Land North of Barkby Road, Syston

Response to Leicestershire County Council Highways Comments 27th January 2023

DTA

Transport Planning Consultants

1.0 INTRODUCTION

1.1 Overview

1.1.1 DTA Transportation has been commissioned by Taylor Wimpey to provide transportation advice on the viability and delivery of the proposed residential development of up to 195 dwellings on land north of Barkby Road, Syston. A Transport Assessment (DTA reference 20060-08b) has been produced that has assessed the potential implications.

1.1.2 As part of the application process, Leicestershire County Council ("LCC") as Local Highway Authority has reviewed the TA and previously made a number of comments (dated 13th May 2022). DTA responded to the comments via a response noted dated June 2022. Further comments were received on 3rd October 2022 (responded to on 13th December 2022).

1.2 Report Purpose and Structure

1.2.1 This note has been produced in response to additional comments raised by LCC in their response of 27th January 2023 and discusiosns at a meeting held on 16th March 2023.

1.2.2 The additional comments raised by LCC are summarised below individually with a response from DTA.

1.2.3 The comments from LCC in full is contained within **Appendix A** of this note and should be read in conjunction with this note. For ease, the summary of LCC's comments are set out in *blue italics*, with DTA's response set out in black.

1.2.4 These clarifications confirm and support the findings of the original Transport Assessment.

2.0 LCC COMMENTS AND DTA RESPONSES

2.1 Site Access

2.1.1 Swept-path

Revised swept path analysis has been provided and the LHA consider the swept path analysis to be acceptable.

DTA response: Noted

2.1.2 Site Access Plan

LCC have requested that the access design be revised to consider the requirements of CD116 in respect of lane widths, deceleration lane length and tapers.

DTA response: The appropriate design standard for the right turn lane is CD123 and therefore is assumed that the LCC reference is to the roundabout overlay not the right turn lane.

For completeness, the site access plan, (**Drawing 20060-02 Rev F**) has been revised to include layout dimensions for the proposed ghost island and right turn lane provision. It was confirmed at the meeting on the 16th March 2023 that this arrangement is acceptable and agreed.

In terms of the lane widths these have been increased to 3.25m running lanes and a 3.5m wide right turn lane as per CD123 (Para 6.8 and 6.10 respectively).

The deceleration length (length b below) for a 70kph design speed (as in this instance) is set out in Table 5.22 is 40m. The turning length (a) should be 10m. A total of 50m is thus shown on the plan. No additional queue length is required as set out in the capacity assessments provided in the TA.

Figure 6.3a Major / minor priority junction with a ghost Island on single carriageway

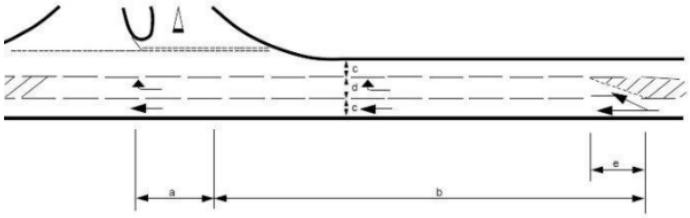


Figure 6.3b Major / minor priority junction with a up-gradient ghost island on climbing lane

The length of the direct taper (e) is 15m.

The taper length is (as per Table 6.1.1) set at 1 in 20 and in accordance with Para 6.1.2 are developed symmetrically on the road, giving a taper of 35m long (1.75m x 1:20) either side of the central line.

Whilst modest tweaks have been provided to the layout, the form (and indeed interaction with the signal control junction) are the same as the previous version of the plan. There is therefore no fundamental change to the overall scheme and therefore no need to revisit the (agreed) Road Safety Audit.

The scheme can readily be secured by planning condition and further detailed design developed as part of the Section 278 agreement.

It is noted that the scheme in respect of the pedestrian footway provision is now agreed.

2.1.3 Roundabout Option

LCC have requested further design details of the roundabout shown on Drawing 20060-06.

DTA response:

Drawing 20060-06 was prepared at the request of LCC to demonstrate that the issuing of planning permission for this application and the associated proposed right turn lane would not prejudice the delivery of development to the south of Barkby Road (as included as Draft Allocation HA1).

We wish to make it absolutely clear that **Drawing 20060-06** was submitted for information purposes only and approval to it is not sought as part of this planning

application.

The comments raised by LCC relate to detailed design matters (circulatory widths, entry path curvature and tracking). These are all matters which can be addressed as part of the future planning application for the land south of Barkby Road but for completeness the details are provided on **Drawing 20060-06 Rev A and 20060-06-2A**.

Clearly the submitted drawing does however demonstrate that there are no constraints to providing a compliant roundabout junction in the future. This was agreed at the meeting on the 16th March 2023.

2.1.4 Junction Capacity Assessments

The LHA have noted that the consideration of committed developments in the addendum report is appropriate and that the neither "committed" development have a material impact on the junctions with the Study Area.

DTA response: Noted

Notwithstanding this, the LHA have asked for a sensitivity test which would consider the cumulative impacts of all of the draft allocation sites included in the Draft Charnwood Local Plan, which will include sites in Syston and Queniborough in particular.

