

Project	A13394/VAA - Barnham Eastergate Westergate (BEW) Parcel SC1
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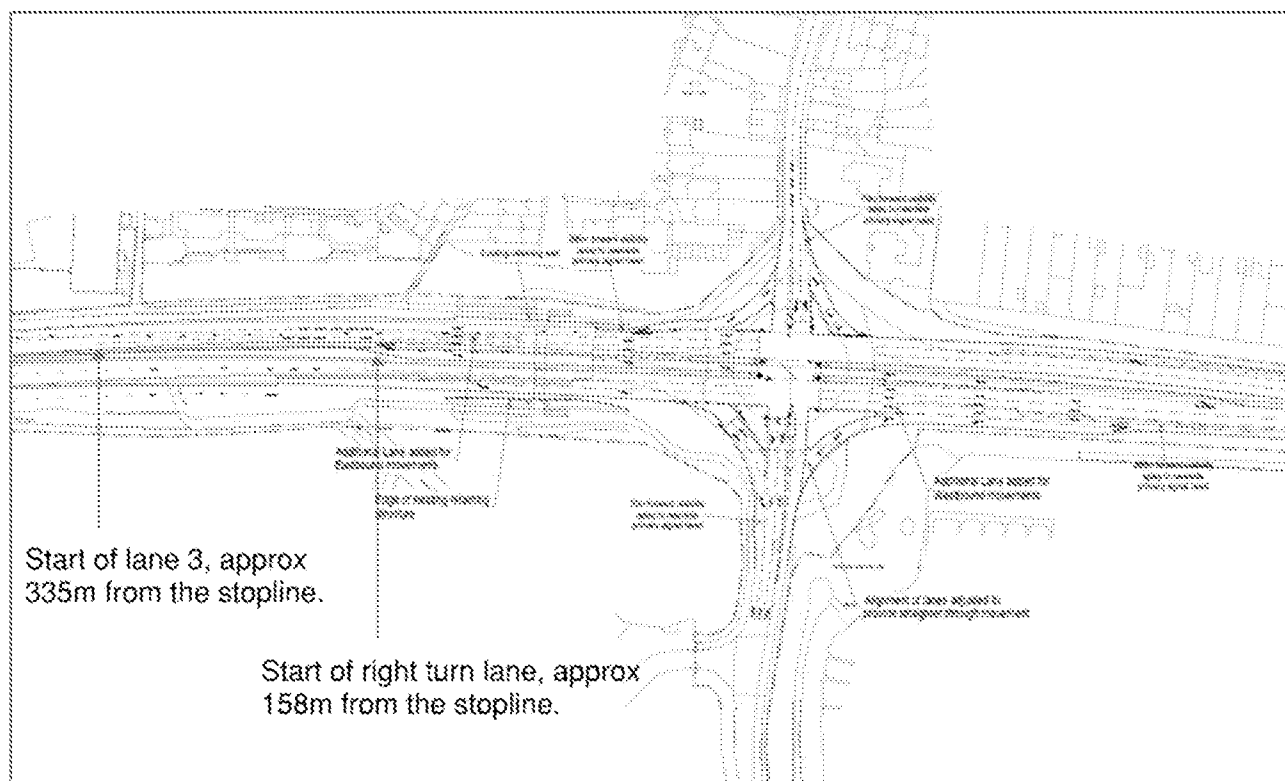
1 Introduction

- 1.1.1 Pell Frischmann is commissioned by C.C. Projects alongside Ashmarden Ltd and Hanbury (PM) Ltd (promoting the site together as 'The Southern Consortium') (the 'Applicant') to provide transport planning and highways consultancy services, in connection with the outline planning application for the strategic residential-led mixed use development on land forming part of the site allocation at Barnham Eastergate Westergate (BEW), West Sussex.
- 1.1.2 In an email from Hazel Morton of SYSTRA, on behalf of National Highways (NH), sent on 1 June 2023, NH have asked PF to demonstrate that the extension of the queue on the A27 (W) arm are manageable. The purpose of this Technical Note is to address the concern. For reference the email is shown in **Appendix A**.

