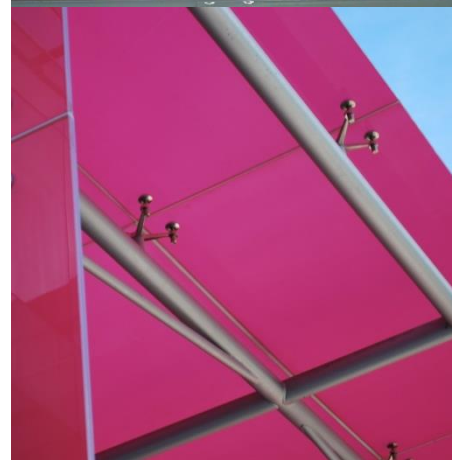
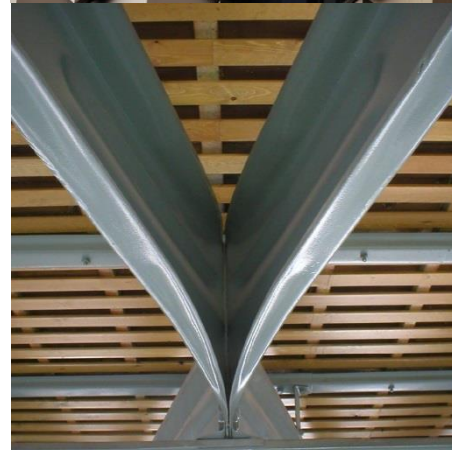
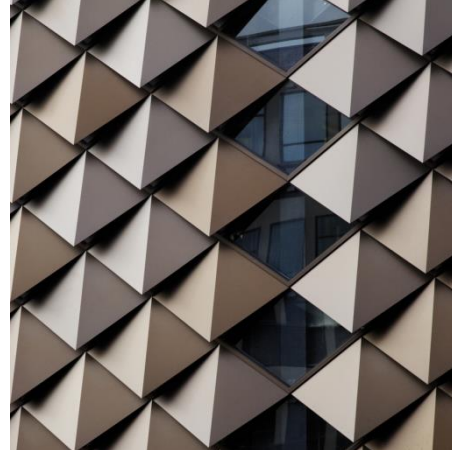


# Land adjacent to 72 Station Road, Surfleet

## Highway Impact Statement

Curtins Ref: TPLE62908  
Revision: FINAL  
Issue Date: 21 December 2016

Client Name: Mrs G Needham



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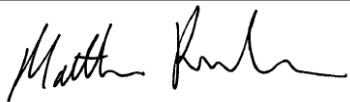
## Control Sheet

| Rev   | Description         | Issued by | Checked | Date     |
|-------|---------------------|-----------|---------|----------|
| Draft | Draft Submission    | AG        | MP      | 03.12.16 |
| Final | Submission in Final | AG        | MP      | 21.12.16 |

This report has been prepared for the sole benefit, use, and information for the client. The liability of Curtins with respect to the information contained in the report will not extend to any third party.

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## 1.0 Introduction

### 1.1 Background

- 1.1.1 Curtins were appointed by 'GPS Planning & Design Limited' on behalf of Mrs G Needham to provide traffic and transportation advice in respect of proposals to construct a total of 23 new dwellings on land at the northern edge of Station Road in Surfleet, Lincolnshire. This Highway Impact Statement (HIS) has been produced to support an outline planning application for the proposed scheme. The general site location is demonstrated within **Plan TPLE62908\_001**.
- 1.1.2 In accordance with 'Guidance on Transport Assessment' (DfT, March 2007) the scale of the proposed development should not require a detailed Transport Statement or Transport Assessment. Appendix B of the DfT GTA confirms that no assessment (i.e. Transport Statement or Transport Assessment) is required for proposed developments consisting less than 50 dwellings. However, for robustness this HIS has been produced to demonstrate that the proposed development of 23 dwellings could be suitably served by an access at Station Road, and that it should not result in a detrimental impact to the existing operation of the highway network.
- 1.1.3 The site and surrounding highway network has been observed during a detailed site visit that was undertaken on Friday 18<sup>th</sup> November 2016, between 1400 and 1430 hours. During the site visit there were no major road works within the surrounding highway network and weather conditions were clear and dry. Detailed measurements and photographs were also taken of the site and the surrounding highway network.
- 1.1.4 Furthermore, on Tuesday 22<sup>nd</sup> November 2016 during the afternoon off-peak period (1300 to 1600 hours), a vehicle speed survey was undertaken by an external private survey data collection company (TrafficSense) in the vicinity of the site frontage on Station Road. A summary of the results are included at **Appendix A** for reference.
- 1.1.5 Further to the above, it should be noted that a planning application for five detached dwellings at the southern edge of the site (measuring approximately 0.273 hectares) was submitted to South Holland District Council in August [South Holland District Council application reference: H17-0798-15] on behalf of the Client, Mrs G Needham. This included five individual driveways with internal turning facilities to prevent reversing onto the main carriageway (Station Road) and maintains access to the existing Nursery within the northernmost section of the site, which was subsequently granted outline planning permission in March 2016 further to a second outline planning application [South Holland District Council application reference: H17-0563-16]. A copy of the submitted Design and Access Statement and a copy of the Local Planning Authority's Decision Notice recommending approval of the scheme are included at **Appendix B**.

## **1.2 Purpose of this Report**

- 1.2.1 This Highway Impact Statement (HIS) has been prepared to inform Highways Officers at Lincolnshire County Council (LCC) and South Holland District Council of all traffic and transportation matters associated with the application, to give confidence that the above development can be considered as being sustainable and suitably provided without severe detrimental impact.
- 1.2.2 In keeping with current government policy contained within National Planning Policy Framework [NPPF] (March 2012), this report seeks to demonstrate that the proposals are sustainable and safe in transport terms. The aim of this report is to identify a suitable site access arrangement to serve the development in line with current design guidance. It also seeks to determine whether the development proposals would generate significant traffic increases within the surrounding highway network.

## **1.3 Scope of the Report**

- 1.3.1 This HIS takes into account current Government policy contained within the National Planning Policy Framework [NPPF] (Department for Communities and Local Government, March 2012). It also considers current best practice advice contained in the document 'Manual for Streets' (DfT, 2007), its companion document 'Manual for Streets 2 – Wider Application of the Principles' (CIHT, September 2010), and Lincolnshire County Council's current access policies and highway design guidance contained in their adopted guidance 'Streetscape Design Manual (dated October 2012).
- 1.3.2 Guidance on Transport Assessment (DfT, March 2007) was archived in October 2014. At present, it is superseded by the Planning Practice Guidance (PPG) documents 'Transport evidence bases in plan making and decision taking' (updated March 2015) and 'Travel Plans, transport assessments and statements in decision-taking' (updated March 2014). These documents provide details on the general approach to assessing traffic impacts, however they do not replace the more specific guidance that was included within Guidance on Transport Assessment. Hence, in lieu of any detailed replacement guidance being published, this HIS continues to adopt the approaches set out in the former document, particularly in respect of where significant traffic impacts could occur.
- 1.3.3 In light of this current policy guidance, the approach taken in any assessment should take a rounded view on impact that considers traffic increases in the context of existing conditions at particular junctions and links, such as whether there are any current capacity or highway safety issues. This all-encompassing approach to assessment helps to address the specific question of whether or not an impact could be defined as severe. To assist with this process, this report continues to adopt the previous advice on thresholds for determining where a significant impact could occur that was included in 'Guidance on Transport Assessment'.

- 1.3.4 The following assessment takes into consideration current Government planning policy contained within the National Planning Policy Framework [NPPF] (Department for Communities and Local Government, March 2012). It places a key emphasis on the presumption in favour of sustainable development. In respect of highways and transportation issues, paragraph 32 of the NPPF sets out the following requirements:

*'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.'*

## **1.4 Structure of the Report**

- 1.4.1 Following this introduction, Section 2 of the report provides a comprehensive description of the existing site and its location. This includes the local highway network and facilities for pedestrians and cyclists. The accessibility of the site is described in Section 3, whereas Section 4 considers the development proposals and Section 5 the impact upon the surrounding highway network. The report is summarised and concluded in Section 6.

## 2.0 Site Context

### 2.1 Site Location

- 2.1.1 The developable site is located at the northern edge of Station Road to the rear of the consented residential development, approximately 120 metres east of the Station Road / Hun Gate priority controlled T-junction. The detailed surrounding network is shown in **Plan TPLE62908\_002**. The site currently includes a horticulture nursery producing vegetables, fruit and plants for retail purposes with an overall site area of approximately 1 hectare. The site is bounded by a field to the north, the Surfleet Primary School to the east, a consented residential development to the south (under the ownership of the Client) and residential properties to the west.
- 2.1.2 The site is currently served by two established points of access along Station Road. The first access is located centrally at the southern edge of the site. This currently measures between approximately 2.4 and 2.8 metres wide with a dropped kerb arrangement measuring approximately 5.5 metres wide. This junction currently serves the existing nursery development as the main point of vehicular access.
- 2.1.3 On-site measurements and Topographical Survey Mapping highlighted that visibility splays of 14 metres to the east and 11 metres towards the west can be achieved within what appears to be publicly maintained highway land. Figure 2.1 shows the general layout of the existing access at Station Road.



Figure 2.1 – Existing primary site access at Station Road

- 2.1.4 The second access is located approximately 80 metres east of the primary site access and serves both the existing nursery and a single residential property. This access measures approximately 3 metres wide with a 6.5 metres wide dropped kerb arrangement. Visibility splays of 16 metres to the east and 27 metres towards the west can be achieved from the secondary point of access within what appears to be publicly maintained highway land.



Figure 2.2 – Existing secondary site access at Station Road

## 2.2 Surrounding Highway Network

### *Station Road*

- 2.2.1 Station Road is an unclassified single carriageway two-way road, which is subject to a 30mph speed limit and includes street lighting. It extends between the A16 to the northeast and Surfleet Road to the southwest via a priority controlled T-junction. At the site frontage, the carriageway varies in width between 5 and 5.7 metres and does not include centre line markings. A 1.4 metre wide footway extends along the northern edge of the carriageway providing a direct link to the neighbouring Surfleet Primary School, whilst a grass verge (protected by railing) extends along the southern edge in the vicinity of the site.



Figure 2.3 – View west along Station Road

#### ***Gosberton Road (B1356) / Surfleet Road***

- 2.2.2 Approximately 700 metres northwest of the site frontage is the Gosberton Road / Surfleet Road (B6418) / Station Road priority controlled T-junction, providing a link to Surfleet Village Centre, which includes a café, a fast food restaurant, a vehicle repair centre, the Crown Inn public house and Saint Laurence Church. Furthermore, to the east of the site Station Road include a convenience store and The Riverside Hotel public house. Approximately 6 kilometres southwest of the site is Spalding which includes a number of amenities such as a library, medical centre, the Castle Sports Complex, a hospital, a number of retail and food stores, local shops, schools and a pharmacy.



Figure 2.4 – View south along Gosberton Road towards junction with Station Road

### **The A16**

- 2.2.3 Approximately 1 kilometre northeast of the site frontage is the A16 / Station Road all-movements ghost island T-junction. The A16 is a classified 'A' road provides direct links to nearby towns such as Boston, Spalding and Peterborough. It is subject to the national speed limit (60mph) in the vicinity of Station Road. It should be noted that the A16 is not part of Highway England's Trunk Road Network but is under the control of the local highway authority (LCC).

## **2.3 Speed Survey Results**

- 2.3.1 A speed survey was undertaken at Station Road in the vicinity of the site on Tuesday 22<sup>nd</sup> November 2016, between 1300 and 1600 hours. During this time no road works were observed on Station Road and the weather conditions were reported to be 'intermittent light showers'.
- 2.3.2 A total of 400 vehicle speeds were recorded during the speed survey, comprising 200 readings in each direction. The survey results are summarised within **Appendix A**, which demonstrate that the 85th percentile wet weather speeds are 27.22mph (43.79kph) in the eastbound direction and 26.78mph (43.09kph) in the westbound direction. It is noted that the recorded 85<sup>th</sup> percentile speeds in both directions are below the 30mph speed limit.

## **2.4 Highway Safety**

- 2.4.1 Paragraph 4.7 within 'Guidance on Transport Assessment' stated that *"for the study area, establish the current personal injury accident records for the most recent three-year period, or five years if this is considered to be more appropriate"*. Paragraph 015 within 'Travel plans, transport assessments and statements in decision-taking' reiterates this and advises that *"an analysis of the injury records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area"*.
- 2.4.2 In accordance with the above, the 'CrashMap' website was examined ([www.crashmap.co.uk](http://www.crashmap.co.uk)) for any details of recorded Personal Injury Accidents within the past five years. This identified that there are no recorded incidents in close proximity of the site frontage between 2011 and 2015 (most recent data available).
- 2.4.3 The nearest incident is located approximately 400 metres northeast of the site frontage on Station Road. This occurred in June 2011 and was classed as 'slight' in severity. It involved a single vehicle with no pedestrian or cyclist casualties. Whilst it is unfortunate that this incident occurred, the isolated nature of the accident does not represent any obvious on-going safety problems / trends within the immediate vicinity of the site.

- 2.4.4 From the above, it can be concluded that there are no significant highway safety concerns in the vicinity of the site that would be exacerbated by the proposed development. Therefore, no further detailed assessment or mitigating improvements are required.

## 3.0 Accessibility by Sustainable Modes of Transport

### 3.1 Pedestrian Accessibility

- 3.1.1 The site is located in an established residential area near to a school and therefore significant pedestrian infrastructure already exists in the surrounding area. The Chartered Institution for Highways and Transportation (CIHT) document entitled '*Providing for Journeys on Foot*' suggests walking distances which are relevant to a variety of planning applications. These are reproduced in **Table 3.1**.

| CIHT Classification      | Town Centres (m) | Commuting/School/ Sightseeing (m) | Elsewhere/Local Services (m) |
|--------------------------|------------------|-----------------------------------|------------------------------|
| <b>Desirable</b>         | 200              | 500                               | 400                          |
| <b>Acceptable</b>        | 400              | 1,000                             | 800                          |
| <b>Preferred Maximum</b> | 800              | 2,000                             | 1,200                        |

**Table 3.1** – CIHT Recommended Walking Distances

- 3.1.2 Further to the above, The Institution of Highways and Transportation [IHT] publication 'Guidelines for providing for journeys on foot' [2000] provides guidance on how to encourage pedestrian travel. Paragraph 3.31 states that:

*“Acceptable’ walking distances will obviously vary between individuals and circumstances. Acceptable walking distances will depend on various factors including:*

- *An individual’s fitness and physical ability*
- *Encumbrances, e.g. shopping, pushchair*
- *Availability, cost and convenience of alternatives transport modes*
- *Time savings*
- *Journey purpose*
- *Personal motivation*
- *General deterrents to walking”.*

- 3.1.3 To assist in summarising the accessibility of the site by foot, an indicative pedestrian catchment plan has been produced. **Plan TPLE62908\_003** shows distances of 500m, 1,000m and 2,000m which are termed '*Desirable*', '*Acceptable*' and the '*Preferred Maximum*' by the CIHT for journeys on foot. All distances have been taken from the centre of the site.

- 3.1.4 The 500m catchment, taken from the centre of the site, includes the local residential area along Station Road and Hun Gate as well as Surfleet Primary School, Surfleet Village Hall and a local general store. Within a 1,000 metres walk distance from the site there are additional residential properties and amenities including a public house, fast food restaurant and church. Within a 2,000 metres walk distance

from the site, residents can access the majority of Surfleet and additional amenities including Spalding Golf Club and a local riverside hotel.

- 3.1.5 Along the southern frontage of the site, an existing footway situated on the northern side of the carriageway provides a pedestrian route throughout the entirety of Surfleet and to all its amenities including a number of bus stops for intermodal travel. Furthermore, there are various existing footpaths in the vicinity of the site and along the adjacent River Glen which provide traffic free links connecting the site to various surrounding villages such as Pinchbeck and Moulton Seas End.

#### ***Pedestrian Accessibility Summary***

- 3.1.6 The surrounding roads have suitable footways available for pedestrian use and the local carriageways are well lit by street lighting. The footway provides a direct link to the centre of Surfleet and all the amenities contained within the village. This therefore provides pedestrian access to local facilities such as a public house, a local news shop and a primary school. Furthermore, there are public footpaths nearby which provide links to local villages.
- 3.1.7 It is therefore reasonable to consider that residents could potentially walk to and from the site and access neighbouring residential areas and recreational amenities.

### **3.2 Accessibility by Cycle**

- 3.2.1 Local Transport Note 2/08 – Cycle Infrastructure Design (DfT, October 2008) states that ‘...many utility cycle journeys are under three miles [5 kilometres], although, for commuter journeys, a trip distance of five miles [8 kilometres] or more is not uncommon.’ [Paragraph 1.5.1, page 14].
- 3.2.2 **Plan TPLE62908\_004** shows a 5 kilometres isochrone catchment area centred on the site, which demonstrates that surrounding areas including Crossgate, Pinchbek and Gosberton, are within a comfortable cycling distance. In accordance with Paragraph 1.40 in Section IN6 of the 6Cs Design Guide, a typical cycle speed of 12mph would result in this distance equating to a journey time of approximately only 16 minutes.
- 3.2.3 Lincolnshire County Council’s ‘Spalding and surrounding area’ cycle route map (shown at **Appendix C**) shows that there are no formal cycle routes within the surrounding area of the site. However, it does demonstrate that Station Road and a large number of surrounding roads are classified as recommended quiet routes for cycling, highlighted in **Plan TPLE62908\_005**. Furthermore, the surrounding local highway network is generally lightly trafficked and should therefore adequately accommodate cycle journeys within the carriageway.

- 3.2.4 The 'Spalding and surrounding area' cycle map in **Appendix C** also demonstrates that Surfleet is connected to a large number of local settlements via 'quiet' roads recommended for cycling including Spalding.

#### ***Cycle Accessibility Summary***

- 3.2.5 There are a good number of roads suitable for cycling throughout the village, which provide safe routes into the surrounding towns / villages. It is therefore considered that residents and visitors could travel to the site by bicycle.

### **3.3 Accessibility by Bus**

- 3.3.1 Guidance from the Chartered Institution of Highways and Transportation (CIHT) document 'Guidelines for Planning for Public Transport in Development' indicates that ideally, a bus stop should be located within 400m from a new development. However, it is generally recognised that in rural areas the walking distance should not be more than 800 metres walking distance of a 60 minutes bus frequency.

#### ***Public Buses***

- 3.3.2 The closest serviced bus stop to the site is located approximately 166 metres west of the existing site access. This stop is served by route number G76. The next closest stop is located approximately 650 metres south-west of the proposed development site and includes a flag and pole arrangement including shelter and timetable facilities. Local public bus services serving these stops are outlined in

**Table 3.2** below:

| Service                          | Route               | Morning peak   | Daytime         | Evening peak  | Saturday                           |
|----------------------------------|---------------------|----------------|-----------------|---------------|------------------------------------|
| <b>B13</b>                       | Spalding > Boston   | Two services   | Two per hour    | Four services | Every hour between 07:11 and 18:38 |
| <b>G53</b><br>(school days only) | Wyberton > Stamford | No service     | No service      | One service   | No service                         |
| <b>G79</b><br>(school days only) | Bicker > Stamford   | No service     | No service      | One service   | No service                         |
| <b>K59</b>                       | Boston > Spalding   | Three services | Twelve services | Two services  | Seven services                     |

**Table 3.2** – Summary of bus service frequencies

- 3.3.3 **Table 3.2** demonstrates that there are existing bus services which are accessible via a short walk distance from the site. By taking some of the bus services available Spalding, Boston and Stamford can be accessed along with a large number of surrounding villages. The close proximity of local bus services provides useful links for work based commutes, access to healthcare and recreational activities. These routes also offer modal interchange possibilities, providing sustainable opportunities for local residents and visitors to travel by public transport. Local bus routes and bus stops are highlighted on **Plan TPLE62908\_006**. Furthermore, Bus Route Number H26D provides a school-day only service providing one morning and one evening service Monday to Friday. This route extends between Donington and Spalding.

#### ***Bus Accessibility Summary***

- 3.3.4 It is considered that the site is suitably served by bus with routes providing access to a mix of educational, recreational, retail, health and employment opportunities. Bus stops are within acceptable pedestrian travel distances, with routes to the stops being within close proximity to the site frontage.

### **3.4 Accessibility Conclusions**

- 3.4.1 The National Planning Policy Framework (NPPF) supports a presumption in favour of sustainable development. Within the document, Section 4 – Promoting Sustainable Transport outlines the important role that transport policies have to play in facilitating this.

- 3.4.2 Paragraph 34 indicates that:

*“Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.”*

- 3.4.3 The site is situated within an existing established residential area and there are a number of residential properties and amenities within acceptable distance of the site. The existing standard of pedestrian infrastructure is good and recommended cycle routes and low trafficked streets surround the site.

- 3.4.4 It has been demonstrated that the development area is served by suitable existing bus routes. To further demonstrate this **Plan TPLE62908\_007** shows public transport travel time isochrones and a series of destinations accessible within 20, 40 and 60-minute journey times of the site. It can be concluded that there is a reasonable area of destinations connected to the site with frequent public transport links within relatively short travel time periods.

- 3.4.5 In conclusion the site is accessible by a variety of sustainable modes of transport and can be considered a suitable location with regards to sustainability.

## 4.0 Development Proposals

### 4.1 Development Description

- 4.1.1 It is proposed that the site would include a total of 23 dwellings overall served from a single point of access at Station Road. Based on the current site masterplan, the proposed 23 house development shall include 8 two-bed houses, 13 three-bed houses and 2 four-bed houses. The latest site masterplan is included at **Appendix D**.

