



Land west of Old Manor Farm, south of Lower
Road, Bedhampton

Transport Assessment

Client: Bargate Homes and Vivid Homes

i-Transport Ref: SJ/BC/RW/ITB12174-012B R

Date: 23 September 2021

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i-Transport LLP

Grove House
Lutyens Close
Chineham Court
Basingstoke
Hampshire
RG24 8AG

Tel: 01256 338640

Fax: 01256 338644

www.i-transport.co.uk

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Contents

SECTION 1	INTRODUCTION	1
SECTION 2	NATIONAL AND LOCAL POLICY REVIEW	8
SECTION 3	EXISTING TRANSPORT CONDITIONS	14
SECTION 4	DEVELOPMENT PROPOSAL	25
SECTION 5	ACCESSIBILITY REVIEW	29
SECTION 6	LOWER ROAD TRAVEL ASSESSMENT	35
SECTION 7	TRAFFIC IMPACT	46
SECTION 8	SUMMARY AND CONCLUSIONS	57

Figures

FIGURE 1.1	SITE LOCATION PLAN
FIGURE 3.1	LOCAL FACILITIES PLAN

Drawings

ITB12174-GA-018	PROPOSED SITE ACCESS ARRANGEMENT FROM PHASE 1 SITE
ITB12174-GA-019	PROPOSED SITE ACCESS REFUSE VEHICLE SWEPT PATH ANALYSIS
ITB12174-GA-007	PHASE 1 PEDESTRIAN IMPROVEMENTS FOR ROUTES TO SCHOOL

Appendices

APPENDIX A	Pre-App TA Scoping Note and HCC Response
APPENDIX B	HBC Cycle Network
APPENDIX C	Definitive Map of PROW
APPENDIX D	Traffic Data
APPENDIX E	Base Flows
APPENDIX F	Personal Injury Accident Data
APPENDIX G	Indicative Site Layout
APPENDIX H	MJA Drawing of Changes to Phase 1
APPENDIX I	Lower Road Pedestrian/Cycle Survey Data
APPENDIX J	TRICS Output
APPENDIX K	Future Year Base Traffic Flows
APPENDIX L	Development Traffic Flows

APPENDIX M	Future Base with Development Traffic Flows
APPENDIX N	Phase 1 Site Access / Lower Road Junctions 10 Output
APPENDIX O	Brookside Road / Bedhampton Road Junctions 10 Output
APPENDIX P	Bedhampton Road / Bedhampton Hill Roundabout Junctions 10 Output

SECTION 1 INTRODUCTION

1.1 Background

1.1.1 Bargate Homes and Vivid Homes have appointed i-Transport LLP to provide highways and transportation advice, and to prepare this Transport Assessment (TA), in support of an outline planning application for the second phase of development at, Land west of Old Manor Farm, south of Lower Road, Bedhampton, within the Havant Borough of Hampshire.

1.1.2 The planning application includes means of access as a detailed element with residential development in outline. Overall, the development is for:

- Outline planning application for up to 43 dwellings, associated landscaping, open space and allotments with access from Lower Road.

1.1.3 The Local Planning Authority is Havant Borough Council (HBC), and the Local Highway Authority is Hampshire County Council (HCC).

1.1.4 This TA has been prepared in accordance with the National Planning Policy Framework (NPPF) transport tests, which at paragraph 110 and 111, state:

“In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

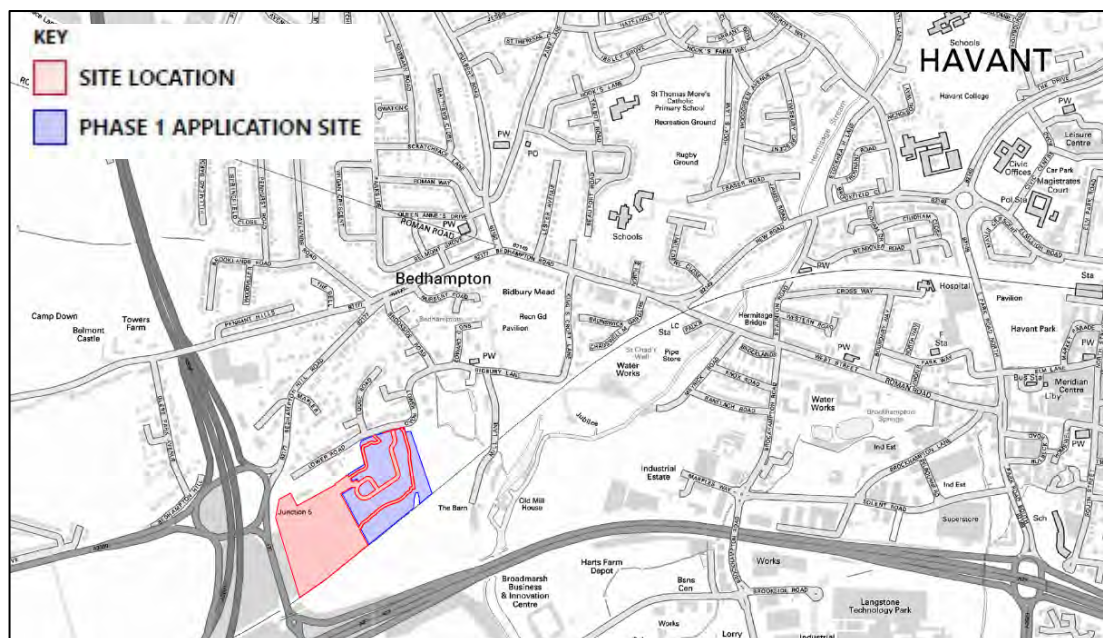
- ***“appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;***
- ***safe and suitable access to the site can be achieved for all users;***
- ***the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and***
- ***any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.”; and***

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe”.

1.2 Site Location

- 1.2.1 The site is located to the south of Lower Road, on the southern edge of Bedhampton. The site is bound by Old Manor Farm, a commercial premises and residential units to the north, the A27 and Bedhampton Roundabout to the west separated by trees and vegetation, a railway line (South Western Portsmouth Direct Line & Southern West Coastway Line) to the immediate south and the first phase of development to the east, in which the site is proposed to be accessed. A site location plan is included in **Figure 1.1**.

Figure 1.1: Site Location



1.3 Phase 1 Planning Application

- 1.3.1 A planning application on the adjacent Phase 1 site (*ref: APP/19/00427*) was submitted in April 2019. The Phase 1 site proposal included:

“Development of 50 new dwellings together with access, landscaping and open space”.

- 1.3.2 That application was supported by a TS (*ref: ITB12174-005A R*). The TS was supplemented by a Technical Note (*ref: ITB12174-007B TN*). HCC in their role as the Highway Authority confirmed it had no objection in a letter dated 14 November 2019 to the application subject to the imposition of planning conditions and a Section 106 Agreement. The application was refused planning permission by HBC due to two reasons (not highway related); the application subsequently went to Appeal (*ref: APP/X1735/W/20/3259067*) where an inquiry was held between 2 and 5 February

2021. The Appeal was allowed (decision dated 13 July 2021) and therefore planning permission was granted for 50 new dwellings together with access, landscaping and open space.

1.3.3 Importantly, with regard to highways and transport the inspector's decision confirmed:

The proposal would, therefore, provide appropriate access to facilities by a range of sustainable transport modes, including walking, cycling and public transport. Concluding on this main issue, I find that it has been demonstrated that safe and suitable access to the site can be achieved and that the local road network has capacity to accommodate the traffic resulting from the development. The proposal is in accordance with HBCS Policy CS20 which requires development to, amongst other things, ensure the safe and efficient operation of the strategic and local road network. Moreover, in accordance with paragraph 109 of the Framework, the proposal would not have an unacceptable effect on highway safety and would not have a severe residual cumulative impact on the road network (Ref: IR 60 and 61)

1.4 Pre-Application Transport Scoping

1.4.1 A pre-application Transport Assessment Scoping Note (document reference ITB12174-011 R) was prepared and issued to HCC highways for comment. The Transport Assessment Scoping Note and HCC response email letter (dated 11 March 2021) is included in **Appendix A** for information. **Table 1.1** contains a summary of HCC pre-app comments, i-Transport's response and where appropriate the comments have been addressed/referenced in this TA.

Table 1.1: HCC Pre-Application Comments and i-Transport Responses

HCC Comment	i-Transport Response	TA reference
The appeal has yet to be determined. The Highway Authority wish to reserve our position on further comment on the sustainable access to the site until such time as the appeal decision has been made.	The appeal has now been allowed.	Section 1
This proposed application is for further dwellings to the west of the phase 1 site subject to a current appeal.	The development proposal has reduced to 43 residential dwellings.	Section 1
Reference and consideration should be given to relevant technical guidance include HCC's TG's and LTN 1/20.	Reference to HCC's TG's and LTN 1/20 has been included within this TA.	Section 4
Walking and Cycling – The proposed application is dependent on the approval and delivery of phase 1.	The appeal for Phase 1 has now been allowed.	Section 1

HCC Comment	i-Transport Response	TA reference
Bus – There are no opportunities to run the buses any closer to the proposed development.	Noted. But phase 1 decision is highly relevant.	Section 1
Rail – Proximity and access to Havant railway station should also be considered.	Details of Havant railway station have been added into the TA	Section 3
Site Access/Surveys - Given that any application for this site is depended on the outcome of the appeal which is expected April 2021 and with lockdown rules easing the Highway Authority will expected updated traffic surveys to be undertaken prior to an application being made. I am happy to keep this matter under review as the application work progresses however without a timeframe I am not minded to agree that surveys are not required.	Lockdown and restrictions were extended by the government in 2021. There was a window for traffic surveys in late June early July 2021 before the school summer holidays, where an ATC and new pedestrian/cycle counts were undertaken on Lower Road. Unfortunately, there was a road closure on Bidbury Lane and resurfacing works on Bedhampton Road during July which meant ATC's on Bidbury Lane/Brookside Road and turning counts at the Brookside Road/Bedhampton Road junction and Bedhampton Road/Bedhampton Hill roundabout were not possible. Previous traffic data has been used for these assessments. Comparison surveys can be undertaken if required in September 2021.	Section 3 and Section 7
Road Safety Review – The study area should be extended to include Bidbury Lane/King's Croft Lane to and including the junction of Bedhampton Road as well as the Brookside Road/Bedhampton junction	Noted. The study area for the road safety review has been extended as per requested.	Section 3
Local Facilities and Services – No reference has been made to the proposed identified walking distances parameters. The CIHT Guidelines – Designing for Journeys on Foot should be referred to. It is also not clear if the link between Lower Road and Rusty Cutter roundabout has been utilised for those services accessible to the west of the site.	The walk distances have been updated, and clarification on the link between Lower Road and Rusty Cutter Roundabout.	Section 5
Site Access - Further detail sought on this matter including visibility and tracking for a refuse vehicle so suitability can be determined.	A detailed site access arrangement drawing including vehicle swept paths is provided within this TA.	Section 4

HCC Comment	i-Transport Response	TA reference
Site Access - There is concern regarding the lack of footway provision within the existing application site and how safe access would be achieved for both those residents and any new residents should the site be extended.	The development proposal includes changes to Phase 1 to provide additional footway provision.	Section 4
Site Access – The access onto Lower Road will require modelling to ensure it is appropriate for the revised scale of development.	Noted. The site access with Lower Road has been assessed in Junctions 10 to include Phase 1 as a committed development.	
Site Access – It remains a question on whether the appeal site would be adopted. The design and layout doesn't currently look to an adoptable standard and would therefore be subject to an APC. This would also prevent future adoption of any additional site extension which again would be subject to APC and held to ransom by the appeal site, which would prevent any further future access to the adopted highway.	It is not the intention for either phase of development to include adopted roads and the applicant will ensure through an appropriate binding legal provision that the on-site roads are built to a suitable standard and maintained for perpetuity.	-
Travel Plan - Whilst the proposed number of units themselves would not warrant a travel plan the site is actually much larger and has been split into 2 to navigate the planning process. A travel plan would therefore be required and measures should be included which would aid with integrating both sites.	The development proposal is now for 43 residential dwellings. Equating to 93 units on both sites. A Residential Travel Plan has been prepared and submitted with the planning application.	-
Pedestrian and Cycle of Lower Road – Surveys and assessments undertaken for the original Lower Road application will need to be revisited especially in light of the changes which may have occurred to travel behaviours since Covid and with the buildout of the Forty Acres site. Any assessment needs to consider the likely extra demand to Lower Road as a result of the Forty Acre development and additional suppressed demand catered for by the new crossing facilities to be implemented at Rusty Cutter roundabout.	Noted. New surveys of Lower Road were undertaken in early July 2021. A review of the Forty Acres site and crossing proposal has been undertaken and addressed in this TA.	Section 3 and Section 6

HCC Comment	i-Transport Response	TA reference
Trip Rates - It is agreed that the trip rates from the appeal site can be utilised for the purposes of this application. That being 0.518 in the AM peak and 0.517 in the PM peak.	Noted. These trip rates have been used within this TA. This also includes phase 1 as a committed development.	Section 7
Distribution and Assignment – The distribution provided is as agreed for the site subject to appeal and therefore deemed acceptable.	Noted.	Section 7
Assessment Periods – I will need to see traffic flow data to determine the peak hour periods are agreed.	The traffic data used in the junction assessments is that agreed previously for the first Phase.	Section 7
Assessment Scenarios – It is unclear why a base traffic flow situation is being proposed for 2017. Assessments should be based on the year of opening and 5 years plus. This therefore assuming an imminent application should be 2021 and 2026.	Base traffic for 2017 has been used, as this is when the previous traffic surveys were undertaken. To be robust, both 2021 and future 2026 years have also been assessed using local growth.	Section 7
Committed Development – should also include the co-op on Bedhampton Hill.	The transport reports for the Bedhampton Hill co-op has been reviewed, this site is not expected to generate many new primary trips on the local network and therefore not included as a committed development, this is detailed within this TA.	Section 7
Traffic Growth – The traffic growth factors look very low and need to be reconsidered given the comments above and are therefore not agreed.	Revised traffic growth has been obtained from TEMPro for future years 2021 and 2026.	Section 7
Study Network – This is agreed. The scheme for Bedhampton Hill to signalise the junction is under review by HCC and is likely to change. I am unable to share details at this time but shall update you in due course.	Noted.	-

Source: HCC email dated 11 March 2021 and consultant responses.

1.5 TA Structure

1.5.1 This TA assesses the transport and highways issues resulting from the proposed development. In particular, it identifies the proposed access arrangements, how the development will deliver sustainable travel opportunities in line with national and local transport planning policy requirements, as well as quantifying the likely traffic generation of the site with committed development, and the resultant impact on the local highway network.

1.5.2 In particular, This TA considers the scheme against the 'key transport tests' (*ref: paragraph 110 of the National Planning Policy Framework*);

- Will the opportunities for sustainable travel be appropriately taken up?
- Will safe and acceptable access be provided?
- Will the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and
- Will the traffic impacts be acceptable?

1.5.3 The remainder of the TA is structured as follows:

- Section 2: National and Local Policy Context;
- Section 3: Existing Transport Conditions;
- Section 4: Development Proposal;
- Section 5: Accessibility Review;
- Section 6: Lower Road Travel Assessment
- Section 7: Traffic Impact; and
- Section 8: Summary and Conclusions.