DTA response:

The scope of the transport assessment has been discussed in detail with LCC since submission the application in December 2021.

The first LCC response in May 2022 requested that committed developments be included in the assessment. The June 2022 response was based on Tempro growth on the basis that there were no significant other consents that impacted on the same study area.

As set out above this is now an agreed position.

The requirement in respect of committed development is set out in Planning practice guidance which confirms that:

> *It is important to give appropriate consideration to the cumulative impacts arising from other committed development (ie development that is consented or allocated where there is a*

reasonable degree of certainty will proceed within the next 3 years). At the decision-taking stage this may require the developer to carry out an assessment of the impact of those adopted Local Plan allocations which have the potential to impact on the same sections of transport network as well as other relevant local sites benefitting from as yet unimplemented planning approval

The submitted transport analysis and assessment for the proposed development, accords with that guidance. It is also consistent with LCCs own response to planning application ref P/22/0354/2 (Draft Allocation HA2) which states in terms – "No 'committed developments' have been considered within the modelling. A 'committed development' is one that has received full or outline planning permission or is allocated in an adopted development plan."

At present, assessment of wider development in the Local Plan across Charnwood has been undertaken at a strategic level, as is appropriate for the evidence base for the Local Plan.

However, the lack of detail on those other draft allocations (including access strategy and mitigation package) means that full assessment of their impacts at this stage is not feasible or possible. Whilst HA1 is being promoted by the same applicant, discussions are ongoing about the overall access strategy, trip rates and distribution, which means that a meaningful assessment of that site cannot be undertaken at this stage.

The assessments submitted in support of this application to date, confirms that there are junctions within Syston approaching capacity but that the scale of the impact from this application is not sufficient to warrant mitigation and / or trigger any severe impact.

Clearly the requirement of the NPPF (and indeed the CIL regulations) is that any mitigation provided by a development is directly related to it and essential to make the development acceptable in planning terms. The submitted assessment provides a wholly appropriate basis on which to consider the impacts, given it does not include wider development or indeed any other strategic mitigation that might be forthcoming as part of the IDP.

The sensitivity test requested would therefore provide no meaningful additional evidence on which to consider the appropriateness of the application site or mitigation required.

The approach taken is also consistent with other recently determined schemes.

Notwithstanding this, and without prejudice to the above, a sensitivity test has been undertaken to test the implications of allowing for future growth on the network by applying TEMPro to the end of the Local Plan period (i.e 2037).

The Tempro growth figure applies a further 14% traffic growth and relates to an additional 1,300 houses within and around Syston. In addition to this the application site and HA2 traffic flows have been added to the test. No allowance has been made for other mitigation measures (including, as suggested in the Local Plan IDP draft, strategic active travel interventions). It is therefore particularly robust.

It is also worthy of note that the Local Plan Evidence base modelling confirms (at Table 5.10 of the Further Analysis and Refinement Report – MAY 2021) a general reduction (or at worse no change) in vehicle flows through Syston as a result of local plan interventions. The assessment of future growth should therefore be considered in that context.

The results are tabulated below. It can be seen that junctions 2 and 4 remain well within capacity. On the basis of unconstrained Tempro Growth, Junction 1, 5 and 6 are shown over capacity in the 2037 base. Clearly however the development does not materially change operation of the junctions to a point at which mitigation could be considered necessary in the context of the NPPF Para 110. There is no severe impact in the context of NPPF Para 111.

Given that, in reality, the wider modelling for the Local Plan confirms that significant increases in flow in Syston are unlikely this supports the conclusions of the TA that no mitigation is appropriate as a result of this development.

Junction	Base Year (2021/2022)	2027 Base	2027 + Development	2037 (Base Sensitivity)	2037 + Development
Site Access	-		Within capacity (highest RFC of 0.33 and Q of 1) Development flows (excluding HA1) through junction: 147 AM, 146, PM	Highest RFC of 0.23 Q of 0	Highest RFC of 0.35 Q of 1
1. High Street/Melton Road/Barkby Road	Within capacity (highest RFC of 0.84 and Q of 5)	Approaching capacity (highest RFC of 0.91 and Q of 8)	Approaching capacity (highest RFC of 0.95 and Q of 12) Development flows through junction: 48 AM, 48, PM	Highest RFC of 1.04 Q of 27	Highest RFC of 1.09 Q of 39
2. Barkby Road/ Queniborough Road	Within capacity (highest DoS of 71.6% and Q of 9)	Within capacity (highest DoS of 81.7% and Q of 16)	Within capacity (highest DoS of 86.4% and Q of 18) Development flows through junction: 60 AM, 60, PM	Highest DoS of 88.6% Q of 12	Highest DoS of 93.5% Q of 14
4. Barkby Road/ Pembroke Avenue	Within capacity (highest RFC of 0.34 and Q of 1)	Within capacity (highest RFC of 0.37 and Q of 1)	Within capacity (highest RFC of 0.44 and Q of 1) Development flows through junction: 87 AM, 87, PM	Highest RFC of 0.42 Q of 1	Highest RFC of 0.50 Q of 1
5. Goodes Lane/ Melton Road;	Within capacity (highest RFC of 0.82 and Q of 7)	Approaching capacity (highest RFC of 0.89 and Q of 11)	Nearing capacity (highest RFC of 0.97 and Q of 20) Development flows through junction: 40 AM, 39, PM	Highest RFC of 1.03 Q of 34	Highest RFC of 1.09 Q of 53
6. Fosse Way/ High Street	Within capacity (highest DoS of 78.2% and Q of 18)	Within capacity (highest DoS of 92.0% and Q of 24)	Approaching capacity (highest DoS of 94.5% and Q of 26) Development flows through junction: 44 AM, 44, PM	Highest DoS of 103.3% Q of 42	Highest DoS of 105.7% Q of 49

