Extension of Wangford Quarry
Lime Kiln Farm, Wangford, Suffolk

Transport Statement

Prepared on behalf of:

CEMEX
CEMEX UK
CONTENTS

1.0 Introduction
2.0 Site Location and Existing Conditions
3.0 Description of the Development Proposals
4.0 Key Assessment Parameters
5.0 Anticipated Future Development Traffic
6.0 Assessment of Anticipated Development Traffic Impact
7.0 Summary and Conclusions

DRAWINGS

CEMEX 18_C015_WANG_002 Site Plan
CEMEX 18_C015_WANG_005 Proposed Access Arrangements
CEMEX 18_C015_WANG_006 Crossing Specification
AXIS 2327-01/SK201 Available Visibility from Hill Road to A12
AXIS 2327-01/SK202 Available Visibility from Wangford Quarry Access to Hill Road
AXIS 2327-01/SK101 Proposed Access to Northeast Quarry Extension Area
AXIS 2327-01/SK102 Proposed Access to Northeast Quarry Extension Area – Visibility Splays
AXIS 2327-01/ATR101 Proposed Access to Northeast Quarry Extension Area – Swept Path Assessment

FIGURES

Figure TS1 Site Location Plan – Strategic Location
Figure TS2 Site Location Plan – Immediate Local Highway Network
Figure TS3 2018 Surveyed Network Traffic Flows
Figure TS4 2018 Surveyed Hourly Flow Profile – A12 (south)
Figure TS5 Annual Aggregate Export Profile (Tonnage)
Figure TS6 Annual Aggregate Export Profile (Vehicles)
Figure TS7 Monthly Aggregate Export Profile
Figure TS8 Variation in Daily Export Vehicle Movements - 30th April 2007 – 22nd December 2017
Figure TS9 PIA Location Plan
Figure TS10 2018 Background Network Traffic Flows (Excl. Quarry Traffic)
Figure TS11 2020 Baseline Network Traffic Flows
Figure TS12 Quarry Traffic Assignment (Average Scenario)
Figure TS13 Quarry Traffic Assignment (Sensitivity Test Scenario)
Figure TS14 2020 Baseline + Quarry Traffic Flows (Average Scenario)
Figure TS15 2020 Baseline + Quarry Traffic Flows (Sensitivity Test Scenario)

APPENDICES

Appendix TS1 Sample Weighbridge Data
Appendix TS2 Personal Injury Accident History
Appendix TS3 TEMPRO NTM Growth Factor Output
1.0 INTRODUCTION

1.1 This Transport Statement has been prepared by AXIS on behalf of CEMEX UK to consider highways and transport matters related to proposals for a northeastern extension to the existing Wangford Quarry, Wangford, Suffolk.

1.2 The site has a long history of gravel extraction dating back to the 1950s. The existing Wangford Quarry benefits from extant planning approval for the export of sand and gravel until 2021, with restoration by 2022. Current reserves are due to be depleted by 2019.

1.3 CEMEX UK now wishes to extend the area of workings to the northeast in order to incorporate an additional area of land of c23.8Ha, with quarry operations to continue until 2030, and restoration by 2032. The proposed extension area, known as Lime Kiln Farm, contains circa 1million tonnes of reserves.

1.4 The purpose of this report is to inform the Local Minerals & Waste Planning and Highway Authority, Suffolk County Council (SCC) of the anticipated highways and transport matters associated with the proposed extension.

1.5 The scope and nature of the assessment matters included in this Transport Statement reflects the extent of highways and traffic issues identified as being of material interest to the Local Highway Authority. This scope was established following preliminary discussions with SCC highways officers during January 2018.

1.6 The structure of the remainder of this Transport Statement is as follows:

- Section 2.0 details the location of the site, a description of the local highway network, review of existing quarry operations and local highway accident history;
- Section 3.0 provides a description of the development proposals, including a summary of the proposed site operations;
- Section 4.0 details certain key assessment parameters such as future assessment years;
• Section 5.0 comprises a review of the anticipated operational trips associated with the proposed extension;
• Section 6.0 provides a review of the impact of operational traffic on key sections of the immediate local highway network; and,
• Section 7.0 provides a summary of the above sections and a conclusion to the report.
2.0 SITE LOCATION & EXISTING CONDITIONS

2.1 Site Location and Existing Access Arrangements

2.1.1 The strategic location of the Wangford Quarry site is illustrated in Figure TS1a to this report. This plan identifies the location of the site in relation to the nearby settlements of Wangford to the north and Southwold to the east.

2.1.2 Figure TS2 to this report provides the immediate context of the proposal site, identifying that the existing quarry represents two parcels of land, the eastern parcel being circa 5.5Ha, and the western parcel circa 9Ha, connected by a private haul road of circa 400m which runs through Wangford Common. The western parcel of land represents the most recent quarry extension area, having been granted consent in 2009 (W/09/0273/CCC). Extant consents permit sand and gravel extraction at the site until 2021, with restoration by 2022, although reserves are likely to be depleted by 2019, and restoration of the current working area will therefore be complete by 2020.

2.1.3 Figure TS2 identifies the primary route of the A12 to the west of the site, and the Wangford Quarry access route, Hill Road, to the north of the site. Hill Road is an unclassified rural route of circa 3.5-4m width with no footways or street lighting. Passing bays are available along the section of Hill Road between the A12 and quarry access, and signage is provided to advise drivers of the traffic priority at single lane sections. In the vicinity of Wangford the A12 represents a single carriageway route of 7.3m. The A12 runs towards Lowestoft (circa 16km to the north) and Ipswich (circa 40km to the south).

2.1.4 Hill Road widens at its junction with the A12 to circa 6m with circa 15m entry and exit radii, appropriate for the passing of two HGVs. Review of the available visibility from the junction identifies that from a 2.4m setback distance, up to 215m is available both directions, suitable for access to a national speed limit route such as the A12 (see AXIS Drawing 2327-01/SK201). The Hill Road / A12 junction effectively operates as a priority controlled crossroads junction with a private access road. A traffic count of
the junction has identified that the private road and Hill Road are both very lightly trafficked, with no cross movements between these minor arms (see section 2.2 for further details).

2.1.5 Hill Road crosses the River Wang via a temporary bridge approximately 150m east of the A12 / 350m west of the Wangford Quarry site access. Hill Road operates under national speed limit, albeit signage has been installed advising that a 10mph speed limit should be observed at the bridge.