SECTION 2 NATIONAL AND LOCAL POLICY REVIEW

2.1 National Policy

National Planning Policy Framework

2.1.1 The National Planning Policy Framework (NPPF) July 2021 sets out the Government's planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development.

2.1.2 The NPPF states that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment and a Travel Plan (ref: NPPF, paragraph 113).

2.1.3 It is stated that in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- ***“appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;***
- ***safe and suitable access to the site can be achieved for all users;***
- ***the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and***
- ***any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree”. (ref: NPPF, paragraph 110)***

2.1.4 In addition, it is stated that:

- ***“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe” (ref: NPPF, paragraph 111)***

National Planning Practice Guidance (NPPG) – March 2014.

2.1.5 The NPPG was published in March 2014 and sets out the key roles of Transport Assessments / Statements:

“Transport Assessments and Statements are ways of assessing the potential transport impacts of developments (and they may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans).”

Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a ‘lighter-touch’ evaluation to be used where this would be more proportionate to the potential impact of the development (i.e. in the case of developments with anticipated limited transport impacts).”

2.2 Local Policy

Hampshire County Council’s Local Transport Plan (2011 – 2031)

2.2.1 HCC’s transport strategy for the next 20 years is set out in this document which also outlines how the LTP will contribute to the Council’s corporate priorities and includes a three-year implementation plan. A vision of: ‘...safe, efficient and reliable ways to get around a prospering and sustainable Hampshire’, is proposed.

2.2.2 Three main priorities are set out in the LTP for the next 20 years. These are:

“Support economic growth by ensuring the safety, soundness, and efficiency of the transport network in Hampshire”;

“Provide a safe, well-maintained, and more resilient road network in Hampshire, as the basic transport infrastructure of the County, on which all forms of transport directly or indirectly depend, and the key to continued casualty reduction”; and

“Manage traffic to maximise the efficiency of the existing network capacity, improving journey time reliability and reducing emissions, and thereby supporting the efficient and sustainable movement of people and goods”.

2.2.3 The LTP identifies Havant as being within the South Hampshire Joint Strategy area. This has been developed by HCC, Portsmouth City Council and Southampton City Council, working together as Transport for South Hampshire (TfSH – Now Solent Transport).

2.2.4 The LTP outlines the vision for TfSH as to create:

“A resilient, cost effective, fully-integrated sub-regional transport network, enabling economic growth whilst protecting and enhancing health, quality of life and environment”

2.2.5 14 transport policies are identified to deliver this objective. Policies relevant to Havant and Bedhampton include:

“To develop transport improvements that support sustainable economic growth and development within South Hampshire”;

“To optimise the capacity of the highway network and improve journey time reliability for all modes”;

“To achieve and sustain a high-quality, resilient and well-maintained highway network for all”;

“To deliver improvements in air quality”;

“To improve road safety across the sub-region”;

“To promote active travel modes and develop supporting infrastructure”;

“To encourage private investment in bus, taxi and community transport solutions, and where practical, better infrastructure and services”;

“To work with Local Planning Authorities to integrate planning and transport”;

***“To develop and deliver high-quality public realm improvements”;* and**

“To safeguard and enable the future delivery of transport improvements within the TfSH area.”

Havant Borough Transport Statement – December 2013

2.2.6 In addition to the LTP, HBC and HCC have produced a Transport Statement for the Borough. There are four objectives outlined at paragraph 1.5 of the document, stating that the Transport Statement looks to:

- ***“Promote sustainable economic growth by maintain a safe and efficient highway network, reducing casualties and tackling congestion on the transport network;***
- ***Improve access to jobs, facilities and services by all types of transport;***
- ***Facilitate and enable new development to come forward; and***
- ***Reduce carbon emissions and minimise the impacts of transport on the environment”.***

HBC’s Parking Standards Supplementary Planning Document (SPD) July 2016

2.2.7 Car and Cycle parking standards for new residential development are provided within HBC’s Parking Standards SPD (adopted July 2016 and partially updated in September 2019). **Table 2.1** details the parking standards for a ‘non-Town Centre’ location.

Table 2.1: HBC Residential Minimum Car Parking Standards (non-town centre)

Size of Dwelling	Allocated	Shared / Communal (unallocated)
1 Bedroom	1.0	0.9
2 Bedrooms	2.0	1.3
3 Bedrooms	2.0	1.9
4 or More Bedrooms	3.0	2.4

Source: HBC's Residential Parking Standards Supplementary Planning Document

2.2.8 In addition, an additional 20% of unallocated parking for visitors should be accommodated.

2.2.9 Cycle parking standards are also set out within HBC's Parking Standards SPD, **Table 2.2** summarises the standards. Long stay cycle parking for dwelling houses requires secure covered parking for residents' cycles with short stay provision in the form of a secure loop attached to the house or garage.

Table 2.2: HBC's Cycle Parking Standards

Type	Long Stay	Short Stay
1 bedroom	1.0	In larger developments (schemes of 10 or more dwellings), short-term visitor parking will be expected at 20% of the long-term cycle parking standard.
2 or 3 bedrooms	2.0	
4 or more bedrooms	2.0	

Source: HBC's Residential Parking Standards Supplementary Planning Document

Havant Local Plan (2011-2026)

2.2.10 The adopted Local Plan is made up of the Core Strategy 2011 – 2026, which is the principal document outlining how planning will be managed in the borough until 2026.

2.2.11 Policy CS20 of the Core Strategy 'Transport and Access Strategy' states that development will be permitted that:

"1. Is consistent with and contributes to the implementation of the 'Reduce, Manage and Invest' strategy.

2. Does not increase congestion and promotes better use of existing transport networks.

3. Improves accessibility to goods, services and employment and promotes equality in the transport system.

4. Provides transport management measures to ensure the safe and efficient operation of the strategic and local road network.

5. Ensures that highway design responds positively to the characteristics of the area and delivers a high quality public realm for all users.

6. Maintains or improves the range of transport modes accessible to the users of the development site with specific emphasis on public transport, especially high quality/frequency buses and includes walking and cycling where appropriate."

2.2.12 Havant Borough Local Plan (Allocations) document 2014 - 2026 follows on from the Core Strategy and identifies sites for specific uses including, housing, employment, retail, recreation and green infrastructure up to 2026.

Havant Borough Council's Submission Local Plan (2018 – 2036)

2.2.13 The Havant Borough Local Plan was submitted for examination by the Planning Inspectorate in February 2021. Until adoption, the Submission Local Plan has limited weight in determining applications but should still be considered in policy terms.

2.2.14 Regarding transport policies, **Policy IN2 – Improving Transport Infrastructure** states that developments will be supported that:

- ***Improve accessibility to goods, services and employment for all and provide transport options that promote equality;***
- ***Improve the network of infrastructure which encourages sustainable, low carbon transport modes, with a particular emphasis on healthy non-motorised modes and public transport;***
- ***Provide transport management measures to ensure the safe and efficient operation of the strategic and local road network; and***
- ***Prioritise transport improvements that support economic growth.***

2.2.15 **Policy IN3 – Transport and Parking** concerns site design, and sets out that developments will be permitted where sites are designed so that:

- Safe and suitable access is achievable for all users;
- Sustainable travel modes are encouraged and taken up;
- The layout encourages lower vehicle speeds and the uptake of active travel through exemplary pedestrian and cycle routes;
- Streets and parking contribute positively to deliver a high quality public realm; and

- Sufficient visibility and lighting is provided.

2.3 Summary

- 2.3.1 The NPPF confirms that there is a presumption in favour of sustainable development. The relevant planning policies suggest that account should be taken of whether opportunities for sustainable transport modes have been taken up, to ensure the need to travel will be minimised and the use of sustainable transport modes can be maximised.
- 2.3.2 Safe and suitable access to sites should be achieved for all people and assessments should take account of whether improvements can be undertaken within the transport network that cost-effectively limit the significant impacts of development. The NPPF also states that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.
- 2.3.3 The subsequent sections of this report describe how the proposed development complies with the local and national transport planning policy considerations.

SECTION 3 EXISTING TRANSPORT CONDITIONS

3.1 Introduction

- 3.1.1 This section of the TA sets out the existing transport conditions in the local area. This includes a review of the opportunities to use non-car modes, as well as the current operation of the existing highway network.

3.2 Site Location

- 3.3 The site is located to the south of Lower Road, on the southern edge of Bedhampton. The site is bound by Old Manor Farm, a commercial premises and residential units to the north, the A27 to the west separated by trees and vegetation, a railway line to the immediate south and the permitted first phase of development to the east.

3.4 Walking and Cycling

Walking

- 3.4.1 Lower Road fronts the site from west to east, turning some 90 degrees northwards at the eastern end of the site and then some 90 degrees eastwards. Lower Road continues northwards (as Brookside Road) to the junction with Bedhampton Road. This leads east to local bus stops (served by up to ten buses an hour), Bedhampton centre and the railway station (**Image 3.1** – top left).
- 3.4.2 North east of the site Lower Road intersects with Lodge Road, a residential cul-de-sac. A public footpath (FP107) links Lodge Road and Bedhampton Road northwards. (**Image 3.1** – top right). The public footpath is lit and hard-surfaced.
- 3.4.3 Lower Road is street lit and subject to a 30mph speed limit. At its narrowest, the road is 4.7m wide, with a width of around 5.5m between the bends and Brookside Road. As part of the first phase of development a new footway will be provided from the site to Lodge Road and the existing footway on Lower Road.
- 3.4.4 Lower Road and other local residential streets typically have footways on one side although there are two short sections near the site without footways:

- On Lower Road fronting the site (see **Image 3.1** – middle left);

- On Lower Road northeast of the site between the 90-degree bends (**Image 3.1** - middle right and bottom left);
- Lodge Road has a footway on both sides (**Image 3.1** – bottom right); and
- The local footways and FP107 are lit and hard-surfaced and thus usable year-round.

Image 3.1 Photographs of Lower Road and nearby pedestrian provision



Source: i-Transport

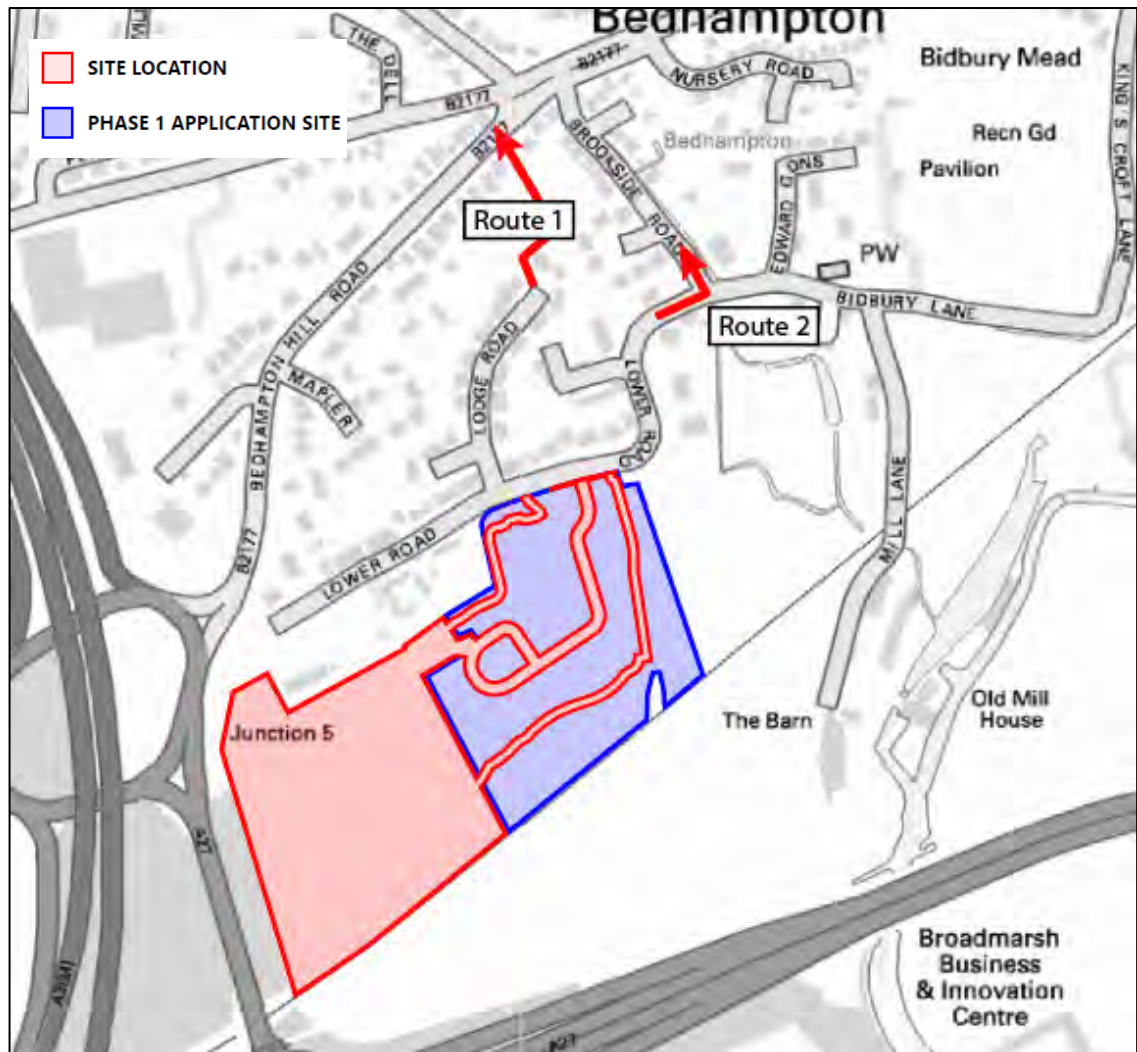
3.4.5 The existing walking routes from the site are:

- Route 1 - The walk to the Bedhampton Road bus stops (720m though the first phase development and via Lodge Road); and

- Route 2 - The walk to the Bedhampton Road bus stops (700m through the first phase of development and via Lower Road and Brookside Road).

3.4.6 These routes are shown **Image 3.2**.

Image 3.2: Main pedestrian routes from development



Source: Consultant drafting.

- 3.4.7 Another walking route exists from Lower Road westwards connecting with the 'Rusty Cutter' Roundabout and Bedhampton Hill.
- 3.4.8 A walked route across the Phase 1 site along the eastern edge exists called Narrow Marsh Lane, this is a north-south link and provides access to the south for leisure purposes.

Cycling

3.4.9 Lower Road is part of the HBC formal cycle network (full mapping in **Appendix B**) and other local roads are also identified as being suitable for cycling. The road network is subject to a 30mph speed limit – with recorded speeds on Lower Road being around 20mph (85th %tile Table 3.4) and is lightly trafficked making it safe and convenient for cycling. Paragraph 6.4.1 of Manual for Streets states:

“Cyclists should generally be accommodated on the carriageway. In areas with low traffic volumes and speeds, there should not be any need for dedicated cycle lanes on the street”

3.4.10 The daily flows on Lower Road are below 2,000 v/p/d and in combination with the recorded speeds this means Lower Road is suitable for ‘mixed traffic’ cycling as per Figure 4.1 in LTN1/20 with conditions accommodating most types of cyclists.

