



Transportation Planning : Infrastructure Design

# **Draft Transport Objection Technical Response**

**Proposed Exploratory Well**

**Wisborough Green**

**Celtique Energie Weald**

**July 2014**

**Doc Ref: JNR/14809/TA/1**

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## Document Revision Control

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| Revision | Date | Status | Prepared By | Approved By |
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**CONTENTS**

1.0 INTRODUCTION .....2  
2.0 TRANSPORT ASSESSMENT.....5  
3.0 SITE ACCESS .....19  
4.0 CONSTRUCTION ROUTE.....22  
5.0 SUMMARY AND CONCLUSION.....27

**APPENDICES**

1 **WSCC HIGHWAYS OBJECTION**  
2 **SCOPING CORRESPONDENCE WITH WSCC**  
3 **ASSESSMENT CORRESPONDENCE WITH WSCC**  
4 **VEHICLE CLASSIFICATIONS**  
5 **A272 TRAFFIC DATA**  
6 **ROAD SAFETY ASSESSMENT, PROPOSED TEMPORARY HAUL ROUTE,  
WISBOROUGH GREEN, WEST SUSSEX**  
7 **ROAD SAFETY AUDIT STAGE 1, KIRDFORD ROAD, WISBOROUGH GREEN SITE  
ACCESS**  
8 **SITE ACCESS (DRAWING NO. SCP/14809/F01)**  
9 **CONSTRUCTION TRAFFIC ROUTE - 20T CONSTRUCTION TIPPER**  
10 **CONSTRUCTION TRAFFIC ROUTE - LOW LOADER HGV**

## 1.0 INTRODUCTION

### Context

- 1.1 This Report has been prepared by SCP Transport in response to a recommended objection by West Sussex County Council Highway Authority in relation to planning application WSCC/083/13/KD. The planning application seeks permission for the following activities at a site located on Kirdford Road, Wisborough Green (hereafter referred to as the “Application Site”):

*The installation of a well and associated infrastructure, including access road and soil bunds, for the drilling of a vertical borehole and contingent horizontal borehole from the same well for the exploration, testing and evaluation of hydrocarbons for a temporary period of three years.*

- 1.2 The local highways authority’s grounds for objection states that it has not been satisfactorily demonstrated that safe and suitable access to the site can be achieved. The LHA considers the application therefore fails to meet the thrust of national and local transport policy in this regard, specifically paragraph 32 of NPPF and objective 4 of the WSCC LTP. The LHA lists four points of technical detail that they consider support their grounds for objection. These comprise:

- *Failure to submit an accurate assessment of the likely traffic impacts of the proposed development and establish an accurate and realistic baseline position;*
- *Failure to provide suitable visibility at the site access and its junction with Kirdford Road to satisfy the stopping sight distances of the recorded 85th percentile speed;*
- *Failure to demonstrate that approach roads are suitable to accommodate the additional traffic generated by the development and, in particular, large vehicles at the junctions of the A272/Durbans Road, Durbans Road/Kirdford Road and along Kirdford Road given width constraints and two-way vehicular flow; and*
- *Failure to demonstrate that large vehicles are able to execute a right hand turn out of the site access and its junction with Kirdford Road.*

- 1.3 A copy of the recommendation for objection dated 2<sup>nd</sup> July 2014 is provided at [Appendix 1](#).

### Background

- 1.4 The Applicant has sought to maintain a dialogue with the local highway authority throughout the pre and post application stage of the proposed development including scoping the assessment with officers of WSCC. [Appendix 2](#) provides copies of correspondence with WSCC scoping the assessment of the likely traffic impacts of the proposed development and establishing an accurate

and realistic baseline position through the provision of a draft copy of the completed assessment. Following the submission of this draft copy, WSCC's response dated 24<sup>th</sup> June 2013 (**Appendix 2**) states, inter alia:-

*In terms of the number of traffic movements although they obviously represent an increase, given the temporary nature and the movements and the relatively low volume it is unlikely that they would have a capacity impact that could be considered 'severe'. We wouldn't require junction capacity analysis as the hourly threshold would not be exceeded.*

- 1.5 Correspondence with WSCC continued to take place regarding the traffic and road safety assessment. In correspondence dated 16<sup>th</sup> July 2013 (provided at **Appendix 3**) the highway authority states that:

*from a purely technical perspective I think the preference would still be for the construction vehicles to take the most direct and shortest route from the A272*

- 1.6 In correspondence dated 17<sup>th</sup> February 2014 (provided at **Appendix 3**) the highway authority states that:

*The Road Safety Audit of the proposed 'Route 1' indicated that the route was generally considered acceptable with some intervention required in respect of overgrown vegetation. Junctions are onto roads with slower speed limits and therefore reduced visibility requirements; and*

*Neither route is considered to have operating capacity constraints*

- 1.7 In correspondence dated 2<sup>nd</sup> May 2014 (provided at **Appendix 3**) the highway authority states that:

*From a technical perspective we are satisfied that this [the shortest route to and from the 'Advisory Lorry Network' which routes vehicles through the centre of the village] is not detrimental to safety or capacity*

- 1.8 In the context of this full and frank exchange of information between the Applicant and County Highways it is unclear why WSCC as Local Highway Authority has based its recommended objection in its July 2014 consultation response to County Planning on four points of technical detail that it considers the Applicant has failed to produce in order to satisfactorily demonstrate that safe and suitable access to the site can be provided.

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- 1.9 The traffic assessment submitted to County Highways in support of the Applicant's proposals was based on a tried and tested methodology that has been accepted by WSCC in the consideration of similar projects with equivalent levels of construction activity.
- 1.10 Notwithstanding the degree of understanding which we considered we had reached with WSCC through the exchange of correspondence during scoping and post submission of the application, WSCC's highways consultation response clearly suggests that they have still been unable to confirm the suitability of the proposals in terms of highway capacity and safety for the reasons repeated at 1.2 above.
- 1.11 Instead, the LHA cite grounds for objection that appear to rely on reasons that cannot technically be sustained given the level of information that has already been submitted in support of the application and the willingness of the Applicant to provide information.
- 1.12 This report therefore seeks to provide further clarification in relation to the four points of technical detail which the LHA considers the applicant has failed to address.

#### **Report structure**

- 1.13 The suitability of the assessment provided and the conclusions of an alternative approach is set out in **Section 2.0** of this report. **Section 3.0** considers the queries raised with respect to the site access and a swept path analysis of the highway route is provided in **Section 4.0**.
- 1.14 A summary and conclusion is provided in **Section 5.0**.

## 2.0 TRANSPORT ASSESSMENT

### Context

- 2.1 The local highway authority's recommended grounds for objection in relation to the transport assessment submitted relates to the following points:
- The threshold for the classification of traffic between light and heavy vehicles being set at 1.5 tonnes rather than 3.5 tonnes;
  - The ensuing assessment of percentage increases in light and heavy vehicles on Kirdford Road; and
  - Baseline traffic survey data for the A272.
- 2.2 Comments were sought from WSCC regarding the scope of the transport assessment prior to submission and this correspondence is provided at [Appendix 2](#). This included submitting a completed draft of the assessment. The 1.5 tonnes(te) threshold was included in this scoping and was chosen to differentiate between cars and light commercial vehicles (LCV) e.g. "white vans" and "pick-ups" delivering to the Application Site. The ensuing assessment is referred to in this report as the "submission assessment".
- 2.3 Notwithstanding this, an alternative assessment of impacts is provided in this section in response to the points raised in the recommendation for objection which requests that the split between light vehicles and heavy vehicles should be 3.5te.
- 2.4 [Appendix 4](#) provides a vehicle type chart showing the types of vehicles surveyed which are contained within each category. Referring to the classification numbers shown in [Appendix 4](#), in this assessment the following split has been assumed:
- Light vehicles: classification 1,2,3 and 5; and
  - Heavy vehicles: classification 4 (buses), 6,7,8,9,10,11,12 and 13
- 2.5 As with the submission assessment, this classification is applied equally to both observed baseline data and construction traffic data so that there is a direct comparison.
- 2.6 As a consequence of this change in the split between light vehicles and heavy vehicles in this assessment compared to the submission assessment, the number of heavy vehicles already using the roads in Wisborough Green in this assessment will be lower than in the submission assessment. The total number of vehicles in this assessment will be the same as in the submission assessment.