2.1.6 The Wangford Quarry access located off Hill Road comprises a wide bellmouth with 6m entry and 15m exit radii, which is entirely appropriate for quarry operations, noting that all vehicles route to the site via the Hill Road / A12 junction (i.e. right in / left out of the quarry access point off Hill Road). Review of the available visibility from the junction identifies that from a 2.4m setback distance, up to 80m is available to the west and 135m to the east, suitable for speeds of 40mph+ (see AXIS Drawing 2327-01/SK202). In reality owing to the nature of Hill Road, vehicle speeds are highly unlikely to exceed 40mph.

2.1.7 To the east of the quarry access point, Hill Road continues north towards the village of Wangford. Beyond the quarry access, Hill Road predominantly serves as an access route to agricultural land, also serving Hill Farm (225m northeast of the Wangford Quarry access) and a small number of residential properties located on the southern boundary of Wangford village (circa 900m north of the Wangford Quarry access).

2.1.8 All traffic related to the mineral operations at Wangford Quarry is strictly controlled by a Section 106 legal agreement restricting both access and egress to the site via the section of Hill Road that runs to the west of the quarry entrance and the A12. This prevents quarry related HGVs from routing through Wangford village. A sign has been erected at the site access reminding drivers leaving the site to turn left towards the A12.

2.1.9 Approximately 180m east of the existing Wangford Quarry access, Hill Road is joined by an unnamed road at a priority controlled give-way junction (the unnamed road giving priority to Hill Road). The unnamed road runs in
a south easterly direction along the northern boundary of Wangford Common and the eastern parcel of existing Wangford Quarry workings.

2.1.10 The unnamed road represents a Byway Open to All Traffic (BOAT). The route provides access to the Viridor Wangford Landfill and Recycling site to the north, with several gated access points to the landfill site available along the length of the route. The unnamed road has a paved surface for part of its length between Hill Road and the signed landfill site access point (located 450m east of Hill Road), and is unmade for a circa 400m section that runs towards a crossroads junction at the northeastern corner of the existing quarry site.

2.1.11 The crossroads forms the intersection of 4 narrow rural routes; the unnamed road running east to west and Mardle Road running north to south. The unnamed road (east) and Mardle Road (north & south) represent adopted rural unclassified routes, whilst the section of the unnamed road which runs between Hill Road and the crossroads (unnamed road west) represents a BOAT. The routes serve predominantly agricultural access to the surrounding land / farm properties. Mardle Road to the north of the crossroads provides access to the B1126 Wangford Road, with Mardle Road south / unnamed road east connecting to the A1095 Halesworth Road circa 400m south and east of the crossroads respectively. The section of unnamed road to the west provides access to the Wangford Landfill site and Hill Road, albeit signage discourages landfill traffic from using the unmade section of the route, and a strictly controlled section 106 agreement also prohibits quarry related traffic from using this route.

2.2 Observed Background Network Traffic

2.2.1 In order to inform this Transport Statement, a 12 hour (07:00-19:00) fully classified turning count of the Hill Road / A12 / Private road junction has been undertaken by Streetwise Services on Wednesday 31st January 2018.

2.2.2 The survey consultancy reported that the traffic counts were undertaken with no incidents or disruptions likely to affect the results.
2.2.3 Surveyed traffic flows are summarised by turning movement in Figure TS3 for the observed local highway network AM peak hour (07:00-08:00), quarry afternoon and evening peak operational hour (14:00-15:00 & 16:00-17:00) and 12-hour time periods, with daily profile of two-way vehicle movements recorded at the A12 (south) provided in Figure TS4. Weekday peak hour and 12-hour two-way traffic flows are summarised in Table TS2.1 below:

<table>
<thead>
<tr>
<th>Weekday</th>
<th>07:00-08:00</th>
<th>14:00-15:00</th>
<th>16:00-17:00</th>
<th>07:00-19:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill Road / A12 / Private road</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A12 (N)</td>
<td>777</td>
<td>478</td>
<td>695</td>
<td>6,927</td>
</tr>
<tr>
<td>Hill Road</td>
<td>13</td>
<td>5</td>
<td>7</td>
<td>89</td>
</tr>
<tr>
<td>A12 (S)</td>
<td>779</td>
<td>479</td>
<td>697</td>
<td>6,961</td>
</tr>
<tr>
<td>Private Road</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>

(Two-way traffic flows)

2.2.4 Review of the traffic flow information identifies that maximum two-way traffic flows occur on the A12 southern arm, and are of the order of 876 vehicles during the quarry PM peak hour (south of Hill Road), but observations have identified that the quarry does not generate any operational vehicles during this period and therefore there is no further consideration of this period in the Transport Statement. Two-way flows at the A12 during the local highway network AM peak period of 07:00-08:00 are noted to be 799 vehicles per hour. Across the core 12hr daytime period this route experiences two-way traffic volumes of up to 7,000 vehicles. Total traffic flows on Hill Road across the 12-hour daytime period total 89 two-way movements.

2.3 Observed Site Operations

2.3.1 In order to inform this assessment, historical weighbridge data has been supplied by CEMEX UK which allows the full review of export related traffic levels on the local highway network associated with the operation of the quarry.

2.3.2 The weighbridge records all individual operational vehicle departure movements associated with aggregate sales, with collected information for each vehicle movement comprising the following:
2.3.3 In order to understand the typical profile of site operation at the Wangford Quarry site in terms of export tonnages and vehicle demand, CEMEX UK have supplied detailed weighbridge data for the period 30th April 2007 – 22nd December 2017.

2.3.4 A sample of the weighbridge data provided to AXIS by CEMEX UK is provided in Appendix TS1 to this report. Each record represents a single export vehicle movement at Wangford Quarry.

Review of Annual Tonnage / Vehicle Trends

2.3.5 Review of the Wangford Quarry weighbridge data identifies the annual tonnages / export vehicle movements presented in Table TS2.2 to this report (also shown graphically in Figures TS5 & TS6 for the total annual export tonnage and vehicle movements respectively).

