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Transport Assessment

Land at Bonhams Field, Yapton

Iceni Projects Limited on behalf of
Seaward Properties

ICENI PROJECTS LIMITED
ON BEHALF OF SEAWARD
PROPERTIES

December 2016

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Transport Assessment

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1. INTRODUCTION

- 1.1 Iceni Projects Ltd has been appointed by Seawards Properties (the 'Applicant') to prepare a Transport Assessment (TA) report to support the proposed development of land at Bonhams Field Yapton.
- 1.2 The Local Planning Authority is Arun District Council (ADC) and the Local Highway Authority is West Sussex County Council (WSCC).
- 1.3 The proposal is for a residential development of circa 56 dwellings at land at Bonhams Field, Yapton. A site location plan is provided in **Appendix A1**.
- 1.4 The TA has been prepared with reference to DfT Guidance 'Transport Evidence Bases in Plan Making', which supersedes 'Guidance on Transport Assessments'. A scoping meeting was held with WSCC to agree the scope of work required for this assessment and this has informed the structure and contents of this report. Where WSCC has provided comments and actions, these have been accounted for within the TA.
- 1.5 Further to this, pre-application advice has been obtained from WSCC and the comments have been incorporated into this Transport Assessment. The scoping response is included at **Appendix A2**.

Report Structure

- 1.6 Following this introductory chapter, the remainder of this TA is structured as follows:
- **Chapter 2: Policy Review** – provides a review of national, regional and local development and transport planning policy relevant to the location, scale and type of the proposal;
 - **Chapter 3: Existing Conditions** – provides an outline review of the existing transport conditions prevailing at the development site and in the immediate surrounding area, including a review of the most recently available Personal Injury Collision (PIC) data;
 - **Chapter 4: Site Accessibility** – considers the accessibility of the site by sustainable travel modes;
 - **Chapter 5: Development Proposals** - sets out the development proposals including existing and proposed land uses, access arrangements and a review of parking provision;

- **Chapter 6: Trip Generation and Distribution** - presents the results of the vehicle trip generation assessment relative to the proposal and how these have been assigned to the local highway network;
- **Chapter 7: Summary and Conclusions** - Provides a summary and conclusion by highlighting the key points raised within this TA Report.

1.7 All technical Appendices are included at the end of this TA for information.

2. POLICY REVIEW

Introduction

- 2.1 This chapter of the TA examines the context of the site and how this relates to relevant planning policies and guidelines. It provides an overall spatial and planning context for the development proposal.
- 2.2 The current agenda regarding transport and development is moving away from one of providing significant new highway capacity, through 'predict and provide' schemes. Instead, policies have been adopted in national guidelines such as the most recent Transport White Paper (2011) that seek to encourage more sustainable modes than the car and a planning system which places more emphasis on the link between transport and land use planning policies.
- 2.3 The following national and local planning documents have been reviewed:
- The Transport White Paper (2011);
 - The National Planning Policy Framework (March 2012);
 - WSCC Local Transport Plan 3 (February 2011);
 - ADC Local Plan (2011–2031)

The Transport White Paper (2011)

- 2.4 The government's vision for the local transport system is set out in the January 2011 Transport White paper "*Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen*".
- 2.5 The White Paper acknowledges that transport provision is essential for economic growth if the Government is to improve the economic deficit that it is currently facing. However, The Paper also recognises that the current levels of carbon emissions from transport cannot be sustained if the nation is to meet its national commitment on climate change as well as creating a safer and cleaner environment in which to live. With this in mind, the Government highlights sustainable transport solutions as a means by which the economy can grow which will also see a positive impact on the local environs.
- 2.6 Whilst the Paper outlines the funding options that will be available for sustainable transport schemes, it also recognises that investment alone will not be enough and that help needs to be given to people to ensure that the transport choices they make are good for society as a whole. The Paper recognises that it is at the local level where most can be done to encourage sustainable

transport modes and implement sustainable transport schemes. Solutions should be developed for the places they serve, tailored for the specific needs and behaviour patterns of individual communities.

- 2.7 Within the Paper, sustainable transport considers more than just public transport, walking, and cycling schemes; acknowledges that it is not feasible for some trips to be undertaken by these modes. There is therefore a realisation that the car will continue to be an important mode of transport and focus should be given to making car travel greener through electric and other low emission vehicles.

The National Planning Policy Framework

- 2.8 The Government's National Planning Policy Framework (NPPF) replaced the majority of previous Planning Policy Statements (PPS) and Planning Policy Guidance Notes (PPG) documents on 27 March 2012. It sets out the Government's expectations and requirements from the planning system. It is meant as high level guidance for local councils to use when defining their own personal local and neighbourhood plans. This approach allows the planning system to be customised to reflect the needs and priorities of individual communities.

- 2.9 The NPPF defines the delivery of sustainable development through three roles:

1. Planning for prosperity (an economic role);
2. Planning for people (a social role); and
3. Planning for places (an environmental role).

- 2.10 It notes that to achieve sustainable development, these roles should be sought jointly and simultaneously through the planning system.

- 2.11 At the heart of the NPPF is a presumption in favour of sustainable development which '*should be seen as a golden thread running through both plan-making and decision-taking.*' (para. 14). In paragraph 15, it goes on to say that: '*Policies in Local Plans should follow the approach of the presumption in favour of sustainable development so that it is clear that development which is sustainable can be approved without delay.*'

Transport - Promoting Sustainable Transport

- 2.12 The NPPF recognises that transport policies have an important role to play in wider sustainability and health objectives as well as their direct influence on development. In paragraph 29 it states that '*the transport system needs to be balanced in favour of sustainable transport modes giving people a real choice about how they travel.*'

2.13 Paragraph 32 states that, '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.'*

2.14 Paragraph 34 seeks to ensure that, '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.'

2.15 It notes, however, that this needs to take account of policies set out elsewhere in this Framework. It goes on to mention that: '*Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people.*' Therefore, developments should be located and designed where practical to:

- *accommodate the efficient delivery of goods and supplies;*
- *give priority to pedestrian and cycle movements, and have access to high quality public transport facilities; and*
- *create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter.*
- *incorporate facilities for charging plug-in and other ultra-low emission vehicles; and*
- *consider the needs of people with disabilities by all modes of transport.'*

WSCC Local Transport Plan 3 (2011-2026)

2.16 West Sussex Local Transport Plan 3 (LTP3) sets out the transport strategy for the region and covers the period from 2011 to 2026. The document provides a transport strategy that supports economic growth in West Sussex whilst also ensuring the plan takes note of relevant strategic planning and delivery documents. LTP3 is divided into two parts; the 'Long-Term Strategy' and the 'Implementation Plan'.

2.17 The main objectives of LTP3 are as follows:

- *Promoting economic growth;*
- *Tackling climate change;*
- *Providing access to services, employment and housing; and*

- *Improving safety, security and health.*

2.18 The highest priorities for West Sussex transport include improvements to A27 trunk road, maintaining the highway network and continuing to work with the community to improve safety record on local roads, increasing the use of healthy and sustainable modes of transport, and providing access to services.

WSCC ‘Guidance for Parking in New Residential Developments’ (September 2010)

2.19 WSCC has taken an evidence-based approach to residential parking in new developments, to ensure that the number of parking spaces provided is appropriate to the location and characteristics of the development.

2.20 To assist with this, WSCC conducted a survey in 2009, of residents in developments built between 2001 and 2008. This information was used alongside TEMPRO car ownership rates from the 2001 Census to reflect their understanding of car ownership in new development in West Sussex. Therefore, the Guidance has been used to outline WSCC’s recommended approach to residential parking in new developments and should be used to inform the design for new developments.

2.21 The output from the parking calculator shows the number of allocated and unallocated spaces required to accommodate the parking demand of residents and their visitors.

Arun District Council Local Plan (2003)

2.22 The Arun District Local Plan 2003 was adopted on the 17th April 2003 and covers the period up to 2011 when the new local plan takes over. It forms a statement of Arun District Council’s planning policies, which will be used as a basis for decision making in planning applications.

2.23 There are a number of saved policies which are relevant to the proposed development, which include:

- *Policy GEN12: Parking in New Development*

The Local Planning Authority will base its consideration of the need for on-site parking provision on its parking standards contained within this Plan. Provision of parking in excess of these standards will not be allowed.

The Local Planning Authority may seek a lower provision than required by the standards for developments proposed in town centres and other areas accessible by other means of transport. In considering the extent of reduced on-site parking provision, the Council will have regard to environmental and highway safety issues, together with the following factors:-

- (i) the availability, type and proximity of public parking;*
- (ii) the availability of alternative means of transport;*

- (iii) *potential highway safety problems;*
 - (iv) *potential environmental harm arising from parking demand being met elsewhere;*
 - (v) *the extent and nature of parking restrictions in force on highways in the vicinity;*
 - (vi) *the scale of development proposed; and*
 - (vii) *the suitability of "specific use" and "personal" conditions attached to planning permissions.*
- **Policy GEN14: Public Transport**

The Council will support the provision of comprehensive public transport services throughout the District, and encourage improvements to be made to services wherever possible. Where appropriate, new development will be required to make provision for public transport facilities.

Where new development can only take place with improvements to public transport services, or such improvements would be likely to influence desirable travel patterns, the Local Planning Authority will seek contributions towards the cost of improvements.
 - **Policy GEN15: Walking and Cycling**

The Council will continue to work with West Sussex County Council and others to encourage and support the development of safe cycle and footpath networks. Where appropriate, new development will be required to provide safe and attractive facilities for cyclists and pedestrians, both within the site and in the form of links to the surrounding area. The proposed Barnham - Felpham and River Arun cycle routes will be protected from development which would preclude their use as a safe cycle route.

Yapton Neighbourhood Plan 2014 – 2029 (October 2014)

2.24 This document represents the Neighbourhood Plan for Yapton parish. It represents one part of the development plan for the parish over the period 2014 – 2029, the other part being the 2003 Arun Local Plan.

2.25 Within the document, it states that:

“For Yapton, the Neighbourhood Plan seeks to contribute towards this by addressing the housing needs of the parish whilst ensuring that development does not have an unacceptable impact on the local infrastructure. This will be achieved by:

- *Providing for a minimum of 100 new dwellings between 2014 and 2029 in accordance with Arun District Council's Draft Local Plan and ensuring that the overall quantum of development does not put an unacceptable strain on infrastructure capacity;*

- *Ensuring that the built-up area boundary provides appropriate safeguards to Yapton's village identity;*
- *Prioritising the use of brownfield sites and permitting greenfield development on the edge of Yapton village only in exceptional circumstances, with clear and strict guidance on what is appropriate;*
- *Encouraging small-scale residential developments that are sympathetic to their surroundings;*
- *Ensuring that new developments include a mix of housing to meet the needs of local people, taking into account the current and projected demographic of the parish; and*
- *Providing well-designed dwellings that are sympathetic to the character of the village”.*

Arun District Council Local Plan (2011–2031) Submission Draft (Publication Version)

2.26 The Arun District Council Local Plan is being replaced and is currently at Submission Draft stage. Whilst it does not hold any planning weight, it should still be considered in the context of this planning application.

2.27 The Emerging Local Plan outlines a number of key objectives which are outlined within Section 4, Vision and Objectives. The key strategic objective, relating to transport, is brought to the forefront within point 2, stating:

- *To reduce the need to travel and promote sustainable forms of transport.*

2.28 The key objective stated above is mirrored closely to ‘Policy T SP1: Transport and Development’ which details the following:

- To ensure that growth in the District strengthens Arun's economic base, reduces congestion, works to tackle climate change and promotes healthy lifestyles; the Council will ensure that development: provides safe access on to the highway network; contributes to highway improvements and promotes sustainable transport, including the use of low emission fuels, public transport improvements and the cycle, pedestrian and bridleway network. The Council will support development which:
 - a. Is designed to reduce the need to travel by car by identifying opportunities to improve access to public transport services and passenger transport services whilst making provision for safe access to the highway network through improvements to the existing road network and the promotion of vehicles which use low-carbon energy.

Summary

- 2.29 National and local policies highlight the need to reduce the number of trips by car, instead promoting sustainable transport alternatives. The policies encourage developments to provide the opportunity to travel by public transport or on foot for local trips. Residents living and working in areas with good opportunities for making journeys for sustainable modes will have less need to own and travel by private car.
- 2.30 In summary, it can be seen that there are a number of current and emerging transport planning policies and policy guidance documents that support the Proposed Development at the land of Bonhams Field, Yapton and encourage travel by means of sustainable travel modes located within close proximity of the site.
- 2.31 In addition to this, the Neighbourhood Plan for Yapton sets out the need for further residential development in the area, which further supports the objectives set out in the Arun Local Plan.

3. EXISTING TRANSPORT CONDITIONS

Introduction

- 3.1 This chapter considers the existing transport conditions, including public transport, walking, cycling, highways and traffic. It provides a summary of the existing links. A review of road safety statistics for Bonhams Field, and at key junctions in the vicinity of the Site has also been undertaken.