2.7 However, the number of heavy vehicles associated with the proposed development in this assessment will be the same as in the submission assessment. This is because the vehicle types and numbers associated with the proposed development have not changed between the submission assessment and this assessment.

**Baseline traffic**

2.8 To determine baseline traffic volumes Automatic Traffic Count (ATC) surveys were obtained for the following locations:

- the A272 adjacent to Wisborough Green (June 2012); and
- Kirdford Road adjacent to the Assessment Site (March 2013).

2.9 A more recent traffic survey is available for the A272 which is WSCC survey site 6848 which is to the west of Wisborough Green along the A272. This data provides annual average daily flow data (AADF) for the whole of 2013 broken down by vehicle type and is used in this assessment. The survey data is provided at **Appendix 5**. The survey data over a 24 hour period are presented below in **Table 1**.

**Table 1: Baseline Traffic Flows**

| Location  | Time period | Two-way Traffic Volumes |                |                |
|---|-------------|-------------------------|----------------|----------------|
|   |             | Total vehicles          | Light vehicles | Heavy vehicles |
| A272 west of Wisborough Green.                  | Daily       | 6133                    | 5895           | 238            |
| Kirdford Road adjacent to the Application Site. | Daily       | 1396                    | 1354           | 42             |

Notes

Light vehicles: classification 1, 2, 3 and 5 as shown in **Appendix 4**

Heavy vehicles: classification 4 (buses), 6, 7, 8, 9, 10, 11, 12 and 13 as shown in **Appendix 4**

**Development traffic**

2.10 The Proposed Development would comprise the following phases which are:

*Phase 1 - Construction of access road and well site comprising:*

- Construction
- Mobilisation of Conductor Setting
- Drill and Set Conductor
- Demobilisation of Conductor Setting

*Phase 2 - Mobilisation and drilling comprising:*

- Main rig mobilisation



- Drilling (vertical)

*Phase 3 – Testing (vertical)*

*Phase 2 - Drilling and demobilisation comprising:*

- Drilling (Lateral)
- Main rig demobilisation

*Phase 3 - Testing (Lateral) comprising:*

- Workover rig mobilisation
- Testing (Lateral)
- Workover rig demobilisation

*Phase 4a – Restoration comprising:*

- Workover rig mobilisation
- Restoration
- Workover rig demobilisation

*Phase 4b –Retention*

2.11 The forecast volume of development traffic for each phase and activity of the proposed development is provided in Table 10.11 of the submitted Environmental Impact Assessment. The data from Table 10.11 is reproduced below in **Table 2**. It is noted that notwithstanding the revised vehicle classification, the number of heavy vehicle movements arising from the development and assessed in this report is no different to the number of heavy vehicle movements assessed in the submission assessment. Both this assessment and the submission assessment are based on the same number of heavy lorry movements needed to establish and serve the drilling operations. This has not changed.

**Table 2: Development traffic flows**

| Phase | Activity Description                      | Duration              | Light Vehicle (LV) <sup>2,4</sup><br>Movements per day | Heavy Vehicle (HV) <sup>3</sup><br>Movements per day | Total 2-way<br>Vehicle<br>Movements per day |
|-------|---|-----------------------|--|--|---|
| 1     | Construction of access road and well site | 8 weeks               | 9  | 20   | 29  |
| 2     | Main rig mobilisation                     | 3-4 days <sup>1</sup> | 38   | 24   | 62  |
|       | Drilling Mode (vertical)                  | 14 weeks              | 38   | 6  | 44  |
| 3     | Testing (vertical)                        | 2 weeks               | 38   | 6  | 44  |

|    |                             |                       |            |    |            |
|----|-----------------------------|-----------------------|------------|----|------------|
| 2  | Drilling (lateral)          | 12 weeks              | 38         | 6  | 44         |
|    | Main rig demobilisation     | 3-4 days <sup>1</sup> | 38         | 24 | 62         |
| 3  | Workover rig mobilisation   | 3-4 days <sup>1</sup> | 16         | 20 | 36         |
|    | Testing (lateral)           | 26 weeks              | 8          | 4  | 12         |
|    | Workover rig demobilisation | 3-4 days <sup>1</sup> | 16         | 20 | 36         |
| 4a | Workover rig mobilisation   | 3-4 days <sup>1</sup> | 16         | 20 | 36         |
|    | Restoration                 | 10 weeks              | 9          | 20 | 29         |
|    | Workover rig demobilisation | 3-4 days <sup>1</sup> | 16         | 20 | 36         |
| 4b | Retention                   | unknown               | 2 per week | 0  | 2 per week |

Notes:

<sup>1</sup>Parameters assume these activities will last 1 week. In terms of traffic movements this assessment assumes that they are completed in 3-4 days rather than 5 days which is a realistic possibility. The assessment is therefore based on higher daily traffic numbers than the parameters suggest.

<sup>2</sup>Light vehicles: classification 1, 2, 3 and 5 as shown in **Appendix 4**

<sup>3</sup>Heavy vehicles: classification 4 (buses), 6, 7, 8, 9, 10, 11, 12 and 13 as shown in **Appendix 4**

<sup>4</sup>This figure assumes that construction personnel will drive to the Application Site and makes no allowance for bringing construction personnel to the Application Site via mini-bus in order to reduce daily vehicle movements (see paragraph 2.38 for further details)

## Assessment Methodology

2.12 The assessment in this report follows the 'Guidelines for the Environmental Assessment of Road Traffic', 1993, by the Institution of Environmental Assessment (IEA) hereafter referred to as the "IEA Guidelines".

2.13 The approach to identifying if traffic arising from the proposed development has the potential to cause an impact is set out in paragraphs 10.19 and 10.20 of the Environmental Impact Assessment. The approach follows the IEA Guidelines which suggest that the following screening tests should be applied:

- Test 1: include highway links where traffic flows will increase by more than 30% (or the number of heavy vehicles will increase by more than 30%); and
- Test 2: include any other specifically sensitive areas where traffic flows have increased by 10% or more.

2.14 For the purposes of this assessment, both Test 1 and Test 2 will be applied i.e. highway links where total traffic flows have increased by 10% or more and / or the number of heavy vehicles (as defined in paragraph 2.4 of this report) will increase by more than 30%.

- 2.15 Where the screening tests outlined above identify that there are links on which transport impacts have the **potential** to be more than negligible, the effect of changes in road traffic on these links is considered in more detail in order to assess the level of impact.
- 2.16 Environmental impacts can be either adverse or beneficial and are a function of the magnitude of effect and sensitivity of receptor.

*Magnitude of effect*

- 2.17 The magnitude of effect depends upon the effect being assessed. However the IEA Guidelines relating to severance suggests that 30%, 60% and 90% changes in traffic levels should be considered as “minor”, “moderate” and “major” impacts respectively. This has therefore been used in this assessment as a starting point. For the purposes of this assessment, **Table 3** below sets out the categories for magnitude of effect.