2 Response to National Highways (NH) / SYSTRA Comments

- 2.1.1 PF tested the latest mitigation scheme available from NH for Whyke Roundabout (shown in Appendix C of the 22 November Note). In the Transport Assessment (TA) (Tables 6-93 to 6-95) the LinSig modelling results for the mitigation scheme show Degrees of Saturation (DoSs) over 100% which produced a maximum queue length of 59 passenger car units (PCU's) (339m) on the A27 West left turn lane. It should be noted that once the DoS exceeds 100% the queues become exponential and therefore unrealistic.
- 2.1.2 In the 2031 Do Minimum (DM) model, the MMO is 49 PCUs (282m) increasing by 10 PCUs in the 2031 Do Something (DS) scenario to 59 PCUs (339m) on the A27 (W) arm. The queue would not block any access points or block the ahead movement at the junction due to two long lanes stretching back to the next junction approx. 1km away. **Figure 1** illustrates the start of the right turn lane and lane 3.
- 2.1.3 It should be noted that the queue lengths are Mean Maximum Queues (MMQs) (not an average queue length) and therefore represent the peak queue within the peak hour and would only be present for a short period of time. Also, once the DoS exceeds 100% the queue lengths increase exponentially and become unrealistic.

Figure 1 -- Lane Markings on A27 (W) (Eastbound towards Junction)



2.1.4 Figure 2 below shows that there is a clear forward visibility from the petrol station to the junction of approx. 590m. Figure 3 shows the on-street view from the petrol station which shows a good visibility of the footbridge. Therefore demonstrating that the rear of the queue can be sighted allowing ample time for vehicles to slow down if a queue is present.

Figure 2 -- Distance to Junction (Eastbound towards Junction)