3.0 SUMMARY

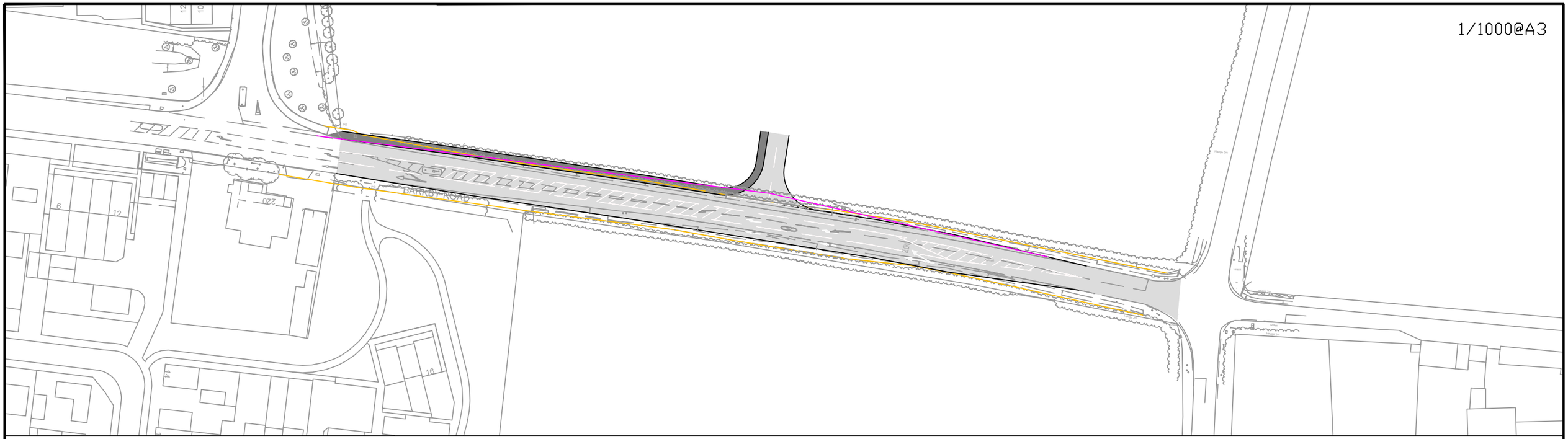
3.1 The purpose of this note is to address the additional comments raised by Leicestershire County Council on the Transport Assessment produced in support of the planning application for the proposed residential development on land north of Barkby Road, Syston.

3.2 The response confirms that all the geometrical issues relating to the proposed access have been addressed.

3.3 The details requested have been provided, which further confirms that the development will not have a severe impact, and, on this basis, the development should be supported from a transportation perspective.

Drawings

1/1000@A3



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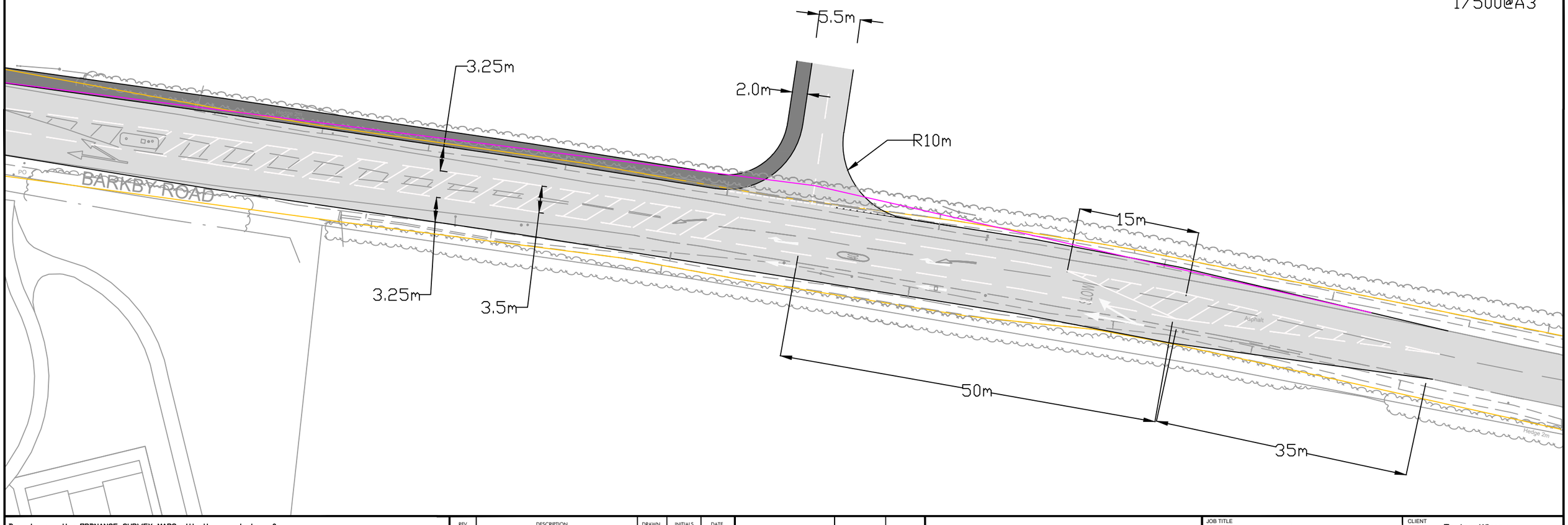