**Table 3: Definitions of magnitude of effect**

| <b>Magnitude of effect</b> | <b>Definition</b>   |
|----------------------------|---|
| Very High                  | Effects will be of a consistently high magnitude and frequency with Standards exceeded by a significant margin. Secondary impacts also likely to have a high magnitude and frequency. Significant residual effects. Change in traffic volumes of greater than 90%.          |
| High                       | Effects are likely to be of a high magnitude and frequency with quality standards being exceeded, at times considerably. There may be secondary effects of some magnitude, residual effects will be of some significance. Change in traffic volumes of between 60% and 89%. |
| Medium                     | Noteworthy, material – effects are of moderate magnitude and frequency. Relevant quality standards may be exceeded to limited extent. Possible secondary effects, residual effects will be minimal. Change in traffic volumes of between 30% and 59%                        |
| Low                        | Not noteworthy or material – effects are of low magnitude and frequency and will not exceed relevant quality standards, residual effects will be negligible. Between 10% and 29% increase in total traffic volumes and less than 30% increase in total HGV volumes.         |
| Negligible                 | Less than 10% increase in total traffic volumes and less than 30% increase in total HGV volumes.  |

- 2.18 It is noted in the IEA Guidelines that the assessment of environmental impacts arising from road traffic is not an exact science and a degree of professional judgement is required. Therefore the definitions set out above are generally applied in this assessment but not exclusively. Reference is also made to other definitions where these are available for specific impacts. Details of these

definitions are provided for each impact as relevant in the Impact Assessment section of this report.

*Receptors and Receptor Sensitivity*

2.19 The IEA Guidelines provide advice on particular groups or locations which may be sensitive to changes in traffic conditions. The Groups and special interests which the Guidance identifies include:

- People at home;
- People in work places;
- Sensitive groups including children, the elderly and disabled;
- Sensitive locations e.g. hospitals, churches, schools, historical buildings;
- People walking;
- People cycling;
- Open spaces, recreational sites, shopping areas;
- Sites of ecological / nature conservation value; and
- Sites of tourist / visitor attraction.

2.20 These categories and groups have been used to outline in broad terms the sensitivity of receptors to traffic, although in detail, each receptor assessed has a different sensitivity to each specific impact. The broad definitions are set out below in **Table 4**.

**Table 4: Definitions of sensitivity of receptor**

| Sensitivity of receptor | Definition  |
|-------------------------|---|
| High                    | Sensitivity to traffic such as: <ul style="list-style-type: none"> <li>• Schools, colleges and other educational institutions;</li> <li>• Retirement / care homes for the elderly or infirm;</li> <li>• Roads used by pedestrians with no footways; and</li> <li>• Accident clusters at a regional scale.</li> </ul>  |
| Medium                  | Sensitivity to traffic such as: <ul style="list-style-type: none"> <li>• Hospitals, surgeries and clinics;</li> <li>• Parks and recreation areas;</li> <li>• Shopping areas;</li> <li>• Public Rights of Way (PROWs) / Bridleways at road crossings;</li> <li>• Roads used by pedestrians with narrow footways; and</li> <li>• Accident clusters at a local scale.</li> </ul> |
| Low                     | Some sensitivity to traffic such as: <ul style="list-style-type: none"> <li>• Open space;</li> <li>• Tourist / visitor attractions;</li> <li>• Historical buildings;</li> </ul>   |

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>• Churches;</li> <li>• PROWs / Bridleways away from road crossings;</li> <li>• Roads used by pedestrians with standard footways; and</li> <li>• Residential areas.</li> </ul> |
|--|--|

*Impact Matrix*

2.21 Combining the magnitude of the impact with the sensitivity of the receptor leads to the following matrix to determine the significance of the impact.

**Table 5: Impact Matrix**

| Receptor Sensitivity | Magnitude of Effect |          |            |            |            |
|----------------------|---------------------|----------|------------|------------|------------|
|                      | Very High           | High     | Medium     | Low        | Negligible |
| High                 | Major               | Major    | Moderate   | Minor      | Negligible |
| Medium               | Major               | Moderate | Minor      | Minor      | Negligible |
| Low                  | Minor               | Minor    | Negligible | Negligible | Negligible |

**Screening Test of the Proposed Development Effects**

2.22 Based on the traffic data set out in **Tables 1** and **2**, **Table 6** provides an assessment of the potential impacts on the A272 arising from the proposed development.

**Table 6: Percentage change in traffic flows on A272**

| Phase | Activity Description                      | Duration              | Percentage change in Light Vehicle <sup>2</sup> Movements | Percentage change in Heavy Vehicle <sup>3</sup> Movements | Percentage change in All-Vehicle 2-way Daily Movements |
|-------|---|-----------------------|---|---|--|
| 1     | Construction of access road and well site | 8 weeks               | 0.15%   | 8.40%   | 0.47%  |
| 2     | Main rig mobilisation                     | 3-4 days <sup>1</sup> | 0.64%   | 10.08%  | 1.01%  |
|       | Drilling Mode (vertical)                  | 14 weeks              | 0.64%   | 2.52%   | 0.72%  |
| 3     | Testing (vertical)                        | 2 weeks               | 0.64%   | 2.52%   | 0.72%  |
| 2     | Drilling (lateral)                        | 12 weeks              | 0.64%   | 2.52%   | 0.72%  |
|       | Main rig demobilisation                   | 3-4 days <sup>1</sup> | 0.64%   | 10.08%  | 1.01%  |
| 3     | Workover rig mobilisation                 | 3-4 days <sup>1</sup> | 0.27%   | 8.40%   | 0.59%  |

|    |                             |                       |       |       |       |
|----|-----------------------------|-----------------------|-------|-------|-------|
|    | Testing (lateral)           | 26 weeks              | 0.14% | 1.68% | 0.20% |
|    | Workover demobilisation rig | 3-4 days <sup>1</sup> | 0.27% | 8.40% | 0.59% |
| 4a | Workover rig mobilisation   | 3-4 days <sup>1</sup> | 0.27% | 8.40% | 0.59% |
|    | Restoration                 | 10 weeks              | 0.15% | 8.40% | 0.47% |
|    | Workover demobilisation rig | 3-4 days <sup>1</sup> | 0.27% | 8.40% | 0.59% |
| 4b | Retention                   | unknown               | -     | -     | -     |

**Notes:**

<sup>1</sup>Parameters assume these activities will last 1 week. In terms of traffic movements this assessment assumes that they are completed in 3-4 days rather than 5 days which is a realistic possibility. The assessment is therefore based on higher daily traffic numbers than the parameters suggest.

<sup>2</sup>Light vehicles: classification 1, 2, 3 and 5 as shown in **Appendix 4**

<sup>3</sup>Heavy vehicles: classification 4 (buses), 6, 7, 8, 9, 10, 11, 12 and 13 as shown in **Appendix 4**

2.23 **Table 6** demonstrates that the percentage change in impacts is less than 10% during all phases except for a total of 8 days during Phase 2 when the impacts are marginally greater than 10%. All impacts are less than 30%.

2.24 The IEA Guidelines states that changes in traffic volumes of this magnitude would result in imperceptible changes in the environmental effects of traffic. On this basis, it is concluded that insofar as changes in total traffic volumes and the heavy vehicle element of those traffic volumes on the A272 are concerned, the proposed development would lead to a **Negligible Impact** in terms of changes in road traffic volumes. No further detailed traffic impact analysis is therefore considered necessary.

2.25 Based on the traffic data set out in **Tables 1** and **2**, **Table 7** provides an assessment of the potential impacts on Kirdford Road arising from the proposed development.

