

Application WA/73/17/OUT

Response to comments from West Sussex County Council (highways) and Highways England

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28th November 2017

The following note has been compiled in response to comments made by West Sussex County Council (WSCC) Highway Officers dated 7th November 2017 and Highways England (HE) Officers dated 6th November 2017 in respect of planning application WA/73/17/OUT. This note replicates each WSCC and HE comment (for ease of reference) and provides a response as appropriate. A numbering system has been adopted to assist future correspondence.

West Sussex County Council

WSCC comment 1

The application is for the development of up to 157 residential dwellings at land East of Wandleys Lane. Pre application discussions took place with the applicant and their Highway Consultants in May and June 2017.

PBA response 1

Noted. No response required

WSCC comment 2

Location

The site is located on Wandleys Lane, south of Fontwell. To the west of the site is the WA/22/15/OUT Dandara site which has planning permission for 400 homes and employment space.

Access

A vehicular access will be provided onto Wandleys lane with a 6m wide access road and 6m kerb radii. Visibility splays of 48m x 2.4m to the left and 45m x 2.4 to the right are provided in accordance with surveyed speeds and Manual for streets. A walking and cycling access will be provided to the east of this and will link into the provision proposed by WA/22/15/OUT.

PBA response 2

Noted. No response required.

WSCC comment 3

Background Conditions

Section 5.2.4 details that adjustment to baseline vehicular flows have been made but no further narrative on the adjustments has been made. Junction counts are available from a number of recent applications that could reduce the effect/confirm the acceptability of any manual adjustment.

A possible error has been highlighted within the surveyed traffic flows as replicated below with a substantial jump in vehicles between 07-15 and 07-30 this should be investigated and supporting comments provided.

A27 FROM WEST LEFT TURN TO A27 NORTHWEST					
	CAR	LGV	HGV & BUS	MCV	TOT
0700-0715	211	99	30	1	341
0715-0730	823	10	29		862
0730-0745	242	72	16	4	334
0745-0800	213	63	39	2	317
0800-0815	219	71	37	1	328

PBA response 3

With respect to the adjustment made to the background traffic flows the following bullets describe the adjustments made:

- The A27 / A29 east roundabout flows in the morning peak were adjusted due to an accident occurring upstream (near Madehurst) on the A29 (north arm).
- The traffic flows observed during the 0830-0845 and 0845-0900 periods on this arm were averaged and adopted for the previous 15 minute time periods during which the accident affected the observed flows (0730-0815).
- Traffic entering the roundabout from the other arms was unaffected.

Confirmation has been sought from the traffic survey company with respect to the possible error highlighted above. They have confirmed that the data should read 223, rather than 823. The correction of this would have the effect of reducing the observed left turning movement from the A27 west (at the A27 / A29 west roundabout) on figure 5.1 (AM peak hour).

However, it should be noted that the traffic flows observed for the A27 junctions described above are for information only and are not followed through to the forecast modelling of these junctions. The turning flows adopted for the forecast assessment of the A27 junctions have been provided by WSCC. Therefore, the adjustments to the AM turning flow described above, and the error described above, would have no consequence on the forecast modelling presented (and hence the findings) within the Transport Assessment report.

WSCC comment 4

Trip generation / Distribution / Assignment

Trip generation has been developed utilising TRICS, through the pre application process a sensitivity test was undertaken and as such those included within the Transport Assessment are accepted.

The development is anticipated to generate 74 two way AM peak trips and 76 two way AM peak trips. Trips have been distributed according to Census Journey to Work data and assigned according to network information contained within GIS software.

PBA response 4

Noted. No response required.

WSCC comment 5

It should be noted a number of figures appear to be incorrectly labelled 7.13-7.18 referred to within the text as 8.XX.

PBA response 5

Noted. Corrections have been made to the figure numbering and an updated set is now attached. This set also incorporates the correction to the survey data noted at WSCC comment 3 above.