3.4.11 In addition, Lower Road provides a cycle connection to the National Cycle Route Network at the ‘Rusty Cutter’ roundabout where NCN 22 can be accessed for cycle journeys to Portsmouth, this can be seen in **Image 3.3**

Image 3.3: View towards Lower Road from Rusty Cutter Roundabout



Public Rights of Way

- 3.4.12 The Public Rights of Way (PRoW) network within the immediate area includes Footpath 107 which extends north-south from Lodge Road to connect with Bedhampton Road. The Definitive Map of PROW is included in **Appendix C**.

3.5 Public Transport

Bus Services

- 3.5.1 The closest bus stops to the site are located on Bedhampton Road to the north. **Table 3.1** below provides a summary of the routes and their frequencies.

Table 3.1: Local Bus Services

Closest Bus Stop	Service	Route (Operator)	Service Details		
			Mon-Fri	Sat	Sun
Bedhampton adj. Nursery Road	21	Stagecoach Portsmouth (Havant – Portsmouth)	Every 30 mins, first bus to Portsmouth at 05:47, last bus from Portsmouth at 23:07. First bus to Havant at 05:51, last bus from Havant at 21:00.	Every 30 mins, first bus to Portsmouth at 06:37, last bus from Portsmouth at 23:07. First bus to Havant at 06:53, last bus from Havant at 21:00.	Every hour, first bus to Portsmouth at 07:54, last bus from Portsmouth at 21:45. First bus to Havant at 07:54, last bus from Havant at 19:30.
	23	Stagecoach Portsmouth (Leigh Park – Southsea)	Every 15-30 mins, first bus to Southsea at 05:21, last bus from Southsea at 22:45. First bus to Leigh Park at 05:57, last bus from Leigh Park at 21:55.	Every 15-30mins, first bus to Southsea at 06:33, last bus from Southsea at 22:45. First bus to Leigh Park at 07:07, last bus from Leigh Park at 21:55.	Every 20-30mins, first bus to Southsea at 07:30, last bus from Southsea at 21:25. First bus to Leigh Park at 08:14, last bus from Leigh Park at 21:05.

Source: Traveline South East (March 2021, Covid-19 amended)

- 3.5.2 It can be seen from **Table 3.1** that the site is very well served by bus with numbers 21 and 23 calling at the stops on Bedhampton Road (circa 700m or an approximate ten-minute walk) from the centre of the site providing a ‘turn up and go’ level of service. The bus stops provide up to six services per hour to destinations including Portsmouth, Havant and Southsea.

Rail Services

- 3.5.3 The nearest station to the proposed development site is Bedhampton Railway Station which lies on a section of line which is common to the Portsmouth – London line (London Waterloo to Portsmouth Harbour) and the Coastal Line from Brighton to Southampton.

3.5.4 Bedhampton Station is located approximately 1000m northeast of the proposed site. The station does not include car parking but does provide cycling facilities with the capacity for 20 bicycle parking spaces.

3.5.5 **Table 3.2** below provides a summary of the services from Bedhampton station, including their typical frequency and journey time during both peak and off-peak periods.

Table 3.2: Rail Services from Bedhampton Rail Station

Train Station	Destination	Frequency		Average Journey Duration
		Peak	Off-Peak	
Bedhampton	Portsmouth Harbour	2 services per hour	1 service per hour	20 mins
	Portsmouth & Southsea	2 services per hour	1 service per hour	15 mins
	Chichester	2 services per hour	1 service per hour	23 mins
	London Waterloo	2 services per hour	1 service per hour	99 mins

Source: National Rail (as of July 2021, Covid-19 amended).

3.5.6 The table above demonstrates that Bedhampton Station is served by frequent rail services to major destinations such as London, Portsmouth and Chichester.

3.5.7 In addition to Bedhampton station, Havant Railway Station is located some 2.4km northeast of the site. In comparison to Bedhampton, Havant station provides parking for up 492 cars with 8 accessible spaces, and 92 bicycle parking spaces. This provides an additional option for users with a more frequent and accessible service. **Table 3.3** below provides a summary of the services from Havant station.

Table 3.3: Rail Services from Havant Rail Station

Train Station	Destination	Frequency		Average Journey Duration
		Peak	Off-Peak	
Havant	Portsmouth Harbour	4 services per hour	2 services per hour	20 mins
	Portsmouth & Southsea	6 services per hour	2 services per hour	15 mins
	Southampton Central	3 services per hour	2 services per hour	42 mins
	Chichester	5 services per hour	5 service per hour	23 mins
	Brighton	3 services per hour	2 services per hour	70 mins
	London Waterloo	4 services per hour	2 services per hour	99 mins
	London Victoria (via Horsham)	2 services per hour	2 services per hour	110 mins

Source: National Rail (as of July 2021, Covid-19 amended).

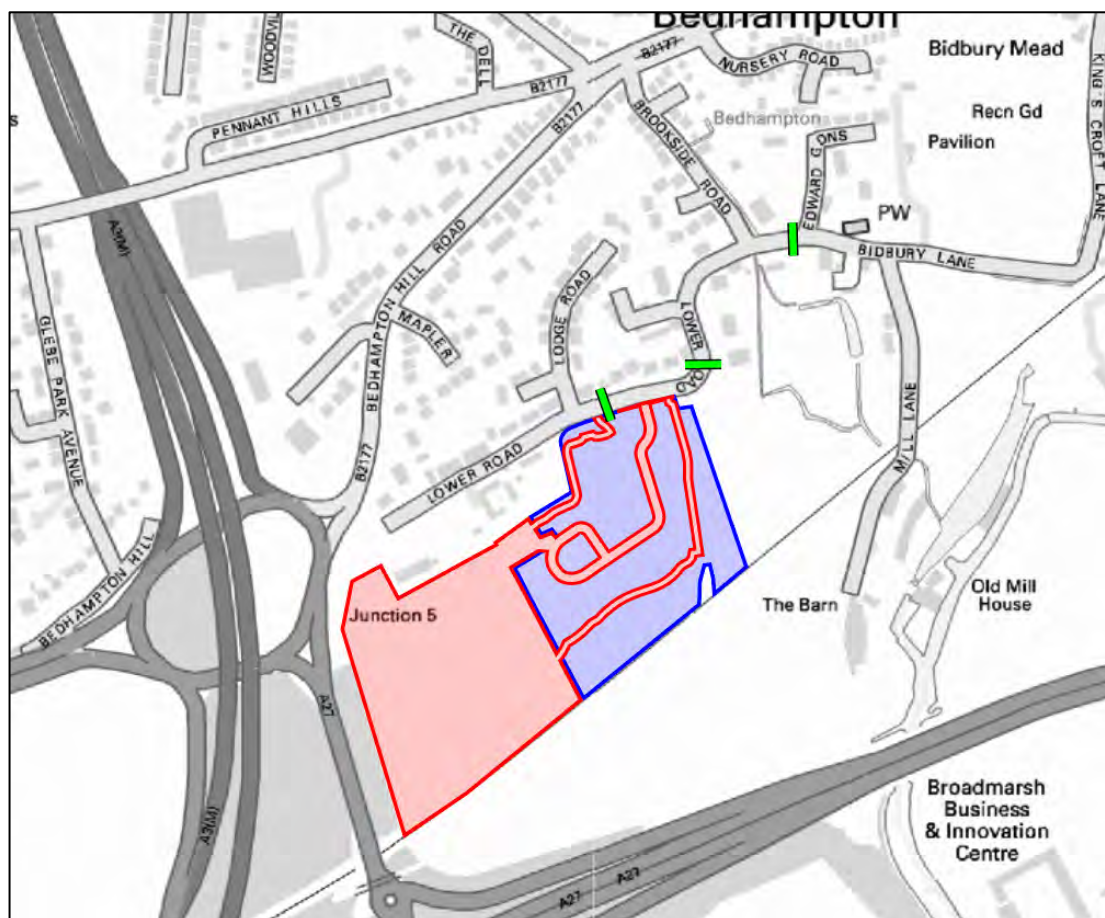
3.6 Local Highway Network

3.6.1 Access to the site will be through the first phase and onto Lower Road which is a street lit two-way carriageway with a 30mph speed limit. Lower Road leads to Lodge Road to the north-west which is a small residential cul-de-sac. To the north-east, Lower Road connects to Brookside Road which meets the B2177 Bedhampton Road at a priority junction (left out and right / left in only).

Existing Traffic Flows

3.6.2 Automated Traffic Count (ATC) Surveys were undertaken in three locations; two on Lower Road, of which one was on the corner of Lower Road (just before footway terminates) in October 2016 and one by the Phase 1 site access in July 2021, and one on Bidbury Lane in October 2016 to establish the baseline traffic flow. The location of the ATC's are shown on **Image 3.4** and the full ATC data is included at **Appendix D**. A revised ATC on Bidbury Lane in July 2021 was not possible due to a road closure and prior to this, restrictions were in place due to the Covid-19 pandemic which may have skewed traffic volumes.

Image 3.4: ATC Locations



Source: Consultants drafting

3.6.3 The flow data from the ATC's is summarised in **Table 3.3** and shown in **Appendix D**.

Table 3.3: Existing Traffic Volumes (Weekday Average)

Location	Time Period	Southbound (Total Vehicles)	Northbound (Total Vehicles)	Two-Way (Total Vehicles)
Lower Road (phase 1 site access)	Morning Peak	16	28	43
	Evening Peak	23	26	49
Lower Road (corner of bend)	Morning Peak	18	42	60
	Evening Peak	29	29	58
Bidbury Lane	Morning Peak	12	9	21
	Evening Peak	20	20	40

Source: ATC Surveys Lower Road (July 2021 & October 2016), Bidbury Lane (September 2016).

3.6.4 It can be seen in the above table that the number of vehicles along Lower Road has overall reduced two-way in the peak hours between the 2016 survey and the recent July 2021 survey.

3.6.5 In addition, Manual Classified Counts (MCC) were undertaken at the junction of Brookside Road / Bedhampton Road and the Bedhampton Road / Bedhampton Hill / Maylands Road roundabout on Wednesday 10 May 2017 and recorded morning and evening peak period traffic flows. The results of the MCC are shown in **Appendix E**, with the full data in **Appendix D**. Traffic surveys for these junctions were not possible to be obtained in 2021 due to the restrictions caused by the global pandemic and the affect it has had temporarily on travel, and once restrictions were being lifted in July 2021 before school summer holidays, there were road works, including a road closure on Bidbury Lane and resurfacing works on Bedhampton Road which included road diversions. Therefore, the above traffic surveys (undertaken pre-Covid 19) have been used for assessment purposes.

3.7 Traffic Speeds

3.7.1 The ATC surveys also recorded vehicle speeds. The recorded 85th percentile vehicle speeds along Lower Road are presented in **Table 3.4** and the full speed data is in **Appendix D**.

Table 3.4: Lower Road Speeds (Weekday Average)

Location	85 th Percentile Speed
Lower Road (phase 1 site access) Eastbound	22.6mph
Lower Road (phase 1 site access) Westbound	22.8mph
Lower Road (corner of bend) Eastbound	20.6mph
Lower Road (corner of bend) Westbound	18.2mph

Source: ATC Survey July 2021.

3.7.2 It can be seen in the above table that existing 85th percentile speeds are well below the existing speed limit of Lower Road (30mph). As expected, the weekday average 85th percentile speeds are shown slower on the corner of the bend than on the straight section by the Phase 1 site access.

3.8 Highway Safety

3.8.1 Personal Injury Accident (PIA) data for the latest five-year period has been obtained from Hampshire Constabulary for the local highway network in the vicinity of the site. The study area was agreed with HCC during pre-application, the area includes all of Lower Road (including pedestrian/cycle connection with B2177), Lodge Road, Brookside Road including junction with Bedhampton Road, Bidbury Lane, King's Croft Lane including junction with Bedhampton Road.

3.8.2 The data covers the five-year period provided by Hampshire Constabulary on 18 May 2021 from 01/01/16 up to 31/12/20. A total of six PIAs were recorded on the network, of which four were slight and two were serious. There were no fatal accidents recorded in the area. A summary of the accidents is set out in the following paragraphs, and the full data is included in **Appendix F**.

Bedhampton Road / Brookside Road priority junction

3.8.3 One PIA occurred at the Bedhampton Road / Brookside Road priority junction, which involved a motorcycle losing control in wet conditions, resulting in serious injuries.

Bedhampton Hill / Portsdown Hill Road / Maylands Road roundabout

3.8.4 Four accidents occurred at the Bedhampton Hill / Portsdown Hill Road / Maylands Road roundabout. These are summarised below:

- Two accidents involved vehicles following cyclists too closely, colliding with them as they entered the roundabout. Both these incidents resulted in slight injuries;
- One accident occurred when a cyclist failed to stop when entering the roundabout and collided with another vehicle, resulting in serious injuries; and
- One accident occurred when a driver lost control of their vehicle and collide with another vehicle. This resulted in slight injuries.

Bedhampton Road / Kings Croft Lane priority junction

3.8.5 One PIA occurred at the Bedhampton Hill / Kings Croft Lane priority junction, where a motorcycle failed to look properly when overtaking and collided with a vehicle undertaking a U-Turn, resulting in slight injuries.

3.8.6 There have been no recorded collisions in the last 5 years on Lower Road in the vicinity of the site as shown by the map plot in **Appendix F**.

3.9 **Summary**

- 3.9.1 The site access proposal linking into the consented Phase 1 scheme (detailed in Section 4) will ensure the site is accessible by non-car modes. A good standard of walking facilities are provided on the local highway network in the vicinity of the site. The local roads provide suitable conditions for cycling. Bus stops served by frequent services are within 700m of the site providing connections to Portsmouth, Havant and Southsea.
- 3.9.2 Analysis of the local highway network shows that the local roads around the site are lightly trafficked and have a good highway safety record. The impact of the proposal on local roads is considered further in Section 7.

SECTION 4 DEVELOPMENT PROPOSAL

4.1 Introduction

- 4.1.1 This section of the TA introduces and outlines the development proposal for the site. It includes a description of the proposed land uses including schedule of accommodation and the proposed site access arrangements for vehicles, pedestrians and cyclists.

4.2 Development Details

- 4.2.1 The proposal comprises circa 43 residential dwellings (C3 Use Class) located west of the first phase of development (50 units). An indicative site layout is included in **Appendix G**, the site layout will be in outline and is subject to change.

4.3 Site Access Arrangements

- 4.3.1 The NPPF at paragraph 110 requires that:

“Safe and suitable access to the site can be achieved for all people.”