**Table 7: Percentage change in traffic flows on Kirdford Road**

| Phase | Activity Description                      | Duration              | Percentage change in Light Vehicle <sup>2</sup> Movements | Percentage change in Heavy Vehicle <sup>3</sup> Movements | Percentage change in All-Vehicle 2-way Daily Movements |
|-------|---|-----------------------|---|---|--|
| 1     | Construction of access road and well site | 8 weeks               | 0.66%   | 47.62%  | 2.08%  |
| 2     | Main rig mobilisation                     | 3-4 days <sup>1</sup> | 2.81%   | 57.14%  | 4.44%  |
|       | Drilling Mode (vertical)                  | 14 weeks              | 2.81%   | 14.29%  | 3.15%  |

|    |                             |                       |       |        |       |
|----|-----------------------------|-----------------------|-------|--------|-------|
| 3  | Testing (vertical)          | 2 weeks               | 2.81% | 14.29% | 3.15% |
| 2  | Drilling (lateral)          | 12 weeks              | 2.81% | 14.29% | 3.15% |
|    | Main rig demobilisation     | 3-4 days <sup>1</sup> | 2.81% | 57.14% | 4.44% |
| 3  | Workover rig mobilisation   | 3-4 days <sup>1</sup> | 1.18% | 47.62% | 2.58% |
|    | Testing (lateral)           | 26 weeks              | 0.59% | 9.52%  | 0.86% |
|    | Workover demobilisation rig | 3-4 days <sup>1</sup> | 1.18% | 47.62% | 2.58% |
| 4a | Workover rig mobilisation   | 3-4 days <sup>1</sup> | 1.18% | 47.62% | 2.58% |
|    | Restoration                 | 10 weeks              | 0.66% | 47.62% | 2.08% |
|    | Workover demobilisation rig | 3-4 days <sup>1</sup> | 1.18% | 47.62% | 2.58% |
| 4b | Retention                   | unknown               | -     | -      | -     |

Notes:

<sup>1</sup>Parameters assume these activities will last 1 week. In terms of traffic movements this assessment assumes that they are completed in 3-4 days rather than 5 days which is a realistic possibility. The assessment is therefore based on higher daily traffic numbers than the parameters suggest.

<sup>2</sup>Light vehicles: classification 1, 2, 3 and 5 as shown in **Appendix 4**

<sup>3</sup>Heavy vehicles: classification 4 (buses), 6, 7, 8, 9, 10, 11, 12 and 13 as shown in **Appendix 4**

2.26 **Table 7** demonstrates that the percentage change in all-vehicle 2-way daily movements on Kirdford Road arising from the proposed development reaches a maximum increase of 4.44% of existing traffic flows. This is less than 10% during all phases.

2.27 **Table 7** demonstrates that the percentage change in the heavy vehicle component of the traffic reaches a maximum increase of 57.14% of existing traffic flows. This is during the main rig mobilisation / demobilisation, the Workover rig mobilisation / demobilisation and during site establishment and restoration phases (should the site be restored and not retained). During these phases, this is greater than the 30% screening criteria set out in paragraphs 2.12 and 2.13.

2.28 Transport impacts on Kirdford Road therefore have the **potential** to be more than negligible. The effect of changes in road traffic on Kirdford Road is considered in more detail below in order to assess the level of impact.

### Impact Assessment

2.29 Chapter 10 of the submission assessment identifies that changes in traffic volumes could give rise to the following impacts:

- Landscape and Visual (these have been separately assessed);
- Air Pollution (see Air Quality Statement submitted in support of the planning application);
- Noise (this has been separately assessed);
- Severance;
- Driver delay;
- Pedestrian delay and amenity;
- Fear and intimidation;
- Accidents and road safety; and
- Hazardous Loads (no hazardous loads are expected).

2.30 The percentage change in all-vehicle 2-way daily traffic movements arising from the proposed to development reaches a maximum increase of 1.01% and 4.44% of existing traffic flows on the A272 and Kirdford Road respectively. The percentage change in the heavy vehicle component of the traffic on the A272 reaches a maximum increase of 10.08% of existing traffic flows. The IEA Guidelines states that changes in traffic volumes of this magnitude would result in imperceptible changes in the environmental effects of traffic.

2.31 However the percentage change in the heavy vehicle component of the traffic on Kirdford Road reaches a maximum increase of 57.14% of existing traffic flows. The impact of this increase in the heavy vehicle component of the traffic flow on Kirdford Road has the **potential** to be more than negligible in instances where the heavy vehicle component is a main contributory factor to environmental impact. Considering the list of potential impacts set out in paragraph 2.29, the following are those which relate to the composition of traffic as well as the total traffic volumes:

- Severance (whilst this is primarily related to traffic volume, composition of traffic can also affect severance especially at the margins of increases in traffic);
- Pedestrian amenity;
- Fear and intimidation; and
- Accidents and road safety;

2.32 These impacts associated with increases in the heavy vehicle component of road traffic are assessed in more detail below.

#### *Receptor sensitivity*

2.33 An assessment has been made of receptors potentially affected by traffic arising from the Proposed Development. This assessment has been undertaken in accordance with the receptor definitions set out in **Table 4** combined with professional judgement as recommended in the IEA



Guidelines. Receptors which could be impacted by increased heavy vehicle movements on Kirdford Road have been identified through a combination of desktop study and on-site observation and are set out in **Table 8** below together with an assessment of the receptor sensitivity.

**Table 8: Receptor sensitivity – Kirdford Road**

| Route         | Receptor   | Receptor Sensitivity |
|---------------|--|----------------------|
| Kirdford Road | • Parks and recreation areas                     | Medium               |
|               | • Roads used by pedestrians with narrow footways | Medium               |
|               | • Tourist / visitor attractions                  | Low                  |
|               | • Residential areas                              | Low                  |

2.34 **Table 8** shows that there are no receptors of High sensitivity along Kirdford Road. However given the proximity of Wisborough Green Primary School to Kirdford Road and that Kirdford Road is used by children accessing the primary school which would be classed as receptor of High sensitivity, to be robust “High” receptor sensitivity has been used in this assessment

*Magnitude of effect*

2.35 **Table 9** provides an assessment of the magnitude of effect arising based on the definitions set out in **Table 3** and the commentary in paragraph 2.18.

**Table 9: Magnitude of Effect**

| Impact                | Assessment criteria   | Baseline heavy vehicles<br><i>(from Table 1)</i> | Baseline heavy vehicles plus Proposed Development heavy vehicles<br><i>(maximum value from Table 2 which occurs for 8 days)</i> | Magnitude of effect |
|-----------------------|---|--|---|---------------------|
| Pedestrian amenity    | A threshold for judging the significance of changes in pedestrian amenity is suggested which is where the traffic flow (or its lorry component) is halved or doubled.<br><br><i>(Source: IEA guidance paragraph 4.39)</i> | 42   | 66<br><br><i>Less than double the baseline</i>  | Negligible          |
| Fear and intimidation | IEA guidance notes that there are no commonly agreed thresholds to assess the degree of pedestrian fear and intimidation. However it suggests the following:  | 42   | 66<br><br><i>Less than 500 heavy vehicles</i>   | Negligible          |

