ChilmingtonGreen

TRANSPORT ASSESSMENT

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CHILMINGTON GREEN
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Executive Summary

WSP UK has been commissioned by Hodson Developments, Malcolm Jarvis Homes, Pentland Homes and Ward Homes (The Consortium) to produce a Transport Assessment (TA) to support an application for the development of up to 5,750 dwellings, four primary schools, one secondary school, retail and employment land uses.

The land at Chilmington Green is detailed in Policy CS5 of the adopted Ashford Borough Core Strategy of 2008 as a suitable location for an urban extension which accommodates no less than 3,350 dwellings and 600 jobs by 2021 and had the potential for over 7,000 dwellings and 1,000 jobs.

The proposed development will focus on sustainability and the location benefits on a strong relationship with the rest of the town of Ashford. The comprehensive network of pedestrian and cycle links which exist on the edge of Ashford can be extended into and supplemented by the development to offer walking journeys to areas in the south of the town and cycling trips to a wider area.

The proposals for Chilmington Green are sustainable from a transport viewpoint, placing a focus on public transport provision. Provision will be made for a range of sustainable forms of transport, with the introduction of walking and cycle routes through the site and a new bus route to give the development excellent connectivity to the rest of Ashford.

Chilmington Green has been designed in such a way that it has walkable neighbourhoods, with a range of facilities within a short walking distance of residences. This will reduce the need to travel and to use non-motorised modes. The transport strategy for the site includes, inter alia;

Public Transport
A new high frequency bus service providing a route which loops through Chilmington Green and extends north to Ashford town centre and Ashford International Station. The buses will operate with a 10 minute frequency and the anticipated journey time to Ashford town centre will be approximately 15 minutes.

Demand Measures
A comprehensive umbrella Travel Plan covering residential, workplace and education land uses which details measures used to:

- Provide travel information and raise awareness of sustainable modes;
- Promote the use of public transport;
- Promote walking and cycling; and
- Promote more efficient car use.

Highways Measures
This will include the provision of new and improved junctions to facilitate access to Chilmington Green and on and off-site improvements, including:

- Two new roundabout junctions on the A28;
- Signalisation of the current junction of the A28 and Goldwell Road;
- A new mini-roundabout junction at Cuckoo Lane and
- Traffic calming measures in Great Chart and on Magpie Hall Road.

Funding Towards Kent County Council's Strategic Highway Improvements

- The Developer will make a proportionate contribution towards the County Council's strategic highway improvements, including the A28 corridor, for the benefit of the wider Ashford growth area. .

1 Introduction

1 Introduction

1.1 PREAMBLE

1.1.1 WSP UK (WSP) has been commissioned by Hodson Developments, Malcolm Jarvis Homes, Pentland Homes and Ward Homes (The Consortium) to produce a Transport Assessment (TA) to support an application for the development of up to 5,750 dwellings, four primary schools, one secondary school, retail and employment land uses at the Chilmington Green site to the south-west of Ashford in Kent.

1.1.2 This Transport Assessment details the transportation and highways implications of developing the site. It has been developed in accordance with national guidance, provided in the Department for Transport's 'Guidance on Transport Assessment' (GTA, March 2007).

1.1.3 WSP has consulted with Ashford Borough Council (ABC) as Local Planning Authority and Kent County Council (KCC) as the Highways Authority in order to agree on the preferred methodology and approach to the TA.

1.1.4 A copy of the Scoping Letter, as sent on 30 November 2011 is included as **Appendix A,** with KCC's response. In addition to this WSP have met with ABC and KCC on a number of occasions and have attended:

- Numerous stakeholder meetings;
- Two stakeholder workshops; and
- Two public consultations, together with two presentations to local members and numerous meetings and presentations to local residents as the Master Plan and development has progressed.

1.2 THE SITE

1.2.1 The Chilmington Green development site is located to the south west of Ashford as shown on **Figure 1.1**. The site has been identified by Ashford Borough Council (ABC) as a proposed Growth Area, offering the potential for an urban extension of 5,000-7,000 dwellings, supporting land uses and community infrastructure.

1.2.2 The site is accessed from the A28. Existing farm land surrounds the hamlet of Chilmington Green. The development area has many local rural roads passing through, some of which will be used to provide secondary access to the development area.

1.3 REPORT STRUCTURE

1.3.1 The Transport Assessment is set out in the following sections:

- **Section 2** provides an overview of national and local policy in relation to the site and the development proposals;
- **Section 3** details the site location and existing conditions in the vicinity of the site, including the make-up of the highway and public transport networks and the prevailing transport conditions, together with an analysis of Personal Injury Accident data;
- **Section 4** considers the accessibility of the site to local facilities, utilising a GIS based approach;

- **Section 5** provides an overview of developments which have been considered as committed in the context of the effect which they will have on the site and cumulatively on Ashford's highway network;
- **Section 6** details the development proposals including residential, employment and community facilities and the proposed provision of car and cycle parking;
- **Section 7** discusses the improvements to the A28 in Ashford promoted by Kent County Council;
- **Section 8** sets out the modelling methodology employed by KCC's consultant Jacobs.
- **Section 9** outlines the vehicular trip generation of the proposed development and how a level of internalisation has been included in this process in order to reflect the sustainable nature of Chilmington Green;
- **Section 10** shows the proposed mode share at Chilmington Green at full build-out;
- **Section 11** identifies a sustainable transport strategy for the proposed development, focusing on improvements to the pedestrian and cycle network and also to bus services. Travel Planning is also discussed;
- **Section 12** reports the results of an assessment of future accessibility to facilities;
- **Section 13** assesses the impact of the proposed development on the local highway network;
- **Section 14** contains the construction traffic impact assessment; and
- **Section 15** summarises and concludes the Transport Assessment.

2 Policy Context

2 Policy Context

2.1 INTRODUCTION

2.1.1 Understanding the existing policy aspirations for Chilmington Green, especially in terms of the phasing of development and the delivery of supporting infrastructure is crucial to the creation of a successful transport strategy. Transport is clearly a key issue to resolve and the Chilmington Green strategy will need the support of the Highways Agency (HA), Kent County Council and Ashford Borough Council. In addition, transport provision for the site will need to mitigate impacts of each phase whilst also contributing to the 'end state' infrastructure package for Ashford.

2.2 NATIONAL POLICY

NATIONAL PLANNING POLICY FRAMEWORK, DCLG, MARCH 2012

2.2.1 Adopted on 27 March 2012, the National Planning Policy Framework (NPPF) seeks to reduce the complexity and improve the accessibility of the planning system, whilst protecting the environment and encouraging growth in a sustainable manner.

2.2.2 The NPPF replaces all previous Planning Policy Guidance Notes and Statements, becoming the definitive national planning guidance from which local planning authorities can, in collaboration with their communities, produce local plans appropriate to the character and needs of their area.

2.2.3 Key to the NPPF and its success is the following statement from Paragraph 14:

"At the heart of the National Planning Policy Framework is a ***presumption in favour of sustainable development,*** *which should be seen as a golden thread running through both plan-making and decision-taking."*

2.2.4 Transport forms one of the 12 core land use planning principles set out by the NPPF. This principle directs that locations which are sustainable or which can be made sustainable should become the focus for significant development. Opportunities to utilise sustainable modes to their fullest, such as public transport, walking and cycling should be actively taken and these considerations are discussed in this Transport Assessment. Paragraph 7 of the NPPF notes three 'dimensions' of sustainable development:

- Economic,
- Social, and
- Environmental.

2.2.5 Transport is able to contribute significantly to a development's adherence to these, through means such as providing infrastructure to support economic growth, enhancing accessibility to services and fulfilling the social needs of people and providing solutions which minimise pollution and environmental impact.

2.2.6 This Transport Assessment also shows how the proposed development accords with Paragraph 29 of the NPPF which details transport as having:

"… an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives."

2.2.7 As encouraged in the NPPF, the proposed development has been planned in such a way that gives people a *"real choice"* regarding their mode of travel. Its density

and proximity to local facilities ensures that sustainable modes can be considered a favourable option for local trips.

2.2.8 This Transport Assessment demonstrates how the proposed development fulfils the requirements set out in paragraph 32 of NPPF, to account for:

- The opportunities for sustainable transport modes to be used, reducing the need for major transport infrastructure;
- Provision of safe and suitable access to the site for all people; and
- Improvements which can be undertaken within the transport network to limit the significant impacts of the development.

2.2.9 The Master Plan design for Chilmington Green facilitates the use of sustainable modes. Journeys made on foot and by cycle at a local level, and by bus and train over a greater distance will assist in meeting ambitions harboured by the NPPF to lower greenhouse gas emission and reduce congestion.

2.2.10 Pedestrian and cycle movements are afforded priority on the internal network, which also limits the opportunity for conflict between non-motorised users and vehicles, ensuring safety and accessibility is afforded in line with NPPF.

2.2.11 This extends to the pedestrian connections linking the proposed development to surrounding areas, and is discussed further in Sections 6 and 12.

2.2.12 Paragraph 29 of the NPPF notes that more efficient use of technology can contribute to a reduction in the requirement to travel. As suggested in paragraph 42 of the NPPF, communications and broadband technologies can enhance the provision for communities. The Travel Plan which accompanies this application suggests measures which utilise technology to encourage smarter travel choices.

2.2.13 WSP, on behalf of the Consortium has maintained a dialogue with KCC and ABC regarding the proposed development at Chilmington Green, displaying a proactive approach to working with the local planning authority as desired by the NPPF

2.2.14 This Transport Assessment demonstrates that the residual cumulative impacts of the proposed development are mitigated appropriately by the design and density of the development, the facilities which are included and by the contributions to KCC's strategic highway improvements Accessibility to facilities and the impact of vehicular traffic are two topics key to this, and the effect of Chilmington Green on these factors is discussed in Sections 12 and 13.

"Encourage sustainable local travel and economic growth by making public transport, cycling and walking more attractive and effective…" – DfT White Paper, Jan 2011.

CREATING GROWTH, CUTTING CARBON: MAKING SUSTAINABLE LOCAL TRANSPORT HAPPEN

2.2.15 *Creating Growth, Cutting Carbon* is the Department for Transport (DfT) White Paper published in January 2011, which sets out plans for transport to become an engine for economic growth through careful investment in sustainable transport. A key aim is to:

- Encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion.

2.2.16 It aims to encourage more sustainable transport choices though returning decision making to the local level where they know what works. It realises that for some journeys, car is the only viable mode and therefore low emission vehicles are important in addressing that demand, together with car sharing and car-pooling opportunities.

2.2.17 However it is recognised that for many shorter journeys (those less than 5 miles), walking, cycling or using public transport can be a viable alternative. Giving people choices will encourage modal shift thereby improving not only the environment, but also health.

MANUAL FOR STREETS

2.2.18 Manual for Streets (MfS) is national guidance, published by the DfT. It supersedes Design Bulletin 32 and its companion guide Places, Streets and Movement, in England and Wales. MfS complements Planning Policy Statement 3: Housing and develops a design concept to avoid the inefficient use of land to accommodate highway design. It builds on observations of existing safe highway environments as a means to compare proposals.

2.2.19 MfS updates the link between planning policy and street design, challenging some established design standards and working practices. Highway design is seen to have negatively influenced design in urban areas and have attracted unsuitable urbanisation of more rural environments, where streets serve a wider function.

2.2.20 MfS aims to assist in the creation of developments that:

- help to build and strengthen the communities they serve;
- meet the needs of all users, by embodying the principles of inclusive design;
- form part of a well-connected network;
- are attractive and have their own distinctive identity;
- are cost-effective to construct and maintain; and
- are safe.

2.2.21 Whilst discouraging the building of developments that are:

- primarily designed to meet the needs of motor traffic;
- bland and unattractive;
- unsafe and unwelcoming to pedestrians and cyclists;
- difficult to serve by public transport; and
- poorly designed and constructed.

2.2.22 Guidance included within MfS will form the basis of the design of the internal road network of Chilmington Green, ensuring that all the principles detailed above are adhered to.

2.2.23 MfS has been used in the design of Orchard Way, a significant road within Chilmington Green which needs to fulfil operational needs for both the development and the wider area. Locally, Orchard Way provides a major route through Chilmington Green for traffic from the development, acting as the primary east to west route.

2.2.24 This directional function is replicated by Orchard Way on a wider scale, with it replacing the east to west function which is currently fulfilled by Chilmington Green Road for traffic from east of Ashford to the A28 and vice versa. Orchard Way will have a carriageway width of 6.0m, sufficient for two buses to pass each other.

2.2.25 Manual for Streets is National Guidance endorsed by the Department for Transport; it can therefore be interpreted as a *material consideration* informing the design of new and existing streetscapes associated with the development.

MANUAL FOR STREETS 2 – WIDER APPLICATION OF THE PRINCIPLES

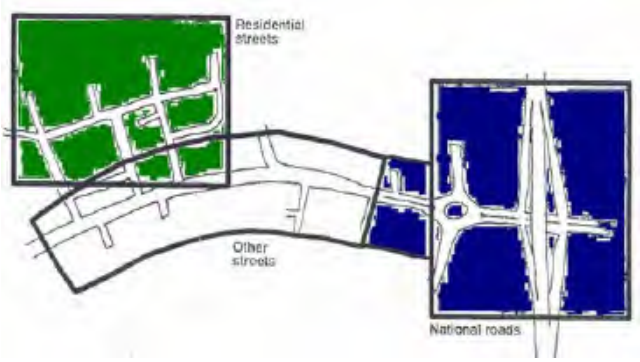
2.2.26 The Chartered Institution of Highways and Transportation (CIHT) – have produced the report *Manual for Streets 2 - Wider Application of the Principles* (September 2010). The publication includes further research supported by the CIHT working with the DfT and other members of the transportation industry.

2.2.27 CIHT – have stated that "*This new document does not supersede MfS1; rather it explains how the principles of MfS1 can be applied more widely.*" This forms a companion guide to MfS1. It is noteworthy that MfS2 does not carry the level of status afforded to the original, and it is not yet accepted by all authorities.

2.2.28 MfS2 builds on the guidance contained in MfS1, exploring in greater detail how and where its key principles can be applied to busier streets and non-trunk roads, thus helping to fill the perceived gap in design guidance between MfS1 and the Design Manual for Roads and Bridges (DMRB), pertinent to rural environments.

2.2.29 The ethos of MfS 1 and 2 is a key material consideration in terms of movement and place, due to the relationship of the proposed development relative to the town of Ashford and the villages to the south west.

2.2.30 The diagram below shows (in white) the area to which MfS2 becomes applicable, between the residential roads covered in MfS1 and national roads. Orchard Way will be such an area at Chilmington Green.



2.3 LOCAL POLICY

KENT COUNTY COUNCIL – LOCAL TRANSPORT PLAN 2011 – 2016

2.3.1 Kent County Council adopted its third Local Transport Plan (LTP3) in April 2011. LTP3 presents KCC's transport priorities for the five year period 2011 – 2016 and also gives an idea of the priorities for transport in the country beyond that period.

2.3.2 LTP3 specifies five 'Themes' which link into national transport goals. These are:

- Growth without gridlock;
- A safer and healthier county;
- Supporting independence;
- Tackling a changing climate; and
- Enjoying life in Kent.

2.3.3 Each of these "themes" is then expanded into one or more LTP3 objectives, which then have between one and four further sub objectives. These sub objectives include:

- Locating development near to transport hubs;
- The encouragement and facilitation of greater take up of physically active travel;
- Improvements to the reliability of journey times; and
- An improvement to access to jobs and services by sustainable travel modes.

2.3.4 The importance of the growth of settlements in Kent without compromising the transport network is recognised in LTP3, with 45% of the proposed budget allocation being given to the "Growth without Gridlock" theme, over 30% higher than the percentage allocated to any other theme.

2.3.5 The growth of Ashford, including the Chilmington Green site, is discussed in Section 8 of LTP3. Four major transport proposals are detailed as being important in supporting the continued growth of Ashford. These are shown in Table 2.1.

Table 2.1: Ashford Major Transport Proposals

Scheme	Funding Source	Est. Cost £'000s
New M20 Junction 10A to provide increased capacity.	Developer Contributions	76,000
Ashford International Station - New Forecourt and Public Space	Developer Contributions	2,600
SmartLink – Bus Rapid Transit	Major Scheme Bid (LTP)	To be determined
A28 Chart Road - Dualling	LIP forward fund. Developer/ Tariff	15,000

Source: Kent County Council – Local Transport Plan 2011 - 2016

GREATER ASHFORD DEVELOPMENT FRAMEWORK – FINAL MASTER PLAN REPORT

2.3.6 Produced in 2005, the Greater Ashford Development Framework (GADF) Final Master Plan report summarises the outcome of a number of studies and initiatives which were undertaken in 2004 and early 2005.

2.3.7 The GADF identifies Chilmington Green as one of several major growth areas around Ashford. Specifically, Chilmington Green is identified as a new neighbourhood suitable for up to 6000 dwellings. This document also identifies Orchard Way as a major route through this development, linking it to the proposed Discovery Park, a green space planned to serve the whole of Ashford. Other neighbourhoods identified by the GADF include Kingsnorth and Cheesemans Green.

ASHFORD BOROUGH COUNCIL LOCAL DEVELOPMENT FRAMEWORK - CORE STRATEGY

2.3.8 Adopted in July 2008, the ABC Core Strategy (CS) is the central document to the council's Local Development Framework (LDF). It sets out the spatial vision and objectives for the borough and provides a framework on which other elements of the LDF can expand upon.

GADF identifies major growth areas for Ashford, along with Orchard Way intended to link the A28 with Junction 10A, M20.

2.3.9 The extensive vision statement of the CS refers to Ashford meeting *"...the growth ambitions established in the government's Sustainable Communities Plan…"* The vision also states the desire to increase the profile of the town in terms of being a location which attracts business and research and the investment which accompanies these purposes.

2.3.10 The creation of new jobs in the borough is expected to be in line with the housing growth, with the provision of new social and physical infrastructure delivered in conjunction with new residential and commercial development.

2.3.11 The CS recognises (in policy CS5) the importance of Chilmington Green in its contribution to meeting the housing land supply for the borough. The CS re-iterates that Chilmington Green should deliver not less than 3350 dwellings and 600 jobs by 2021 and should have capacity to deliver 7000 dwellings and 1000 jobs in total, in some cases attracting phased infrastructure delivery.

2.3.12 Discovery Park, referred to in the CS, is a large area of proposed open space to the south of Ashford and east of the proposed Chilmington Green neighbourhood. The open space is designed to serve all communities within Ashford and will be connected to other sites via Orchard Way and links to the town itself to the north.

2.3.13 Orchard Way forms part of a long term strategy to deliver road improvements to the south of Ashford. It is intended to connect existing routes between the A28 and A2070 and J10 and 10A of the M20. It will connect Chilmington Green with other proposed neighbourhoods such as Cheesemans Green and Waterbrook. It will facilitate pedestrian movement with comprehensive footway provision.

2.3.14 Cheesemans Green / Waterbrook is another new neighbourhood allocated in the GADF and also in the CS. The CS states that Cheesemans Green / Waterbrook should deliver 4300 dwellings and 1475 jobs by 2021 with a further 2200 dwellings and 750 beyond that. This is located to the south east of Ashford and will be linked to

Chilmington Green via the proposed Orchard Way through Discovery Park. The development at Kingsnorth, referred to in GADF is no longer considered in the CS and thus some associated infrastructure may not be necessary for many years, together with the completion of Orchard Way

CHILMINGTON GREEN AREA ACTION PLAN

2.3.15 The Chilmington Green and Discovery Park Area Action Plan (AAP) is a document which when complete, will be a part of Ashford's LDF. The purpose of the AAP is to detail the strategic development and design principles for the Chilmington Green / Discovery Park area. Further details to be contained in the AAP will include:

- Land Use;
- Densities;
- Building Heights; and
- Development Quantum.

2.3.16 The AAP is an emerging Development Plan Document and is being progressed by ABC. It is currently anticipated to be examined in public in the spring of 2012 and planned for adoption in the summer of 2012.

THE TRANSPORT STRATEGY FOR ASHFORD

The TSfA suggests car will not be "a first choice" for coming into Ashford town centre.

2.3.17 The Transport Strategy for Ashford (TSfA) was published in 2006 and was prepared in order to outline the approach which would be adopted to support the growth of Ashford by up to 31,000 dwellings in the year 2031. The vision for transport in Ashford is stated to be:

"….no one should think of coming into town by car as a first choice, unless they have a good reason."

2.3.18 A number of objectives are set in order to assist in the fulfilment of the vision. These are:

- Having sustainability at its core in all respects;
- To gain recognition of Ashford as 'the connected city' in a pivotal location at the heart of the strategic region;
- To maximise the desirability of travel around Ashford by public transport;
- To achieve a significant modal choice for sustainable forms of travel with a new high quality transit system;
- Helping integrate the existing and new parts of Ashford and maximising accessibility throughout;
- Ensuring quality in the public realm;
- Optimising connectivity and integration of live, work, leisure and learning activity;
- To maximise walking and cycling activity;
- Being conscious of the needs of those with disabilities or lack of mobility; and

- Providing an adequate transport network for all modes of travel but consistent with the above.

2.3.19 Chilmington Green is cited in the TSfA as a proposed urban village and consequently as a proposed leg of the route for the SMARTLINK transit system which is discussed. SMARTLINK is defined as the *"backbone of new local public transport provision in Ashford"* and the TSfA suggests that it will use advanced technology in order that emissions from the vehicles will be zero or almost zero.

SMARTLINK bus services will become the 'backbone' of public transport into Ashford according to TSfA.

2.3.20 SMARTLINK is noted as a critical requirement in being able to support the strategic growth of Ashford. In addition to Chilmington Green, it is noted as being desired to serve other new development in Ashford such as that proposed at Cheeseman's Green in addition to existing destinations such as the town centre, railway station and the Designer Outlet centre.

2.3.21 The TSfA also notes several future major pieces of infrastructure in Ashford. These include:

- A28 Chart Road widening;
- SMARTLINK extension to Chilmington Green;
- Park and Ride at A28 Chilmington Green; and
- SMARTLINK extension to Chilmington Green P&R.

ABC & STRATEGIC PARTNERS – ASHFORD'S FUTURE: THE OVERARCHING REPORT

2.3.22 Ashford's Future – The Overarching Report was published in December 2002 and provided a comprehensive summary of a number of planning studies undertaken of Ashford and its context as a potential growth area in the south-east of England.

2.3.23 The objectives of the overall study were to determine the capability of Ashford to accommodate growth over the period 2001 – 2031 and also to devise a strategy for the implementation of this growth. Key to this is to make sure that any growth is sustainable, and utilises existing brownfield sites so as to minimise any greenfield land required.

2.4 CAR PARKING STANDARDS

ASHFORD RESIDENTIAL PARKING AND DESIGN GUIDANCE SPD

2.4.1 Ashford's parking guidance was consulted on by Ashford Borough Council in mid-2010. Following this consultation, the policy was adopted in October 2010. The guidance recognises that the public transport system of the town does not represent as attractive an option to travellers as it could do, although future improvements seek to redress this.

2.4.2 The guidance states that levels of parking need to be appropriate for residential development so that there is not excess on-street parking which may then compromise the flow of public transport services. It is stated in the guidance that:

"Applicants who do not comply with the approach set out in this SPD and then fail to justify why non-compliance will produce a scheme that will work well will be highly likely to have their applications refused."

2.4.3 The guidance gives parking standards for three classifications of location. These are:

- Central – Areas within the Ashford Town Centre Area Action Plan boundary;
- Suburban – Generally applicable in the rest of the existing Ashford urban area outside the 'central' area; and
- Rural – Standards which are applicable in sites outside the Ashford Growth Area.

2.4.4 Further study of the guidance shows that both the Central and Suburban residential standards have some validity for application in parts of urban extension to Ashford. For this reason, both sets of standards are reproduced in Tables 2.2 and 2.3.