- 4.3.2 It is proposed to provide safe and suitable site access for all users to the east of the site through the first phase of development, the site access locations are shown on the site layout in **Appendix G**.
- 4.3.3 The all modes site access will be an extension of the existing cul-de-sac within Phase 1, with changes required to the alignment, parking court and SuDS within Phase 1. The proposed site access from Phase 1 into the proposed development is detailed in drawing **ITB12174-GA-018**. The access includes a 5.5m wide carriageway and 2m footway tying in with the revised design of Phase 1.
- 4.3.4 The proposed development traffic will therefore route through the Phase 1 site and connect to Lower Road via the approved site access design, this includes:
- A simple priority junction;
 - A site access road with 5.5m wide carriageway;
 - Visibility splays of 43m in excess of measured 85th percentile vehicle speeds; and

- A new pedestrian footway along Lower Road (within the Phase 1 site) to the west connecting with the existing footway network in Lodge Road and a footway to the east (within the Phase 1 site) to provide access towards Brookside Road.

4.3.5 A separate footpath from the south eastern side of the proposed development is proposed to connect with the Phase 1 layout. These connections with the changes proposed within the Phase 1 site are shown on the indicative site layout and MJA Consulting drawing provided within **Appendices G** and **H** respectively. The alterations to the Phase 1 layout facilitate three pedestrian routes from the Proposed Development towards Lower Road, including a footpath connection leading to opposite the Lodge Road junction, a footway between the Phase 1 eastern Lower Road pedestrian access and the main carriageway, and a footway connection along the southern side of the Phase 1 development along the Narrow Marsh Lane corridor.

Swept Path Analysis

4.3.6 Drawing **ITB12174-GA-019** shows the swept path of a refuse vehicle demonstrating it would be able to manoeuvre in and out of the proposed site access in a safe manner to and from Phase 1 whilst passing an estate car in the opposite direction.

4.4 Residential Site Layout

4.4.1 The residential site layout is in outline with detail subject to a reserved matter planning application. Either a loop or vehicle turning heads will be provided within the residential site for refuse vehicles, emergency and delivery vehicles. The indicative site layout in **Appendix G** shows that a vehicular loop is possible with two short culs-de-sac, it includes a combination of:

- ***Shared surfaces;***
- ***Private courtyard parking/drives; and***
- ***Footpaths.***

4.4.2 The access roads within the site will be designed in accordance with HCC technical guidance including emergency access where a fire tender will be able to get within 45 metres of all parts of each dwelling in line with Building Regs.

4.4.3 The future detailed design of shared surface and residential streets should be suitable for cyclists:

“Most residential streets in new developments, including smaller schemes, will be suitable for cycling in mixed traffic as the speed and volume of motor traffic will be low.” (LTN 1/20, para 14.3.25).

- 4.4.4 HCC TG10 (yet to be published) is expected to follow LTN 1/20. Other HCC Technical Guidance notes will be referred to as part of the site layout design (reserved matters) and the detailed design technical approval process.

4.5 Car and Cycle Parking

- 4.5.1 Car parking provision on the site will be provided in accordance with the minimum standards (for non-town centre) as set out in HBC’s Parking SPD (July 2016 partially updated September 2019), details are shown in **Table 4.1**. This is the same strategy as set out and agreed for Phase1.

Table 4.1: Car Parking Standards, Havant Borough Council (non-town centre)

Dwellings	Allocated	Shared / Communal (unallocated)
1 Bedroom	1.0	0.9
2 or 3 Bedrooms	2.0	1.3 / 1.9
4 or More Bedrooms	3.0	2.4

Source: HBC Parking Standards, Tables 4A and 4B.

- 4.5.2 For individual dwellings cycle parking provision is to be provided within the dwelling curtilage (garden or garage). The quantum of cycle parking on the site will be in line with the HBC’s Parking SPD, as set out in **Table 4.2**.

Table 4.2: Cycle Parking Standards, Havant Borough Council

Type	Long Stay	Short Stay
1 bedroom	1 per dwelling	+20%
2 bedrooms	2 per dwelling	
3 bedrooms	2 per dwelling	
4 bedrooms	2 per dwelling	

Source: HBC Parking Standards Table 4D.

- 4.5.3 Both car and cycle parking for the residential element of the site (including electric vehicle charging points) would be detailed as part of a reserved matter planning application following any outline planning consent.

4.6 **Summary**

- 4.6.1 It has been demonstrated that the proposed access meets current and relevant design standards in Manual for Streets and that it provides safe and suitable access to the development for pedestrians, cyclists and vehicles via the first phase of development.

SECTION 5 ACCESSIBILITY REVIEW

5.1 Introduction

- 5.1.1 As set out in Section 2 of this report, the NPPF advises that development should be sustainable. In promoting sustainable transport, it is important to consider the reasons why future residents of the proposed development will make journeys. The Department of Transport's National Travel Survey (NTS) identifies the proportion of all trips by purpose as set out in **Table 5.1** below.

Table 5.1: Proportion of Trips per Year by Journey Purpose

Journey Purpose	Proportion of Trips
Leisure	26%
Shopping	19%
Commuting/Business	18%
Education/Escort Education	13%
Personal Business	9%
Other Escort	9%
Other (Including Just Walk)	6%

Source: Table NTS0409 Average number of trips by purpose and main mode: England NTS – 2019.

- 5.1.2 By understanding the main types of journeys that people make, the key destinations for future residents of the proposed site can be determined. This section of the TA provides an assessment of the key destinations by journey purpose and summarises the opportunities to access each destination by non-car modes of transport.

5.2 Walking and Cycling

Walking

- 5.2.1 Manual for Streets (MfS) paragraph 4.4.1 states:

“Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance... ..however this is not an upper limit and... ..walking offers the greatest potential to replace short car trips, particularly those under 2km.”

- 5.2.2 The data in the National Travel Survey (NTS, Table NTS308), identifies that the vast majority (80%) of trips of up to one mile (1.6km) are undertaken on foot. The data also shows that 31% of journeys between 1 and 2 miles will be on foot, i.e. a significant proportion of people are

prepared to walk for journeys of up to 2 miles (3.2km). When the trip distance is between 2 miles and 5 miles the number of people that would walk to their destination falls to 3.6%.

- 5.2.3 Preferred maximum walking distance guidelines are also set out in the Institution of Highways and Transportation report 'Providing Journey on Foot'. The following distances are taken from Table 3.2 of the report and replicated in **Table 5.2** below.

Table 5.2: IHT Suggested Walking Distance Thresholds

	Commuting / Education / Sight-seeing	Elsewhere
Desirable	500m	400m
Acceptable	1,000m	800m
Preferred Maximum	2,000m	1,200m

Source: Providing Journeys on Foot (IHT).

- 5.2.4 It is clear from the guidance available that acceptable walking distances will vary between individuals and circumstances for example, physical fitness, encumbrances (e.g. shopping etc.), journey purpose, attractiveness of walk route etc. On this basis it is considered that:

- Up to 800m is a "comfortable" walking distance;
- 2km offers the greatest potential to replace cars trips and is therefore a "reasonable" walking distance; and
- Some people may walk further than this and, as such 3.2km (2 miles) is a "maximum" walking distance for non- leisure activities.

Cycling

- 5.2.5 The Department for Transport (DfT) document Local Transport Note (LTN) 1/20 'Cycle Infrastructure Design' (paragraph 2.2.2) discusses typical cycle trip distances and states that two out of every three personal trips are less than five miles (8km) in length, which is achievable distance to cycle for most people. Further, three quarters of school children live within a 15-minute cycle of a secondary school, with more than 90% within a 15-minute walk of a primary school.
- 5.2.6 Although replaced by LTN 1/20, previous guidance of the DfT LTN 02/08 'Cycle Infrastructure Design' (paragraph 1.5.1) details typical cycle trip distances and states that local highway networks are primarily for local journeys and many utility cycle journeys are under three miles (4.8km) although for commuter journeys a trip distance of 5 miles (8km) is not uncommon.

- 5.2.7 A cycling distance of up to around 5km (3 miles) therefore offers the greatest potential to replace cars trips, although a number of cycle journeys may be longer at 8km (5 miles). Cycling also frequently forms part of a longer journey in combination with public transport.

5.3 Local Facilities and Services

- 5.3.1 Based on the National Travel Survey data, the facilities and key destinations within an 800m 'comfortable', 2km (1.2 miles) 'reasonable' and a 3.2km (2 miles) 'maximum' walking distance and an 8km (5 miles) 'reasonable' cycle distance of the site are shown on **Figure 3.1**. The respective distances are shown on **Table 5.3**.
- 5.3.2 The table below identifies the key local destinations in the vicinity of the site and assesses the opportunity to access these facilities by non-car modes. It demonstrates that there is a range of facilities (retail, education, health, employment and leisure) within reasonable walking and cycling distance of the site, enabling future residents to access these facilities by non-car modes.

Table 5.3: Key Destinations and Local Facilities

Type of Facility	Destination	Approximate Distance from Site (m)	Walking Distance	Cycling Distance
Leisure	Beefeater Rusty Cutter Restaurant	900	✓✓	✓✓✓
	Bedhampton Mariners Cricket Club	850	✓✓	✓✓✓
	Havant Leisure Centre	2600	✓	✓✓✓
	Havant Rugby Football Club	1650	✓✓	✓✓✓
	The Swan Inn Restaurant	1700	✓✓	✓✓✓
	Havant Park	2700	✓	✓✓✓
	Recreation Ground	1200	✓✓	✓✓✓
Employment	Volvo Cars Havant	1300	✓✓	✓✓✓
	Industrial Estate	2500	✓	✓✓✓
	Langstone Technology Park	3000	✓	✓✓✓
	EndEavour Business Park	3100	✓	✓✓✓
	Havant Town Centre	2300	✓	✓✓✓
	Havant Industrial Estate	2200	✓	✓✓✓
Retail	Belmont Barber Shop	900	✓✓	✓✓✓
	Deep Blue Takeaway	1150	✓✓	✓✓✓
	Tesco Extra	2500	✓	✓✓✓
	Asda Superstore	2500	✓	✓✓✓
	Aldi	2300	✓	✓✓✓
	Havant Town Centre	2300	✓	✓✓✓
	Post Office	1300	✓✓	✓✓✓
	Convenience Store	1250	✓✓	✓✓✓
Education	Havant College	2100	✓	✓✓✓
	Trosnant Junior School	2400	✓	✓✓✓
	Bidbury Junior School	1650	✓✓	✓✓✓
	Bidbury Infant School	1650	✓✓	✓✓✓
	St Thomas More's Pre School	1700	✓✓	✓✓✓
	Barncroft Primary School	1900	✓✓	✓✓✓
	South Down College	3500	-	✓✓✓
	Bosmere Junior School	2900	✓	✓✓✓
Health	Rowlands Pharmacy	1150	✓✓	✓✓✓
	Damira Dental Care	2700	✓	✓✓✓
Others	St Thomas Church	700	✓✓✓	✓✓✓
	Saint Nicholas Church	1000	✓✓	✓✓✓
	Bedhampton Methodist Church	1300	✓✓	✓✓✓

Note to walking distance column: ✓✓✓ up to 800m distance and reasonable cycle distance, ✓✓ - 800m – 2km distance, ✓ 2km – 3.2km – “maximum” walking distance.

5.3.3 Portsmouth and Chichester city centres which offer further employment, retail, health and leisure services that can be reached by a short (approx. 20 minute) train journey. Bedhampton railway station can be accessed on foot or by cycle, and the Number 21 and 23 buses provide excellent bus access.

5.3.4 All destinations included in the table above are accessed via eastbound travel on Lower Road, with the sole exception being the Beefeater Rusty Cutter Restaurant, where users would travel westbound towards the rusty Cutter roundabout.

5.4 Pedestrian Improvements for Routes to school

5.4.1 As part of the Phase 1 planning application a 'Routes to School Audit' was undertaken. To satisfy HCC previous concerns a scheme was prepared which shows:

- A potential footway connection on Lower Road (at the Lower Road / Brookside Road / Bidbury Lane junction) along with a short length of footway and tactile paving on the north and south side of the road;
- A potential widening of the footway on the south side of Lower Road / Bidbury Lane tying back into the existing footway on Bidbury Lane;
- A potential localised kerb re-alignment at the bottom of the path leading from Bidbury Lane through to Bedhampton Road to provide improved visibility for pedestrians on their home bound journey in the traffic direction; and
- The potential introduction of tactile paving at the junction of Bedhampton Road and Kings Croft Lane.

5.4.2 The above improvement works scheme is shown in drawing **ITB12174-GA-007**. The applicant agreed to make a financial contribution under Section 106 which would allow HCC to bring the works (or a variation of them) forward as part of the first phase of development.

5.5 Summary

5.5.1 The analysis in this section confirms that the site is located within acceptable walking and/or cycling distance of a range of essential and everyday facilities including primary education, local shopping facilities and employment. Further facilities in Portsmouth and Chichester city centres including additional employment, retail and leisure can be accessed by a short bus or train journey.

- 5.5.2 The applicant has also agreed to contribute towards a series of physical improvements to walking routes to schools.
- 5.5.3 The development proposal therefore complies with current local and national transport policy, by promoting development in a location where there is accessibility to a range of destinations by a choice of modes of transport.

SECTION 6 LOWER ROAD TRAVEL ASSESSMENT

6.1 Introduction

6.1.1 To the north east of the proposed site there is a section of Lower Road which is shared space for all users (approximate 50m of highway without dedicated footways). As part of the first phase of development it was agreed with HBC and HCC that this shared surface environment is suitable to continue to serve the first phase of development. The reasons being that this section of Lower Road exhibit all of the three criteria identified in the Manual for Streets (para. 7.2.14) where such shared surfaces work well, i.e.:

- i "In short lengths, or where they form cul-de-sacs;
- ii Where the volume of motor traffic is below 100 vehicles per hour (vph) (peak); and
- iii Where parking is controlled or it takes place in designated areas."

6.1.2 This is backed up by the appeal decision in which the inspector states:

"The shared use of Lower Road was apparent at the times of my site visits. I observed all user group types on the highway, including highway users meeting and passing each other. I did not observe pedestrians or cyclists acting in ways, such as hurrying or edging along the highway, that would indicate they perceived an undue risk on the shared surface."¹

6.1.3 Due to the comments raised in the public consultation relating to the first phase of development regarding the above, including concern with the safety and usage of Lower Road by pedestrians and cyclists, further surveys have been undertaken along Lower Road. The surveys have been reviewed and assessed in a similar manner to the assessments in the planning application for the first phase of development, these are detailed within this section.

6.1.4 In addition, Lower Road (including the shared surface section) has an impeccable safety record (ref: crashmap.co.uk – no recorded injury accidents between 1999 and 2017). The road is street lit and has forward visibility to pedestrians of at least 22m, this is commensurate to an 18mph design speed.

¹ Para 54 of the Appeal decision (Ref: APP/X1735/W/20/3259067)

6.2 Surveys

Automatic Traffic Counter Survey

- 6.2.1 Automatic Traffic Counter (ATC) surveys were undertaken on Lower Road for a period of one week between Friday 7 and Thursday 13 October 2016, and Thursday 1st and Wednesday 7 July 2021 to record traffic volumes and speeds.

Pedestrian and Cycle Surveys

- 6.2.2 To understand the current pedestrian and cycle demand, a four-day survey was undertaken and provided data for each day (0700 – 1900). The survey was undertaken between Thursday 1st and Sunday 4 July 2021 to gather information on both weekday and weekend usage. Video footage has also been obtained to understand the routes taken by pedestrian and cyclists. Surveys were located to obtain information about the current movements on the section of Lower Road which has no dedicated footway provision.