Site Description

- 3.2 The site is land to the north of Main Road, Yapton located to the west of North End Road. **Figure 3.1**, shown below, is an aerial image showing the Site boundary in relation to the local highway network and existing land uses.

Figure 3.1 Site Location and Local Highway Network



- 3.3 There are two existing dwellings between the central section of the site, which separates the two sections of the site frontage to the carriageway. To the east there are residential properties located on North End Road, with existing agricultural use to the north and south on the opposite side of Yapton Road.
- 3.4 There is currently no formal vehicle access to the site from Yapton Road.

Local Highway Network

- 3.5 Access to the site for vehicles is proposed to be taken via a new priority junction from Main Road with appropriate provision for pedestrians and cyclists at this junction.
- 3.6 Other key links on the local highway network include North End Road and Drove Lane. A description of existing conditions on each of these links is provided below.

B2233 Yapton Road

- 3.7 Towards the southern boundary of the site, Yapton Road is a two-way single carriageway road and is subject to a 30mph speed restriction. The A2233 runs in a north-west / south-east direction between the A259 Grevatt's Lane / Crookthorn Lane and the A29 Nyton Road. There are intermittent footways on the northern and southern sides of the carriageway to aid pedestrian movement. On the southern side of the carriageway is a lay-by which provides some informal parking provision.
- 3.8 **Figure 3.2** is an image of existing conditions along Yapton Road in the vicinity of the site boundary.

Figure 3.2 B2233 Yapton Road in the Vicinity of the Site Boundary



North End Road

- 3.9 North End Road is located towards the east of the site and runs in a broadly north-east / south-west direction between the B2233 Yapton Road and the A27 Arundel Road. The road is a two-way single carriageway road with footways on both sides. Street lighting is present at regular intervals

and a bus stop is located towards the mini-roundabout junction between Yapton Road and Main Road.

Drove Lane

- 3.10 Drove Lane is located opposite the site and joins the B2233 Yapton Road via a priority junction. The road is a single lane, private road which provides access to / from Drove Lane Farm.

Existing Traffic Conditions

Traffic Flows

- 3.11 An Automatic Traffic Counter (ATC) unit was placed on the B2233 Yapton Road at the approximate location of the proposed site access in order to obtain information on the volume, speed and profile of traffic flows along the link.
- 3.12 The ATC was used to record data across seven consecutive days, inclusive of 13th July 2016 through to 20th July 2016. A summary of the traffic data for Yapton Road is below:
- The average weekday daily two-way traffic flow passing the site entrance was 8,120 vehicles (4,142 northbound and 3,978 southbound);
 - The AM (morning) Peak hour passing the site entrance was 08:00-09:00 hours with an average weekday two-way flow of 697 vehicles;
 - The PM (evening) Peak hour passing the site entrance was 17:00-18:00 hours with an average weekday two-way flow of 650 vehicles;
 - The morning peak hour was generally busier than the evening peak hour.

Traffic Speeds

- 3.13 The speed limit along Yapton Road at the location of the proposed site access is 30mph. Vehicle speeds (85thile) on Yapton Road have been extracted from the ATC data and are presented in **Table 3.1** for the average weekday period.

Table 3.1 Yapton Road Vehicle Speeds

Direction	Dry Weather 85 th ile Speed (from ATC)		Wet Weather 85 th ile Speed (-4kph / 2.5mph)	
	MPH	KPH	MPH	KPH
Northbound	38.1	61.3	35.6	57.3
Southbound	36.8	59.2	34.5	55.2

Public Rights of Way

- 3.14 A search of the local area indicates that there are no PRoWs routing through the site. However, there is a useful network of footpaths and bridleways in the wider area.

Bus Services

- 3.15 Bus services offer a realistic option for the journey to work, being best suited for medium distance journeys. According to the 2011 Census, bus use represents approximately 8% of all journeys to work on a national scale and 3% of journeys in the local area.
- 3.16 The site is located within walking distance of existing bus stops located on North End Road / Main Road approximately 250m west of the proposed site access, which provide access to services number 66. There is also service numbers 228 and 665 which use these stops also the services are limited to a single journey per day.
- 3.17 A summary of local bus services is provided in **Table 3.2** and includes destinations served, frequency and first and last services for both directions. Full copies of the bus information are provided at **Appendix A3**.

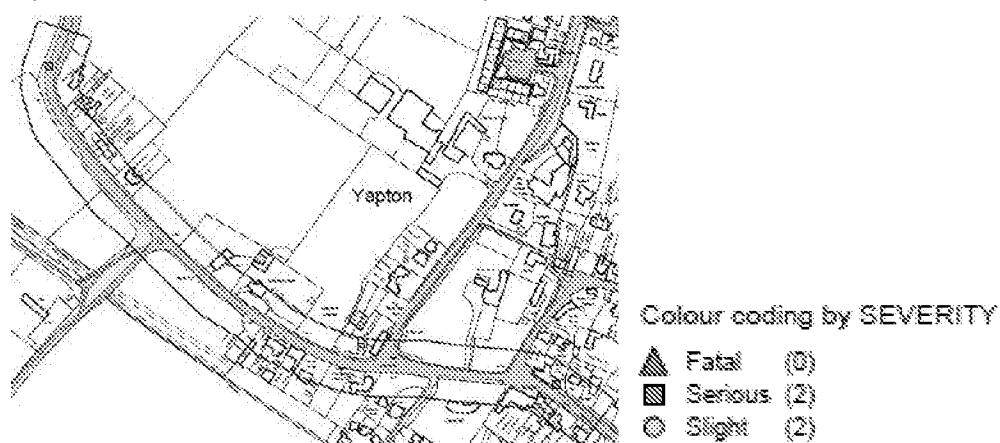
Table 3.2 A summary of local bus services

Service	Route	Day	First Service	Frequency	Last Service
66	Bognor Regis – Yapton – Bognor Regis	M-F	07:31	8 / day	18:01
		Sat	07:40	8 / day	18:01

Personal Injury Collision Analysis

- 3.18 Personal Injury Collision (PIC) data for the most recent five-year period has been obtained from the Sussex Safer Roads Partnership on behalf of Sussex Police. This road safety analysis includes an extensive study area, incorporating the key junctions and links in the vicinity of the site.
- 3.19 In the vicinity of the site, the data shows that over the most recent five-year period a total of 4 collisions have been recorded in the study area, including 2 collisions classed as 'slight' and 2 collisions resulting in at least one casualty with a 'serious' classified injury. No 'fatal' accidents have been recorded for the study area link and junctions.
- 3.20 These are shown in **Figure 3.3** overleaf:

Figure 3.3 Collision Data in the Vicinity of the Site (Sussex Safer Roads Partnership)



- 3.21 Given that 4 accidents in five years is the equivalent of less than 1 accident per year, it is considered that there is no existing accident issue within the vicinity of the site.
- 3.22 The two slight accidents occurred on Yapton Road. The first incident was a rear end shunt as the vehicle ahead slowed down, and the second incident was also a rear end shunt as the vehicle ahead pulled over due to a low sun.
- 3.23 One of the serious accidents occurred on Yapton Road, west of Drove Lane. The accident involved a motorcycle who lost control on bend, due to excess speed.
- 3.24 The second serious accident occurred on Yapton Road, east of Church Road. The accident involved a car, travelling westbound, which crossed over on to the opposite side of the carriageway, onto the footway, then subsequently struck a house, before re-joining the carriageway.
- 3.25 Overall, it is considered that all of the above accidents are as a result of human error. There were no incidents involving pedestrians or cyclists.

4. SITE ACCESSIBILITY

Introduction

- 4.1 The site is afforded good accessibility to various key amenities and services located in Yapton, and Barnham village centre, located approximately 1.7km north west of the site. A number of facilities are located within walking and cycling distances of the site which ensures it represents a suitable location in terms of the opportunities for travel by sustainable modes.
- 4.2 This Section considers the opportunities to access local facilities from the site including education, employment, leisure and retail, on foot or by cycle.

Non-Motorised Users

- 4.3 Walking and cycling are of significant importance at local trip level, offering the greatest potential to replace short car trips where they are less than 2km for walking and 5km for cycling.
- 4.4 In terms of journey purpose, local trips on foot are likely to relate to short shopping trips, access to leisure facilities, trips to school, local visiting and trips to bus stops as part of linked trips to destinations further afield.

Walking

- 4.5 The Institute of Highways and Transportation (IHT) provide guidance on desirable walk distances in their publication 'Guidelines for Providing Journeys on Foot, 2000'. This suggests that in terms of commuting, walking to school and recreational journeys, walk distances of up to 2,000 metres can be considered, with acceptable and desirable distances of 1,000 and 500 metres respectively.
- 4.6 For non-commuter journeys the guidance suggests that a walk distance of up to 1,200 metres can be considered, with the acceptable and desirable distances being 800 and 400 metres respectively.
- 4.7 **Table 4.1** summarises the approximate walk journey times that can be 'Considered', are 'Acceptable', and those that are 'Desirable'.

Table 4.1: Suggested Acceptable Walking Distance & Approximate Walk Times

IHT Standards	Distance (m)		Approx. Walk Time (mins) ¹	
	Commuting, Walking to School and Recreation	Other Non- Commuter Journeys	Commuting, Walking to School and Recreation	Other Non- Commuter Journeys
‘Desirable’	500	400	6.25	5
‘Acceptable’	1000	800	12.5	10
‘Considered’	2000	1200	25	15

Note: ¹ Calculated assuming an average walk speed of 5kph

Source: IHT ‘Guidelines for Providing Journeys on Foot’ (2000)

- 4.8 Taking these distance into consideration, Barnham is located circa 1.8km (23-minute walk) to the north-east. Within Yapton itself, there are local amenities including a hardware shop, hair salon, post office, The Co-operative foodstore, chip-shop, village hall, a small business park, a Primary School and a garden nursery.

Cycling

- 4.9 A review of the Sustrans National Cycle Map shows that National Cycle Route 2 is located towards the east of the site and runs along Bilsham Road and Burndell Road. It is a long distance cycle route which, when complete, will link Dover with St. Austell via the south coast of England.

Modal Split

- 4.10 The potential modal split for the site has been obtained from the National Statistics Database ‘Method of Travel to Work’ for the Yapton Ward. This is summarised in the **Table 4.2** overleaf:

Table 4.2: Modal Split

Travel Mode	Baseline Modal Split (%)
Train	5%
Bus	2%
Taxi	0%
Motorcycle / Scooter	1%
Car Driver	74%
Car Passenger	6%
Bicycle	3%
On foot	8%
Other	0%

- 4.11 As shown in the table above, private car is the dominant mode of travel for the local area, therefore real opportunity exists to promote sustainable travel alternatives.

5. PROPOSED DEVELOPMENT

Overview

- 5.1 This section of the TA introduces and outlines the development proposals for the site. It includes a description of the proposed land use, access arrangements by all modes and parking provision.

Development Details

- 5.2 The Proposed Development will include the construction of up to 56 residential units with access from the B2233 Yapton Road via a new priority junction. The illustrative masterplan for the site is provided at **Appendix A4**.
- 5.3 A summary of the proposed accommodation schedule is provided in **Table 5.1**.

Table 5.1: Proposed Accommodation Schedule

Unit Type	Unit No.
1 bed house	4
2 bed house	24
3 bed house	20
4 bed house	8
Total:	56

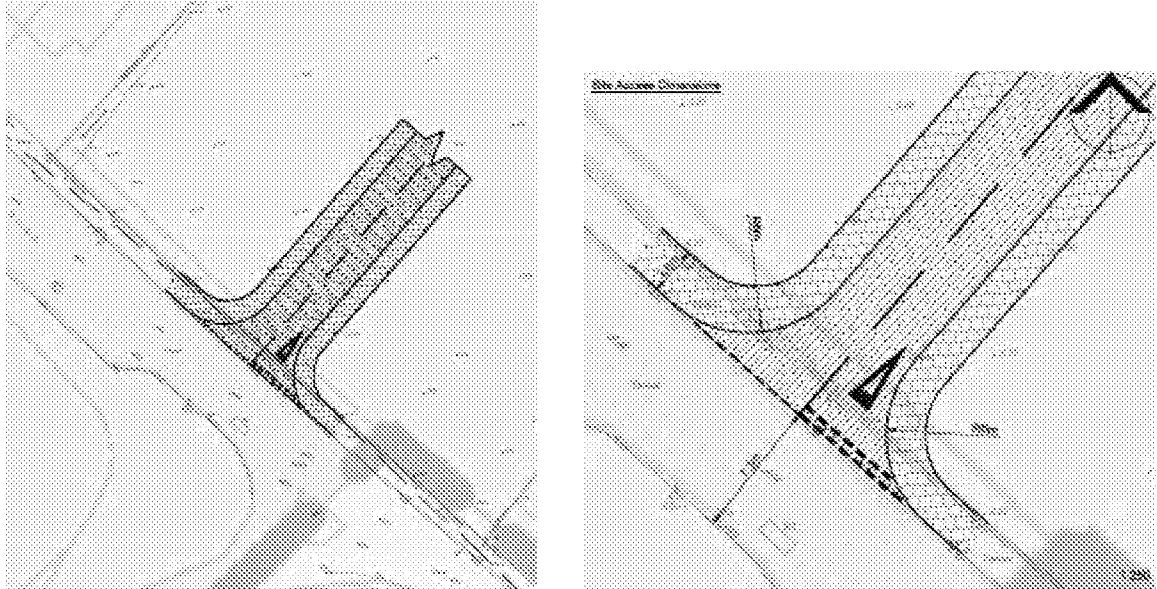
- 5.4 Car and cycle parking on-site will be provided in accordance with WSCC guidelines as deemed appropriate.