Table 2.2: Central Residential Parking Standards

Dwelling Type	Applicable Standard
1 & 2 bed flats	1 space per flat
1 & 2 bed houses	1 space per house
3 bed dwellings	Up to 1.5 spaces per dwelling
4 bed+ houses	Up to 1.5 spaces per house
Visitor Parking	Primarily off-plot in short stay car parks OR on-plot at 0.2 spaces per dwelling in major residential schemes where layout permits

Source: Ashford Borough Council Residential Parking and Design Guidance SPD

Table 2.3: Suburban Residential Parking Standards

Dwelling Type	Applicable Standard
1 bed flats	1 space per flat
2 bed flats	1.5 spaces per flat
1 bed houses	1 space per house
2 bed houses	2 spaces per house
3 bed dwellings	2 spaces per dwelling
4 bed+ houses	2 spaces per house
Visitor Parking	0.2 spaces per dwelling in on street areas and on private drives but not provided within private car courts.

Source: Ashford Borough Council Residential Parking and Design Guidance SPD

2.4.5 In the absence of adopted guidelines, the parking standards to be used for commercial development are the guidelines detailed in Annex D of PPG13. The standards for the commercial uses listed in PPG13 and which will be present at Chilmington Green are listed in Table 2.4.

Table 2.4: Commercial Maximum Parking Standards

Land Use	Applicable Standard (As directed by ABC)
Food Retail	1 space per 14m²
Non-Food Retail	1 space per 20m²
B1 including offices	1 space per 30m²

Source: Planning Policy Guidance 13 - Transport

2.5 CYCLE PARKING STANDARDS

2.5.1 Residential cycle parking guidance is contained in the Ashford Residential Parking and Design Guidance SPD. The recommended cycle parking provision for dwellings built as part of a scheme under the *Code for Sustainable Homes* is shown in Table 2.4.

Table 2.4: Cycle Parking Standards

Dwelling Type	Applicable Standard
Studios or 1 bed dwellings	Storage for 1 cycle per dwelling
2 and 3 bed dwellings	Storage for 2 cycles per dwelling
4 bed (and above) dwellings	Storage for 4 cycles per dwelling

Source: Ashford Borough Council Residential Parking and Design Guidance SPD

2.5.2 As an outline planning application the provision and location of car parking would be a matter of detail for future reserved matters applications. The Master Plan preserves adequate land to accommodate parking in line with the maximum standards, incorporating reductions at local centres based on the Parking Review technical note provided at **Appendix B.**

2.6 SUMMARY

2.6.1 This section considers the national and local policy pertaining to the proposed development at Chilmington Green. It reviews background studies and outlines a number of policy and other factors that may be material considerations, relevant to the development proposals.

3 Existing Conditions

3 Existing Conditions

3.1 SITE LOCATION

3.1.1 The proposed Chilmington Green site is located to the south west of Ashford as shown in **Figure 1.1**. It is bounded by the A28 to the north-west and existing residential areas of Ashford to the north east. To the south are the settlements of Stubbs Cross and Shadoxhurst while the rest of the site is surrounded by farmland.

3.2 HIGHWAY NETWORK

3.2.1 Ashford is connected to other major towns and cities via the motorway and trunk-road network beyond which a network of local primary 'A' and 'B' class roads accommodate the bulk of local traffic.

3.2.2 A network of 'C' and 'unclassified' rural roads dissect the site as shown in **Figure 3.1**. These roads provide access to farms, hamlets and individual dwellings together with access from the rural villages into Ashford.

3.2.3 Key highway links potentially serving the development area are described below and also shown in **Figure 3.1**, with details also provided of the conditions for pedestrians, cyclists and in some places, equestrians.

STRATEGIC ROAD NETWORK

3.2.4 The Strategic Road Network (SRN) is maintained by the Highways Agency (HA). It includes the M20 and its associated junctions, junction 9 to the northwest and 10 to the northeast of the site.

3.2.5 Improvements to junction 9 of the M20 were recently completed, taking account of the growth area proposals, where the HA Administrative responsibility extends to the A20 (T).

3.2.6 Associated with growth plans (GADF), further improvements are proposed to the A2070 corridor which will link to a proposed new junction (10A) with the M20. The detailed design of the preferred option is advancing and will be announced in coming years, this currently includes changes to Junction 10 preserving east facing slip roads and delivering all turning movements from a proposed grade separated roundabout.

A28

3.2.7 The A28 links Ashford (A20/M20) to many rural locations to the west including Tenterden and St. Michael, and continues until meeting Hastings to the south. The A28 also links to the A262 which provides further access to the west.

3.2.8 The A28 intersects with a large signalised roundabout (Drovers Roundabout) which has been subject to recent improvements, approximately 500m south-west of junction 9 of the M20. The link between the motorway junction and Drovers roundabout is provided by the A20. The two other arms of the roundabout are formed by the A292.

3.2.9 Proceeding south from Drovers roundabout to Tank roundabout, the next section of the A28 is approximately 350m long. This section is dual-carriageway and is subject to a 40mph speed limit. Around 170m south of Drovers roundabout is a signalised junction with Repton Avenue from which access to a Waitrose store and the Repton Park development can be gained. This section of the A28 has streetlights and

footway and cycleway provision on both sides of the road. Grass verges provide a degree of separation between the carriageway and the facilities for non-motorised users.

3.2.10 Between the northbound and southbound carriageway is a kerbed, grassed, central reservation of approximately 4.5m in width.

3.2.11 Signalised crossing facilities featuring dropped, tactile kerbs and guard rail are situated to the south of Drovers roundabout, incorporated into the Repton Avenue signalised junction, and 50m north of Tank roundabout.

3.2.12 On-site observation of this section of the A28 in the AM and PM peak periods found traffic levels to be relatively constant, but not impaired.

3.2.13 Tank roundabout is formed by the A28 as the northern (Templer Way) and southern (Chart Road) arms, with Sir Henry Brackenbury Road as the western arm and the A28 Chart Road and Carlton Road forming the eastern and south-eastern arms respectively.

3.2.14 Observations of Tank roundabout in the PM peak found the performance of some arms of the roundabout to be substantially affected by movements from others. Backing up of the southbound A28 on the southern arm of the roundabout lead to slow moving and in some cases stationary vehicles, trying to enter the arm.

3.2.15 The impact of this was seen most on A28 Chart Road, which as well as the traffic queuing back from the southern A28 arm, had (moving) traffic from the A28 Templer Way arm reducing the amount of vehicles entering the roundabout. At one point the westbound queue along Chart Road was seen to extend back on to the one-way system of the A292, a distance of almost 400m.

3.2.16 Traffic entering the Tank roundabout from other arms was generally doing so without impediment.

3.2.17 In the AM peak, Tank roundabout was observed to be operating well, with maximum queue lengths in the order of a few vehicles, mainly on the northern (A28 Templer Way) and southern (A28 Chart Road) arms.

3.2.18 The next section of the A28 considered is approximately 950m in length and heads south from the Tank roundabout to the Matalan roundabout. Immediately south of the Tank roundabout there is footway and cycleway on both sides of the road, with a pelican crossing around 70m south. North of the crossing, the southbound road filters from two lanes into one. When observed in the PM peak hour, the operation of the crossing and the merging of the lanes was found to contribute to vehicles queuing back on to the Tank roundabout.

3.2.19 Further south, Hilton Road has a priority junction with the A28. On-site observations at this junction found cars having difficulty making a right turn from Hilton Road as a result of the volume and spacing of vehicles in both directions on the A28. However, due to the low number of vehicles seen using this road, queues were limited to 2 or 3 vehicles.

3.2.20 The junction of the A28 and Loudon Way is signalised. The southbound arrangement approaching the junction consists of a single lane splitting into two ahead lanes, and one right turn (for Loudon Way) lane. This section of the A28 continues to be streetlit, with footway directly lining the northern side of the carriageway and a grass

verge providing separation from the carriageway for the footway / cycleway on the southern side.

3.2.21 Observations of the operation of this arm during the PM peak found that in a number of cases, the queue of vehicles waiting to turn right into Loudon Way was not always cleared during a cycle of the traffic lights, in some cases resulting in a blocking back of vehicles to the point where the three lanes narrowed to one, meaning that whilst the 'ahead' movement was clear at the traffic signals, vehicles intending to make this movement were blocked by queued right turners. To the south of the junction, the two southbound 'ahead' lanes are merged back into a single lane.

3.2.22 The Loudon Way arm of the junction has separate lanes for left and right movements. All vehicles were generally cleared from this arm of the junction in each observed cycle in the PM peak, however in the AM peak there was significant queuing on this arm which required 2 to 3 cycles to clear.

3.2.23 The eastbound arm of the junction has one straight ahead lane, and a left turn filter lane for access to Loudon Way. When observed, this arrangement appears to constrict the flow of traffic upstream of the point where the lanes diverge. In the both peaks, northbound traffic was observed to be in a slow moving platoon of traffic which stretched back further than the Matalan roundabout.

3.2.24 Around 100m south of the junction with Loudon Way is a priority controlled T-junction with Brunswick Road. This has a ghost island arrangement to be utilised by vehicles making a right turn from the northbound A28. Approximately 400m south of the junction with Loudon Way is a railway overbridge. In this vicinity, there are streetlights present, but the footway / cycleway is only on the western side, albeit that it is of a good width comfortably allowing passing in either direction.

3.2.25 The gradient change in the bridge does not allow for a full view of what is on the other side of it, which may account for some vehicles slowing down when approaching and crossing it, as was seen during the site visit.

3.2.26 The Matalan roundabout is comprised of four arms, the northern and southern of which are the A28. The western arm is Chart Road, and leads to the village of Great Chart. Brookfield Road is the eastern arm of the junction. As previously detailed, peak observations of this junction found that northbound traffic on the A28 was queuing back through the roundabout. Whilst this sometimes obstructed movements from the Chart Road arm, the Brookfield Road arm was mostly unaffected and was not seen to experience noticeable queues in the PM peak. In the AM peak, queues on Brookfield Road were significant. The maximum queue length was observed to reach as far at the junction with Knoll Lane, a distance of approximately 500m.

3.2.27 Approximately 100m south of the Matalan roundabout the speed limit reverts from 40mph to national speed limit (60) and is predominantly rural. In this location, the A28 is single-carriageway and covers a distance of approximately 900m, southbound to a junction with Tithe Barn Lane. There are no streetlights on this part of the A28 and no footway provision. Driver visibility is considered sufficient to allow safe overtaking of cyclists.

3.2.28 South of the roundabout junction with Tithe Barn Lane, conditions on the A28 remain similar to those immediately north of the junction. This continues to the priority controlled T-junction with Ashford Road / Goldwell Lane, which has a ghost island arrangement to facilitate right turns from the A28.

3.2.29 Chilmington Green Road forms a priority controlled T-junction with the A28 approximately 400m south of the junction with Ashford Road. National speed limit continues to apply in this section of the road, and there is no direct provision for pedestrians and cyclists. Continuing south, further priority controlled T-junctions are formed with Sandy Lane and Old Surrenden Manor Road as the A28 then carries on southwards, past the Chilmington Green development site.

CHILMINGTON GREEN ROAD

3.2.30 Chilmington Green Road is a single carriageway road connecting the A28 to Stubbs Cross to the south where the road changes into Magpie Hall Road. The road is rural in character with a carriageway width ranging from 5m to 6m, but always allowing enough width for two vehicles to pass. The road is subject to the national speed limit (60mph).

3.2.31 At its junction with the A28, visibility is generally good, with no obstructions to the view to the north in particular. However it is understood that there can be difficulty joining the A28 from Chilmington Green Road due to weight of traffic already on the A28. In addition to this junction, Chilmington Green Road has priority controlled T-junctions with several other roads in the 2.3km it covers before it becomes Magpie Hall Road. These are:

- Mock Lane;
- Bartlets Lane;
- Chilmington Green Lane;
- Criol Road;
- Long Length; and
- Tally Ho Road.

3.2.32 The far western section of the road between the junctions with the A28 and Mock Lane gives direct access to several small businesses. There are grass verges on each side of the road, with the southern verge being wide enough to accommodate a pedestrian until a short distance west of the Mock Lane junction.

3.2.33 Between Mock Lane and Chilmington Green Lane, there are a small number of accesses to commercial and residential properties. Chilmington Green Road is

predominantly straight in this area, with little change in gradient, and as such offers very good forward visibility. With the grass verges in this area being narrow and in some places uneven, the section is not attractive for pedestrian use. This is also the case for the majority of the section between junctions of Chilmington Green Lane and Bartlets Lane, however there is a section with a wide verge north of the road for approximately 250m which can accommodate a pedestrian.

3.2.34 Approximately 130m east of the junction with Bartlets Lane is a junction with Criol Road. This section of Chilmington Green Road shares characteristics discussed earlier with narrow grass verges bordering the carriageway.

3.2.35 From its junction with Criol Road, Chilmington Green Road continues east for approximately 850m before it forms a junction with Long Length. This section includes two long sweeping bends where visibility can occasionally be restricted by the hedges which align with the verges bordering the carriageway. Given the vehicle speeds and the geometry of this section of road, it is considered that walking would present an intimidating experience for many pedestrians.

3.2.36 Approximately 50m east of the junction with Long Length, the speed limit reduces to 40mph, and 60m further east is a priority controlled T-junction with Tally Ho Road.

3.2.37 As highlighted above, Chilmington Green Road is generally not considered an attractive route for pedestrians; it has no footway provision and no formal crossing points. There are several public rights of way that take access from it. For cyclists it represents a more attractive option, in particular as a leisure route, although the vehicle speed limit of 60mph may reduce its appeal to inexperienced cyclists. There are no streetlights present along the length of the road.

3.2.38 On-site observations made in the AM peak of Chilmington Green Road found traffic to be moving well, with no apparent constraint on speed or vehicle flow, either westbound or eastbound.

MAGPIE HALL ROAD

3.2.39 Magpie Hall Road is an unlit street between Stubbs Cross and its crossroads junction with Ashford Road and Steeds Lane, forming a continuous link with Chilmington Green Road to the A28 to the northwest. Magpie Hall Road is just under 1.5km in length.

3.2.40 Magpie Hall Road is subject to a speed limit of 40mph. The road is bordered by discontinuous footways typically 1.2-1.5m wide, beyond which nominal verges are lined by hedgerows. Approximately 65 properties take vehicular access on to Magpie Hall Road. The road width is generally 6m. As it passes through the area with housing bordering the road, this width decreases to approximately 5m in places.

3.2.41 There is no streetlighting on Magpie Hall Road and also no pedestrian crossing facilities. Magpie Hall Road provides suitable visibility for vehicles to safely overtake cyclists. There is no specific cycling infrastructure.

CRIOL ROAD

3.2.42 Criol Road is a minor unlit, derestricted lane providing access from Chilmington Green Road south westbound to Shadoxhurst and is approximately 1.8km in length. The lane is rural in nature and is approximately 4m wide, while providing minor accesses to farms and fields. The lane has narrow verges (typically 1-2m) along both edges and is lined by either hedges or field boundary fencing.

3.2.43 For much of the lane it is not possible for two vehicles to pass each other, and a number of passing places, formal and informal facilitate this requirement. This is not considered to be a problem, as the road is lightly trafficked.

3.2.44 Criol Road is subject to a 60mph speed limit, however during the AM peak site visit; several people were observed walking on the road itself rather than the verges, suggesting that it presents an acceptable leisure route for walkers. Criol Road also forms part of National Cycle Route 18.

TALLY HO ROAD

3.2.45 Tally Ho Road is a rural lane which proceeds south-west for approximately 1.2km, between Magpie Hall Road to a priority junction with Woodchurch Road / Hornash Lane in Shadoxhurst. The north-eastern extent of Tally Ho Road borders the south-eastern side of the site. Residences occupy the majority of the eastern side of the road. There is a local shop present on the eastern side of the road near its junction with Chilmington Green Road, creating minor demand for on-street parking in its vicinity.

3.2.46 The carriageway width is approximately 6m. Tally Ho Road has a speed limit of 40mph. Footway is on the eastern side of the road for approximately 250m south of the junction with Magpie Hall Road. Away from this area, Tally Ho Road does not have any formal pedestrian facilities. There are grass verges of varying width bordering the road, these are generally narrow forcing any pedestrians who use them into close proximity to traffic. No streetlights are present.

3.2.47 It was noted that a number of southbound journeys were made by school bus services an on-site observation in the AM peak.

MOCK LANE

3.2.48 Mock Lane is an unlit, de-restricted rural lane running broadly northwest-southeast for 1.1km between Chilmington Green Road and Chart Road (where it turns into Bucksford Lane) through the identified development area. Mock Lane has nominal verges, bounded by mature hedges and restricted visibility along its length.

3.2.49 Mock Lane can be characterised as a single-track road with informal passing places which varies in width between 2.5m and 5m. Due to its varying width, there are a number of locations where only a single vehicle can travel, relying on inter-visible passing places. Over much of its length Mock Lane is relatively flat, however, near Singleton the topography rises.

3.2.50 Mock Lane does not currently feature any formal pedestrian facilities. There is no footway or streetlights and though there are grass verges which can be used by pedestrians, the uneven surface and lack of segregation means that these are suitable for leisure trips, but less suited for most trip purposes. Mock Lane could be described as a quiet lane suitable for roadside walking during daylight hours. Mock Lane also provides an appropriate environment for leisure cycling.

BUCKSFORD LANE / SINGLETON HILL

3.2.51 Bucksford Lane is a continuation of Mock Lane from its priority junction with Chart Road. It runs north for approximately 500m where the street character gradually changes from rural to suburban as it meets a small roundabout junction with Kirk View, Imperial Way and Singleton Hill. South of the roundabout the speed limit changes to 30mph from the national speed limit which is in force in the rural section.

3.2.52 To the north of the roundabout, Singleton Hill varies in width from 6-9m. Shared footway/cycleway is in place on both sides of the road, although the eastern side of the road is limited to footway only in many places. The footway/cycleway on the western side is separated from the carriageway by a grass verge. Streetlights are also situated at regular intervals in this section of the road. Singleton Hill continues north from the roundabout for 300m, offering ghost island right-turning lanes to residential streets, terminating at a simple priority controlled T-junction with Tithe Barn Lane.

3.2.53 The provision for pedestrians and cyclists on this route is very good, with the segregated facilities ensuring little opportunity for conflict with vehicles.

TITHE BARN LANE

3.2.54 Tithe Barn Lane follows a west-east route for 700m, from a roundabout junction with the A28 to a priority junction with Knoll Lane. The road is suburban, being bordered by residential areas but with no properties taking direct access on to the road. Tithe Barn Lane has a number of junctions with culs-de-sac which facilitate access to the residences, in addition to priority junctions with Singleton Hill and Bucksford Lane.

3.2.55 Tithe Barn Lane has a 30mph speed limit and carriageway width ranges from 6 to 7m, generally offering good forward visibility.

3.2.56 There is no footway at the western extent of Tithe Barn Lane. Following the staggered junctions with Singleton Hill and Bucksford Lane there is footway north of the road and shared footway/cycleway south of the road. There are grass verges between the footway and the carriageway providing separation from vehicles for pedestrians. Tithe Barn Lane has streetlights along its entirety.

KNOLL LANE

3.2.57 Knoll Lane is a lit suburban road which runs north-south for approximately 1.6km from a signalised junction with B2229 Brookfield Road to a mini-roundabout with Stanhope Road. Knoll Lane is subject to a 30mph speed limit and includes limited residential access points with no frontage development. The streetscape character is variable, bordered by footway and boundary fences or hedges with grass verges of varying widths. The carriageway itself typically ranges from 6 to 7m wide.

3.2.58 There are no formal pedestrian crossings on Knoll Lane, but there are several pedestrian refuge islands which feature dropped kerbs in their vicinity in addition to tactile paving. The environment on Knoll Lane is generally conducive to using non-motorised modes.

BARTLETS LANE

3.2.59 Bartlets Lane is an unlit minor de-restricted rural lane running broadly north-south between Chilmington Green Road and Chart Road through the identified development area. The lane varies in width between approximately 3-5m and is approximately 1.5km in length. Limited frontage access is available for farms and large houses.

3.2.60 The carriageway width ensures that two-way traffic flow is possible at low speeds over most of its length, however, there are some localised constraints where vehicles must rely on inter-visible passing places. Similarly, Bartlets Lane is relatively flat with topography rising towards Singleton. The road is aligned with small verges and hedges, however, these are broken up by buildings and farm fences. The verges can be used by pedestrians and in some parts of Bartlets Lane provides a reasonable level of separation between pedestrians and vehicles.

3.2.61 Bartlets Lane does not have any formal pedestrian facilities. There is no footway or streetlights. Bartlets Lane could be described as a quiet lane suitable for roadside walking during daylight hours.

3.2.62 Bartlets Lane forms an on-road section of National Cycle Route 18, and is considered by Sustrans as a 'minor road'. Given Sustrans' assessment, Bartlets Lane can be classified as a suitable leisure route and one which will form an important function in the cycle strategy of future development in the area.

CHILMINGTON GREEN LANE

3.2.63 Chilmington Green Lane can be described as connecting Chilmington Green Road and Bartlets Lane via a 600m link which turns east through approximately 90 degrees. The character of the lane is rural, with narrow grass verges and hedges on each side of the road. Towards the junction with Bartlets Lane, the verges are of good width and provide separation for pedestrians.

3.2.64 There are limited opportunities for vehicles to pass each other, with the majority of suitable passing places being accesses to properties. Chilmington Green Lane is subject to National Speed Limit, but the carriageway width, road geometry and the properties which take access onto the lane may act as a constraint on vehicle speed.

3.2.65 There are no streetlights, and whilst there are no formal pedestrian and cycle facilities located on Chilmington Green Lane, the low traffic volumes make it an appropriate route for cyclists, walkers and equestrians.

LONG LENGTH

3.2.66 Broadly parallel to Bartlets Lane, Long Length is a rural lane providing access between Chilmington Green Road and Chart Road. The carriageway width is approximately 5.5m, with good visibility. The southern section of the lane is open with verges of up to 4m and low level hedges, whereas the northern section is lined by trees restricting available verge space. South of the roundabout junction with Coulter Road, traffic signs and street lighting define the urban edge and the beginning of the 30mph speed limit, beyond which Long Length provides a single roadside footway until it turns into Chart Road.

3.2.67 Due to its predominantly straight geometry, Long Length presents an attractive option for use in daylight by pedestrians, cyclists and equestrians, with suitable visibility for vehicles able to see non-motorised users ahead.

CHART ROAD / THE STREET / ASHFORD ROAD

3.2.68 Chart Road runs broadly north-east to south-west, becoming The Street and passing through Great Chart before finally becoming Ashford Road. This route is 2.3km in length from A28 Matalan roundabout to a priority controlled T-junction with the A28. Road widths in many places are 6m, including in some locations in Great Chart.

3.2.69 As it runs south-west from the Matalan roundabout there is narrow footway on the northern edge of the road and to the south the road is lined by hedges and verges. There is no streetlighting on this section of the road. The speed limit in this area is 40mph.

3.2.70 At the entrance to Great Chart there is a road width restriction which accompanies the reduction in speed limit to 30mph. Within the village, The Street runs through a staggered junction with Singleton Road and Ninn Lane and offers discontinuous footways on at least one side through the village. Intermittent ‘parish’ lighting is in place. Depending on the time of day, there is a lesser or greater degree of on-street parking on The Street.

3.2.71 South of the village the 30mph speed limit remains in place, with the road passing Ashford Friars Prep School. Footway is in place up to this point. The speed limit reverts to 40mph approximately 400m north of the junction with the A28.

3.2.72 Proceeding south, there are grass verges on either side of the road of which some are suitable for pedestrians. Approximately 60m north of the junction with the A28, National Speed Limit becomes applicable.

3.2.73 This road features no direct provision for cyclists, but is considered a suitable route for use by experienced cyclists.

3.2.74 Consultation with local residents, KCC and ABC has found there to be a concern of rat-running taking place through the village. It is understood that some motorists travel through Great Chart in order to avoid the peak hour queuing which can occur on the A28. The impact of future development on the A28 and Great Chart has been considered and will be addressed by KCC’s strategic highway improvements along the A28 corridor and elsewhere.

CHART ROAD

3.2.75 There are several roads named Chart Road in Ashford. This section considers Chart Road from its priority controlled T- junction with Mock Lane to the priority controlled T-junction with Cuckoo Lane, to the north of the proposed development area. Chart Road varies in width between approximately 4-5m accommodating two-way traffic flow at low speeds relying on informal passing places. The streetscape includes modest verges with hedges abutting the carriageway edge in places and restricting visibility.