|                           |   |  |  |            |
|---------------------------|---|--|--|------------|
|                           | <ul style="list-style-type: none"> <li>• 18-hour HGV two-way flow of &lt; 500 - negligible fear and intimidation effects*;</li> <li>• 18-hour HGV two-way flow of 500 - 1,000 - low fear and intimidation effects*;</li> <li>• 18-hour HGV two-way flow of 1,000 – 2,000 - moderate fear and intimidation effects;</li> <li>• 18-hour HGV two-way flow of 2,000 – 3,000 - great fear and intimidation effects; and</li> <li>• 18-hour HGV two-way flow of +3,000 - extreme fear and intimidation effects.</li> </ul> <p>(Source: IEA guidance paragraph paragraph 4.41. Criteria marked "*" not included in guidance but added for the purposes of this assessment)</p> |  |  |            |
| Accidents and road safety | <p>Where a development is expected to produce a change in the character of the traffic (e.g. HGV movements on rural roads), then data on existing accident levels may not be sufficient. Professional judgement will be needed to assess the implications of local circumstances.</p> <p>(Source: IEA guidance paragraph paragraph 4.42. Criteria marked "*" not included in guidance but added for the purposes of this assessment)</p>  | <p>Two documents were submitted with the planning application which consider whether the proposed access arrangements provide "safe and suitable access to the site". These documents were prepared by an independent and suitably qualified road safety auditor (not part of the design team or involved in the project in any other way) at the request of the local highway authority and comprised:</p> <ul style="list-style-type: none"> <li>• "Road Safety Assessment, Proposed Temporary Haul Route, Wisborough Green, West Sussex", Malcolm Gandy Road Safety Consulting Ltd, 16th July 2013 (provided at <a href="#">Appendix 6</a>); and</li> <li>• "Road Safety Audit Stage 1, Kirdford Road, Wisborough Green Site Access", Malcolm Gandy Road Safety Consulting Ltd, 16th July 2013 (provided at <a href="#">Appendix 7</a>).</li> </ul> <p>Neither document identified material safety concerns regarding the access route or the design of the access itself</p> |  | Negligible |
| Severance                 | As <a href="#">Table 3</a> .  | <p>Increase in all-vehicle traffic volumes is 4.44%. This is less than half of the lower 10% threshold therefore changed composition unlikely to impact on severance.</p>  |  | Negligible |

2.36 [Table 9](#) demonstrates that the temporary increase in heavy vehicle movements during some phases of the proposed development are expected to lead to a negligible magnitude of effect in relation to traffic on Kirdford Road.

### *Impact Assessment*

2.37 On the basis of the assessments set out in **Table 8** (Receptor sensitivity) and **Table 9** (Magnitude of Effect), **Table 10** below sets out the Impact Assessment for Kirdford Road based on the Impact Matrix set out at **Table 5**.

**Table 10: Impact Assessment – Kirdford Road**

| <b>Location</b>           | <b>Magnitude of effect</b> | <b>Receptor Sensitivity</b> | <b>Impact</b> |
|---------------------------|----------------------------|-----------------------------|---------------|
| Pedestrian amenity        | Negligible                 | High                        | Negligible    |
| Fear and intimidation     | Negligible                 | High                        | Negligible    |
| Accidents and road safety | Negligible                 | High                        | Negligible    |
| Severance                 | Negligible                 | High                        | Negligible    |

2.38 **Table 10** demonstrates that there is expected to be a **Negligible Significance of Impact** in terms of road traffic on Kirdford Road arising from the proposed development. It is further noted that the worst case road traffic impacts are expected only to last for a very temporary period of 8 days. There are no residual road traffic impacts on completion of these 8 days.

### **Mitigation**

2.39 Notwithstanding the conclusions of the traffic assessment set out above, a Construction Traffic Management Plan (CTMP) will be prepared with the focus of minimising disturbance which could potentially arise from development traffic.

2.40 The key elements of the CTMP would include:

- Bringing construction personnel to the Application Site via mini-bus in order to reduce daily vehicle movements. This would reduce the total number of light vehicles accessing the Site. This reduction has not been allowed for in the forecast development traffic data provided in **Table 2** in order to present the worst case development traffic volumes for assessing in this report;
- Where identified as necessary for unconventional HGV traffic, police presence and assistance with traffic control will be arranged;
- Routing traffic to the Application Site in order to maintain heavy vehicle traffic on WSCC's advisory lorry route network for as long as possible and thereby minimise the impact of construction traffic on local communities. Signage will be put in place on both approaches to

Boxal Bridge warning that traffic should slow and that there is a risk of oncoming traffic being in the middle of the road;

- Provision of a hardstanding area within the Application Site in order to stagger vehicle arrivals and departures and therefore prevent queuing on the highway at the site entrance;
- Scheduling of construction traffic movements (equipment and materials), when possible, to avoid the peak traffic periods at the beginning and end of each working day and other sensitive periods, in order to minimise any potential disturbance to local traffic or safety impacts at junctions. The exact times will be set out in the agreed CTMP and relate to consultation responses to the planning application. Notwithstanding this, the Applicant will liaise prior to commencing on site and throughout work on site with stakeholders including, but not limited to, Kirdford and Wisborough Green Parish Councils in order to understand when events are planned, such as sports events, which are expected to be traffic sensitive and avoid routing heavy vehicles through the village at such times. By avoiding busy periods, the need to provide temporary parking restrictions on sections of the access route will be avoided;
- Provision of information to parish councils relating to the construction period, including any unconventional HGV traffic which may be scheduled;
- Signage to identify access routes and to inform motorists that the local roads are accommodating construction traffic;
- Wheel cleaning on site and road sweeping carried out to keep the local highway clear of mud and debris; and
- An enforcement strategy to be agreed with WSCC.

2.41 It is proposed that the preparation of the CTMP would be a planning condition and that the CTMP would be prepared and agreed with the Highway Authority prior to commencing activities on site.

### 3.0 SITE ACCESS

#### Site access

- 3.1 The proposed site access layout is illustrated on SCP Drawing No. SCP/14809/F01 which is provided at **Appendix 8**. The access is designed to be left-in, right-out only for construction traffic and this will be enforced through the CTMP. A layby is provided as part of the on-site access road within clear visibility of the access with Kirdford Road. This allows heavy vehicles to lay-over on the site access road to allow other vehicles to safely clear the highway.
- 3.2 Visibility splays are provided amounting to 117m to the west and 121m to the east along Kirdford Road ('y' distance) at a set-back ('x') distance of 2.4m (Illustrated at F01 Rev A). While this is less than the 3m 'x' distance initially recommended by the LHA, we do not consider this to be a recognised standard for the assessment of visibility. The 2.4m 'x' distance is the typical length from the front of an average car to the driver's eye. In reality, HGV drivers sit much further forward than a car driver and so a relaxation in the 'x' distance to 2.0m could easily be justified.
- 3.3 An independent Stage 1 Road Safety Audit (RSA1) of the junction was prepared and is provided at **Appendix 7**. The comments raised in the RSA1 are responded to in the design of the junction and the CTMP.

#### Site access layout

- 3.4 The layout of the junction has been designed to accommodate the expected typical design vehicle which is a 20te tipper truck (this is the type of vehicle which is expected to make up the majority of the heavy vehicle movements) and a 16.6m articulated low loader which is the expected worst case design vehicle. The analysis is shown on the following drawings:
- Access to and egress from the site by a 20te tipper truck, which is the expected typical design vehicle swept path. Swept path analysis is shown on Drawing nos. SCP/14809/SPA06 and SCP/14809/SPA07 which are provided at **Appendix 9**; and
  - Access to and egress from the site by a 16.6m articulated low loader which is the expected worst case design vehicle swept path. Swept path analysis is shown on Drawing nos. SCP/14809/SAP02 and SCP/14809/SPA03 which are provided at **Appendix 10**.
- 3.5 **Table 11** provides a summary of the swept path analysis for the Site Access junction together with identifying the potential risks arising from HGV traffic and proposed mitigation to control these potential risks.