REV	DESCRIPTION	DRAWN	INITIALS	DATE

DRAWING STATUS	CHECKED BY	DATE

david tucker associates
transport planning consultants

Forester House, Doctors Lane,
Henley in Arden,
Warwickshire B95 5AW
Tel: +44(0)1564 793598
Fax: +44(0)1564 793983
www.dtatransportation.co.uk

JOB TITLE	CLIENT
Syston	Taylor Wimpey

DRAWING TITLE

Proposed Site Access
Right Turn Lane Northern Site

SCALE	DRAWN BY	DATE	DRAWING No	REVISION
See Plan	BP	31-01-23	20060-02	F

1/1000@A3

120m visibility

Dropped kerb crossing point

43m forward visibility splay

Highway boundary extents

120m visibility

43m forward visibility splay

BARKBY ROAD

1/500@A3

6.0000

R39.7991

5.5339

R82.9233

R24.5293

5.1327

2.9550

7.6789

R35.2897

5.3536

6.0226

21

34.000

5.8580

R73.2777

R35.0000

5.4072

3.3491

R20.0000

R25.9097

5.0000

R51.1401

5.6510

R73.7561

R35.0000

6.0000

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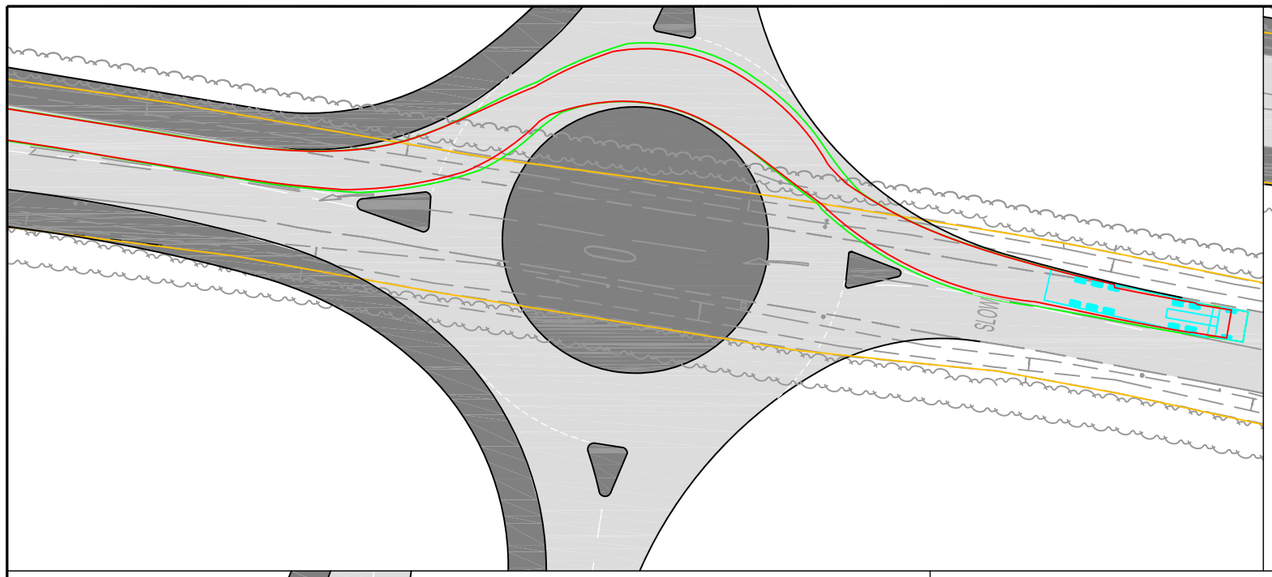
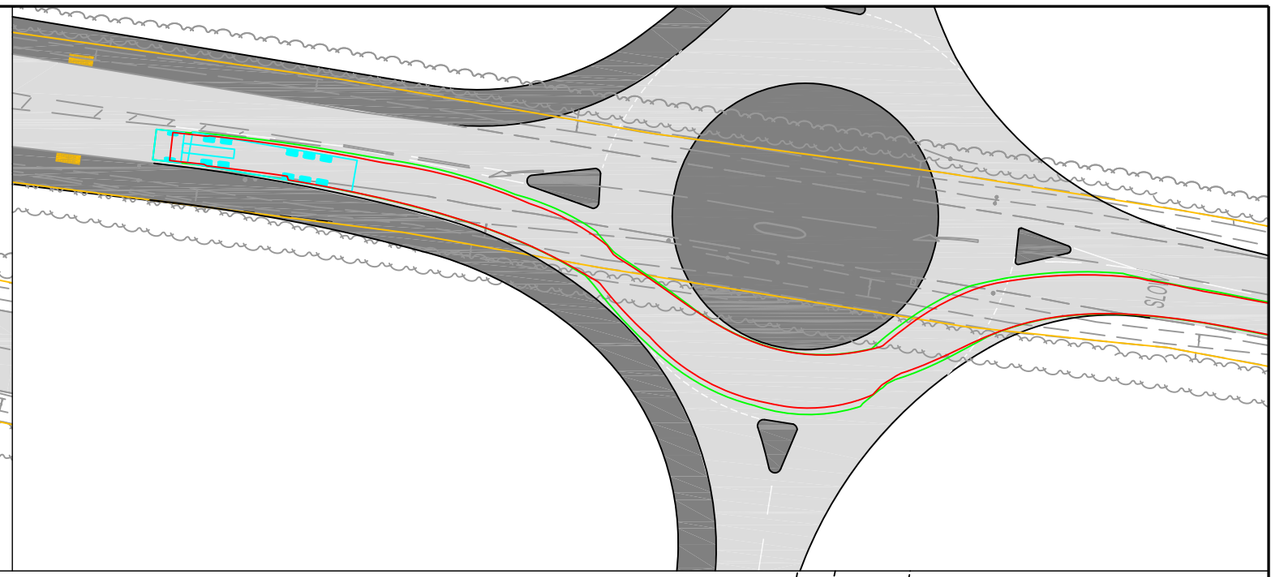
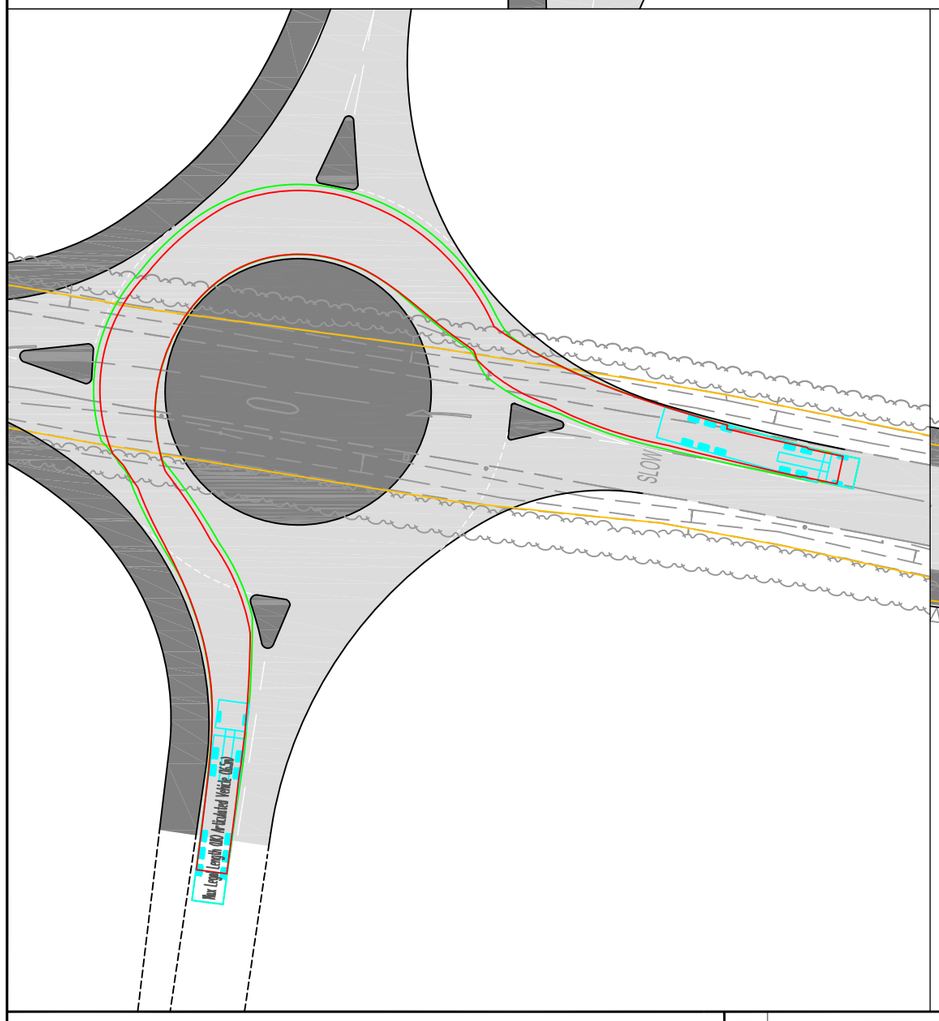
JOB TITLE	CLIENT
Syston	Taylor Wimpey