3.2.76 Between the junctions of Mock Lane and Bartlets Lane, Chart Road forms part of National Cycle Route 18. There are no streetlights or pedestrian facilities in this area, with hedges limiting the amount of verge available, meaning pedestrians are mostly restricted to walking in the carriageway. Further east, as it proceeds towards the junction with Cuckoo Lane, Chart Road remains rural in character and continues to be absent of specific facilities for pedestrians and cyclists.

3.2.77 Chart Road in this location offers suitable leisure opportunities for pedestrians, cyclists and equestrians.

CUCKOO LANE

3.2.78 Cuckoo Lane is a lit semi-rural road which routes north-south for 300m between priority junctions with Knoll Lane and Chart Road. It is typically 6-7m wide and has a speed limit of 30mph.

3.2.79 Cuckoo Lane has footway on its eastern side at the south of the road near its junction with Chart Road. The road is treelined, reducing the potential for pedestrian and vehicle interaction. As it approaches the junction with Knoll Lane, footway is present on both sides. Further to the east of the road there is a shared cycleway/footway which begins near Cuckoo Lane's junction with Langney Drive. Streetlights are present for the length of Cuckoo Lane and there are two pedestrian refuge islands which provide crossing points for pedestrians. These are situated near the junctions with Langney Drive and Wesley School Road.

3.2.80 Due to the separation of facilities from the carriageway, Cuckoo Lane presents an attractive route for pedestrians and cyclists.

COULTER ROAD

3.2.81 Coulter Road is a suburban road which takes a route south and then east for 900m from Chart Road to Long Length where it forms a roundabout junction with Long Length and Merino Way. The speed limit is 30mph and the road has been designed with traffic calming measures.

3.2.82 The nature of the road is such that it has very few sections which are straight for any noticeable length. This appears to have two effects which were observed during an AM Peak site visit. Firstly, speeds did not appear to reach excessive levels, and secondly, despite there being no visible parking restrictions, there was no on-road parking.

3.2.83 Whilst no traffic count was undertaken on Coulter Road, it was observed that during the AM peak the amount of vehicles using the road was not excessive and there was a substantial gap between vehicles.

3.2.84 Coulter Road has a comprehensive footway provision which includes footway to the south of the road and a shared footway/cycleway to the north. On both sides of the road there are shrubs and small bushes in between the carriageway and pedestrian/cycle facilities. The full length of the road has streetlight provision. There are no formal pedestrian crossings on Coulter Road, but there are pedestrian refuge islands situated at regular intervals, all of which have dropped kerbs and tactile paving.

BRITANNIA LANE

3.2.85 Britannia Lane routes west to east through a residential area. It is approximately 700m long and routes from a priority junction with Pound Lane to a roundabout with Ashford Road. The speed limit on Britannia Lane is 30mph. Britannia Lane has a roundabout junction with Claudius Grove and priority junctions with Hadrian Gardens, Constantine Road and Antonius Court. The carriageway width ranges from 6 to 7m.

3.2.86 Britannia Lane has footway lining it on both sides, in some areas this is shared footway/cycleway. This is present from Britannia Lane's western junction with Millbank Road through to the junction with Augustus Court. Subsequent to this, the footway/cycleway continues south of the road through to the roundabout junction with Ashford Road.

3.2.87 Other than the westernmost extent, there is streetlighting along the length of Britannia Lane. This is an appropriate route for non-motorised users.

OLD SURRENDEN MANOR ROAD

3.2.88 Old Surrenden Manor Road is an unlit rural road which provides access in a broadly east-west direction, between the A28 and Bethersden. It is typically 5.5m wide and is approximately 2.5km in length. In the vicinity of its simple priority controlled T-junction with the A28, Old Surrenden Manor Road is bordered by nominal grass verges and hedges. In some areas the street is lined with hedgerows and trees, otherwise forward visibility is good.

SANDY LANE

3.2.89 Sandy Lane is a rural road which runs east-west for 1.4km from a simple priority controlled T-junction with the A28 to a priority controlled T-junction with an unnamed road. The national speed limit applies on Sandy Lane and the carriageway width varies between 4 and 5m, accommodating two-way traffic flows at low speeds along much of its length. Narrow grass verges are situated on each side of the road, bordered with hedgerows and intermittent trees.

GOLDWELL LANE

3.2.90 Goldwell Lane forms a priority controlled T-junction with the A28 and Chart Road. It runs broadly south-east to north-west for a distance of 1.9km to Etchden Road. It is a rural road where the national speed limit applies and offers a varying carriageway width ranging from 4 to 5.5m, permitting two-way vehicle movements at low speeds.

Individual dwellings gain direct access, frequently concealed by hedgerows due to nominal verges.

3.3 WILLINGNESS TO WALK

3.3.1 Guidance given by the Chartered Institute of Highways and Transportation (CIHT) in their publication 'Guidelines for Providing for Journeys on Foot, 2000' suggests that in terms of commuting, walking to school and recreational journeys, walk distances of up to 2,000 metres can be considered, with the desirable and acceptable distances being 500 metres and 1,000 metres respectively.

3.3.2 For non-commuter journeys, the guidance suggests that walk distances of up to 1,200 metres can be considered, with the desirable and acceptable distances being 400 metres and 800 metres respectively.

3.3.3 Assuming a 'typical' walking speed of 400m in 5 minutes, Table 3.1 summarises the broad walk journey times that can be 'considered'; are 'acceptable'; and those that are 'desirable':

Table 3.1: Walk Journey Times

CIHT 'Standard'	Distance		Walk Time	
	Commuting, Walking to School and Sight-seeing	Elsewhere	Commuting, Walking to School and Sight-seeing	Elsewhere
'Desirable'	500m	400m	6¼ mins	5 mins
'Acceptable'	1,000m	800m	12½ mins	10 mins
'Considered'	2,000m	1,200m	25 mins	15 mins

Source: CIHT 'Guidelines for Providing for Journeys on Foot, 2000'

3.3.4 It is important to remember that people's willingness to walk also includes a number of factors associated with the footway forming part of the highway and the environment within which it passes. In different environments the following factors will positively increase a willingness to walk:

- Provision of shelter during inclement weather;
- Active streets with good surveillance during hours of darkness;
- Increased separation from fast or heavy traffic;
- Increased footway width in places with high pedestrian activity; and
- High quality streets which provide strong design features that assist navigation in unfamiliar environments.

3.3.5 A person's willingness to walk can also be influenced by changes in level, as walking up or in some cases down long or steep gradients or steps exerts more effort. Generally, gradient of less than 1:20 have a negligible impact on people's willingness to walk.

3.4 PUBLIC RIGHTS OF WAY

3.4.1 The development area is located on the outskirts on Ashford. Being rural, there are few formal pedestrian facilities although the Public Rights of Way (PROW) provides a network of routes for pedestrian, cycle and equestrian movements. Several PROWs connect to the southern residential areas of Ashford, providing direct access to the proposed development area and can be seen on **Figure 3.2** which displays the pedestrian and cycle facilities subsequently discussed in this TA.

3.4.2 National Cycle Route 18 (Canterbury to Royal Tunbridge Wells and onward to link with route 21) runs through the site. Its route is broadly north to south. There are numerous traffic free cycle routes and other on-road recommended cycle routes throughout Ashford.

3.5 CYCLE NETWORK

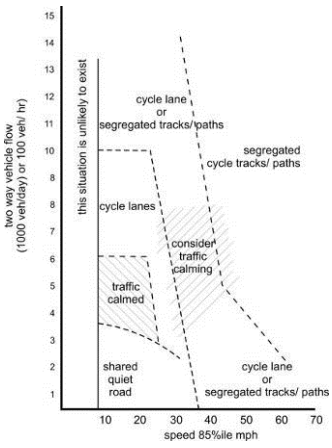
3.5.1 There are a number of designated walking and cycling routes in the vicinity of the development site as shown on **Figure 3.2**, many of which have been constructed in recent years and represent a marked improvement in infrastructure.

3.5.2 It is generally accepted that cycling has the potential to substitute for short car trips of 5km or less. It can also form part of a longer multi-modal journey involving public transport. The willingness to cycle reduces as distances increase where a series of factors affect mode choice. Assuming a typical cycling distance of 1,200m every five minutes the accessibility of facilities 5km from the site can be considered to be a 20 minute cycle ride.

3.5.3 A plan of Ashford's current urban pedestrian and cycle network obtained from KCC interactive mapping, including crossings is included at **Appendix C**.

WILLINGNESS TO CYCLE

3.5.4 Many people will cycle considerable distances depending on, inter alia, weather, time of day, level of fitness and real or perceived safety/convenience. National Travel Survey research indicates that the average cycle trip in the UK increased by approximately 27% between 2002 and 2010 to 2.8 miles. This figure is slightly below the distance between the centre of the site and Ashford town centre via National Cycle Route 18, this being 3 miles.



3.5.5 The most common response for unwillingness to cycle reflects varying levels of road safety concerns. For example, most parents are anxious of road safety risks thus young cyclists are less confident cycling on carriageway. This position is normally influential in the nature of constructed cycle infrastructure, unless the vast majority of cyclists on a route are more mature. The CIHT's *'Guidelines for Cycle Audit and Cycle Review'* present potential cycle infrastructure options based on the relationship between vehicle speed and flow. It is considerations such as these which will be incorporated into the design of cycle facilities at Chilmington Green.

3.5.6 Like car ownership, the capital cost of owning a vehicle contributes to use. Around 80% of children and nearly half of all adults own a bicycle and therefore adequate space for cycle parking is influential in design of new homes. Facilities at destinations are also significant factors in willingness to cycle, notably shower, changing facilities, lockers and safe secure parking.

3.5.7 Cycle parking both at home and at travel destinations is a key part to complementing the willingness to cycle. Table 3.2 shows that the nature of a journey purpose will influence willingness to park further from the end destination, although other factors such as security will influence choice.

Table 3.2: Cycle Parking – Distance and Location

Cycle Parking		Cycle Parking – location preference	
Journey Purpose	**Median Distance (m)**	**Influencing factor**	**%**
Commuting	40	Close to destination	86%
Business	50	Security	16%
Education	38	Only place available	9%
Shopping	125	Space available	7%
Leisure	20	Location conspicuous/busy	6%

Source: TRL 276: 'Cycle Parking and Demand'

3.5.8 Factors such as those highlighted in Table 3.2 have been considered in the location of cycle parking at Chilmington Green. The amount of parking, and its accessibility and security are recognised as important contributors to the amount of cycle trips which will be made by people at the development in future.

LOCAL CYCLE INFRASTRUCTURE

3.5.9 National Cycle Route 18 runs south west from Canterbury, via Ashford and Tenterden, to join up with Route 21 just west of Tunbridge Wells. The existing route runs through the development site to the east of Chilmington Green hamlet. Beyond Singleton, to the north of the site, the cycle route becomes traffic free, providing a direct connection to Ashford International station and Ashford town centre, including the Stour Centre for leisure facilities. This route can be seen on **Figure 3.2**.

3.5.10 Greensand Way Leisure route also provides access through the development. This route links Kingsnorth to the south and Great Chart to the north of the A28. While this link does not provide access into Ashford directly, use of this route alongside National Cycle Route 18 would enable access to destinations surrounding the site.

3.5.11 While the above two routes provide the important linkages between Ashford and the local areas and the new development, there are a number of minor routes that pass through the site. There are routes that provide access from the National Cycle Route through the ancient woodland to the southern section of Stanhope from which access into the town via residential streets can be made.

3.5.12 Ashford has a comprehensive network of cycle routes including many miles of traffic free cycle paths, which when combined with the signalised crossing facilities present in many strategic locations in the town, ensure that many journeys can be made by cycle without the need for direct interaction with vehicular traffic.

3.6 BUS NETWORK

3.6.1 Bus services in the southern part of Ashford are provided through a combination of:

- Regular services along the main arteries from the south and south west of Ashford from nearby local towns; and
- More frequent local shuttles from existing residential areas north of the proposed development area to the town centre.

3.6.2 The existing bus services that operate in close proximity to the Chilmington Green development site are shown on **Figure 3.3** and are detailed within Table 3.3.

Table 3.3: Current Bus Services near the Chilmington Green Site

Service Number	Location of nearest stop to Chilmington Green	Route	Frequency (number)	
			Weekdays	
			AM Peak	PM Peak
13	Ploughman's Way	Ashford - Stanhope - Ashford (circular)	0	1
A	Langney Drive	Singleton - Arlington - Ashford Town Centre (inc. International Station) – Stanhope	6	3
400	New Street Farm	Rolvenden - Tenterden - High Halden - Bethersden - Ashford	1	1
295/297	Stubbs Cross Post Office	Tenterden – Woodchurch – Shadoxhurst – Kingsnorth – Ashford Town Centre	0	0
11/11A/11B	Smithfields Crossroads	Lydd – New Romney – Ashford – Willesborough	2	0
B1/B2	Forestall Meadow	Ashford – (Kingsnorth Road B1 / Romney Marsh Road B2) – Park Farm	2	3

Source: Operator Timetables

3.6.3 The operators of these services are as shown in Table 3.4.

Table 3.4: Bus Service Operators in the Vicinity of Chilmington Green

Service Number	Operator
13	Kent Coach Tours
A	Stagecoach in East Kent
400	Stagecoach in East Kent
295/297	Nu-Venture and Arriva Kent & Sussex
11/11A/11B	Stagecoach in East Kent
B1/B2	Stagecoach in East Kent

3.6.4 The closest bus route to the site, service 400 operates along the A28 to the west of Chilmington Green. This route, as shown on **Figure 3.3,** begins near Somerset Road in Ashford town centre and then proceeds south along Station Road to Ashford International Station. The route then heads further south via Romney Marsh Road calling at the Asda store near the Ashford Designer Outlet centre.

3.6.5 From here, the route heads immediately west into the Norman Road / Beaver Lane / Brookfield Road corridor. This corridor is followed until it reaches the Matalan roundabout. At this point the route goes south-west on to Chart Road and through the village of Great Chart.

3.6.6 After passing through Great Chart, the 400 service route continues south-west along Ashford Road and then joins the A28. With the exception of a small deviation in Bethersden, the A28 forms the basis of the remainder of the southbound route. After Bethersden, the service continues through High Halden, Tenterden and terminates in Rolvenden.

3.6.7 Currently, the journey time on the 400 service from the closest stop to the site is 16 minutes to Ashford International station and 21 minutes to the town centre.

3.6.8 Collectively, Service 13 and Service A provide up to six services per hour during the day, Monday to Friday between the residential areas of Singleton and Stanhope, to the north of the site, and Ashford town centre. Of these two services, only Service A provides a direct connection with Ashford International Station.

3.6.9 Service B1/B2 provides a frequent service between Park Farm and the town centre while also providing access to the rail station. Service 400 operates along the A28 to the west of the development site. This is a less frequent service that operates hourly between Rolvenden and Ashford town centre, including Ashford International Station.

3.7 RAIL NETWORK

RAILWAY STATIONS & SERVICES

3.7.1 Ashford International Station is approximately 4km north of the site and offers a range of frequent rail services to local and strategic destinations, including Europe via Eurostar services.

3.7.2 The station is staffed 24 hours per day, seven days per week. In addition to sheltered cycle storage, the station has parking provision for 619 cars. These parking spaces include allowance for disabled users. Ashford International provides full wheelchair access in addition to ticket machine which are wheelchair accessible.

3.7.3 The range of services available from Ashford International provides onward travel for employment and leisure purposes. Table 3.5 sets out a summary of the destinations that are served.

Table 3.5: Rail Services from Ashford International

Destination	Approx Journey Time (minutes)
Tonbridge	36m
Maidstone East	23m
London Waterloo East (via Tonbridge)	75m
London Victoria (via Maidstone East)	61m
London Kings Cross / St. Pancras	35m
Hastings	41m
Folkestone Central	18m
Dover Priory	28m
Canterbury West	16m
Ramsgate	35m

Source: National Rail Enquiries

3.7.4 Ashford International is served direct by three main London stations. These are Waterloo East, Victoria and Kings Cross / St. Pancras. The journey times to these stations are 75 minutes, 61 minutes and 35 minutes respectively.

3.7.5 The centre of the Chilmington Green site is approximately 5.5 km from the international rail station via road. National Cycle route 18 runs through the site and provides a route to Ashford International Station. Currently Bus Service A provides access to Ashford International Station and routes within close proximity of the proposed site.

3.7.6 The Network Rail *London and South East Route Utilisation Strategy* (2011) identifies that with only committed rail improvement schemes included, by 2031 the High Speed 1 route could be up to 500 seats short of demand in the morning peak hour. Recommendations for avoiding this situation include additional rolling stock and an increase in platform capacity at Ashford International.

3.7.7 Table 3.6 highlights that passenger numbers at Ashford International Railway Station have grown by 20.5% in the last five years, although demand has remained stable in recent years due to economic conditions.

Table 3.6: Annual Passenger Numbers at Ashford International

Year	Passenger Numbers (entry / exit, millions)
2004/05	2.29
2005/06	2.41
2006/07	2.61
2007/08	2.82
2008/09	2.76
2009/10	2.76
Growth (2004/05 – 2009/10)	**20.5%**

Source: Office of Rail Regulator – www.rail-reg.gov.uk

RAIL PASSENGER TRENDS

3.7.8 The Channel Tunnel Rail Link (CTRL) had a dramatic impact on passenger numbers in the area, but local demand has been more steady.

3.7.9 Current forecasts[1] suggest rail passenger growth will continue around 2% per annum to 2016, thereafter falling to around 0.8% per annum. The Route Plans for the Kent area highlight that much of this growth is expected to occur due to station improvements in London, enhancing the potential for 10-12 car trains on the regional corridors.

3.8 EXISTING MODE SHARE

3.8.1 2001 Census Journey to Work data has been used to establish a mode share for trips in the vicinity of the site. Data from the 2011 Census is not currently available to use for this purpose. With the majority of the site falling in the Great Chart and Singleton North ward, the mode share of this ward has been reproduced in Table 3.7. It should be noted that this ward does not currently offer a direct proxy for Chilmington Green as it is considerable more rural at present than it will be following construction of the proposed development. Table 3.7 excludes people living in the ward who indicated that they work from home. For comparison purposes, Table 3.7 also shows the respective mode shares for the South East region and England as a whole.

[1] Southern Regional Planning Assessment for the Railway, DfT, 2007

Table 3.7: Mode Share Comparison

Mode	Great Chart & Singleton North Percentage Share	South-East Percentage Share	England Percentage Share
Car Driver	72.10%	65.71%	60.45%
Car Passenger	6.44%	6.28%	6.72%
Train	6.06%	6.25%	4.66%
Underground	0.00%	0.26%	3.48%
Bus	3.28%	4.83%	8.27%
Taxi	0.38%	0.46%	0.57%
Motorcycle	0.76%	1.25%	1.22%
Cycle	4.29%	3.41%	3.11%
Walk	6.69%	11.01%	11.00%
Other	0.00%	0.56%	0.51%
TOTAL	100%	100%	100%

Source: 2001 Census Journey to Work Data

3.8.2 The above data shows that the percentage of journeys to work being made by car in Great Chart and Singleton North is just under 7% higher than across the region as a whole and nearly 12% higher than across the country. This difference can be attributed to the rural character of the ward, and the limited opportunities to use sustainable modes to reach a place of work.

3.8.3 These are reflected in the mode share percentages for bus and walking, with walking in particular being almost 4.5% lower in Great Chart and Singleton North than regionally and nationally. The infrastructure and Travel Planning measures to be introduced by the proposed development would contribute significantly to redressing this.

3.8.4 Chilmington Green will have a high frequency bus service, designed to be an attractive choice to commuters. The convenience of the service to either elsewhere at Chilmington Green, or to Ashford Town Centre, should result in a significant increase in the mode share of bus travel, reaching the target of a 20% mode share agreed with ABC and KCC in during pre-application discussions.

3.8.5 It is notable that the percentage of journeys by cycle is actually higher than either the regional or national figures. This figure would be one which the proposed development would look to increase further, both through infrastructure and the location of facilities, creating an inducement for people to cycle (and walk).

3.9 CAR OWNERSHIP

3.9.1 Census data from 2001 has been interrogated in order to understand levels of car ownership in Great Chart and Singleton North and to offer a comparison with regional and national levels. Table 3.8 details car ownership, as extrapolated from the Census information.

Table 3.8: Car Ownership Comparison

Percentage of Households Owning:	Great Chart and Singleton North	South East	England
No cars or vans	11.46%	19.43%	26.84%
One car or van	45.44%	42.62%	43.69%
Two cars or Vans	35.08%	29.56%	23.56%
Three cars or vans	6.35%	6.29%	4.52%
Four of more cars or vans	1.66%	2.10%	1.39%
TOTAL	100%	100%	100%

Source: 2001 Census Car Ownership Data

3.9.2 The above table shows that ownership of one vehicle in Great Chart and Singleton North is very similar to regional and national levels. For other levels of vehicle ownership, there is a greater degree of disparity, notably in the percentage of households who do not own a car. The ward of Great Chart and Singleton North has a substantially lower percentage of households with no cars than the South East or England as a whole.

3.9.3 The 2001 Census data has also been used to determine an average number of vehicles owned per household. These averages are:

- Great Chart and Singleton North ward: 1.43 vehicles per household;
- South East region: 1.30 vehicles per household; and
- England: 1.11 vehicles per household.

3.9.4 The proposed development can indirectly aspire to reduce car ownership by offering a range of choices for making sustainable journeys and has, in its design, incorporated measures to ensure accessibility to key facilities by situating them in accessible locations.

3.9.5 Study of previous developments has informed that restricting car parking does not necessarily mean that home owners will reduce the number of cars they own. Developments built with the reduced parking philosophy have allowed us to see this only causes internal congestion through a lack of parking supply. Chilmington Green will provide parking to comply with the latest parking standards and seek to encourage residents to use alternative transport to the car, but not necessarily restrict residents from owning a car.

3.10 EXISTING TRAFFIC FLOWS

3.10.1 Traffic flows from the Ashford VISSIM Model for the baseline year of 2010 have been provided by KCC / Jacobs for the AM and PM peak periods. A selection of these flows for key links are shown in Table 3.9. Two-way flows across the entire network are shown in **Figure 3.4** for the AM peak and **Figure 3.5** for the PM peak.

Table 3.9: Ashford Traffic Model 2010 Baseline Peak Two-Way Flows

Link	AM Peak (08:00 – 09:00)	PM Peak (17:00 – 18:00)
A28 Templer Way	1839	2070
A28 Chart Road	2406	2493
Chart Road	312	300
B2229 Brookfield Road	1411	1374
Tithe Barn Lane	651	703
A28 Chart Road	654	812
Romney Marsh Road	1856	2003
Bartlets Lane	165	151
Long Length	206	228
Magpie Hall Road	274	379

Source: KCC / Jacobs

3.11 PERSONAL INJURY ACCIDENT RECORD

INTRODUCTION

3.11.1 Personal Injury Accident (PIA) information has been obtained from Jacobs Engineering Ltd for KCC. Data was obtained for the latest five year period available; this covered the period from 01/10/2006 to 30/09/2011. The PIA study area considers major corridors associated with the proposed Chilmington Green development to the south-west of Ashford, depicted in **Figure 3.6**. The study area also takes into account surrounding routes and junctions that could potentially be affected in terms of safety by increased traffic flow. For ease of reference the conclusions are colour-coded to the study area corridors.

3.11.2 The purpose of this PIA study and subsequent analysis is to identify trends within the data to inform a package of potential mitigation measures to enhance road safety. These measures will, so far as is reasonably practicable, assist in preserving highway safety within the study area where traffic flows are likely to change as a result of development.

3.11.3 In total 460 reported PIAs fell within the study area illustrated in **Figure 3.6**, of these 41 were classified as serious, four as fatal and the remainder as slight injury accidents. Of these 112 involved vulnerable road users, 97 being slight, 13 serious, and two fatal. These crash rates should be set in context relative to the road environment and traffic volumes and speed where Table 3.10 statistics suggest that the PIA / mvkm (million vehicle kilometres) are:

Table 3.10: Personal Injury Accidents / Million Vehicle Kilometers

Road Type	Speed environment (link and junction)	
	30-40mph	50-70mph
Dual Carriageway	1.0	0.13-0.23
Single Carriageway	0.84	0.17-0.40

Design Manual for Roads & Bridges, Volume 13, Section 1, Part 2, May 2004

METHODOLOGY

3.11.4 Due to the large number of accidents recorded over the five year period the data has been aggregated into groups and corridors, to ensure the data is relevant to its location within the study area and the link or junction affected.