## 5.0 Highway Impact

### 5.1 Change in Traffic Conditions

5.1.1 The TRICS database was examined to identify suitable trip rates to calculate the potential peak hour and daily traffic movements that could be generated by the proposed residential development. The category 'Residential – Houses Privately Owned' was searched, specifying a range of between 5 and 60 dwellings, excluding sites in Greater London, Ireland and Northern Ireland, as well as 'Edge of Town Centre' sites and weekend surveys. This search resulted in 25 surveys taken from 25 sites. A site in Chester (TRICS reference CH-03-A-08) was considered to be a suitable comparison for the proposed development as it has a similar number of dwellings, located close to a major Trunk Road, includes only one access, and has a comparable level of public transport facilities. Furthermore, this particular site was highlighted as being the 85<sup>th</sup> percentile in the listed surveys. Full details of the TRICS search are contained at **Appendix E**.

5.1.2 The following trip rates (per dwelling) within **Table 5.1** (shown below) were therefore considered applicable to the proposed development. Based on these trip rates, the development of 23 dwellings would generate the following vehicle movements.

| Time Range   | Trip Rates (per dwelling) |            | Traffic Generation (23 dwellings) |            |            |
|--------------|---------------------------|------------|-----------------------------------|------------|------------|
|              | Arrivals                  | Departures | Arrivals                          | Departures | Total      |
| 07:00-08:00  | 0.000                     | 0.727      | 0                                 | 17         | 17         |
| 08:00-09:00  | 0.182                     | 0.455      | 4                                 | 10         | 14         |
| 09:00-10:00  | 0.182                     | 0.273      | 4                                 | 6          | 10         |
| 10:00-11:00  | 0.455                     | 0.364      | 10                                | 8          | 18         |
| 11:00-12:00  | 0.455                     | 0.455      | 10                                | 10         | 20         |
| 12:00-13:00  | 0.182                     | 0.455      | 4                                 | 10         | 14         |
| 13:00-14:00  | 0.091                     | 0.091      | 2                                 | 2          | 4          |
| 14:00-15:00  | 0.273                     | 0.364      | 6                                 | 8          | 14         |
| 15:00-16:00  | 0.182                     | 0.182      | 4                                 | 4          | 8          |
| 16:00-17:00  | 0.455                     | 0.182      | 10                                | 4          | 14         |
| 17:00-18:00  | 0.545                     | 0.273      | 13                                | 6          | 19         |
| 18:00-19:00  | 0.364                     | 0.182      | 8                                 | 4          | 12         |
| <b>Daily</b> | 3.366                     | 4.003      | 77                                | 92         | <b>169</b> |

**Table 5.1** – Traffic generation profile

5.1.3 'Guidance on Transport Assessment' [DfT, March 2007] suggests that the analysis period for any proposed development should primarily address the weekday morning and evening peak periods. It advises that developments may have a significant highway impact where increases of 30 or more two-way vehicle movements occur during peak hours. The above traffic generation calculations indicate that the proposed development would result in an increase of only 14 movements during the morning peak

period and 19 movements in the evening peak period. Hence it is considered that the increase in traffic as a result of the proposed development should not result in any detrimental impact on highway safety, or cause any congestion issues along Station Road. This is backed up by guidance contained in paragraph 32 of the National Planning Policy Framework document, which states that *'Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe'*. Therefore, no further detailed assessment of the impact of these increases on the surrounding highway network should be necessary.

- 5.1.4 It should be noted that the use at the existing site would generate regular traffic movements to and from Station Road. Whilst no specific details in respect of traffic movements associated with the current uses have been provided, the fact that any such movements have been excluded from the above conclusions should ensure a robust assessment. Furthermore, these details help to demonstrate that the effective change in traffic conditions should be minimal, especially as the existing site access would be improved and made appropriate to serve the proposed residential development.

## 5.2 Site access

- 5.2.1 **Drawing Number TPLE62908\_001 Revision A** shows the general layout of the proposed access serving the residential development. In line with MfS, this includes a 5 metres wide carriageway, 6 metres kerb radii and 1.8 metres wide footways on both sides of the access road, to tie into the existing facilities on Station Road. It should be noted that as the client also owns the consented site, the above site location is not necessarily fixed.
- 5.2.2 The results of the speed survey (see **Appendix A**) confirmed 85th percentile wet weather vehicle speeds of 27.22mph (43.80kph) in the eastbound direction and 26.78mph (43.09kph) in the westbound direction.
- 5.2.3 The precise visibility splays at the proposed site access junction have been calculated using the measured 85th percentile speeds and current best practice guidance contained within Manual for Streets 2 (MfS2), which recommends within Paragraph 1.3.2 that 'as a starting point for any scheme affecting non-trunk roads, designers should start with MfS'. Paragraph 10.1.13 of MfS2 provides a detailed formula for calculating visibility splays, taking into account the percentage of HGV movements and vehicle speeds.
- 5.2.4 During the speed survey it was noted that less than 5% of vehicles were HGV's in either direction; and the above results show that vehicle speeds were below 60kph in both directions. Table 10.1 in MfS2 provides specific criteria for calculating the Stopping Sight Distance. Hence, the splay requirements have been calculated by adopting a 0.45g deceleration rate and 1.5 seconds reaction time was used.

- 5.2.5 The tables contained within **Appendix A** show that by adopting this approach visibility splays of 37 metres to the east and 37 metres to the west would be required from the proposed site access junction.
- 5.2.6 **Drawing Number TPLE62908\_001 Revision A** shows the proposed junction layout and clearly demonstrates that the required visibility splays can be achieved in both directions from a 2.4 metres setback taken to edge carriageway, within land that is publicly maintained highway.
- 5.2.7 The proposals should not result in capacity issues at any existing junctions nor compromise highway safety. The principle of a potential minor increase in the number of turning movements at an access in this location should therefore be acceptable, subject to it meeting the geometric requirements set out in local guidance.
- 5.2.8 The above information demonstrates how an improved access arrangement could be provided to suitably serve the proposed development. The layout provides an overall betterment at a junction without existing accident issues, which also now includes achievable visibility splays. Therefore, it is considered that site layout demonstrated in **Drawing Number TPLE62908\_001 Revision A** should be sufficient to obtain the local highway authority's 'in principle' support.

### 5.3 Parking

- 5.3.1 In accordance with Table 1 of Lincolnshire County Council's Parking Standards, residential developments of in rural Lincolnshire a maximum of two spaces for dwellings with three or less bedrooms and three spaces for dwellings with four or more bedrooms should be provided. The proposed development shall include 8 two-bed houses, 13 three-bed houses and 2 four-bed houses.
- 5.3.2 Based on the above, and assuming two allocated spaces are provided per dwelling (e.g. on a private driveway and in a garage) with additional parking provided on a communal basis, a total of 48 car parking spaces would be required across the site as a maximum.
- 5.3.3 If garages are to be provided and it is necessary for these to contribute towards the provision of allocated car parking spaces, these will be constructed with minimal internal garage dimensions suitable to accommodate an average sized car, as outlined below:
- Standard single = 6m x 3m, with minimum door width of 2.3m
  - Use by disabled = 6m x 3.3m with minimum door width of 2.8m
  - Double = 6m x 6m, with minimum door width of 4.2m.
- 5.3.4 The indicative site masterplan generally accords with these requirements, with spaces conveniently located in relation to the property served, so that any obstruction of the carriageways, footways, and turning heads caused by on-street parking is limited.

## 5.4 Servicing arrangements

- 5.4.1 The access has been designed to include 6 metres kerb radii to allow for refuse vehicles to easily enter and exit the site. **Drawing Number TPLE62908\_001 Revision A** also includes swept path analysis which shows that a large refuse vehicle (Phoenix 2-23W (with Elite 2 6x4 chassis)) would be able to make a left hand turn into the site and then a left hand turn to exit the site. The proposed site access should therefore be suitable to accommodate refuse collection vehicles.
- 5.4.2 In terms of refuse collections within the site, bins should be left either at the kerbside or at an agreed collection point immediately adjacent to the roadside, with suitable measures in place to ensure that bins do not obstruct the footway on collection days. The site layout should therefore ensure that refuse collection vehicles can park at the kerbside adjacent to all dwellings or collection points. Bin collection points should also be located within 30 metres walking distance for residents of the dwellings they serve, in line with the recommendations contained in Manual for Streets. The layout has been designed so that refuse workers should have to walk no further than 25 metres from their vehicle to collect bins, as required by Manual for Streets.

## 5.5 Access by non-car modes

- 5.5.1 The key emphasis of NPPF is on the need for all new developments to be sustainable. Part of this requirement for sustainability means providing reasonable opportunities for travel to and from sites by non-car modes, with paragraph 29 stating *'The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel'*.
- 5.5.2 It is reasonable to consider that the proposed development would generate only a minimal increase in pedestrian movements, which could be satisfactorily accommodated within the existing footway along the northern edge of Station Road. As described previously, this provides a direct link to the centre of Surfleet and also to local facilities such as a public house, a fast food restaurant a local news shop and Surfleet Primary School. Inspection of the Lincolnshire County Council's mapping portal confirmed that no public footpaths pass through the site. However, there are a number of public footpaths and cycle routes nearby which provide links to local villages.
- 5.5.3 Although there are no designated cycle routes in the vicinity of the site, the general layout of the highway network and nature of Station Road should adequately accommodate cycle journeys within the carriageway and is highlighted as a 'recommended route for cycling'. Destinations that are deemed within reachable cycle distance (5 kilometres) include Crossgate, Pinchbek and Gosberton.
- 5.5.4 The proposed development would be likely to generate only a minimal increase in bus passenger movements. It is considered that any additional movements associated with bus passengers could be satisfactorily accommodated by the existing services that operate on Station Road and Goseberton

Road within 800 metres of the site. The current buses have a combined frequency of a minimum of two services every hour during a generally weekday and provide links between the site and a number of locations such as Spalding, Bolton, Stamford, Wyberton and Bicker.

## 6.0 Summary and Conclusions

### 6.1 Summary

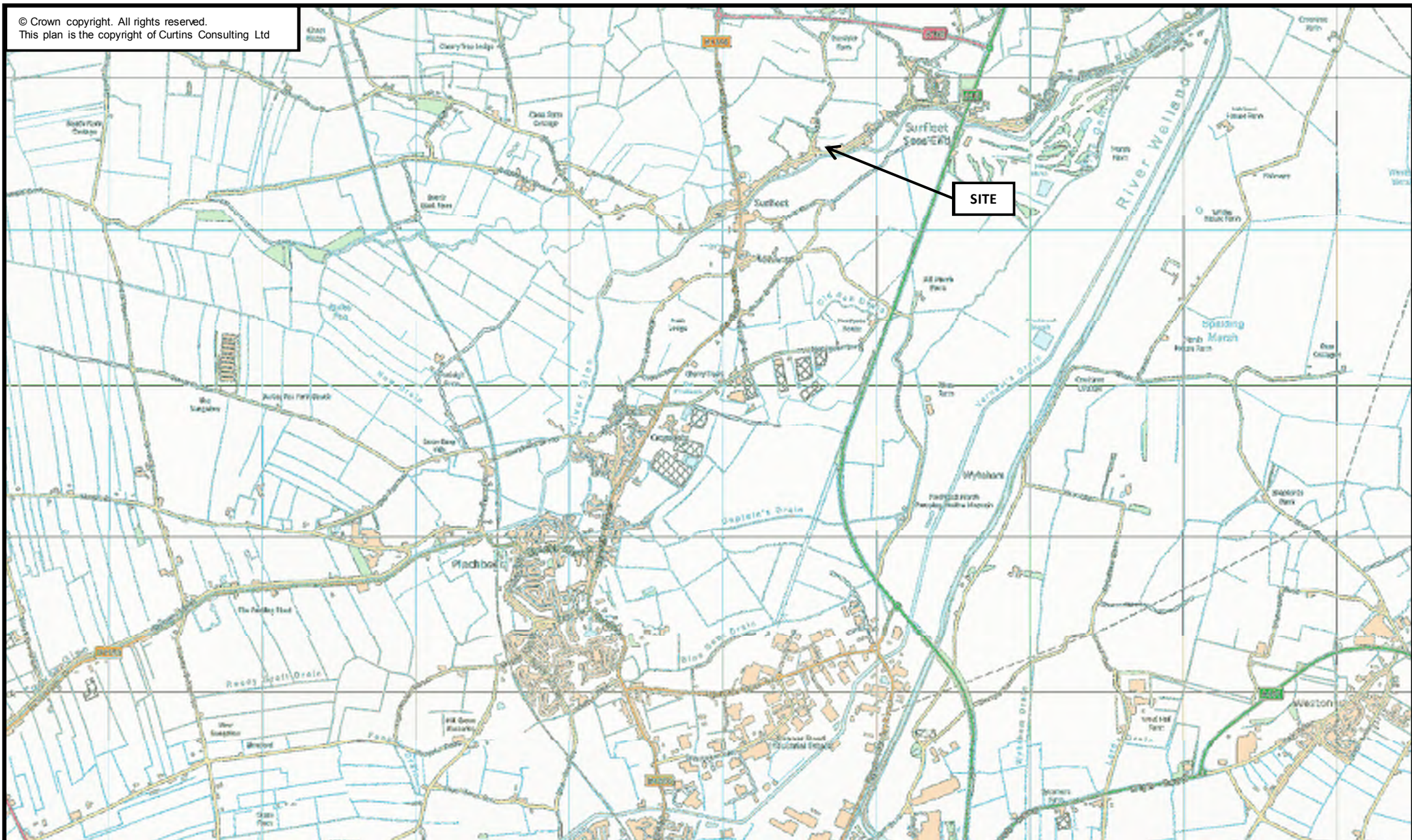
- 6.1.1 Curtins were appointed by 'GPS Planning & Design Limited' on behalf of Mrs G Needham to provide traffic and transportation advice in respect of proposals to construct 23 new dwellings on land at the northern edge of Station Road in Surfleet, Lincolnshire. This Highway Impact Statement has been produced to support an outline planning application for the proposed scheme.
- 6.1.2 The site is situated within an existing established residential area within a reasonable distance of Surfleet Village Centre, and the surrounding area is a well-established residential neighbourhood. The existing standard of pedestrian infrastructure is satisfactory and cycle routes are accessible a short distance from the site. It has also been demonstrated that the development area is well served by public transport.
- 6.1.3 The proposed development would generate 14 two-way vehicular movements during the morning peak hour and 19 two-way vehicular movements during the evening peak hour at the proposed Station Road / site access junction. This does not represent a significant change in traffic conditions, and should not warrant any further detailed assessment of the impact of the proposed development on the surrounding highway network.
- 6.1.4 **Drawing Number TPLE62908\_001 Revision A** demonstrates how an improved access arrangement could be provided to suitably serve the proposed development. The layout provides an overall betterment at a junction without existing accident issues. The general layout of the proposed site access includes a 5 metres wide carriageway to accommodate refuse collection vehicles, 6 metres kerb radii and 1.8 metres wide footways to tie into the existing arrangement on Station Road.
- 6.1.5 Based on observed traffic speeds on Station Road the required site access visibility splays of 37 metres in both directions should be provided from the proposed site access in accordance with the observed 85<sup>th</sup> percentile wet weather vehicle speeds and the requirements of 'Manual for Streets'. **Drawing Number TPLE62908\_001 Revision A** demonstrates that these splays can be achieved from a 2.4 metres set-back distance within land that is either under the control of the applicant or public highway.
- 6.1.6 The masterplan appears to reflect the parking requirements set out in the local parking standards as described in Section 5.3 of this report. The proposed development is likely to generate an overall maximum demand for 48 car parking spaces, assuming 2 allocated spaces for each dwelling plus appropriate communal provision.

- 6.1.7 The proposed development should generate a small increase in demand for travel by non-car modes such as walking, cycling, and public transport, which could be satisfactorily accommodated through the existing infrastructure.
- 6.1.8 Inspection of the 'CrashMap' website ([www.crashmap.co.uk](http://www.crashmap.co.uk)) for the surrounding area has revealed that there are no existing highway safety concerns in the vicinity of the site with only one accident occurring within a five-year period. It can be concluded that the additional traffic movements associated with the proposed development should not lead to any increased risk of collisions.

## **6.2 Conclusions**

- 6.2.1 This Highway Impact Statement identifies a suitable access arrangement for the proposed development that would meet current design requirements served from Station Road. It also confirms that the site is in a reasonably sustainable location. Furthermore, the potential traffic increases associated with the proposed development would not be significant and so the development would have no severe off-site impact, thus meeting the requirements of Paragraph 32 of the NPPF. As a result, it is considered that the site represents good opportunity for residential development that should therefore receive the support of the local highway authority.

## Plans



SCALE: **Do Not Scale**

DATE: **17.11.16**

DRAWN: **AH**

CLIENT:

**MRS G NEEDHAM**

TITLE:

**GENERAL SITE LOCATION**

JOB TITLE:

**LAND ADJACENT TO 72 STATION  
ROAD, SURFLEET**

JOB NUMBER:

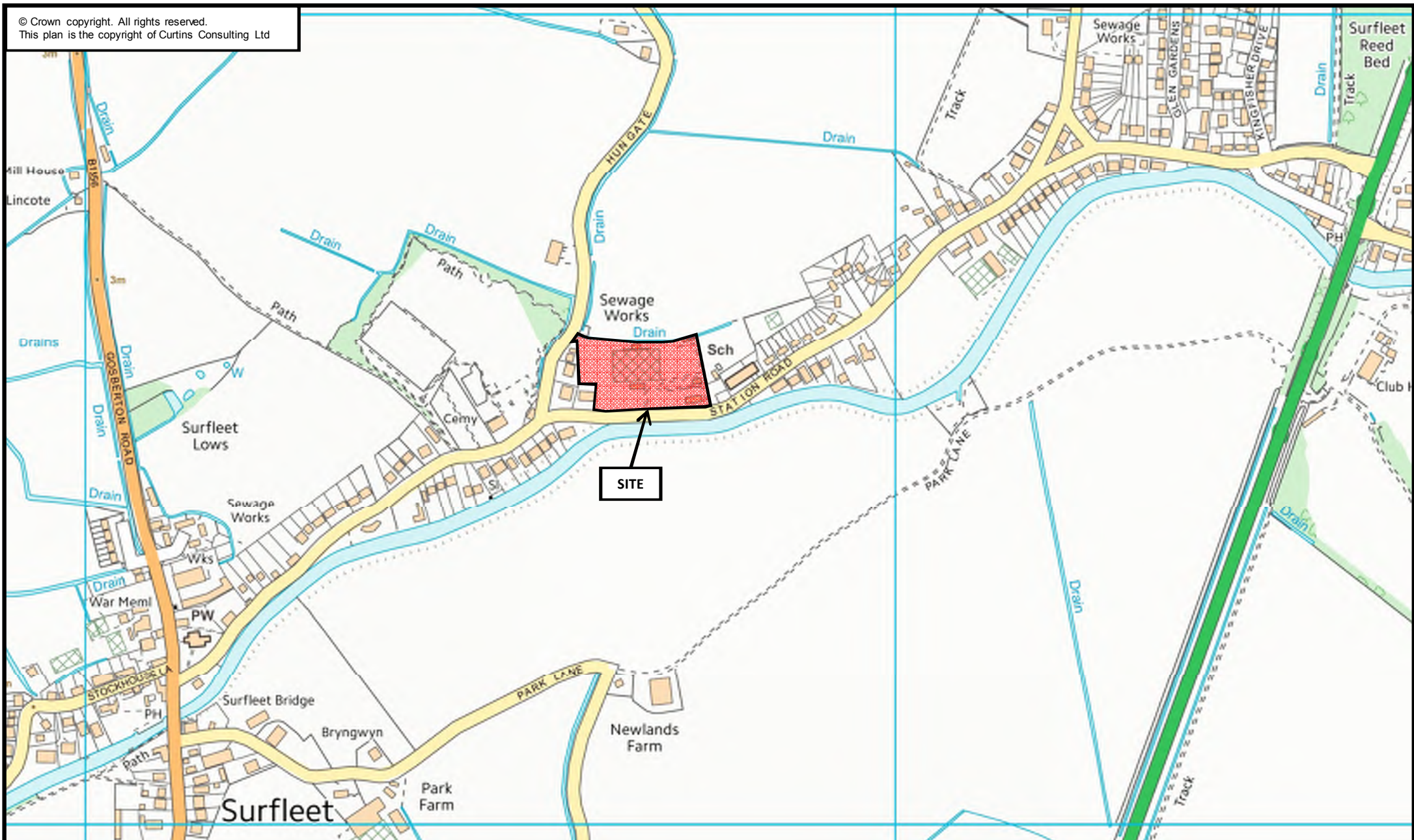
**TPLE62908**

FIGURE:

**001**

Nottingham  
56 The Ropewalk  
Nottingham  
NG1 5DW  
T. 0115 941 5551  
nottingham@curtins.com





SCALE: **Do Not Scale**

DATE: **17.11.16**

DRAWN: **AH**

CLIENT:

**MRS G NEEDHAM**

TITLE:

**DETAILED SITE LOCATION**

JOB TITLE:

**LAND ADJACENT TO 72 STATION ROAD, SURFLEET**

JOB NUMBER:

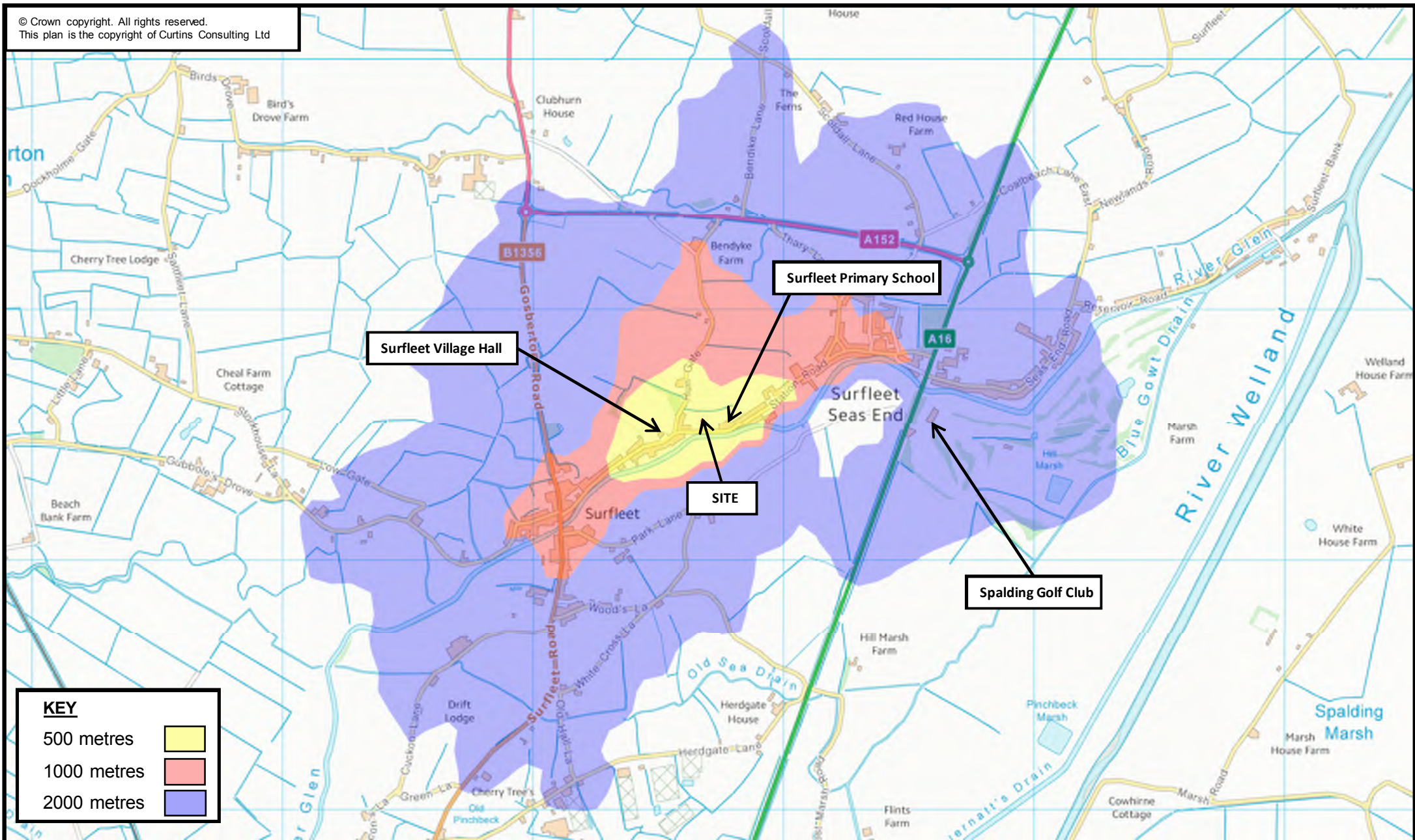
**TPLE62908**

FIGURE:

**002**

Nottingham  
56 The Ropewalk  
Nottingham  
NG1 5DW  
T. 0115 941 5551  
nottingham@curtins.com





**KEY**

|             |                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------|
| 500 metres  | <span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span> |
| 1000 metres | <span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black;"></span>    |
| 2000 metres | <span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span>   |

SCALE: **Do Not Scale**

DATE: **17.11.16**

DRAWN: **AH**

CLIENT:

**MRS G NEEDHAM**

TITLE:

**PEDESTRIAN ISOCHRONES**

JOB TITLE:

**LAND ADJACENT TO 72 STATION  
ROAD, SURFLEET**

JOB NUMBER:

**TPLE62908**

FIGURE:

**003**

Nottingham  
56 The Ropewalk  
Nottingham  
NG1 5DW  
T. 0115 941 5551  
nottingham@curtins.com



DRAWN: **AH**

CLIENT:

**MRS G NEEDHAM**

TITLE:

### CYCLIST ISOCHRONES (5 KILOMETRES)

JOB TITLE:

**JOB TITLE:**  
**LAND ADJACENT TO 72 STATION**  
**ROAD, SURFLEET**

JOB NUMBER:

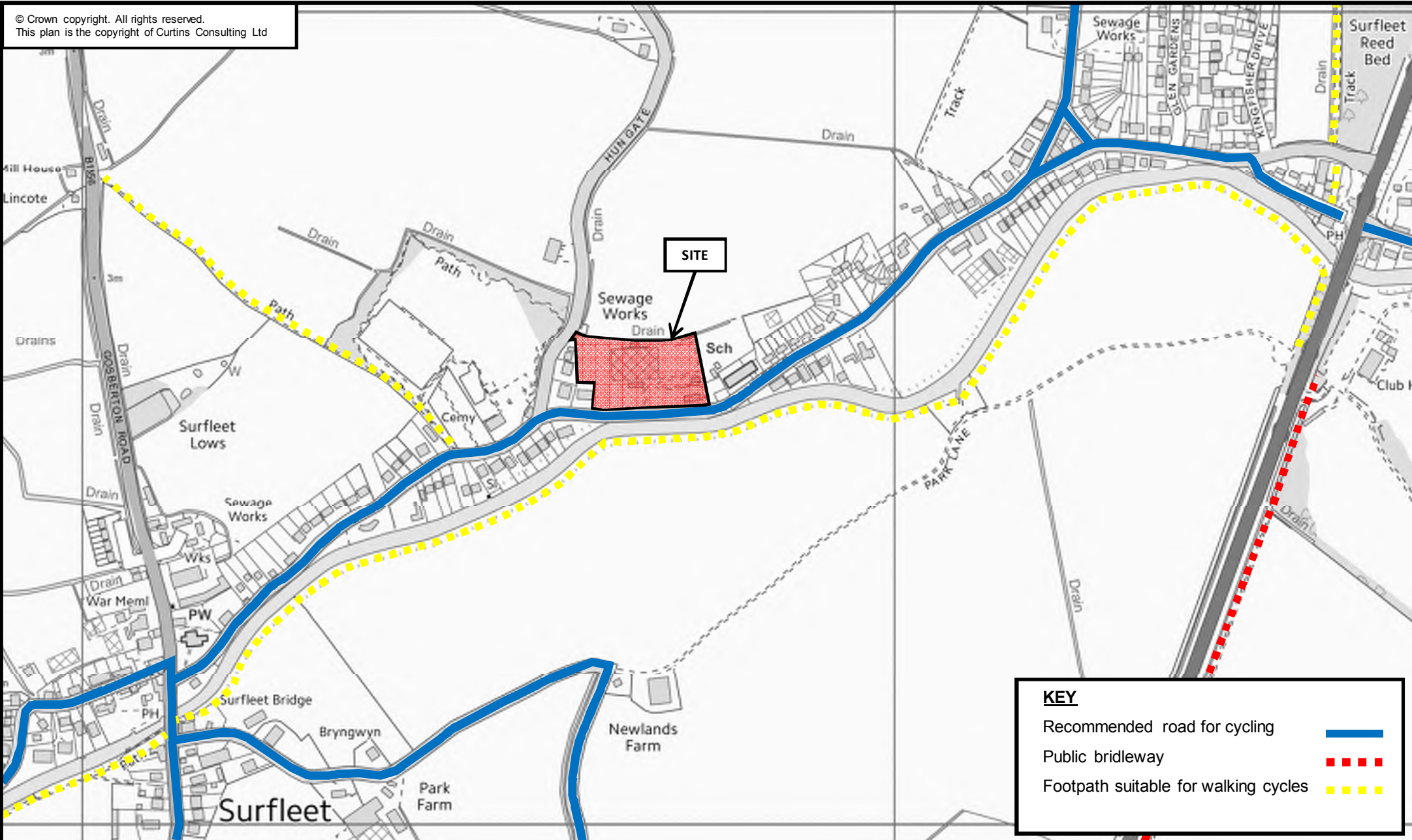
**TPLE62908**

FIGURE:

004

Nottingham  
56 The Ropewalk  
Nottingham  
NG1 5DW  
T. 0115 941 5551  
gham@curtins.com





SCALE: **Do Not Scale**

DATE: **17.11.16**

DRAWN: **AH**

CLIENT:  
**MRS G NEEDHAM**

TITLE: **LOCAL PEDESTRIAN AND CYCLE ROUTES**

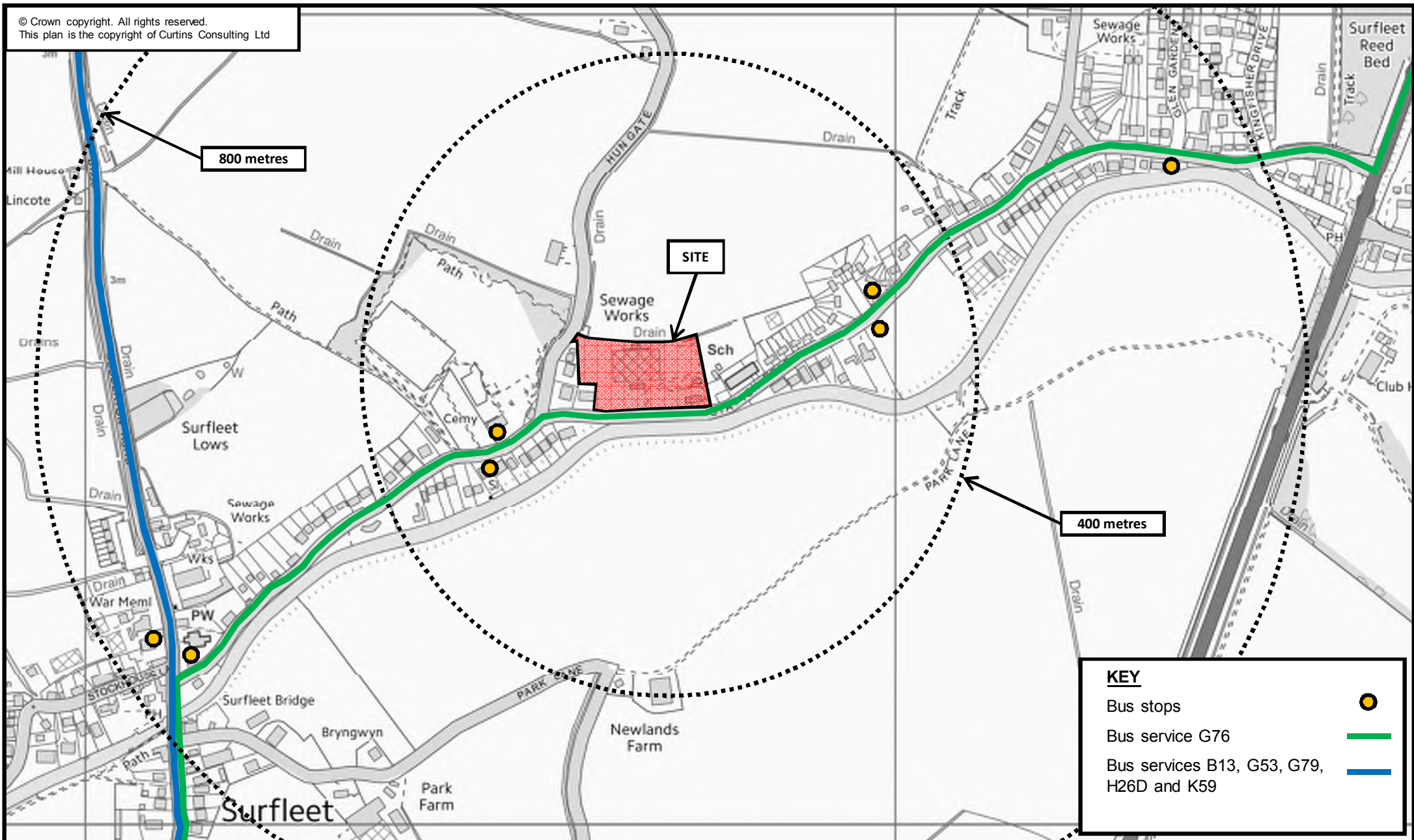
JOB TITLE:  
**LAND ADJACENT TO 72 STATION  
ROAD, SURFLEET**

JOB NUMBER:  
**TPLE62908**

FIGURE:  
**005**

Nottingham  
56 The Ropewalk  
Nottingham  
NG1 5DW  
T. 0115 941 5551  
nottingham@curtins.com





# **KEY**

Bus stops

Bus service G76

Bus services B13, G53, G79,  
H26D and K59



SCALE: **Do Not Scale**

DATE: **17.11.16**

DRAWN: **AH**

CLIENT:

**MRS G NEEDHAM**

TITLE:

**LOCAL BUS ROUTES**

JOB TITLE:

**LAND ADJACENT TO 72 STATION  
ROAD, SURFLEET**

JOB NUMBER:

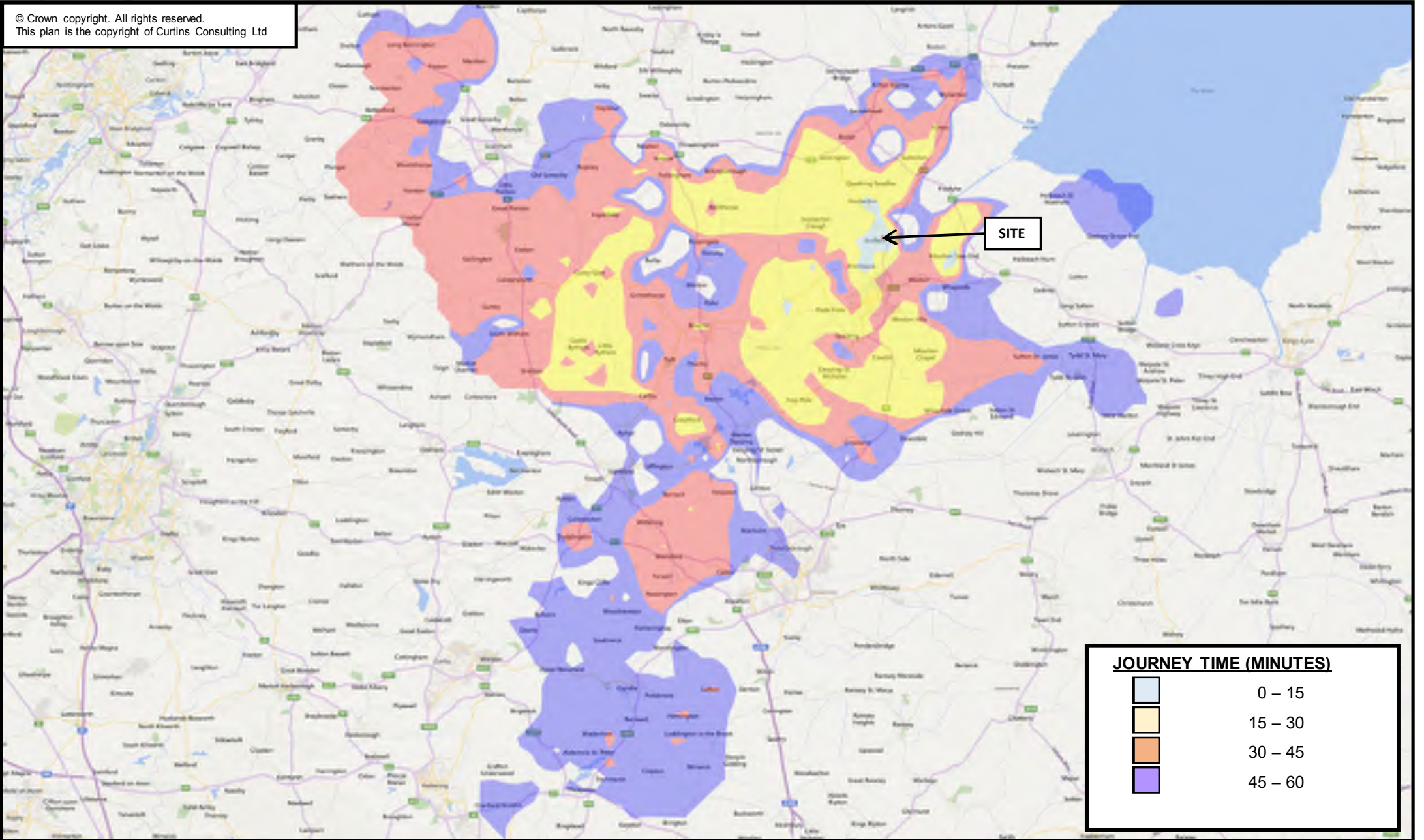
**TPLE62908**

FIGURE:

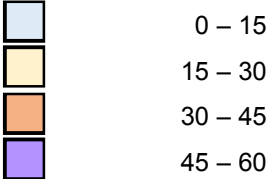
**006**

Nottingham  
56 The Ropewalk  
Nottingham  
NG1 5DW  
T. 0115 941 5551  
nottingham@curtins.com





**JOURNEY TIME (MINUTES)**



SCALE: **Do Not Scale**

DATE: **17.11.16**

DRAWN: **AH**

CLIENT:  
**MRS G NEEDHAM**

TITLE:  
**PUBLIC TRANSPORT CATCHMENT AREA**

JOB TITLE:  
**LAND ADJACENT TO 72 STATION  
ROAD, SURFLEET**

JOB NUMBER:  
**TPLE62908**

FIGURE:  
**007**

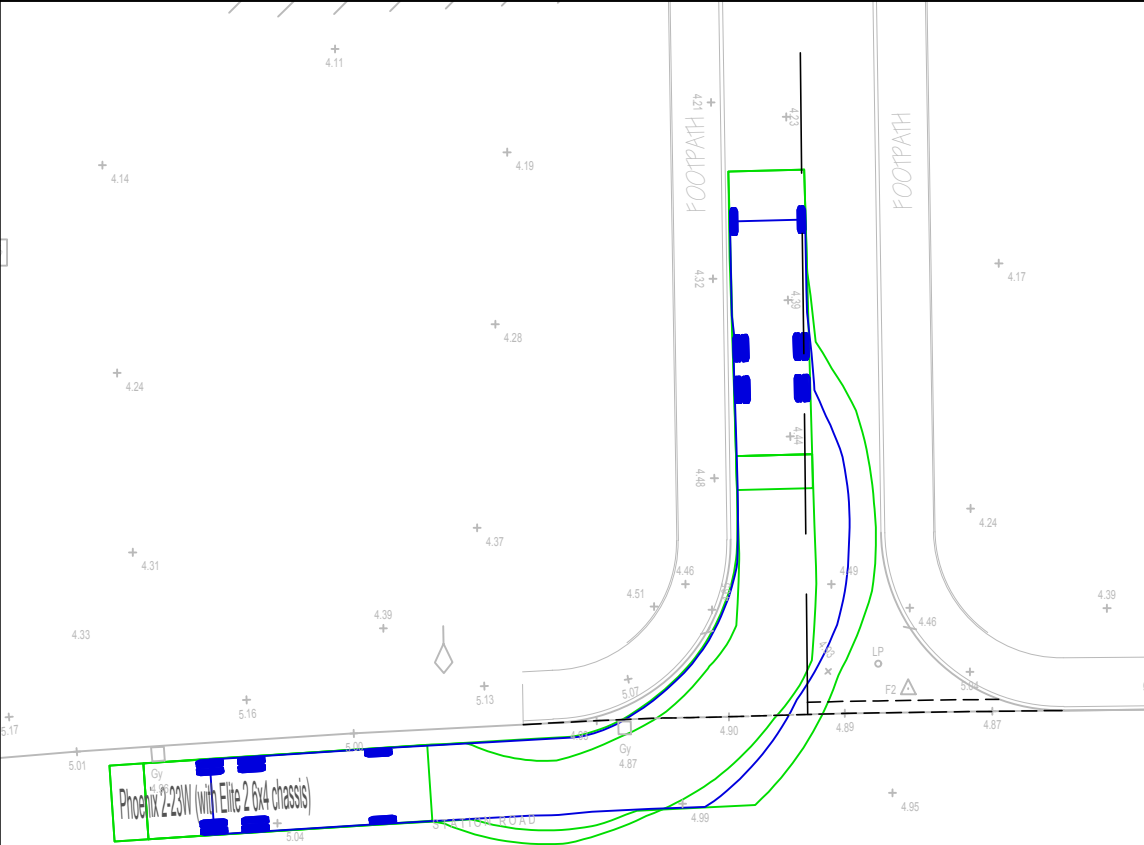
Nottingham  
56 The Ropewalk  
Nottingham  
NG1 5DW  
T. 0115 941 5551  
nottingham@curtins.com



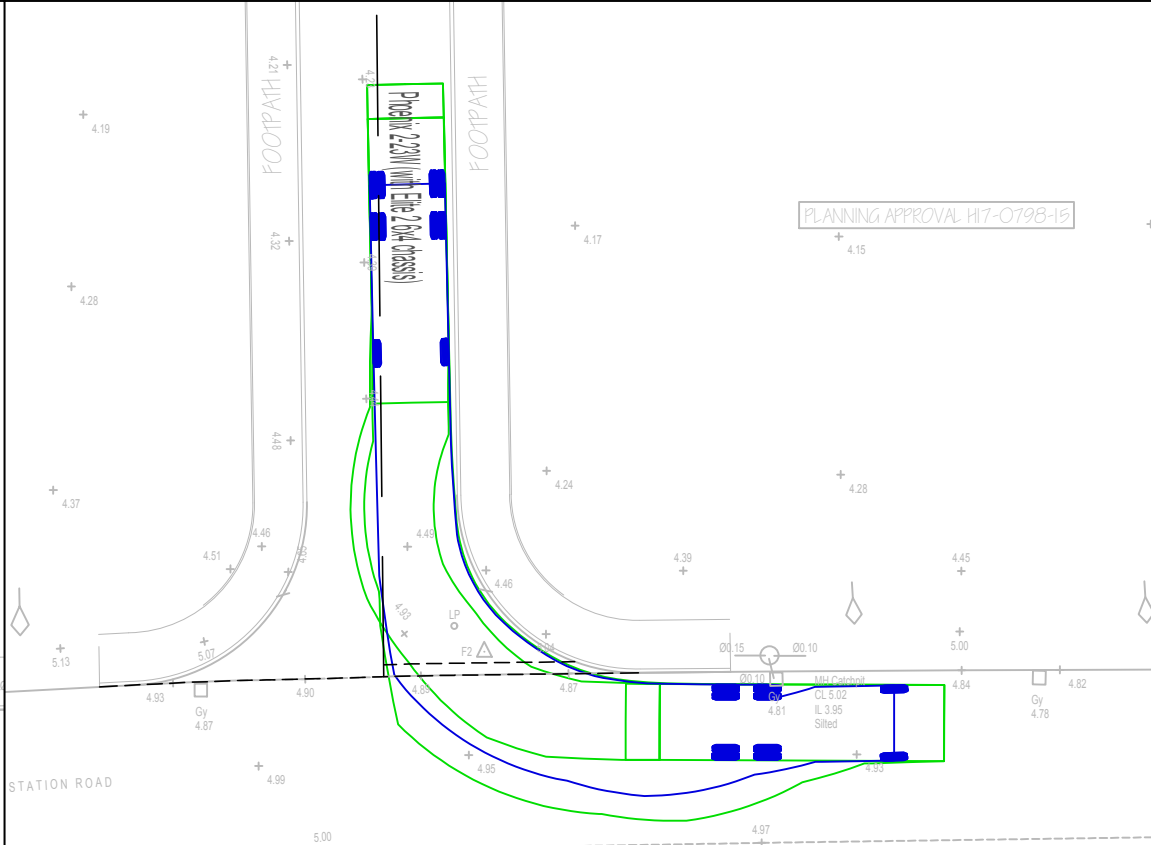
## Drawings



PROPOSED SITE ACCESS LAYOUT – SCALE 1:500@A3



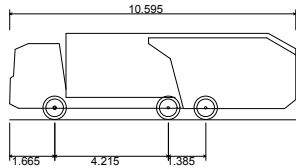
LARGE REFUSE VEHICLE LEFT-TURN MANOEUVRE  
FROM STATION ROAD TO SITE ACCESS – SCALE 1:250@A3



LARGE REFUSE VEHICLE LEFT-TURN MANOEUVRE  
FROM SITE ACCESS TO STATION ROAD – SCALE 1:250@A3

NOTES:

1. DO NOT SCALE THIS DRAWING. ALL DIMENSIONS MUST BE CHECKED/ VERIFIED ON SITE. IF IN DOUBT ASK.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
3. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
4. ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.