WSCC comment 6

Modelling

The following junctions are shown to operate within capacity and no further concern is raised.

- Site Access;
- Wandleys Lane / West Walberton Lane;
- Arundel Road / West Walberton Lane.

PBA response 6

Noted. No response is required

WSCC comment 7

Concerns are raised about the modelling of the following junctions and further information is requested:

A29 / Wandleys Lane

The modelling shows that the junction would work well within capacity. The results are questioned as within the Arun local plan modelling the junction is highlighted as being over capacity all be it at a 2031 base year. A review of the local plan modelling and commentary should be provided. It should be noted that at A29 / Wandleys Lane no mitigation is proposed because it is not considered appropriate to undertake junction improvements which could result

in facilitating additional through traffic on Wandleys Lane, which is a minor road. Should revised modelling show a severe impact alternative mitigation away from the junction to reduce the impact should be explored.

PBA comment 7

The modelling of this junction has followed proper and standard practice. The observed base year data has been input to a base year model. The base year model has adopted geometry derived from OS data measurements and included at Appendix J of the Transport Assessment.

The forecast year data has been derived from the factoring of the observed data to the forecast year of 2022 using the Temprow based growth factor agreed with WSCC officers. Committed development traffic has been agreed with WSCC officers and this has been added to the 2022 traffic flows.

Hence, the forecast year, growth factor and committed development traffic were agreed with WSCC officers during the scoping exercise and the traffic flows within the Transport Assessment therefore represent a proper forecast of traffic flows for assessment.

The volume of development traffic predicted within the Transport Assessment to use the south section of Wandleys Lane is 23 and 24 (two way) during the morning and evening peak hours respectively. This is less than 1 additional vehicle every 2 minutes and would not be perceptible in practice.

On the basis of the above we are satisfied that the modelling presented within the Transport Assessment is a proper assessment based upon agreed parameters and scope and demonstrates that the effect of development is not significant or severe.

On the basis of the above we seek confirmation from WSCC that the approach scoped and agreed (and described above) remains acceptable to WSCC.

WSCC comment 8

A27 Arundel Road/ Arundel Road / A29 Fontwell Avenue

The junction is responsibility of Highways England and as such we will provide further comment with regard to the modelling and mitigation proposed once these have been agreed. From an initial review concerns are raised about:

- Internal link lengths are all set at 60PCUs
- A PM peak hour of 17:30 to 18:30 is stated which does not correlate to that stated in the TA (5.2.5) of 16:30-17:30.
- Different inputs utilised to application WA/44/17/OUT at Tye Lane which were agreed with Highways England this as resulted in significantly different outputs and impact of the mitigation scheme proposed that appears to just replicate that of the Tye Lane application.

Once the modelling parameters have been agreed, comments can be provided on the suitability of the mitigation measures proposed and their impacts on the local highway network.

PBA response 8

Highways England comments are reviewed and responded to separately within this technical note. Nevertheless, the modelling of this junction has followed proper and standard practice and is consistent with the scoping exercise completed.

In summary, Highways England advised that the A27 junctions should be assessed for 2031 adopting Local Plan traffic flows from the Arun strategic model with proposed development traffic added to this. To satisfy this requirement PBA undertook the following :