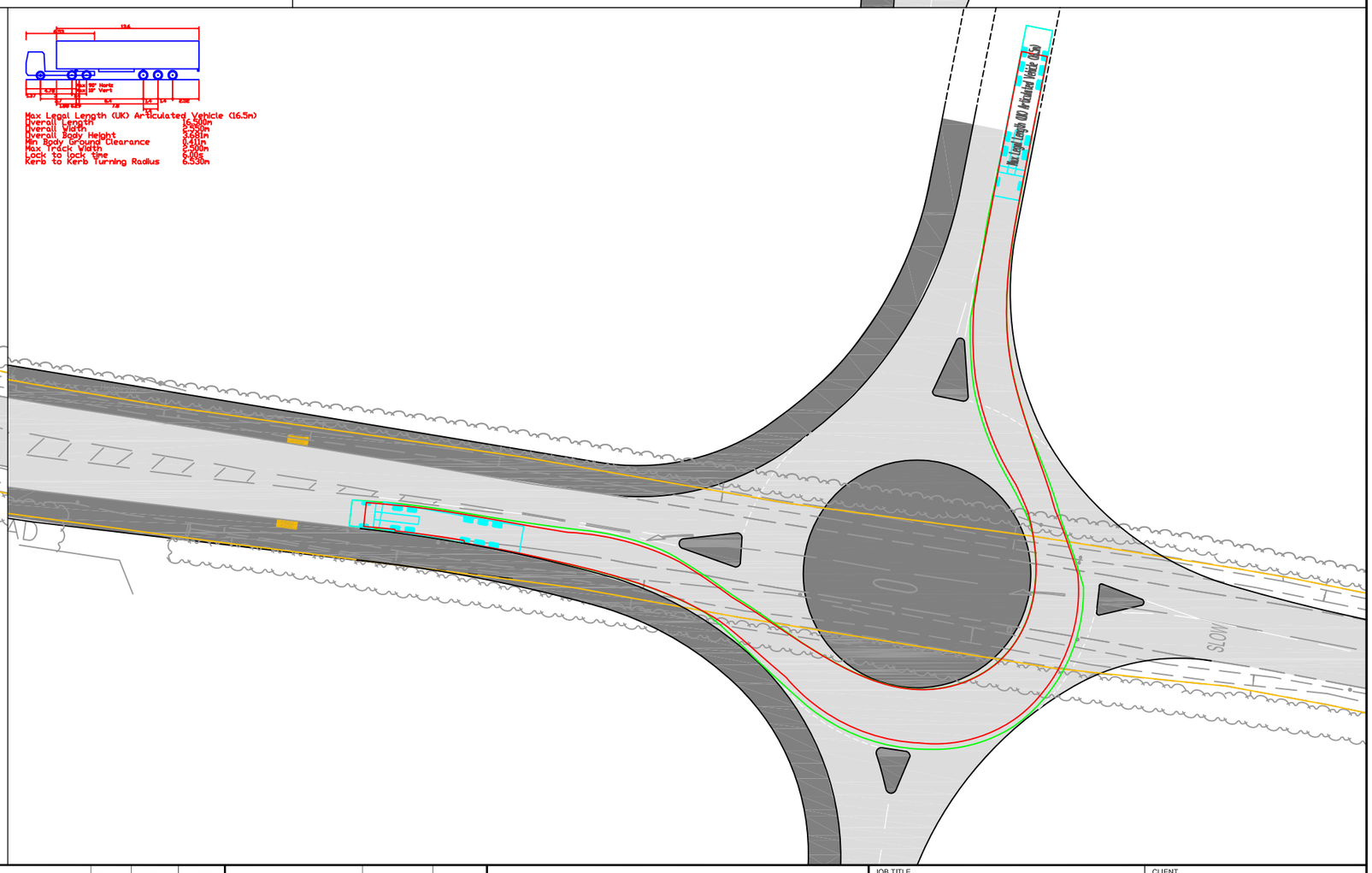
DRAWING TITLE: Potential Future Roudabout Access

SCALE	DRAWN BY	DATE	DRAWING No	REVISION
1/1000@A3	BP	09-02-23	20060-06	a









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JOB TITLE	CLIENT
Syston	Taylor Wimpey

DRAWING TITLE

Potential Future Roudabout Access
Tracking

SCALE	DRAWN BY	DATE	DRAWING No	REVISION
1/500@A3	BP	09-02-23	20060-06-2	a

Appendix A

LCC Comments

Substantive response of the Local Highway Authority to a planning consultation received under The Development Management Order.

Leicestershire County Council

Response provided under the delegated authority of the Director of Environment & Transport**.**

APPLICATION DETAILS:

Planning Application Number: P/21/2639/2

Highway Reference Number: 2021/2639/02/H/R4

Application Address: Land North of Barkby Road Syston Leicestershire

Application Type: Outline (with access)

Description of Application:

Re-consultation. Outline application for up to 195 dwellings with all matters reserved except access.