Phoenix 2-23W (with Elite 2 6x4 chassis)  
Overall Length 10.595m  
Overall Width 2.530m  
Overall Body Height 3.205m  
Min Body Ground Clearance 0.410m  
Track Width 2.500m  
Lock-to-lock time 4.00s  
Curb to Curb Turning Radius 9.250m



GREEN LINE = VEHICLE BODY TRACK  
BLUE LINE = VEHICLE WHEEL TRACK

|      |                          |          |     |       |
|------|--------------------------|----------|-----|-------|
| A    | SITE MASTERPLAN INCLUDED | 20.12.16 | AG  | MP    |
| Rev: | Description:             | Date:    | By: | Chkd: |



Curtins Consulting Ltd,  
56 The Ropewalk, Nottingham, NG1 5DW  
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e: nottingham@curtins.com  
www.curtins.com

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PRELIMINARY

Project: LAND ADJACENT TO 72 STATION ROAD, SURFLEET

Drg Title: PROPOSED SITE ACCESS LAYOUT

|                 |          |                       |           |             |
|-----------------|----------|-----------------------|-----------|-------------|
| Scale: AS SHOWN | Size: A3 | First Issue: 28/11/16 | Drawn: AG | Checked: MP |
|-----------------|----------|-----------------------|-----------|-------------|

|                       |        |
|-----------------------|--------|
| Drg No: TPLE62908_001 | Rev: A |
|-----------------------|--------|

## Appendix A – Vehicle Speed Survey Data and Summary

# Manual Speed Survey, Surfleet

DATE : TUESDAY 22nd NOVEMBER 2016

WEATHER: INTERMITTENT LIGHT SHOWER

LOCATION: STATION ROAD

SINGLE CARRIAGEWAY

| 1300 - 1600           |     |     |     |     |                       |     |     |     |     |
|-----------------------|-----|-----|-----|-----|-----------------------|-----|-----|-----|-----|
| DIRECTION : EASTBOUND |     |     |     |     | DIRECTION : WESTBOUND |     |     |     |     |
| SPEED (MPH)           | CAR | LGV | HGV | BUS | SPEED (MPH)           | CAR | LGV | HGV | BUS |
| 15                    | 0   | 0   | 0   | 0   | 15                    | 0   | 0   | 0   | 0   |
| 16                    | 0   | 0   | 0   | 0   | 16                    | 0   | 0   | 0   | 0   |
| 17                    | 0   | 0   | 0   | 0   | 17                    | 0   | 0   | 0   | 0   |
| 18                    | 0   | 0   | 0   | 0   | 18                    | 0   | 0   | 0   | 0   |
| 19                    | 0   | 0   | 0   | 0   | 19                    | 0   | 0   | 0   | 0   |
| 20                    | 0   | 0   | 0   | 0   | 20                    | 0   | 0   | 0   | 0   |
| 21                    | 1   | 0   | 0   | 0   | 21                    | 0   | 0   | 0   | 0   |
| 22                    | 1   | 0   | 0   | 0   | 22                    | 0   | 0   | 0   | 0   |
| 23                    | 5   | 0   | 0   | 0   | 23                    | 0   | 2   | 0   | 0   |
| 24                    | 8   | 0   | 0   | 0   | 24                    | 6   | 0   | 0   | 0   |
| 25                    | 16  | 0   | 0   | 0   | 25                    | 10  | 1   | 0   | 0   |
| 26                    | 27  | 0   | 0   | 0   | 26                    | 28  | 2   | 0   | 0   |
| 27                    | 37  | 2   | 0   | 0   | 27                    | 42  | 0   | 0   | 0   |
| 28                    | 32  | 4   | 0   | 0   | 28                    | 40  | 3   | 0   | 0   |
| 29                    | 26  | 6   | 0   | 0   | 29                    | 46  | 4   | 0   | 0   |
| 30                    | 15  | 4   | 0   | 0   | 30                    | 13  | 0   | 0   | 0   |
| 31                    | 10  | 1   | 0   | 0   | 31                    | 0   | 0   | 0   | 0   |
| 32                    | 2   | 2   | 0   | 0   | 32                    | 1   | 1   | 0   | 0   |
| 33                    | 0   | 0   | 0   | 0   | 33                    | 0   | 0   | 0   | 0   |
| 34                    | 1   | 0   | 0   | 0   | 34                    | 1   | 0   | 0   | 0   |
| 35                    | 0   | 0   | 0   | 0   | 35                    | 0   | 0   | 0   | 0   |
| 36                    | 0   | 0   | 0   | 0   | 36                    | 0   | 0   | 0   | 0   |
| 37                    | 0   | 0   | 0   | 0   | 37                    | 0   | 0   | 0   | 0   |
| 38                    | 0   | 0   | 0   | 0   | 38                    | 0   | 0   | 0   | 0   |
| 39                    | 0   | 0   | 0   | 0   | 39                    | 0   | 0   | 0   | 0   |
| 40                    | 0   | 0   | 0   | 0   | 40                    | 0   | 0   | 0   | 0   |
| 41                    | 0   | 0   | 0   | 0   | 41                    | 0   | 0   | 0   | 0   |
| 42                    | 0   | 0   | 0   | 0   | 42                    | 0   | 0   | 0   | 0   |
| 43                    | 0   | 0   | 0   | 0   | 43                    | 0   | 0   | 0   | 0   |
| 44                    | 0   | 0   | 0   | 0   | 44                    | 0   | 0   | 0   | 0   |
| 45                    | 0   | 0   | 0   | 0   | 45                    | 0   | 0   | 0   | 0   |
| 46                    | 0   | 0   | 0   | 0   | 46                    | 0   | 0   | 0   | 0   |
| 47                    | 0   | 0   | 0   | 0   | 47                    | 0   | 0   | 0   | 0   |
| 48                    | 0   | 0   | 0   | 0   | 48                    | 0   | 0   | 0   | 0   |
| 49                    | 0   | 0   | 0   | 0   | 49                    | 0   | 0   | 0   | 0   |
| 50                    | 0   | 0   | 0   | 0   | 50                    | 0   | 0   | 0   | 0   |
| 51                    | 0   | 0   | 0   | 0   | 51                    | 0   | 0   | 0   | 0   |
| 52                    | 0   | 0   | 0   | 0   | 52                    | 0   | 0   | 0   | 0   |
| 53                    | 0   | 0   | 0   | 0   | 53                    | 0   | 0   | 0   | 0   |
| 54                    | 0   | 0   | 0   | 0   | 54                    | 0   | 0   | 0   | 0   |
| 55                    | 0   | 0   | 0   | 0   | 55                    | 0   | 0   | 0   | 0   |
| 56                    | 0   | 0   | 0   | 0   | 56                    | 0   | 0   | 0   | 0   |
| 57                    | 0   | 0   | 0   | 0   | 57                    | 0   | 0   | 0   | 0   |
| 58                    | 0   | 0   | 0   | 0   | 58                    | 0   | 0   | 0   | 0   |
| 59                    | 0   | 0   | 0   | 0   | 59                    | 0   | 0   | 0   | 0   |
| 60                    | 0   | 0   | 0   | 0   | 60                    | 0   | 0   | 0   | 0   |
| 61                    | 0   | 0   | 0   | 0   | 61                    | 0   | 0   | 0   | 0   |
| 62                    | 0   | 0   | 0   | 0   | 62                    | 0   | 0   | 0   | 0   |
| 63                    | 0   | 0   | 0   | 0   | 63                    | 0   | 0   | 0   | 0   |
| 64                    | 0   | 0   | 0   | 0   | 64                    | 0   | 0   | 0   | 0   |
| 65                    | 0   | 0   | 0   | 0   | 65                    | 0   | 0   | 0   | 0   |
| 66                    | 0   | 0   | 0   | 0   | 66                    | 0   | 0   | 0   | 0   |
| 67                    | 0   | 0   | 0   | 0   | 67                    | 0   | 0   | 0   | 0   |
| 68                    | 0   | 0   | 0   | 0   | 68                    | 0   | 0   | 0   | 0   |
| 69                    | 0   | 0   | 0   | 0   | 69                    | 0   | 0   | 0   | 0   |
| 70                    | 0   | 0   | 0   | 0   | 70                    | 0   | 0   | 0   | 0   |
| 71                    | 0   | 0   | 0   | 0   | 71                    | 0   | 0   | 0   | 0   |
| 72                    | 0   | 0   | 0   | 0   | 72                    | 0   | 0   | 0   | 0   |
| 73                    | 0   | 0   | 0   | 0   | 73                    | 0   | 0   | 0   | 0   |
| 74                    | 0   | 0   | 0   | 0   | 74                    | 0   | 0   | 0   | 0   |
| 75                    | 0   | 0   | 0   | 0   | 75                    | 0   | 0   | 0   | 0   |

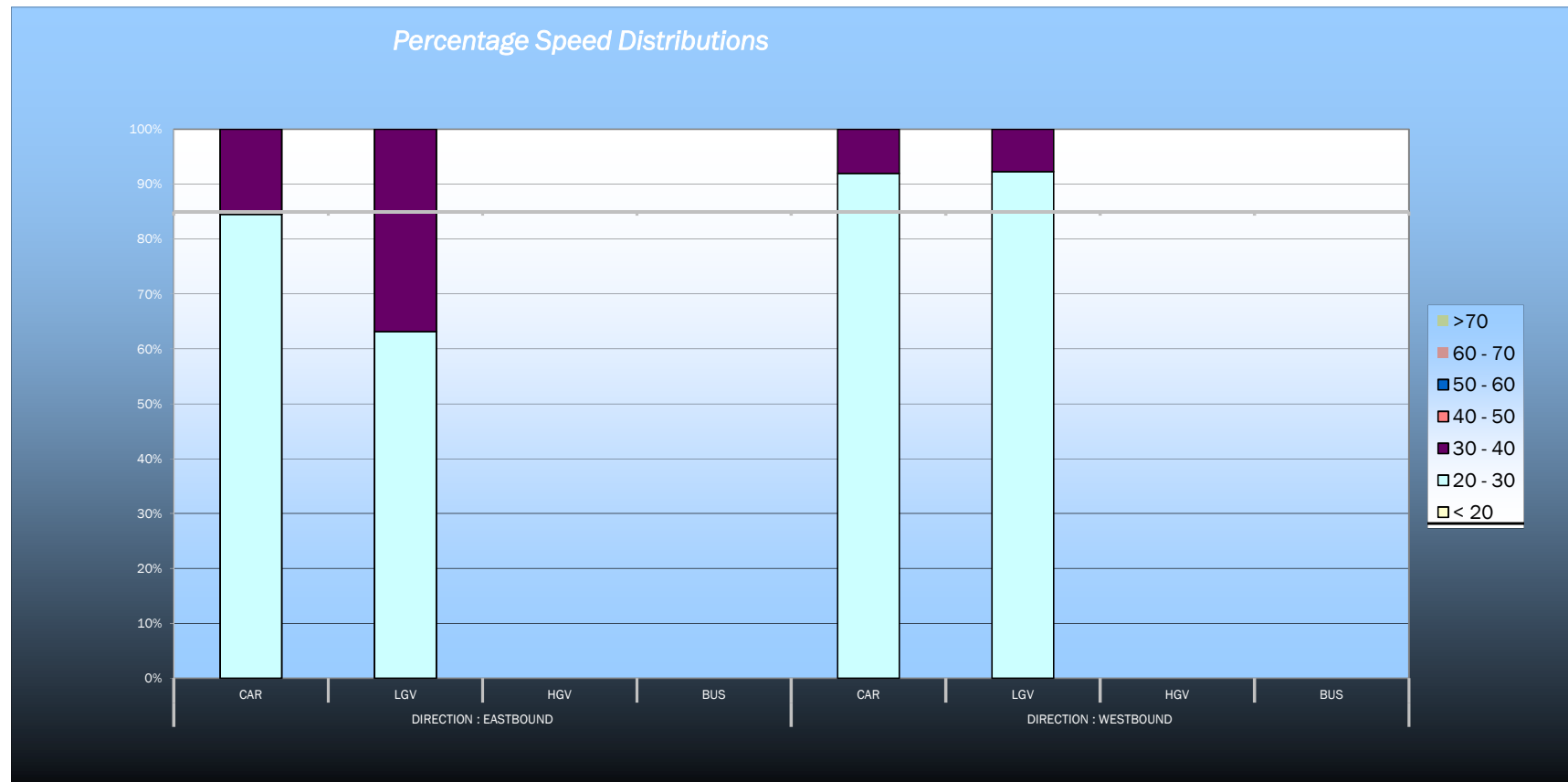
# Manual Speed Survey, Surfleet

DATE : TUESDAY 15th NOVEMBER 2016

LOCATION: HIGH STREET / SWINESHAED ROAD

SINGLE CARRIAGEWAY

| SPEED (MPH) | DIRECTION : EASTBOUND |     |     |     | DIRECTION : WESTBOUND |     |     |     |
|-------------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|
|             | CAR                   | LGV | HGV | BUS | CAR                   | LGV | HGV | BUS |
| < 20        | 0                     | 0   | 0   | 0   | 0                     | 0   | 0   | 0   |
| 20 - 30     | 153                   | 12  | 0   | 0   | 172                   | 12  | 0   | 0   |
| 30 - 40     | 28                    | 7   | 0   | 0   | 15                    | 1   | 0   | 0   |
| 40 - 50     | 0                     | 0   | 0   | 0   | 0                     | 0   | 0   | 0   |
| 50 - 60     | 0                     | 0   | 0   | 0   | 0                     | 0   | 0   | 0   |
| 60 - 70     | 0                     | 0   | 0   | 0   | 0                     | 0   | 0   | 0   |
| >70         | 0                     | 0   | 0   | 0   | 0                     | 0   | 0   | 0   |



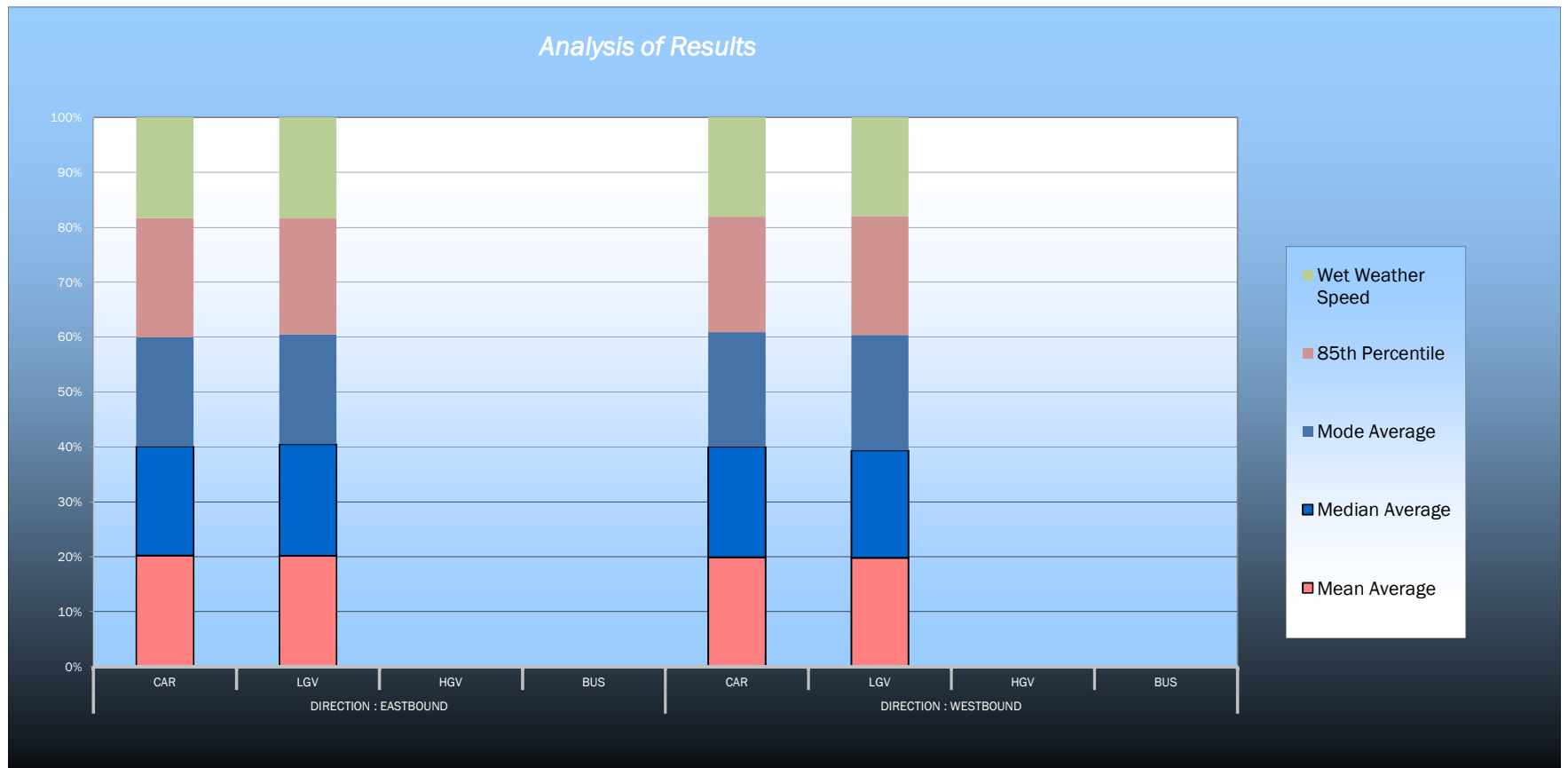
# Manual Speed Survey, Surfleet

DATE : TUESDAY 15th NOVEMBER 2016

LOCATION: HIGH STREET / SWINESHAED ROAD

SINGLE CARRIAGEWAY

| ANALYSIS OF RESULTS | DIRECTION : EASTBOUND |     |     |     | DIRECTION : WESTBOUND |     |     |     |
|---------------------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|
|                     | CAR                   | LGV | HGV | BUS | CAR                   | LGV | HGV | BUS |
| No of Readings      | 181                   | 19  | 0   | 0   | 187                   | 13  | 0   | 0   |
| Mean Average        | 27                    | 29  | 0   | 0   | 28                    | 27  | 0   | 0   |
| Median Average      | 27                    | 30  | 0   | 0   | 28                    | 27  | 0   | 0   |
| Mode Average        | 27                    | 29  | 0   | 0   | 29                    | 29  | 0   | 0   |
| Standard Deviation  | 2                     | 1   | 0   | 0   | 2                     | 3   | 0   | 0   |
| 85th Percentile     | 30                    | 31  | 0   | 0   | 29                    | 30  | 0   | 0   |
| Wet Weather Speed   | 25                    | 27  | 0   | 0   | 25                    | 25  | 0   | 0   |



# SPEED READINGS

location: **Station Road, Surfleet**  
direction: **Eastbound**  
day: **Tuesday**  
date: **22.11.16**  
time: **1300 to 1600 hours**