**Table 11: Swept path analysis Site Access**

| Vehicle                      | Analysis summary  | Potential risk   | Proposed Mitigation  | Likelihood of Risk |
|------------------------------|---|--|--|--------------------|
| 20te tipper truck            | <ul style="list-style-type: none"> <li>Can access and egress in single movement.</li> <li>Vehicles do not cross the centreline of the carriageway entering or egressing from the Application Site.</li> </ul> | <ul style="list-style-type: none"> <li>Conflict between large vehicles on entry and exit.</li> </ul> | <ul style="list-style-type: none"> <li>Provision of a hardstanding area within the Application Site in order to stagger vehicle arrivals and departures and therefore prevent queuing on the highway at the site entrance.</li> <li>Passing place positioned on the access track so that an exiting lorry can wait until the incoming lorry has negotiated the entrance</li> <li>Clear visibility provided for the exiting lorry to view the entrance and move into the passing place to allow the other vehicle to pass.</li> <li>Movement of HGVs controlled by banksmen.</li> </ul> | Low                |
| 16.6m articulated low loader | <ul style="list-style-type: none"> <li>Can access and egress in single movement.</li> <li>Vehicles do not cross the centreline of the carriageway entering or egressing from the Application Site.</li> </ul> | <ul style="list-style-type: none"> <li>Conflict between large vehicles on entry and exit.</li> </ul> | <ul style="list-style-type: none"> <li>Provision of a hardstanding area within the Application Site in order to stagger vehicle arrivals and departures and therefore prevent queuing on the highway at the site entrance.</li> <li>Passing place positioned on the access track so that an exiting lorry can wait until the incoming lorry has negotiated the entrance</li> <li>Clear visibility provided for the exiting lorry to view the entrance and move into the passing place to allow the other vehicle to pass.</li> <li>Movement of HGVs controlled by banksmen.</li> </ul> | Low                |

3.6 **Table 11** shows that the proposed site access design can safely accommodate the movements of the typical design vehicle as well as the worst case design vehicle. Mitigation measures can be put in place which minimise the potential risks identified.

### Visibility

3.7 Average recorded speeds for traffic at the site access (provided with the submission assessment) are recorded at 36.1mph (58.1kph) for eastbound traffic and 35.5mph (57.1kph) for westbound traffic. 85<sup>th</sup> percentile recorded speeds for traffic at the site access provided with the submission assessment are recorded at 41.3mph (66kph) for eastbound traffic (this is traffic travelling from the west of the site access) and 40.2mph (64.3kph) for westbound traffic (this is traffic travelling from the east of the site access).

3.8 Manual for Streets 2 (MfS2) provides guidance on visibility splay requirements for rural roads which do not form part of the strategic road network and which are not busier 'A' roads. Advice on calculating visibility splay lengths is provided in Section 10 of MfS2 which advises that the 'y' distance should be the same as the Stopping Site Distance (SSD) for the speed of road and the 'x' distance should be 2.4m.

3.9 Table 10.1 of MfS2 sets out the recommended SSD for calculating the desirable minimum SSD. For the site access, the criteria used for calculating the 'y' distances are:

- Speed: 85<sup>th</sup>ile observed speeds;

- Driver reaction time: 2 seconds; and
  - Deceleration rate: 0.25g.
- 3.10 The application of these criteria results in the following desirable minimum SSDs:
- Desirable minimum SSD=109m for a speed of 41.3mph. This compares to 117m provided; and
  - Desirable minimum SSD=104m for a speed of 40.2mph. This compares to 121m provided.
- 3.11 MfS2 is a good starting point from which to identify appropriate visibility splays for junctions on a road such as Kirdford Road.
- 3.12 Advice on visibility at major / minor junctions is provided in the Manual for Streets and the Design Manual for Roads and Bridges (DMRB). TD42/95 of DMRB provides advice on the design of trunk roads and motorways in England.
- 3.13 As with MfS2, DMRB recommends that traffic approaching a major/minor priority junction along the major road approaches shall be able to see the minor road entry from a distance corresponding to the Desirable Minimum Stopping Sight Distance (SSD) for the speed of the major road.
- 3.14 SSDs are provided in Table 3 of TD 9/93 (DMRB) identifies a desirable minimum SSD for 60kph as 90m and for 70kph as 120m. The observed 85<sup>th</sup> percentile speed lies between these two speeds. One step below desirable is 70m and 90m respectively.
- 3.15 It is important to note that DMRB is a guide for the design of trunk roads and is applicable to other high speed roads which carry high volumes of traffic. MfS2 was specifically developed to provide guidance for more minor, lightly trafficked roads with lower speeds than trunk roads.
- 3.16 The proposed site access meets the visibility requirements of MfS2. The east visibility splay meets the DMRB desirable minimum design standards for 70kph and the west visibility splay comes close. Observed speeds are less than 70kph in both directions.
- 3.17 Given temporary nature of the proposals, low traffic flows and the nature of road, it is concluded that the visibility splays provided are suitable.

## **4.0 CONSTRUCTION ROUTE**

### **Route between A272 and Site Access**

- 4.1 At the request of WSCC, a route safety study was commissioned by the Applicant and this was provided with the submission assessment. This study entitled the “Road Safety Assessment, Proposed Temporary Haul Route, Wisborough Green, West Sussex”, *Malcolm Gandy Road Safety Consulting Ltd, 16th July 2013* (provided at **Appendix 6**) provided an independent safety audit of the proposed route between the A272 and the site access.
- 4.2 The conclusion of the “Road Safety Assessment, Proposed Temporary Haul Route, Wisborough Green, West Sussex”, *Malcolm Gandy Road Safety Consulting Ltd, 16th July 2013* (provided at **Appendix 6**) set out in Section 4 of that document is reproduced below:

*It is concluded, taking into account existing traffic flows, additional flows and collision data, that the risk of collisions along the proposed haul route over the limited period, as proposed, will not increase more than marginally. The implementation of the recommendations in Paragraph 4 above would ameliorate the marginal increase.*

- 4.3 The recommendations of the auditor referred to in the extract from the report provided above have been incorporated into the design and mitigation proposals.

### **Swept Path Analysis**

- 4.4 Swept path analysis of the construction route between the A272 and the site access has been undertaken as follows:
- Access to the site by a 20te tipper truck, which is the expected typical design vehicle swept path. Swept path analysis is shown on Drawing nos. SCP/14809/SPA05 and SCP/14809/SPA06 which are provided at **Appendix 9**;
  - Egress from the site by a 20te tipper truck, which is the expected typical design vehicle swept path. Swept path analysis is shown on Drawing nos. SCP/14809/SPA07 and SCP/14809/SPA08 which are provided at **Appendix 9**;
  - Access to the site by a 16.6m articulated low loader which is the expected worst case design vehicle swept path. Swept path analysis is shown on Drawing nos SCP/14809/SAP01 and SCP/14809/SPA02 which are provided at **Appendix 10**; and.
  - Egress from the site by a 16.6m articulated low loader which is the expected worst case design vehicle swept path. Swept path analysis is shown on Drawing nos. SCP/14809/SPA03 and SCP/14809/SPA04 which are provided at **Appendix 10**.



4.5 Review of the swept paths identifies four locations in addition to the site access at which further assessment has been undertaken. These locations comprise:

- Boxal Bridge;
- Corner on Kirdford Road east of junction with Skiff Lane;
- Junction of Durbans Road / Kirdford Road; and
- Junction of Durbans Road / A272

4.6 The assessment provides a summary of the swept path analysis, identifies potential risks which the swept path analysis suggests, proposed mitigation to remove or reduce the risk and then provides an assessment of the likelihood of the mitigated risk.