Pedestrian and Cycle Movements from Forty Acre Farm Site

- 6.2.3 During the pre-application stage HCC requested that assessments along Lower Road need to consider the likely extra demand to Lower Road as a result of the Forty Acre development (Ref:18/00450) and additional suppressed demand catered for by the new crossing facilities to be implemented at the Rusty Cutter roundabout.
- 6.2.4 This scheme comprises 320 dwellings and a 66-bedroom care home. It is proposed to be accessed via two points on Havant Road. Offsite highway improvements include:
- Provision of 3m footway/cycleway along Havant Road
 - Extend existing footway/cycleway from Rusty Cutter roundabout up to junction of Bedhampton Hill and Rusty Cutter Beefeater restaurant
 - Upgrade to existing pedestrian crossing
 - Implementing new pedestrian island to facilitate east-west movements across Bedhampton Hill
 - Provision of signalised crossing across A3(M) NB on slip.
- 6.2.5 The TA for the Forty Acre site provides vehicular trip generation but no generation of the likely number of pedestrians or cyclists.

- 6.2.6 The offsite highway mitigation includes improvements for pedestrian and cyclists across the Rusty Cutter roundabout and includes an improved widened footway/cycleway on the western side of Bedhampton Hill with a crossing across Bedhampton Hill after the junction of Maple Wood. With these improvements proposed for pedestrians and cyclists, the expected demand is likely to be predominantly along Bedhampton Hill towards the centre of Bedhampton rather than along Lower Road. Therefore no additional pedestrian or cyclist trips have been added along Lower Road associated with the Forty Acre site or the new crossing facility, to ensure a robust assessment is undertaken when comparing these travel modes against the volume of motorised vehicles.

Pedestrian Movements

- 6.2.7 Across the four-day survey period, a total of 538 two-way daily pedestrian movements were recorded (this is higher than the previous survey undertaken in 2018, with 403 two-way pedestrian movements). **Table 6.1** provides a summary of survey results for each day. The morning peak and evening peak hours have been established separately for each day to demonstrate the different profiles of pedestrian movements across the four days. The survey data is in **Appendix I**.

Table 6.1: Pedestrian Movements (Peak Pedestrian Hours)

Date of Survey	Location				Two-Way
	Movement 1		Movement 2		
	Lower Road (South to North)		Lower Road (North to South)		
Thursday 1 st July	AM Peak Hour 07:15-08:15	12	AM Peak Hour 07:15-08:15	8	20
	PM Peak Hour 16:30-17:30	5	PM Peak Hour 17:15-18:15	10	15
	Daily 07:00-19:00	51	Daily 07:00-19:00	63	114
Friday 2 nd July	AM Peak Hour 08:00-09:00	6	AM Peak Hour 08:45-09:45	9	15
	PM Peak Hour 16:30-17:30	10	PM Peak Hour 17:30-18:30	11	21
	Daily 07:00-19:00	61	Daily 07:00-19:00	58	119
Saturday 3 rd July	AM Peak Hour 10:00-11:00	7	AM Peak Hour 07:45-08:45	8	15
	PM Peak Hour 14:15-15:15	10	PM Peak Hour 16:00-17:00	14	24
	Daily 07:00-19:00	49	Daily 07:00-19:00	73	122
Sunday 4 th July	AM Peak Hour 09:30-10:30	11	AM Peak Hour 08:45-09:45	11	22
	PM Peak Hour 16:30-17:30	13	PM Peak Hour 16:30-17:30	12	25
	Daily 07:00-19:00	85	Daily 07:00-19:00	98	183
01/07/21 – 04/07/21	Total	246	Total	292	538

Source: Nationwide Data Collection Survey.

- 6.2.8** During the weekdays, there were on average 117 two-way daily pedestrian movements (this is 36 additional movements on average compared to the previous survey results).
- 6.2.9** The morning peak hour for pedestrian movements varies with the highest number of pedestrians ranging between 6 and 12 per hour (one-way) across the two days. During the evening pedestrian activity was similar with between 5 and 11 pedestrian movements (one-way) per hour.

6.2.10 During the weekend, the average number of two-way daily movements were recorded at 153 pedestrians. Morning peak hour movements were recorded between 7 and 11 per hour (one-way), with the evening peak hour ranging between 10 and 14 per hour (one-way). It should be noted that the pedestrian usage was higher on the Sunday in comparison to the three other surveyed days.

Cyclist Movements

6.2.11 Across the four-day survey period there were a total of 401 two-way cycle movements (this is higher than the previous survey undertaken in 2018, with 384 two-way cycle movements). **Table 6.2** shows the number of cyclists observed during the survey period across two weekdays and a weekend. This route is attractive for cyclists due to Lower Road being part of a signposted cycle network which provides a connection to Portsmouth. The survey data is included within **Appendix I**.

Table 6.2: Cyclists Movements (Peak Cycle Hours)

Date of Survey	Location				Two-Way
	Movement 1		Movement 2		
	Lower Road (South to North)		Lower Road (North to South)		
Thursday 1 st July	AM Peak Hour 08:45-09:45	10	AM Peak Hour 07:15-08:15	9	19
	PM Peak Hour 16:15-17:15	14	PM Peak Hour 17:00-18:00	19	33
	Daily 07:00-19:00	64	Daily 07:00-19:00	85	149
Friday 2 nd July	AM Peak Hour 08:30-09:30	7	AM Peak Hour 07:15-08:15	6	13
	PM Peak Hour 16:30-17:30	5	PM Peak Hour 16:15-17:15	13	18
	Daily 07:00-19:00	43	Daily 07:00-19:00	60	103
Saturday 3 rd July	AM Peak Hour 09:00-10:00	8	AM Peak Hour 08:45-09:45	12	20
	PM Peak Hour 13:00-14:00	7	PM Peak Hour 16:00-17:00	7	14
	Daily 07:00-19:00	40	Daily 07:00-19:00	54	94
Sunday 4 th July	AM Peak Hour 10:30-11:30	5	AM Peak Hour 10:15-11:15	7	12

Date of Survey	Location				Two-Way
	Movement 1		Movement 2		
	Lower Road (South to North)		Lower Road (North to South)		
	PM Peak Hour 15:15-16:15	6	PM Peak Hour 14:15-15:15	4	10
	Daily 07:00-19:00	26	Daily 07:00-19:00	29	55
01/07/21 – 04/07/21	Total	173	Total	228	401

Source: Nationwide Data Collection Survey.

- 6.2.12** During the weekdays, there were on average a total of 126 two-way daily cycle movements (this is 24 additional movements on average compared to the previous survey results).
- 6.2.13** The weekday morning peak hour for cycle movements varies but is generally within the traditional peak period. The highest number of cyclists in the morning peak hour ranged between 6 and 10 across the two days (one-way). During the evening, this was slightly higher with between 5 and 19 cyclist movements in the hour (one-way).
- 6.2.14** During the weekend, the average number of two-way cycle movements was recorded at 75 per day.
- 6.2.15** The weekend morning peak hour movements ranges between 5 and 12 per hour (one-way), with the evening peak hour ranging between 4 and 7 cyclists per hour (one-way).
- 6.2.16** Out of the four surveyed days, there were significantly more two-way cyclist movements on the Thursday (with around 150 cycle movements), compared to the Sunday with 55 two-way cyclist movements. Friday and Saturday movements were broadly similar at around 100 two-way movements.

Pedestrian and Cyclist Movements vs. Vehicle Movements

- 6.2.17** **Table 6.3** shows a comparison between the combined number of pedestrian and cyclist movements, and the number of vehicles at the peak hours of vehicular movements.

Table 6.3: Pedestrians and Cyclists vs. Vehicles (in vehicle peak hours)

Date of Survey	Pedestrians and Cyclists (two-way)			Vehicle Movements (two-way)			Daily Total (All Types)
	AM Peak 07:45-08:45	PM Peak 16:15-17:15	Daily Total 07:00-19:00	AM Peak 07:45-08:45	PM Peak 16:15-17:15	Daily Total 07:00-19:00	
Thursday 1 st July	21	38	263	48	58	509	772
Friday 2 nd July	19	28	222	40	41	498	720
Weekday Average	20	33	243	44	50	504	746
Date of Survey	AM Peak 10:45-11:45	PM Peak 16:15-17:15	Daily Total 07:00-19:00	AM Peak 10:45-11:45	PM Peak 16:15-17:15	Daily Total 07:00-19:00	Daily Total
Saturday 3 rd July	19	11	216	50	43	405	621
Sunday 4 th July	24	21	238	39	33	350	588
01/07/21 – 04/07/21	83	98	939	177	175	1762	2701

Summary

6.2.18 Tables 6.1, 6.2 and 6.3 demonstrate that there are high levels of both pedestrians and cyclists using Lower Road.

6.2.19 The number of pedestrian and cycling movements as a total of all movements on Lower Road across the day ranges between 31% (Friday 222/720) and 41% (Sunday 238/588) of the total number of movements i.e. it is still a genuine shared surface during the week and at weekends.

6.2.20 When comparing the number of pedestrian and cycle movements against the number of vehicle movements in the vehicular peak hour, there is also a high proportion of pedestrian and cyclists at these busy times. On average, between 31% (Morning peak: 20/64) and 40% (Evening peak: 33/83) of all peak hour movements are found to be pedestrians and cyclists, whilst at the weekend between 20% (Saturday evening: 11/54) and 38% (Sunday morning: 24/63) of peak hour movement are pedestrians and cyclists.

6.2.21 Put simply, the percentage of pedestrians and cyclists currently using Lower Road are:

- Weekday morning peak 31%
- Weekday evening peak 40%
- Weekend peak between 20% - 38%

6.2.22 Lower Road is a genuine shared surface at all times and days.

6.3 Pedestrian Routing and Safety

6.3.1 Video footage was also obtained from the survey to understand how pedestrians use the short section of Lower Road which does not have a dedicated footway. From the video footage the majority of pedestrians walk on along the western side of Lower Road to continue on the footway to the north. **Images 6.1** and **6.2** provide examples of recorded pedestrian use in Lower Road.

Image 6.1: Pedestrian Walking on Lower Road (Facing South)



Source: Pedestrian Surveys

Image 6.2: Pedestrian Walking on Lower Road (Facing North)



Source: Pedestrian Surveys

- 6.3.2** Pedestrians are observed to use the short length of Lower Road (without a footway) in a very regular and conventional way i.e. by walking on the western side of Lower Road. Using this route, pedestrians can see the recommencement of the footway before leaving the one which links to the site. The length of Lower Road without a footway is 50m, roughly a 35 second walk.

Pedestrian Safety

- 6.3.3** Personal Injury Accident (PIA) data within Section 3 of this TA has showed that there were no recorded collisions within the vicinity of the site or along the shared section of Lower Road.
- 6.3.4** A study of crashmap.co.uk was also undertaken which demonstrated that there have been no accidents recorded along Lower Road between 1999 and 2020, i.e. it has an impeccable safety record for over 20 years.

6.4 Development Impact

- 6.4.1** The development will increase the amount of pedestrian, cycle and vehicular activity along Lower Road. The assessment below quantifies the likely impact including the first phase as a consented development.

Assessment

6.4.2 Using the vehicular trip rates in this Transport Assessment, pedestrian and cycle trip rates in **Appendix I** and the vehicular, pedestrian and cyclist predicted trips associated with Phase 1 (Report refs ITB12174-003 and ITB12174-006) an assessment has been carried out of the 'post development' scenario to understand the number of pedestrians and cyclists against the number of vehicles.

6.4.3 **Table 6.4** shows the average existing weekday vehicle and pedestrian / cycle movements on Lower Road alongside the Phase 1 and the forecast number of vehicles and pedestrians / cycles.

Table 6.4: Existing, with Phase 1 and Development Pedestrians and Cyclists vs. Vehicles

Weekday Average	Vehicular Movements				Cyclist Movements				Pedestrian Movements			
	Existing	Phase 1	Proposed Development	Total	Existing	Phase 1	Proposed Development	Total	Existing	Phase 1	Proposed Development	Total
07:45 – 08:45	44	26	23	92	10	2	1	22	11	16	14	46
16:15 – 17:15	50	26	23	98	24	2	1	36	10	7	6	35
07:00 – 19:00	504	227	218	949	100	13	6	119	135	84	76	295

Source: Consultant calculations. Proposed Development based on 45 homes.

6.4.4 The above table demonstrates that the amounts of pedestrians and cyclists using Lower Road against the number of vehicles will continue to be high when the development is completed along with phase 1. The forecast number of pedestrian and cycling movements as a total of all forecast movements on Lower Road will range between 43% (Morning peak: 46 pedestrians and 22 cyclists / 160 all movements) and 42% (Evening peak: 35 pedestrians and 36 cyclists / 169 all movements) in the evening peak hour.

6.4.5 **Table 6.4** also shows that over a day, the amounts of pedestrians and cyclists using Lower Road against the number of vehicles will continue to be high when the development is completed. Some 30% of daily movements will be in the form of pedestrians and cyclists (295 pedestrians and 119 cyclists / 1363) i.e. it will continue to be a genuine shared surface during at busy times and throughout the day.

6.4.6 Therefore, the percentage of pedestrians and cyclists forecast to use Lower Road when the development complete will be higher than it is now with a proportionate increase in vehicles, pedestrian and cyclists. The breakdown is:

- Weekday morning peak 43%
- Weekday evening peak 42%
- Weekday daily 30%

6.5 **Summary**

6.5.1 Due to the comments raised in the public consultation relating to the first phase of development regarding the shared section of Lower Road, further surveys and a new analysis has been undertaken including the first phase of development.

6.5.2 Lower Road still retains an impeccable safety record, it will continue to be a quiet and safe environment when the proposed development is complete with a mix of pedestrian, cyclists and vehicles using the shared surface, with no noticeable impact on the operation of Lower Road. As deemed acceptable in the consent of the first phase of development, no physical interventions, highway improvements or mitigation is required along this section of Lower Road. Additional highway signs to indicate the shared surface can be installed if deemed suitable by HCC Highways.

SECTION 7 TRAFFIC IMPACT

7.1 Trip Rates and Vehicle Generation

7.1.1 As part of the Transport Assessment for the first phase of development the following trip rates were extracted from the TRICS database.

Table 7.1 – Phase 1 Trip Rates

Time	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Trip Rate (Houses Privately Owned and Mix Affordable)	0.133	0.385	0.518	0.348	0.169	0.517

Source: i-Transport report ITB12174-005 R.

7.1.2 The above agreed trip rates were based on the following sit reselection criteria:

- Mixed private/affordable housing only;
- Region – All regions except Greater London, Ireland, Scotland & Wales;
- Site size – Between 6 and 100 dwellings;
- Location – Edge of town area/Suburban area; and
- Survey days – Tuesday, Wednesday, and Thursdays.

7.1.3 Given the time that has lapsed since the original TRICS assessment was undertaken, a review of the latest version of TRICS database (version 7.7.4) with new survey sites was undertaken as part of the scoping study, using the same selection criteria for a comparison. The result of the new trip rate assessment is provided in **Table 7.2** below.

Table 7.2 – TRICS New Trip Rates

Time	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Trip Rate (Houses Privately Owned and Mix Affordable)	0.129	0.387	0.516	0.336	0.181	0.517

Source: TRICS 7.7.4.