Access Arrangements

- 5.5 It is proposed to serve the site with one main vehicle access point from the B2233 Yapton Road in the form of a simple priority junction and is considered to represent the most appropriate access arrangement for the development based on the design speed of the B2233 Yapton Road and the level of the traffic expected to be generated by the site.
- 5.6 The access has been designed to provide a 6m access road into the site, with a 2m wide footway on the western side of the carriageway. Kerb radii of 8m have also been provided in accordance with the requirements of the access.

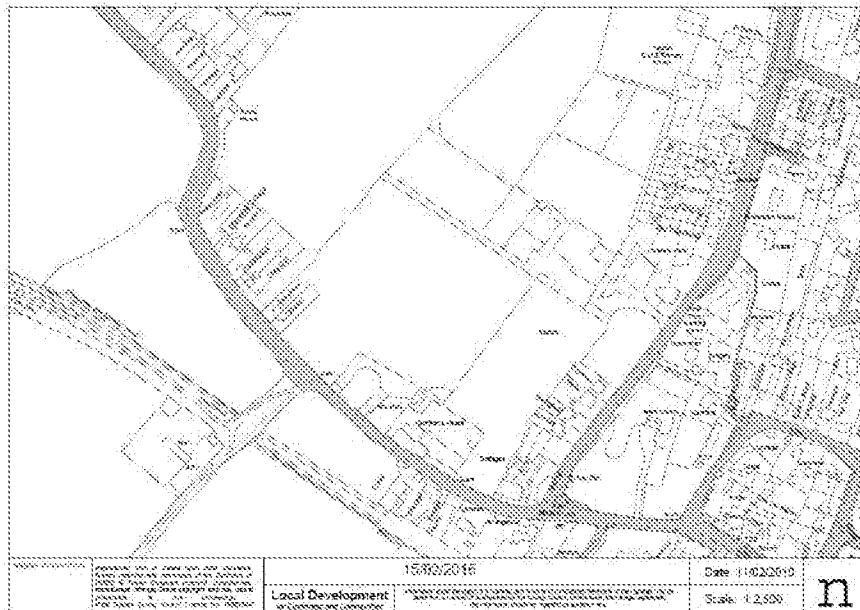
- 5.7 **Figure 5.1** is a screenshot of the proposed Site access with the full drawing, including visibility splays, and swept path analysis, included at **Appendix A5**. As can be seen, the junction has been designed to provide a 5.5m wide carriageway, 2m footways and radii of 6m.

Figure 5.1 Potential Site Access off the B2233 Yapton Road



- 5.8 Existing adopted highway boundary information has been obtained from the WSCC for Yapton Road in the vicinity of the Site, as is shown in **Figure 5.2**. The adopted highway plan shows that no third party land is required to gain access into the development Site from Yapton Road. A full copy of the highway boundary plan for the local area is available at **Appendix A6**.

Figure 5.2 Highway Boundary Plan



Source: WSCC Highway Boundary Plan

Visibility Splays

5.9 The design of the proposed access from Yapton Road has been reviewed to ensure that there is sufficient visibility for vehicles emerging from the Proposed Development Site.

5.10 The pre-application comments stated that:

- *“For a road where the 85%ile speed is in excess of 37mph and for roads where MFS does not apply, TD/93 distances from DMRB would apply”*

5.11 Given that the adjusted wet weather speed is 35.1mph, then the MFS visibility splays should apply.

5.12 Visibility splays of 2.4m x 43m in both directions are shown to be achievable from the site access, in accordance with MFS requirements for a 30mph road.

5.13 Visibility splays are shown on the drawing in **Appendix A5** and demonstrate that these can be achieved within the extents of the adopted highway boundary.

Design Audit

5.14 In accordance with WSCC requirements, a Design Audit of the proposed site access has been undertaken.

Table 5.2: Design Audit of Site Access

Design Consideration	WSCC / MfS Standards	Departures from standards? Further Comments?
1. Visibility	a) "The SSD figure relates to the position of the driver. However, the distance between the driver and the front of the vehicle is typically up to 2.4 m, which is a significant proportion of shorter stopping distances. It is therefore recommended that an allowance is made by adding 2.4 m to the SSD." (Paragraph 7.6.4, Manual for Streets). b) "It is important to demonstrate that visibility splays are achieved on either land over which highway status exists or land under the control of the applicant". (Paragraph 4.8, WSCC Guidance)	1a. No departures from standards. Drawing Number 16-T013-01C appended to this Assessment shows that MfS visibility (43m for a 30mph speed limit) can be achieved in both directions from a 2.4m set-back. 1b. No departures from standards. A highway boundary search was carried out by WSCC. This shows that visibility can be achieved on land over which highway status exists.
2. Corner Radii	a) "With small corner radii, large vehicles may need to use the full carriageway width to turn. Swept-path analysis can be used to determine the minimum dimensions required. The footway may need to be strengthened locally in order to allow for larger vehicles occasionally overrunning the corner.." (Paragraph 6.3.13, Manual for Streets). b) "Where appropriate, proposals should demonstrate whether the design of street widths are adequate for the type and flow of traffic they would be expected to accommodate. In order for the Highway Authority to consider the acceptability of such proposals, both preliminary and detailed designs must include vehicle tracking assessments that provide an analysis of swept paths". (Paragraph 5.1, WSCC Guidance).	2a. No departures from standards. 2b. Swept path analysis track runs of the junction have been carried out using AutoTrack suite in AutoCAD. Drawing 16-T016_3.1a demonstrates that a Refuse Vehicle can turn into and out of the proposed site access. For this reason, the design of the access is considered satisfactory.

Safety Audit

- 5.17 In accordance with WSCC requirements for all developments which include the provision of a new access onto the highway, a Stage 1 Road Safety Audit (RSA) of the proposed site access has been undertaken.
- 5.18 The details of the RSA, together with the Designers Response are attached at **Appendix A7**. From this it is clear that the proposed site access can be accommodated on Yapton Road with detriment to the safety of the existing highway.

Refuse Collections and Servicing

- 5.19 Adequate storage for refuse and recycling will be provided in accessible locations and sufficient space will be provided in each collection location / area for refuse vehicles to manoeuvre so that they can enter and exit the site in forward gear. A drawing showing the swept path analysis of a refuse vehicle manoeuvring through the development site is attached at **Appendix A8** of this report.

Emergency Vehicles

- 5.20 The proposed masterplan has been designed in accordance with the Department for Transport Document Manual for Streets which states that *"There should be vehicle access for a pump appliance within 45m of every dwelling entrance for single family houses, flats and maisonettes."* The layout of the site has been designed to ensure that emergency vehicles such as Fire Appliances can access the development.

Parking Provision

Car Parking

- 5.21 The proposed car parking provision is detailed in the table below:

Table 5.3: Proposed Parking Provision

Unit Type	Spaces per unit	Unit no.	No. of Spaces
1 bed house	1	4	4
2 bed house	1	21	21
2 bed house	2	3	6
3 bed house	2	20	40
4 bed house	2	8	16
Total:	n/a	56	87

- 5.22 Parking provision for the development has been planned with consideration for WSCC's Parking Demand Calculator as outlined in their 'Guidance for Parking in New Residential Developments' (September 2010). A printout of the parking demand calculator is provided at **Appendix A9** and indicates that the development would generate an "expected parking demand" for 87 vehicles. The Applicant is providing a total of 87 parking spaces, which is therefore in accordance with the figure derived from the Parking Demand Calculator above.

Cycle Parking

- 5.23 Covered and secure bike spaces will be provided at a rate of 2 per dwelling. These will be either in sheds or, within gardens. Where garages are provided, these will be of a slightly longer size to accommodate bike storage.

6. TRIP GENERATION AND HIGHWAY IMPACT

Introduction

- 6.1 This section of the TA provides an overview of the projected traffic generation associated with the Proposed Development, which has been calculated using agreed trip rates from the industry-standard TRICS database.

Trip Rates and Generation

- 6.2 During scoping discussions with WSCC it was agreed that TRICS peak hour person trip rates obtained from the 'Houses Privately Owned' category would be suitable for use in this assessment. The 2011 'Method of Travel to Work' Census data would then be applied to the person trip rate to determine the likely vehicle modal split.
- 6.3 Details of the agreed TRICS outputs are attached at **Appendix A10** and the trip rates and resulting trip generation associated with up to 60 residential dwellings at the site is summarised in **Table 6.1** below. It is acknowledged that the proposed development is for 56 units, however the assessment of 60 units is considered to be appropriate and robust.

Table 6.1 TRICS vehicle trip rates for houses privately owned

	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Person Trip Rates (per 1 dwelling)	0.206	0.793	0.999	0.609	0.223	0.832
Person Trip Generation (60 dwellings)	12	48	60	37	13	50
Vehicle Trip Rates (per 1 dwelling)	0.152	0.587	0.739	0.451	0.165	0.616
Vehicle Trip Generation (60 dwellings)	9	35	45	27	10	37

Source: TRICS

- 6.4 Based on the above assessment, it is projected that Proposed Development would generate 38 two-way vehicle trips in the AM Peak hour and 31 two-way vehicle trips in the PM Peak hour.

Development Traffic Distribution and Assignment

- 6.5 It was agreed with WSCC during scoping discussions that the existing traffic patterns on Yapton Road in the vicinity of the site should provide a basis for the distribution of trips generated by the development. The proportion of traffic travelling east and west on Yapton Road passing the frontage of the site is considered appropriate to represent how traffic is likely to travel to and from the development site, and therefore development trips have been assigned to the network on this basis.
- 6.6 Based on the above methodology above and using the recorded traffic information at the site frontage, the following distribution onto Yapton Road from the site for development traffic has been assumed:
- 60% of trips eastbound and 40% of trips westbound in the AM peak hour; and,
 - 40% of trips eastbound and 60% of trips westbound in the PM peak hour.
- 6.7 Traffic generated by the development has been applied to the local road network on the basis of the assumptions and analysis set out above and the associated impact of development traffic on the local highway network is considered in below.
- 6.8 Traffic flow diagrams are included at **Appendix A11**.

Effect of Development on Local Highway Network

- 6.9 The proposals would result in the following increase in vehicular traffic during the morning and evening weekday peak periods:

Table 6.2 Junction Impact

	Site Access / Yapton Road		North End Road / Burndell Road	
	AM Peak	PM Peak	AM Peak	PM Peak
Existing Situation	697	650	1,167	1,126
Proposed Development Scenario	742	688	1,181	1,143
Difference	+45	+38	+14	+17
% Impact	6%	6%	1%	2%

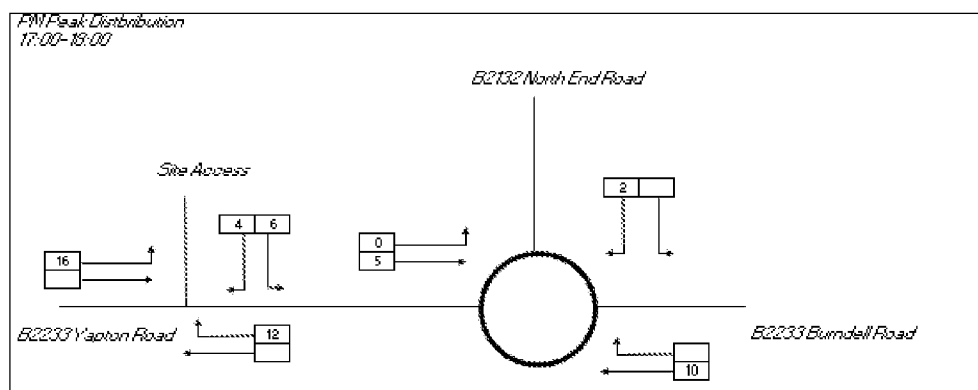
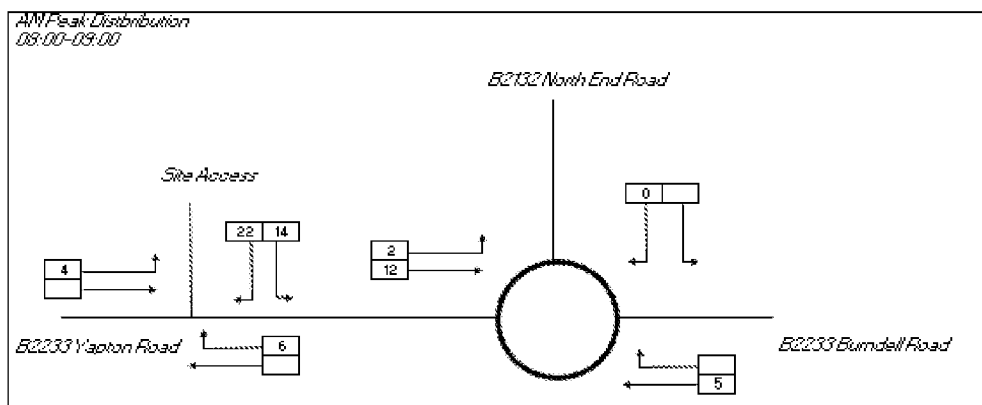
- 6.10 As can be seen, the maximum increase in traffic is 6% during both the AM and PM Peak periods at the site access junction which is within the day-to-day variation in traffic flow at the junction. Given the existing flow at the junction, along with the proposed access flows, junction modelling is not deemed appropriate.