Table TS2.2: Recorded annual vehicle movements and tonnages

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual vehicle export movements</th>
<th>Annual export tonnage</th>
<th>Average annual payload</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007*</td>
<td>6,069</td>
<td>101,584</td>
<td>16.7</td>
</tr>
<tr>
<td>2008</td>
<td>7,006</td>
<td>103,886</td>
<td>14.8</td>
</tr>
<tr>
<td>2009</td>
<td>5,888</td>
<td>114,039</td>
<td>19.4</td>
</tr>
<tr>
<td>2010</td>
<td>7,029</td>
<td>115,968</td>
<td>16.5</td>
</tr>
<tr>
<td>2011</td>
<td>5,804</td>
<td>78,637</td>
<td>13.5</td>
</tr>
<tr>
<td>2012</td>
<td>4,866</td>
<td>55,509</td>
<td>11.4</td>
</tr>
<tr>
<td>2013</td>
<td>3,537</td>
<td>32,366</td>
<td>9.2</td>
</tr>
<tr>
<td>2014</td>
<td>4,041</td>
<td>53,012</td>
<td>13.1</td>
</tr>
<tr>
<td>2015</td>
<td>6,426</td>
<td>94,849</td>
<td>14.8</td>
</tr>
<tr>
<td>2016</td>
<td>5,657</td>
<td>76,961</td>
<td>13.6</td>
</tr>
<tr>
<td>2017^</td>
<td>5,939</td>
<td>92,748</td>
<td>15.6</td>
</tr>
</tbody>
</table>

*30th April to 31st December 2007 only
^1st January to 22nd December 2017 only
2.3.6 Review of the data demonstrates that the annual export of material at Wangford Quarry has ranged between 30,000t and 116,000t, with average annual exports being circa 83,596t.

Review of Monthly Tonnage / Vehicle Data

2.3.7 Monthly summary weighbridge data has also been extracted from the weighbridge data. Recorded monthly export tonnages are summarised in Figure TS7 to this report.

2.3.8 Review of this monthly data demonstrates that the export of material is generally constant throughout the year, with average monthly exports typically being between 5,000t and 10,000t per month. A slight decline in export levels is evident during January and December (likely to reflect the Christmas / New Year closure period), with average exports of just less than 4,000t. Figure TS7 also demonstrates that 2010 was a particularly busy year (exporting a total of 115,968tpa), with monthly export tonnages peaking at 19,171t in August 2007 - a level well above historical average monthly levels at the site (operation of the site at such recorded peak monthly levels across a full year would result in an annual export tonnage level of circa 230,052tpa, almost treble the recorded average annual exports at the site).

2.3.9 Table TS2.3 provides the average monthly export tonnages / vehicle movements for the period 30\textsuperscript{th} April 2007 – 22\textsuperscript{nd} December 2017, which reflect these general identified trends.
Table TS2.3: Recorded monthly vehicle movements and tonnages

<table>
<thead>
<tr>
<th>Month</th>
<th>Average monthly tonnage</th>
<th>Average monthly vehicle export movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>3,870</td>
<td>291</td>
</tr>
<tr>
<td>February</td>
<td>5,400</td>
<td>382</td>
</tr>
<tr>
<td>March</td>
<td>6,219</td>
<td>469</td>
</tr>
<tr>
<td>April</td>
<td>5,953</td>
<td>441</td>
</tr>
<tr>
<td>May</td>
<td>7,759</td>
<td>539</td>
</tr>
<tr>
<td>June</td>
<td>7,514</td>
<td>530</td>
</tr>
<tr>
<td>July</td>
<td>8,248</td>
<td>561</td>
</tr>
<tr>
<td>August</td>
<td>10,205</td>
<td>613</td>
</tr>
<tr>
<td>September</td>
<td>9,728</td>
<td>579</td>
</tr>
<tr>
<td>October</td>
<td>7,622</td>
<td>502</td>
</tr>
<tr>
<td>November</td>
<td>7,274</td>
<td>466</td>
</tr>
<tr>
<td>December</td>
<td>3,804</td>
<td>289</td>
</tr>
</tbody>
</table>

Review of Daily Demand Information

2.3.10 In order to understand operation of Wangford Quarry site on a daily basis, the average and 85th percentile trips recorded on each day of the week has been extracted from the weighbridge data. The results of this exercise are summarised in Figure TS8. Note that Figure TS8 includes Monday-Saturday only as the site is closed for export movements on Sundays.

2.3.11 Table TS2.4 below sets out the average and 85th percentile daily vehicle export movements across the 30th April 2007 – 22nd December 2017 study period, as well as the average and 85th percentile daily trips for the identified maximum recorded month of operations, (i.e. August 2007), and the last full year of site operation (2017).
Table TS2.4: Average and 85th Percentile Daily Vehicle Exports

<table>
<thead>
<tr>
<th>Day</th>
<th>30th April 2007 – 22nd December 2017</th>
<th>August 2007</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ave</td>
<td>85\textsuperscript{th} %tile</td>
<td>Ave</td>
</tr>
<tr>
<td>Mon</td>
<td>23</td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td>Tue</td>
<td>24</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>Wed</td>
<td>24</td>
<td>36</td>
<td>59</td>
</tr>
<tr>
<td>Thu</td>
<td>24</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Fri</td>
<td>23</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>Sat</td>
<td>4</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Mon-Fri</td>
<td>23</td>
<td>34</td>
<td>48</td>
</tr>
<tr>
<td>Tue-Thu</td>
<td>24</td>
<td>35</td>
<td>51</td>
</tr>
</tbody>
</table>

2.3.12 Review of this information demonstrates that Tuesday, Wednesday and Thursdays represent the busiest days, when 24 / 35 daily export vehicle movements have been recorded (average / 85\textsuperscript{th} percentile for the period 30\textsuperscript{th} April 2007 – 22\textsuperscript{nd} December 2017). It is considered that Bank Holiday operation may have influenced the Monday average figure, whilst Fridays also generally appear to show a slightly lower level of export demand.

2.3.13 Analysis of daily vehicle movements associated with maximum monthly operation of the site (recorded in August 2007) demonstrates an average of 48 vehicle exports per weekday (Monday to Friday) and an 85\textsuperscript{th} percentile daily demand level of 59 vehicle exports. The peak recorded export day during this month (Thursday 2\textsuperscript{nd} August 2007) resulted in 123 vehicle export movements.

2.3.14 Recorded Saturday operation at the site demonstrates a generally low level of export vehicle demand, with daily traffic figures typically being below 10 export vehicles movements per day.

2.3.15 Detailed review of the weighbridge data identifies a wide range of vehicle payloads of between 1 and 20t. Weighbridge data for the date of the traffic survey (31\textsuperscript{st} January 2018) identified that on the survey day operational quarry vehicles comprised 72% HGVs and 28% LGVs.
2.4 **Review of Personal Injury Accident Data**

2.4.1 Personal injury accident (PIA) data for the immediate local highway network to the proposal site has been obtained by AXIS using Crashmap.co.uk, which provides details of all PIA events attended by the police. The data is approved by the National Statistics Authority and reported on by the Department for Transport (DfT) each year. Data has been obtained for the most recently available five-year search period, in line with standard practice, covering January 2012 – December 2016. For robustness, provisional data for the first half of 2017 (January – June) has also been included.