7.1.4 It can be seen in the above table that the trip rates extracted from the latest version of TRICS are very similar to that used in the first phase assessment. To ensure consistency, the trip rates used in the first phase TS have been used for the second phase of development, this approach was confirmed acceptable by HCC as part of the scoping exercise. The TRICS outputs are included within **Appendix J**. The resultant Phase 1 and proposed development vehicle generation is presented in **Table 7.3**.

Table 7.3: Proposed Development Vehicular Trips

Phase	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	In	Out	Total	In	Out	Total
Phase 1 Vehicle Trips (50 units)	7	19	26	17	8	25
Phase 2 Vehicle Trips (43 units)	6	17	23	15	7	22
Total Vehicle Trips to/from Lower Road	13	36	49	32	15	47

Source: Consultant calculations.

7.1.5 The table above demonstrates that the proposed development could generate circa 23 two-way vehicle trips in both the AM and PM peak hours. This equates to a vehicle trip approximately every two minutes in both the morning and evening peak hours. The combined vehicle trips from Phase 1 and the proposed development could result in circa 49 two-way vehicle trips in the AM peak hour and circa 47 two-way vehicle trips in the PM peak hour to/from Lower Road.

7.2 Study Area and Base Traffic Flows

7.2.1 The study area for the junction assessments was agreed with HCC through the scoping process and comprises the following junctions:

- The Phase 1 site access with Lower Road;
- Brookside Road / Bedhampton Road priority junction; and
- Bedhampton Road / Bedhampton Hill roundabout junction.

7.3 Base traffic flows

7.3.1 The baseline traffic flows as detailed in Section 3 of this TA are shown in **Appendix E**.

7.4 Committed Developments

7.4.1 The following proposed developments have been requested by HCC to be included within assessments as committed developments:

- i Land South of Lower Road, Bedhampton (Phase 1) 50 residential dwellings (Ref: APP/X1735/W/20/3259067); and
- ii The proposed Co-op at 37 Belmont Grove, Havant, PO9 3PT (Ref: APP/20/00316).

Land South of Lower Road

7.4.2 The vehicle trips associated with the first phase of the Lower Road development are detailed earlier in this section and will be included in the future year 2026 assessments.

Proposed Co-op 37 Belmont Grove

7.4.3 The proposed development at 37 Belmont Grove is a change of use from A3 (restaurant) to A1 (foodstore) along with single story side extensions and alteration to access.

7.4.4 The transport technical note submitted with the application states *"that there will be a reduction in the quantum of vehicle, cycle and pedestrian trips"*. The development proposal includes a revised layout of the existing car park to create 20 car parking spaces, this appears to be five fewer than existing.

7.4.5 The TA that accompanied the planning application concluded that *"any trips to the existing restaurant could be deducted from the anticipated trips rates for the retail store... it is unlikely that the development will generate many new trips. Any new trips generated by the proposals would fall within the daily fluctuations of traffic along the highways in the vicinity of the site."* Furthermore, it was confirmed that *"It is generally the case that trips to a convenience store may not necessarily be wholly primary trips (i.e. a trip to the convenience store only) and that they could be secondary or pass by trips (i.e. a trip to the neighbour commercial units or part of another journey)." The impact on the local highway as a result of this site is negligible, this development has therefore not been included as a committed development.*

Forty Acre Farm

7.4.6 In the consultation of the first phase of development, HCC requested that the applicant include the Forty Acre Farm development (Ref:18/00450) as a committed development in the traffic modelling. This scheme comprises 320 dwellings and a 66-bedroom care home which is included

in the emerging HBC Local Plan. To be consistent with HCC's request relating to the first phase of development, the traffic from the Forty Acre Farm development has now been included and is covered below.

- 7.4.7** The Forty Acre Farm Transport Assessment has been reviewed and whilst its study area does not extend as far as the Bedhampton Road/ Bedhampton Hill roundabout, it does include the A3(M)/Rusty Cutter junction. The traffic analysis indicates that the development will result in seven vehicle departure trips and four vehicle arrivals using Bedhampton Hill in the morning peak hour and five vehicle arrival and departure trips in the evening peak hour - which equates to one additional vehicle every five or six minutes in the very busiest hours of the day. This will not have any noticeable impact on the junction operation, but the trips have been included in the future 2026 year assessment assuming all will go between Bedhampton Hill and Bedhampton Road for robustness.

7.5 Traffic Growth

- 7.5.1** Factors to allow for traffic growth from 2017 (the year base traffic surveys were undertaken) to future years of 2021 and 2026 (for traffic along Bedhampton Road and at the B2177 roundabout) in line with comments from HCC as part of the scoping exercise, have been derived from the latest available, National Transport Model (NTM) using the RTF Scenario 1 dataset, with adjustments made for local factors, from the TEMPro database. The geographical 'Super Output Area' (mid layer) of 'Havant 018', within which the site is located, has been used to calculate the relevant growth factors, and principal road type selected. Alternative assumptions have been applied to reduce the future households by up to the level of the phase one development (50 units) and Land at Forty Acres Farm (320 units) to ensure no double counting in the future year 2026.
- 7.5.2** The TEMPro growth factors used in the future year assessments for are contained in **Table 7.4**.

Table 7.4: TEMPro Local Growth Factors (Havant 018)

Scenario	2017-2021	2017-2026
AM Peak	1.0411	1.0502
PM Peak	1.0349	1.0399

Source: TEMPro version 7.2b, RTF Scenario 1 Dataset.

7.5.3 The 2021 and 2026 base traffic flows with committed development are shown graphically in **Appendix K**.

7.6 Development Traffic Distribution and Assignment

7.6.1 Traffic distribution and assignment for the Phase 1 development was based upon two separate methodologies to consider the destinations of commuting/business trips and other trip purposes. Using a combination of National Travel Survey data, Census data (for the Havant 018 MSOA) and a P/T2 gravity model (35 minute drive), it was possible to ascertain the likely distribution of vehicle trips from the development. Given the proximity of the proposed second phase and linking with the first, the same traffic distribution and assignment is proposed, this methodology was acceptable to HCC Highways as part of the pre-application scoping exercise (subject to the phase 1 appeal).

7.6.2 The likely journey purpose for the generated car driver peak hour trips has been determined using data derived from the Department for Transport National Travel Survey (NTS) and the proportion of peak hour trips by journey purpose by car is presented in **Table 7.5**.

Table 7.5: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

Trip Purpose	AM Peak (0730-0830)	PM Peak (1630-1730)
Commuting/Business	40%	45%
Other Journey Purposes	60%	55%
Total	100%	100%

Source: Car driver trip start time by trip purpose (Monday to Friday only): Great Britain, 2010/14, National Travel Survey, DfT, 2015 (same methodology as Phase 1).

7.6.3 Traffic distribution is based on 46% of the peak vehicular trips being for employment journeys with the remaining 54% of the vehicle trips assumed to be for all other purposes, including education, shopping, leisure and personal business trips.

7.6.4 The combined commuting/business trips and other trip purpose distribution is presented in **Table 7.6**.

Table 7.6: Trip Distribution and Assignment Assessment

Destination	Employment Trips %	Non-Commuter Trips %	All Combined Trips %
Bedhampton/Havant	10.24%	31.78%	42.02%
Portsmouth	12.20%	10.03%	22.23%
Waterlooville/Horndean	5.97%	5.96%	11.93%
Chichester	2.96%	0.41%	3.36%
Emsworth	0.87%	1.68%	2.55%
Hayling Island	1.13%	1.06%	2.19%
Fareham	1.22%	0.47%	1.69%
Gosport	0.87%	0.80%	1.67%
Portchester	0.41%	1.21%	1.62%
Petersfield	0.96%	0.60%	1.56%
Hamble/Bursledon/Salisbury Green	1.46%	0.09%	1.55%
Southampton	0.91%	-	0.91%
Eastleigh	0.81%	-	0.81%
Hedge End	0.20%	0.46%	0.67%
Winchester	0.54%	-	0.54%
Bordon	0.30%	0.24%	0.53%
London	0.41%	-	0.41%
Bishop's Waltham	0.26%	0.12%	0.38%
Midhurst	0.20%	0.08%	0.28%
Basingstoke/Hook	0.28%	-	0.28%
Arundel/Littlehampton	0.24%	-	0.24%
Farnborough/Aldershot/Camberley	0.22%	-	0.22%
Bracknell	0.18%	-	0.18%
Crawley/Horsham	0.18%	-	0.18%
Alton	0.17%	-	0.17%
Andover	0.13%	-	0.13%
Reigate/Dorking/Leatherhead/Banstead	0.13%	-	0.13%
Haslemere	0.09%	0.02%	0.11%
Woking	0.09%	-	0.09%
Fleet/Blackwater	0.07%	-	0.07%
Guildford	0.07%	-	0.07%
Farnham	0.04%	-	0.04%
Burgess Hill	0.02%	-	0.02%
Shoreham-by-Sea	0.02%	-	0.02%
Worthing	0.02%	-	0.02%
Other	1.13%	-	1.13%
TOTAL	45.00%	55.00%	100.00%

Source: Nomis Web / Google Maps. i-Transport ref: ITB12174-012 R.

7.6.5 Based on the traffic distribution in Table 7.6, the traffic assignment on the local highway network for the development is detailed in **Table 7.7** and shown graphically in **Appendix L**.

Table 7.7: Development Traffic Assignment (based on 43 units)

Peak Hour	Route	% Traffic	Arrivals	Departures
AM	Lower Road (east)	100%	6	17
	Brookside Road (north)	73%	4	12
	Bedhampton Hill (south west)	35%	2	6
	Bedhampton Road (east)	24%	1	4
	Portsmouth Hill Road (west)	14%	1	2
	Bidbury Lane (east)	27%	2	4
	Bedhampton Road (south east)	27%	2	4
PM	Lower Road (east)	100%	15	7
	Brookside Road (north)	73%	11	5
	Bedhampton Hill (south west)	35%	5	3
	Bedhampton Road (east)	24%	4	2
	Portsmouth Hill Road (west)	14%	2	1
	Bidbury Lane (east)	27%	4	2
	Bedhampton Road (south east)	27%	4	2

Source: Census 2011 and Consultant's Estimates

7.6.6 The analysis above demonstrates that all development traffic will head onto Lower Road with the majority of traffic heading north onto Brookside Road and towards the B2177 roundabout.

7.7 Design Year Traffic Flows

7.7.1 The three assessment scenarios to be tested (agreed with HCC Highways during scoping stage), are summarised below:

- 2021 base traffic flows – taken directly from the traffic surveys or growthed from previous surveys;
- 2026 future year baseline traffic flows – calculated as the observed traffic flows multiplied by the network traffic growth factor to 2026 plus committed development traffic; and

- 2026 with development traffic flows – the 2026 future year baseline traffic flows plus the development traffic assignment.

7.7.2 The 'with development' scenarios are presented in **Appendix M**.

7.8 Traffic Impact Analysis

Approach

7.8.1 Operational assessments have been undertaken using the TRL program 'Junctions 10' for:

- The Phase 1 site access with Lower Road;
- Brookside Road / Bedhampton Road priority junction; and
- Bedhampton Road / Bedhampton Hill roundabout junction.

Phase 1 Site Access / Lower Road

7.8.2 The operation of the Phase 1 site access with Lower Road has been considered for a future year of 2026 with committed development (including Phase 1) and the proposed development. Junctions 10 operational assessments for the 2026 'with development' scenario are summarised in **Table 7.8** below and the modelling output is in **Appendix N**.

Table 7.8: Phase 1 Site Access / Lower Road Junction – Modelling Results

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2026 'with development'						
Site Access	0.07	0	8	0.03	0	8
Lower Road	0.00	0	0	0.00	0	0

Note: maximum delay per arriving vehicle in modelled peak hour (seconds). Modelling based on 45 homes.

7.8.3 **Table 7.8** shows that the Phase 1 site access will easily accommodate the proposed development traffic as well as the Phase 1 traffic in the morning and evening peak hours without queuing or delay.

Brookside Road / Bedhampton Road Priority Junction

- 7.8.4 The operation of the Brookside Road / Bedhampton Road priority junction has been tested to establish its current (base) operational performance (2021), a future year of 2026 with committed development (including Phase 1) excluding proposed development, and then in 2026 with the development traffic included. Junctions 10 operational assessments for the scenarios are summarised in **Table 7.9** and the modelling output is in **Appendix O**.

Table 7.9: Brookside Road / Bedhampton Road Priority Junction – Modelling Results

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2021 'base'						
Brookside Road	0.15	<1	8	0.06	<1	8
Bedhampton Road	0.10	<1	8	0.09	<1	7
2026 'without development'						
Brookside Road	0.18	<1	9	0.08	<1	8
Bedhampton Road	0.10	<1	8	0.11	<1	7
2026 'with development'						
Brookside Road	0.21	<1	9	0.09	<1	8
Bedhampton Road	0.11	<1	8	0.12	<1	7

Note: maximum delay per arriving vehicle in modelled peak hour (seconds). Modelling based on 45 homes.

- 7.8.5 The results show that the Brookside Road / Bedhampton Road priority junction operates well and will easily accommodate the proposed development traffic in the morning and evening peak hours without queuing or delay.

Bedhampton Road / Bedhampton Hill Roundabout

- 7.8.6 The operation of the Bedhampton Road / Bedhampton Hill roundabout has been tested to establish its operational performance in 2021, in a future year of 2026 with committed development excluding proposed development and then in 2026 with the development traffic included. Junctions 10 operational assessments for the scenarios are summarised in **Table 7.10** and the modelling output is in **Appendix P**.

Table 7.10: Bedhampton Road / Bedhampton Hill Roundabout – Modelling Results

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2021 'base'						
Bedhampton Road	0.54	1	4	0.64	2	5
Bedhampton Hill	0.47	<1	5	0.56	1	6
Portsdown Hill Road	0.83	4	30	0.97	12	81
Maylands Road	0.33	<1	11	0.17	< 1	10
2026 'without development'						
Bedhampton Road	0.56	1	4	0.64	2	5
Bedhampton Hill	0.48	<1	5	0.57	1	6
Portsdown Hill Road	0.85	5	33	0.98	13	90
Maylands Road	0.35	<1	11	0.17	<1	11
2026 'with development'						
Bedhampton Road	0.57	1	4	0.64	2	5
Bedhampton Hill	0.49	<1	5	0.57	1	6
Portsdown Hill Road	0.85	5	34	0.99	15	99
Maylands Road	0.35	<1	11	0.17	< 1	11
2026 'with development' – Comparison with 2026 Base						
Bedhampton Road	0.01	0	0	0.00	0	0
Bedhampton Hill	0.01	0	0	0.00	0	0
Portsdown Hill Road	0.00	0	1	0.01	2	9
Maylands Road	0.00	0	0	0.00	0	0

Note: maximum delay per arriving vehicle in modelled peak hour (seconds) Modelling based on 45 homes

7.8.7 The table above shows that the Bedhampton Road / Bedhampton Hill roundabout is currently busy during the evening peak period with Portsdown Hill Road being the approach arm experiencing the most queuing and delay. However, it will continue to operate within its theoretical capacity with the addition of the development traffic. The greatest impact will be in the evening peak period on Portsdown Hill Road where the queue is anticipated to increase by two vehicles.