Junction Modelling

- 6.11 Pre-application feedback states that:

- *“An increase of 30 or more vehicles during the peak hours will require a formal junction assessment.”*

- 6.12 As shown in the flow diagrams below, other than at the site access junction, the two-way increase in traffic flow during the peak periods are beneath the suggested threshold for modelling to be required.



7. CONCLUSION

- 7.1 This Transport Assessment supports proposed development for up to 60 dwellings at land at Bonhams Field in Yapton, which will be accessed via a simple priority junction from the B2233 Yapton Road.
- 7.2 The site located towards the north of Yapton Road and is currently used for agricultural purposes.
- 7.3 The site is considered to be in a sustainable location with a good level of accessibility to a range of local facilities located in Yapton village centre, approximately 500m east of the site, and access to bus stops on North End Road and Burndell Road.
- 7.4 Analysis of the most recently available five-year personal injury accident data demonstrates that there has been no discernible trend of accidents at junctions in the agreed study area and the accidents could be attributed to driver error rather than the design of the existing highway layout.
- 7.5 The design of the potential site access has been considered in operational and safety terms. The proposed access meets the minimum visibility requirements and design criteria detailed within Manual for Streets.
- 7.6 The details and parameters of the traffic impact assessment were discussed and agreed with WSCC during the TA scoping discussions, with residential trip rates obtained from the TRICS database.
- 7.7 It is calculated that the 56 dwelling development would generate 45 two-way vehicle trips in the AM Peak hour and 37 two-way trips in the PM Peak hour. Distribution and assignment of these trips through the local highway network has been calculated based on existing east/west traffic movements on Yapton Road.
- 7.8 The traffic impact of the development at off-site junctions is well below the Council's suggested junction modelling threshold, therefore, no junction modelling has been undertaken.
- 7.9 The proposed development will provide 87 car parking spaces, which accords with the level of parking suggested by the WSCC parking demand calculator and is considered to represent an appropriate and working level of provision for the scheme
- 7.10 In light of the evidence set out herein, the Proposed Development at Bonhams Field, Yapton for up to 56 residential dwellings is considered acceptable in traffic and transport terms.

A1. SITE LOCATION PLAN

Iceni Projects accept no responsibility for any unauthorised amendments to this drawing. Only figured dimensions are to be worked to.
Based upon the Ordnance Survey's (1:1250) Map with permission of the controller of Her Majesty's Stationery Office, Crown copyright reserved.



Client	Seaward Properties	Project No.		Drawing No.	
		16-T013		02	
Project	Land at Bonhams Field, Yapton	Scale @ A4		Date	
		1:1000		08/08/2016	
Title	Site Location Plan	Drawn By		Checked By	
		NM		AH	
		08/08/2016		Approved By	
				PC	
				08/08/2016	

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ARUN DISTRICT COUNCIL Y1/17/OUT

A2. SCOPING RESPONSE

TO: iceni Projects **FAO:** Paul Cranley

FROM: Jamie Brown

SUBJECT: PRE-228-16

Residential development of 50 dwellings.

Bonhams Field, Main Road, Yapton, West Sussex, BN18 0DX

RECOMMENDATION:

Advice	☒	Modification	☐	More information	☐
Objection	☐	No objection	☐	Refusal	☐

The Local Highways Authority (LHA) has been consulted for free written pre-application advice in regard to the proposed residential development of 50 houses at Bonhams Field, Main Road, Yapton, West Sussex, BN18 0DX. It has been indicated that further advice in the form of a site meeting could be sought at a later date. We currently operate a scheme of charging for detailed highways and transport pre-application advice to enable this service to be provided to a consistent and high standard. Please find further information on our charging procedure at the link below:

<http://www.westsussex.gov.uk/default.aspx?page=10056>

The Proposals

The application is located to the west of Yapton and is accessed from the B2233 (Main Road). The road is subject to a 30 mph speed limit in this location. The proposals are supported by an initial site plan which indicates the proposed junction onto the B2233.

Paragraph 32 of the National Planning Policy Framework sets out that all developments that generate significant amounts of transport movement should be supported by a Transport Statement or Transport Assessment. Having viewed the proposals against the DfT's 'Appendix B Thresholds for Transport Assessments' an application of this size would require the submission of a 'Transport Statement'. The LHA would require the following areas information to be submitted as part of any future application via Transport Assessment:

Access and Visibility

It is noted that there has been an indicative site access plan which shows visibility splays of 2.4 by 43 metres achievable along the B2233. Further evidence of reasons supporting the site access/highways works proposals, should be provided including speed surveys ascertaining the 85th percentile speed limits along the B2233. There are two sets of guidance which govern road design: Manual for Streets (MfS) for lightly trafficked residential streets; and Design Manual for Roads and Bridges (DMRB) for all other roads, including rural roads. I have included links to both below. WSCC supports the approach set out in MFS, which has been adopted guidance for residential street design since its introduction in 2007. Within this document there are some very useful references to visibility splays, turning circles and car parking layouts. The document does not however provide specific measurements for visibility splays, so:

"X "Distances from the (kerb back) are typically:

- 2.0 metres -domestic single accesses
- 2.4 metres- for shared or busy crossovers
- 4.5 metres- for busy junctions

- 9.0 metres-major junctions

"Y "Distances are based on vehicle speed, and for lightly trafficked residential streets MFS would be applied:

- 20 mph- 25 metres
- 25 mph- 33 metres
- 30 mph- 43 metres

For a road where the 85th percentile speed is in excess of 37 mph and for roads where MFS does not apply, TD/93 distances from DMRB would be applied:

- 40 mph-120 metres
- 50 mph-160 metres
- 60 mph-215 metres

Swept Path diagrams demonstrating that larger vehicles including a refuse or fire tender can safely and enter and exit the site, should also be provided. In line with WSCC policy a final Stage 1 Road Safety Audit of proposed highway works and designers response should be included. Amended plans and a 'Design Audit' of proposed highway works including identified departures from standards should be included if required.

Capacity

Proposed trip rates supported with TRICS outputs and site selection methodology. This will allow the LHA to understand if the proposals will have a material increase in traffic movements to the site. An increase of 30 or more vehicles during the peak hours will require a formal junction assessment. TRICS assessments must have survey sites that are relevant to the sites location and completed in accordance with 'Best Practice Guidance'.

Policies

Reference to supporting national, regional, and local planning documents and policies should be provided. Specific reference should be made to the Yapton Neighbourhood Development plan 2014-2019 which sets out the need for further residential development in the area. This should also link with Arun District Councils Draft Local Plan.

Sustainability and Accessibility

The TS should include a thorough analysis of the facilities and amenities of the local area. A qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site should be included. Measures to improve the accessibility of the location (such as provision/ enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms should be considered. Finally, any measures to mitigate the residual impacts of development such as improvements to the public transport network, introducing walking and cycling facilities and physical improvements to existing roads should also be considered.

Layout and Parking

A description, including site layout plans, of the proposed development and schedule of uses. The site layout should take into account the principle of Manual for Streets and be designed in accordance with this guidance. Suitable turning areas should be provided to ensure vehicle can enter the highway in the forward gear. Swept path diagrams should be provided demonstrating that larger vehicles can safely turn within the site. It should also be indicated if the access road is likely to be offered for adoption under a Section 38 Agreement and, if so, set out the extent of the adoptable area.

In September 2010 a new approach to parking in residential developments was adopted and changes to the original SPG which are affected by the September 2010 changes have been highlighted in the 'Guidance on Car Parking in Residential Development' document provided in the link below. This also contains recommended levels of cycle provision.

Links:

Manual for Streets:

[Manual for Streets](#) and [Manual for Streets 2](#)

DMRB supplementary documents TD/93:

<http://www.dft.gov.uk/ha/standards/dmr/vol6/section1/td993.pdf>

Local Design Guide:

<http://www.westsussex.gov.uk/default.aspx?page=10056> – available under Resources

WSCC car parking standards:

<http://www.westsussex.gov.uk/default.aspx?page=10056> – available under Resources

Jamie Brown

STRATEGIC PLANNING

A3. BUS INFORMATION

66

Bognor Regis - Barnham - Yapton - Walberton - Bognor Regis

67

Bognor Regis - N Felpham - Glenwood Estate - Bognor Regis



66: BOGNOR REGIS - BARNHAM - YAPTON - WALBERTON - BOGNOR REGIS

Mondays to Saturdays

NS

Sat

Bognor Regis, High Street	0705	0715	0815	1015	1215	1435A	1615	1735
Bognor Regis Station, Longford Rd	0708	0718	0818	1018	1218	1438A	1618	1738
Tesco, Shripney Road	0712	0721	0821	1021	1221	1441A	1621	1741
Shripney, Robin Hood	0715	0724	0824	1024	1224	1444A	1624	1744
Westergate, Barnett Close	0721	0730	0831	1031	1231	1456B	1631	1751
Barnham, Station	0726	0735	0836	1036	1236	1501	1636	1756
Yapton, Canal Road	0731	0740	0841	1041	1241	1506	1641	1801
Yapton, Sparks Corner	0734	0742	0844	1043	1243	1508	1643	1803
Walberton, Old Vicarage	0743	0748	0852	1049	1249	1514	1649	1809W
Barnham, Station	0749	0753	0857	1054	1254	1519	1654	....
Westergate, Westergate Mews	0754	0758	0902C	1059	1259	1524	1659	....
Shripney, Robin Hood	0800	0804	0910C	1106	1306	1531	1706	....
Tesco, Shripney Road	0803	0807	0913C	1109	1309	1534	1709	....
Bognor Regis Station, Longford Rd	0806	0810	0917C	1112	1312	1537	1712	....
Bognor Regis, High Street	0809D	0813D	0920C	1115	1315	1540	1715D	....

67: BOGNOR REGIS - N FELPHAM - GLENWOOD ESTATE - BOGNOR REGIS

Mondays to Saturdays

Bognor Regis, High Street	....	....	0950	1150	1350	1550	....	....
North Felpham, Wroxham Way	....	....	0956	1156	1356	1556	....	....
Glenwood Estate Shops	....	....	1004	1204	1404	1604	....	....
Bognor Regis, High Street	....	....	1010	1210	1410	1610	....	....

A - operates 5 minutes later on Saturdays and in School Holidays

B - on Schooldays operates via Ormiston Six Villages Academy departing 1451

C - WSCC Concessionary card accepted from these points

D - returns to High St via Richmond Rd, Lyon St W, Sudley Rd. - not via Canada Grove, Queensway.

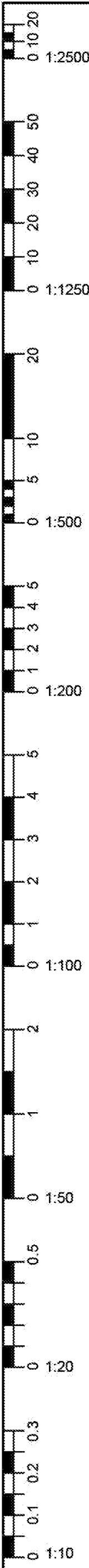
W - continues to Walberton, The Green

NS - does not operate on Saturdays

Sat - operates Saturdays only

Timetable Effective from 1st September 2015

A4. ILLUSTRATIVE MASTERPLAN



REPRODUCING THESE DRAWINGS BY PRINTING OR COPYING MAY LEAD TO ERRORS. PLEASE REFER TO SCALE BAR. DO NOT SCALE OFF THESE DRAWINGS FOR CONSTRUCTION PURPOSES. IF ANY DISCREPANCIES ARE FOUND, PLEASE CONTACT WESTERN DESIGN ARCHITECTS IMMEDIATELY.