2.4.2 The PIA search area covers the immediate highway network to the existing Wangford Quarry site, including site access off Hill Road and Hill Road / A12 junction and section of Hill Road in between. A 500m stretch of the A12 either side of the Hill Road junction has also been included in the search. A location plan of incidents recorded within the search area is provided in Figure TS9, with full results provided in Appendix TS2.

2.4.3 Review of the data identifies that four personal injury accident incidents occurred within the search area, all of which were classed as ‘slight’. One incident occurred at Hill Road close to the Wang River bridge crossing, another at the Hill Road / A12 junction and two at the Hill Road link. A summary of the recorded incidents is provided below:

*Hill Road*

- 2017370150913 - 18th January 2017, 07:00am, icy conditions. This incident involved an “other vehicle, whether motorised or not” (understood to be a mobile crane) drifting onto the soft verge, which collapsed under its weight, rolling into the ditch and causing slight injury to the driver. No other vehicles / road users were involved.
Hill Road / A12

- 2012370159312 - 29th April 2012, 16:40pm, wet or damp conditions, incident involving three cars, two of which were proceeding normally along the carriageway and one which was in the act of turning right, causing slight injury to one driver.

A12

- 2012370427712 - 5th October 2012, 10:15am, dry conditions, incident involving two cars proceeding normally along the carriageway, causing slight injury to one driver.
- 201537EA95897 – 30th November 2015, 11:40am, wet or damp conditions, incident involving one car proceeding normally along the carriageway and colliding with a tree, causing slight injury to one passenger.

2.4.4 Given the limited number of accidents recorded in the search area over the most recent 5.5-year period, it is not considered that there are any prevailing material road safety issues that may call the proposed quarry extension into question.

2.5 Available Local Sustainable Transport Connections

2.5.1 The typical nature of quarry facilities is such that demand for sustainable travel modes is often unlikely to be generated due to the nature of quarry material transportation, which offers few realistic opportunities to utilise alternative transport options to road haulage. In addition to the above this section of the report has already outlined the location of the site with respect to local highway infrastructure, and notes that there are no footways along the Quarry access routes of Hill Road, Mardle Road or the A12. With this in mind a review of sustainable local transport options for staff related travel has not been undertaken.
3.0 DESCRIPTION OF THE DEVELOPMENT PROPOSALS

3.1 Development Proposals

3.1.1 The existing Wangford Quarry caters for the extraction of gravel reserves for the production of concrete and mortar to local markets. The site benefits from extant planning approval for the export of sand and gravel until 2021, with restoration by 2022, referring to the current area of working located south of Hill Road (see Figure TS2). Current reserves are likely to be depleted by 2019, and restoration will therefore be complete by 2020.

3.1.2 CEMEX UK now wishes to extend the area of workings to the northeast in order to incorporate an additional area of land of c23.8Ha, with quarry operations to continue until 2030, and restoration by 2032, with a further 5 years of aftercare.

3.1.3 The proposed extension area, known as Lime Kiln Farm, contains c920,000 tonnes of reserves. It is proposed that extraction at Lime Kiln Farm would commence in 2020, i.e. as soon as reserves at the existing working areas have been exhausted. The proposed site plan is provided at CEMEX Drawing 18_C015_WANG_002.

3.1.4 With an estimated reserve of c920,000 tonnes, annual exports from the Lime Kiln Farm extension area are anticipated to be circa 88,000t / 10.5yrs. Total quarry outputs are therefore anticipated to continue as per existing. Restoration of the site is proposed be completed immediately following the cessation of quarrying operations i.e. by 2030.

3.1.5 The area of the proposed northeastern extension is illustrated Figure TS2 to this report.

3.1.6 Existing site infrastructure such as the weighbridges, parking areas, processing plant etc. is proposed to be maintained as at present.
3.2 Site Access

3.2.1 The existing main site access to the public highway via Hill Road would be retained and used as the customer access to the quarry. Access to the proposed extended quarry working area would be via the existing quarry working area and new crossing points of Mardle Road and the unnamed road, as identified in AXIS Drawing 2327-01/SK101. The proposed access specifications are set out in CEMEX Drawing 18_C015_WANG)006, with a suggested signage strategy provided in CEMEX Drawing 18_C015_WANG)005.

3.2.2 AXIS Drawing 2327-01/ATR101 demonstrates that the proposed access arrangements are entirely suitable to accommodate the typical vehicles that it likely to utilise the access route.

3.2.3 Furthermore, AXIS Drawing 2327-01/SK102 identifies the available visibility from each access, viz:

Mardle Road (eastern access)
- Visibility to the left: 2.4m x 151m
- Visibility to the right (towards Hill Rd/Mardle Rd junction): 2.4m x 26m

Mardle Road (western access)
- Visibility to the left (towards Hill Rd/Mardle Rd junction): 2.4m x 28m
- Visibility to the right: 2.4m x 191m

Unnamed Road (northern access)
- Visibility to the left: 2.4m x 60m
- Visibility to the right (towards Hill Rd/Mardle Rd junction): 2.4m x 25m

Unnamed Road (southern access)
- Visibility to the left (towards Hill Rd/Mardle Rd junction): 2.4m x 42m
- Visibility to the right: 2.4m x 162m

3.2.4 Visibility from the proposed new junctions towards the Mardle Road / unnamed road junction is at circa 25m-42m. Such level of visibility is suitable for speeds of circa 20-30mph, which are highly unlikely to occur due to the nature of the junction. Visibility from the proposed new access junctions in the opposite direction to the Mardle Road / unnamed road junction is in excess of 2.4m x 150m. Such level of visibility is suitable for
speeds of up to 50mph, which due to the nature of the unnamed road and Mardle Road (i.e. narrow, rural routes), is unlikely to occur.

3.2.5 It is therefore considered that the available visibility from the proposed new access junctions is entirely appropriate.

3.3 Proposed Site Operation

Site Operation and Delivery Periods

3.3.1 The existing operational hours of the quarry are proposed to be maintained for the duration of the proposed northeastern extension. Current operations are limited to the following periods:

- 07:00-18:00 Monday to Friday
- 07:00-13:00 Saturdays
- No working on Sundays
- No working on Public/Bank Holidays.