7.8.8 The minor increases shown in the table above as a result of the proposed development will be within the daily flow variations and will not have any noticeable impact on the safety or operation of the local highway network, and certainly not a severe impact. The operational assessment

shows the existing network will continue to operate within theoretical capacity during the highway network peak hours.

7.9 Summary

- 7.9.1 In accordance with the pre-application and TA scope with HCC Highways, the traffic impact of the proposed development has been considered on the local highway network in the vicinity of the site.
- 7.9.2 The development is anticipated to generate circa 23 two-way vehicle movements during the weekday peak hour periods, equating to less one extra vehicle movement every two minutes. Including Phase 1 the vehicular traffic onto Lower Road during the peak hours is circa 49 two-way trips.
- 7.9.3 The development traffic has been assigned to the local highway network using a distribution based on a combination of the 2011 Census Travel to Work Data (for the proportion of peak hour trips that are work journeys) and a gravity model (for other journey purposes).
- 7.9.4 Operational assessments have been undertaken at the Phase 1 site access junction with Lower Road, Brookside Road/Bedhampton Road junction and Bedhampton Road/Bedhampton Hill roundabout, which are forecast to operate within the theoretical capacity with the addition of the development traffic. The greatest impact will be in the evening peak period on Portsdown Hill Road where the queue will increase by two vehicles.
- 7.9.5 Against this background, the development generated traffic can be accommodated on the local highway network and the residual impact of the development falls well short of the “severe” test set by the National Planning Policy Framework.

SECTION 8 SUMMARY AND CONCLUSIONS

8.1 Summary

- 8.1.1 Bargate Homes and Vivid Homes have appointed i-Transport LLP to provide highways and transportation advice, and to prepare this TA, in support of an outline planning application for the second phase of development at, Land west of Old Manor Farm, south of Lower Road, Bedhampton. The Phase 2 proposal includes up to 43 residential dwellings.
- 8.1.2 The site is located to the south of Lower Road, on the southern edge of Bedhampton. The site is bound by Old Manor Farm, a commercial premises and residential units to the north and the first phase of development to the east, in which the site is proposed to be accessed.
- 8.1.3 A planning application on the adjacent Phase 1 site was submitted in April 2019, it included a development of 50 new dwellings together with access, landscaping and open space. The site was granted planning permission via an appeal.
- 8.1.4 The phase 2 site was subject to pre-application advice from HCC, where appropriate HCC comments have been addressed within this TA.
- 8.1.5 The phase 2 site is in a suitable, accessible location for residential development. It has a good level of accessibility by non-car modes to a range of local everyday facilities and services including education, health, retail, leisure and employment facilities. Walking facilities in the vicinity of the site are of a good standard and continuous routes to these destinations are provided with a financial contribution being agreed as part of phase 1 towards improvements to walking routes to schools. Local roads are suitable for cycling and the site is within walking distance of regular bus routes. Frequent and regular rail services to destinations including Portsmouth, Chichester and central London are available from Bedhampton Station, which can be reached within recommended walking distance and cycle distances.
- 8.1.6 Site access is achievable through minor changes to the phase 1 site layout, with the permitted phase 1 access with Lower Road being suitable for the development of both phases.
- 8.1.7 A survey and assessment of pedestrian, cyclist and vehicle movements along Lower Road has been undertaken given the short section of shared space close to the site. The assessments showed that there is currently and will continue to be high levels of pedestrians and cyclists using Lower Road, concluding that Lower Road is a genuine shared space at all times.

8.1.8 The vehicular trip generation characteristics of the development have been assessed on a robust basis using trip rates from the TRICS trip generation database and agreed with HCC. In the peak hours the development is expected to result in the following increases in vehicular trips:

- 23 two-way vehicle movements in the morning peak hour, which equates to less than one vehicle every two minutes; and
- 22 two-way vehicle movements in the evening peak hour, which is again less than one vehicle every two minutes.

8.1.9 The vehicular trips generated by the development have been distributed to the local highway network using a comprehensive methodology assessing both a commuting and other trip purpose methodology and the site access junction and two other local junctions have been assessed on a worst case basis for a future year of 2026 with the development proposal and found to operate with no noticeable additional queuing or delay expected.

8.1.10 The assessment of the highway network demonstrates that the development traffic will amount to a minimal increase in local traffic flows which will be accommodated on the highway network without a noticeable, and certainly not a severe impact.

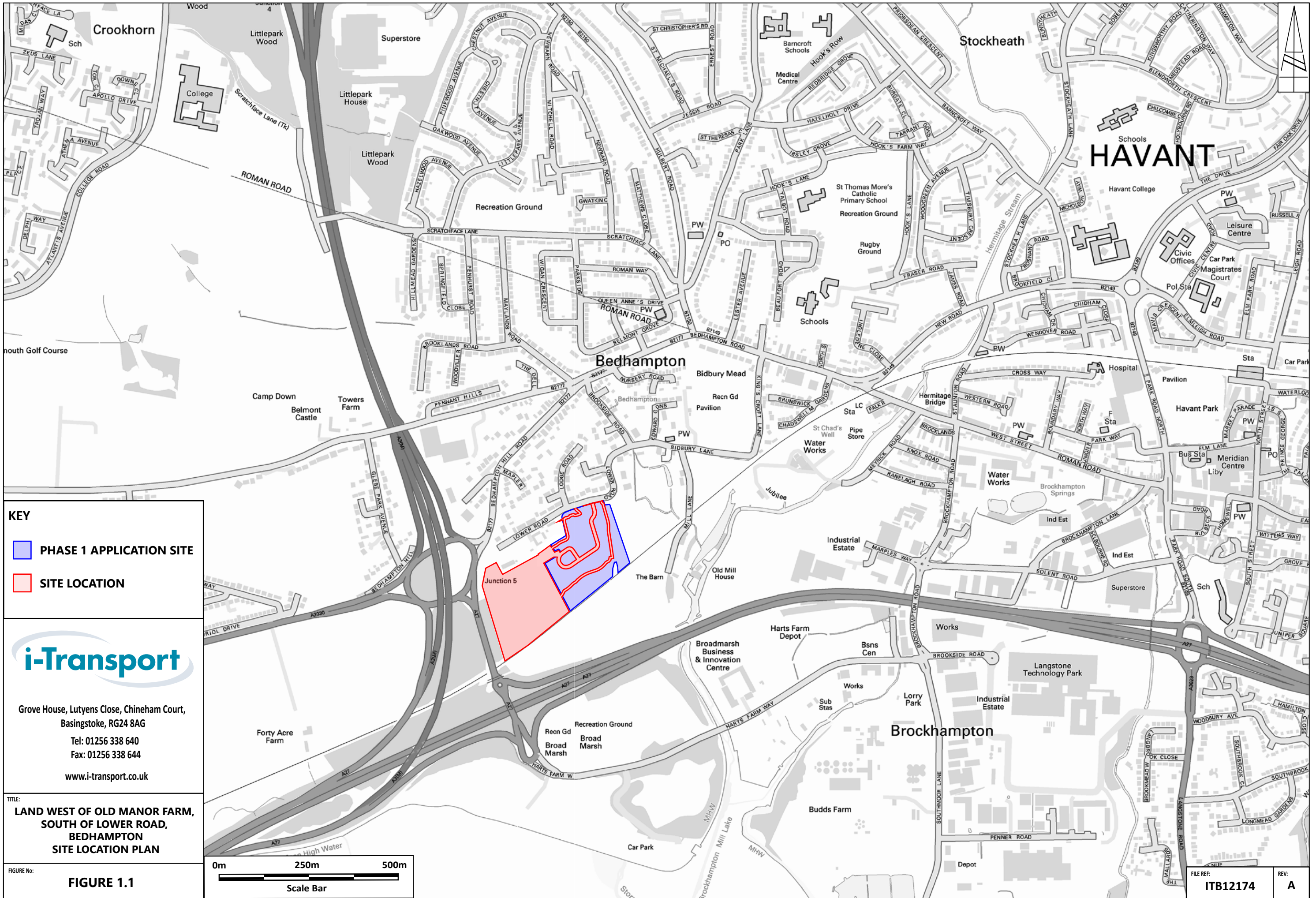
8.2 Conclusion

8.2.1 Against this background:

- The development is in a suitable location for new housing, with genuine and realistic opportunities for non-car travel.
- Safe and suitable access will be provided through Phase 1 to the east and onto Lower Road for all users.
- The traffic impact has been robustly assessed and, will be negligible and certainly less than severe.

8.2.2 This TA has demonstrated that the proposed development is consistent with sustainable objectives of national and local transport planning policy guidance and the development proposal is acceptable in transport terms.

FIGURES



 SITE LOCATION

 PHASE 1 APPLICATION SITE

 BEEFEATER RUSTY CUTTER RESTAURANT

 IMPERIAL PALACE RESTAURANT

 BEDHAMPTON MARINERS CRICKET CLUB

 HAVANT LEISURE CENTRE

 HAVANT RUGBY FOOTBALL CLUB

 THE SWAN INN RESTAURANT

 HAVANT PARK

 RECREATION GROUND

 VOLVO CARS HAVANT

 INDUSTRIAL ESTATE

 LANGSTONE TECHNOLOGY PARK

 ENDEAVOUR BUSINESS PARK

 HAVANT TOWN CENTRE

 HAVANT INDUSTRIAL ESTATE

 BELMONT BARBER SHOP

 DEEP BLUE BEDHAMPTON TAKEWAY

 TESCO EXTRA

 ASDA SUPERSTORE

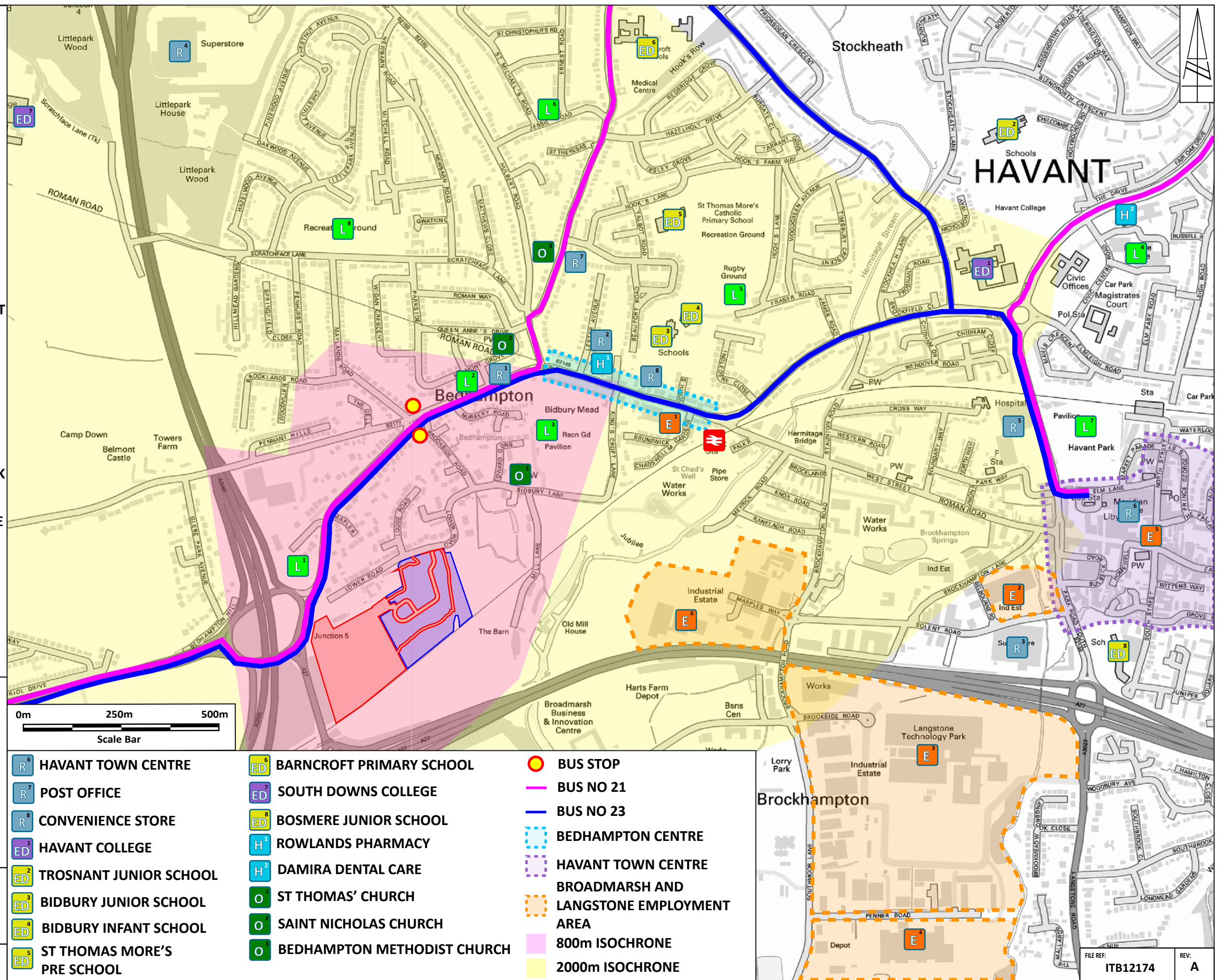
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**Grove House, Lutyens Close, Chineham Court,
Basingstoke, RG24 8AG
Tel: 01256 338 640
Fax: 01256 338 644
www.i-transport.co.uk**