DESIGNERS RISK ASSESSMENT-
HEALTH AND SAFETY
THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015
For significant hazards specific to the project please refer to
Drawing CDM01 where appropriate

NOTES:-

I	Amended Label	PR	MW	08.11.16
H	Removal of housing schedule	PR	MW	08.11.16
G	New hedge to North Boundary	PR	MW	01.11.16
F	Alterations to schedule	PR	MW	17.10.16
E	Alterations to schedule	PR	MW	13.10.16
D	Alterations to scheme	PR	MW	13.10.16
C	Additional public open space	PR	NW	02.09.16
B	Amended Sketch Scheme	PR	NW	16.08.16
A	Sketch Scheme	PR	NW	12.08.16

REV.	REVISION DETAILS	BY	CKD	DATE
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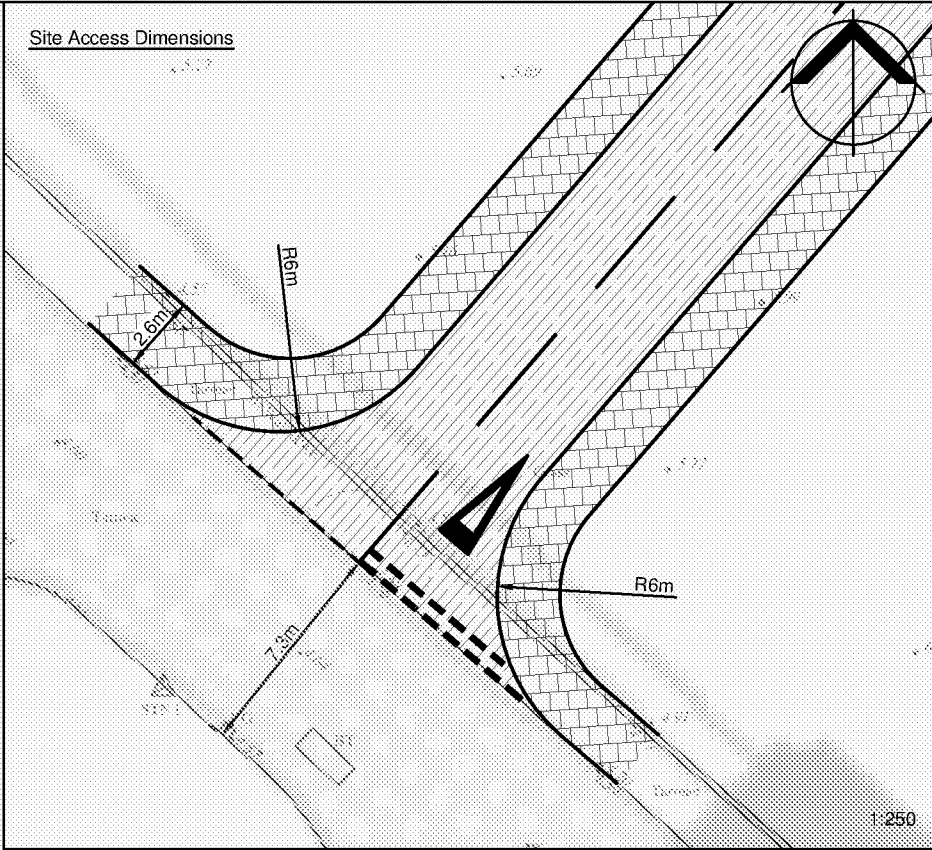
WDA

westerndesignarchitects.com

Western Design Architects
12 The Granary, Hinton Business Park, Tanqueray, Hinton, Dorset, DT11 8JF
T:01258 830675 E:info@westerndesign.co.uk

CLIENT	
Seaward Properties Ltd	
PROJECT	
Bonhams Field	
DRAWING TITLE	
Sketch Layout	
DRAWN BY	CHECKED BY
PR	MW
DATE	09.08.16
SCALE	JOB NO.
1:500@A1	1617002
DRAWING NO	REVISION
SK02	I
SKETCH SCHEME	
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A5. PROPOSED SITE ACCESS



Notes;
1.Based upon the Ordnance Survey's (1:1250) Map with permission of the controller of Her Majesty's Stationery Office, Crown copyright reserved.

Key;
..... 2.4m x 43m Visibility Splays
/// Conservation Area

D	21.12.16	Changed Title of Drawing	NM	PC	PC
C	15.09.16	Extension of Length of Access	NM	PC	PC
B	08.09.16	Moved Access 3m South East	NM	AH	PC
A	29.07.16	Topographical Survey & Conservation Area	TG	PC	PC
Rev	Date	Amendments	Drawn	Chk	App

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Client

Seaward Properties

Project

Land at Bonhams Field, Yapton

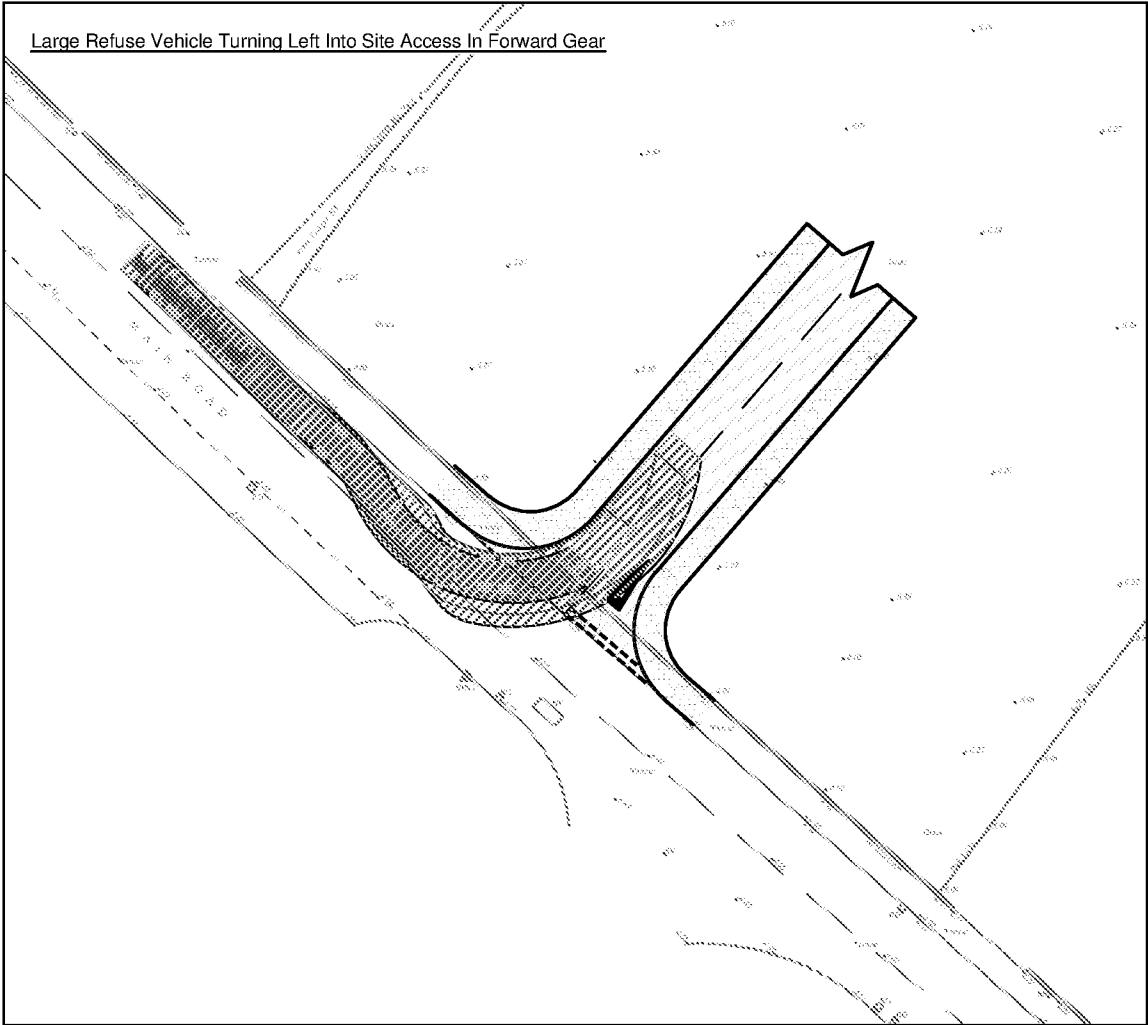
Title

Site Access Plan

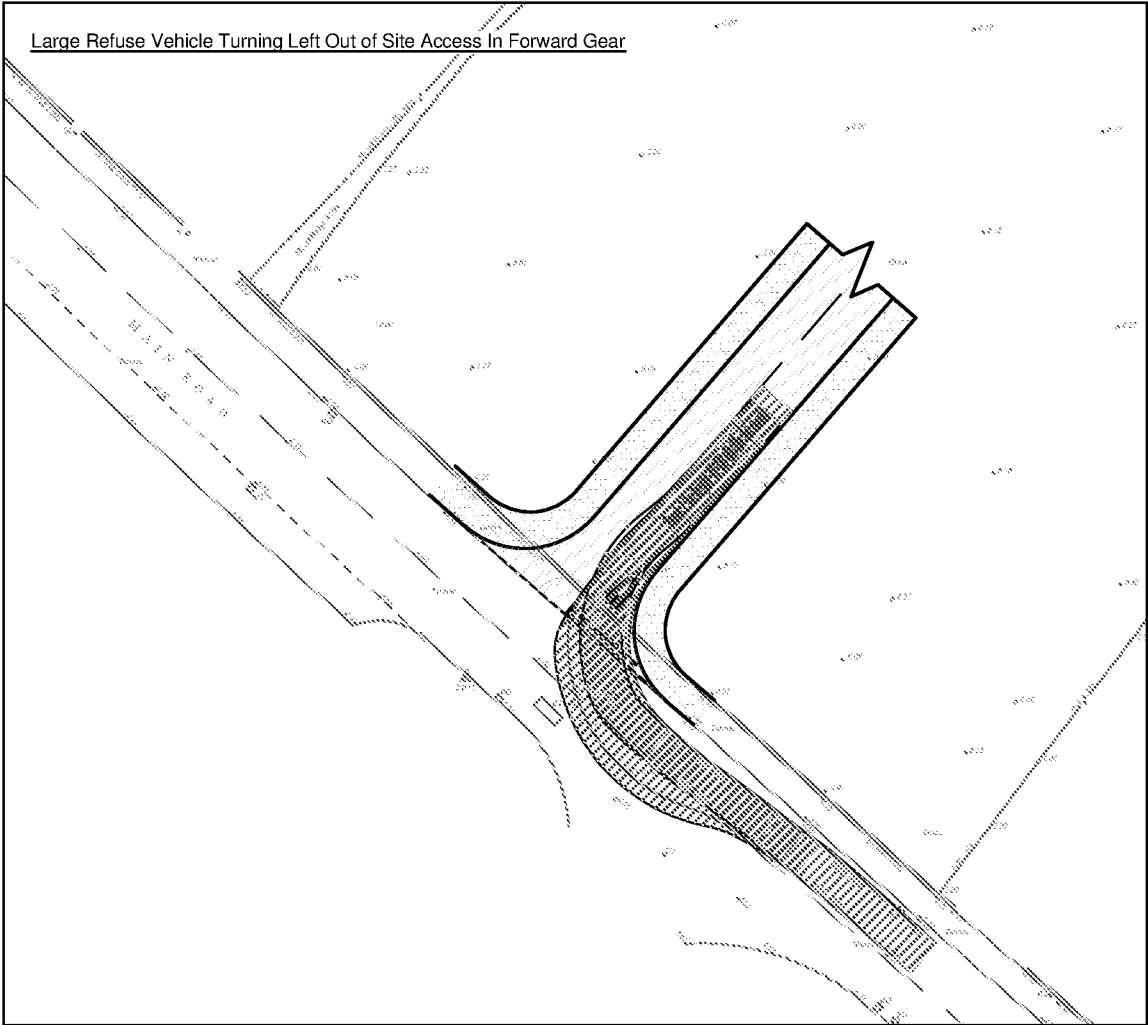
Drawn By TG	Checked By RB 16/02/2016	Approved By FP 16/02/2016
Scale @ A3 As Shown	Date 16/02/2016	
Project No. 16-T013	Drawing No. 01	Rev. D