- Consulted with Arun District Council with respect to the Arun Strategic Model and its availability for assessing development proposals.
- Arun DC advised that Systra have developed the Arun Strategic Model on behalf of Arun DC. The model is made available through WSCC.
- PBA liaised with WSCC and obtained the 2031 turning flows from the Arun strategic model for the local junctions and the A27 junctions. Flows were provided by WSCC for the morning and evening peak hours.
- WSCC officers confirmed that the Arun Strategic Model flows provided to PBA were the latest data available. Therefore, these are the flows adopted within the Transport Assessment.
- PBA requested the latest Linsig model (developed by Systra) for this junction from WSCC. The most up to date Linsig model was supplied to PBA by WSCC. The comment relating to the length of internal links is therefore a comment that WSCC should direct to their / ADC's consultants (Systra) as it is an input parameter of the model supplied to PBA by WSCC.
- The comment related to the peak hour is assumed to be academic. PBA have been provided with the peak hour model flows from the Arun Strategic Model and have input these to the Linsig model before adding the peak hour generation from TRICS on top of this. Hence, the two peaks (whether they differ in time period or not) have been combined as a worst case assessment.
- As requested by WSCC a sensitivity assessment of this junction was completed to include the Tye Lane site and it was demonstrated that the mitigation proposed would suitably mitigate both sites when compared to the baseline output.

On the basis of the above information (supplied to PBA by WSCC) PBA assigned the latest Arun Strategic Model flows to the latest Linsig model for this junction to derive the results contained within the Transport Assessment. The proposed development traffic flows (based upon the agreed generation and distribution parameters) were added to this to understand the effect of the development and this is also set out within the Transport Assessment.

On the basis of the above we seek confirmation from WSCC that the approach scoped and agreed (and described above) remains acceptable to WSCC.

WSCC comment 9

A27 Arundel Road / A29

The results of the junction modelling do not correspond with modelling outputs contained within the Arun Local plan transport study and within other local applications, it is noted that Highways England have made a number of comments on the junction modelling and these should be addressed.

PBA response 9

Highways England comments are reviewed and responded to separately within this technical note. Nevertheless, the modelling of this junction by PBA has followed proper and standard practice and is consistent with the scoping exercise completed. The observed base year data has been input to a base year model. The base year model has adopted geometry derived from OS data measurements and included at Appendix O of the Transport Assessment.

The 2031 traffic flows input to the PBA Transport Assessment junction model have been provided by WSCC from the Arun DC Strategic Model and the proposed development traffic added to this.

The addition of the proposed development is not significant with 12 and 7 development vehicles predicted to use this junction during the morning and evening peak hours respectively. This is around one vehicle every 5 to 10 minutes on average and would not be perceptible in practice.

On the basis of the above we are satisfied that the modelling presented within the Transport Assessment is a proper assessment based upon agreed parameters and scope.

On the basis of the above we seek confirmation from WSCC that the approach scoped and agreed (and described above) remains acceptable to WSCC.

WSCC comment 10

Junction Mitigation

A27 / A29

Improvements to the A27/A29 junction should be discussed following the provision of revised modelling. It is noted that applicant is agreeable to a monitory contribution made towards amending the strategic improvements already being promoted at this junction to be delivered by the permitted development of WA/22/15/OUT.

PBA response 10

The developer is willing to contribute towards an upgrade scheme of the A29 Fontwell Avenue / A27 roundabout as mitigation for the effect of the proposed development. The assessment and mitigation set

out within the Transport Assessment is considered a reasonable basis for negotiating such a contribution on the basis of the explanation provided above at point 8.

WSCC comment 11

Wandleys Lane upgrade

It is proposed to upgrade Wandleys Lane to the north east of the site to include a 6.0m wide carriageway, a 1.8m wide footway. The potential for lighting the section of Wandleys Lane has also been explored. The principal of improvements to this section have been discussed as part of the pre application process.

A safety Audit has been carried out on the improvements but no contrary to reports within the TA, no designer's response has been provided in Appendix E, this is not in conformity with WSCC Safety Audit Policy and as such an objection is raised.

PBA comment 11

A designer's response is now attached. The recommendations are acknowledged and can be incorporated at detailed design stage.

WSCC comment 12

Wandleys Lane

Wandleys Lane is described within the TA as "a single carriageway subject to a 30mph speed limit, it is generally rural in nature with intermittent residential frontage to the west of the site access and more regular residential frontage to the east of this."

It should also be noted that Wandleys Lane also has a 7.5t weight limit.

PBA response 12

Noted. No further response required.