## SUMMARY

mean 27.57 mph 44.36 kph  
85%ile 29.70 mph 47.78 kph  
wet 85%ile 27.22 mph 43.79 kph

| observed<br>speed<br>mph<br>x | no. of<br>readings<br>f | fx          | fx <sup>2</sup> |
|-------------------------------|-------------------------|-------------|-----------------|
| 10                            | 0                       | 0           | 0               |
| 11                            | 0                       | 0           | 0               |
| 12                            | 0                       | 0           | 0               |
| 13                            | 0                       | 0           | 0               |
| 14                            | 0                       | 0           | 0               |
| 15                            | 0                       | 0           | 0               |
| 16                            | 0                       | 0           | 0               |
| 17                            | 0                       | 0           | 0               |
| 18                            | 0                       | 0           | 0               |
| 19                            | 0                       | 0           | 0               |
| 20                            | 0                       | 0           | 0               |
| 21                            | 1                       | 21          | 441             |
| 22                            | 1                       | 22          | 484             |
| 23                            | 5                       | 115         | 2645            |
| 24                            | 8                       | 192         | 4608            |
| 25                            | 16                      | 400         | 10000           |
| 26                            | 27                      | 702         | 18252           |
| 27                            | 39                      | 1053        | 28431           |
| 28                            | 36                      | 1008        | 28224           |
| 29                            | 32                      | 928         | 26912           |
| 30                            | 19                      | 570         | 17100           |
| 31                            | 11                      | 341         | 10571           |
| 32                            | 4                       | 128         | 4096            |
| 33                            | 0                       | 0           | 0               |
| 34                            | 1                       | 34          | 1156            |
| 35                            | 0                       | 0           | 0               |
| 36                            | 0                       | 0           | 0               |
| 37                            | 0                       | 0           | 0               |
| 38                            | 0                       | 0           | 0               |
| 39                            | 0                       | 0           | 0               |
| 40                            | 0                       | 0           | 0               |
| 41                            | 0                       | 0           | 0               |
| 42                            | 0                       | 0           | 0               |
| 43                            | 0                       | 0           | 0               |
| 44                            | 0                       | 0           | 0               |
| 45                            | 0                       | 0           | 0               |
| 46                            | 0                       | 0           | 0               |
| 47                            | 0                       | 0           | 0               |
| 48                            | 0                       | 0           | 0               |
| 49                            | 0                       | 0           | 0               |
| 50                            | 0                       | 0           | 0               |
| 51                            | 0                       | 0           | 0               |
| 52                            | 0                       | 0           | 0               |
| 53                            | 0                       | 0           | 0               |
| 54                            | 0                       | 0           | 0               |
| 55                            | 0                       | 0           | 0               |
| 56                            | 0                       | 0           | 0               |
| 57                            | 0                       | 0           | 0               |
| 58                            | 0                       | 0           | 0               |
| 59                            | 0                       | 0           | 0               |
| 60                            | 0                       | 0           | 0               |
| 61                            | 0                       | 0           | 0               |
| 62                            | 0                       | 0           | 0               |
| 63                            | 0                       | 0           | 0               |
| 64                            | 0                       | 0           | 0               |
| 65                            | 0                       | 0           | 0               |
| 66                            | 0                       | 0           | 0               |
| 67                            | 0                       | 0           | 0               |
| 68                            | 0                       | 0           | 0               |
| 69                            | 0                       | 0           | 0               |
| 70                            | 0                       | 0           | 0               |
| 71                            | 0                       | 0           | 0               |
| 72                            | 0                       | 0           | 0               |
| 73                            | 0                       | 0           | 0               |
| 74                            | 0                       | 0           | 0               |
| 75                            | 0                       | 0           | 0               |
| 76                            | 0                       | 0           | 0               |
| 77                            | 0                       | 0           | 0               |
| 78                            | 0                       | 0           | 0               |
| 79                            | 0                       | 0           | 0               |
| 80                            | 0                       | 0           | 0               |
| <b>Total<br/>Speed</b>        | <b>200</b>              | <b>5514</b> | <b>152920</b>   |

### Mean speed

$$\bar{x} = \frac{\sum fx}{\sum f} = 27.57 \text{ mph}$$

### Standard deviation

$$S_x = \sqrt{\frac{1}{\sum f - 1} \left[ \sum fx^2 - \frac{(\sum fx)^2}{\sum f} \right]} = 2.13 \text{ mph}$$

### 85 percentile dry weather spot speed

$$\bar{x} + S_x = 29.70 \text{ mph}$$

### 85 percentile wet weather journey speed

$$\bar{x} + S_x - 2.478 = 27.22 \text{ mph}$$

checks: 85%ile/mean = 1.08  
should be 1.1 to 1.25

S.D./mean = 0.08  
should be approx 1/6 (0.17)

# SPEED READINGS

location: **Station Road, Surfleet**  
direction: **Westbound**  
day: **Tuesday**  
date: **22.11.16**  
time: **1300 to 1600 hours**

## SUMMARY

mean 27.61 mph 44.42 kph  
85%ile 29.26 mph 47.08 kph  
wet 85%ile 26.78 mph 43.09 kph

| observed<br>speed<br>mph<br>x | no. of<br>readings<br>f | fx          | fx <sup>2</sup> |
|-------------------------------|-------------------------|-------------|-----------------|
| 10                            | 0                       | 0           | 0               |
| 11                            | 0                       | 0           | 0               |
| 12                            | 0                       | 0           | 0               |
| 13                            | 0                       | 0           | 0               |
| 14                            | 0                       | 0           | 0               |
| 15                            | 0                       | 0           | 0               |
| 16                            | 0                       | 0           | 0               |
| 17                            | 0                       | 0           | 0               |
| 18                            | 0                       | 0           | 0               |
| 19                            | 0                       | 0           | 0               |
| 20                            | 0                       | 0           | 0               |
| 21                            | 0                       | 0           | 0               |
| 22                            | 0                       | 0           | 0               |
| 23                            | 2                       | 46          | 1058            |
| 24                            | 6                       | 144         | 3456            |
| 25                            | 11                      | 275         | 6875            |
| 26                            | 30                      | 780         | 20280           |
| 27                            | 42                      | 1134        | 30618           |
| 28                            | 43                      | 1204        | 33712           |
| 29                            | 50                      | 1450        | 42050           |
| 30                            | 13                      | 390         | 11700           |
| 31                            | 0                       | 0           | 0               |
| 32                            | 2                       | 64          | 2048            |
| 33                            | 0                       | 0           | 0               |
| 34                            | 1                       | 34          | 1156            |
| 35                            | 0                       | 0           | 0               |
| 36                            | 0                       | 0           | 0               |
| 37                            | 0                       | 0           | 0               |
| 38                            | 0                       | 0           | 0               |
| 39                            | 0                       | 0           | 0               |
| 40                            | 0                       | 0           | 0               |
| 41                            | 0                       | 0           | 0               |
| 42                            | 0                       | 0           | 0               |
| 43                            | 0                       | 0           | 0               |
| 44                            | 0                       | 0           | 0               |
| 45                            | 0                       | 0           | 0               |
| 46                            | 0                       | 0           | 0               |
| 47                            | 0                       | 0           | 0               |
| 48                            | 0                       | 0           | 0               |
| 49                            | 0                       | 0           | 0               |
| 50                            | 0                       | 0           | 0               |
| 51                            | 0                       | 0           | 0               |
| 52                            | 0                       | 0           | 0               |
| 53                            | 0                       | 0           | 0               |
| 54                            | 0                       | 0           | 0               |
| 55                            | 0                       | 0           | 0               |
| 56                            | 0                       | 0           | 0               |
| 57                            | 0                       | 0           | 0               |
| 58                            | 0                       | 0           | 0               |
| 59                            | 0                       | 0           | 0               |
| 60                            | 0                       | 0           | 0               |
| 61                            | 0                       | 0           | 0               |
| 62                            | 0                       | 0           | 0               |
| 63                            | 0                       | 0           | 0               |
| 64                            | 0                       | 0           | 0               |
| 65                            | 0                       | 0           | 0               |
| 66                            | 0                       | 0           | 0               |
| 67                            | 0                       | 0           | 0               |
| 68                            | 0                       | 0           | 0               |
| 69                            | 0                       | 0           | 0               |
| 70                            | 0                       | 0           | 0               |
| 71                            | 0                       | 0           | 0               |
| 72                            | 0                       | 0           | 0               |
| 73                            | 0                       | 0           | 0               |
| 74                            | 0                       | 0           | 0               |
| 75                            | 0                       | 0           | 0               |
| 76                            | 0                       | 0           | 0               |
| 77                            | 0                       | 0           | 0               |
| 78                            | 0                       | 0           | 0               |
| 79                            | 0                       | 0           | 0               |
| 80                            | 0                       | 0           | 0               |
| <b>Total<br/>Speed</b>        | <b>200</b>              | <b>5521</b> | <b>152953</b>   |

### Mean speed

$$\bar{x} = \frac{\sum fx}{\sum f} = 27.61 \text{ mph}$$

### Standard deviation

$$S_x = \sqrt{\frac{1}{\sum f - 1} \left[ \sum fx^2 - \frac{(\sum fx)^2}{\sum f} \right]} = 1.66 \text{ mph}$$

### 85 percentile dry weather spot speed

$$\bar{x} + S_x = 29.26 \text{ mph}$$

### 85 percentile wet weather journey speed

$$\bar{x} + S_x - 2.478 = 26.78 \text{ mph}$$

checks: 85%ile/mean = 1.06  
should be 1.1 to 1.25

S.D./mean = 0.06  
should be approx 1/6 (0.17)

| <b>Vehicle speeds</b>                    | 27.22 mph<br>43.80 kph<br>12.17 v (m/s)<br>148.01 v <sup>2</sup> | <b>Formula:</b> $SSD = vt + v^2 / 2(d+0.1a)$                                                      | <table border="1"> <tr> <th colspan="2">Manual for Streets 2</th> <th>DMRB</th> </tr> <tr> <td>Light Vehicles<br/>(less than 5%<br/>HGVs)</td> <td>HGVs/Buses<br/>(over 5% of<br/>total vehicles)</td> <td>All traffic</td> </tr> <tr> <td>1.5s</td> <td>1.5s</td> <td>2s</td> </tr> <tr> <td>0.45g</td> <td>0.375g</td> <td>0.25g</td> </tr> </table> |  | Manual for Streets 2 |  | DMRB | Light Vehicles<br>(less than 5%<br>HGVs) | HGVs/Buses<br>(over 5% of<br>total vehicles) | All traffic | 1.5s | 1.5s | 2s | 0.45g | 0.375g | 0.25g |
|------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------|--|------|------------------------------------------|----------------------------------------------|-------------|------|------|----|-------|--------|-------|
| Manual for Streets 2                     |                                                                  |                                                                                                   | DMRB                                                                                                                                                                                                                                                                                                                                                   |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| Light Vehicles<br>(less than 5%<br>HGVs) | HGVs/Buses<br>(over 5% of<br>total vehicles)                     |                                                                                                   | All traffic                                                                                                                                                                                                                                                                                                                                            |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| 1.5s                                     | 1.5s                                                             |                                                                                                   | 2s                                                                                                                                                                                                                                                                                                                                                     |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| 0.45g                                    | 0.375g                                                           | 0.25g                                                                                             |                                                                                                                                                                                                                                                                                                                                                        |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| <b>Driver Perception-Reaction time</b>   | 1.5 t (s)                                                        |                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
|                                          | 18.25 v x t                                                      |                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| <b>Deceleration Rate</b>                 | 0.45 g<br>4.41 d (m/s)<br>8.83 2d                                |                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| <b>Gradient</b>                          | 0.00 a*<br>4.41 d+0.1a<br>8.829 2(d+0.1a)                        | Enter gradient as positive for uphill towards junction and negative for downhill towards junction |                                                                                                                                                                                                                                                                                                                                                        |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| <b>Stopping Sight Distance (SSD) =</b>   | v t + $v^2 / 2(d+0.1a)$<br>18.25 + 16.76 = 35.01                 |                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |
| <b>SSD Bonnet Adjusted (SSD+2.4)**</b>   | 37.41                                                            |                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |  |                      |  |      |                                          |                                              |             |      |      |    |       |        |       |

\* for simplicity, gradient will be given as zero where details of levels are unavailable and observed gradients are deemed to be insignificant in terms of the effect on vehicle braking

\*\* 2.4 metres added to splay to allow for bonnet length of approaching vehicles

**VISIBILITY SPLAY CALCULATOR - STATION ROAD, SURFLEET - EASTBOUND**

| <b>Vehicle speeds</b>                         | 26.78 mph<br>43.09 kph<br>11.97 v (m/s)<br>143.26 v <sup>2</sup>                                                                                                                                                        | <b>Formula:</b> $SSD = vt + v^2 / 2(d+0.1a)$                                                                                                                              | <table border="1"> <tr> <th colspan="2">Manual for Streets 2</th> <th>DMRB</th> </tr> <tr> <td>Light Vehicles<br/>(less than 5%<br/>HGVs)</td> <td>HGVs/Buses<br/>(over 5% of<br/>total vehicles)</td> <td>All traffic</td> </tr> <tr> <td>1.5s</td> <td>1.5s</td> <td>2s</td> </tr> <tr> <td>0.45g</td> <td>0.375g</td> <td>0.25g</td> </tr> </table> |                              | Manual for Streets 2 |                                               | DMRB  | Light Vehicles<br>(less than 5%<br>HGVs) | HGVs/Buses<br>(over 5% of<br>total vehicles) | All traffic | 1.5s | 1.5s | 2s | 0.45g | 0.375g | 0.25g |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------|-----------------------------------------------|-------|------------------------------------------|----------------------------------------------|-------------|------|------|----|-------|--------|-------|
| Manual for Streets 2                          |                                                                                                                                                                                                                         |                                                                                                                                                                           | DMRB                                                                                                                                                                                                                                                                                                                                                   |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| Light Vehicles<br>(less than 5%<br>HGVs)      | HGVs/Buses<br>(over 5% of<br>total vehicles)                                                                                                                                                                            |                                                                                                                                                                           | All traffic                                                                                                                                                                                                                                                                                                                                            |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| 1.5s                                          | 1.5s                                                                                                                                                                                                                    |                                                                                                                                                                           | 2s                                                                                                                                                                                                                                                                                                                                                     |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| 0.45g                                         | 0.375g                                                                                                                                                                                                                  | 0.25g                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                        |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| <b>Driver Perception-Reaction time</b>        | 1.5 t (s)<br>17.95 v x t                                                                                                                                                                                                | <table border="1"> <tr> <td>Perception-Reaction Time (t)</td> <td>1.5s</td> </tr> <tr> <td>Deceleration Rate (g = 9.81m/s<sup>2</sup>)</td> <td>0.45g</td> </tr> </table> |                                                                                                                                                                                                                                                                                                                                                        | Perception-Reaction Time (t) | 1.5s                 | Deceleration Rate (g = 9.81m/s <sup>2</sup> ) | 0.45g |                                          |                                              |             |      |      |    |       |        |       |
| Perception-Reaction Time (t)                  | 1.5s                                                                                                                                                                                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                        |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| Deceleration Rate (g = 9.81m/s <sup>2</sup> ) | 0.45g                                                                                                                                                                                                                   |                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                        |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| <b>Deceleration Rate</b>                      | 0.45 g<br>4.41 d (m/s)<br>8.83 2d                                                                                                                                                                                       | Enter gradient as positive for uphill towards junction and negative for downhill towards junction                                                                         |                                                                                                                                                                                                                                                                                                                                                        |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| <b>Gradient</b>                               | 0.00 a*<br>4.41 d+0.1a<br>8.829 2(d+0.1a)                                                                                                                                                                               |                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                        |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| <b>Stopping Sight Distance (SSD) =</b>        | v t                    +                    v <sup>2</sup> / 2(d+0.1a)                    =                    SSD<br>17.95                    +                    16.23                    =                    34.18 |                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                        |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |
| <b>SSD Bonnet Adjusted (SSD+2.4)**</b>        | 36.58                                                                                                                                                                                                                   |                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                        |                              |                      |                                               |       |                                          |                                              |             |      |      |    |       |        |       |

\* for simplicity, gradient will be given as zero where details of levels are unavailable and observed gradients are deemed to be insignificant in terms of the effect on vehicle braking

\*\* 2.4 metres added to splay to allow for bonnet length of approaching vehicles

**VISIBILITY SPLAY CALCULATOR - STATION ROAD, SURFLEET - WESTBOUND**

## Appendix B – Consented Development Details

GPS Planning and Design Ltd  
Office 22 Shipstones Business Centre  
Northgate  
New Basford  
Nottingham  
NG7 7FN

Council Offices  
Priory Road  
Spalding  
Lincolnshire  
PE11 2XE  
Admin 01775 764723  
DC Officers 01775 764703  
facsimile 01775 762937  
planningadvice@sholland.gov.uk  
www.sholland.gov.uk

## **TOWN AND COUNTRY PLANNING ACT 1990**

### **SECTION 73 MODIFICATION**

**Reference:** H17-0563-16 **Date of Decision:** 9th August 2016

**Applicant:** Mr & Mrs Needham  
72 Station Road  
Surfleet  
Spalding  
Lincs  
PE11 4DB

**Location:** Land Adjacent: 72 Station Road Surfleet Spalding

**Description:** Residential development - approved H17-0798-15 - Removal of Condition 6 relating to affordable housing

**South Holland District Council hereby give notice that this application has been GRANTED (or equivalent) subject to the following condition(s):**

- 1 Application for approval of reserved matters must be made not later than 2nd March 2019, and the development must be begun before the expiration of two years from the final approval of reserved matters or in the case of approval on different dates, the final approval of the last such matter to be approved.

Reason: As required by Section 92 of the Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004.

- 2 The development hereby permitted shall be carried out in accordance with the following approved plans:

Location Plan Scale 1:1250 and Flood Risk Assessment reference MA10160-FRA-R02 dated September 2015 prepared by Millward Consultants.

Reason: For the avoidance of doubt and in the interests of proper planning.

3 The following matters are reserved for subsequent approval by the Local Planning Authority and no development to which these matters relate shall be carried out until these matters have been approved, viz:

- i) detailed drawings of the estate layout to a scale of not less than 1:500 and including road and plot layouts;
- ii) detailed drawings to a scale of not less than 1:100 showing the siting, design and external appearance of each building, including a schedule of the materials to be used for external walls and roof;
- iii) the siting and design of any vehicular access to a highway or estate road;
- iv) the means of foul and surface water disposal;
- v) details of landscaping and tree planting.
- vi) the existing and proposed site levels and floor levels of the buildings and hard surfaced areas.

Reason: The application was submitted in outline only and the above details are required to enable the Local Planning Authority to assess the detailed design, scale, appearance and layout of the development as well as ensure that appropriate access and services are provided to serve the development.

This Condition is imposed in accordance with Policies SG12, SG13, SG14 and SG18 of the South Holland Local Plan, 2006 and national guidance contained in Section 10 of the National Planning Policy Framework, 2012.

4 The development hereby permitted shall not be commenced until a scheme to deal with any contamination of land or pollution of controlled waters has been submitted to and approved in writing by the Local Planning Authority (LPA) and until the measures approved in that scheme have been implemented. The scheme shall include all of the following measures:

- i) a desk-top study carried out to identify and evaluate all potential sources of contamination and the impacts on land and/or controlled waters, relevant to the site. The desk-top study shall establish a 'conceptual site model' and identify all plausible pollutant linkages. Furthermore, the assessment shall set objectives for intrusive site investigation works/Quantitative Risk Assessment (or state if none required). Two full copies of the desk-top study and a non-technical summary shall be submitted to the LPA without delay upon completion.
- ii) if identified as being required following the completion of the desk-top study, a site investigation shall be carried out to fully and effectively characterise the nature and extent of any land contamination and/or pollution of controlled waters. It shall specifically include a risk assessment that adopts the Source-Pathway-Receptor principle, in order that any potential risks are adequately assessed taking into account the sites existing status and proposed new use. Two full copies of the site investigation and findings shall be forwarded to the LPA without delay upon completion.
- iii) thereafter, a written method statement detailing the remediation requirements for land contamination and/or pollution of controlled waters affecting the site shall be submitted to and approved in writing by the LPA, and all requirements shall be implemented and completed to the satisfaction of the LPA. No deviation shall be made from this scheme. If during redevelopment contamination not previously considered is identified, then the LPA shall be notified immediately and no further work shall be carried out until a method statement detailing a scheme for dealing with the suspect contamination has been

submitted to and agreed in writing by the LPA.

iv) two full copies of a full closure report shall be submitted to and approved in writing by the LPA. The report shall provide verification that the required works regarding contamination have been carried out in accordance with the approved Method Statement(s). Post-remediation sampling and monitoring results shall be included in the closure report to demonstrate that the required remediation has been fully met.

#### Note

The applicant is advised that the phased risk assessment required by the Contaminated Land Scheme Condition should be carried out in accordance with the procedural guidance of the Environmental Protection Act 1990 Part 11A.

The applicant's attention is also drawn to the document entitled "Developing Land Within Lincolnshire - A guide to submitting planning applications to develop land that may be contaminated", which can be obtained through the Local Environmental Health Department.

Reason: To assess whether the site is polluted and to address any pollution to ensure a satisfactory development. This issue is integral to the development and therefore full details need to be finalised prior to the commencement of works.

This Condition is imposed in accordance with Policy SG13 of the South Holland Local Plan, 2006.

- 5 Prior to its installation, details of the proposed boundary treatment, including a schedule of materials, and details of the size and species of any hedging, shall be submitted to and approved in writing by the Local Planning Authority, and the details so approved shall be implemented in full before the development is first brought into use.

Reason: In the interests of the character and appearance of the development and the visual amenity of the area in which it is set.

This Condition is imposed in accordance with Policy SG14 of the South Holland Local Plan, 2006

- 6 If the Reserved Matters design includes either; more than 10 dwellings or over 1000sqm of residential floor space then no development shall be commenced until a scheme for the provision and phasing of a minimum of one third of the total residential units as affordable housing on the site to meet local housing needs has been submitted to and approved in writing by the Local Planning Authority.

The scheme shall identify how the affordable housing is to be provided in each phase, whether by means of a non-profit registered provider or otherwise, and the timing of delivery. In the submission of the details of the design and layout of each phase, the location of each affordable housing unit shall be indicated, along with the size and tenure, the type of affordable housing, and arrangements for ensuring that the affordable housing to be provided meets identified local housing need. Not more than 50% of the total number of the approved dwellings within each phase, excluding the affordable element, shall be occupied until there has been a material commencement on the affordable housing units in that phase and not more than 90% of the approved dwellings, excluding the affordable element, shall be occupied until all the affordable housing units have been completed.

Note:

In order to comply with this condition it may be necessary for the applicant/developer to enter into a planning obligation and/or agreement. You are therefore asked to bear this in mind when determining the timing of your submissions.

Reason: To ensure that affordable dwellings are provided to meet identified local need, and remain affordable in perpetuity. This issue is integral to the development and therefore full details need to be finalised prior to the commencement of works.

This Condition is imposed in accordance with Policy HS8 of the South Holland Local Plan 2006.