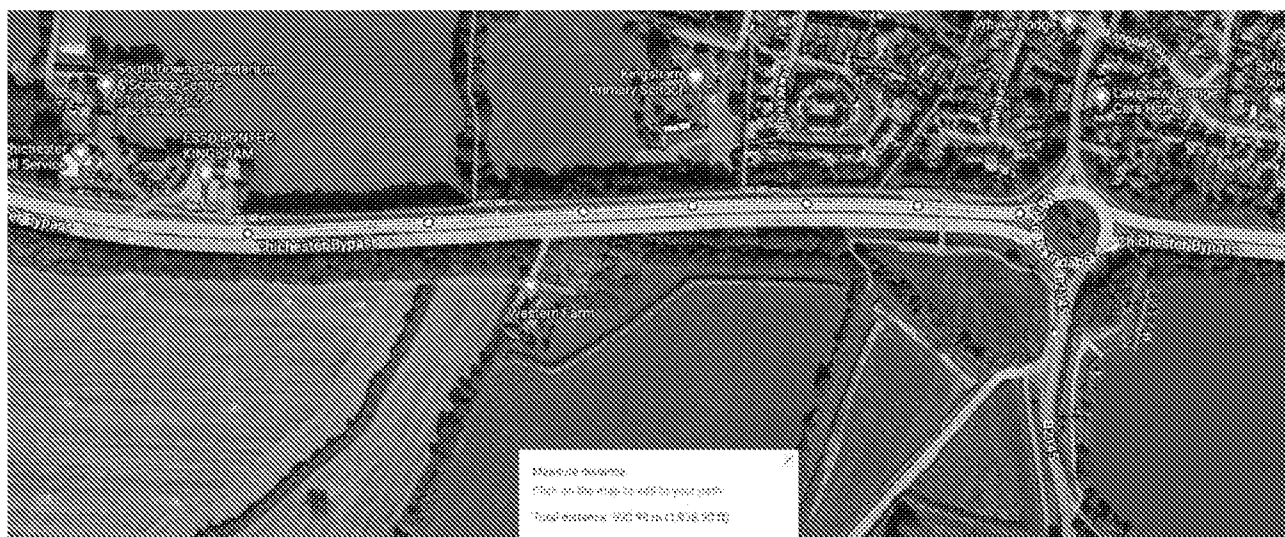
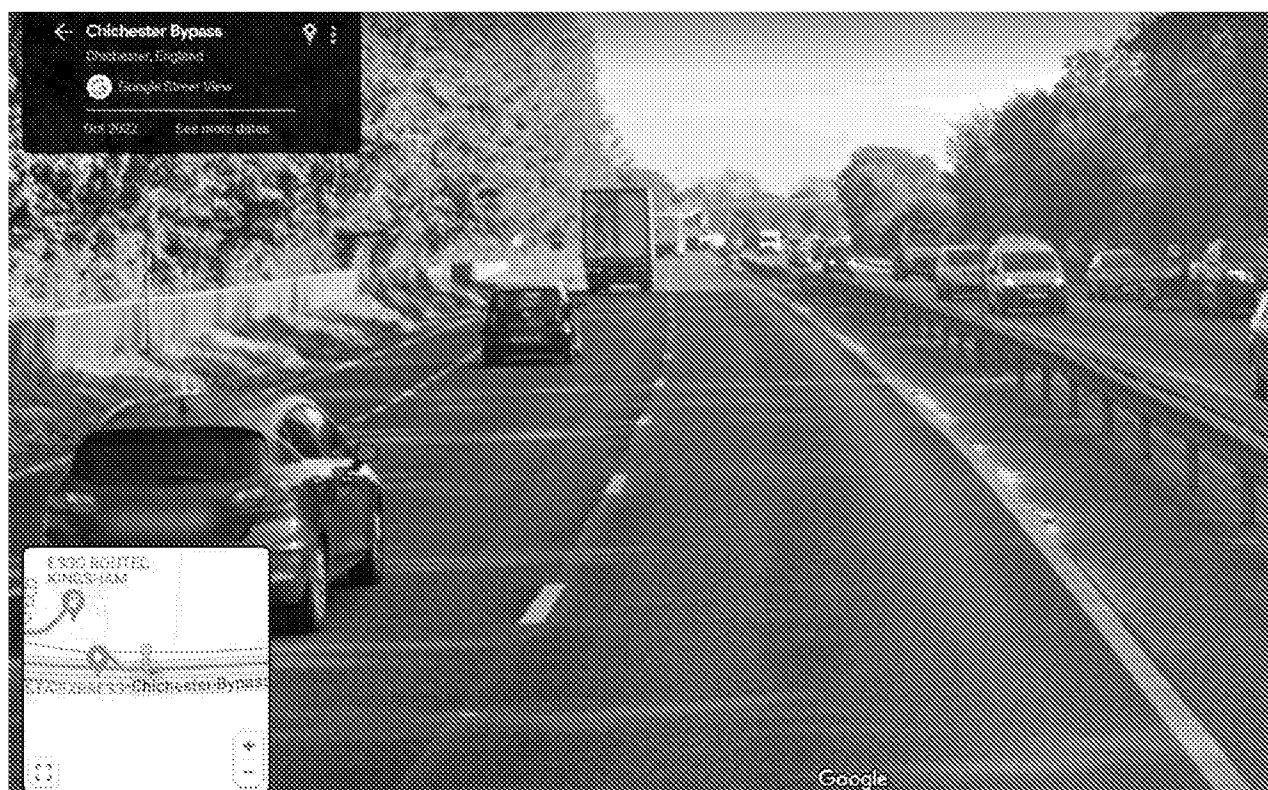


Figure 3 – Forward Visibility (Looking Eastbound towards Junction)



- 2.1.5 This Technical Note has provided clarification in relation to demonstrating that the extension of the queue on the A27 (W) arm are manageable and an increase of 10 PCUs does not block an access points, or lead to issues with sighting of the rear of the queue that would increase the risk of vehicle collisions.