GENERAL DETAILS

Planning Case Officer: Liam Ward

Applicant: Taylor Wimpey (UK) Ltd

County Councillor: Mr Tom Barkley

Parish: Syston

Road Classification: Class C

Substantive Response provided in accordance with article 22(5) of The Town and Country Planning (Development Management Procedure) (England) Order 2015:

The Local Highway Authority does not consider that the application as submitted fully assesses the highway impact of the proposed development and further information is required as set out in this response. Without this information the Local Highway Authority is unable to provide final highway advice on this application.

Advice to Local Planning Authority

Background

The Local Highway Authority (LHA) has been re-consulted on an outline with access planning application for up to 195 dwellings to be located on land north of Barkby Road, Syston.

In its previous response dated 3rd October 2022, the LHA requested further information to be submitted with regard to a number of elements.

These highway observations are in response to the following document and drawings which have now been submitted to Charnwood Borough Council in support of the planning application.

- SJT/SC 20060_10 Transport Note (TN) prepared by David Tucker Associates dated 13th December 2022;
- Drawing 20060-02-2 Rev D (Swept Path Analysis);
- Drawing 20060-02-2 Rev D (Site Access Plan);
- Drawing 20060-06 (Roundabout Dimensions); and
- Drawing 2060-06-2 (Roundabout Tracking)

Site Access

Revised swept-path analysis demonstrated in drawing 20060-02-2 now shows a Phoenix 2-23 W 6x4 refuse vehicle manoeuvring in and out of the site access. It is noted that some of the manoeuvres show that the refuse vehicle will encroach onto the other lane, notwithstanding this, as these movements will occur infrequently the LHA consider the swept path analysis to be acceptable.

As requested in its previous comments, the site access plan, drawing 20060-02 Rev D has been revised to include layout dimensions for the proposed ghost island and right turn lane provision, along with the proposed footway running adjacent to the kerb line. It should however be noted that the drawing indicates lane widths of 3.0m. Widths of 3.25m should ideally be provided for the through lanes along the bus route. The drawing indicates a 55m length for deceleration / turning / queuing lengths. This would meet CD116 requirements for a 70kph design speed, including an allowance of 5m for queuing length. However, the 55m distance should be measured to the centre line of the side road and not to the right turn arrow as shown.

The lane direction arrows are also located slightly too far beyond the centre line of the access road, and their locations need to be adjusted. No dimensions have been shown for the width of the right-turn lane and this needs to be indicated on the drawing. The taper length over which right-turn ghost island is developed also needs to be shown; this should be 1 in 20 as per CD116 Table 6.1.1 guidance. The LHA considers that the length shown on the drawing is too short. The LHA is concerned that the amendments to the design required would push the start of the central hatching closer to the existing junction with Queniborough Road. There will need to be sufficient space to fit the 1:20 taper in before the stop line, how=ever this may not be achievable.

An orange line has been added to indicate the highway boundary, and this indicates that land would need to be transferred into the publicly maintained highway. This would need to include visibility splays, footway widths and required verge widths.

It is noted that the wide verge provision between the footway and carriageway edge has now been removed, and that 2.0m wide footways are being proposed which is considered acceptable.

Whilst the LHA note that a Stage 1 Road Safety Audit was undertaken for the proposed site access, the LHA would request for an updated RSA and accompanying Designer's Response once the requested changes mentioned earlier in these comments have been addressed.

Site Access Roundabout Option

The LHA have reviewed the submitted drawings 20060-06 (Roundabout Dimensions); and 2060-06-2 (Roundabout Tracking) and have the following comments.

The drawing indicates a proposed Inscribed Circle Diameter (ICD) of 34.0m for the roundabout layout. It would appear that a compact roundabout is being proposed but no dimensions have been provided for the central island diameter and overrun area, and these are required to be submitted for review. It is noted from the Roundabout Tracking drawing that a central overrun area may not be necessary, and if possible, this should be avoided.

Although no circulatory carriageway width information has been provided, it would appear that the circulatory carriageway is wider than CD116 para 3.6.8 guidance, in which case this should be amended accordingly.

Entry path curvature has been shown for the Barkby Road approaches to the roundabout, but not for the side road approaches, and these would also need to be submitted for review.

Further information for the geometrical design parameters of the roundabout is required to be submitted including entry widths, entry angles, exit widths, exit kerb radius and exit width tapers.

For the Barkby Road Eastbound approach to the roundabout, a stopping sight distance of 90m is shown to the give way line, however this would need to be 120m based on the 85th percentile speed measurements recorded for this direction. The Applicant should ensure that this is amended.

Forward visibility for the side road approaches to the roundabout also needs to be advised on the drawing.

No provision has been shown for pedestrian movements at the roundabout, and it is likely that the provision of footway to the Western side of the junction would be required across the Western arm.

The tracking shown indicates that the design vehicle would overrun the proposed kerb-lines at a number of locations, and so the design layout should be amended to avoid this. The vehicle tracking would need to be resubmitted using a 15kph vehicle speed and indicating a 0.5m clearance to kerb-lines.

There is also concern that on both Barkby Road approaches to the roundabout, the design vehicle is also shown as conflicting with opposing traffic exiting the junction. The design layout must be amended to avoid this.