3.3.2 The above hours for quarry vehicle movements are as currently permitted at the site, although typically the majority of operational vehicle movements to/from the site could be expected to take place during the weekday daytime hours of 07:00-17:00. Indeed, at present the site rarely has any sales on Saturdays. The remainder of the proposed delivery window, however, allows for operational flexibility. Whilst the applicant intends to operate the quarry extension area as existing, the same operational time periods are being applied for in order to provide the same level of flexibility.
4.0 KEY ASSESSMENT PARAMETERS

4.1 Assessment Time Periods

4.1.1 The review of daily background traffic levels derived from junction counts, as outlined in Section 2 of this report, suggests that maximum background traffic demand over the local highway network to the Wangford Quarry site is experienced during the AM peak period of 07:00-08:00 and 17:00-18:00 respectively. The 07:00-08:00 also represents AM peak quarry operational periods. Weighbridge records for the date of the traffic survey identify a quarry afternoon peak hour of 14:00-15:00, and evening peak of 16:00-17:00. No operational vehicle movements are experienced in the local highway network PM peak of 17:00-18:00. With this in mind it is proposed that the following time periods are considered within this Transport Statement:

- Network AM peak hour: 07:00-08:00
- Quarry afternoon peak hour: 14:00-15:00
- Quarry PM peak hour: 16:00-17:00
- 12-hour period: 07:00-19:00

4.2 Future Year Traffic Growth Assumptions

4.2.1 It should be noted that the current planning permission enables continued operations at the quarry until 2021 with restoration by 2022. However, the proposals would result in a change in date of the cessation of quarrying operations to 2030. Whilst it is proposed to extend the permitted life of the quarry, the annual extraction rate would remain the same. Accordingly, there would be no actual traffic-related effects that would be different from those which could occur under the current permitted operations.

4.2.2 Based upon current permitted mineral reserve volumes and annual extraction rates, however, operations at the Wangford Quarry would theoretically cease by 2019, with no material remaining to quarry beyond that point and therefore no quarry related traffic arising from 2020 onwards. Accordingly, any new planning consent for an extended site would mean
continued operations beyond an approximate current end date of 2019. For the purposes of this assessment a theoretical “opening year” date of 2020 has therefore been utilised for core traffic demand assessments.

4.2.3 In order to determine the future year baseline traffic flows, assuming cessation of operations in 2019, traffic recorded at the site weighbridge on the date of the 2018 traffic survey has been removed from the highway network that forms the basis of this Transport Statement (i.e. the Hill Road / A12 junction. Additionally, it is understood that the site currently generates circa 10 staff vehicle movements (5 in + 5 out). These have also been removed from the 12-hour traffic flows (departures only, noting that staff arrivals occur prior to site opening at 07:00 and therefore falls outside the assessment periods). Figure TS10 to this report illustrates the 2018 background traffic flows at the Hill Road / A12 junction, including for removal of all quarry related activities.

4.2.4 Guidance published by the DfT identifies that future estimates of traffic should be made through the application of regional growth factors derived from the National Transport Model (NTM). NTM forecasts give traffic growth by region, road type and whether the area is built up or not. These forecasts are then adjusted by local TEMPRO factors to reflect local traffic trends. In this case, the Waveney district has been utilised. Appendix TS3 provides the TEMPRO growth factor outputs, whilst Table TS4.1 summarises the results.

<table>
<thead>
<tr>
<th></th>
<th>2018-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday AM Peak</td>
<td>1.0228</td>
</tr>
<tr>
<td>Weekday Inter Peak</td>
<td>1.0281</td>
</tr>
<tr>
<td>Weekday PM Peak</td>
<td>1.0217</td>
</tr>
<tr>
<td>Average Weekday</td>
<td>1.0234</td>
</tr>
</tbody>
</table>

4.2.5 The TEMPRO adjusted NTM growth factors have been applied to the background traffic flows presented in Figure TS10 to produce the 2020 future year baseline traffic flows illustrated at Figure TS11.
4.3 Committed Development Traffic

4.3.1 Consultation with Suffolk County Council / Waveney District Council has not identified any committed development schemes in the immediate area which would need to be considered within the baseline traffic conditions of this Transport Statement. Accordingly, there are no cumulative impacts associated with the scheme.

4.3.2 Despite there being no specific committed developments identified for consideration within the assessment, TEMPRO growth factors for the assessments of future year development impact are included. Given that TEMPRO adjusted National Transport Model (NTM) factors already include for both local housing and employment growth projections (as derived from such sources as Local Plans), the effects of any notable committed development schemes will be inherently accounted for within the application of general network growth.
5.0 ANTICIPATED FUTURE DEVELOPMENT TRAFFIC

5.1 Core Development Trip Generation Assumptions

5.1.1 Estimates of development related traffic generation associated with the proposed extension of Wangford Quarry have been calculated based upon existing observed site operations. Section 2 to this report includes for a review of current site operations, based on weighbridge information supplied by the site operators.

5.2 Site Operational Traffic

5.2.1 As noted in the description of development, the proposed extension to the Wangford Quarry would ensure the continued extraction of materials beyond the current level of permitted reserves, which could see extraction at the site cease in 2019. Moreover, the proposed extension would see no change to current site operations – in effect they will simply permit current operations to continue unchanged albeit up to a new planning cessation date of 2030.

Predicted Operational Quarry Traffic

5.2.2 Assessment of the potential typical daily traffic generation associated with the proposed northeastern extension has been based simply on the continuation of observed existing typical site operations – Section 3 of this report outlines that the extraction rates would remain the same as have been recorded historically. Assessment has therefore been undertaken by simply re-applying the 2018 observed quarry development traffic to the 2020 “opening year” baseline traffic flows.

5.2.3 Based on the above assessment assumptions, the typical operation of the site would continue with c88,000 tonnes per year exported from the quarry. On the day of the traffic survey a total of 7 LGVs and 19 HGVs (26 total export vehicles) were recorded through the site access over the 12-hour period 07:00-19:00 (i.e. 26 in + 26 out). This is broadly in accordance with
the average daily vehicle movements recorded at the site over the period 30th April 2007 – 2nd December 2017 (see Table TS4.3).

5.2.4 It is acknowledged that the site is subject to fluctuations in demand dependent on market conditions. A sensitivity test has therefore also been undertaken, referencing historic weighbridge information for the peak month of site operation, i.e. August 2007. During this peak month, 85th percentile daily export vehicle movements for the peak Tuesday-Thursday operational days reached 62 vehicles (i.e. 62 in + 62 out). This level of demand has therefore also been included to ensure a robust assessment of the proposed extension scheme. It should be noted, however, that over the observed most recent 10-year site operating history, daily export vehicle movements have only exceeded 62 vehicle movements 26 times.