WSCC comment 13

Daily Flows

Two sets of weekly counts are available from current applications on Wandleys Lane

	Northbound	Southbound
November 2016	290	158
May 2017	310	200

Whilst the anticipated daily flows are low, a significant proportion of trips is currently made in the peak periods and would be expected to do so as a part of the development proposals.

The predicted peak hour flows are along Wandleys lane are shown below

AM peak

	Standard Distribution		Sensitivity Test ¹ with A27 westbound traffic using Wandleys Lane/A29.	
	Northbound	Southbound	Northbound	Southbound
South of site access	60	44	60	67
North of site access	89	26	66	26

¹ Requested to understand the impact of route choice should Arundel Road experience significant queueing making the A29 approach to the A27/A29 junction more attractive to residents heading towards Chichester in the AM peak.

PM peak

	Standard Distribution	
	Northbound	Southbound
South of site access	64	23
North of site access	54	50

Commentary should be provided on the suitability of the southern section of Wandleys Lane to accommodate the predicted flows and impact upon pedestrians, cyclists and equestrians.

PBA response 13

Whilst the volume of traffic using the south section of Wandleys Lane will increase as a result of the proposed development this is not predicted to be significant or severe.

The volume of development traffic predicted within the Transport Assessment to use the south section of Wandleys Lane is 23 and 24 (two way) vehicles during the morning and evening peak hours respectively. This is less than 1 additional vehicle every 2 minutes and would not be perceptible in practice.

On the basis of the above we are satisfied that the modelling presented within the Transport Assessment is a proper assessment based upon agreed parameters and scope and demonstrates that the effect of development is not significant or severe.

WSCC comment 14

The benefit of Wandleys Lane as a local equestrian route is developed within the Walberton neighbourhood plan. It would be beneficial to establish the sustainable transport demand of Wandleys Lane with counts.

PBA response 14

Based upon the response to point 13 above we would question the need for collecting this data and the manner in which the output from collecting such data should be processed and presented. We would anticipate that most equestrian journeys would be leisure related and hence occur outside of peak hours (when background and development traffic flows are lower) and during daylight hours.

WSCC comment 15**Public Transport**

The developer recognises that the existing bus service has a low frequency and as such proposes to enhance bus provision to/from the site. The TA states this could either be provided via a contribution to local bus operators or via the provision of a bespoke shuttle to Barnham station or an agreement with the developer of the land West of Wandleys Lane. Further information should be provided to WSCC.

PBA response 15

The developer is willing to support a bus service through appropriate and proportionate contributions. It is proposed that the details of this will be discussed during the s106 negotiations.

WSCC comment 16**Contributions**

In line with other local developments including WA/22/15/OUT contributions towards improving the A29 are to be requested from the application.

PBA response 16

Noted. This would form part of the s106 negotiations.

WSCC comment 17**Sustainable Transport**

A pedestrian link along Wandleys Lane is to be provided to the north of the site and a linkage made to provision included within the WA/22/15/OUT application. The provision would make services included within Fontwell village (including restaurants, public house, petrol station and shop). A plan of local amenities has been included within 4.7.1 but no information is contained

that address the potential for sustainable transport opportunities to a number of key amenities including existing employments and educational facilities.

PBA response 17

Whilst the provision of a footway from the site to the development opposite and Fontwell village would provide access to a number of amenities, there are additional amenities and uses to the south that may generate a travel demand from the proposed development. These include the schools at Eastergate and schools and rail station at Eastergate and Barnham.

As per response 15 above, the developer is willing to support a bus service through appropriate and proportionate contributions and to be discussed during the s106 negotiations. Such a service could provide a link to the local schools and rail station at Barnham for example.

It is understood that funding has already been secured for the Westergate Link and Walberton Link walking and cycling routes. However, the developer is willing to provide a proportionate contribution to other appropriate off site walking and cycling schemes, if such schemes are currently being considered and promoted by others.