As mentioned earlier, the tracking for a vehicle on the circulatory carriageway suggests that a central overrun area may not be required and this should be avoided if possible. However, this would be subject to revisiting the tracking once the other concerns raised above have been addressed.

The junction has been subject to detailed capacity analysis using ARCADY. As part of the wider allocation, the southern parcel is forecast to deliver around 200 homes served from the southern arm of this proposed roundabout. Given that the assignment of trips to/from the site is yet to be determined, an estimation of the number of trips from the southern arm has been estimated by applying a factor of two of the proposed development trips (i.e., a total of c 400 houses from the south). The trips have also been assigned using the same distribution percentages as the proposed development traffic. A summary of the assessment is shown below in Table 1.

Trip Generation

The LHA requested that the 'Oadby' trip rates be used as the actual predicted trip rates in the assignment. The Applicant has confirmed that the requested trip rates have been used and the LHA are now satisfied with the proposed trip rates.

Junction Capacity Assessments

The LHA requested classified turning counts to be undertaken with covid factors applied. The LHA also requested that once the new surveys have been undertaken, the detailed junction capacity assessments should be re-rerun and that the Fosse Way/ High Street and Barkby Road/ Pembroke Avenue junctions be included within the assessment. The LHA requested that the 2022 base flows should be factored up to a future year of 2027 following application of Covid factors, with the TEMPro growth factor to also be revised and committed developments added.

The junction capacity assessments have been re-run following the application of Covid factors provided by the LHA to the base year traffic flows. The adopted rates and flow matrices are provided at Appendix C of the TN.

The LHA also requested which committed developments were included within the assessment and these have been provided below. The Applicant has stated there are only two sites in the area which could be considered committed as follows, but neither have a direct impact / material on the junctions within the scope of the TA:

1. P/20/2349/2 (50 dwellings) - Impact is 30 trips so wider assessment was scoped out and

2. P/20/2383/2 (270 dwellings) - There is minimal trips through the potential overlapping junctions (less than 10 trips so this has been scoped out. It is likely that those numbers could dissipate through the network before reaching the assessed junctions, but even as a worst case, they are considered to be minimal.

3. Hallam and DWH were both recently refused and all other applications north of Syston are either built out or expired (P/13/1696/2 Queniborough Lodge for 125 dwells was granted in Jan 2015 and no Reserved Matters)

The LHA consider the above to be acceptable and consider both committed developments do not have a material impact on the junctions within the study area.

The results of the revised capacity analysis undertaken at each junction by DTA are shown in Table 1 extracted from the TN below:

Table 1: Junction Capacity Assessment Summary

Junction	Base Year (2021/2022)	2027	2027 + Development
Site Access Roundabout	-		Within capacity (highest RFC of 0.29 and Q of 0) Development flows (excluding HA1) through junction: 147 AM, 146, PM
1. High Street/Melton Road/Barkby Road	Within capacity (highest RFC of 0.84 and Q of 5)	Approaching capacity (highest RFC of 0.89 and Q of 7)	Approaching capacity (highest RFC of 0.93 and Q of 10) Development flows through junction: 48 AM, 48, PM
2. Barkby Road/ Queniborough Road	Within capacity (highest DoS of 71.6% and Q of 9)	Within capacity (highest DoS of 75.6% and Q of 9)	Within capacity (highest DoS of 80.3% and Q of 11) Development flows through junction: 60 AM, 60, PM
4. Barkby Road/ Pembroke Avenue	Within capacity (highest RFC of 0.34 and Q of 1)	Within capacity (highest RFC of 0.36 and Q of 1)	Within capacity (highest RFC of 0.44 and Q of 1) Development flows through junction: 87 AM, 87, PM
5. Goodes Lane/ Melton Road;	Within capacity (highest RFC of 0.82 and Q of 7)	Approaching capacity (highest RFC of 0.89 and Q of 11)	Nearing capacity (highest RFC of 0.97 and Q of 20) Development flows through junction: 40 AM, 39, PM
6. Fosse Way/ High Street	Within capacity (highest DoS of 78.2% and Q of 18)	Within capacity (highest DoS of 89.2% and Q of 22)	Approaching capacity (highest DoS of 92.9% and Q of 25) Development flows through junction: 44 AM, 44, PM

The results of the revised assessment demonstrates that junctions 1m, 5 and 6 are forecast to operate above the theoretical capacity threshold of 0.85 RFC when development traffic is added.

The LHA would request for the modelling files for J1-J6 to be submitted so the LHA can review and verify the models. It should be noted that the LHA may seek mitigation at the aforementioned junctions following a review of the models.

For a consistent and robust approach, as advised in the LHA's response for planning application P/22/0354/2 (Land at Barkby Road/ Queniborough Road Syston - 251 dwellings - HA2), the LHA would request for the Applicant to undertake and submit a sensitivity test which would consider the cumulative impacts of all of the draft allocation sites included in the Draft Charnwood Local Plan, which will include sites in Syston and Queniborough in particular.

Date Received	Case Officer	Reviewer	Date issued
14 December 2022	**Suraj Dave**	**AW**	**27 January 2023**

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