5.2.5 Quarry export movements for the average and sensitivity test scenarios are outlined in Table TS5.1 below:

<table>
<thead>
<tr>
<th>Table TS5.1 – Total Estimated Operational Vehicle Movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hour Begin</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>07:00</td>
</tr>
<tr>
<td>14:00</td>
</tr>
<tr>
<td>16:00</td>
</tr>
<tr>
<td>12Hr (07:00-19:00)</td>
</tr>
</tbody>
</table>

Operational Staff / Visitor Traffic

5.2.6 As already identified above, the quarry extension is proposed to be operated in the same manner as current site operations. Paragraph 4.2.3 of this report identifies that the site currently experiences 10 daily staff vehicle movements (5 in + 5 out), all of which occur outside of the peak assessment periods, with 5 departures occurring in the 12-hour period of 07:00-19:00. This level of staff vehicle movements has been included within the review of total operational site traffic set out in the paragraphs below.
Total Operational Site Traffic

5.2.7 Total operational site traffic modelled for the core assessment periods is therefore as set out in Table TS5.2 below.

<table>
<thead>
<tr>
<th>Hour Begin</th>
<th>Average Quarry Vehicle Movements</th>
<th>Sensitivity Test Quarry Vehicle Movements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arrival</td>
<td>Departure</td>
</tr>
<tr>
<td></td>
<td>LGV</td>
<td>HGV</td>
</tr>
<tr>
<td>07:00</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>14:00</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>16:00</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12Hr (07:00-19:00)</td>
<td>7</td>
<td>19</td>
</tr>
</tbody>
</table>

5.2.8 Review of this table identifies a total two-way trip demand associated with the proposed quarry extension scheme of the order of 57 movements (26 in / 31 out) across the daytime period 07:00-19:00 under average conditions. During the network AM peak hour of 07:00-08:00 site traffic equates to 13 two-way movements (6 in / 7 out) which represents just 1 vehicle movement every 5 minutes under average conditions.

5.2.9 Table TS5.2 also identifies that under sensitivity test conditions a total two-way trip demand associated with the proposed quarry extension scheme could be of the order of 129 movements (62 in / 67 out) across the daytime period 07:00-19:00. During the network AM peak hour of 07:00-08:00 site traffic equates to 30 two-way movements (14 in / 16 out) which represents just 1 vehicle movement every 2 minutes under sensitivity test conditions. Such sensitivity test conditions are unlikely to occur in reality, noting that this level of demand has only been experienced 26 times in the last 10 years.

Restoration / Aftercare Traffic

5.2.10 Vehicle movements associated with restoration and aftercare activities would be strictly limited, and certainly at a level significantly below that associated with the operational phase of the quarry extension. Accordingly, no further assessment of the impact of traffic associated with restoration / aftercare activities has been undertaken.
5.3 **Assignment of Development Traffic**

5.3.1 As noted in Section 3 of this report, the proposed quarry extension would effectively ensure that enough mineral reserves are available to work at the site, such that quarry operations could continue as at present, up to a revised cessation date of 2030. Accordingly, site traffic would continue to distribute across the highway network on the same basis as current operations. With this in mind the distribution of future quarry traffic has been undertaken on the basis of that observed at the Hill Road / A12 junction on the 2018 survey day.

5.3.2 **Figures TS12 & TS13** to this report therefore illustrate the anticipated assignment of operational quarry site traffic across the local highway network for the AM and PM network peak periods (07:00-08:00 & 16:00-17:00), afternoon peak quarry operational period (14:00-15:00) along with the core daytime 12-hour period (07:00-19:00) for the average and sensitivity test scenarios respectively.

5.4 **Opening Year Network Traffic Flows**

5.4.1 On the basis of the above review of the anticipated trip generation of the proposed quarry extension, and the consideration of future year background network traffic flows in Section 4 of this TS, the predicted 2020 Opening Year traffic flows across the highway network have been calculated and are illustrated at **Figures TS14 & TS15** to this report for the average and sensitivity test scenarios respectively.
6.0 ASSESSMENT OF ANTICIPATED DEVELOPMENT TRAFFIC IMPACT

6.1 Introduction

6.1.1 This section of the report considers the assessment of the operation of the immediate local highway to the Wangford Quarry site and the ability of this network to accommodate the quarry extension traffic flow movements, as predicted in Section 5.

6.1.2 This assessment should be viewed in the context of advice regarding development traffic impact as set out in the National Planning Policy Framework (NPPF) document. Paragraph 32 to the NPPF provides guidance on the nature and detail of development transport appraisal to be carried out to support development and those key matters to be considered when determining the suitability of development proposals:

“All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- safe and suitable access to the site can be achieved for all people; and
- improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.” (Para 32).

6.1.3 The last bullet point of paragraph 32 to the NPPF is considered to be of key importance in the context of the review of the Wangford Quarry extension scheme and the assessment of the operation of the immediate local highway network. The NPPF clearly identifies that development should only be refused in those cases where highways impact would be demonstrably severe - which is typically understood to mean situations where development is likely to result in a material detrimental step change in
circumstances when compared to predicted Baseline / Do-Nothing conditions.

6.1.4 The following sections of this report consider the assessment of the operation of the immediate highway network to the proposed Wangford Quarry extension scheme to determine the ability of the network to accommodate the additional traffic flows associated with the proposed development.

6.1.5 Assessment of the impact of the development proposals has been carried out through the consideration of link impact assessment of the key local highway network link of the A12.

6.2 Link Flow Impact Assessment: Local Road Network

6.2.1 Link flow operational assessments have been carried out for the key sections of the A12 route corridor serving the Wangford Quarry site, to both the north and south of Hill Road. It is considered that these sections of route network would experience the maximum link flow associated with the proposed quarry extension scheme, given that they accommodate all operational trips to Wangford Quarry. Should link impact levels on these immediate sections of route prove to lie within appropriate thresholds, it can reasonably be concluded that development traffic at more remote network locations would also be within suitable thresholds.

6.2.2 Reference to Institution of Highways and Transportation (IHT) “Guidelines for Traffic Impact Assessment” suggests that more detailed analysis of highway impact and/or capacity improvements is only likely to be required where either:

- Traffic to/from the development exceeds 10% of existing two-way traffic on the adjoining highway; or,
- Where traffic to/from the development exceeds 5% of the existing two-way traffic flow on the adjoining highways at locations where traffic congestion exists within the assessment period or in other sensitive locations.
6.2.3 Whilst this traditional assessment approach was reviewed and updated in the March 2007 DfT document “Guidelines for Transport Assessment”, this document was itself withdrawn by the DfT in October 2014. Accordingly, in the absence of any national or specific local guidance, and given that the local highway network to Wangford Quarry typically operates with reasonable levels of spare capacity, it is considered that a 10% threshold would represent a reasonable initial contextual guide as to the extent of development traffic operational impact on immediate local routes.