3.11.5 Four major corridors have been identified which will be considered in detail within this report. These corridors were selected due to their proximity to the proposed site and the likelihood of impact from the development traffic. The corridors selected are identified on **Figure 3.6** and include:

- *CORRIDOR 1:* A28, from the M20 junction 9 to Drovers roundabout to A28 Ashford Road/ Old Surrenden Manor Road junction, representing a corridor of approximately 6km.
- *CORRIDOR 2:* A292 Mace Lane/ A2042 Beaver Road Junction to Ashford Road and its junction with Hornash Lane, representing a corridor of approximately 7km.
- *CORRIDOR 3:* B2229 Brookfield Road, representing a corridor of approximately 3km.
- *CORRIDOR 4:* Chilmington Green Road – Magpie Hall Road – Steeds Lane, representing a corridor of approximately 5.5km.

3.11.6 Following discussions with KCC four additional ‘corridors’ were also included in the analysis. These comprised:

- *CORRIDOR 5:* A2042 Bad Munstereifel Road (including the grade separated junction, following the A2070 south for approximately 2km. This represents a corridor of approximately 3km
- *CORRIDOR 6:* A292 Mace Lane to the end of the A292 Hythe Road up to the M20, representing a corridor of approximately 3.5km.
- *CORRIDOR 7:* Beaver Road from its junction with the A2042 to the end of Kingsnorth Road, representing a corridor of approximately 2km.

- *CORRIDOR 8:* The full length of Tithe Barn Lane, representing a corridor of around 0.8km

3.11.7 In addition this review will also consider certain junctions in greater detail, where the development impact could be considered more significant. This analysis will be used to inform any mitigation measures that might be considered necessary in reasonable scale and kind to the development impact. The locations of all accidents included in this review are shown on **Figure 3.7**. The data has been processed through the use of a Geographical Information System (GIS) and uses Ordnance Survey Grid References recorded with each PIA occurrence.

CORRIDOR 1

3.11.8 The A28 corridor consists of the A28 Ashford Road from its junction with Old Surrenden Manor Road, the A28 Chart Road and A28 Templer Way to M20 junction 9 and forms part of the local Primary Road Network (PRN). This corridor currently accommodates around 20,000 vehicles per day, and is forecast to increase even without the development and has therefore been identified for a strategic highway improvement scheme.

3.11.9 The personal injury accidents recorded on the A28 corridor are summarised in Table 3.11 below. As shown a total of 119 PIAs were recorded in the last five years, 13 of which involved vulnerable road users. Injury accident rates have declined slowly over previous years despite traffic flow increases.

Table 3.11: Corridor 1 PIA Record

CORRIDOR 1			
Road User	Slight	Serious	Fatal
Vehicle	103	3	0
Motor Cycle	5	3	0
Pedal Cycle	4	0	0
Pedestrian	1	0	0
Total	113	6	0
	119		

3.11.10 As the summary table indicates, 86% of reported PIAs involved vehicles and were slight in nature. The majority of these PIAs occurred at or approaching roundabout junctions along the A28 corridor. Other causes cited or alluded to include, failure to give-way, travelling too close to other vehicles, travelling too fast for the prevailing road conditions and, in one case, failure to obey a red light signal at temporary traffic lights. An additional three were reported as serious; where contributing factors include driver distraction, driver black out and a shunt at the give-way line of the M20 off-slip.

3.11.11 Of the entries involving vulnerable road users, eight involved motorcyclists. Five were slight in nature and attributed to late braking, poor weather conditions, failure to give-way and poor manoeuvring or changing of lanes.

3.11.12 Four PIAs involved cyclists and were attributed to failure to give-way, failure to look properly and poor manoeuvring, in one instance a driver disobeyed a red traffic signal and struck a cyclist.

3.11.13 The PIA involving a pedestrian resulted from the non-motorised user entering the carriageway suddenly and without warning. It appears that the pedestrian was attempting to cross the road through queuing traffic.

PIA CLUSTERS

3.11.14 Whilst there are junctions with appreciable clusters of accidents these are broadly within or below accident forecasts for similar junctions with comparable traffic flows. To explore any potential trends these have been examined further below which can be read alongside **Figure 3.8** which details the PIA locations in this part of the corridor.

A28 Ashford Road / Chilmington Green Road Priority Controlled T-Junction

3.11.15 Between 2006 and 2011 there were three PIAs at this junction, all of which were reported as slight in severity. Of these, two involved vehicles failing to give-way as drivers entered the A28. In addition one other was the result of a vehicle attempting to overtake a queue of traffic colliding with a vehicle turning right off of the A28

A28 Ashford Road / Old Surrenden Manor Road Junction Priority Controlled T-Junction

3.11.16 There have been six PIAs at this junction, all of which were of slight severity. All the PIAs have occurred over the most recent two years of the five year period. The PIAs were attributed to poor overtaking manoeuvres; shunts associated with vehicles waiting to turn right, disobeying temporary traffic lights, loss of control and failure to stop at a give-way line.

3.11.17 The data highlights a trend of drivers failing to observe right-turning vehicles stopping in the carriageway resulting in shunts and other collisions. Whilst the junction angle is slightly oblique this pattern appears to be associated with the ‘tunnel’ effect which occurs on rural lanes with nominal verges and hedgerows. Visibility on the A28 is very good but, despite an array of traffic signs, road markings, street furniture and surface treatments in this area, the junction is not apparent from the respective approaches.

CORRIDOR 1 CONCLUSION

3.11.18 Over half of the reported Personal Injury Accidents along the A28 corridor could be classed as shunts usually during dry/ fine weather. Some accident clusters exist but these are broadly around average levels for the environment and traffic flow.

3.11.19 The majority of the remaining PIAs reported along the A28 corridor occurred on the A28 Chart Road link. These were mostly attributed to low speed shunts in traffic, where turning vehicles into minor junctions or accesses block ahead traffic and following vehicles fail to see or fail to stop, or drivers entering the A28 from adjacent roads failed to look properly. The data does not suggest a concentration of such PIAs in the typical peak traffic periods.

3.11.20 The PIAs at junctions on this corridor reveal few discernible patterns. As the Local Transport Plan identifies strategic improvements to the A28 corridor it may be that a series of highway link and junction improvements will reduce conflict points. Where engineering measures might enhance road safety, isolated junction improvements will be reviewed later in this section.

3.11.21 The analysis of the PIA record along the A28 Corridor has revealed that in most cases driver error was the prevailing factor, whether through lapses in concentration, aggressive driving style or poor judgment.

CORRIDOR 2

3.11.22 Corridor 2 consists of the Ashford Road from the south east of Ashford, connecting to the A2042 Romney Marsh Road continuing to the centre of Ashford terminating at its junction with the A292 Mace Lane. Like the A28, this corridor forms part of the local PRN into the centre of Ashford; in addition it also provides links towards the east, specifically the M20 junction 10 and 10A in the future.

3.11.23 The PIAs recorded along corridor 2 are summarised in Table 3.12 below. As shown, a total of 113 PIAs have been recorded in the last five years, 27 of which involved vulnerable road users.

Table 3.12: Corridor 2 PIA Record

CORRIDOR 2			
Road User	Slight	Serious	Fatal
Vehicle	81	5	0
Motor Cycle	12	0	1
Pedal Cycle	5	2	0
Pedestrian	6	1	0
Total	104	8	1
	113		

3.11.24 The data reports 81 slight and 5 serious PIAs involving vehicles, the main contributing factors were recorded as failure to look properly and failure to give-way. At and approaching junctions on the corridor the majority of injuries were sustained as a result of shunts. There was also instances of drivers disobeying red traffic light signals, in one case a driver claimed they had been confused by the signal arrangement themselves and one other attempted to drive through on amber lights.

3.11.25 Of the eight Personal Injury Accidents recorded as serious in nature, three involved vulnerable road users; two pedal cyclists and one pedestrian.

3.11.26 The PIA involving a pedestrian occurred as a driver was preforming a reversing manoeuvre and collided with the NMU (Non-Motorised User).

3.11.27 The other serious PIA reported arose due to a mechanical failure of a bicycle. The cyclist's chain snapped causing the rider to fall off and break their ankle.

3.11.28 12 slight PIAs involved motorcyclists and were primarily attributed to loss of control, either due to poor weather conditions or sudden evasive action. Loss of control PIAs were reportedly attributed to a defective road surface, failure to give-way by other road users, riding too close to the proceeding / adjacent vehicle, disobeying red traffic signal and failure to observe the road properly.

FATAL PERSONAL INJURY ACCIDENTS

3.11.29 A fatality occurred in September 2009, on the Ashford Road approximately 250m south of its junction with Steeds Lane. This road is rural in nature and subject to the national speed limit, the PIA in question occurred at a bend near an access to farm land, where two vehicles appear to have been parked at the time. The police officer reported that the rider negotiated the bend and was confronted by two vehicles stationary in the road, upon reacting to this hazard the rider lost control of his vehicle he struck a vehicle travelling in the opposite direction. This caused the rider to fall from his motorcycle and collide with the rear of the stationary vehicle. The road surface was described as being in good condition but damp due to recent rain. Speed was not indicated to be a factor in this PIA.

3.11.30 Reviewing the highway environment it is evident that visibility around the bend is restricted. Whilst the highway is subject to the national speed limit, the rider should have adjusted his speed to reflect conditions. It appears that a number of unforeseen factors contributed to his death where appropriate reaction by the rider could have reduced the accident severity.

PIA CLUSTERS

3.11.31 Whilst there are junctions with appreciable clusters of accidents these are broadly within or below accident forecasts for similar junctions with comparable traffic flows. To explore any potential trends, again these have been examined further below which can be read alongside **Figure 3.9** which details the PIA locations in this part of the corridor.

Romney Marsh Road / Norman Road Roundabout Junction

3.11.32 Between 2006 and 2011 there were 15 Personal Injury Accidents at the roundabout, of which two were serious and 13 resulted in slight injuries. Of the two serious PIAs, one was due to a driver disobeying a red light and colliding with a cyclist, and the second was mechanical failure of a bicycle. Therefore both PIAs could not be contributed to conditions where engineering measures could remove or reduce the severity.

3.11.33 The remaining PIAs were mainly attributed to vehicles crossing the path of another vehicle, loss of control, poor weather conditions, failure to give-way and shunts at or approaching the junction.

3.11.34 The primary contributory factor to each of these PIAs can be attributed to driver error, thus remedial engineering measures are unlikely to remove or reduce the severity.

Bad Munstereifel Road / Romney Marsh Road Roundabout Junction

3.11.35 Between 2006 and 2011 there were 21 PIAs at this junction, of which only two were classified as serious. The first was due to a vehicle losing control at the junction and colliding with the central island. The other involved a vehicle swerving to avoid a car on the circulatory carriageway who braked heavily.

3.11.36 The PIA frequency at this junction is above average for the existing traffic flow however the majority of PIAs arose as a result of shunts, losing control or failing to give-way which may be attributed to the high speed approaches where visibility of preceding roundabout arms is very good.

Ashford Road / Magpie Hall Road Junction

3.11.37 During the years 2006-2011 there were seven PIAs at this junction with a further three just south of Magpie Hall Road. Of the PIAs at the junction, two were serious and five were of slight severity. Of the three PIAs just south of the junction, one was fatal with the other two resulting in slight injuries.

3.11.38 The contributing factors cited in the data were failure to give-way, poor over-taking manoeuvres, driver confusion, shunts at or approaching the junction and a pedestrian walking in front of oncoming traffic.

3.11.39 A few PIAs occurred to the south of junction, these include a fatal collision due to a motorcyclist swerving into oncoming traffic. The two slight injuries were due to a vehicle losing control in wet conditions around the bend in the road, and failure to give-way from a minor access along the road.

3.11.40 The junction currently has reduced visibility which could have been the reason for the PIAs at the junction give-way, whereby vehicles ‘creep’ forward into the circulatory carriageway. The visibility on the bend to the south of the junction could also be a cause for concern. Lowering the posted speed limit earlier could be a simple yet effective mitigation measure.

CORRIDOR 2 CONCLUSION

3.11.41 As was found in the analysis of corridor 1, the Personal Injury Accident record has revealed that the majority of recorded PIAs can be attributed to driver error. The trends also revealed that the majority of PIAs occurred at junctions suggesting low speed shunts at the give-way / stop line or collisions on the circulating carriageway.

3.11.42 There are some under-lying safety issues associated with speeds approaching and through junctions on corridor 2 which could be tackled with enhanced education and enforcement.

3.11.43 As the Highway Authority has not sought to identify measures to tackle these problems in previous Local Transport Plans, it would appear most appropriate to manage traffic flow and safety on this corridor with measures appropriate to the scale of development impact. On this basis, revisions to speed limits and supporting traffic management measures should be sufficient to reduce the number and frequency of PIAs.

CORRIDOR 3

3.11.44 Corridor 3 encompasses the entire length of the B2229, which runs broadly east / west between corridors 1 and 2. It includes Brookfield Road which leads into Beaver Lane and Norman Road. This corridor runs between communities of South Ashford, Singleton and Stanhope. A number of local centres, schools and a college lie north or south of the route, thus the demand of pedestrian and cycle movement is much higher than other corridors considered in this assessment.

3.11.45 The Personal Injury Accidents recorded along corridor 3 are presented in Table 3.13 below. As shown a total of 60 PIAs have been recorded in the last five years, 26 of which involved vulnerable road users.

Table 3.13: Corridor 3 PIA Record

CORRIDOR 3			
Road User	Slight	Serious	Fatal
Vehicle	32	1	0
Motor Cycle	3	0	0
Pedal Cycle	7	2	0
Pedestrian	12	2	1
Total	54	5	1
	60		

3.11.46 A total of 33 PIAs involved vehicles only; these were attributed to low speed shunts at uncontrolled junctions or in slow moving traffic. A number were also the result of drivers failing to look properly or give-way at junctions along the B2229 corridor. The remainder of the PIAs were attributed to various factors including, disobeying traffic signal and loss of control in poor weather. In one instance a driver was found to be operating their mobile phone while driving, and another was over the legal driving alcohol limit.

3.11.47 There were three PIAs involving motorcyclists, the cause of one of which was a loss of control due to oil and water on the road.

3.11.48 There were nine reported PIAs involving cyclists, which were attributed to a rider failing to give-way at a roundabout, riders cycling into the path of vehicles, and cyclists striking objects in the road / kerbs causing them to fall off.

3.11.49 A fatal PIA was reported in 2009, on the sharp bend along the B2229 Beaver Lane / Kingsnorth Beaver Road. The police reported that a vehicle mounted the kerb striking a group of pedestrians resulting in five casualties. It was also indicated that the road condition was good, the weather was fine and street lighting was working. No other causes were cited.

PIA CLUSTERS

3.11.50 Whilst there are junctions with appreciable clusters of Personal Injury Accidents these are broadly within accident forecasts for similar junctions with comparable traffic flows. To explore any potential trends, again these have been examined in more detail below.

Brookfield Road / Knoll Lane

3.11.51 Five Personal Injury Accidents occurred at the Brookfield Road / Knoll Lane junction in the five year period of which all recorded as slight injuries. These were attributed to loss of control, shunts, failure to comply with a stop signal and speeding.

Brookfield Road / Leacon Road

3.11.52 This junction has been improved recently, including a signal controlled junction and pedestrian / cycle crossings. The older data suggests that there was a cluster of low speed accidents at this junction which has decline in recent years. It is therefore reasonable to assume that these improvements are mitigating PIA trends. Incidents arising at and near the junction in the future should be addressed through remedial measures associated with the stage 3/4 Road Safety Audit of the recently implemented traffic signal junction.

CORRIDOR 3 CONCLUSION

3.11.53 A review of the PIAs recorded along the length of corridor 3 again display trends of PIAs occurring at junctions, suggesting low speed incidents at the give-way / stop line or on the main carriageway in low speed traffic.

3.11.54 Pedestrian and cycle infrastructure along and crossing the B2229 is currently good with several shared-use footway / cycleways, informal drop crossings and signalised controlled crossings, some of which are integrated into junctions and therefore preserve key desire lines in the local area. These will serve to ensure NMU's from the proposed development can access the town centre and surrounding facilities safely.

3.11.55 Measures that contribute to reducing vehicle speeds could positively contribute to the safety record of this corridor but no measures have been identified in recent Local Transport Plans. Any improvements should focus on balancing the needs of pedestrian / cycle movements whilst preserving traffic flows.

CORRIDOR 4

3.11.56 Corridor 4 encompasses the rural road of Chilmington Green Road and Magpie Hall Road, which runs broadly east / west between corridors 1 and 2, from the junction with A28 Ashford Road to a priority controlled T-junction with Ashford Road and Steeds Lane. This corridor also runs south of Ashford and Singleton / Stanhope and some of the corridor would become integral to the development.

3.11.57 The PIAs recorded along corridor 4 are presented in Table 3.14 below. As shown, a total of 22 PIAs have been recorded in the last five years, four of which involved vulnerable road users.

Table 3.14: Corridor 4 PIA Record

CORRIDOR 4			
Road User	Slight	Serious	Fatal
Vehicle	13	5	0
Motor Cycle	0	0	0
Pedal Cycle	1	0	0
Pedestrian	3	0	0
Total	17	5	0
	22		

3.11.58 22 Personal Injury Accidents have been reported along this corridor, 18 of which involved vehicles. The major contributing factors are reported as failure to look/ give-way and loss of control. In two cases, shunts occurred as vehicles slowed to pull into property accesses, and in at least one case the driver was unable to see properly due to overgrown vegetation. The five serious PIAs occurred due to poor overtaking manoeuvres and poor vehicle control.

3.11.59 Three PIAs involved pedestrians, one was due to a vehicle shedding its load which struck a pedestrian, another was due to a pedestrian walking into the path of an oncoming vehicle. The final PIA occurred when a vehicle lost control and struck a pedestrian as it exited the carriageway onto the verge.

3.11.60 One PIA involved a cyclist and occurred when the cyclist emerged from a driveway into the path of an oncoming vehicle.

CORRIDOR 4 CONCLUSION

3.11.61 There are relatively few PIAs on the corridor and the number and array of these do not depict any discernible pattern. Traffic flow conditions will change as a result of the phased development and appropriate measures will be considered by KCC as part of their ongoing Local Transport Plan initiatives to maintain traffic flows and minimise delays and accidents.

CORRIDOR 5

3.11.62 Corridor 5 extends from the A2042 Romney Marsh Road / A2042 Bad Munstereifel Road junction and continues south from the grade separated junction along the A2070. This corridor provides strategic links to the M20 junction 10 and to the east of Ashford.

3.11.63 The Personal Injury Accidents recorded along corridor 5 are presented in Table 3.15 below. A total of 25 PIAs were reported along this corridor in the data provided, the majority of which occurred at or near to the grade separated junction connecting the A2070 with the A2042.

Table 3.15: Corridor 5 PIA Record

CORRIDOR 5			
Road User	Slight	Serious	Fatal
Vehicle	13	3	1
Motor Cycle	4	2	1
Pedal Cycle	1	0	0
Pedestrian	0	0	0
Total	18	5	2
	25		

3.11.64 Seventeen of the PIAs recorded involved vehicles, and were attributed to loss of control on bends at on/ off-slips, failure to obey traffic signals, swerving to avoid animals in the highway and failure to signal during lane change.

3.11.65 Seven PIAs involved motorcyclists, four of which were slight, two serious and one fatal. Contributing factors include loss of control on the bends at the on / off-slips, diesel on the road and speed.

3.11.66 The PIA involving a cyclist occurred when a second push bike collided with the first on the cycle path on the northern side of the A2070/A2042 Junction.

3.11.67 Two fatal PIAs have been reported on this corridor; the first occurred involved a motorcyclist and occurred in June 2006. The police report indicates that a vehicle changed lanes westbound on the A2070 and may have made contact with the motorcycle, causing the rider to fall from his vehicle. The rider subsequently slid along the carriageway and struck a post causing fatal injuries.

3.11.68 The second fatal occurrence was reported in October 2010 and occurred on the A2070 approximately 1km south of the junction with A2042 Bad Munstereifel Road. The vehicle was struck head on by a vehicle in the opposite direction causing fatal injuries.

CORRIDOR 5 CONCLUSION

3.11.69 A review of the Personal Injury Accidents along this corridor indicate that the vast majority of PIAs occurred due to vehicles losing control on the bends that form the on / off-slips to the A2042 Bad Munstereifel Road. In order to mitigate such incidents anti-skid surface treatment may be required, along with additional chevron signage to increase the conspicuity of the bend.

CORRIDOR 6

3.11.70 Corridor 6 includes the A292 Mace Lane from its junction with the A292 Maidstone Road along the full length of A292 Hythe Road. It forms a route from the M20 Junction 10 across the northern part of Ashford into the town centre. A total of 72 Personal Injury Accidents were reported in the five years period supplied as shown in Table 3.16 below.

Table 3.16: Corridor 6 PIA Record

CORRIDOR 6			
Road User	Slight	Serious	Fatal
Vehicle	33	4	0
Motor Cycle	4	0	0
Pedal Cycle	10	2	0
Pedestrian	18	1	0
Total	65	7	0
	72		

3.11.71 Of the 72 PIAs 90% were slight in nature. The data reveals a broadly even split between incidents involving vehicles and vulnerable road users. Over 25 % of the total PIAs involved pedestrians.

3.11.72 The contributing factors recorded for vehicles included shunts at signals / in slow moving traffic and vehicles pulling out of side roads into the path of oncoming vehicles. There were also reported instances of traffic signal failures which resulted in some low speed PIAs.

3.11.73 Four PIAs involved motorcyclists, these were attributed to drivers failing give-way to the rider and cutting across their path when performing U-Turns or lane changes. In one instance a rider lost control after clipping a kerb.

3.11.74 Nineteen PIAs involved pedestrians despite frequent formal crossing facilities being available. The factors surrounding these PIAs were mostly reported as pedestrians crossing the road without looking properly, characteristic of a town centre environment.

3.11.75 Twelve PIAs involved cyclists; these were reported as being caused by riders pulling into the carriageway without looking properly, drivers failing to see riders at junctions and vehicles passing too close to the cyclist.

CORRIDOR 6 CONCLUSION

3.11.76 All of the PIAs reported along this corridor were low speed in nature, with very few resulting in serious injury. A large proportion involved pedestrians and cyclists. Whilst the frequency of pedestrian and cycle casualties might be a concern they are characteristic of a town centre. It appears several new crossings have been installed in recent years and the recent pedestrianisation of the town centre should serve to mitigate a large number of existing conflicts.

CORRIDOR 7

3.11.77 Corridor 7 comprises of the full length of Beaver Road from its junction with A24042 south to the end of Kingsnorth Road. This road provides a secondary connection to the eastern side of Ashford and the Town Centre.

3.11.78 A total of 35 Personal Injury Accidents were reported in the 5 year period provided, and are evenly distributed across the length of the corridor. These are summarised in Table 3.17.

Table 3.17: Corridor 7 PIA Record

CORRIDOR 7			
Road User	Slight	Serious	Fatal
Vehicle	14	1	0
Motor Cycle	1	0	0
Pedal Cycle	8	2	0
Pedestrian	8	1	0
Total	31	4	0
	35		

3.11.79 In total 15 PIAs involved vehicles, these were mostly cited as being caused by drivers failing to stop approaching queuing traffic and failure to look properly as drivers pulled out onto the main carriageway. There were also a number of cases where drivers attempted to abuse the prohibition of driving order, except for permitted vehicles, which is reinforced with a rising bollard on Beaver Road.

3.11.80 Ten of the PIAs involved cyclists. The contributing factors were reported as vehicles cutting across the cyclist's path as they turned into side roads, mechanical failure, pot hole / manhole cover defects and sudden evasive action.