WSCC comment 18

West Walberton Lane is included within the 5 village's cycle routes and a requirement for improving the link was included within the WA/22/15/OUT application.

PBA response 18

Noted. No further response required.

WSCC comment 19

Parking

A total of 391 parking spaces are to be provided across the site. The level is broad conformity with the ADC standards of 370 spaces and WSCC parking demand calculator of 421 spaces.

The transport assessment states a total of 292 cycle parking spaces are proposed on site and the planning statement 314 (clarification should be provided), no information has been provided on where the spaces are to be provided within the residential units but this can be conditioned/ addressed at reserved matters.

The planning statement also states a car parking plan is provided within the Transport Assessment but this is not the case.

PBA response 19

The masterplanner and planning consultant have advised that the cycle parking will be provided on the basis of 2 spaces per house and 1 space per flat. On this basis a total of 29 spaces will be provided for flats and 256 for houses, a total of 285 spaces. Although it can be conditioned, the

Transport Assessment states *“Cycle parking will be stored in rear garden stores or garages in accordance with local standards.”*

With respect to car parking the planning statement incorrectly refers to a car parking plan.

However, the Indicative Site Layout submitted with the planning application shows car parking spaces and we assume that this will suffice for an outline application.

WSCC comment 20

Vehicle tracking

Vehicle tracking has been provided which appears to show a HGV can serve the site. A colour plan should be provided to confirm this.

PBA response 20

Noted. A colour plan is now attached for reference.

WSCC comment 21

Framework Travel Plan

A framework travel plan has been provided within the TA and comments will be provided separately.

PBA response

Noted. No further response required at this stage.

Highways England

HE comment 1

We note that paragraphs 4.2.8, 8.6.9 and 8.10.2 propose an amendment to the proposed strategic scheme at the A27/ A29 Fontwell Avenue roundabout in the form of a monetary contribution provided by the developer to implement the amendment proposed.

PBA response 1

Noted. No further response required.

HE comment 2

Paragraph 4.2.9 states that “The A27 / A29 roundabout to the east will require minor mitigation works as a result of the proposed development. This is described at section 8.7”. However, there are no such modifications proposed in section 8.8.4 and thus clarification is sought on this.

PBA response 2

Paragraph 4.2.9 should be disregarded (removed) as the effect of the proposed development has been demonstrated (at section 8.8) to not require mitigation.

HE comment 3

Paragraph 7.6.1 states that the with development traffic flows are shown in figures 7.10-7.12, but 7.10 is missing (as is Figure 7.9) and there only appear to be flows for 2022; the 2031 with development traffic flows do not appear to be shown and are required.

Paragraph 8.6.2 references figures 8.1, 8.2 and 8.3 but these are not provided and are required.

Paragraph 8.7.5 references figures 8.4, 8.5 and 8.6 but these are not provided and are required.

PBA response 3

Noted. Corrections have been made to figure numbering and an updated set is now attached.

HE comment 4

Review of the junction modelling has highlighted the following queries:

A29/A27 West Roundabout – LinSig – Proposed Signalised Layout

- Paragraph 8.6.3 states that the proposed A27 / A29 West roundabout mitigation is contained in Appendix M, but there does not appear to be such a plan and thus clarification is sought on this.
- The performance of some arms appear to improve after the development flows have been added in the tables on page 43 and thus clarification is sought on this:
 - Arundel Road (E) arm in the PM peak
 - A29 Fontwell Avenue in the AM peak
- The modelling files are requested to make a full assessment of the modelling.
- Our initial analysis of the geometry suggests: Lane 2/2 's physical lane length in the model is too long. There is 127 metres to the next junction and the model has a lane length of 60 PCU. Lane 3/1's physical length seems to be too long, as it appears to be around 3 PCUs. Lane 4/1's physical lane length is too long, as it appears to be around 10 PCUs.
- All circulatory lanes are modelled as having a physical lane length of 60 PCUs, and thus this should be amended as it is incorrect, while a lane width of 5m for the circulatory appears generous.
- Clarification is sought as to whether saturation flows are geometrically calculated or directly inputted?