6.2.4 Table TS6.1 below illustrates the calculated 2020 opening year background traffic flows on the immediate local highway network for the key assessment time periods of 07:00-08:00, 14:00-15:00, 16:00-17:00 and 07:00-19:00, as determined through the methodology outlined in Section 4 of this report. Tables TS6.2 & TS6.3 illustrates the anticipated Wangford Quarry extension traffic flows assigned across the network for the average and sensitivity test scenarios respectively.

<table>
<thead>
<tr>
<th>Weekday</th>
<th>07:00-08:00</th>
<th>14:00-15:00</th>
<th>16:00-17:00</th>
<th>07:00-19:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>A12 (north of Hill Rd)</td>
<td>789</td>
<td>490</td>
<td>709</td>
<td>7,070</td>
</tr>
<tr>
<td>A12 (south of Hill Rd)</td>
<td>790</td>
<td>489</td>
<td>711</td>
<td>7,084</td>
</tr>
</tbody>
</table>

(Two-way traffic flows)

<table>
<thead>
<tr>
<th>Weekday</th>
<th>07:00-08:00</th>
<th>14:00-15:00</th>
<th>16:00-17:00</th>
<th>07:00-19:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>A12 (north of Hill Rd)</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>A12 (south of Hill Rd)</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>39</td>
</tr>
</tbody>
</table>

(Two-way traffic flows)

<table>
<thead>
<tr>
<th>Weekday</th>
<th>07:00-08:00</th>
<th>14:00-15:00</th>
<th>16:00-17:00</th>
<th>07:00-19:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>A12 (north of Hill Rd)</td>
<td>12</td>
<td>3</td>
<td>2</td>
<td>42</td>
</tr>
<tr>
<td>A12 (south of Hill Rd)</td>
<td>18</td>
<td>7</td>
<td>2</td>
<td>87</td>
</tr>
</tbody>
</table>

(Two-way traffic flows)

6.2.5 Based on the opening year and predicted development traffic flows outlined above, Table TS6.4 & TS6.5 below outlines the proportional link impact of the quarry extension proposals for the average and sensitivity test scenarios respectively.
6.2.6 Review of Tables TS6.4 & TS6.5 above identifies that the proportional link impact of the typical operation of the Wangford Quarry extension proposals is not anticipated to exceed 10% on the immediate local network corridor of the A12 during either the daytime peak hours or across the full 12-hour daytime period under either average or sensitivity test scenarios. Indeed, development related traffic during the assessed “opening year” of operation (2020) would give rise to a maximum increase against background network traffic levels of just 2.3% at the A12 (south) during the AM Peak period in the sensitivity test scenario.

6.2.7 In summary, it is considered that the theoretical increases in traffic related movements, as a result of the northeastern extension of the quarry, would have only a **negligible** effect upon the section of A12 to the immediate north and south of Hill Road. **These effects are therefore not considered to be significant.**

6.2.8 On the basis of the above review it is therefore considered that development related traffic impact on the immediate local highway network is likely to be **negligible** and that, as such, there should be no requirement for traffic related mitigation measures to be implemented in order to deliver the proposed development.
7.0 SUMMARY & CONCLUSIONS

7.1 Introduction

7.1.1 This Transport Assessment has been prepared by AXIS on behalf of CEMEX UK to consider highways and transport matters related to proposals for a northeastern extension to the existing Wangford Quarry, Wangford, Suffolk.

7.1.2 This report has been prepared in accordance with National Planning Policy Guidance (NPPG), and supporting documents, with the scope and nature of the assessment matters reflecting the extent of highway and transport issues identified as being of material interest to highways officers at Suffolk County Council.

7.2 Site Location & Existing Conditions

Site Location

7.2.1 The application site is located to the south of the settlement of Wangford, with the existing quarry representing two parcels of land of circa 14.5Ha in total connected by a private haul road of circa 400m. Extant consents permit sand and gravel extraction at the site until 2021, with restoration by 2022, although current reserves are likely to be depleted by 2019, and restoration will therefore be complete by 2020.

7.2.2 The primary route of the A12 is located to the west of the site, and the Wangford Quarry access route, Hill Road, lies to the north of the site. All traffic related to the mineral operations at Wangford Quarry is strictly controlled by a Section 106 legal agreement restricting both access and egress to the site via the section of Hill Road that runs to the west of the quarry entrance and the A12. The proposed extension of the Quarry workings would not seek to make any changes to the current access arrangements via the A12 / Hill Road.
Observed Background Network Traffic

7.2.3 In order to inform this Transport Assessment, 12-hour (07:00-19:00) traffic counts were undertaken in January 2018 at the Hill Road / A12 junction.

7.2.4 Review of the traffic flow information identifies that maximum two-way traffic flows occur on the A12 southern arm, and are of the order of 876 vehicles during the quarry PM peak hour (south of Hill Road). Two-way flows at the A12 during the local highway network AM peak period of 07:00-08:00 are noted to be 799 vehicles per hour. Across the core 12hr daytime period this route experiences two-way traffic volumes of up to 7,000 vehicles. Total traffic flows on Hill Road across the 12-hour daytime period total 89 two-way movements.

Observed Site Operations

7.2.5 In order to inform this assessment, historical weighbridge data, for the period 30th April 2007 – 22nd December 2017 has been supplied by CEMEX UK which allows the full review of export related traffic levels on the local highway network associated with the operation of the quarry. Review of the data demonstrates that the annual export of material at Wangford Quarry has ranged between 30,000t and 116,000t, with average annual exports being circa 83,596t. Review of daily information demonstrates that Tuesday, Wednesday and Thursdays represent the busiest days, when 24 / 35 daily export vehicle movements have been recorded (average / 85th percentile for the period 30th April 20017 – 22nd December 2017).

Review of Personal Injury Accident Data

7.2.6 Personal Injury Accident data (PIA) for the immediate local highway network has been obtained using Crashmap.co.uk, which provides details of all PIA events attended by the police. Data has been collected for the period of January 2012 – December 2016, with provisional data for the first half of 2017 (January – June) also included for robustness.
7.2.7 This data illustrates that during the 5.5 year search period, just four personal injury accidents have been recorded within the search area, all of which were classed as 'slight'. The review of information available for each accident has concluded that there are no prevailing highway safety issues within the vicinity of the site that may call the proposed quarry extension into question.