3.11.81 A total of nine PIAs were reported to have involved pedestrians, almost all of which were the result of pedestrians crossing the road without looking.

CORRIDOR 7 CONCLUSION

3.11.82 There are no accident 'clusters' on this corridor. However the type of PIAs recorded do show a pattern typical of the roads character, i.e. fairly dense pedestrian movement conflicting with traffic flows across the day. This corridor could be considered to form part of the '*safe routes to school*' network for Linden Grove Primary School, and this is indicated in the data which shows the majority of casualties involving pedestrians were younger people.

CORRIDOR 8

3.11.83 Corridor 8 comprises of Tithe Barn lane, connecting the A28 to Knoll Lane. It is a short link however provides important connection to the A28 and the west of Ashford. A total of 14 PIAs were reported in the data provided and are summarised in Table 3.18.

Table 3.18: Corridor 8 PIA Record

CORRIDOR 8			
Road User	Slight	Serious	Fatal
Vehicle	11	1	0
Motor Cycle	1	0	0
Pedal Cycle	0	1	0
Pedestrian	0	0	0
Total	12	2	0
	14		

3.11.84 A total of 12 PIAs involving vehicles occurred. These were attributed to vehicles shunts at or approaching junctions and vehicles turning across the path of oncoming traffic.

3.11.85 In one instance a motorcyclist was knocked off his vehicle by a car turning across his path. Similarly a cyclist was also injured by a bus in a different incident.

CORRIDOR 8 CONCLUSION

3.11.86 The number of PIAs recorded on this link indicates that there is no discernible pattern that could be associated with the existing highway environment. Typically, incidents were low speed in nature due to the 30mph restriction and involved vehicles turning across other vehicles. This could be due to forward visibility however reviewing photos of the link this does not appear to be restricted.

OTHER PERSONAL INJURY ACCIDENTS

3.11.87 Outside of the ten defined corridors there were some junctions which display some clusters at or approaching junctions, close to the proposed development, where forecast traffic changes might be perceived to exacerbate conditions. These have been examined in more detail below.

Great Chart

3.11.88 Three PIAs occurred at the Chart Road and Singleton Road junction during the five year period of which all were of slight severity.

- The first was due to a vehicle travelling at speed along Chart Road in the middle of the carriageway, causing oncoming vehicle to swerve out of the way.
- The second was due to ice on the road causing a vehicle to lose control.
- The final PIA was due to a cyclist travelling at speed past parked cars, one of which one pulled out into the cyclists path.

3.11.89 There are few PIAs recorded at this junction and the data does not depict any discernible pattern, indeed the majority appear to relate to poor driver judgement. It would therefore be reasonable to suggest that limited engineering measures could remove or reduce the severity of these PIAs.

Coulter Road / Chart Road

3.11.90 The proposed development will include a secondary access to Coulter Road, where two PIAs occurred within the recent five years. The first, a slight PIA occurred on the corner of Coulter Road, and was due to a vehicle negotiating the bend, skidding on ice, and resulting in a head-on collision. The second PIA was also of slight severity and occurred at the Chart Road / Mock Lane junction. The vehicle failed to give way to a vehicle on Mock Lane; however the police report highlighted poor conditions at the junction with slippery road surface and poor visibility.

3.11.91 These isolated incidents could be attributed to reduced levels of road treatment due to extreme weather conditions and do not warrant specific mitigation measures however enhanced maintenance including trimming of vegetation could have contributed to reduced accident severity.

Chart Road / Long Length Junction

3.11.92 During public consultation, a concern was raised regarding the safety of this junction as a result of perceived geometry and speed issues. The review of PIA records shows that there have been no accidents within the study period. An onsite review of the junction found there to be sufficient visibility to allow safe manoeuvring.

OVERALL PIA SUMMARY

3.11.93 Reviewing the recorded Personal Injury Accidents along each of the corridors revealed few appreciable PIA trends, where the PIA/mvkm were slightly higher than average these were typically balanced by reduction elsewhere on the corridor, where the vast majority of PIA trends can be attributed to driver error.

3.11.94 Whilst the accident rate based on traffic flows, relative to road type, is characteristic it is evident that some junctions or parts of the study corridors are forecast to increase and may require improvements.

3.11.95 The A28 has already been identified as a strategic road improvement corridor and such planned improvements will improve road safety.

3.11.96 Parts of Chilmington Green Road, Mock Lane, Long Length and Bartlets Lane will become integral to the development area, whereby new roads will be provided to distribute the level of safety risk. Thereafter other corridors or junctions may require localised treatment and improvement, considered in further detail where relevant in this section.

ROAD SAFETY MITIGATION

3.11.97 This section has examined the Personal Injury Accident history across Ashford, focusing on eight corridors and select localised areas either where PIA cluster exists or where the development is likely to material change conditions.

3.11.98 Where trends have been identified, where the PIA/mvkm are above average or where other infrastructure improvements have been proposed, these are considered below, reporting how these could preserve or enhance highway safety.

CORRIDOR 1 MITIGATION

3.11.99 In terms of potential mitigation measures, the M20 junction 9 and Drovers roundabout have recently undergone major improvement works. It is therefore reasonable to assume that these improvements will mitigate PIA trends demonstrated in the data provided to the northern most end of the A28 Corridor. In fact PIAs in this area that have occurred during 2010-2011 could be influenced by temporary traffic management arrangements. Incidents arising in the near future should be addressed by a stage 3/4 Road Safety Audit.

3.11.100 A number of junction PIAs are associated with existing junction arrangements, in some cases reflecting historical conditions such as poor deflection at roundabouts etc. KCC's proposed A28 strategic highway improvements considered in Section 7 could be expected to address some of these residual patterns.

3.11.101 The A28 Ashford Road / Chilmington Green Road junction reveals a small concentration of PIAs. As the proposed development includes two new roundabouts on the A28, the design and approach speeds will reduce, reinforced with speed limit changes. Indeed the new road infrastructure within the development area will distribute traffic onto other junctions, reinforced with changes to the streetscape. Additionally, this junction will effectively be closed in future, providing local access only.

3.11.102 As tidal traffic movements at the A28 / Tithe Barn Lane roundabout create limited flow interruption at the roundabout, the combination of poor deflection contribute to a modest pattern of shunt and loss of control incidents. As a result of forecast traffic flows, a possible junction improvement has been identified, including traffic signal controls which may be delivered at the end of the strategic improvements to the corridor. In combination with changes to the speed limit if these are required they should reduce the number and significance of these PIAs.

3.11.103 The potential to deliver improvements to the A28 / Old Surrenden Manor Road junction is very limited however the proposed development site access roundabout to the north will reduce approach speeds which can be reinforced with a new speed limit south of the junction. If the increase in traffic contributes to increases in right-turn crashes out of Old Surrenden Manor Road it would be possible to introduce a right-turn ban diverting such trips to U-turn at the roundabout. Such issues could be considered as part of a stage 4 Road Safety Audit for the access roundabout.

CORRIDOR 2 MITIGATION

3.11.104 Corridor 2 is made up of both rural and urban type roads. Almost 70% of the recorded PIAs occurred at major roundabout and signal junctions along the corridor south of the A2042 / Beaver Road roundabout.

3.11.105 Whilst the PIA rate is broadly consistent with traffic flow levels, the vast majority occurred at junctions. As the Magpie Hall Road junction is retained and modest access is provided through the Brisley Farm estate the development impact on the corridor will be limited. Modest mitigation measures are identified to mitigate the development impact summarised below.

3.11.106 Any pattern of PIAs at the Romney Marsh Road / Norman Road Roundabout Junction is characteristic of a busy roundabout with high speed approaches. Visibility to the right is excellent on most approaches where limited deflection might contribute to excessive approach speeds and collisions. It may be appropriate to consider measures to reduce visibility on the approach through the provision of additional planting, anti-glare screens or other fencing. In some locations similar measures have contributed to marked reductions in PIAs at relatively small cost.

3.11.107 The Bad Munstereifel Road / Romney Marsh Road Roundabout is a relatively new junction and therefore some of the earlier PIA patterns have been mitigated through recent works. Indeed it may be reasonable to suggest that any subsequent PIAs within 1-3 years will be reviewed as part of the stage 3/4 Road Safety Audit, the findings of which would advise on further improvements. Similar measures to Romney Marsh Road / Norman Road Roundabout may be appropriate.

3.11.108 The PIAs at the Ashford Road / Magpie Hall Road highlight a localised pattern of accidents occurring due to drivers failing to give-way. Some of this pattern can be attributed to:

- Perception of junction proximity and visibility for northbound (Ashford Road) traffic around a modest bend on the approach to the junction; and
- Restricted visibility to the south, from the minor arms at the junction.

3.11.109 It is suggested that the existing 40mph speed limit be relocated south of the bend and road markings revised to improve visibility, whilst visually reducing the carriageway width. By retaining the existing junction arrangement this will manage traffic demand from this junction and reduce approach speeds and thereby mitigate PIA severity.

CORRIDOR 3 MITIGATION

3.11.110 The analysis of the recorded data on Corridor 3 again reveals a trend of PIAs related to driver or NMU error, particularly the failure to use dedicated crossing facilities. The impact of the proposed development will have a modest impact on this corridor, focused on the ends of the route. Corridor 3 will serve some local trips with the majority of development traffic travelling west to the A20 / M20 junction 9.

3.11.111 The analysis of this Brookfield Road / Knolls Lane junction reveals that the majority of PIAs appear to be caused by poor driving behaviour with drivers passing through red lights and being aggressive. Due to the modest predicted impact no measures have been suggested to mitigate this junction, although it is understood that as part of KCC's public transport improvements this junction will be improved.

CORRIDOR 4 MITIGATION

3.11.112 Around half of Corridor 4 will become integral to the development proposals where new roads and altered streetscape will serve to mitigate the development impact. It is anticipated that Chilmington Green Road would be realigned with the existing road preserved with restricted access at its western end. The new roads will be constructed as an urban street which encourages low speed thereby mitigating the development impact.

3.11.113 Measures to improve the pedestrian environment and manage vehicle speeds on Magpie Hall Road are identified in Drawing No 2761/SK/047/A proposed to manage travel demand to the east, focusing improvements to Corridor 1 as part of the Strategic Corridor Improvements.

3.11.114 There are relatively few PIAs recorded at the Ashford Road / Magpie Hall Road junction and the number and array of PIAs do not depict any discernible pattern. It would be reasonable to suggest that limited engineering measures could remove or reduce the severity of these PIAs.

3.11.115 The PIA data recorded at this location does not indicate any general safety issue, and the potential impact from the development is viewed as minimal. However it is suggested that traffic calming is introduced in order to reduce the potential for rat-running.

3.11.116 To preserve the streetscape quality of Chilmington Green Road, new road infrastructure will be constructed to the north providing a new route to the proposed northern access, converting the existing road into a quiet lane through the heart of the development.

3.12 SUMMARY OF EXISTING CONDITIONS

3.12.1 Chilmington Green is situated on the outskirts of Ashford and has good access to the local and strategic highway network, with various local distributor roads in the vicinity of the site facilitating convenient access to the A28 and the M20.

3.12.2 The western edge of the site is served by the 400 bus service, which has a route northbound into Ashford, providing access to the Town Centre and Ashford International station.

3.12.3 An examination of 2001 Census data shows that car ownership in the Great Chart and Singleton North ward in which much of the site is located is higher than the national average, this is also the case for the percentages of journeys to work made by car. The proposed development will address these through its design and infrastructure provision, making sustainable travel an appealing choice.

3.12.4 A review of Personal Injury Accident records for the most recently available five year period has found little discernible pattern of PIAs along the eight corridors studied. Where appropriate, mitigation measures along the four corridors of most significance to the proposed development have been highlighted.

4 Present Accessibility To Facilities & Locations

4 Present Accessibility to Facilities and Locations

4.1 INTRODUCTION

4.1.1 The mixed use nature of the proposed development will provide many of the facilities which the residents of Chilmington Green will require on a daily basis. This convenience and locality of facilities will ensure that many journeys can be made via sustainable modes and thus remain within the development boundary.

4.1.2 This section will review the current accessibility of the site to facilities in Ashford and beyond via sustainable modes, and when read in conjunction with Section 12 offers a comparison of the 'before' and 'after' impact of the Chilmington Green site.

4.1.3 It is generally understood that walking and cycling are of high importance at the local trip level, offering the greatest potential to replace short car trips where they are under 2 kilometres for walking and 5 kilometres for cycling. Section 4 of the NPPF, emphasises the need for land use and transport planning to be integrated in a manner which promotes sustainable development with good access to local facilities.

4.2 METHODOLOGY

4.2.1 In order to provide the most accurate assessment of current pedestrian accessibility, a GIS based methodology has been utilised. To facilitate comparison with the proposed development, three centroids have been taken, which are the locations of the future district centre and the two local centres.

4.2.2 Close to the northern boundary of the site, there is a perceivable gradient change. This has been incorporated into the assessment, constraining the distance which can be travelled on foot or by cycle from Chilmington Green in any period.

4.3 PEDESTRIAN ACCESSIBILITY

4.3.1 As shown on **Figure 4.1**, there is currently limited accessibility to existing facilities in Ashford from the site. Some of the facilities located in the south of Ashford, a short distance from the northern border of the development, are reachable within 30 minutes.

4.3.2 A small pocket of facilities is accessible in less than 25 minutes, located in Singleton. These include schools, convenience retail, a GP and a pharmacy. Other than these, the only other facilities within reasonable walking distance are a nursery on the northern fringe of Shadoxhurst and Ashford Friars Prep School, located in Great Chart. Both of these facilities can be reached in less than 20 minutes. The Post Office in Stubbs Cross can be reached in less than 20 minutes' walk.

4.3.3 It can therefore be surmised that a journey on foot is generally not currently a means of accessing anything more than the most basic facilities. The current road network is not conducive to making certain of these journeys though. For instance it is not realistically conceivable that a parent with a small child would walk along Chilmington Green Road in order to reach the nursery in Shadoxhurst.

4.3.4 The Chilmington Green site contains a number of public rights of way (as noted in Section 3.4); these have been incorporated into the assessment of existing conditions. A number of these will form primary routes for non-motorised users at the proposed development.

4.3.5 The current levels of pedestrian activity suggest that walking for leisure would be a more common use of existing pedestrian routes, rather than as a means of accessing facilities.

4.4 CYCLE ACCESSIBILITY

4.4.1 As is to be expected, accessibility to Ashford and the wider area via cycle is significantly expanded in comparison to being on foot. This is displayed on **Figure 4.2**. Ashford town centre is accessible in less than 20 minutes, with all except the northernmost and easternmost areas of the town falling within the 30 minute accessibility window.

4.4.2 The travel time by cycle to the pocket of facilities in Singleton referred to in the pedestrian assessment is under 10 minutes. The range of leisure and retail facilities accessible by cycle covers most of those in Ashford, although certain types of journey purpose will not necessarily be conducive to cycling, such as making large purchases.

4.4.3 Travelling to work by cycle is also a realistic option for workers whose place of employment is outside of Ashford Town centre. The cycling time from the site to local employment centres is shown in Table 4.1.

Table 4.1: Accessibility to Employment by Cycle

Employment Location	Travel Time by Cycle (minutes)
Ashford town centre	16 – 20
Cobbs Wood Industrial Estate	11 – 15
Brookfield Industrial Estate	11 – 15
Kingsnorth Industrial Estate	16 – 20
Eastmead Trading Estate	16 – 20
Kingfisher Business Park	21 – 25
Grove Business Park	21 – 25
Henwood Industrial Estate	21 – 25

Source: Consultant prepared GIS assessment

4.4.4 In terms of cycling comprising a stage in a multi-modal journey, Ashford International station can be reached from the site in less than 20 minutes. To the south east, Ham Street station is within 30 minutes cycle. Both of these stations offer cycle storage.

4.5 PUBLIC TRANSPORT ACCESSIBILITY

4.5.1 The GIS based software ACCESSION has been used in order to determine the accessibility of destinations from the site using currently timetabled public transport services. This assessment indicates that the site has some degree of accessibility to other parts of Ashford and nearby settlements in Kent. This is illustrated in **Figure 4.3**.

4.5.2 It is discernible when comparing the cycle accessibility in **Figure 4.2** that there are some areas of Ashford which are faster to reach by cycle than they are using the current Public Transport services. This is likely to be due to the fact that a cyclist can take a direct route to these destinations. If using a bus service, it is possible a change of service may have to be taken, most likely in the town centre, in order to make an onward journey to the same destination.

4.5.3 In many cases, where a rail travel element is a component in a journey, a significant amount of onward travel from the rail destination is not possible within the cumulative one hour period used for assessment. Table 4.2 presents some of the destinations accessible from the site in a one hour window via public transport.

Table 4.2: Accessibility from Site to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)
Ashford International Station	21 – 30
Ashford town centre	31 – 40
Tenterden	31 – 40
Wye	41 – 50
Canterbury	51 – 60
Folkestone	51 – 60
Headcorn	51 – 60

Source: Consultant prepared ACCESSION assessment

4.6 SUMMARY

4.6.1 The current access to facilities from Chilmington Green via sustainable modes ranges from poor to acceptable. This is primarily because the area currently has minimal development and therefore does not create a substantial demand for facilities. Therefore the facilities that will be used by existing residents have been established in order to serve other communities such as those in Singleton and Stanhope to the south of Ashford.

4.6.2 Ashford currently has a very well developed provision of pedestrian and cycle routes, and the proposed development will integrate seamlessly with these, ensuring that the new community is able to access existing facilities with ease.

4.6.3 The proposed development will provide a wide range of facilities for retail, education, employment and medical requirements. In the majority of cases, accessing a facility within Chilmington Green will be the most attractive option for residents.

5 Committed Development

5 Committed Development

5.1 INTRODUCTION

5.1.1 As is consistent with its status as a regional growth point, significant development is planned within Ashford in the forthcoming years. In order that the assessment of Chilmington Green's impact on the highway network is consistent with assessments which have already been undertaken, it is necessary to maintain uniformity in the assumptions which have been made.

5.2 GREATER ASHFORD DEVELOPMENT FRAMEWORK

5.2.1 The Greater Ashford Development Framework (GADF) forms the initial basis for the committed development which has been considered in this TA. The GADF is the result of many studies and consultations which were undertaken in the early to middle part of the last decade, which culminated in a strategy for the growth of Ashford to accommodate an increase of 31,000 dwellings and 28,000 jobs by 2031.

5.2.2 A number of spatial options were considered; each of these included supporting the location of homes and jobs with the relevant transport and utilities infrastructure and with community facilities. Finally a preferred option was illustrated.

5.2.3 This preferred option approximated the locations of major development areas and gave indicative information regarding the number of jobs and dwellings that would be attributable to each area. The preferred option, and the working Master Plan which accompanied it were further refined for inclusion in ABC's Core Strategy.

5.3 ASHFORD BOROUGH COUNCIL CORE STRATEGY

5.3.1 ABC's Core Strategy was adopted in 2008 and further evolved the Master Plan for Ashford. By this time referring to specific areas of development as 'urban extensions' the Core Strategy adds additional detail regarding the expectations of what the extensions will provide, the infrastructure which will accompany them and any issues to be overcome.

5.3.2 Appendix 4 of the Core Strategy contains a provisional housing trajectory for Ashford between 2001/02 and 2020/21.

5.4 DEVELOPMENT INCLUDED IN ASHFORD VISSIM MODEL

5.4.1 As part of the transport modelling process which has already been undertaken by KCC and their transport consultants Jacobs (and described in greater detail in Section 8), a number of decisions were made regarding the development and infrastructure anticipated to be in place in future time periods. These assumptions have been retained for the sensitivity testing which has been carried out for Chilmington Green.

5.4.2 A list of development to be considered as committed development was compiled by ABC in consultation with KCC for use in the Ashford Traffic Model. This list, broken down into dwellings and jobs as at 2031 and is shown in Table 5.1.

Table 5.1: Committed Development included in Ashford VISSIM Traffic Model

Development Location	Number of Dwellings	Number of Jobs
Abbey Way / Blackwall Road	60	-
Ashford Hospital / Kings Avenue	80	-
Associate House	15	-
Bishops Green	20	-
Bockhanger Wood	-	5,085
Brisley Farm	74	-
Chart Estate	350	300
Cheeseman's Green	4,450	1,200
Cobbs Wood	-	-
Conningbrook	200	-
Discovery Park	-	-
Godington Park extension	-	-
Hunter Avenue	350	-
Jemmet Park	230	-
Kennington	-	-
Kingsnorth Urban Extension	-	-
Leacon Road	100	-
Lower Queens Road	40	-
Mabledon Avenue	20	-
Maidstone Road	70	-
Newtown Works	700	200
Park Farm south and east	401	-
Orbital Park	-	850
Henwood	-	200
Singleton	100	-
Stanhope	-	-
Sevington	-	2,500

Development Location	Number of Dwellings	Number of Jobs
Templer & Rowcroft Barracks (Repton Park)	965	200
Tile Kiln Road	-	-
Town Centre	3,500	12,000
Warren P&R	-	320
Waterbrook	600	1,225
William Harvey area / land east of Willesborough Lees	200	-
Warren Lane	65	-
Additional, windfall development, etc.	2,500	-
Total	**15,090**	**24,080**

Source: Ashford Borough Council / Kent County Council

5.4.3 In addition to the dwellings and jobs detailed in Table 5.1, a number of pieces of infrastructure have also been included in the Ashford VISSIM model as committed pieces of infrastructure. These are as follows:

- Completion of Victoria Way scheme;
- Warren Park & Ride;
- Completed ring road shared space project with two-way restricted flow;
- Signalisation of Drovers Roundabout;
- Signalisation of Leacon Road / Brookfield Road junction;
- Signalisation of Gasworks Lane / Victoria Way junction;
- Closure of Gasworks Lane – access via Victoria Way;
- Completion of M20 Junction 10A and related network improvements;
- Proposed Bellamy Roberts junctions providing access to Cheeseman's Green and Waterbrook; and
- A2070 Bad Munstereifel Road / Waterbrook Avenue / The Boulevard roundabout to be upgraded into a large at-grade signalised junction.

6 Proposed Development

6 Proposed Development

6.1 DEVELOPMENT PROPOSAL

6.1.1 The proposals at Chilmington Green are for a mixed use development. Residential properties will comprise the focus of the development, however there will be significant supporting infrastructure which will sustain Chilmington Green itself and also complement Ashford's position as a regional growth point.

6.1.2 The outline application is for a comprehensive Mixed Use Development comprising:

- Up to 5,750 residential units, in a mix of sizes, types and tenures;
- Up to 10,000m² gross floorspace of Class B1 use;
- Up to 9,000m² gross floorspace of Class A1 to A5 uses:
- Education (including a secondary school of up to 8ha, and up to four primary schools of up to 2.1ha each);
- Community uses (class D1) up to 5,000m² gross floorspace;
- Leisure uses (class D2) up to 5,000m² gross floorspace;
- Provision of local recycling facilities;
- Provision of areas of formal and informal open space;
- Installation of appropriate utilities infrastructure as required to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure;
- Transport infrastructure, including provision of three accesses on to the A28, an access on to Cuckoo Lane, other connection on to the local road network, a Park and Ride with a maximum of 600 parking spaces and a network of internal roads, footpaths and cycle routes;
- New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and
- Associated groundworks.

6.1.3 Appearance, landscaping, layout and scale are reserved for future approval. Access is also reserved for future approval with the exception of the three accesses on to the A28 and the access on to Cuckoo Lane.

6.2 PROPOSED VEHICLE ACCESS STRATEGY

6.2.1 The Master Plan attached at **Appendix D** illustrates the access strategy for Chilmington Green. As set out on the Master Plan, and noted above, there will be several access points to the development. Three of these will be new or upgraded junctions located on the A28. These junctions are listed below.

1- A new northern A28 roundabout with a 60m ICD. The detailed design of this junction is shown on drawing 2761/GA/011/D.

2- A new southern A28 roundabout with a 40m ICD. The detailed design of this junction is shown on drawing 2761/GA/013/D.

3- A signalised junction of the A28, Goldwell Lane and a new site access arm. This will be located between the two roundabouts. The detailed design of this junction is shown on drawing 2761/GA/012/D. This will replace the existing priority junction arrangement.