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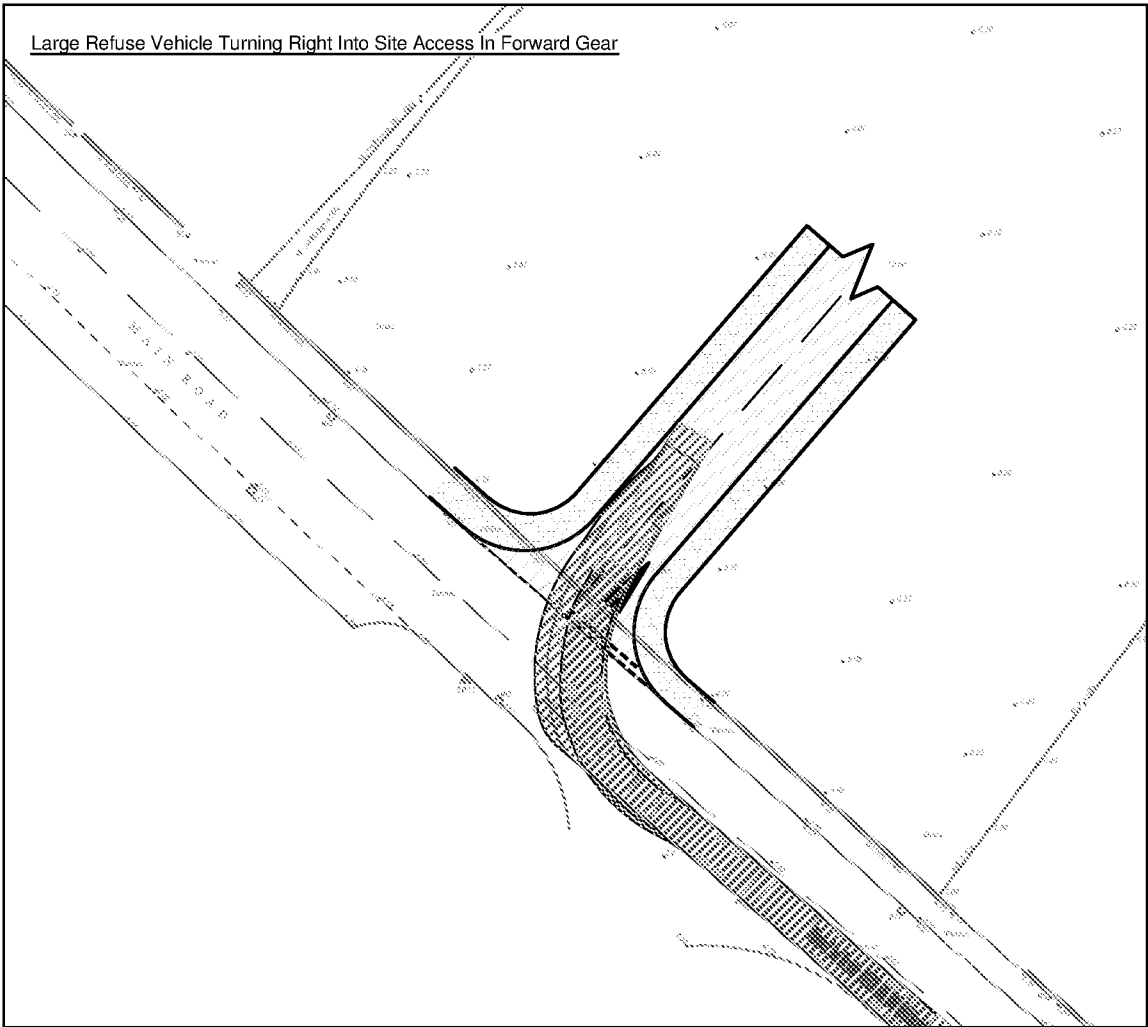
Large Refuse Vehicle Turning Left Into Site Access In Forward Gear



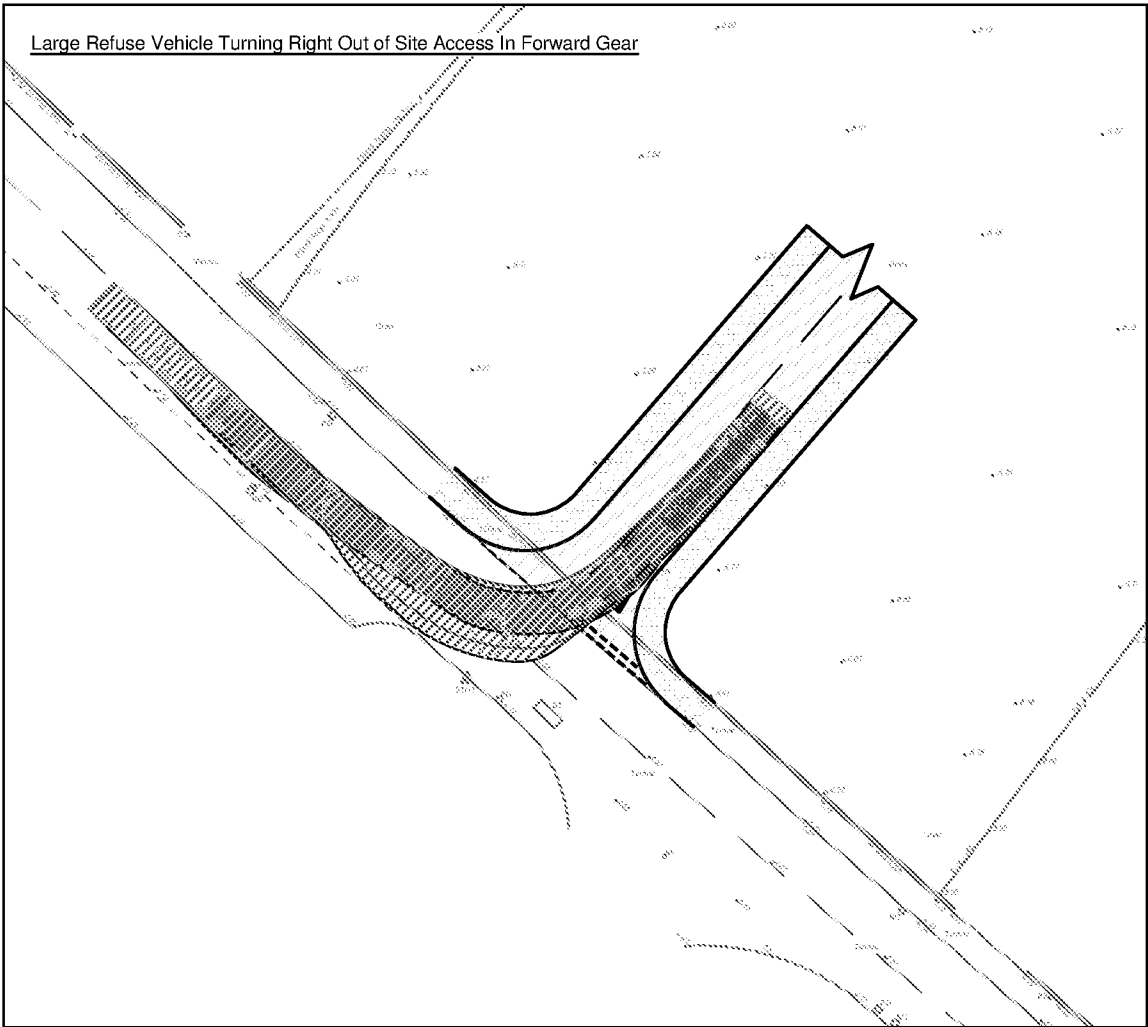
Large Refuse Vehicle Turning Left Out of Site Access In Forward Gear



Large Refuse Vehicle Turning Right Into Site Access In Forward Gear



Large Refuse Vehicle Turning Right Out of Site Access In Forward Gear



Notes;
1.This drawing is based upon drawing number 1651/04 supplied by Stuart Bailey Land Surveyor and Icen Projects Ltd. shall not be liable for any inaccuracies or deficiencies.
2.Based upon the Ordnance Survey's (1:1250) Map with permission of the controller of Her Majesty's Stationery Office, Crown copyright reserved.

Vehicle Profile

Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)
Overall Length 11.220m
Overall Width 2.530m
Overall Body Height 3.756m
Min Body Ground Clearance 0.309m
Track Width 2.530m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 11.550m



A	14/11/16	Revised Site Access Location and Length	NM	PC	PC
Rev	Date	Amendments	Drawn	Chk	App

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Client

Seaward Properties

Project

Land at Bonhams Field, Yapton

Title

Swept Path Analysis - Large Refuse Vehicle

Drawn By	Checked By	Approved By
TG	AH	FP
	25/08/2016	25/08/2016
Scale @ A3	Date	
1:500	25/08/2016	
Project No.	Drawing No.	Rev.
16-T013	03.1	A

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A6. HIGHWAY BOUNDARY PLAN

Local Development
for Customers and Communities

Information about the status of a highway, and in some circumstances the extent of the highway, may be taken from a number of sources held by the County Council. Unless taken from a legal agreement the information should be regarded as guidance only.

Scale: 1:2,500



A7. ROAD SAFETY AUDIT AND DESIGNERS RESPONSE

**B2233
NORTH END ROAD
YAPTON
WEST SUSSEX**

PROPOSED NEW DEVELOPMENT ACCESS ARRANGEMENTS

Stage 1 Road Safety Audit

September 2016

Notice

This report was produced by *JB Road Safety Consultancy Limited* for *Iceni Projects*, for the specific purpose of documenting the Stage 1 Road Safety Audit process undertaken in accordance with HD19/15.

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Contents

Section	Page
1. Introduction	2
2. Items Raised During This Stage 1 Road Safety Audit	4
3. Comments Raised During This Stage 1 Road Safety Audit	5
4. Road Safety Audit Team Statement	9

Appendix A – Drawing supplied by Icen Projects for the Stage 1 Road Safety Audit

Appendix B – Annotated Drawing showing locations of the problems highlighted in this Stage 1 Road Safety Audit

DISTRIBUTION RECORD

Issued to	Document Number	Issue Number
DRAFT		
Master/File Copy – Author	1	1
Icen Projects – Andrew Hughes	2	1
Icen Projects – Andrew Hughes	3	1

1. Introduction

- 1.1 This report has been prepared in response to a Stage 1 Road Safety Audit (RSA), in connection with a proposed new access on the northern side of the B2233 North End Road in Yapton, West Sussex leading to a new development. The Audit was carried out at the request of Iceni Projects, based at Flitcroft House, 114 – 116 Charing Cross Road, London, WC2H 0JR.

The report has been prepared for submission directly to Mr Andrew Hughes at the offices of Iceni Projects in London.

The Audit Team membership was as follows:

John Bowman	MCIHT MSoRSA JB Road Safety Consultancy Ltd
-------------	--

Lisa Allen	MSc BEng (Hons) MCIHT MSoRSA Certificate of Competency (IAN 152/11) Road Safety Consultant
------------	--

The terms of reference for the RSA are as described in Chapter 2 of HD 19/15. The Audit Team has examined and reported only on the road safety implications of the proposed scheme and has not examined or verified the compliance of the scheme to any other criteria.

The audit took place at the Chelmsford Office of JB Road Safety Consultancy Ltd during September 2016. The audit comprised of an examination of the drawing provided by the Design Organisation, and listed in Appendix A to this report.

▪ **Drawing No. 16-T013-01 Rev A Land at Bonhams Field, Yapton – Potential Site Access**

The Stage 1 RSA was undertaken by the Audit Team together. The site was visited during the late morning and early afternoon of Monday 5th September 2016 when the weather conditions were grey and overcast but dry with a damp road surface following early rain.

During the visit traffic on North End Road was minimal. Two pedestrians and one pedal cyclist were observed.

Crash data has not been provided to the Audit Team. However, a search of the 'Crash Map' data base has shown that there are no personal injury collisions recorded within the immediate vicinity of the proposed new access during the past 5 years.

- 1.2 No details of any Departures from Standard have been provided by the Design Organisation.

2. Items Raised During This Stage 1 Road Safety Audit

As a result of an examination of the drawing supplied by Icen Projects, and the site inspection undertaken between 11:45hrs and 12:45hrs on Monday 5th September 2016, the problems highlighted in Sections 2.1 and 2.2 were identified. The recommended course of action that should be taken in respect of each problem is also indicated, and the locations are shown on the drawing in Appendix B.

2.1 GENERAL

The drawing provided makes no reference to any provisions of the following:

- a) Lighting – additional street lighting – 30mph speed limit – ensure spacing is within legal parameters;
- b) Signage and road markings – advance junction and new road layout signage and carriageway markings;
- c) Drainage – new gullies and location;
- d) Carriageway tie-ins;
- e) Vegetation clearance – all approaches, especially at property 'Perrymans' to the west of the proposed access;
- f) Visibility Splays – no details provided;
- g) Construction Details - due to levels difference with the carriageway being below the proposed development, and
- h) Swept paths.

RECOMMENDATION

Full details should be provided at the detailed design stage of the proposals for the Stage 2 Road Safety Audit.