### Boxal Bridge

4.7 **Table 12** provides a summary of the swept path analysis for the Boxal Bridge section of Kirdford Road junction together with identifying the potential risks arising from HGV traffic and proposed mitigation to control these potential risks.

**Table 12: Swept path analysis Boxal Bridge**

| Vehicle                      | Analysis summary   | Potential risk  | Proposed Mitigation   | Likelihood of Risk |
|------------------------------|--|---|---|--------------------|
| 20te tipper truck            | <ul style="list-style-type: none"> <li>• Sufficient road width for single vehicle to pass safely.</li> <li>• Vehicles enter the centre of the carriageway in order to negotiate the bridge.</li> <li>• Good forward visibility on both approaches to the bridge.</li> </ul>  | <ul style="list-style-type: none"> <li>• On-coming vehicles unaware that vehicles may be in the middle of the carriageway.</li> </ul> | <ul style="list-style-type: none"> <li>• The Road Narrows warning signs and sub-plates replaced with plates with yellow back plates to increase conspicuity.</li> <li>• The Road Narrows sign on the eastbound approach should be moved further westwards to be sited clear of the tree canopy.</li> <li>• Signage will be put in place on both approaches to Boxal Bridge warning that there is a risk of oncoming traffic being in the middle of the road.</li> </ul> | Low                |
| 16.6m articulated low loader | <ul style="list-style-type: none"> <li>• Sufficient road width for single vehicle to pass safely..</li> <li>• Vehicles enter the centre of the carriageway in order to negotiate the bridge.</li> <li>• Good forward visibility on both approaches to the bridge.</li> </ul> | <ul style="list-style-type: none"> <li>• On-coming vehicles unaware that vehicles may be in the middle of the carriageway.</li> </ul> | <ul style="list-style-type: none"> <li>• Overgrown foliage along the route cut back to improve forward visibility to bridge and warning signs.</li> </ul>   | Low                |

4.8 **Table 12** shows that Boxal Bridge is suitable to accommodate the movements of the typical design vehicle as well as the worst case design vehicle. Mitigation measures can be put in place which minimise the potential risks identified.

**Corner on Kirdford Road east of junction with Skiff Lane**

4.9 **Table 13** provides a summary of the swept path analysis for the corner section of Kirdford Road east of the junction with Skiff Lane together with identifying the potential risks arising from HGV traffic and proposed mitigation to control these potential risks.

**Table 13: Swept path analysis of corner on Kirdford Road east of junction with Skiff Lane**

| Vehicle                      | Analysis summary   | Potential risk   | Proposed Mitigation  | Likelihood of Risk |
|------------------------------|--|--|--|--------------------|
| 20te tipper truck            | <ul style="list-style-type: none"> <li>Sufficient road width for vehicle to pass safely.</li> <li>Vehicles encroach into opposing lane.</li> </ul> | <ul style="list-style-type: none"> <li>On-coming vehicles unaware that vehicles may be in the middle of the carriageway.</li> </ul>        | <ul style="list-style-type: none"> <li>Signage will be put in place on both approaches to Boxal Bridge warning that there is a risk of oncoming traffic being in the middle of the road.</li> <li>Overgrown foliage along the route cut back to improve forward visibility to corner and warning signs.</li> </ul> | Low                |
| 16.6m articulated low loader | <ul style="list-style-type: none"> <li>Sufficient road width for vehicle to pass safely.</li> <li>Vehicles encroach into opposing lane.</li> </ul> | <ul style="list-style-type: none"> <li>On-coming vehicles unaware that vehicles may have encroached over centre of carriageway.</li> </ul> |  | Low                |

4.10 **Table 13** shows that Kirdford Road where it bends just east of its junction with Skiff Lane is suitable to accommodate the movements of the typical design vehicle as well as the worst case design vehicle. Mitigation measures can be put in place which minimise the potential risks identified.

**Durbans Road / Kirdford Road Junction**

4.11 **Table 14** provides a summary of the swept path analysis for the junction of Durbans Road and Kirdford Road together with identifying the potential risks arising from HGV traffic and proposed mitigation to control these potential risks.

**Table 14: Swept path analysis of Durbans Road / Kirdford Road junction**

| Vehicle           | Analysis summary  | Potential risk | Proposed Mitigation | Likelihood of Risk |
|-------------------|---|----------------|---------------------|--------------------|
| 20te tipper truck | <ul style="list-style-type: none"> <li>Vehicles do not cross the centreline of the carriageway when turning in or out of Kirdford Road from / to Durbans Road.</li> <li>Very good visibility for vehicles approaching / waiting at the junction on all</li> </ul> | -              | -                   | -                  |

|                              |  |  |   |     |
|------------------------------|--|--|---|-----|
|                              | approaches (greater than desirable SSD).   |  |   |     |
| 16.6m articulated low loader | <ul style="list-style-type: none"> <li>Vehicles turning left from Durbans Road into Kirdford Road encroach over centre line at the junction.</li> <li>Vehicles turning right from Kirdford Road encroach over centre line at the junction.</li> <li>Very good visibility for vehicles approaching / waiting at the junction on all approaches (greater than desirable SSD).</li> </ul> | <ul style="list-style-type: none"> <li>Conflict between worst case design vehicles turning and traffic waiting at the junction.</li> </ul> | <ul style="list-style-type: none"> <li>Visibility to and from the junction is good such that worst case design vehicles will be able to see vehicles waiting at or approaching the junction.</li> <li>Sufficient carriageway width for worst case design vehicles to safely wait on Durbans Road or Kirdford Road without interfering with oncoming traffic, until vehicles have cleared the junction.</li> </ul> | Low |

4.12 **Table 14** shows that the junction of Durbans Road and Kirdford Road is suitable to accommodate the movements of the typical design vehicle as well as the worst case design vehicle. Mitigation measures can be put in place which minimise the potential risks associated with the worst case design vehicle.

#### **Durbans Road / A272 Junction**

4.13 **Table 15** provides a summary of the swept path analysis for the Durbans Road and A272 junction together with identifying the potential risks arising from HGV traffic and proposed mitigation to control these potential risks.

**Table 15: Swept path analysis of Durbans Road / A272 junction**

| <b>Vehicle</b>    | <b>Analysis summary</b>   | <b>Potential risk</b>  | <b>Proposed Mitigation</b>   | <b>Likelihood of Risk</b> |
|-------------------|---|--|--|---------------------------|
| 20te tipper truck | <ul style="list-style-type: none"> <li>Vehicles can turn into Durbans Road from A272 without needing to encroach over centre line at the junction.</li> <li>Vehicles can turn right from Durbans Road onto the A272 without needing to encroach over centre line at the junction</li> <li>Vehicles turning left from Kirdford Road onto A272 encroach over centre line on A272 whilst straightening up.</li> <li>Vehicles turning into Durbans Road from the A272 encroach over the centre line of</li> </ul> | <ul style="list-style-type: none"> <li>Conflict between typical case design vehicles turning and traffic waiting at the junction.</li> </ul> | <ul style="list-style-type: none"> <li>Visibility to and from the junction is good such that typical case design vehicles will be able to see vehicles waiting at or approaching the junction.</li> <li>Sufficient carriageway width for typical case design vehicles to safely wait on Durbans Road or A272 without interfering with oncoming traffic, until vehicles have cleared the junction.</li> </ul> | -                         |

|                              |  |  |  |     |
|------------------------------|--|--|--|-----|
|                              | <p>Durbans Road at the junction before straightening up.</p> <ul style="list-style-type: none"> <li>• Very good visibility for vehicles approaching / waiting at the junction on all approaches (greater than desirable SSD).</li> </ul>   |  |  |     |
| 16.6m articulated low loader | <ul style="list-style-type: none"> <li>• Sufficient road width for vehicle to pass safely</li> <li>• Vehicles turning left from Durbans Road into Kirdford Road encroach over centre line at the junction.</li> <li>• Vehicles turning right from Kirdford Road encroach over centre line at the junction.</li> <li>• Very good visibility for vehicles approaching / waiting at the junction on all approaches (greater than desirable SSD).</li> </ul> | <ul style="list-style-type: none"> <li>• Conflict between worst case design vehicles turning and traffic waiting at the junction.</li> </ul> | <ul style="list-style-type: none"> <li>• Visibility to and from the junction is good such that worst case design vehicles will be able to see vehicles waiting at or approaching the junction.</li> <li>• Sufficient carriageway width for worst case design vehicles to safely wait on Durbans Road or A272 without interfering with oncoming traffic, until vehicles have cleared the junction.</li> </ul> | Low |