4- A new mini-roundabout junction with Coulter Road and a new site access arm. The detailed design of this junction is shown on drawing 2761/GA/014/C.

6.2.2 A new vehicular link across Discovery Park to Brisley Farm will be created. This will form the above mentioned junction with Coulter Road. This link will also facilitate a route to Chilmington Green for KCC's proposed SmartLink service, should this be implemented in the future.

6.2.3 In order to lower Chilmington Green Road's status in the local road hierarchy, access to it from the A28 will no longer be taken. Journeys that are currently made from the A28 to Ashford Road via Chilmington Green Road will in future be routed through the Chilmington Green development, utilising the section of Orchard Way in the development and then the traffic calmed Magpie Hall Road. **Figure 6.1** shows all of the proposed access points for Chilmington Green.

6.2.4 In Great Chart, traffic calming measures will be introduced to combat the existing problem of rat running and to reintroduce this traffic back on to the A28. This will involve the introduction of gateway features and also chicanes built into the road. The measures, combined with the 30mph speed limit currently in force in the village are designed to constrain vehicle flows and therefore make the A28 a more appealing choice. These design features are shown on drawing 2761/SK/049/A. At this stage, these features are only proposals, still to be agreed with KCC.

6.2.5 Magpie Hall Road will see alterations designed primarily to manage vehicle speeds through the residential section on the road. There will also be extensive provision of footway south of the carriageway on Magpie Hall Road, allowing residents of the houses that border the road to be able to access the facilities in Chilmington Green on foot. These are shown on drawing 2761/SK/047/A. As with the features in Great Chart, these proposals are still to be agreed with KCC.

6.3 PUBLIC TRANSPORT IMPROVEMENTS

6.3.1 A new high frequency bus service will be introduced at the proposed development and will be available from the first phase, with its coverage expanding as Chilmington Green is built out.

6.3.2 Following an internal loop of Chilmington Green, the service will head on to the A28, then Tithe Barn Lane, Knoll Lane, Brookfield Road and Leacon Road before using Victoria Way to reach the town centre. Ashford International station will also form one of the destinations for the service. The anticipated travel time from Chilmington Green's district centre to Ashford International is approximately 15 minutes.

6.3.3 Further details of Chilmington Green's public transport offering are contained in Section 11.

6.4 SUSTAINABLE TRANSPORT MEASURES

6.4.1 A number of development proposals, including design features, will aid sustainable travel to and from the site. These are outlined below.

- Permeable pedestrian and cycle network;
- Green Lanes with limited vehicle movements, encouraging use by pedestrians, cyclists and equestrians;
- Master Plan design integrating facilities within communities, reducing travel distance;
- Car parking in accordance with local policy;
- Convenient cycle parking;
- Speed limits throughout the development of 30mph or less, to be detailed in reserved matters;
- Potential for provision of a 600 vehicle park and ride.

6.5 CAR AND CYCLE PARKING

6.5.1 Car and cycle parking at Chilmington Green will be provided in line with the standards detailed in Section 2.4. This parking will be 'designed in' to the scheme and located close to dwellings and distributed efficiently over the site to cater for residential visitors.

6.5.2 Many of the new dwellings will be served with on-plot parking generally located to the side, rear or front of the dwelling. Parking spaces and garages will be sited so that there is sufficient room for users to enter and exit the vehicle. The distance from the car parking space to the home will be kept to a minimum and will be level or gently sloping where practically possible. Disabled parking and cycling parking numbers will be provided in accordance with the appropriate standards at the time of reserved matters submission. Where appropriate, on-street parking will be provisioned, forming traffic calming and creating spaces away from built form for street trees and other landscaping. By designing the on-street parking locations from the outset, the impact of car parking on the street scene is minimised.

6.5.3 Courtyard parking within the development blocks will be evident, but where this approach will be utilised, parking courts will serve a limited number of dwellings, include landscaping and create private, well defined areas with good surveillance from dwellings, giving the court its own sense of place. Pedestrian connections from the fronts of houses to rear courts should be regular and direct.

6.5.4 Further detail regarding parking at Chilmington Green is included in the Parking Review note at **Appendix B**.

6.6 PEDESTRIAN AND CYCLE ROUTES

6.6.1 Ashford is well served by pedestrian and cycle routes and infrastructure, and this provision is complemented by the Chilmington Green Master Plan. Existing Public Rights of Way within the site would be complemented by new routes and infrastructure, giving traffic free movement for cyclists to many areas of Chilmington Green.

6.6.2 National Cycle Route 18 will continue to form a key route for non-motorised users, whether to gain access to Chilmington Green or for leisure purposes, and Greensand Way will also form a key corridor for pedestrian and cycle movement.

6.6.3 As a result of the construction of roads to support vehicle movement around Chilmington Green, several existing roads will become 'Green Lanes', rural routes which retain their existing character. These routes will have minimal vehicular traffic and will present a pleasant environment for non-motorised users for trips of all purposes.

6.6.4 These 'Green Lanes' will primarily consist of:

- Chilmington Green Road;
- Chilmington Green Lane; and
- Bartlets Lane.

6.6.5 Chilmington Green's proposed primary pedestrian and cycle routes are shown on **Figure 6.2**.

6.7 ORCHARD WAY

6.7.1 Orchard Way will be the main vehicular link through Chilmington Green, handling traffic heading to and from the A28 in addition to local traffic circulating in the proposed development. Orchard Way will have a 6.0m carriageway width, with footway and cycleway providing ease of access around Chilmington Green for non-motorised users.

6.7.2 The southern section of Orchard Way will form part of the bus route for the proposed high frequency bus service.

6.8 PHASING

6.8.1 Construction of Chilmington Green will take place in four phases, with each phase consisting of dwellings, plus non-residential land uses which directly support either that phase or Chilmington Green as a whole. These include facilities such as the education facilities, which will be required at regular intervals, and retail facilities.

6.8.2 A detailed breakdown of the anticipated phasing of Chilmington Green is presented in the phasing report which accompanies the outline planning application.

7 KCC A28 Strategic Highway Improvements

7 KCC A28 Strategic Highway Improvements

7.1 INTRODUCTION

7.1.1 In order to accommodate the level of traffic generated by the scale of development which is anticipated in Ashford in forthcoming years, as well as background traffic from elsewhere using the network, KCC is promoting a set of strategic improvements (also cited in LTP3) to the A28 in Ashford which will deliver the required capacity.

7.1.2 This part of the network is constrained for a number of reasons. Primarily it is this section of road that provides access to the majority of the residential/commercial developments located west of the town. This in turn creates conflicting traffic movements at the junction in peak hours. In addition, the carriageway/junctions are surrounded by existing development, restricting minor improvements to create additional capacity. Finally, the A28 crosses the South Eastern Mainline railway line, restricting existing capacity.

7.2 BACKGROUND

7.2.1 Modelling undertaken by KCC and their consultants Jacobs has identified that in its current configuration, the section of the A28 roundabout between Matalan and Tank roundabouts will suffer from serious capacity issues in future as a result in increases in background traffic and traffic from development in Ashford, including Chilmington Green.

7.2.2 Initial work undertaken by Jacobs identified a scheme which involved increasing the size of both roundabouts, with some modifications made to the junctions in between. Details of the inclusion of the A28 in modelling assessments is included in Section 8.4.

7.2.3 Following this, WSP took a different approach to the Tank and Matalan junctions, producing a design which involved signalising both junctions. Further changes were also made to the Loudon Way, Brunswick Road and Hilton Road junctions.

7.2.4 Having assessed the Jacobs and WSP designs for this section of the A28 in the Ashford Traffic Model, KCC decided that neither design individually fulfilled the criteria sufficiently for creating a substantial improvement in capacity on the A28. However there were elements of both schemes which provided significant improvements to this section of the highway network.

7.3 KCC PROMOTED A28 STRATEGIC IMPROVEMENTS

7.3.1 Subsequent to the iterative process of testing of the WSP and Jacobs designs, KCC have decided to promote an approach which combines elements of both, specifically the Tank and Matalan roundabout designs from Jacobs and the WSP designs for all junctions in between and for widening of the rail overbridge north of the Matalan roundabout. KCC's preferred option is as follows:

- Matalan roundabout with increased ICD;
- Widening of the A28 road bridge over the railway, north of Matalan roundabout;

- The bridge widening will allow the entire section of the A28 between Matalan and Tank to be dualled;
- Signalisation of the A28 / Brunswick Road junction;
- A28 / Loudon Way signalised junction modified to offer greater capacity, with an increase in lanes to facilitate greater turning and straight-ahead movements, plus full turning movements;
- Signalised Hilton Road to become exit only at its junction with the A28; and
- Tank roundabout with increased ICD.

7.3.2 KCC's proposed A28 strategic improvements are shown on WSP's drawing 2761/GA/010/B.

7.4 CHILMINGTON GREEN INVOLVEMENT

7.4.1 As the phased development of Chilmington Green will generate additional traffic along the A28, the development will make a proportionate contribution towards these, and other strategic highway improvement works.

8 Modelling Methodology

8 Modelling Methodology

8.1 INTRODUCTION

8.1.1 A VISSIM micro-simulation model of the Ashford area has been developed by Jacobs on behalf of Kent County Council and Ashford Borough Council. Jacobs continue to operate this model and it has been used to provide part of the evidence base for this TA. The VISSIM model has been used to:

- Identify the likely impacts of the proposed development on the transport network in Ashford, particularly in close proximity to the site and on Ashford's strategic links and junctions;
- Inform the development of mitigation measures; and
- Assess the mitigation measures.

8.1.2 VISSIM is a micro-simulation traffic flow modelling software, which allows for the relationship between vehicles to be modelled through a network. Its benefits come from being able to model the randomised arrival pattern of traffic alongside the ability for vehicles to interact with each other and for the relationship between adjacent junctions in congested urban areas to be taken account of. The dynamic nature of the model allows it to predict route choices which can change due to a number of factors such as, infrastructure improvements or change in traffic demand. Micro-simulation models, through the interaction process allow the user to review the capacity of junctions and the overall affect upon the highway network around them, including signalised junctions and priority markers.

8.1.3 The model covers the whole of the urban area of Ashford and extends to the M20 to the north and east. The area near to the A28 forms the western boundary of the model and the Chilmington Green / Kingsnorth areas the southern extent. **Figure 8.1** shows the model study area.

8.1.4 The Jacobs VISSIM model has been used to review the application Master Plan proposals to support the planning application for the 5,750 dwellings, employment, retail and education facilities at Chilmington Green as set out in Section 6. The findings of this are discussed in Section 13.

8.1.5 This chapter of the report therefore sets out the modelling methodology relating to the base year and future year forecasting.

8.2 BASE YEAR MODELLING

8.2.1 A base year VISSIM model was developed by Jacobs in 2008. This model was approved by KCC, ABC, Ashford's Future Company Limited and the HA. Jacobs were commissioned by KCC in 2009 to incorporate the SmartLink scheme and a year later the scope of the model was extended further in 2010 following an addition commission from KCC and Ashford's Future. This extension of the model involved the incorporation of the Chilmington Green site, primarily to assess the impact on the A28 corridor of development at Chilmington Green in future forecast years.

8.2.2 Utilising the local highway network and its layout as of 2010, the model showed that once development traffic from Chilmington Green was introduced to the network, the Matalan, Tank and Loudon Way junctions would exceed capacity.

8.2.3 Subsequently, KCC developed a series of measures designed to mitigate the impact on the A28 of traffic from Chilmington Green. A further model test was employed to establish a 'nil detriment' scenario meaning that the section of the A28 directly impacted by traffic from Chilmington Green would show no detriment with that traffic when compared to its operation without.

8.2.4 The future year chosen for assessment within the model was 2031 and this incorporated and tested the proposed A28 improvements as designed by KCC.

8.2.5 The 2008 model covered the town of Ashford but not Chilmington Green to the south. To create the updated model, the 2008 model was extended by supplementing the existing model data with additional data on the local roads of Chilmington Green, but also conducting additional surveys for existing modelled areas to provide an update for the whole model.

8.2.6 The extended model area at Chilmington Green was calibrated to the on-site conditions and validated to DMRB guidance.

8.2.7 The model was calibrated to on-site conditions and validated to DMRB[2] standards using observed traffic survey data obtained in September 2010, providing a robust 2010 Base Year model for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours. Each model covers a preceding 15 minute warm up period, in order to load the network to realistic levels by the start of the peak hour, and a 15 minute run off period, resulting in the model periods:

- AM peak period: 07:45 – 09:15 hours; and
- PM peak period: 16:45 – 18:15 hours.

8.2.8 Due to the proximity of the study area to the M20 motorway and the A28 trunk road, the Highways Agency modelling guidelines were followed by Jacobs in the development of the VISSIM model. The 2010 Base Year model has been approved by KCC.

8.3 COMMITTED DEVELOPMENT

8.3.1 A number of potential developments and infrastructure projects have been considered as committed development and included in the model in order that the cumulative effect of Chilmington Green and these other developments can be considered.

8.3.2 The developments which have been included in the Ashford VISSIM model are listed in Table 8.1.

Table 8.1: Committed Development included in Ashford VISSIM Traffic Model

Development Location	Number of Dwellings	Number of Jobs
Abbey Way / Blackwall Road	60	-
Ashford Hospital / Kings Avenue	80	-
Associate House	15	-
Bishops Green	20	-
Bockhanger Wood	-	5,085

[2] DESIGN MANUAL FOR ROADS AND BRIDGES VOLUME 12A, CHAPTER 4 TRAFFIC APPRAISAL IN URBAN AREAS

Development Location	Number of Dwellings	Number of Jobs
Brisley Farm	74	-
Chart Estate	350	300
Cheeseman's Green	4,450	1,200
Cobbs Wood	-	-
Conningbrook	200	-
Discovery Park	-	-
Godington Park extension	-	-
Hunter Avenue	350	-
Jemmet Park	230	-
Kennington	-	-
Kingsnorth Urban Extension	-	-
Leacon Road	100	-
Lower Queens Road	40	-
Mabledon Avenue	20	-
Maidstone Road	70	-
Newtown Works	700	200
Park Farm south and east	401	-
Orbital Park	-	850
Henwood	-	200
Singleton	100	-
Stanhope	-	-
Sevington	-	2,500
Templer & Rowcroft Barracks (Repton Park)	965	200
Tile Kiln Road	-	-
Town Centre	3,500	12,000
Warren P&R	-	320
Waterbrook	600	1,225
William Harvey area / land east of Willesborough Lees	200	-
Warren Lane	65	-
Additional, windfall development, etc.	2,500	-
Total	**15,090**	**24,080**

8.3.3 In addition to the dwellings and jobs detailed in Table 8.1, a number of pieces of infrastructure have also been included in the Ashford VISSIM model as committed pieces of infrastructure. These are as follows:

- Completion of Victoria Way scheme;
- Warren Park & Ride;
- Completed ring road shared space project with two-way restricted flow;
- Signalisation of Drovers Roundabout;
- Signalisation of Leacon Road / Brookfield Road junction;
- Signalisation of Gasworks Lane / Victoria Way junction;
- Closure of Gasworks Lane – access via Victoria Way;
- Completion of M20 Junction 10A and related network improvements;
- Proposed Bellamy Roberts junctions providing access to Cheeseman's Green and Waterbrook; and
- A2070 Bad Munstereifel Road / Waterbrook Avenue / The Boulevard roundabout to be upgraded into a large at-grade signalised junction.

ASSESSMENT YEARS

8.3.4 Due to the scale of the development and its position within the core strategy for Ashford, the development will be assessed using the local VISSIM model which has been prepared to analyse housing allocation options within Ashford. The model has been produced by Jacobs on behalf of Kent County Council (KCC) which includes a validated 2010 baseline year and a future year of 2031.

8.3.5 Therefore the assessment years which will have been considered are 2010, the results of which are discussed in Section 3.10, and 2031, detailed subsequently.

8.4 MODEL SCENARIOS

8.4.1 Several scenarios have been modelled by Jacobs, testing a number of different assumptions and pieces of infrastructure. These scenarios are:

2031 SCENARIO 1

8.4.2 This is defined by KCC in the May 2011 note titled *"Chilmington Green in Highway Capacity Terms"* as:

"*2031 with all developments and highway infrastructure schemes including Kingsnorth urban extension, Orchard Way, A28 full dualling from Tank to Matalan and 7,000 dwellings at Chilmington Green. This would be the benchmark (acceptable) highway capacity position in 2031."*

2031 SCENARIO 2

This is defined by KCC in the May 2011 note titled *"Chilmington Green in Highway Capacity Terms"* as:

"2031 with developments and highway infrastructure schemes (as Scenario 1) but no Kingsnorth and the corresponding section of Orchard Way."

8.4.3 The A28 improvements modelled in Scenario 2 are based on Jacobs designs. Jacobs drawing B1620900/H/003/A shows the section of the A28 between Loudon Way and Tank roundabout and Jacobs drawing B1620900/H/007/B covers the A28 between Matalan roundabout and Loudon Way.

2031 DO MINIMUM

8.4.4 This scenario includes all developments except Chilmington Green and Kingsnorth and all highway infrastructure except the A28 improvements and the section of Orchard Way associated with Kingsnorth.

TRAFFIC GROWTHING

8.4.5 The background traffic growth which is used in the Ashford VISSIM model was derived by Jacobs from the DfT's TEMPRO 6.2 software using dataset NTEM 5.4. As of mid-July 2011 NTEM 6.2 has become the definitive dataset, but in order to retain consistency with previous tests undertaken using the Ashford VISSIM model, all tests have continued to use the older dataset.

8.4.6 General accepted practice for TEMPRO is that it takes into account committed developments in the area when producing a growth rate. In the case of the modelling of Chilmington Green, a number of committed developments are included (as detailed in Section 8.3). So that trips associated with these committed developments are not double counted, TEMPRO has been used only in the estimation of trips which are generated by what Jacobs define as 'natural growth' from factors such as 'in-situ' population and economic growth.

8.4.7 The growth factors as derived from TEMPRO are shown in Table 8.2.

Table 8.2: Background Growth Factors

Time Period	Peak Period	Road Type			
		Urban		Rural	
		Origin	Destination	Origin	Destination
2010 – 2031	AM Peak	0.94	1.07	0.93	1.06
	PM Peak	1.04	0.96	1.03	0.94

Source: Ashford VISSIM Model Methodology – KCC / Jacobs

8.5 MODELLING OUTPUT

8.5.1 The impacts of the development on the network are determined through the assessment of the Level of Service and average delays experienced per vehicle at key junctions within the peak hours. These impacts are found in output data from the Ashford Traffic Model, supplied by Jacobs on behalf of KCC.

8.5.2 Output data was requested by WSP for specific links and junctions on the model network. The figures listed below show the locations of the requested data:

- **Figure 8.2** – Shows junctions for which data was requested;
- **Figure 8.3** – Shows locations where link flows were requested; and
- **Figure 8.4** – Shows locations on the Chilmington Green development highway network where junction and link data was requested.

8.5.3 The output data received from Jacobs takes several forms, these have included written reports, spreadsheets and network diagrams showing traffic flows and delays.

8.5.4 Included at **Appendix E** is the Jacobs Local Model Validation Report (LMVR) which describes the development and validation of the Ashford Traffic model. This is accompanied in **Appendix E** by three further Jacobs reports which discuss output from the model. These are:

- 2031 Do Minimum Report;
- 2031 Scenario 1 and
- 2031 Scenario 2 Report.

8.5.5 The raw data for the model results received from Jacobs is at **Appendix F**. The above reports and the additional output data, including junction delay and link flows are reviewed and discussed in Section 13.

9 Vehicle Trip Generation

9 Vehicle Trip Generation

9.1 INTRODUCTION

9.1.1 In order to ascertain the vehicular impact of Chilmington Green on the highway network around Ashford and on new infrastructure within and outside the development the VISSIM traffic model of Ashford prepared by Jacobs has been utilised. Section 8 contains greater detail regarding the modelling methodology used, however the trip generation methodology used for Chilmington Green utilises elements from the model hence the reference in this section.

9.2 COMMITTED DEVELOPMENT

9.2.1 All committed development which will be considered has been detailed in Section 5. As the vast majority of these developments have yet to come forward the Ashford VISSIM model utilises the same trip rates for all development. These trip rates are discussed in Section 9.3.

9.2.2 A number of infrastructure improvements in the Ashford area have also been included as committed development. These improvements are also detailed in Section 5.

9.3 TRIP RATES

9.3.1 The trip rates which have been utilised in the trip generation process are those which are contained within the Ashford VISSIM model. These were obtained from the Ashford Highway and Traffic Study (AHTS) report prepared by the Highways Agency, published in September 2006. These trip rates have been agreed between Kent Highway Services, Ashford's Future and the Highways Agency as confirmed by the response from KCC provided in Appendix A. The exception to this is the trip rates for education/community land uses which have been derived by KCC from TRICS 2011(a) v6.7.1.

9.3.2 The trip rates for employment include all of Chilmington Green's jobs in typical employment land uses such as offices, and other employment trip generators such as retail. These trips are therefore not double counted. The exception to this is the education/community land uses. These rates also include employment related trips, but their impact is considered to be marginal. Table 9.1 shows the agreed VISSIM model trip rates which have been utilised.

Table 9.1: Chilmington Green Vehicular Trip Rates

Type	Trip Rate			
	AM Peak 0800-0900		PM Peak 1700-1800	
	Arrival	Departure	Arrival	Departure
Dwellings (per house)	0.15	0.29	0.27	0.16
Employment (per job)	0.16	0.06	0.06	0.17
Retail (per 100m² GFA)	0.82	0.88	0.81	0.89
Education/Community (per 100m² GFA)	1.46	0.92	0.00	0.14

Source: Trip rates for dwellings, employment and retail are from agreed trip generation rates with Kent Highway Services, ABC and the Highways Agency. Trip rates for education / community have been established by Jacobs on behalf of KCC and ABC and have used TRICS 2011(a) to derive them.

9.3.3 Against the latest TRICS database, the above trip rates are broadly consistent with:

- Mixed private residential developments;
- Mixed B1 employment sites with good accessibility; and
- Modest retail centres, with good accessibility typically with restricted parking duration and assuming around 30 – 40% of pass-by or diverted trips.

9.4 VEHICULAR TRAFFIC INTERNALISATION

9.4.1 A key element of the Chilmington Green Master Plan is to deliver a largely self-sufficient community thereby exploiting the potential for walking, cycling and public transport. Building on research[3], it is reasonable to retain a significant proportion of trips within the settlement to reduce the need to travel onto the wider transport network.

9.4.2 The Technical Note included at **Appendix G** provides a full discussion of how the internalisation was determined; the basic principles are detailed in this section. Essentially, the residential trip generation at Chilmington Green determines the number of trips which have Chilmington Green as an origin or destination and the three remaining uses which are included in the Ashford VISSIM model (Employment, Education/Community and Retail) have had varying degrees of internalisation applied in order to reflect the number of trips remaining within the development boundary of Chilmington Green.

[3] Less Traffic Where People Live: How local transport schemes can help cut traffic, Transport 2000, 2003

JOURNEY PURPOSE - EMPLOYMENT

9.4.3 2001 Census Journey to Work data for the local wards of Great Chart and Singleton North, Singleton South and Washford shows that 17% of employment trips remain internal to these wards. However, in order that a robust assessment of the highway network is undertaken, it has been assumed that future residents of Chilmington Green will take only 10% of jobs within the Master Plan area.

9.4.4 The remaining 90% of external employment trips will include staff at the schools of Chilmington Green because the education internalisation accounts for only pupils.

JOURNEY PURPOSE – RETAIL

9.4.5 Chilmington Green will include a district centre and two neighbourhood centres with a range of retail facilities that will cater for everyday convenience shopping with an element of comparison retail.

9.4.6 Research undertaken at the new settlement of Cambourne near Cambridge found that 74% of food shopping trips were made to the superstore located within the development. Accounting for the distance and brand loyalty to other food stores in Ashford, it is assumed that 75% of food-store trips will be contained within the Chilmington Green development area.

9.4.7 It is likely that many trips in the peak periods to the district and neighbourhood centres at Chilmington Green will be convenience retail trips, with some comparison retail trips. Many of these will be part of a trip chain and as such, 90% of these retail trips are assumed to be internal to Chilmington Green. This number has been used as a result of the sustainable measures that will be introduced at Chilmington Green, such as the high frequency bus service and walkable neighbourhoods.