2.2 PROBLEM

Location A: Proposed access

Summary: Provision of Tactile Paving

The drawing (016 – T013 – 01 Rev A), provided shows the provision of footways as being provided into the proposed development and tying into the existing footway along North End Road, but no provision of dropped kerbs or tactile paving. Both facilities assist pedestrian movement, tactile paving for those pedestrians who are blind or are visually impaired, and dropped kerbs for pedestrians with prams, buggy's or mobility scooters.

RECOMMENDATION

The Design Team should provide dropped kerbs and tactile paving in accordance with local policy. Full details should be provided at the detailed design stage of the proposals for the Stage 2 Road Safety Audit.

DRAFT

3. Comments Raised Outside of This Stage 1 Road Safety Audit

- 3.1 With reference to Problem 2.1a (Lighting), above, the Audit Team note that when travelling south-east the first lamp column within the 30mph speed limit system appears to be approximately 200m from the terminal signs. The Design Team should liaise with the LA to ensure that the street lighting complies with regulations and the speed limit is enforceable.
- 3.2 With reference to Problem 2.1h (Swept Paths), above, the Audit Team recommend that in addition to swept path data being provided that the Design Team provide the projection of vehicle trips during the peak hours.

4. Road Safety Audit Team Statement

We certify that this audit has been undertaken in accordance with HD 19/15.

AUDIT TEAM LEADER:

Name: John Bowman MCIHT MSoRSA
Position: Director
Organisation: JB Road Safety Consultancy Ltd
Address: 12 Dorset Avenue, Gt Baddow, Chelmsford, Essex, CM2 9TZ

Signed



Date 06 September 2016

AUDIT TEAM MEMBER:

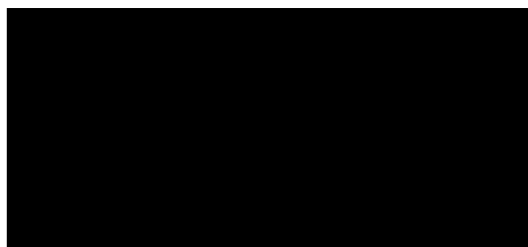
Name: Lisa Allen MSc BEng (Hons) MCIHT MSoRSA
Certificate of Competency (IAN 152/11)
Position: Road Safety Consultant
Organisation: JB Road Safety Consultancy Ltd
Address: 12 Dorset Avenue, Gt Baddow, Chelmsford, Essex, CM2 9TZ

Signed:

Audit Team Leader's Contact Details:

Direct Telephone:

Email address:



Appendix A

(Details of the Drawing Supplied by
Client for This Stage 1 Road Safety Audit)

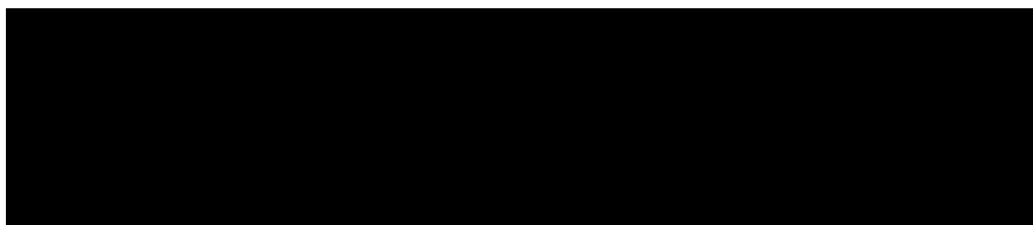
**Drawing No. 16-T013-01 Rev A Land at Bonhams Field, Yapton –
Potential Site Access**

Appendix B

(Annotated Drawing showing locations of Problems
Highlighted in This Stage 1 Road Safety Audit)

Audit Team Leader's Contact Details:

JB Road Safety Consultancy Ltd
12 Dorset Avenue
Chelmsford
Essex CM2 9TZ



DESIGNER'S RESPONSE

Auditors: John Bowman (Audit Team Leader) – JB Road Safety Consultancy Ltd.
Lisa Allen (Audit Team Member)

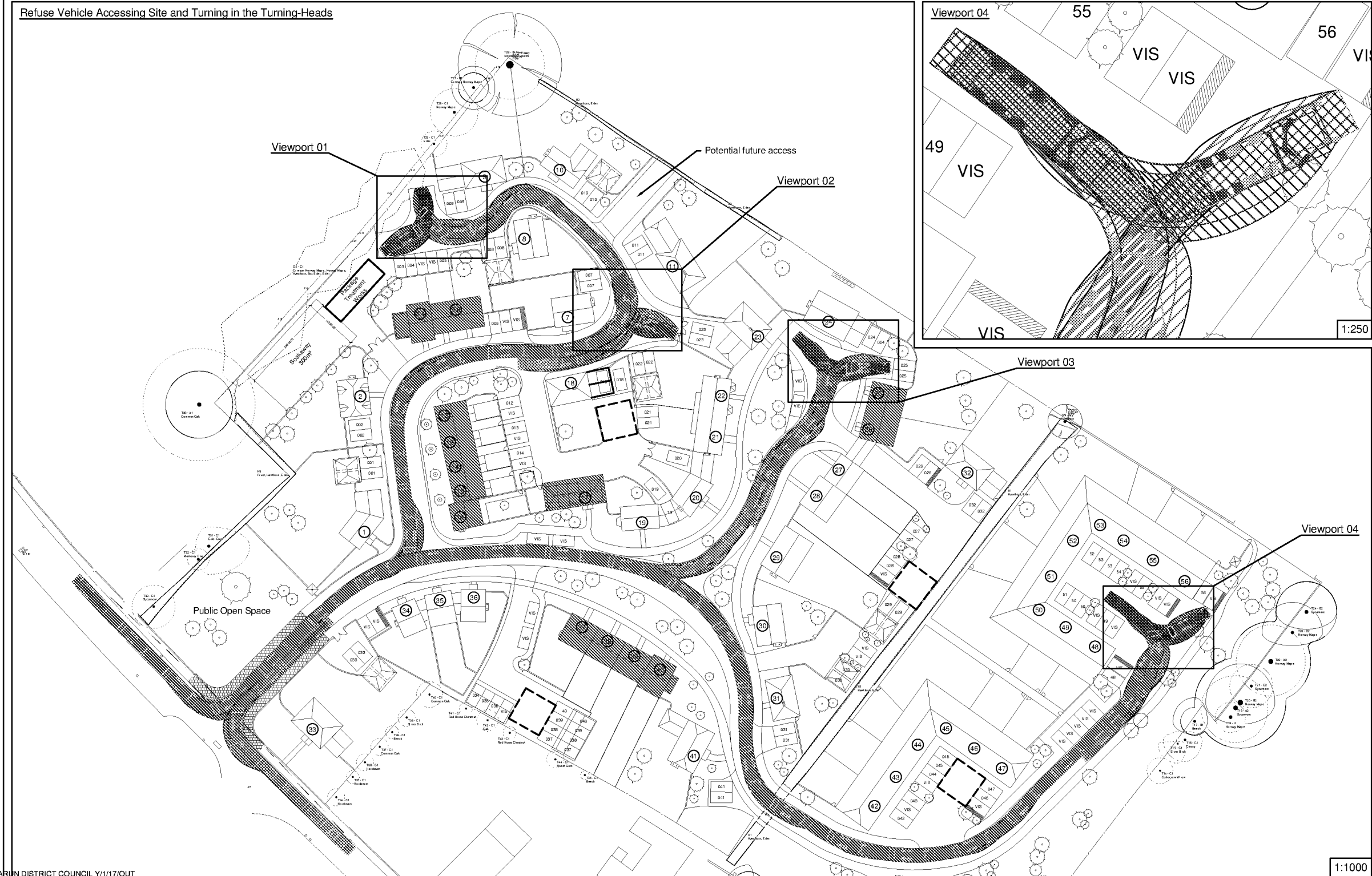
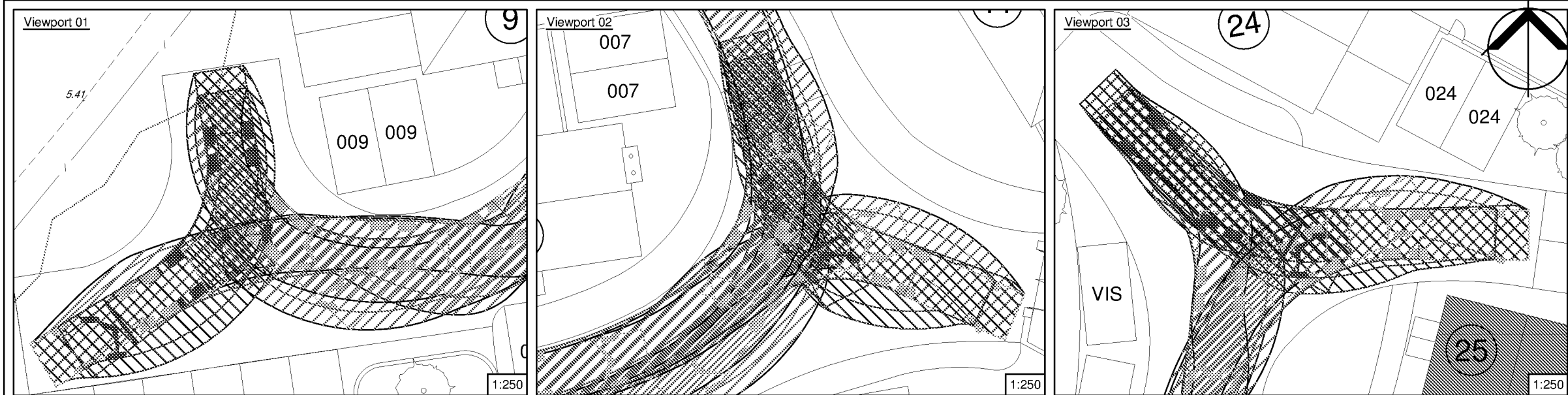
Date Audit Completed: Monday 5th September 2016

LAND AT BONHAMS FIELD, YAPTON PROPOSED NEW PRIORITY JUNCTION

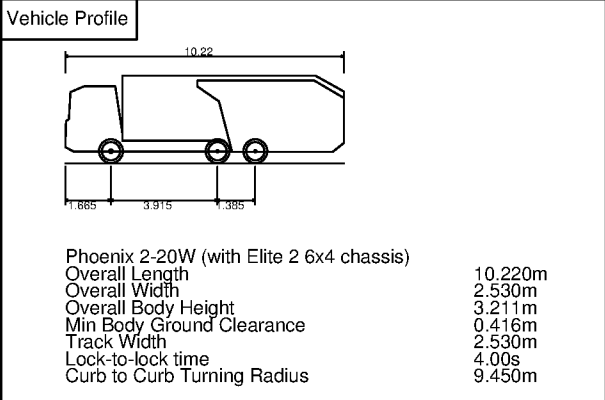
This response is to a Stage 1 Road Safety Audit to the design standard detailed within Volume 5, Section 2, Part 2 (HD19/15) of the Design Manual for Roads and Bridges (Road Safety Audit).

Problem no. in safety audit report	Problem(s) accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measure (detail description)
GENERAL			
2.1 (a – h)	Yes	Yes	Full details to be provided at the detailed design stage of the proposals for the Stage 2 Road Safety Audit.
PROBLEM			
2.2 (a)	Yes	Yes	Dropped kerbs / tactile paving will be provided in accordance with local policy / guidance, to be provided as part of the Stage 2 Road Safety Audit.

A8. SWEPT PATH ANALYSIS OF INTERNAL LAYOUT



Notes;
1.This drawing is based upon drawing number 1617002/SK002 supplied by Western Design Architects and Icen Projects Ltd. shall not be liable for any inaccuracies or deficiencies.



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Client

Seaward Properties

Project

Land at Bonhams Field, Yapton

Title

Swept Path Analysis

Drawn By	Checked By	Approved By
NM	PC	PC
Scale @ A3	Date	
As Shown	18/10/2016	
Project No.	Drawing No.	Rev.
16-T013	04	-

Iceni Projects accept no responsibility for any unauthorised amendments to this drawing. Only figured dimensions are to be worked to.

A9. PARKING DEMAND CALCULATOR

This parking demand tool has been compiled by West Sussex County Council. If you have queries relating to the information provided or require additional information please contact darryl.hemmings@westsussex.gov.uk.

Please input the ward name for your development location below by double clicking in the box or click box and use the drop down menu to the right of the box. The spreadsheet will automatically show the District and Ward of this location. If the ward is not known please input postcode into the Ward Finder. The tool will allow input up to 3 wards in the boxes below. Please refer to notes for more details.

Ward 1

Yapton

District

Arun

Ward 2

District

Ward 3

District

Ward Tempro
Factor 2009-2026

1.052438

District Tempro
Factor 2009-2026

1.067644

west
sussex
county
council

Ward Finder

Postcode

Ward

Note:
No special provision need be made for visitors where at least half of the total parking provision associated with a development is unallocated. In other circumstances, it may be appropriate to allow for additional demand for visitor parking of up to 0.2 spaces per dwelling.