4.14 **Table 15** shows that the Durbans Road and A272 junction is suitable to accommodate the movements of the typical design vehicle as well as the worst case design vehicle. Mitigation measures can be put in place which minimise the potential risks identified.

## 5.0 SUMMARY AND CONCLUSION

5.1 This Report has been prepared by SCP Transport in response to a recommended objection on highways grounds by West Sussex County Council Highway Authority in relation to planning application WSCC/083/13/KD. The planning application seeks permission for the following activities at a site located on Kirdford Road, Wisborough Green.

5.2 The local highways authority lists four points of detail that the Applicant has failed to demonstrate which has led them to recommend an objection. These are set out below together with a summary of the conclusions reached in this report.

*Submit an accurate assessment of the likely traffic impacts of the proposed development and establish an accurate and realistic baseline position;*

5.3 Comments were sought from WSCC regarding the scope of the transport assessment prior to submission and this correspondence is provided at **Appendix 2**. This included submitting a completed draft of the assessment based on a methodology that had been previously been accepted by WSCC in relation to similar applications. The 1.5 tonnes(te) threshold was included in this scoping and was chosen to differentiate between cars and light commercial vehicles (LCV). Notwithstanding this, the alternative assessment of impacts provided in this report responds to the request from WSCC that the split between light vehicles and heavy vehicles should be 3.5te. **Appendix 4** provides details of the types of vehicles included in each category.

5.4 On this basis, the assessment set out in this report arrives at the same conclusion as the submission assessment which is that there is expected to be a **Negligible Impact** in terms of road traffic arising from the proposed development

*Provide suitable visibility at the site access and its junction with Kirdford Road to satisfy the stopping sight distances of the recorded 85th percentile speed*

5.5 Average recorded speeds for traffic at the site access (provided with the submission assessment) are recorded at 36.1mph (58.1kph) for eastbound traffic and 35.5mph (57.1kph) for westbound traffic. 85<sup>th</sup> percentile recorded speeds for traffic at the site access provided with the submission assessment are recorded at 41.3mph (66kph) for eastbound traffic (this is traffic travelling from the west of the site access) and 40.2mph (64.3kph) for westbound traffic (this is traffic travelling from the east of the site access). Based on these observed speeds, the following desirable minimum SSDs have been calculated:

- Desirable minimum SSD=109m for a speed of 41.3mph. This compares to 117m provided; and
- Desirable minimum SSD=104m for a speed of 40.2mph. This compares to 121m provided.

5.6 The visibility splays provided therefore meet design requirements. The construction of the visibility splays at drawing 3582 P 18 Rev E was erroneous in that it took them to the far side verge line, rather than the nearside. Nevertheless, the drawing was provided at a suitable scale for those with sufficient technical knowledge to appreciate that there was no restriction to achieving adequate visibility to the nearside as well.

*Demonstrate that approach roads are suitable to accommodate the additional traffic generated by the development and, in particular, large vehicles at the junctions of the A272/Durbans Road, Durbans Road/Kirdford Road and along Kirdford Road given width constraints and two-way vehicular flow*

5.7 At the request of WSCC, a route safety study was commissioned by the Applicant and this was provided with the submission assessment. This study entitled the “Road Safety Assessment, Proposed Temporary Haul Route, Wisborough Green, West Sussex”, *Malcolm Gandy Road Safety Consulting Ltd, 16th July 2013* (provided at **Appendix 6**) provided an independent safety audit of the proposed route between the A272 and the site access. The recommendations of the auditor referred to in the extract from the report provided above have been incorporated into the design and mitigation proposals.

5.8 Swept path analysis of the construction route between the A272 and the site access has been undertaken for a 20te tipper truck and a 16.6m articulated low-loader.

5.9 Review of the swept paths identifies four locations in addition to the site access at which further assessment has been undertaken. These locations comprise:

- Boxal Bridge;
- Corner on Kirdford Road east of junction with Skiff Lane;
- Junction of Durbans Road / Kirdford Road; and
- Junction of Durbans Road / A272

5.10 The assessment provides a summary of the swept path analysis, identifies potential risks which the swept path analysis suggests, proposed mitigation to remove or reduce the risk and then provides an assessment of the likelihood of the mitigated risk.

5.11 Mitigation measures can be put in place which minimise the potential risks identified.

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*Demonstrate that large vehicles are able to execute a right hand turn out of the site access and its junction with Kirdford Road.*

- 5.12 Swept path analysis of the site access has been undertaken for a 20t tipper truck and a 16.6m articulated low-loader. This demonstrates that the proposed site access design can safely accommodate the movements of the typical design vehicle as well as the worst case design vehicle. Mitigation measures can be put in place which minimise the potential risks identified.
- 5.13 The right turn out of the site is less onerous than the left turn in and the drawings already submitted were provided at a suitable scale for those with sufficient technical knowledge to appreciate that both manoeuvres were achievable on land within the applicant's or LHA's control.

*Conclusion*

- 5.14 On the basis of the analysis set out in this report, it is concluded that there are no valid highways grounds to object to the proposed development. Each of the alleged failures cited by the LHA in support of their grounds for objection have been shown to have been either misguided, redundant or unnecessary in light of the information already submitted. Nevertheless, for clarity, we have addressed each issue in turn in this report to ensure that there can be no doubt that the proposals will not be contrary to either NPPF by way of creating a severe residual impact or to objective 4 of the WSCC LTP to improve safety, security and health.

**APPENDIX 1**

**WSCC HIGHWAYS OBJECTION**

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## **APPENDIX 2**

### **SCOPING CORRESPONDENCE WITH WSCC**

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**APPENDIX 3**

**ASSESSMENT CORRESPONDENCE WITH WSCC**

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**APPENDIX 4**

**VEHICLE CLASSIFICATIONS**

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**APPENDIX 5**

**A272 TRAFFIC DATA**

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**APPENDIX 6**

**ROAD SAFETY ASSESSMENT, PROPOSED TEMPORARY HAUL ROUTE,  
WISBOROUGH GREEN, WEST SUSSEX**

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**APPENDIX 7**

**ROAD SAFETY AUDIT STAGE 1, KIRDFORD ROAD, WISBOROUGH GREEN SITE  
ACCESS**

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**APPENDIX 8**

**SITE ACCESS (DRAWING NO. SCP/14809/F01)**

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**APPENDIX 9**

**CONSTRUCTION TRAFFIC ROUTE - 20T CONSTRUCTION TIPPER**

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**APPENDIX 10**

**CONSTRUCTION TRAFFIC ROUTE - LOW LOADER HGV**