JOURNEY PURPOSE – EDUCATION/COMMUNITY

9.4.8 The requirement to provide community infrastructure within the Chilmington Green development will include the provision of primary and secondary schools appropriate to the needs generated by the proposed development. There is likely to be a proportion of pupils from outside of Chilmington Green attending schools within the development and conversely a small number of pupils who attend schools outside of Chilmington Green. In the absence of empirical evidence to determine education internalisation, an alternative methodology has been employed.

Primary School Internalisation

9.4.9 The primary schools at Chilmington Green will accommodate only those pupils which the development will generate. Given the close proximity which all dwellings will have to a primary school there is only expected to be a minor leakage of pupils. Where cars are being used to take pupils to school it is expected that the majority of trips will be linked trips within Chilmington Green.

Secondary School Internalisation

9.4.10 The secondary school proposed for Chilmington Green is anticipated to accommodate 1,200 pupils and to have an approximate Gross Floor Area of 10,000m². The following process has been used to determine the internalisation of vehicular trips associated with the secondary school. The full methodology is detailed in **Appendix G**

i) Anticipated number of secondary school pupils generated by Chilmington Green calculated (1,050 pupils);

ii) Assumption that 70% of these pupils will attend Chilmington Green Secondary School (735 pupils);

iii) Calculation of number of pupils attending Chilmington Green Secondary School from outside development boundary (465 pupils);

iv) Percentage of external pupils of the total pupil number (39%) transposed onto the building size gives an external trip generating quantum of 3,900m² for the school. 61% of secondary school trips are internalised.

Community Use

9.4.11 Considered in conjunction with the educational facilities at Chilmington Green are the community uses. These are expected to be approximately 1,000m² GFA and will be a trip generator for residents from outside of Chilmington Green as the internal trips have been accounted for.

INTERNALISATION SUMMARY

9.4.12 Table 9.2 summarises the internalisation percentages which have been deemed appropriate to apply to development at Chilmington Green.

Table 9.2: Vehicle Trip Internalisation Percentages at Chilmington Green

Land Use	Internal Trip Percentage	External Trip Percentage
Employment	10%	90%
Food Superstore	75%	25%
District & Neighbourhood Centre Retail	90%	10%

Source: Consultation calculations and assumptions

9.5 TRIP GENERATION

9.5.1 Taking into consideration the internalisation which has been assumed for Chilmington Green, the quantum of development which has been used by Jacobs to calculate the number of vehicle trips from the proposed development in the Ashford Traffic model is shown in Table 9.3.

Table 9.3: Chilmington Green Development Quantum for Trip Generation

Land Use	Quantum
Dwellings	7000 dwl
Employment	1000 jobs
A1 to A5 use at District and Neighbourhood Centres	10,000m²
Education / Community	5,000m²

9.5.2 By using the above development quantum with the trip rates shown in Table 7.1, the number of trips can be calculated. The Chilmington Green development trips as calculated by Jacobs in the 2031 Scenario 2 model run are shown in Table 9.4. It is reiterated that the numbers shown are for the 7,000 dwellings potentially contemplated under CS policy CS, not the 5,750 that this scheme is promoting. Consequently, the model outputs can be considered very robust.

Table 9.4: Chilmington Green Trip Generation

Type	Trip Numbers			
	AM (08:00 – 09:00)		PM (17:00 – 18:00)	
	Arrival	Departure	Arrival	Departure
Dwellings	1050	2030	1890	1120
Employment	160	60	60	170
Retail	82	88	81	89
Education / Community	73	46	0	7
TOTAL	1365	2224	2031	1386

Source: Jacobs' June 2011 Chilmington Green VISSIM Model Scenario 2 Report

9.6 TRAFFIC DISTRIBUTION AND ASSIGNMENT

9.6.1 The following passage provided by KCC describes the adoption of the methodology for distribution that has been used within the VISSIM model of Ashford (detailed in Section 8):

"The trip distribution data was derived (and calibrated) for the 2010, 2021 and 2031 matrices based on information outputted from [Peter Davidson Consultancy's] *Demand Model. It was mutually agreed between Kent County Council (Highways), Ashford's Future and WSP to use Peter Davidson's Demand Model to extract distribution of trips for the base and future years, Jacobs subsequently incorporated Peter Davidson's 2010 distribution data into their base year (2010) and future year (2031) models. As the distribution is based on the defined Core Strategy scenario for Chilmington Green it, therefore, provides a robust analysis of the 'Do Something; scenario for further options testing.*

"Furthermore, as the methodology does not result in the alteration of any other development assumptions both in respect of committed sites (other than for Chilmington Green) and 'wider' infrastructure provision, the implications of varying the development and internal network solutions scenarios for the Chilmington Green proposal does not result in a significant variation in the wider distribution of trip generation attributable to the Chilmington Green development. For the purposes of clarification, this is an agreed methodology and represents the 'best available' approach to inform the distribution of trips in the existing VISSIM model.

9.6.2 A review of the distribution of development traffic is undertaken in Section 13.4. Table 9.5 shows the internal and external distribution of vehicle trips at Chilmington Green in Scenario 2.

Table 9.5: Scenario 2 Vehicle Trip Distribution at Chilmington Green

	Trip Type	AM Peak	PM Peak
Total Origin	Internal – Internal	234	209
	Internal – External	1990	1177
Total Destination	Internal – Internal	234	209
	Internal – External	1131	1822

Source: Jacobs' June 2011 Chilmington Green VISSIM Model Scenario 2 Report

9.7 SUMMARY

9.7.1 This section has discussed the methodology which has been used to determine the trip generation at Chilmington Green. Agreed trip rates from the Ashford VISSIM model have been used in conjunction with land uses from the Master Plan and the anticipated development quantum which will generate external trips. The methodology discussed briefly in this section and in detail in the Technical Note contained in **Appendix G** demonstrates a robust consideration of internalisation. The number of trips generated by the residential element of the proposed development and shown in this section, as previously, is from the Jacobs 2031 Scenario 2 model run which included 7,000 dwellings at Chilmington Green. Consequently it represents a robust assessment of trip generation, given that the proposed scheme is for 5,750 dwellings.

10 Proposed Development Mode Share

10 Proposed Development Mode Share

10.1 INTRODUCTION

10.1.1 Sustainable movement and accessibility has been placed at the heart of the Master Plan for Chilmington Green. The proposed development is based around a district centre and two local centres and the facilities which accompany them. The high frequency bus service and comprehensive pedestrian and cycle infrastructure further promote the use of sustainable modes, as will the Travel Plans.

10.1.2 This section details the anticipated mode share to which Chilmington Green will aspire.

10.2 CAR MODE SHARE CALCULATION

10.2.1 To calculate the percentage which vehicle trips comprise of the total trips from Chilmington Green, the standard assumption has been made that each of the 7000 dwellings will generate one person trip in a peak period.

10.2.2 The number of two-way vehicle trips generated by the residential element of Chilmington Green in the AM peak is recorded in the KCC / Jacobs Scenario 2 model output as 3080. The standard assumption has been made that there is an average of 1.2 occupants per car trip, giving a total number of person vehicle trips from Chilmington Green of 3696 in the one hour period. The percentage of which vehicle trips comprise the total person trips has then been calculated to be 53%.

10.3 BUS MODE SHARE

10.3.1 The mode share target for bus travel has been set based on the implementation of the proposed high frequency service which will be introduced at Chilmington Green. The target, which has been agreed with KCC and ABC is 20%. This was derived from ABC's 2006 Ashford Transport Strategy report.

10.3.2 The Ashford Transport Strategy includes details of the modal share between model zones calculated in the Ashford multi-modal model. For the Chilmington Green development it shows that as an origin the mode share for the bus is 19% and as a destination it is 20%. Therefore 20% has been adopted as the target, which is considered feasible with the proposed high frequency bus service.

10.4 RAIL MODE SHARE

10.4.1 A mode share target of 10% has been selected as Ashford International station provides services to a range of local destinations, and the HS1 line gives fast access to central London. The proposed bus service at Chilmington Green will ensure that the station can be reached easily from the proposed development.

10.5 PEDESTRIAN AND CYCLE MODE SHARES

10.5.1 Pedestrian and cycle mode share targets have been established at 11% and 5% respectively. Both of these represent an increase on trips made by those modes in areas of southern Ashford at the time of the 2001 Census and reflect the convenience of accessing facilities by non-motorised modes at Chilmington Green.

10.5.2 These targets also take into account the opportunities for walking and cycling facilitated by the network of pedestrian and cycle routes across Chilmington Green.

10.6 SUMMARY

10.6.1 The excellent provision for sustainable transport at Chilmington Green has required the setting of challenging mode share targets. In particular the 20% mode share target for bus travel represents a significant proportion of trips that will be made.

10.6.2 Table 10.1 confirms the mode share targets at the proposed development.

Table 10.1: Chilmington Green Development Mode Shares

Mode	Percentage Share
Car	53%
Bus	20%
Train	10%
Walk	11%
Cycle	5%
Other (motorcycle, taxi, etc)	1%
TOTAL	**100%**

Source: Consultant calculated, includes percentage rounding.

11 Sustainable Strategy

11 Sustainable Strategy

11.1 INTRODUCTION

11.1.1 Chilmington Green is in a sustainable location at the edge of Ashford and benefits from a strong relationship with the town and its facilities. The Spatial Strategy of the proposed development seeks to achieve a 'walkable' community, with local centres established within 1km or less of all residential development, typically co-located with primary schools.

11.1.2 The proposals for Chilmington Green will locate everyday facilities within the development and in addition to facilities for walking and cycling will provide public transport. The density of residential development in relation to the district and local centres is shown on **Figure 11.1**. The public transport offering will be particularly focused on servicing Chilmington Green district centre, Ashford town centre, and the town's railway station in order to reduce the amount of car based travel, thus minimising the impact of the development on the local highway network.

11.2 MEASURES

11.2.1 In order to provide suitable alternatives to the private car, the following transport strategy measures are to be pursued:

- An overarching Travel Plan, to be further refined as reserved matters applications for individual land parcels/uses are made. This will include Personal Travel Planning, providing bespoke planning to residents informing them of sustainable modes they can use for regular journeys;
- New public transport services and network improvements; and
- Pedestrian and cycle improvements, integrating Chilmington Green with the high quality pedestrian and cycle facilities currently in Ashford.

11.3 PUBLIC TRANSPORT STRATEGY

11.3.1 KCC and ABC have agreed that aspirations within previous Ashford strategies for some 30-35% of trips from the growth extensions to the town to be by public transport were not achievable. As noted in Section 10, it has been suggested that a 'realistic' target mode share for public transport at Chilmington Green would be 20%.

11.3.2 To achieve this mode share a high quality, frequent and direct bus service to Ashford town centre is required. It is proposed to achieve the target 20% mode share that the bus service is bespoke to Chilmington Green rather than an extension of an existing bus service.

PROPOSED ROUTE

11.3.3 The proposed route and bus stop locations for the bespoke service is shown in **Figure 11.2** and described in Table 11.1.

Table 11.1: Proposed Bus Service for Chilmington Green

Route	**Ashford Town Centre** – **Ashford International Rail Station** – Victoria Road – Leacon Road – Brookfield Road – Knoll Lane – Tithe Barn Lane – A28 – **Chilmington Green**
Journey Time	Around 15 minutes from **Chilmington Green** District Centre to **Ashford International Rail Station**
Service Frequency	Every **10** minutes

11.3.4 The bespoke bus service is proposed to operate along Victoria Road, Leacon Road, Brookfield Road, Knoll Lane, Tithe Barn Lane and the A28. After serving the District Centre the bus service is then proposed to operate an anti-clockwise loop around Chilmington Green.

11.3.5 The proposed route will offer attractive journey times by using the new link between Leacon Road and Victoria Road (Victoria Way) and proposed bus priority measures originally included in the 'SmartLink' scheme between Knoll Lane and Leacon Road (via Brookfield Road).

11.3.6 SmartLink was originally proposed to provide a high frequency public transport link from Chilmington Green and Eureka Park (North West Ashford) to William Harvey Hospital and Cheeseman's Green (South East Ashford) via Ashford Town Centre. The SmartLink scheme is currently on hold with no projected start date.

11.3.7 The original SmartLink proposal showed Chilmington Green being accessed via Cuckoo Lane and a new link across Discovery Park. KCC have requested that the new link across Discovery Park is constructed before the start of Phase 2 of Chilmington Green in order to allow bus services to access Chilmington Green via Cuckoo Lane.

11.3.8 This strategy proposes that the link across Discovery Park should be constructed as requested by KCC. However, it is proposed that bus services to Chilmington Green continue to access the site via A28 as Chilmington Green is built out. If the bus services to Chilmington Green were routed via Cuckoo Lane it is not possible to adequately serve the District Centre and rest of Chilmington Green without the service 'doubling back'. The original SmartLink proposal shows a route serving only the District Centre.

DEVELOPMENT PHASES

11.3.9 Construction of Chilmington Green will take place in four phases, with each phase consisting of dwellings, plus non-residential land uses which directly support either that phase or Chilmington Green as a whole. These include facilities such as the education facilities, which will be required at regular intervals, and retail facilities.

11.3.10 A detailed breakdown of the anticipated phasing of Chilmington Green is presented in the phasing report which accompanies the outline application.

11.3.11 **Figure 11.3** shows the proposed route of the Chilmington Green bus service in each of the planned four phases. It can be seen in **Figure 11.3** that in all phases virtually

all residential development is within a 400m radius of a bus stop, the exception being the hamlet to the south of the development in Phase 1. It was agreed with Ashford Borough Council that the hamlet does not need to be directly served by bus during Phase 1.

District Centre

11.3.12 The proposed Chilmington Green bus service is planned to serve the District Centre in both directions, with bus stops in the Market Square. Buses from Ashford to Chilmington Green would enter the Market Square from the north and use a bus stop facing in the southbound direction along the western edge of the Market Square. The bus service would then operate an anticlockwise loop around Chilmington Green before re-entering the Market Square from the south east corner. The bus service would use a bus stop facing in the westbound direction along the southern edge of the Market Square before turning right and heading back to Ashford via the A28.

11.3.13 Any layover time required on the bus service would take place after the service has completed the loop around Chilmington Green and re-entered the Market Square.

11.3.14 Although bus stops for both directions of travel are not located directly opposite each other they will be located to ensure both bus stops are clearly seen from the Market Square.

Secondary School

11.3.15 A secondary school is proposed to be built in the north west corner of Chilmington Green. The secondary school would be served by bus either by diverting the proposed Chilmington Green bus service into the school at opening and closing times or by providing a separate bus service for the school. The way in which the school is served by bus will be confirmed following discussions with relevant stakeholders.

BUS SERVICE VIABILITY

11.3.16 It is expected that the proposed bus services should break even by Phase 2 of the development. Before this time the bus service will be financially supported by the Chilmington Green development.

11.3.17 By Phase 4 there is expected to be sufficient revenue for additional buses to be provided. Providing additional buses would enable the service frequency to be increased which would provide sufficient capacity for the forecast demand for public transport in this phase.

11.4 PUBLIC TRANSPORT INFRASTRUCTURE IMPROVEMENTS

11.4.1 Bus priority measures between the Tithe Barn Lane/Knoll Lane junction and the Brookfield Road/Knoll Lane junction were originally planned as part of SmartLink. The proposed bus service would make use of these bus priority measures. A review of these measures will be undertaken to understand the latest costs and to determine the appropriate level of contribution that may be required from the Chilmington Green development.

11.4.2 A total of 11 'smart' bus stops are also planned around the Chilmington Green site funded by the Chilmington Green development. It is proposed that these shelters would include interactive panels which show passengers when the next bus is due and which also allow for onward planning of journeys via other modes following a bus journey.

11.5 PARK AND RIDE

11.5.1 In addition to the high frequency bus service, the possibility exists for the provision of a Park and Ride for up to 600 cars at a site to the west of the A28, close to the proposed southern access roundabout. Post application discussions will determine what form and timescales for implementation will be associated with the Park and Ride.

11.6 PEDESTRIAN AND CYCLE INFRASTRUCTURE

11.6.1 Pedestrian and cycle infrastructure will be primarily comprised of a comprehensive network of footway and cycleway routes facilitating a high degree of permeability and enabling non-motorised users to move around Chilmington Green with ease. These routes are shown on **Figure 6.2**.

11.6.2 Orchard Way, one of the main routes through Chilmington Green, will feature footway of 2m in width either side of the carriageway in addition to a 3m wide cycleway which will allow for two-way cycling. Residential roads will have footway on either one or both sides of the carriageway, with a width of 1.8m. The footway provision follows guidance provided in the Kent Design Guide.

11.6.3 Along the majority of roads where footway is present, trees, verges and planting will be used in order to provide separation from the carriageway. Where there is also dedicated cycleway, this will also be segregated from the carriageway. On road cycling will only be a necessity in low speed, low trafficked parts of Chilmington Green.

11.7 UMBRELLA TRAVEL PLAN

11.7.1 As part of the development proposals a series of travel plans covering the residential employment and educational aspects of the site have been prepared. These have been encompassed in an Umbrella Travel Plan (provided in **Appendix H**), which provides an overarching strategy for the delivery of travel planning initiatives for all uses at Chilmington Green.

11.7.2 It is anticipated that as reserved matter applications are put forward for different land parcels at Chilmington Green each of the land uses coming forward will comply with its respective Travel Plan. All land uses will have the support of the site-wide Travel Plan coordinator; will work towards a common set of objectives; and will help to achieve site wide modal split targets.

11.7.3 A summary of the Travel Plans provided in **Appendix H** is given below.

Residential Travel Plan

11.7.4 The Residential Travel Plan for Chilmington Green focuses primarily on encouraging residents and visitors to use sustainable means of transport to travel to and from the site and the benefits of this. The measures proposed within this document include sustainable travel information packs to all households in the development, public transport taster tickets and promotional events. The Travel Plan Coordinator will lead the day-to-day delivery of the Residential Travel Plan and oversee the implementation of the Workplace and School Travel Plans.

Workplace Travel Plan

11.7.5 The Workplace Travel Plan focuses primarily on how employers will encourage employees to use sustainable means of transport for commuting to and from the site, and for business travel. The measures outlined in the document are a combination of 'site-wide' measures (sustainable website, sustainable travel packs) and proposed 'occupier-specific' measures including initiatives to promote walking, cycling and public transport such as cycle2work schemes, and smarter working practices.

School Travel Plans

11.7.6 The School Travel Plan framework has been prepared to complement the proposals set out within the Transport Assessment report in the interests of promoting sustainable development and reducing the reliance on private car-based forms of transport, with an emphasis on the provision of a safe environment in which pupils can get to school. The document has been designed as a reference tool for each of the individual schools to help them to prepare their own Travel Plans. The document contains a list of tried and tested measures that each school can choose from to encourage walking and cycling to and from school including walking buses, and car sharing.

Travel Plan Summary

11.7.7 The measures proposed within each of the Travel Plans will not only bring associated benefits to the residents, individual businesses, employees, staff and pupils within Chilmington Green, but will also help to mitigate any transport impacts of the development on the wider local community. To monitor progress of the Travel Plan against the end of phase mode share target, a detailed travel survey will be conducted on a bi-annual basis by the Residential Travel Plan Coordinator, with the results submitted to KCC / ABC.

11.7.8 The individual documents in **Appendix H** provide further detail on timescales for implementation, finding responsibilities, management structures, targets and monitoring phases.

11.8 ELECTRIC VEHICLE CHARGING POINTS

11.8.1 In order to encourage the use of more environmentally friendly vehicles it is proposed that electric charging points, or similar technology as appropriate at the time, will be implemented at Chilmington Green. These will be situated in the District and Local Centres, facilitating their use by the largest possible number of people.

11.9 SUMMARY

11.9.1 Chilmington Green would enhance the existing pedestrian and cycle environment and integrate into the existing network in Ashford. Suitable facilities are proposed throughout the proposed development to facilitate non-motorised movement.

11.9.2 A new bus service with a 10 minute frequency will link all parts of Chilmington Green and provide an onward link to Ashford International station and the town centre.

11.9.3 Chilmington Green will be supported by Travel Plans, which will encourage the use of local facilities and promote the use of sustainable modes for making trips within the development and further afield.

12 Future Accessibility To Facilities & Locations

12 Future Accessibility to Facilities and Locations

12.1 INTRODUCTION

12.1.1 In order to demonstrate the effectiveness of the sustainable infrastructure which will accompany the proposed development, the GIS assessments undertaken in Section 4 have been repeated.

12.1.2 The same methodology has again been employed, with the district centre and two local centres acting as centroids for the assessment. The effect of gradient to the north of the site has been applied to the pedestrian and cycle accessibility assessments again.

12.1.3 **Figure 11.1** shows the proposed density of development at Chilmington Green and should be referred to in conjunction with other figures noted in this section.

12.2 PEDESTRIAN ACCESSIBILITY

12.2.1 The primary pedestrian routes introduced by the proposed development have been included in the GIS assessment, which shows the effect of these links on pedestrian accessibility inside and outside of the development. **Figure 12.1** shows the pedestrian accessibility at full build-out of Chilmington Green.

12.2.2 A comparison between the future pedestrian accessibility and the existing accessibility shown in **Figure 4.1** shows that there is an increase in the distance which can be travelled on foot within a 30 minute period, but it does not offer significantly improve access to any existing facilities.

12.2.3 What **Figure 12.1** does show is the excellent accessibility within the site to facilities. In addition to displaying the locations of the district and local centres as centroids, the education facilities have been shown, as has the supermarket located at the district centre.

12.2.4 From any point within the development, the walking time to one of the centres is less than 15 minutes, and in the majority of the residential areas it is under 10 minutes. The locations of the centres around the development ensure that this travel time is kept low. The employment, convenience retail and commercial facilities at each of the centres will be within easy reach on foot of all residents, visitors and employees.

12.2.5 A comparison with the development density in **Figure 11.1** shows that the district and local centres are surrounded by high density development, with the density gradually decreasing at further distances. This means that a greater number of people are located within a shorter walking distance to the centres than are located further away.

12.2.6 Three of Chilmington Green's primary schools are within five minutes' walk of one of the centres, with the fourth primary school and the secondary school situated less than 10 minutes' walk from a centre. Resultantly, it can be said that all residential development will be within 15 minutes' walk of a primary school and a good proportion within 5 minutes' walk. Chilmington Green's secondary school will be within the 2km guideline for walking offered by the CIHT guidance.

12.3 CYCLE ACCESSIBILITY

12.3.1 The proposed cycle infrastructure at Chilmington Green offers some degree of improvement in accessing the wider Ashford area as a result of the provision of the proposed development's internal cycle routes. **Figure 12.2** shows the level of cycle accessibility from Chilmington Green's district and local centres.

12.3.2 In particular, a greater proportion of Ashford north of the M20 and areas in the far east of the town become accessible in less than 30 minutes cycle time. Access time to Ashford town centre remains under 20 minutes by cycle.

12.3.3 Based on the results of this assessment, Chilmington Green can be deemed as a 'cycle neighbourhood'. The proposed infrastructure provides an environment where any of the three centres within the proposed development can be reached conveniently by cycle. The majority of the development is able to reach either the district centre or one of the local centres in under 5 minutes, with only those at the very fringes of the site needing up to 10 minutes to get to a centre.

12.3.4 With Chilmington Green's schools located in close proximity to the centres, these will all be accessible in a short time by cycle too, with the secondary school within an excellent distance by cycle.

12.4 PUBLIC TRANSPORT ACCESSIBILITY

12.4.1 As with the assessment of existing conditions, the public transport assessment for the future scenario has been carried out using ACCESSION. This incorporates the proposed high frequency bus service from Chilmington Green. The assumptions associated with the service (detailed in Section 11) are:

- 10 minute frequency;
- Real-time smart bus stops located as shown in **Figure 11.2**; and
- A journey time of approximately 15 minutes to Ashford International Station from the district centre.

