cranbury Site, Bursledon Road,
Bursledon

Title:

Swept Path Analysis
16.5 m Artic
Bursledon Road Access

Scale: 1:250 (@ A3)

Drawing:

Revision:

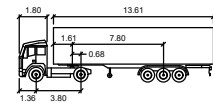
1803014-TK01

D

C:\Users\mfitzgerald\Motion\StaffSite - Whburs 1803014\Drawings\1803014 08, TK09-10.dwg



- Notes
1. All levels and dimensions to be checked on site before any work commences. All dimensions in metres unless stated otherwise.
 2. This drawing is based on OS mapping and Motion cannot guarantee the accuracy of the data.



Artic			
Tractor Width	2.55	Lock to Lock Time	6.0
Trailer Width	2.55	Steering Angle	42.7
Tractor Track	2.55	Articulating Angle	70.0
Trailer Track	2.55		

C	Updated Site Layout	AC	MF	MF	23/09/2026
B	Updated Site Layout	DR	MF	MF	19/06/2025
A	Updated Site Layout	LB	MF	MF	14/03/2025
-	First Issue	DR	MF	MF	06/03/2025
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION



Client:

Wates Developments Ltd

Project:

Cranbury Site, Bursledon Road, Bursledon

Title:

Swept Path Analysis
16.5 m Artic
West End Road Access

Scale: 1:250 (@ A3)

Drawing:

1803014-TK02

Revision:

C