- 7 When application is made to the Local Planning Authority for approval of reserved matters, that application shall be accompanied by a scheme of landscaping and tree planting indicating, inter alia, the number, species, heights on planting and positions of all trees in respect of the land to which that application relates, together with details of post-planting maintenance and such a scheme shall require the approval of the Local Planning Authority before any development is commenced. Such scheme as is approved by the Local Planning Authority shall be carried out in its entirety within a period of twelve months beginning with the date on which development is commenced. All trees, shrubs and bushes shall be maintained by the owner or owners of the land on which they are situated for the period of five years beginning with the date of completion of the scheme and during that period all losses shall be made good as and when necessary.

Note: The applicant is recommended to employ a qualified and experienced landscape designer to produce a landscaping scheme for the development.

Reason: To ensure that the development is adequately landscaped, in the interests of its visual amenity and that of the area in which it is set. This issue is integral to the development and therefore full details need to be finalised prior to the commencement of works.

This Condition is imposed in accordance with Policy SG18 of the South Holland Local Plan, 2006.

- 8 The development hereby permitted shall be carried out in general accordance with the measures set out in the Flood Risk Assessment reference MA10160-FRA-R02 dated September 2015 and unless otherwise agreed in writing by the Local Planning Authority the following measures shall be implemented:

- Finished Floor levels shall be set 500mm above existing ground level;
- Flood resilient construction techniques shall be incorporated throughout the development to a minimum height of 300mm above the predicted flood level.

The mitigation measures contained within the Flood Risk Assessment and set out above shall be fully implemented prior to occupation and subsequently in accordance with the timings/phasing arrangements or within any other period as may be subsequently agreed in writing by the Local Planning Authority.

Reason: To ensure that the development does not increase the risk of flooding or be at risk of flooding.

This Condition is imposed in accordance with national guidance contained in Section 10 of

the National Planning Policy Framework, 2012.

**Notes:**

The Local Planning Authority has acted positively and proactively in determining this application by assessing it against all material considerations, including national guidance, planning policies and representations that have been received during the public consultation exercise, and subsequently determining to grant planning permission.

This decision notice, the relevant accompanying report and the determined plans can be viewed online at <http://planning.sholland.gov.uk/OcellaWeb/planningSearch>

The development hereby permitted will require the provision of a new vehicular access crossing. Applicants are requested to contact the Local Highway Authority's Divisional Office at Pode Hole - (via call centre Tel: 01522 782070) prior to the commencement of any works within the public highway.

The site owners are strongly advised to register with the Environment Agency's free Flood Warnings Direct Service



**Paul Jackson**  
**Place Manager**  
**South Holland District Council**

**BUILDING REGULATIONS:**

This decision refers only to planning permission as granted under the Town and Country Planning Act 1990. The works that you are proposing may also require Building Regulations and this planning permission does not give authority under Building Regulations to commence work. Please contact the Building Control section for further information on 01775 764557 or [bcadmin@sholland.gov.uk](mailto:bcadmin@sholland.gov.uk)

## RIGHTS OF APPEAL

### Appeals to the Secretary of State

If you are aggrieved by the decision of your Local Planning Authority to refuse permission for the proposed development or grant consent subject to conditions, then you can appeal to the Secretary of State under Section 78 of the Town and Country Planning Act 1990 or Section 20 of the Planning (Listed Building and Conservation Areas) Act 1990.

### Timescales for appealing

The deadlines for appeals are calculated from the **date of decision** and are as follows for the types of applications below:

| 12 Weeks                                | 6 Months                          | 8 Weeks                    |
|-----------------------------------------|-----------------------------------|----------------------------|
| Householder Applications                | Planning Permission               | Consent to Display Adverts |
| Minor Commercial Development            | Listed Building Consent           |                            |
| Agricultural Determinations             | Other Prior Approval Applications |                            |
| Householder Prior Approval Applications |                                   |                            |

### Enforcement Notices

If an enforcement notice was served prior to the planning application being determined then the deadline for appealing is 28 days from the date of the **planning refusal**

If an enforcement notice is served after the planning application is determined then the deadline for appealing is 28 days from the date of the **enforcement notice** OR **the timescales stated above for each application type** from the date of the planning refusal - whichever is sooner.

All appeals must be made using an Appeal Form which you can get from The Planning Inspectorate at Temple Quay House, 2 The Square, Bristol, BS1 6PN (tel: 0303 444 5000) or you can submit your appeal online at:

<http://www.planningportal.gov.uk/planning/appeals/online/makeanappeal>

The Secretary of State can allow a longer period for giving notice of an appeal but he will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.

The Secretary of State need not consider an appeal if it seems to him that the Local Planning Authority could not have granted planning permission for the proposed development or could not have granted it without the conditions it imposed, having regard to the statutory requirements, to the

provisions of the development order and to any directions given under the order. In practice the Secretary of State does not refuse to consider appeals solely because the Local Planning Authority based its decision on a direction given by him.

For detailed information on appeals, appeal types and guidance on the appeals process please visit:

<http://www.planningportal.gov.uk/planning/appeals/planningappeals>

### **Purchase Notices**

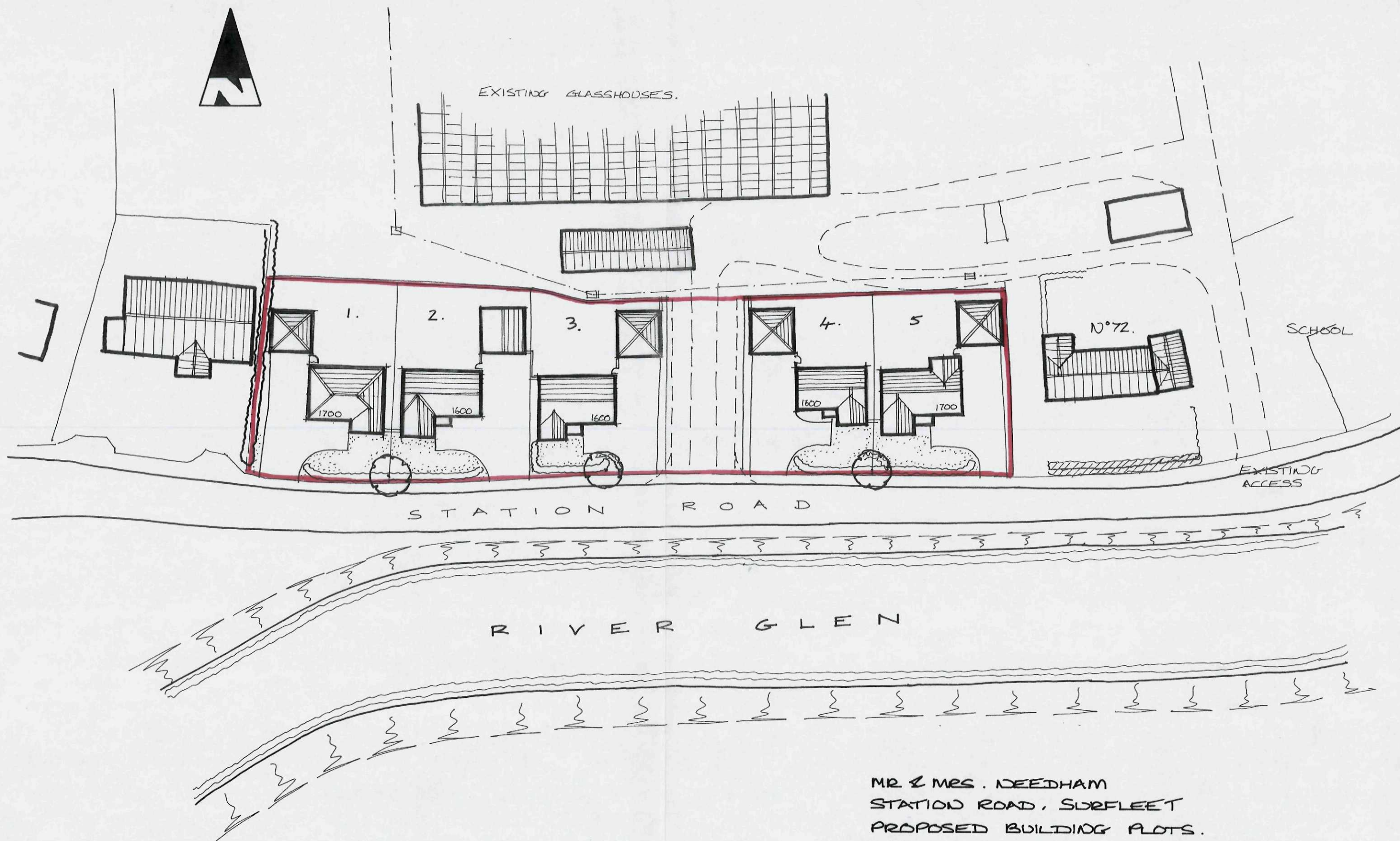
If either the Local Planning Authority or the Secretary of State refuses permission to develop land or grant it subject to conditions the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor can he render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of the Part VI of the Town and Country Planning Act 1990 or Section 32 of the Planning (Listed Building and Conservation Areas) Act 1990.

### **Compensation**

In certain circumstances compensation may be claimed from the Local Planning Authority if permission is refused or granted subject to conditions by the Secretary of State on appeal or on reference of the application to him.

These circumstances are set out in Section 114 and related provisions of the Town and Country Planning Act 1990 and Section 27 of the Planning (Listed Building and Conservation Areas) Act 1990.



MR & MRS. NEEDHAM  
STATION ROAD, SURFLEET  
PROPOSED BUILDING PLOTS.

SKETCH LAYOUT - 5 NO PLOTS

1:500 @ A3 . NOV 2014

Mark Simmonds  
South Holland District Council  
Council Offices  
Priory Road  
Spalding  
Lincolnshire  
PE11 2XE

7 June 2016

Dear Mark

**RE: Section 73 Application: Land adjacent to 72 Station Road, Surfleet.**

Further to the grant of outline planning permission for residential development at the above site permitted under reference H17-0798-15 on 2<sup>nd</sup> March 2016 we seek removal of condition 6 which states:

*No development shall be commenced until a scheme for the provision and phasing of a minimum of one third of the total residential units as affordable housing on the site to meet local housing needs has been submitted to and approved in writing by the Local Planning Authority. The scheme shall identify how the affordable housing is to be provided in each phase, whether by means of a non-profit registered provider or otherwise, and the timing of delivery. In the submission of the details of the design and layout of each phase, the location of each affordable housing unit shall be indicated, along with the size and tenure, the type of affordable housing, and arrangements for ensuring that the affordable housing to be provided meets identified local housing need. Not more than 50% of the total number of the approved dwellings within each phase, excluding the affordable element, shall be occupied until there has been a material commencement on the affordable*

*housing units in that phase and not more than 90% of the approved dwellings, excluding the affordable element, shall be occupied until all the affordable housing units have been completed.*

*Note: In order to comply with this condition, it may be necessary for the applicant/developer to enter into a planning obligation and/or agreement. You are therefore asked to bear this in mind when determining the timing of your submissions.*

*Reason: To ensure that affordable dwellings are provided to meet identified local need, and remain affordable in perpetuity. This issue is integral to the development and therefore full details need to be finalised prior to the commencement of works. This Condition is*

*imposed in accordance with Policy HS8 of the South Holland Local Plan 2006.*

This letter sets out and forms our justification for this request.

This application is made under Section 73 of the Town and Country Planning Act 1990 to vary or remove conditions associated with a planning permission. Where an application under section 73 is granted, the effect is the issue of a new planning permission, sitting alongside the original permission, which remains intact and unamended.

A Written Ministerial Statement made by Parliament on 28 November 2014 set out that development of 10 or more units or 1000 sq m or less (including annexes and extensions) would be *excluded* from affordable housing levies and tariff based contributions. The NPPG was amended in the same day and subsequently revised on 27 February and 26 March 2015. This Statement was however quashed as unlawful in August 2015.

In July 2015 a Challenge was made by Reading Borough Council/West Berkshire District Council which was heard in the High Court in March 2016. On 11 May 2016 the Judgement (Case No. C1/2015/2559) was handed down which found on schemes of 10 units or less and which propose to provide less than 1,000m<sup>2</sup> of floorspace there is now no requirement to provide affordable housing. This leaves the way clear (subject to any challenge to the Supreme Court) for the Government to reintroduce the 2014 exemptions. This Judgment forms the basis of this section 73 application which requests that condition 6 is removed.

In addition to this supporting letter the application comprises:

- Completed Application forms and ownership certificate.
- Site Location Plan
- Indicative Block Plan
- High Court Judgement Case No. C1/2015/2559
- Application Fee of £195.00.

We trust this application is complete and can be registered without delay.

Yours sincerely,

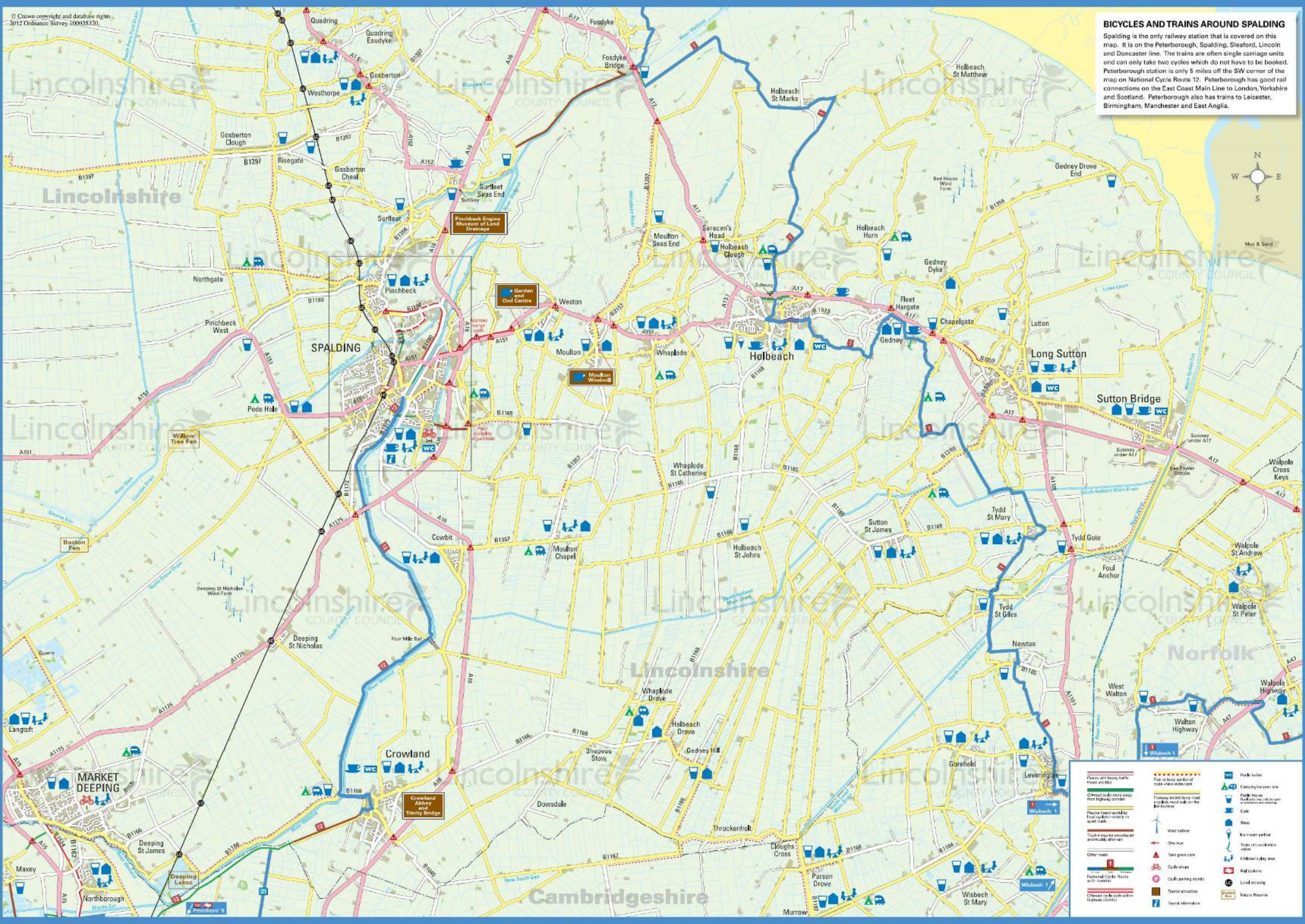
*J Pope*

**Jon Pope BSc (Hons) MSc MRTPI**  
Chartered Town Planner

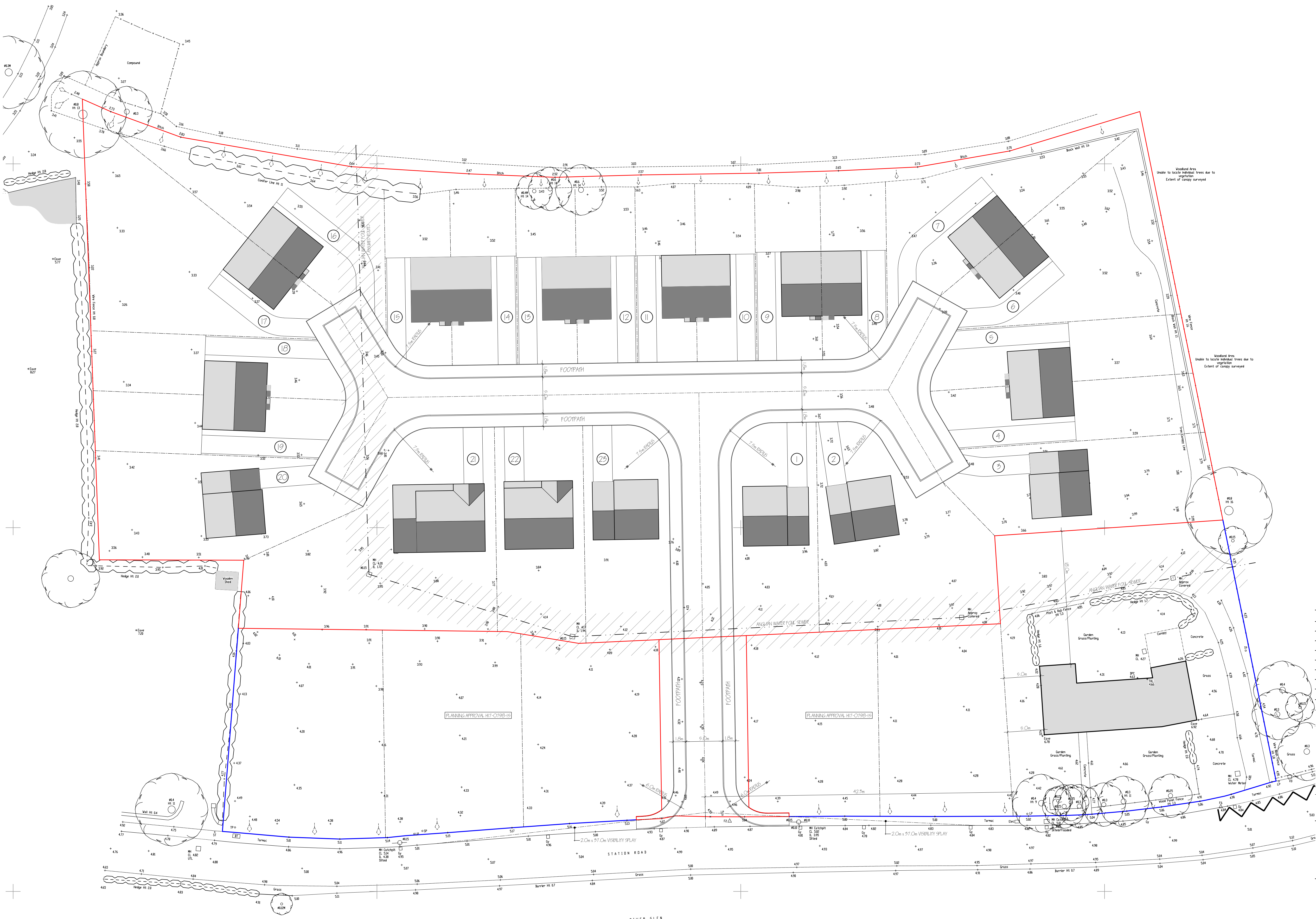
## Appendix C – Lincolnshire County Council's Spalding and Surrounding Area Cycle Map

**BICYCLES AND TRAINS AROUND SPALDING**

Spalding is the only railway station that is covered on this map. It is on the Peterborough, Spalding, Sleaford, Lincoln and Doncaster line. The trains are often single carriage units and can only take two cycles which do not have to be booked. Peterborough station is only 5 miles off the SW corner of the map on National Cycle Route 12. Peterborough has good rail connections on the East Coast Main Line to London, Yorkshire and Scotland. Peterborough also has trains to Leicester, Birmingham, Manchester and East Anglia.



## Appendix D – Indicative Site Masterplan

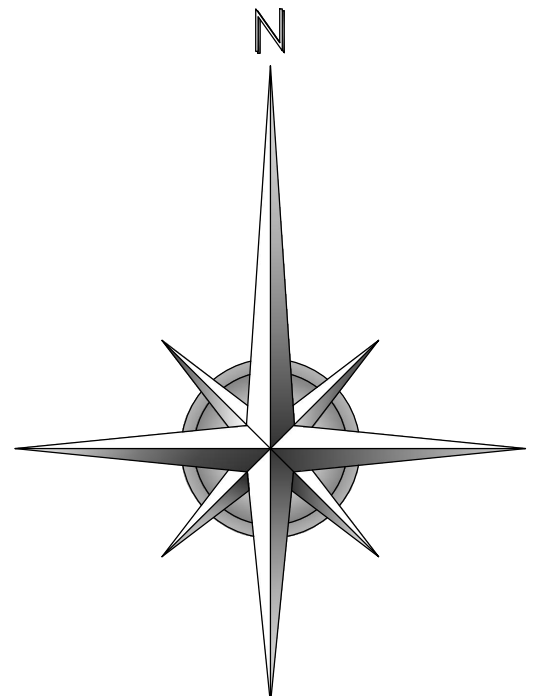


**LIMITATIONS:**  
This drawing is limited in the amount of information contained and does not purport to contain a full specification of the works. It is solely for the purpose of obtaining Planning/Building Regulation approval.  
The drawing must not be used as a contract document alone. All dimensions shall be taken from site from actual work. Under no circumstances shall measurements be scaled from this drawing for construction or ordering purposes.  
All given dimensions shall be checked by the Builder/Contractor and will be his responsibility from commencement of site works.  
The works will not be supervised or inspected on site by C.A.D. or any representative thereof. It is the client or their appointed agents responsibility to control workmanship, substitution of materials, adherence to specification, variations to contract etc.