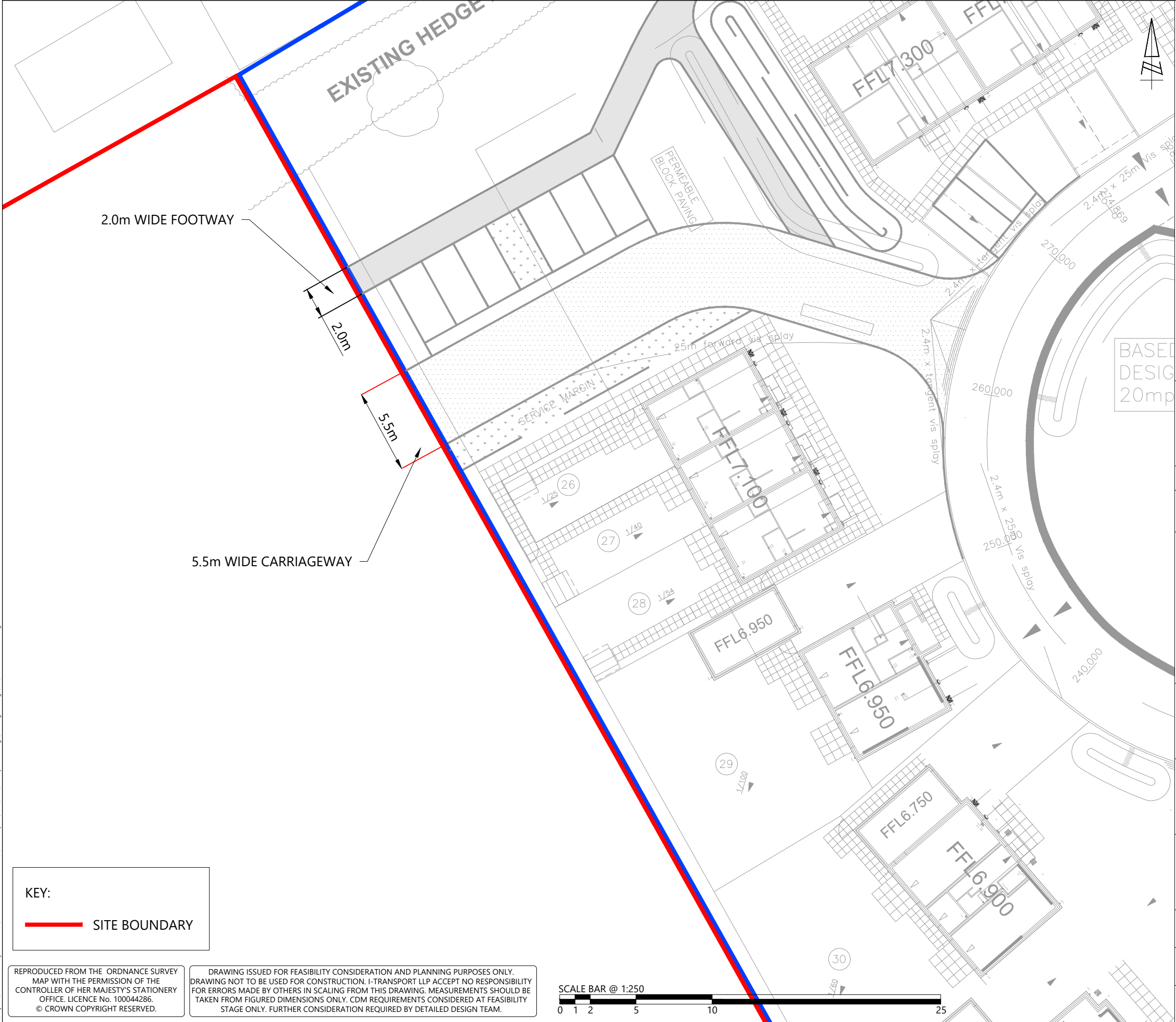
TITLE:
**LAND WEST OF OLD MANOR FARM,
SOUTH OF LOWER ROAD,
BEDHAMPTON
ACCESSIBILITY PLAN**

FIGURE No: **FIGURE 3.1**

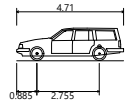
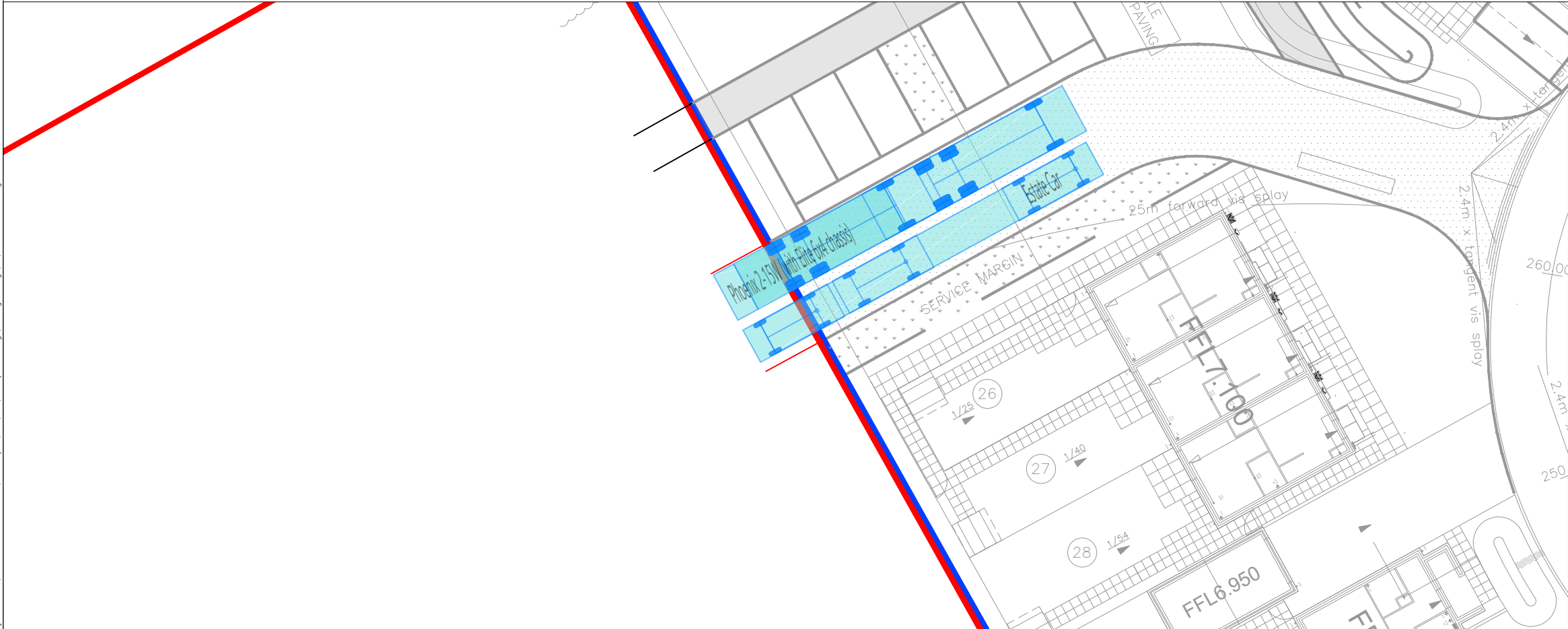
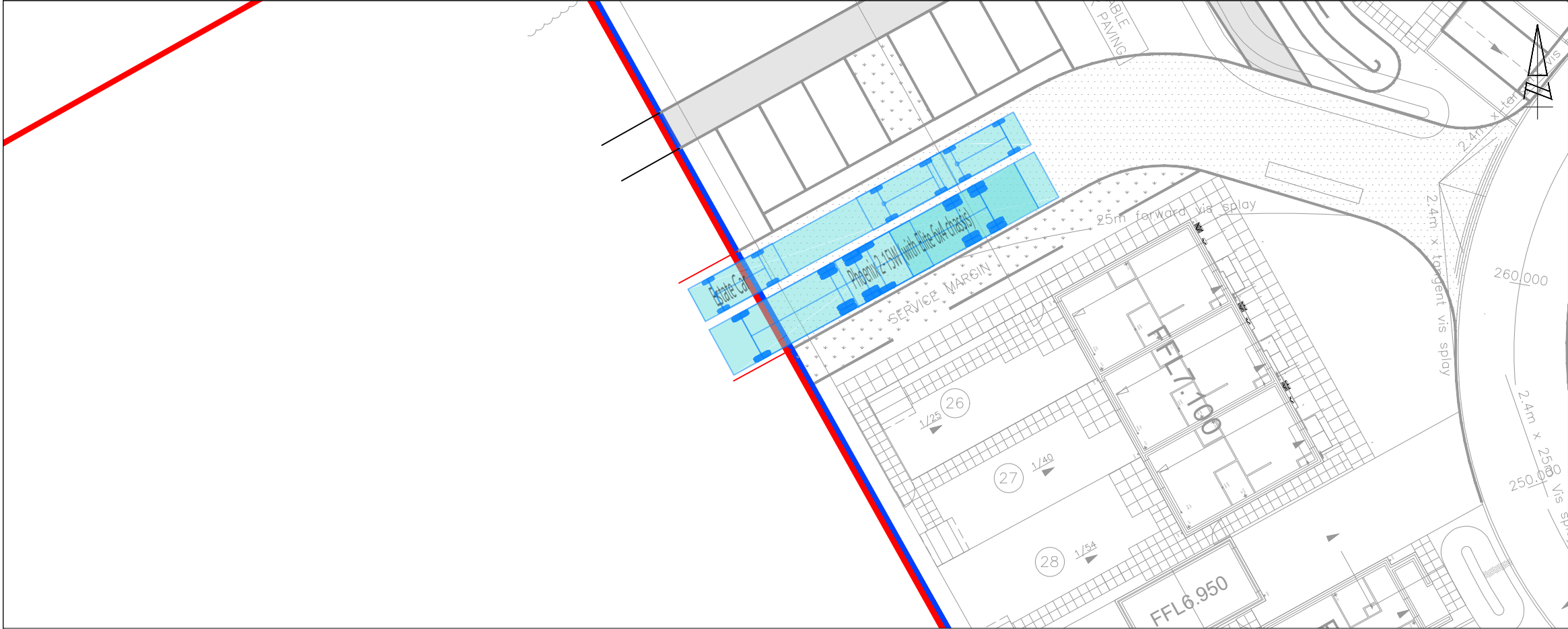


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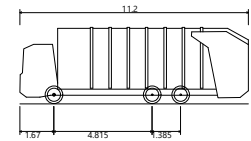
DRAWINGS



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STATUS:			FOR INFORMATION		
 Grove House, Lutyens Close, Chineham Basingstoke, Hampshire, RG24 8AG Tel: 01256 338640 www.i-transport.co.uk					
TITLE:					
PROPOSED SITE ACCESS ARRANGEMENT FROM PHASE 1 SITE					
PROJECT:					
LAND WEST OF OLD MANOR FARM, BEDHAMPTON					
CLIENT:					
BARGATE HOMES					
DRAWN:		CHECKED:		APPROVED:	
JMc		BC		SJ	
PROJECT No:		SCALE @ A3:		DATE:	
ITB12174		1:250		23.08.21	
DRAWING No:				REV:	
ITB12174-GA-018				-	



Estate Car
Overall Length 4.710m
Overall Width 1.804m
Overall Body Height 1.442m
Min Body Ground Clearance 0.207m
Max Track Width 1.756m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.950m



Phoenix 2-15W (with Elite 6x4 chassis)
Overall Length 11.200m
Overall Width 2.530m
Overall Body Height 3.751m
Min Body Ground Clearance 0.304m
Track Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 9.500m

REV	DATE	BY	DESCRIPTION	CHK	APD
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STATUS: FOR INFORMATION



Grove House, Lutyens Close, Chineham
Basingstoke, Hampshire, RG24 8AG
Tel: 01256 338640
www.i-transport.co.uk

TITLE:
PROPOSED SITE ACCESS ARRANGEMENT FROM PHASE 1 SITE
SWEPT PATH ANALYSIS - REFUSE VEHICLE AND ESTATE CAR

PROJECT:
LAND WEST OF OLD MANOR FARM, BEDHAMPTON

CLIENT:
BARGATE HOMES

DRAWN: JMc	CHECKED: BC	APPROVED: SJ
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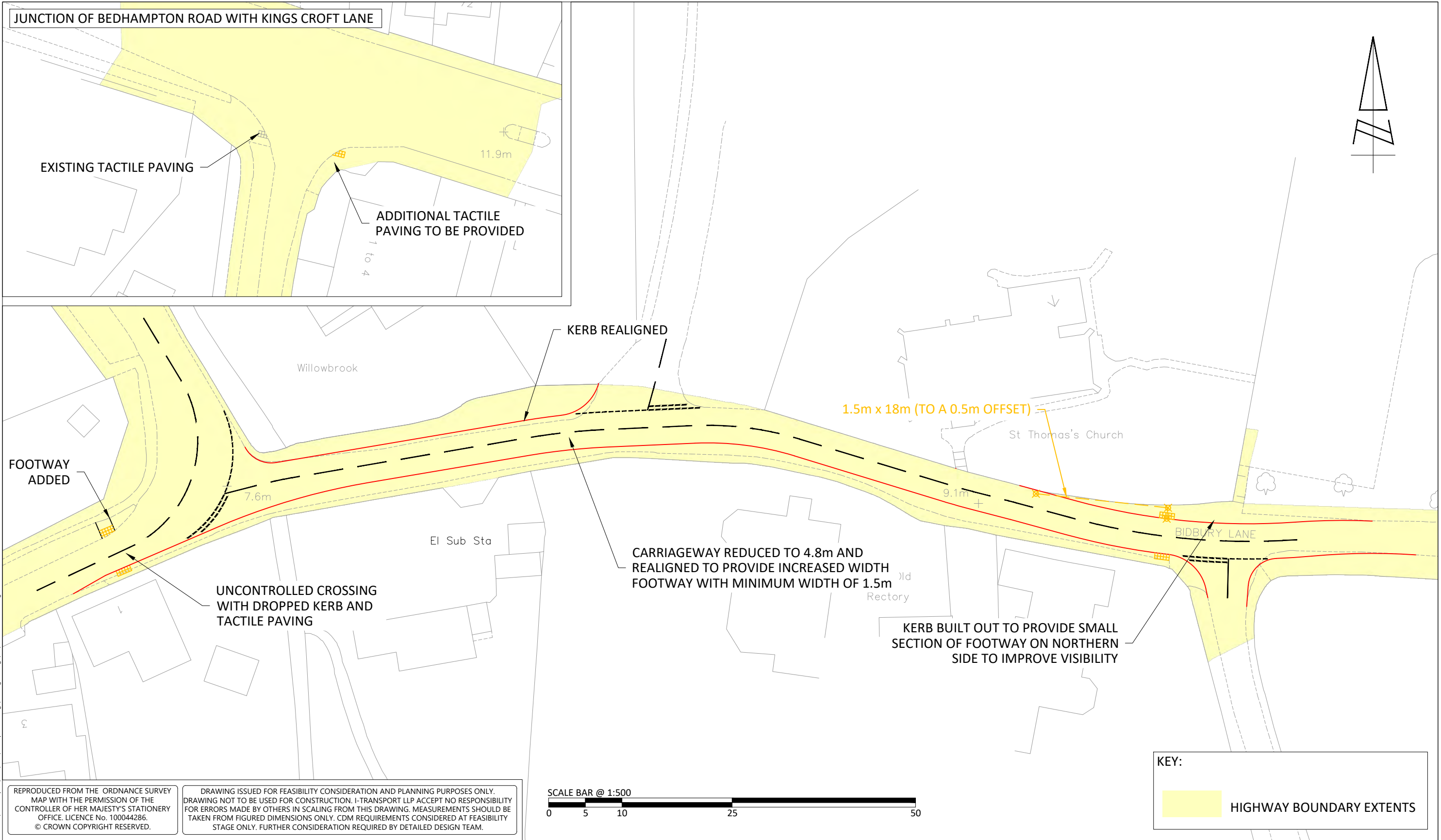
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DRAWING No: ITB12174-GA-019	REV: -
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Grove House, Lutyens Close, Chineham
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www.i-transport.co.uk

Tel: 01256 338640

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STATUS:			FOR INFORMATION		

TITLE: POTENTIAL IMPROVEMENT SCHEME ALONG BIDBURY LANE			DRAWN: MC	CHECKED: SJ	APPROVED: SJ
PROJECT: LAND AT LOWER ROAD, BEDHAMPTON			PROJECT No: ITB12174	SCALE @ A3: 1:500	DATE: 12.09.19
CLIENT: BARGATE HOMES			DRAWING No: ITB12174-GA-007	REV: -	