In areas of parking constraint, levels of provision below predicted demand may be applicable.

The tool is expressed as number of Rooms (Per Unit). If data is not available in this format and number of Bedrooms is used this will need to be converted. A general guide for conversion is as follows but may differ in some cases.

Houses

1 bed = 3 rooms
2 bed = 4 rooms
3 bed = 5 rooms
4 bed = 6 rooms
5 bed = 7 rooms

Flats

Studio = 1 room
1 bed = 2 rooms
2 bed = 3 rooms
3 bed = 4 rooms
4 bed = 5 rooms

Garages will count as 1 space when allocating spaces.

Ward data used can be checked by the user by referring to the District-Ward Data Tables. The Ward Data Tables highlight if the Census data does not include data for certain dwelling sizes. In such cases car ownership values have been obtained using the nearest sized dwelling with same tenure and ward. For example, if no data is available for a private house with 1 room then data for a private house with 2 rooms has been used. The Car Ownership Data is highlighted in purple where such an approach has been used. Where Census data contains small samples for certain sized dwellings this is highlighted in red if <20, and green if <50 in the Total Demand column. In such cases, other wards should be selected to achieve a higher sample size.

Report Summary Table

DEVELOPMENT MIX					ALLOCATED PARKING	PARKING DEMAND						
Ref.	Unit Type	Unit Tenure	Habitable Rooms (Per Unit)	No. of Units (Total)	Spaces (Per Unit)	Allocated No.	Unallocated for Residents		Unallocated for Visitors		Total Demand	
							per unit	Total	per unit	Total		
A	Houses	Private	4	2	2	4	0	0	0	0	5	2 Bed house
B	Houses	Private	6	16	2	32	0	3	0	3	38	3 Bed House
C	Houses	Private	7	6	2	12	0	2	0	1	15	4 Bed House
D	Flats	Council/Housing Association (not including shared ownership)	3	4	1	4	0	1	0	1	5	1 Bed Flat
E	Houses	Council/Housing Association (not including shared ownership)	4	5	1	5	0	1	0	1	7	2 Bed House
F	Houses	Council/Housing Association (not including shared ownership)	6	4	2	8	0	1	0	1	10	3 Bed House
G	Houses	Council/Housing Association (not including shared ownership)	7	2	2	4	0	0	0	0	6	4 Bed House
H	Houses	Private	6	16	1	16	1	14	0	3	33	2bed 1 space
I	Houses	Council/Housing Association (not including shared ownership)	4	1	2	2	0	0	0	0	2	2 bed 2 space
J												
K												
L												
M												
N												
O												
P												
Q												
R												
S												
Total				56		87		22.07		11.20	120	

PROJECT
CENTRE
PEOPLE | PASSION | PLACES

ARUN DISTRICT COUNCIL Y/1/17/OUT

A10. TRICS OUTPUTS

Calculation Reference: AUDIT-751001-160531-0543

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLESSelected regions and areas:

02 SOUTH EAST	
WS WEST SUSSEX	1 days
03 SOUTH WEST	
DV DEVON	2 days
06 WEST MIDLANDS	
SH SHROPSHIRE	1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NY NORTH YORKSHIRE	2 days
09 NORTH	
CB CUMBRIA	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: 54 to 151 (units:)
 Range Selected by User: 45 to 200 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 28/09/15

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	1 days
Tuesday	1 days
Thursday	2 days
Friday	3 days

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

Selected survey types:

Manual count	7 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)	3
Edge of Town	4

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	5
No Sub Category	2

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

7 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®.

Population within 1 mile:

1,001 to 5,000

1 days

5,001 to 10,000

2 days

10,001 to 15,000

4 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

2 days

75,001 to 100,000

2 days

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

Car ownership within 5 miles:

0.6 to 1.0

1 days

1.1 to 1.5

6 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

6 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	CB-03-A-04	SEMI DETACHED	CUMBRIA
	MOORCLOSE ROAD		
	SALTERBACK		
	WORKINGTON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	82	
	Survey date: FRIDAY	24/04/09	Survey Type: MANUAL
2	DV-03-A-02	HOUSES & BUNGALOWS	DEVON
	MILLHEAD ROAD		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL
3	DV-03-A-03	TERRACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
4	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL
5	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
6	SH-03-A-05	SEMI-DETACHED/ TERRACED	SHROPSHIRE
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
7	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	BROADBRIDGE HEATH		
	HORSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	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
NY-03-A-09	Med Trains

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	7	94	0.076	7	94	0.258	7	94	0.334
08:00 - 09:00	7	94	0.129	7	94	0.364	7	94	0.493
09:00 - 10:00	7	94	0.167	7	94	0.155	7	94	0.322
10:00 - 11:00	7	94	0.156	7	94	0.188	7	94	0.344
11:00 - 12:00	7	94	0.147	7	94	0.170	7	94	0.317
12:00 - 13:00	7	94	0.173	7	94	0.168	7	94	0.341
13:00 - 14:00	7	94	0.178	7	94	0.153	7	94	0.331
14:00 - 15:00	7	94	0.153	7	94	0.171	7	94	0.324
15:00 - 16:00	7	94	0.228	7	94	0.152	7	94	0.380
16:00 - 17:00	7	94	0.263	7	94	0.162	7	94	0.425
17:00 - 18:00	7	94	0.332	7	94	0.156	7	94	0.488
18:00 - 19:00	7	94	0.206	7	94	0.164	7	94	0.370
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.208			2.261			4.469

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.

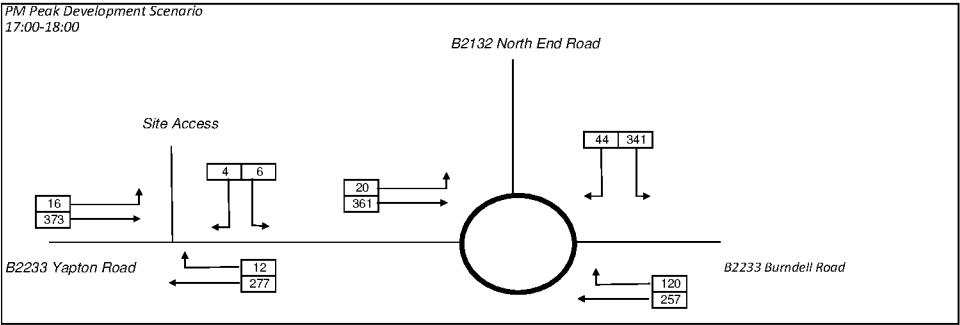
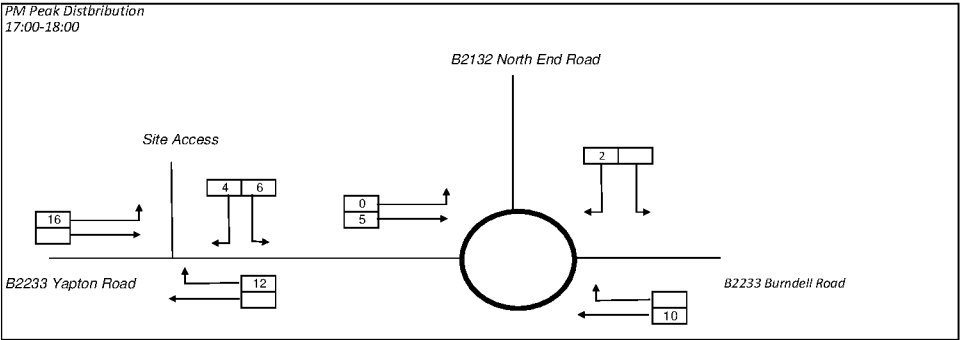
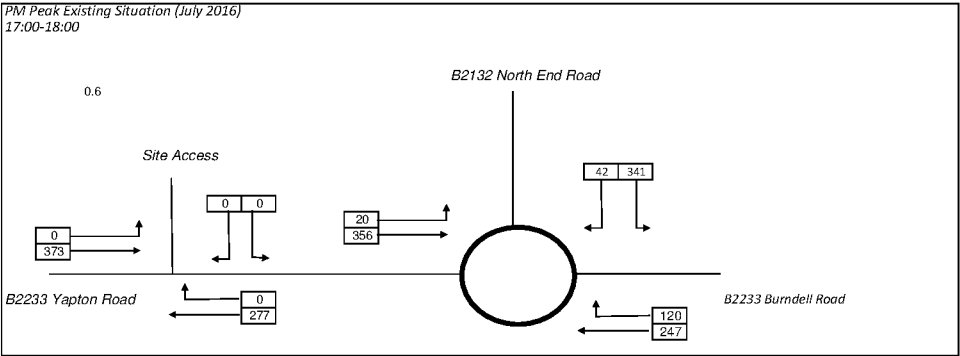
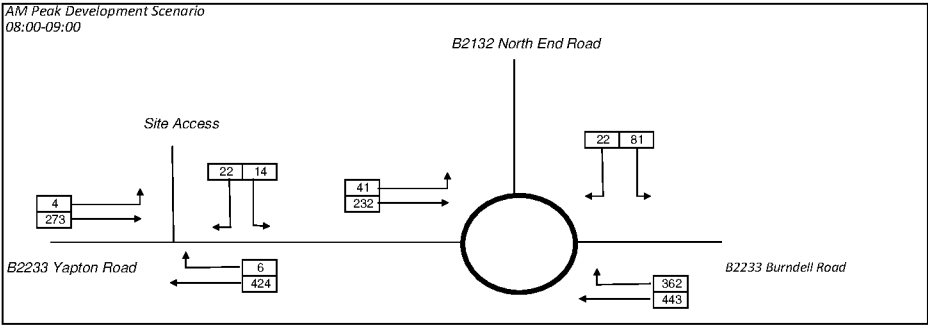
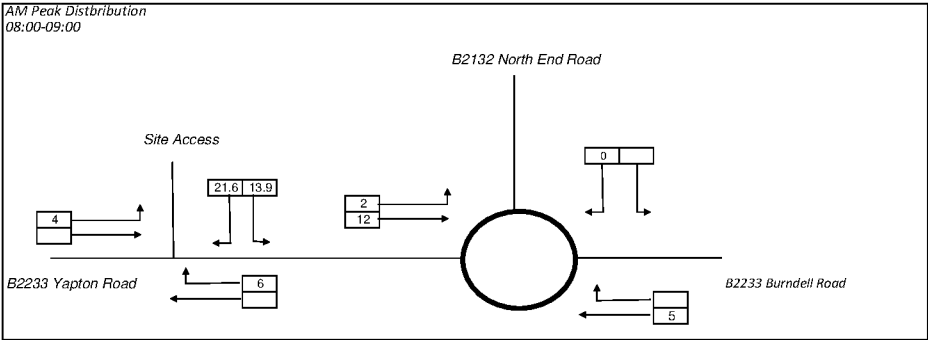
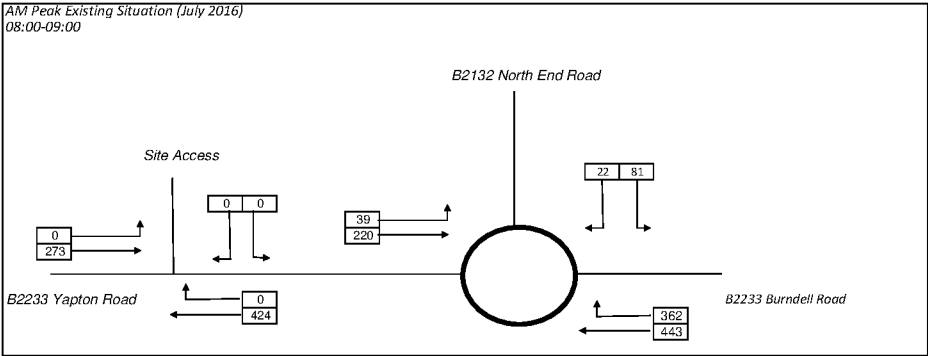
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 54 - 151 (units:)
 Survey date range: 01/01/08 - 28/09/15
 Number of weekdays (Monday-Friday): 7
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

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.

A11. TRAFFIC FLOW DIAGRAMS



Development Size			60 units
AM Peak Trips			
Arrivals	Departures	Two Way	
9	55	45	
PM Peak Trips			
Arrivals	Departures	Two Way	
27	110	97	

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Client:	SEAWARD PROPERTIES LIMITED	Title	FLOW DIAGRAMS (EXISTING SCENARIO, DEVELOPMENT TRIP DISTRIBUTION and DEVELOPMENT SCENARIO)								
Project	LAND AT BONHAMS FIELD, YAPTON	Date	Aug-16	Figure Number	1.0	Revision	-	Drawn by	AH	Approved by	AH