PBA response 4

During the scoping exercise Highways England advised that this junction should be assessed

for 2031 adopting Local Plan traffic flows from the Arun strategic model with proposed development traffic added to this. To satisfy this requirement PBA undertook the following :

- Consulted with Arun District Council with respect to the Arun Strategic Model and its availability for assessing development proposals.
- Arun DC advised that Systra have developed the Arun Strategic Model on behalf of Arun DC. The model is made available through WSCC.
- PBA liaised with WSCC and obtained the 2031 turning flows from the Arun strategic model for the local junctions and the A27 junctions. Flows were provided for the morning and evening peak hours.
- WSCC officers confirmed that the Arun Strategic Model flows provided to PBA were the latest data available. Therefore, these are the flows adopted within the Transport Assessment.
- PBA requested the latest Linsig model (developed by Systra) for this junction. The most up to date Linsig model was supplied to PBA by WSCC including the mitigation scheme. This is included at Appendix N rather than Appendix M as stated at 8.6.3.
- The comment relating to the geometry of certain links is a comment that WSCC would need to respond to (or direct to their consultants) as these are inputs to the model supplied to PBA by WSCC.
- The model we have been provided with by WSCC (and have adopted for assessment) assumes that saturation flows are geometrically calculated.
- The modelling files area attached.

HE comment 5

A29/A27 Mitigation - Linsig

The modelling files are requested to make a full assessment of the modelling.

Our initial analysis of the geometry suggests: Lane 2/2 's physical lane length in the model is too long. There is 127 metres to the next junction and the model has a lane length of 60 PCU. Lane 3/1's physical length seems to be too long - it appears to be around 3 PCUs. Lane 4/1's physical lane length is too long – it appears to be around 10 PCUs.

All circulatory lanes are modelled as having a physical lane length of 60 PCUs, and thus this should be amended as it is incorrect.

Clarification is sought as to whether saturation flows are geometrically calculated or directly inputted?

PBA response 5

- PBA requested the latest Linsig model (developed by Systra) for this junction. The most up to date Linsig model was supplied to PBA by WSCC including the mitigation scheme.
- The comment relating to the geometry of certain links is a comment that WSCC would need to respond to (or direct to their consultants) as these are inputs to the model

supplied to PBA by WSCC.

- The model we have been provided with by WSCC (and have adopted for assessment) assumes that saturation flows are geometrically calculated.
- The modelling files are attached.

HE comment 6

A29/A27 East Roundabout - Junctions 9

- The modelling files are requested to make a full assessment of the modelling.
- The only results presented are for the 2031 Base + Dev PM (16:15-17:45) scenario and thus the results of the other scenarios are requested.
- The traffic input is in Vehicles not PCUs. However, the LINISG inputs are in PCUs and thus clarification is sought on this.
- The traffic flows input do not appear to match the traffic flow diagrams in the appendices.
- Geometry: our initial analysis suggests that there are some discrepancies :

PBA response 6

- The modelling files are attached.
- The output for all scenarios are now attached for reference.
- Traffic flow input for this junction has been provided by WSCC as an output from the Arun Strategic Model. Junctions 9 adopts vehicles as an input along with percentage HGVs. This is the approach adopted for assessment.
- The geometry for input to the model has been derived through standard measurement as shown at Appendix O (drawing 38848-5501-009). We will input alternative geometry if you are able to advise (and demonstrate the appropriateness of) the geometry you wish to be assessed.
- However, the addition of the proposed development is not significant with 12 and 7 development vehicles predicted to use this junction during the morning and evening peak hours respectively. This is around one vehicle every 5 to 10 minutes on average and would not be perceptible in practice.