**COPYRIGHT RESERVED:**  
Copies of this drawing must be made only with the written permission of Cooper Architectural Design.  
**STANDARDS:**  
All materials to be new unless otherwise stated and all components and materials etc. to be used fitted and installed etc. in strict accordance with manufacturers instruction and relevant Code of Practice.  
Materials shall conform to appropriate British Standard Specification or BBA Certificate or European Code equivalent.

**HEALTH & SAFETY:**  
The Employer/Client shall ensure that the selected contractor is conversant with and adopts all measures necessary to achieve compliance with Health & Safety legislation for Building Sites and Work Places.  
The Employer/Client is advised that should the works need to comply with the Construction Design and Management Regulations an independent Planning Supervisor will be required.

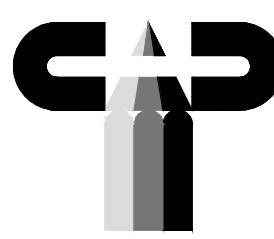
**SCOPE OF THE WORKS:**  
The works shall comprise of all that is shown on the drawing and details. Work that may not be specifically shown but may be reasonably inferred as necessary to carry out the works shall be deemed to be included.



SITE AREA 0.954 Ha.  
FINISHED FLOOR LEVELS 4.50 O.D.

ROOM DIMENSIONS ARE INTERNAL OF WALL FINISHES

| revision | date | init. | revision details. |
|----------|------|-------|-------------------|
|          |      |       |                   |
|          |      |       |                   |
|          |      |       |                   |
|          |      |       |                   |
|          |      |       |                   |
|          |      |       |                   |
|          |      |       |                   |
|          |      |       |                   |
|          |      |       |                   |



**COOPER ARCHITECTURAL DESIGN**  
90 WINSOVER ROAD  
SPALDING, Lincs PE11 1HA  
Tel: 01775 711174  
Mobile: 07808 125 778  
E-MAIL: c.a.d@btconnect.com

Client. MR & MRS J NEPPHAM  
Project. RESIDENTIAL DEVELOPMENT (OUTLINE)  
72 STATION ROAD  
SURPLEET  
Lincs  
PE11 4DB  
Drawing.

PROPOSED BLOCK PLAN WITH INDICATIVE LAYOUT

|                 |                     |
|-----------------|---------------------|
| Scale 1:250 @A1 | Drawing No. 1659-02 |
| Date DEC. '16   | Drawn. J.C.         |

## Appendix E – TRICS Output Data

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED  
 VEHICLES

Selected regions and areas:

|    |                                |        |
|----|--------------------------------|--------|
| 02 | SOUTH EAST                     |        |
|    | HC HAMPSHIRE                   | 1 days |
|    | WS WEST SUSSEX                 | 1 days |
| 03 | SOUTH WEST                     |        |
|    | DC DORSET                      | 1 days |
|    | DV DEVON                       | 1 days |
| 04 | EAST ANGLIA                    |        |
|    | CA CAMBRIDGESHIRE              | 1 days |
|    | NF NORFOLK                     | 1 days |
|    | SF SUFFOLK                     | 1 days |
| 05 | EAST MIDLANDS                  |        |
|    | LN LINCOLNSHIRE                | 2 days |
| 06 | WEST MIDLANDS                  |        |
|    | ST STAFFORDSHIRE               | 2 days |
|    | WK WARWICKSHIRE                | 1 days |
| 07 | YORKSHIRE & NORTH LINCOLNSHIRE |        |
|    | NY NORTH YORKSHIRE             | 3 days |
|    | SY SOUTH YORKSHIRE             | 1 days |
| 08 | NORTH WEST                     |        |
|    | CH CHESHIRE                    | 1 days |
|    | LC LANCASHIRE                  | 1 days |
|    | MS MERSEYSIDE                  | 1 days |
| 09 | NORTH                          |        |
|    | TW TYNE & WEAR                 | 1 days |
| 10 | WALES                          |        |
|    | PS POWYS                       | 2 days |
| 11 | SCOTLAND                       |        |
|    | AG ANGUS                       | 1 days |
|    | FA FALKIRK                     | 1 days |
|    | PK PERTH & KINROSS             | 1 days |

This section displays the number of survey days per TRICS® sub-region in the selected set

## Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings  
Actual Range: 6 to 54 (units: )  
Range Selected by User: 5 to 60 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 12/11/15

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

|           |        |
|-----------|--------|
| Monday    | 7 days |
| Tuesday   | 6 days |
| Wednesday | 6 days |
| Thursday  | 2 days |
| Friday    | 4 days |

This data displays the number of selected surveys by day of the week.

Selected survey types:

|                       |         |
|-----------------------|---------|
| Manual count          | 25 days |
| Directional ATC Count | 0 days  |

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

|                                    |    |
|------------------------------------|----|
| Edge of Town Centre                | 5  |
| Suburban Area (PPS6 Out of Centre) | 20 |

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

|                  |    |
|------------------|----|
| Residential Zone | 24 |
| No Sub Category  | 1  |

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

## Filtering Stage 3 selection:

Use Class:

|    |         |
|----|---------|
| C3 | 24 days |
|----|---------|

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

## Filtering Stage 3 selection (Cont.):

Population within 1 mile:

|                  |        |
|------------------|--------|
| 1,001 to 5,000   | 3 days |
| 5,001 to 10,000  | 7 days |
| 10,001 to 15,000 | 2 days |
| 15,001 to 20,000 | 4 days |
| 20,001 to 25,000 | 3 days |
| 25,001 to 50,000 | 6 days |

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 5,001 to 25,000    | 3 days |
| 25,001 to 50,000   | 3 days |
| 50,001 to 75,000   | 1 days |
| 75,001 to 100,000  | 4 days |
| 100,001 to 125,000 | 1 days |
| 125,001 to 250,000 | 6 days |
| 250,001 to 500,000 | 7 days |

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

|             |         |
|-------------|---------|
| 0.5 or Less | 1 days  |
| 0.6 to 1.0  | 9 days  |
| 1.1 to 1.5  | 14 days |
| 1.6 to 2.0  | 1 days  |

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

|     |         |
|-----|---------|
| Yes | 1 days  |
| No  | 24 days |

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

|   |                                    |                        |  |                     |
|---|------------------------------------|------------------------|--|---------------------|
| 1 | AG-03-A-01                         | BUNGALOWS/DET.         |  | ANGUS               |
|   | KEPTIE ROAD                        |                        |  |                     |
|   | ARBROATH                           |                        |  |                     |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                     |
|   | Residential Zone                   |                        |  |                     |
|   | Total Number of dwellings:         | 7                      |  |                     |
|   | Survey date: TUESDAY               | 22/05/12               |  | Survey Type: MANUAL |
| 2 | CA-03-A-04                         | DETACHED               |  | CAMBRIDGESHIRE      |
|   | THORPE PARK ROAD                   |                        |  |                     |
|   | PETERBOROUGH                       |                        |  |                     |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                     |
|   | Residential Zone                   |                        |  |                     |
|   | Total Number of dwellings:         | 9                      |  |                     |
|   | Survey date: TUESDAY               | 18/10/11               |  | Survey Type: MANUAL |
| 3 | CH-03-A-08                         | DETACHED               |  | CHESHIRE            |
|   | WHITCHURCH ROAD                    |                        |  |                     |
|   | BOUGHTON HEATH                     |                        |  |                     |
|   | CHESTER                            |                        |  |                     |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                     |
|   | Residential Zone                   |                        |  |                     |
|   | Total Number of dwellings:         | 11                     |  |                     |
|   | Survey date: TUESDAY               | 22/05/12               |  | Survey Type: MANUAL |
| 4 | DC-03-A-01                         | DETACHED               |  | DORSET              |
|   | ISAACS CLOSE                       |                        |  |                     |
|   | POOLE                              |                        |  |                     |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                     |
|   | Residential Zone                   |                        |  |                     |
|   | Total Number of dwellings:         | 51                     |  |                     |
|   | Survey date: WEDNESDAY             | 16/07/08               |  | Survey Type: MANUAL |
| 5 | DV-03-A-01                         | TERRACED HOUSES        |  | DEVON               |
|   | BRONSHILL ROAD                     |                        |  |                     |
|   | TORQUAY                            |                        |  |                     |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                     |
|   | Residential Zone                   |                        |  |                     |
|   | Total Number of dwellings:         | 37                     |  |                     |
|   | Survey date: WEDNESDAY             | 30/09/15               |  | Survey Type: MANUAL |
| 6 | FA-03-A-01                         | SEMI-DETACHED/TERRACED |  | FALKIRK             |
|   | MANDELA AVENUE                     |                        |  |                     |
|   | FALKIRK                            |                        |  |                     |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                     |
|   | Residential Zone                   |                        |  |                     |
|   | Total Number of dwellings:         | 37                     |  |                     |
|   | Survey date: THURSDAY              | 30/05/13               |  | Survey Type: MANUAL |
| 7 | HC-03-A-17                         | HOUSES & FLATS         |  | HAMPSHIRE           |
|   | CANADA WAY                         |                        |  |                     |
|   | LIPHOOK                            |                        |  |                     |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                     |
|   | Residential Zone                   |                        |  |                     |
|   | Total Number of dwellings:         | 36                     |  |                     |
|   | Survey date: THURSDAY              | 12/11/15               |  | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                                                                                 |                          |                     |
|----|-----------------------------------------------------------------------------------------------------------------|--------------------------|---------------------|
| 8  | LC-03-A-30<br>WATSON ROAD                                                                                       | SEMI-DETACHED            | LANCASHIRE          |
|    | BLACKPOOL<br>Edge of Town Centre<br>Residential Zone                                                            |                          |                     |
|    | Total Number of dwellings:                                                                                      | 24                       |                     |
|    | Survey date: FRIDAY                                                                                             | 14/06/13                 | Survey Type: MANUAL |
| 9  | LN-03-A-03<br>ROOKERY LANE<br>BOULTHAM<br>LINCOLN<br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone     | SEMI DETACHED            | LINCOLNSHIRE        |
|    | Total Number of dwellings:                                                                                      | 22                       |                     |
|    | Survey date: TUESDAY                                                                                            | 18/09/12                 | Survey Type: MANUAL |
| 10 | LN-03-A-04<br>EGERTON ROAD                                                                                      | DETACHED & SEMI-DETACHED | LINCOLNSHIRE        |
|    | LINCOLN<br>Edge of Town Centre<br>Residential Zone                                                              |                          |                     |
|    | Total Number of dwellings:                                                                                      | 30                       |                     |
|    | Survey date: MONDAY                                                                                             | 29/06/15                 | Survey Type: MANUAL |
| 11 | MS-03-A-03<br>BEMPTON ROAD<br>OTTERSPOOL<br>LIVERPOOL<br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone | DETACHED                 | MERSEYSIDE          |
|    | Total Number of dwellings:                                                                                      | 15                       |                     |
|    | Survey date: FRIDAY                                                                                             | 21/06/13                 | Survey Type: MANUAL |
| 12 | NF-03-A-01<br>YARMOUTH ROAD                                                                                     | SEMI DET. & BUNGALOWS    | NORFOLK             |
|    | CAISTER-ON-SEA<br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone                                        |                          |                     |
|    | Total Number of dwellings:                                                                                      | 27                       |                     |
|    | Survey date: TUESDAY                                                                                            | 16/10/12                 | Survey Type: MANUAL |
| 13 | NY-03-A-03<br>NEW ROW                                                                                           | PRIVATE HOUSING          | NORTH YORKSHIRE     |
|    | BOROUGHBRIDGE<br>Edge of Town Centre<br>Residential Zone                                                        |                          |                     |
|    | Total Number of dwellings:                                                                                      | 14                       |                     |
|    | Survey date: MONDAY                                                                                             | 15/09/08                 | Survey Type: MANUAL |
| 14 | NY-03-A-08<br>NICHOLAS STREET                                                                                   | TERRACED HOUSES          | NORTH YORKSHIRE     |
|    | YORK<br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone                                                  |                          |                     |
|    | Total Number of dwellings:                                                                                      | 21                       |                     |
|    | Survey date: MONDAY                                                                                             | 16/09/13                 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                    |                          |          |                     |
|----|------------------------------------|--------------------------|----------|---------------------|
| 15 | NY-03-A-09                         | MIXED HOUSING            |          | NORTH YORKSHIRE     |
|    | GRAMMAR SCHOOL LANE                |                          |          |                     |
|    | NORTHALLERTON                      |                          |          |                     |
|    | Suburban Area (PPS6 Out of Centre) |                          |          |                     |
|    | Residential Zone                   |                          |          |                     |
|    | Total Number of dwellings:         |                          | 52       |                     |
|    | Survey date: MONDAY                |                          | 16/09/13 | Survey Type: MANUAL |
| 16 | PK-03-A-01                         | DETAC. & BUNGALOWS       |          | PERTH & KINROSS     |
|    | TULLYLUMB TERRACE                  |                          |          |                     |
|    | GORNHILL                           |                          |          |                     |
|    | PERTH                              |                          |          |                     |
|    | Suburban Area (PPS6 Out of Centre) |                          |          |                     |
|    | Residential Zone                   |                          |          |                     |
|    | Total Number of dwellings:         |                          | 36       |                     |
|    | Survey date: WEDNESDAY             |                          | 11/05/11 | Survey Type: MANUAL |
| 17 | PS-03-A-01                         | MIXED HOUSES             |          | POWYS               |
|    | BRYN GLAS                          |                          |          |                     |
|    | WELSHPOOL                          |                          |          |                     |
|    | Edge of Town Centre                |                          |          |                     |
|    | Residential Zone                   |                          |          |                     |
|    | Total Number of dwellings:         |                          | 16       |                     |
|    | Survey date: MONDAY                |                          | 11/05/15 | Survey Type: MANUAL |
| 18 | PS-03-A-02                         | DETACHED / SEMI-DETACHED |          | POWYS               |
|    | GUNROG ROAD                        |                          |          |                     |
|    | WELSHPOOL                          |                          |          |                     |
|    | Suburban Area (PPS6 Out of Centre) |                          |          |                     |
|    | Residential Zone                   |                          |          |                     |
|    | Total Number of dwellings:         |                          | 28       |                     |
|    | Survey date: MONDAY                |                          | 11/05/15 | Survey Type: MANUAL |
| 19 | SF-03-A-04                         | DETACHED & BUNGALOWS     |          | SUFFOLK             |
|    | NORMANSTON DRIVE                   |                          |          |                     |
|    | LOWESTOFT                          |                          |          |                     |
|    | Suburban Area (PPS6 Out of Centre) |                          |          |                     |
|    | Residential Zone                   |                          |          |                     |
|    | Total Number of dwellings:         |                          | 7        |                     |
|    | Survey date: TUESDAY               |                          | 23/10/12 | Survey Type: MANUAL |
| 20 | ST-03-A-05                         | TERRACED & DETACHED      |          | STAFFORDSHIRE       |
|    | WATERMEET GROVE                    |                          |          |                     |
|    | ETRURIA                            |                          |          |                     |
|    | STOKE-ON-TRENT                     |                          |          |                     |
|    | Suburban Area (PPS6 Out of Centre) |                          |          |                     |
|    | Residential Zone                   |                          |          |                     |
|    | Total Number of dwellings:         |                          | 14       |                     |
|    | Survey date: WEDNESDAY             |                          | 26/11/08 | Survey Type: MANUAL |
| 21 | ST-03-A-06                         | SEMI-DET. & TERRACED     |          | STAFFORDSHIRE       |
|    | STANFORD ROAD                      |                          |          |                     |
|    | BLAKENHALL                         |                          |          |                     |
|    | WOLVERHAMPTON                      |                          |          |                     |
|    | Edge of Town Centre                |                          |          |                     |
|    | No Sub Category                    |                          |          |                     |
|    | Total Number of dwellings:         |                          | 17       |                     |
|    | Survey date: FRIDAY                |                          | 09/05/14 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                    |                      |  |                     |
|----|------------------------------------|----------------------|--|---------------------|
| 22 | SY-03-A-01                         | SEMI DETACHED HOUSES |  | SOUTH YORKSHIRE     |
|    | A19 BENTLEY ROAD                   |                      |  |                     |
|    | BENTLEY RISE                       |                      |  |                     |
|    | DONCASTER                          |                      |  |                     |
|    | Suburban Area (PPS6 Out of Centre) |                      |  |                     |
|    | Residential Zone                   |                      |  |                     |
|    | Total Number of dwellings:         | 54                   |  |                     |
|    | Survey date: WEDNESDAY             | 18/09/13             |  | Survey Type: MANUAL |
| 23 | TW-03-A-02                         | SEMI-DETACHED        |  | TYNE & WEAR         |
|    | WEST PARK ROAD                     |                      |  |                     |
|    | GATESHEAD                          |                      |  |                     |
|    | Suburban Area (PPS6 Out of Centre) |                      |  |                     |
|    | Residential Zone                   |                      |  |                     |
|    | Total Number of dwellings:         | 16                   |  |                     |
|    | Survey date: MONDAY                | 07/10/13             |  | Survey Type: MANUAL |
| 24 | WK-03-A-01                         | TERRACED/SEMI /DET.  |  | WARWICKSHIRE        |
|    | ARLINGTON AVENUE                   |                      |  |                     |
|    | LEAMINGTON SPA                     |                      |  |                     |
|    | Suburban Area (PPS6 Out of Centre) |                      |  |                     |
|    | Residential Zone                   |                      |  |                     |
|    | Total Number of dwellings:         | 6                    |  |                     |
|    | Survey date: FRIDAY                | 21/10/11             |  | Survey Type: MANUAL |
| 25 | WS-03-A-05                         | TERRACED & FLATS     |  | WEST SUSSEX         |
|    | UPPER SHOREHAM ROAD                |                      |  |                     |
|    | SHOREHAM BY SEA                    |                      |  |                     |
|    | Suburban Area (PPS6 Out of Centre) |                      |  |                     |
|    | Residential Zone                   |                      |  |                     |
|    | Total Number of dwellings:         | 48                   |  |                     |
|    | Survey date: WEDNESDAY             | 18/04/12             |  | Survey Type: MANUAL |

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Curtins Consulting Ltd 10 Oxford Street Manchester

Licence No: 148301

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
VEHICLES

Ranking Type: TOTALS Time Range: 08:00-09:00

15th Percentile = No. 21 NY-03-A-08 Tot: 0.334

85th Percentile = No. 5 CH-03-A-08 Tot: 0.637

Median Values

Arrivals: 0.235

Departures: 0.235

Totals: 0.470

Mean Values

Arrivals: 0.186

Departures: 0.377

Totals: 0.563

| Rank | Site-Ref   | Description    | Town/City       | Area            | DWELLS | Day | Date     | Trip Rate (Sorted by Totals) |            |        | Park Spaces<br>Per Dwelling |
|------|------------|----------------|-----------------|-----------------|--------|-----|----------|------------------------------|------------|--------|-----------------------------|
|      |            |                |                 |                 |        |     |          | Arrivals                     | Departures | Totals |                             |
| 1    | PK-03-A-01 | DETAC. & BUNGA | PERTH           | PERTH & KINROSS | 36     | Wed | 11/05/11 | 0.861                        | 0.667      | 1.528  | 3.36                        |
| 2    | MS-03-A-03 | DETACHED       | LIVERPOOL       | MERSEYSIDE      | 15     | Fri | 21/06/13 | 0.400                        | 0.933      | 1.333  | 3.00                        |
| 3    | SF-03-A-04 | DETACHED & BUN | LOWESTOFT       | SUFFOLK         | 7      | Tue | 23/10/12 | 0.429                        | 0.571      | 1.000  | 4.43                        |
| 4    | ST-03-A-05 | TERRACED & DET | STOKE-ON-TRENT  | STAFFORDSHIRE   | 14     | Wed | 26/11/08 | 0.143                        | 0.500      | 0.643  | 2.86                        |
| 5    | CH-03-A-08 | DETACHED       | CHESTER         | CHESHIRE        | 11     | Tue | 22/05/12 | 0.182                        | 0.455      | 0.637  | 4.73                        |
| 6    | TW-03-A-02 | SEMI-DETACHED  | GATESHEAD       | TYNE & WEAR     | 16     | Mon | 07/10/13 | 0.188                        | 0.438      | 0.626  | 2.38                        |
| 7    | LC-03-A-30 | SEMI-DETACHED  | BLACKPOOL       | LANCASHIRE      | 24     | Fri | 14/06/13 | 0.167                        | 0.458      | 0.625  | 1.67                        |
| 8    | FA-03-A-01 | SEMI-DETACHED/ | FALKIRK         | FALKIRK         | 37     | Thu | 30/05/13 | 0.189                        | 0.432      | 0.621  | 1.41                        |
| 9    | DV-03-A-01 | TERRACED HOUSE | TORQUAY         | DEVON           | 37     | Wed | 30/09/15 | 0.162                        | 0.459      | 0.621  | 2.78                        |
| 10   | AG-03-A-01 | BUNGALOWS/DET. | ARBROATH        | ANGUS           | 7      | Tue | 22/05/12 | 0.286                        | 0.286      | 0.572  | 2.71                        |
| 11   | PS-03-A-02 | DETACHED/SEMI- | WELSHPOOL       | POWYS           | 28     | Mon | 11/05/15 | 0.179                        | 0.321      | 0.500  | 2.32                        |
| 12   | DC-03-A-01 | DETACHED       | POOLE           | DORSET          | 51     | Wed | 16/07/08 | 0.098                        | 0.373      | 0.471  | 3.00                        |
| 13   | ST-03-A-06 | SEMI-DET. & TE | WOLVERHAMPTON   | STAFFORDSHIRE   | 17     | Fri | 09/05/14 | 0.235                        | 0.235      | 0.470  | 1.12                        |
| 14   | LN-03-A-04 | DETACHED & SEM | LINCOLN         | LINCOLNSHIRE    | 30     | Mon | 29/06/15 | 0.233                        | 0.233      | 0.466  | 2.20                        |
| 15   | SY-03-A-01 | SEMI DETACHED  | DONCASTER       | SOUTH YORKSHIRE | 54     | Wed | 18/09/13 | 0.056                        | 0.389      | 0.445  | 1.13                        |
| 16   | NF-03-A-01 | SEMI DET. & BU | CAISTER-ON-SEA  | NORFOLK         | 27     | Tue | 16/10/12 | 0.148                        | 0.296      | 0.444  | 2.37                        |
| 17   | PS-03-A-01 | MIXED HOUSES   | WELSHPOOL       | POWYS           | 16     | Mon | 11/05/15 | 0.188                        | 0.250      | 0.438  | 1.63                        |
| 18   | WS-03-A-05 | TERRACED & FLA | SHOREHAM BY SEA | WEST SUSSEX     | 48     | Wed | 18/04/12 | 0.104                        | 0.313      | 0.416  | 2.75                        |
| 19   | LN-03-A-03 | SEMI DETACHED  | LINCOLN         | LINCOLNSHIRE    | 22     | Tue | 18/09/12 | 0.045                        | 0.364      | 0.409  | 1.09                        |
| 20   | NY-03-A-09 | MIXED HOUSING  | NORTHALLERTON   | NORTH YORKSHIRE | 52     | Mon | 16/09/13 | 0.173                        | 0.212      | 0.385  | 2.60                        |
| 21   | NY-03-A-08 | TERRACED HOUSE | YORK            | NORTH YORKSHIRE | 21     | Mon | 16/09/13 | 0.048                        | 0.286      | 0.334  | 1.14                        |
| 22   | CA-03-A-04 | DETACHED       | PETERBOROUGH    | CAMBRIDGESHIRE  | 9      | Tue | 18/10/11 | 0.000                        | 0.333      | 0.333  | 2.44                        |
| 23   | HC-03-A-17 | HOUSES & FLATS | LIPHOOK         | HAMPSHIRE       | 36     | Thu | 12/11/15 | 0.000                        | 0.306      | 0.306  | 3.78                        |
| 24   | NY-03-A-03 | PRIVATE HOUSIN | BOROUGHBRIDGE   | NORTH YORKSHIRE | 14     | Mon | 15/09/08 | 0.143                        | 0.143      | 0.286  | 3.14                        |
| 25   | WK-03-A-01 | TERRACED/SEMI/ | LEAMINGTON SPA  | WARWICKSHIRE    | 6      | Fri | 21/10/11 | 0.000                        | 0.167      | 0.167  | 2.00                        |