Available Local Sustainable Transport Connections

7.2.8 The typical nature of quarry facilities is such that demand for sustainable travel modes is often unlikely to be generated due to the nature of quarry material transportation, which offers few realistic opportunities to utilise alternative transport options to road haulage. In addition, there are no footways along the Quarry access routes of Hill Road, Mardle Road or the A12.

7.3 Description of the Development Proposals

Development Proposals

7.3.1 The development proposals seek planning approval for a northeastern extension to the Wangford Quarry workings in order to incorporate an additional area of land of c23.8Ha, with quarry operations to continue until 2030, and restoration by 2032.

7.3.2 The proposed extension area, known as Lime Kiln Farm, contains c920,000 tonnes of reserves. It is proposed that extraction at Lime Kiln Farm would commence in 2020, i.e. as soon as reserves at the existing working areas have been exhausted.

7.3.3 Existing site infrastructure such as customer access, weighbridges, parking areas, processing plant etc. is proposed to be maintained as at present.

7.3.4 Access to the proposed extended quarry working area would be via the existing quarry working area and new crossing points of Mardle Road and the unnamed road.
Proposed Site Operation

7.3.5 The existing operational hours of the quarry are proposed to be maintained for the duration of the western extension. Current operations are limited to the following periods:

- 07:00-18:00 Monday to Friday
- 07:00-13:00 Saturdays
- No working on Sundays
- No working on Public/Bank Holidays.

7.4 Key Assessment Parameters

Assessment Time Periods

7.4.1 Based upon the reviews of daily background traffic levels observed during the 2018 traffic surveys, the following time periods have been considered within this TA:

- Network AM peak hour: 07:00-08:00
- Quarry afternoon peak hour: 14:00-15:00
- Quarry PM peak hour: 16:00-17:00
- 12-hour period: 07:00-19:00

Future Year Traffic Growth Assumptions

7.4.2 It should be noted that the current planning permission enables continued operations at the quarry until 2021 with restoration by 2022. However, the proposals would result in a change in date of the cessation of quarrying operations to 2030. Whilst it is proposed to extend the permitted life of the quarry, the annual extraction rate would remain the same. Accordingly, there would be no actual traffic-related effects that would be different from those which could occur under the current permitted operations.
7.4.3 Based upon current permitted mineral reserve volumes and annual extraction rates, operations at the Wangford Quarry would theoretically cease by 2019, with no material remaining to quarry beyond that point and therefore no quarry related traffic arising from 2020 onwards. Accordingly, any new planning consent for an extended site would mean continued operations beyond an approximate current end date of 2019. For the purposes of this assessment a theoretical “opening year” date of 2020 has therefore been utilised for core traffic demand assessments.

7.4.4 Estimates of future year traffic have been undertaken in line with current DfT guidance – through the application of regional growth factors derived from the National Transport Model (NTM). These forecasts suggest of the order of 2% growth on the local highway network between the 2018 survey year and the 2020 year of anticipated site opening.

**Committed Development Traffic**

7.4.5 Consultation with Suffolk County Council / Waveney District Council has identified that there are no committed development schemes in the immediate area which would need to be considered within the baseline traffic conditions of this Transport Assessment.

7.5 **Anticipated Future Development Traffic**

**Core Development Trip Generation Assumptions**

7.5.1 Estimates of development related traffic generation associated with the proposed extension of Wangford Quarry have been calculated based upon existing observed site operations.

**Predicted Operational Traffic**

7.5.2 The proposed extension to Wangford Quarry would ensure the continued extraction of materials beyond the current level of permitted reserves, which could see extraction at the site cease at the end of 2019. Moreover, the proposed extension would see no change to current site operations – in
effect they would simply permit current operations to continue unchanged up to a new planning cessation date of 2030, with restoration by 2032.

7.5.3 The typical operation of the site would continue with c88,000 tonnes per year exported from the quarry. A total of 7 LGVs and 19 HGVs (26 total export vehicles) were recorded through the site access over the 12-hour period 07:00-19:00 (i.e. 26 in + 26 out) on the date of the January 2018 survey. This is broadly in accordance with the average daily vehicle movements recorded at the site over the period 30th April 2007 – 2nd December 2017.

7.5.4 It is acknowledged that the site is subject to fluctuations in demand dependent on market conditions. A sensitivity test has therefore also been undertaken, referencing historic weighbridge information for the peak month of site operation, i.e. August 2007. During this peak month, 85th percentile daily export vehicle movements for the peak Tuesday-Thursday operational days reached 62 vehicles (i.e. 62 in + 62 out). This level of demand has therefore also been included to ensure a robust assessment of the proposed extension of life scheme.

7.5.5 This current level of staff vehicle movements has also been included within the review of total operational site traffic.

7.5.6 Including for staff traffic, the proposed quarry extension scheme is anticipated to result in of the order of 57 movements (26 in / 31 out) across the daytime period 07:00-19:00 under average conditions. Under sensitivity test conditions a total two-way trip demand associated with the proposed quarry extension scheme could be of the order of 129 movements (62 in / 67 out) across the daytime period 07:00-19:00.

Assignment of Development Traffic

7.5.7 The distribution of future quarry traffic has been undertaken on the basis of that observed at the Hill Road / A12 junction on the 2018 survey day.
7.6 **Assessment Of Anticipated Development Traffic Impact**

7.6.1 Assessment of the impact of the development proposals has been carried out through the consideration of link impact assessment of the key local highway network link of the A12.

*Link Flow Impact*

7.6.2 Review of the anticipated increase in traffic flows arising from the proposed quarry extension has identified the proportional link impact of the proposals is not anticipated to exceed 10% on the immediate local network corridor of the A12 during either the daytime peak hours or across the full 12-hour daytime period under either average or sensitivity test scenarios. Indeed, development related traffic during the assessed “opening year” of operation (2020) would give rise to a maximum increase against background network traffic levels of just 2.3% at the A12 (south) during the AM Peak period in the sensitivity test scenario.

7.6.3 It is therefore considered that development traffic related impact on the immediate local highway network is likely to be *negligible* and that, as such, there should be no requirement for traffic related mitigation measures to be implemented in order to deliver the proposed development.

7.7 **Summary**

7.8 Based on the review of anticipated future operational highway conditions and reference to appropriate guideline standards, it is concluded that the proposed Wangford Quarry northeastern extension proposals would not result in a noticeable impact on operational or environmental conditions over the local highway network. Moreover, it has been demonstrated that traffic levels associated with the extension could be accommodated on the local highway network, without any requirement for improvements to existing network links or junctions.
DRAWINGS
Proposed Access Arrangements