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Report Ref. A13394 BEW - Whyke Road Roundabout Technical Note F01 2023-06-13

File Path P:\133--A13394-VAA Barnham Eastergate Westergate\40 Reports 2023-05 - A13394 BEW - Whyke Road Roundabout Technical Note F01 2023-06-13

Rev	Suit	Description	Date	Originator	Checker	Approver
F01	-	Final issue to National Highways and SYSTRA	13-June-2023	CS	SME	SME

Ref: reference, Rev: revision, Suit: suitability

Appendix A Email from SYSTRA 1 June 2023

From: MORTON Hazel <hmorton@systra.com>

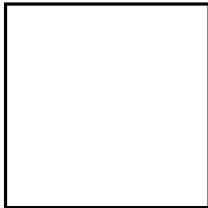
Sent: 01 June 2023 17:29

To: Stephen Evans <[REDACTED]>

Cc: Planning SE <[REDACTED]>; Cleaver, Elizabeth

<[REDACTED]>; Paul Smith <[REDACTED]>; Charlotte Smith

Subject: RE: National Highways response: BN/11/22/OUT, BEW Parcel SC1 Barnham - PF Technical Note



Good Afternoon Stephen and Charlotte,

Further to Charlotte's email from last week, I have re-examined the analysis which we previously conducted in relation to the material presented on the Whyke roundabout, which is summarized in the comments and action in the current NHPR.

The TA states on page 91 that WSCC have advised that the 2017 EBR scheme (signalized junction) should be tested in addition to the current roundabout layout (it is understood that this was the most "up to date" mitigation scheme at the time that the TA was issued). As far as I have been able to determine, any additional work being done to develop a new scheme is not yet at the point where it can be used to test against current applications, so the 2017 EBR is assumed to be what will be implemented in future for the purposes of testing current applications and determining what conditions (if any) are relevant. The November 2022 technical note confirms that this is the scheme which has been tested.

As is shown in tables 6.93 to 6.96 on page 92 of the TA (as referenced in Charlotte's email) the queues on the A47 West arm increase from 49 PCUs in the PM peak DM to 59 PCUs in the DS PM peak. As is also noted, the junction is operating beyond 100% DoS on this arm in all scenarios and as such the changes in queues need to be treated with a degree of caution. However, it is also evident that, because the junction is over-capacity, even a small impact from the proposed development has the potential to cause significant volatility in "real world" queues. As is identified in the NHPR (and also stated at paragraph 2.2.9 of the technical note) the queuing lane for this turn is only 158 metres long and blocking of the adjacent ahead lane will result.

Whilst this issue is not triggered by the proposed development, it will add traffic to an already lengthy queue. Paragraph 2.2.8 states that "...the latest mitigation scheme, which is proposed to be amended" – we originally interpreted this as being that the applicant would be putting forward some form of amendment on the basis that the issue with the queue is clearly identified in the technical note, but I see from Charlotte's email that this is in fact referring to the "new" scheme apparently being developed by others.

The issue that we therefore need to address is that the modelled impact of the proposed development on the EBR 2017 scheme leads to worsening of an already significant queuing concern. In order for National Highways to consider this issue to have been appropriately dealt with, it needs to be demonstrated either that:

1. The safety implications of an extension of the queue are manageable – i.e. that adding 10 PCUs (the figure taken from the 2031 DM and DS model comparisons) to the DM queue does not block access points, or lead to issues with sighting of the rear of the queue that would increase the risk of vehicle collisions; or

2. That this specific impact can be addressed through a form of mitigation which the proposed development itself can deliver – as we have noted previously, financial contributions in isolation are not acceptable to National Highways.

If we can establish that option 1 is acceptable, we will be able to frame a condition which links this scheme to delivery of the EBR 2017 mitigation, *or* such alternative as may be agreed in future. If option 1 cannot be demonstrated to be acceptable, we will need some form of variation of the EBR 2017 scheme which reduces the queue in question; the corresponding condition will then reference this scheme as the requirement, which will similarly be able to be replaced with a new scheme once this reaches the required stage of approval.

If a drawing can be provided showing the change in the physical extent of the queue between the DM and DS 2031 models, I would be hopeful that we can agree option 1, in which case we should have what we need to be able to confirm the necessary conditions and provide our formal response accordingly.

As I have noted previously, if you have access to any more robust information on the “new” scheme for this junction, I can take this back to National Highways colleagues and determine if there is a method by which it can be appropriately referenced as potential mitigation for the identified issue.

Hopefully this provides clarity on this remaining issue; please let me know if you wish to discuss further.

Kind Regards,
Hazel