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m<sup>2</sup> GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

Site Reference: CH-03-A-08 Multi-Modal Site  
 Created: Version: 2012(b)v6.10.2 23/07/12  
 Latitude/Longitude: 53.1894, -2.8561  
 Land Use Type: 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
 Region/Area: NORTH WESTCHESHIRE  
 Version/Creation Date: 2012(b)v6.10.2 23/07/12

Description: DETACHED  
 Street: WHITCHURCH ROAD  
 District: BOUGHTON HEATH  
 Town: CHESTER  
 Post Code: CH3 5JZ

Location: Suburban Area (PPS6 Out of Centre)  
 Location Sub Category: Residential Zone  
 Use Class: C3

Population within 500m: 1749  
 Population within 1 Mile: 15,001 to 20,000  
 Population within 5 Miles: 100,001 to 125,000  
 Car ownership within 5 Miles: 1.1 to 1.5

#### Public Transport Provision Summary

| Day           | Period    | Total buses/trams within 400m | Total Trains within 1000m | Total Services |
|---------------|-----------|-------------------------------|---------------------------|----------------|
| Monday-Friday | 0700-1900 | 114                           |                           | 114            |
| Monday-Friday | 0700-1000 | 28                            |                           | 28             |
| Monday-Friday | 1600-1900 | 20                            |                           | 20             |
| Saturday      | 0700-1900 | 108                           |                           | 108            |
| Sunday        | 0700-1900 | 32                            |                           | 32             |

Is site associated with a travel plan: No  
 If not, are there any plans to implement a Travel Plan in the future? No  
 Is survey data available before the implementation of the Travel Plan?  
 Is the location of the site hilly or flat: Flat  
 Urban Regeneration: No

Site area: 0.48 hect  
 Number of dwellings: 11  
 Housing Density: 36.67

No. of developments for this Site: 1  
 No. of survey Days for this Site: 1

#### Bus (or tram) site accessibility

- Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
- If yes to question 3, where it is necessary to cross a road between the development and the stop, is there a conveniently placed crossing facility? : Yes
- If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
- If yes to question 5, what are the service characteristics? (please complete the outline information below)

| Destination (town/area)  | Number per hour | Approx. journey time |
|--------------------------|-----------------|----------------------|
| Chester Bus Exchange - 5 | 2               | 10                   |
| Chester, The Bars - 45   | 2               | 12                   |
| Chester Railway Station  | 2               | 13                   |
| Chester Forgate Street   | 2               | 5                    |

Design features encouraging non-car modes

12. Pedestrians

None

13. Pedal cycles

None

14. Public transport

None

Design features encouraging non-car modes

| Road Network Distance to Local Developments |                |
|---------------------------------------------|----------------|
| Year of Analysis                            | 2012           |
| Nearest Primary School                      | 0.8 kilometres |
| Nearest Secondary School                    | 1.6 kilometres |
| Nearest Local Shop/Corner Shop              | 1.5 kilometres |
| Nearest Main Supermarket                    | 0.6 kilometres |
| Nearest Doctors Surgery                     | 0.4 kilometres |
| Nearest Hospital with Minor Injuries/A & E  | 4.6 kilometres |
| Nearest Sports/Leisure Centre               | 2.5 kilometres |

| Census Data                                                |           |
|------------------------------------------------------------|-----------|
| Year of Census                                             | 2001      |
| Census Output Area/Data Zone                               | E00092410 |
| Number of people employed within Census Output Area        | 106       |
| Number of households within Census Output Area             | 126       |
| Number of people living within Census Output Area          | 277       |
| Area of Census Output Area (hectares)                      | 6.60      |
| Population density within Census Output Area (per hectare) | 38.63     |

SITE PHOTO



Site reference: CH-03-A-08 Multi-Modal survey site  
 Trade name: MOORCROFT COURT  
  
 Site area (h/a): 0.48  
 Site area excluding public open spaces (h/a): 0.30  
  
 Open since 2002  
  
 Occupied dwellings 11  
 Unoccupied dwellings 0  
 Total dwellings 11  
  
 Housing Density 36.67  
 Privately owned units 11  
 Non-Privately owned units 0  
 Name of nearest site HILARY CLOSE  
 Distance to nearest similar site 0 Km  
  
 Average Bedrooms Per Unit 4  
 No of units with 1 bedroom 0  
 No of units with 2 bedrooms 0  
 No of units with 3 bedrooms 0  
 No of units with 4+ bedrooms 11  
 Total bedrooms 44  
 Unit Density 22.9

## Residential unit types

|                       | Private | Non-Private | Total |
|-----------------------|---------|-------------|-------|
| Detached houses       | 11      | 0           | 11    |
| Semi-detached houses  | 0       | 0           | 0     |
| Terraced houses       | 0       | 0           | 0     |
| Bungalows             | 0       | 0           | 0     |
| Flats (in houses)     | 0       | 0           | 0     |
| Flats (in blocks)     | 0       | 0           | 0     |
| Other (specify below) | 0       | 0           | 0     |

Other:

Comments

Nearest similar is site is Hilary CLOse, approx 0.5 km away.

## Multi-Modal survey site

On-Site parking

|                             |         |
|-----------------------------|---------|
| Total no. of parking spaces | 52      |
| Parking Spaces Per Hectare  | 108.333 |
| Parking Spaces Per dwelling | 4.727   |
| Arrivals Per Parking Space  | 0.71    |

Number of spaces

|                         |    |
|-------------------------|----|
| On-Street               | 10 |
| Driveway                | 22 |
| Garages                 | 20 |
| Communal parking spaces | 0  |

Off-Site parking details

Is there off-site parking available

Yes

Off-Site parking included in the counts

No

Free On-Street parking available nearby

Yes

If yes, considered easy to find a space

Yes

If prepared to pay, easy to find somewhere to park off-site all day

Yes

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)

No

Off-Street parking

Off-Street parking available Yes, Public Off-Street Parking is Available

Approx. available spaces 30

Parking located within a control parking zone (CPZ)

Yes

Charges for this Off-Street parking

No

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site

No

Site reference: CH-03-A-08 Survey date: 22/05/12 Day of week: Tuesday

Multi-Modal survey site

Vehicles surveyed: Total vehicles

Survey type: Manual Count

AM weather: Mild and Clear

PM weather: Hot and Clear

Initial car park occupancy: 22 Final car park occupancy: 15

BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE

Parking Capacity 29% (52 On-Site Spaces)

Data proportions in %

|             |    |              |   |                |   |
|-------------|----|--------------|---|----------------|---|
| Motor cars  | 92 | Motor cycles | 0 | Public service | 0 |
| Light goods | 5  | OGV (1)      | 0 | OGV (2)        | 0 |
|             |    |              |   | Taxis          | 3 |

| Time        | Arr 37 | Dep 44 | Totals | Parking Accum |
|-------------|--------|--------|--------|---------------|
| 00:00-01:00 |        |        |        |               |
| 01:00-02:00 |        |        |        |               |
| 02:00-03:00 |        |        |        |               |
| 03:00-04:00 |        |        |        |               |
| 04:00-05:00 |        |        |        |               |
| 05:00-06:00 |        |        |        |               |
| 06:00-07:00 |        |        |        |               |
| 07:00-08:00 | 0      | 8      | 8      | 14            |
| 08:00-09:00 | 2      | 5      | 7      | 11            |
| 09:00-10:00 | 2      | 3      | 5      | 10            |
| 10:00-11:00 | 5      | 4      | 9      | 11            |
| 11:00-12:00 | 5      | 5      | 10     | 11            |
| 12:00-13:00 | 2      | 5      | 7      | 8             |
| 13:00-14:00 | 1      | 1      | 2      | 8             |
| 14:00-15:00 | 3      | 4      | 7      | 7             |
| 15:00-16:00 | 2      | 2      | 4      | 7             |
| 16:00-17:00 | 5      | 2      | 7      | 10            |
| 17:00-18:00 | 6      | 3      | 9      | 13            |
| 18:00-19:00 | 4      | 2      | 6      | 15            |
| 19:00-20:00 |        |        |        |               |
| 20:00-21:00 |        |        |        |               |
| 21:00-22:00 |        |        |        |               |
| 22:00-23:00 |        |        |        |               |
| 23:00-24:00 |        |        |        |               |

Site reference: CH-03-A-08

Survey date: 22/05/12

Day of week: Tuesday

Multi-Modal survey site

Vehicles surveyed: Taxis

| Time        | Arr 1 | Dep 1 | Totals | Accumulation |
|-------------|-------|-------|--------|--------------|
| 00:00-01:00 |       |       |        |              |
| 01:00-02:00 |       |       |        |              |
| 02:00-03:00 |       |       |        |              |
| 03:00-04:00 |       |       |        |              |
| 04:00-05:00 |       |       |        |              |
| 05:00-06:00 |       |       |        |              |
| 06:00-07:00 |       |       |        |              |
| 07:00-08:00 | 0     | 0     | 0      | (0)          |
| 08:00-09:00 | 0     | 0     | 0      | (0)          |
| 09:00-10:00 | 0     | 0     | 0      | (0)          |
| 10:00-11:00 | 1     | 1     | 2      | (0)          |
| 11:00-12:00 | 0     | 0     | 0      | (0)          |
| 12:00-13:00 | 0     | 0     | 0      | (0)          |
| 13:00-14:00 | 0     | 0     | 0      | (0)          |
| 14:00-15:00 | 0     | 0     | 0      | (0)          |
| 15:00-16:00 | 0     | 0     | 0      | (0)          |
| 16:00-17:00 | 0     | 0     | 0      | (0)          |
| 17:00-18:00 | 0     | 0     | 0      | (0)          |
| 18:00-19:00 | 0     | 0     | 0      | (0)          |
| 19:00-20:00 |       |       |        |              |
| 20:00-21:00 |       |       |        |              |
| 21:00-22:00 |       |       |        |              |
| 22:00-23:00 |       |       |        |              |
| 23:00-24:00 |       |       |        |              |

Site reference: CH-03-A-08

Survey date: 22/05/12

Day of week: Tuesday

Multi-Modal survey site

Vehicles surveyed: Cycles

| Time        | Arr 1 | Dep 1 | Totals | Accumulation |
|-------------|-------|-------|--------|--------------|
| 00:00-01:00 |       |       |        |              |
| 01:00-02:00 |       |       |        |              |
| 02:00-03:00 |       |       |        |              |
| 03:00-04:00 |       |       |        |              |
| 04:00-05:00 |       |       |        |              |
| 05:00-06:00 |       |       |        |              |
| 06:00-07:00 |       |       |        |              |
| 07:00-08:00 | 0     | 1     | 1      | (-1)         |
| 08:00-09:00 | 0     | 0     | 0      | (-1)         |
| 09:00-10:00 | 0     | 0     | 0      | (-1)         |
| 10:00-11:00 | 0     | 0     | 0      | (-1)         |
| 11:00-12:00 | 0     | 0     | 0      | (-1)         |
| 12:00-13:00 | 0     | 0     | 0      | (-1)         |
| 13:00-14:00 | 0     | 0     | 0      | (-1)         |
| 14:00-15:00 | 0     | 0     | 0      | (-1)         |
| 15:00-16:00 | 0     | 0     | 0      | (-1)         |
| 16:00-17:00 | 1     | 0     | 1      | (0)          |
| 17:00-18:00 | 0     | 0     | 0      | (0)          |
| 18:00-19:00 | 0     | 0     | 0      | (0)          |
| 19:00-20:00 |       |       |        |              |
| 20:00-21:00 |       |       |        |              |
| 21:00-22:00 |       |       |        |              |
| 22:00-23:00 |       |       |        |              |
| 23:00-24:00 |       |       |        |              |

Site reference: CH-03-A-08

Survey date: 22/05/12

Day of week: Tuesday

## Multi-Modal survey site

People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants

Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

[illegible]

Site reference: CH-03-A-08

Survey date: 22/05/12

Day of week: Tuesday

Multi-Modal survey site

People Surveyed: Pedestrians

| Time        | Arr 18 | Dep 17 | Totals | Accumulation |
|-------------|--------|--------|--------|--------------|
| 00:00-01:00 |        |        |        |              |
| 01:00-02:00 |        |        |        |              |
| 02:00-03:00 |        |        |        |              |
| 03:00-04:00 |        |        |        |              |
| 04:00-05:00 |        |        |        |              |
| 05:00-06:00 |        |        |        |              |
| 06:00-07:00 |        |        |        |              |
| 07:00-08:00 | 0      | 0      | 0      | (0)          |
| 08:00-09:00 | 0      | 5      | 5      | (-5)         |
| 09:00-10:00 | 3      | 0      | 3      | (-2)         |
| 10:00-11:00 | 1      | 1      | 2      | (-2)         |
| 11:00-12:00 | 2      | 2      | 4      | (-2)         |
| 12:00-13:00 | 3      | 1      | 4      | (0)          |
| 13:00-14:00 | 5      | 1      | 6      | (4)          |
| 14:00-15:00 | 1      | 5      | 6      | (0)          |
| 15:00-16:00 | 0      | 1      | 1      | (-1)         |
| 16:00-17:00 | 0      | 1      | 1      | (-2)         |
| 17:00-18:00 | 1      | 0      | 1      | (-1)         |
| 18:00-19:00 | 2      | 0      | 2      | (1)          |
| 19:00-20:00 |        |        |        |              |
| 20:00-21:00 |        |        |        |              |
| 21:00-22:00 |        |        |        |              |
| 22:00-23:00 |        |        |        |              |
| 23:00-24:00 |        |        |        |              |

Site reference: CH-03-A-08

Survey date: 22/05/12

Day of week: Tuesday

Multi-Modal survey site

People Surveyed: Total people

| Time        | Arr 64 | Dep 70 | Totals | Accumulation |
|-------------|--------|--------|--------|--------------|
| 00:00-01:00 |        |        |        |              |
| 01:00-02:00 |        |        |        |              |
| 02:00-03:00 |        |        |        |              |
| 03:00-04:00 |        |        |        |              |
| 04:00-05:00 |        |        |        |              |
| 05:00-06:00 |        |        |        |              |
| 06:00-07:00 |        |        |        |              |
| 07:00-08:00 | 0      | 9      | 9      | (-9)         |
| 08:00-09:00 | 2      | 13     | 15     | (-20)        |
| 09:00-10:00 | 5      | 3      | 8      | (-18)        |
| 10:00-11:00 | 6      | 5      | 11     | (-17)        |
| 11:00-12:00 | 10     | 7      | 17     | (-14)        |
| 12:00-13:00 | 7      | 9      | 16     | (-16)        |
| 13:00-14:00 | 6      | 2      | 8      | (-12)        |
| 14:00-15:00 | 4      | 9      | 13     | (-17)        |
| 15:00-16:00 | 3      | 5      | 8      | (-19)        |
| 16:00-17:00 | 6      | 3      | 9      | (-16)        |
| 17:00-18:00 | 9      | 3      | 12     | (-10)        |
| 18:00-19:00 | 6      | 2      | 8      | (-6)         |
| 19:00-20:00 |        |        |        |              |
| 20:00-21:00 |        |        |        |              |
| 21:00-22:00 |        |        |        |              |
| 22:00-23:00 |        |        |        |              |
| 23:00-24:00 |        |        |        |              |

Calculation Reference: AUDIT-148301-160927-0919

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
Category : A - HOUSES PRIVATELY OWNED  
VEHICLES

Selected regions and areas:

08 NORTH WEST  
CH CHESHIRE 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

## Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings  
Actual Range: 11 to 11 (units: )  
Range Selected by User: 5 to 60 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 12/11/15

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 1 days  
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

## Filtering Stage 3 selection:

Use Class:

C3 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

## Filtering Stage 3 selection (Cont.):

Population within 1 mile:

15,001 to 20,000

1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

100,001 to 125,000

1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5

1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 CH-03-A-08 DETACHED CHESHIRE  
 WHITCHURCH ROAD  
 BOUGHTON HEATH  
 CHESTER  
 Suburban Area (PPS6 Out of Centre)  
 Residential Zone  
 Total Number of dwellings: 11  
 Survey date: TUESDAY 22/05/12 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

| Site Ref   | Reason for Deselection |
|------------|------------------------|
| AG-03-A-01 | not similar            |
| CA-03-A-04 | not similar            |
| DC-03-A-01 | not similar            |
| DV-03-A-01 | not similar            |
| FA-03-A-01 | not similar            |
| HC-03-A-17 | not similar            |
| LC-03-A-30 | not similar            |
| LN-03-A-03 | not similar            |
| LN-03-A-04 | not similar            |
| MS-03-A-03 | not similar            |
| NF-03-A-01 | not similar            |
| NY-03-A-03 | not similar            |
| NY-03-A-08 | not similar            |
| NY-03-A-09 | not similar            |
| PK-03-A-01 | not similar            |
| PS-03-A-01 | not similar            |
| PS-03-A-02 | not similar            |
| SF-03-A-04 | not similar            |
| ST-03-A-05 | not similar            |
| ST-03-A-06 | not similar            |
| SY-03-A-01 | not similar            |
| TW-03-A-02 | not similar            |
| WK-03-A-01 | not similar            |
| WS-03-A-05 | not similar            |

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 1        | 11          | 0.000     | 1          | 11          | 0.727     | 1        | 11          | 0.727     |
| 08:00 - 09:00 | 1        | 11          | 0.182     | 1          | 11          | 0.455     | 1        | 11          | 0.637     |
| 09:00 - 10:00 | 1        | 11          | 0.182     | 1          | 11          | 0.273     | 1        | 11          | 0.455     |
| 10:00 - 11:00 | 1        | 11          | 0.455     | 1          | 11          | 0.364     | 1        | 11          | 0.819     |
| 11:00 - 12:00 | 1        | 11          | 0.455     | 1          | 11          | 0.455     | 1        | 11          | 0.910     |
| 12:00 - 13:00 | 1        | 11          | 0.182     | 1          | 11          | 0.455     | 1        | 11          | 0.637     |
| 13:00 - 14:00 | 1        | 11          | 0.091     | 1          | 11          | 0.091     | 1        | 11          | 0.182     |
| 14:00 - 15:00 | 1        | 11          | 0.273     | 1          | 11          | 0.364     | 1        | 11          | 0.637     |
| 15:00 - 16:00 | 1        | 11          | 0.182     | 1          | 11          | 0.182     | 1        | 11          | 0.364     |
| 16:00 - 17:00 | 1        | 11          | 0.455     | 1          | 11          | 0.182     | 1        | 11          | 0.637     |
| 17:00 - 18:00 | 1        | 11          | 0.545     | 1          | 11          | 0.273     | 1        | 11          | 0.818     |
| 18:00 - 19:00 | 1        | 11          | 0.364     | 1          | 11          | 0.182     | 1        | 11          | 0.546     |
| 19:00 - 20:00 |          |             |           |            |             |           |          |             |           |
| 20:00 - 21:00 |          |             |           |            |             |           |          |             |           |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 3.366     |            |             | 4.003     |          |             | 7.369     |

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is:  $COUNT/TRP*FACT$ . Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected: 11 - 11 (units: )  
 Survey date range: 01/01/08 - 12/11/15  
 Number of weekdays (Monday-Friday): 1  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 0  
 Surveys manually removed from selection: 24

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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