12.4.2 The assessment includes the time taken to walk from the centroid (in this case either the district or local centre) to the nearest bus stop, there is also an assumed wait time. Where there is a change of mode from bus to rail, another small delay is introduced replicating the wait for a train for example. Where there are no further onward connections, the distance that can be reached in a 60 minute period is shown. The future public transport accessibility from Chilmington Green is shown in **Figure 12.3**. A wider view of public transport accessibility from Chilmington Green to the rest of Kent can be seen on **Figure 12.4**.

12.4.3 In comparison to the existing accessibility by public transport as displayed on **Figure 4.3**, there is a noticeable difference in the destinations which can be reached, and the time in which they can be accessed.

12.4.4 Table 12.1 shows a list of local destinations and offers a comparison in the time calculated to reach them from Chilmington Green currently, and with the proposed bus service.

Table 12.1: Accessibility from Chilmington Green to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)	
	Current	With Proposed High Frequency Bus Service
Ashford International Station	21 – 30	11 – 20
Ashford town centre	31 – 40	11 – 20
Tenterden	31 – 40	31 – 40
Wye	41 – 50	21 – 30
Canterbury	51 – 60	41 – 50
Folkestone	51 – 60	31 – 40
Headcorn	51 – 60	31 – 40
Maidstone	60+	41 – 50
Rye	60+	41 – 50
Dover	60+	51 – 60
Ebbsfleet International Station	60+	51 – 60

Source: Consultant prepared ACCESSION assessment

12.4.5 As Table 12.1 shows, Chilmington Green's proposed bus service facilitates access to a wide area, giving excellent links to Ashford International station and to the town centre.

12.4.6 Destinations that cannot currently be reached in less than an hour by public transport are shown by the assessment as being reachable in that time in the future year assessment. For example from commencing a journey at one of the centres at Chilmington Green the assessment anticipates it will be possible to get to central Maidstone in under 50 minutes and to Ebbsfleet International Station in under 60 minutes.

12.4.7 The future level of accessibility increases the potential for residents to commute from Chilmington Green to other destinations in Kent. And with London St Pancras station a further 18 minutes journey from Ebbsfleet International, central London is feasibly accessible from Chilmington Green in a little over one hour.

12.4.8 The reverse journey can also be made conveniently, with commuters able to access the proposed development using public transport to reach Chilmington Green.

12.4.9 It should be noted that ACCESSION assumes a certain time to reach a public transport stop and for the service to arrive. This can result in journeys involving public transport services with a low frequency providing better results than they may do in reality.

12.5 SUMMARY

12.5.1 This section has demonstrated that the proposals at Chilmington Green afford future residents, employees and visitors the opportunity to access all the facilities that Chilmington Green has to offer using sustainable modes. Travel to and from the development and to places outside of Ashford is significantly enhanced by the proposed high frequency bus service.

13 Traffic Impact

13 Traffic Impact

13.1 INTRODUCTION

13.1.1 This section will set out the future year impact of the development and off-site infrastructure improvements upon the highway network giving regard to the modelling outputs discussed in Section 8.5. The requirement of the TA is for this assessment to be based on a forecast future year when the site is expected to be fully developed and operational.

13.2 FUTURE TRAFFIC GROWTH

13.2.1 Having established in Section 3.10 the baseline conditions of the local highway network, this section sets out how this is likely to change in the future as a result of forecasted increases in traffic. These increases will be as a result of background traffic growth, and that of committed planned developments in the area, and the additional traffic being generated by the proposed site.

13.3 VISSIM MODELLING

13.3.1 The Ashford VISSIM model has enabled determination of the effect that the proposed KCC strategic highway infrastructure along the A28 will have on the reassignment of traffic around Ashford and how this has an impact upon the development traffic and existing traffic using this corridor.

13.3.2 Due to the constraints on the existing network, with much of the capacity already taken, it is likely that the proposed development will have an impact upon the travel patterns of existing trips, either by displacing these trips further afield, or by spreading the demand across a longer peak period (peak spreading). It is likely therefore that on the local network where the capacity is close to its limit, minimal change in traffic flows will be seen.

13.4 DEVELOPMENT TRAFFIC FLOWS

13.4.1 The VISSIM model, as stated above, is able to distribute the development traffic onto the network based upon driver destinations. The distribution of inbound and outbound development traffic flows from the Jacobs VISSIM model are shown in **Figures 13.1** and **13.2** for the AM and PM peaks respectively.

13.4.2 The figures highlight the strong traffic departure flow in the morning peak and the strong arrival flows in the evening peak along the A28. This commuting flow acts as the predominant route in and out of the site with flows of approximately 700-800 vehicles (based upon 5,750 units). These figures provide the required evidence that the development traffic would predominately use the A28 for access and that this would need to be the focus for future improvements.

13.4.3 The figures do however highlight that the alternative movements in the peak hours (arrivals AM and departures PM), whilst a much lower flow, distribute further across the local network utilising some of the more minor links. In the morning peak, the arrivals are evenly split between the A28 and the use of A2070 from the east with approximately 200 vehicles on each. In this peak hour Magpie Hall Road is used by approximately 100 vehicles. The evening peak departure consists of approximately 100 vehicles using the A28 and 60 along both the A2070 and Magpie Hall Road to the east. The majority of the remaining flow appears to be internal to the development.

13.4.4 The differences in flow distribution between the AM / PM commute and the alternative movements are likely to be their destination. The commuting traffic is predominately heading into the town centre or the M20, with which the A28 is the quickest route. The alternative movements, especially in the evening peak hour are likely to be social trips and therefore more local creating this wider distribution.

13.4.5 Taking the results of the traffic distribution a step further, this section will review the results for the highway network, specifically the A28, the site access and local roads.

13.5 2031 DO MINIMUM

13.5.1 The AM and PM peak network flows for the 2031 Do Minimum scenario are shown in **Figure 13.3** and **Figure 13.4** respectively. These provide a point of reference against the Scenario 2 flows which are inclusive of the Chilmington Green development.

13.6 2031 SCENARIO 2

13.6.1 The Scenario 2 assessment consists of a new access strategy alongside a small off-site mitigation measure which is provided to complement the KCC Strategic A28 improvement scheme discussed in Section 7. These additional measures are:

- A speed reduction along Magpie Hall Road / Chilmington Green Road to a 30mph speed limit (previously 40mph) with provision of a new footway. The speed reduction measure has been provided to reduce the attractiveness of the route (WSP Drawing 2761/SK/047/A) and includes two chicane type features and a village gateway.
- Three new development accesses onto the A28, consisting of 2 new roundabouts and a new signalised crossroads with Goldwell Lane (WSP Drawing 2761/GA/008/G).

13.6.2 The full morning and evening peak hour traffic flows for the 2031 Scenario 2 assessment are shown in **Figure 13.5** for the AM peak and **Figure 13.6** for the PM peak. These identify the change in traffic along the major corridors with the introduction of the development and offsite highway works. The junction results from the modelling are identified in the following sections.

13.7 FULL NETWORK PERFORMANCE

13.7.1 The VISSIM model incorporates the full highway network in Ashford and assesses/calculates the capacity of this network based upon a number of factors such as delay, average speed, distance travelled and travel time. These results are shown in Table 13.1 below.

Table 13.1 – Overall Network Performance – 2031 Scenario 2

2031 Scenario 2		
Parameter	**AM**	**PM**
Average Delay Time per Veh (sec)	255	194
Average Speed (mph)	16.3	18.8
Total Distance Travelled (km)	96551	92003
Total Travel Time (hours)	3714	3067

+

13.7.2 The results above show that within the morning peak hour, vehicles are likely to experience more delay than in the evening peak hour with the average delay per vehicle in the order of 255 seconds and 194 seconds respectively.

13.7.3 The network performance as a whole cannot however identify localised issues or potential for improvements to a network. With that in mind, the following sections will consider the areas of the network that are likely to be impacted upon by the proposed development.

13.8 A28 ASSESSMENT

13.8.1 The proposed KCC A28 Strategic Improvements are designed to create additional capacity along an already constrained section of the network. This constrained section lies between the A28 / B2229 Brookfield Road roundabout (Matalan) and the A28 Chart Road / A28 Templer Way roundabout (Tank).

13.8.2 The Jacobs A28 improvements design has been included within the Jacobs VISSIM model Scenario 2 as this was identified as the infrastructure needed to accommodate the projected growth of the town, the results of which are shown below in Table 13.2. It is again noted that this Scenario includes 7,000 dwellings at Chilmington Green rather than the 5,750 of this application, ensuring the assessment is robust.

13.8.3 The results from the Jacobs VISSIM model (results are attached within **Appendix F**) highlighted that with the introduction of the residential development, alongside the proposed KCC Strategic Highway Improvements, the A28 link between Tithe Barn Lane Roundabout and the A28 Chart Road/ A28 Templer Way will work satisfactorily in the peak hours. Tithe Barn Lane, although not identified as a capacity constraint, has been reviewed as this will be the first junction on the A28 that is affected by the development.

13.8.4 On average, none of the junctions will have delays of greater than 37 seconds in the peak hours. However, A28 (north bound) will be subject to delays of up to 40 seconds at Tank roundabout and 78 seconds at Matalan roundabout in the morning peak as people try to access the M20. In the evening peak, there is a higher delay on Chart Road at Tank roundabout of 57 seconds. This is predominantly due to high flows of traffic heading southbound along the A28 towards the new development.

13.8.5 Whilst these delays could be considered high in isolation, it is important to consider the delay that would be created without the improvements and development. Therefore, an additional review of the results has been undertaken on the journey times along the A28 network from Tithe Barn Lane up to the M20 junction. The journey times with and without the development/KCC improvement are shown in Tables 13.2 and 13.3.

Table 13.2: A28 Journey Times between Tithe Barn Lane and the M20 (minutes and seconds)

	Northbound		Southbound	
	AM	PM	AM	PM
2031 DM	06:32	05:22	05:49	06:16
2031 Sc2	06:57	05:19	05:40	05:38

Source: Jacobs VISSIM Model

Table 13.3: A28 Journey Times difference between Do Minimum and Scenario 2 (seconds)

	Northbound		Southbound	
	AM	PM	AM	PM
Difference	25	-3	-9	-38

Source: Jacobs VISSIM Model

13.8.6 The journey times along this route identifies that the proposals will create a small increase in the morning peak heading northbound, increasing the journey time by some 25 seconds. However, the remaining journeys (northbound evening, southbound in the morning and evening) all see decreases in the journey times.

13.8.7 These results indicate that the improvements will provide an overall betterment to journeys along this corridor, with a reduction across the peaks of up to 25 seconds.

13.8.8 Whilst likely to have smaller impacts at other locations in and around Ashford, the proposed development of Chilmington Green will make a proportionate contribution towards KCC's strategic highway improvements, including the A28 corridor.

13.9 DEVELOPMENT ACCESS

13.9.1 The development will be accessed via three new junctions from the A28, a single roundabout from Coulter Road and the continuation of Magpie Hall Road.

13.9.2 This assessment will review the three primary accesses into the development from the A28 and the mini-roundabout at Coulter Road as these will serve the development early in the construction stages. The junctions will be:

- Northern A28 Roundabout (Access Point A);
- Central A28 Signalised Junction with Goldwell Lane (Access Point B);
- Southern A28 Roundabout (Access Point C); and
- Coulter Road Mini Roundabout (Access Point D).

13.9.3 The development accesses along the A28 have been promoted to enable a change in character of this existing rural road and bring attention to the new residential feel of the area. The A28 is currently subject to a 60mph speed limit along the site frontage. It is intended that the A28 between both roundabouts will be reduced and subject to a 40mph speed limit. The A28 development access junctions can be seen in WSP Drawing 2761/GA/008/G.

13.9.4 The northern roundabout (Access Point A) will be the primary access into the development, accommodating the majority of the sites traffic. This will be a 3 arm, 60m Inscribed Circle Diameter (ICD) roundabout with single lane entries flaring to two lanes at the stop line.

13.9.5 The central signalised junction (Access Point B) will provide a controlled crossroad junction between the site, the A28 and Goldwell Lane. This junction will also incorporate controlled pedestrian crossing facilities enabling access between the development and the Great Chart to the north. This access will not provide primary access for the development, but allow access north towards a number of the small villages.

13.9.6 The final A28 access (Access Point C) will also be a roundabout, with a 40m ICD. This roundabout will be a four armed junction which will accommodate the existing Sandy Lane priority junction. This access again is not expected to accommodate high traffic flows with traffic predominately heading westbound, although some residential units situated on the western edge of the site will use this to head into Ashford.

13.9.7 The Coulter Road (Access Point D) junction is a 3 armed mini-roundabout with an ICD of 16m. This access has been promoted to allow localised connection into Ashford, rather than the strategic nature of the A28 access junctions. Because of this, the traffic flows onto this junction are expected to be lower than out onto the A28. The proposed access arrangement can be seen in WSP Drawing 2761/GA/014/C.

13.9.8 Table 13.4 shows the output results from the Jacobs VISSIM model for the proposed site access arrangements.

Table 13.4 – Site Access Junctions Delay by Arm/Junction – 2031 Scenario 2

Junction	Approach	Delay			
		AM		PM	
		Delays (s)	Average Delay (s)	Delays (s)	Average Delay (s)
Access Point A	A28 Ashford Road s/b	8	5	6	4
	Site access	0		0	
	A28 Ashford Road n/b	5		3	
Access Point B	A28 Ashford Road n/b	1	2	0	1
	Ashford Road	2		5	
	A28 Ashford Road s/b	2		1	
	Site access	1		1	
Access Point C	A28 Ashford Road n/b	3	2	3	2
	Sandy Lane	1		1	
	A28 Ashford Road s/b	0		0	
	Site access	2		1	
Access Point D	Coulter Road n/b	1	1	0	0
	Site Access	0		0	
	Coulter Road s/b	1		1	

Source: Jacobs VISSIM Model

13.9.9 Table 13.4 above indicates that the proposed access junctions will accommodate the proposed level of traffic. The model identifies no more that 8s delay on any one arm, with no junction delay over 5 seconds.

13.9.10 Whilst the modelling outputs identify that the proposed access will cause minimal delay, a number of amendments have been made to the proposals since the Scenario 2 assessment has been run. These include the following:

- The closing of Chilmington Green Road – The development proposals are to close the access to Chilmington Green Road from the A28 to traffic, with the priority controlled T-junction now only serving the two farms at the western extent of the

road. Scenario 2 still provides this connection so a manual adjustment has been made to re-distribute these flows onto the two access roundabouts. For robustness, all traffic has been diverted.

- Scenario 2 included upgrades and widening to Mock Lane in order for it to be used for a bus service into Chilmington Green. These alterations will no longer be made.

13.9.11 The traffic flows at the three A28 site accesses from Scenario 2 are shown in **Figure 13.7** with the redistributed traffic flows taking into account the changes discussed above are shown in **Figure 13.8**.

13.9.12 To determine whether the redistribution of traffic has impacted upon the capacity of the junctions, a sensitivity assessment has been undertaken. The geometries of the junction have been input into the industry standard ARCADY assessment tool for roundabouts. The capacity analysis in the following assessments summarise the Ratio of Flow to Capacity (RFC). RFC values of up to 0.90 are generally acceptable causing small amounts of delay and queuing. An RFC value of 1.0 demonstrates the junction or approach arm has reached the theoretical capacity of design with values greater than 1.0 causing significant levels of delay and queuing.

13.9.13 The ARCADY assessments for both junctions are shown in Table 13.5 with the outputs provided within **Appendix I**.

Table 13.5: Proposed Access Junction Assessments for Access Points A, C and D

2031 Scenario 2 – Access Point A				
Arm	**Weekday AM Peak**		**Weekday PM Peak**	
	RFC	**MMQ**	**RFC**	**MMQ**
A28 (SWB)	0.204	1	0.225	1
Site Access	0.359	1	0.234	1
A28 (NEB)	0.336	1	0.414	1
Sandy Lane	0.044	0	0.063	1
2031 Scenario 2 – Access Point C				
A28 (SWB)	0.366	1	0.868	7
Site Access	0.903	9	0.261	1
A28 (NEB)	0.290	1	0.099	1
2031 Scenario 2 – Access Point D				
A28 (SWB)	0.391	1	0.388	1
Site Access	0.567	2	0.211	1
A28 (NEB)	0.556	2	0.157	1

Note: Traffic flow distribution used for Mock Lane is based upon 5,750 units – This has been factored up to 7,000 units to provide a consistent assessment with the rest of the data presented in the TA.

13.9.14 Table 13.5 shows that with the manual redistribution of traffic through the development access junctions, queues of no more than 9 vehicles are expected in the future forecast year. The queues above however are a robust assessment as only 5,750 residential units are proposed for the site, with 7,000 units assessed within 2031 Scenario 2.

13.10 LOCAL HIGHWAY LINKS

13.10.1 The proposed development is located on the south-western edge of Ashford and will surround a number of existing residential dwellings and rural roads. This section will consider the impact of the development upon these existing rural links surrounding the site.

13.10.2 Table 13.6 shows the differences in two way link flows along the surrounding highway network as shown in Jacobs' model outputs.

Table 13.6: Two Way Link Flows

Link	2031 Do Minimum		2031 Scenario 2	
	AM Peak	PM Peak	AM Peak	PM Peak
Ashford Road/Chart Road	322	301	138	115
Mock Lane	116	84	612	241
Long Length	277	236	620	490
Magpie Hall Road	367	443	499	413
Tally Ho Road	513	571	511	589

Source: Jacobs VISSIM Model

13.10.3 Table 13.6 highlights that on some of the local highway network links there is an increase in two-way trips in one or both periods from the Do Minimum scenario to Scenario 2. For instance, the traffic flows indicate that Magpie Hall Road will have a 35% increase in the morning peak but a 7% reduction in the evening peak. The model included in Scenario 2 speed reduction measures along Magpie Hall Road to reduce the attraction of this route to traffic. This reduced the speed along this link from 40mph to 30mph.

13.10.4 Following the review of the Scenario 2 model flows, additional traffic calming measures have been proposed for Magpie Hall Road, with the introduction of a village gateway and two chicanes. These additional features can be seen in WSP Drawing 2761/SK/047/A and are anticipated to reduce the link flows from those seen in Scenario 2, limiting the impact of the development.

13.10.5 The model results highlight an increase in flows along Mock Lane between Do Minimum and Scenario 2. As discussed in Section 13.9, Scenario 2 included upgrades to Mock Lane to facilitate its use for public transport, but which did not discourage use by other vehicles and likely induced vehicle traffic. These improvements have attracted development traffic heading eastbound, using this route instead of the A28 access junctions. The model identified this was as much as 358 development two way trips in the morning peak hour and 203 in the evening peak.

13.10.6 Following review of the Scenario 2 results and revision of the public transport strategy, Mock Lane will continue to be a narrow rural lane reducing the attraction to development traffic. As discussed in Section 13.9, traffic flows have been manually redistributed this traffic back onto the northern access roundabout (Access Point A). It is estimated that due to the narrow restrictions of the lane, development traffic using this

route to enter and exit the site is likely to reduce to approximately 90 two-way trips in both peak hours. This small addition to the background traffic is considered acceptable.

13.10.7 Ashford Road/Chart Road runs through Great Chart, an existing small rural village located on the north edge of the A28, to the north east of the site. Currently, this route suffers from rat running of traffic in the peak hours, with vehicles trying to bypass existing queuing on the A28.

13.10.8 Traffic flows from the Jacobs model shown in Table 13.6 identified traffic along this route would be approximately 320 two-way trips in the morning peak hour and 300 in the evening peak hour, highlighting this existing rat-running issue. The introduction of the KCC A28 Strategic Highway Improvement scheme will help reduce the amount of rat running to below 140 two-way trips in either peak hour, due to the additional capacity provided on the A28. However, to further reduce the attractiveness of this route, a new traffic calming scheme is proposed along Ashford Road/Chart Road through the village.

13.10.9 The traffic calming scheme could include a variety of measures which would need to be discussed further through consultation following the application. However, WSP have provided a potential strategy as shown in WSP Drawing 2761/SK/049/A. This proposal includes the introduction of a village gateway on the entrance to the village from the west, followed by a chicane type feature. Through the village localised narrowing could be provided slowing vehicles speeds. Leaving the village to the east, additional carriageway narrowing could be provided.

13.10.10 A sensitivity assessment was undertaken with a traffic calmed Great Chart which showed a large reduction in traffic through the village. The traffic reduced to approximately 65 two-way trips in the morning peak hour and 70 two-way trips in the evening peak hour, some 75-80% reduction in both peaks. Therefore, the proposed development will provide betterment within Great Chart village, reducing traffic and congestion for the existing locals.

13.10.11 The model highlights a large increase in flow along Long Length in both peak hours which is mainly due to the existing de-restricted speed limit along this route. Whilst the link is recognised as rural, the link could be considered as a low Standard UAP1 type road as stated in TA79/99. This guidance sets out capacity of urban roads and not rural, however the existing route is a 5.5m road that is straight for the majority of its length with limited frontage activity. A UAP1 through interpolation of the information would indicate that approximately 950 vehicles one way could be accommodated and 1550 two way trips based upon a 60/40 directional split. Whilst this may be a small over prediction for a rural route, the 620 two way trips is far lower than could be considered the capacity of the link.

13.10.12 The additional traffic flows along some of the local routes therefore have been addressed through additional measures or amendments to the proposal which will have a positive impact on vehicles using these routes. The development will also provide betterment through the existing village of Great Chart through the introduction of traffic calm features reducing existing rat-running through the village.

13.11 SAFETY MITIGATION PROPOSALS

13.11.1 In addition to capacity mitigation proposals, WSP have reviewed the existing safety issues along some of the major Ashford corridors that could be affected by the development, which have been discussed in detail in Section 3. The majority of the accident analysis did not identify any significant safety concern that would need to be addressed. However, there were three locations that needed further review. These were:

- Ashford Road / Magpie Hall Road Junction;
- A28 / Old Surrenden Manor Road; and
- Ashford Road / Romney Marsh Road.

Ashford Road / Magpie Hall Road Crossroads Junction

13.11.2 A number of shunt type accidents were recorded at the existing junction due to high vehicle speeds. In addition, a fatal accident occurred south of the junction due to this high speed and poor forward visibility around a corner just south of the junction. WSP have therefore proposed that the existing speed limit change between 60mph and 40mph should be relocated south of the bend, slowing traffic before approaching the junction. This amendment is shown in WSP Drawing 2761/SK/047/A and will reduce the potential for shunt type accidents at the junction.

A28 / Old Surrenden Manor Road T-Junction

13.11.3 The accident analysis identified a number of rear shunt type accidents approaching from the east wanting to turn right into the side arm. The additional traffic could have had an impact upon this. However, the introduction of the new southern A28 access roundabout and the speed limit change before this junction will reduce speeds and enable larger gaps for vehicles to turn in. Therefore no additional safety improvements are considered necessary.

Ashford Road / Romney Marsh Road and Norman Road / Romney Marsh Road Roundabouts

13.11.4 Both junctions highlighted a number of shunt type accidents due to high speeds on the approaches to the junctions with poor entry deflection. To reduce the vehicle speeds on the approach, WSP propose the use of fencing on the splitter islands on the approaches to restrict forward visibility through the junctions, requiring drivers to slow as they approach.

13.11.5 The safety improvements discussed at the above locations will provide a positive impact upon the existing accident spots on the network reducing the potential for serious accidents.

13.12 CONCLUSION

13.12.1 The impact assessment discussed above highlights that the introduction of the new development alongside the KCC A28 Strategic Highway Improvement will have minimal impact upon the local area. This is due to the increase in capacity along the A28 which can now accommodate the additional trips. Where impacts have been highlighted, further improvements have been proposed by WSP such as traffic calming features through Great Chart and along Magpie Hall Road to deter vehicle movements.

13.12.2 The proposed development of Chilmington Green will make a proportionate contribution towards KCC's strategic highway improvements, including the A28 corridor, and a number of road safety improvement schemes.

14 Construction Traffic Impact

14 Construction Traffic Impact

14.1 CONSTRUCTION TRAFFIC IMPACT

14.1.1 The planning application for the Proposed Development will be submitted in outline, thus it is possible that construction activities may vary. An indicative phasing of an assumed construction methodology has been adopted to inform construction activities and traffic movements and thereby inform a qualitative review of the likely effects during the construction phase.

14.1.2 Associated with the construction the vast majority of construction traffic movements will be generated from construction workers' cars and vans, having a largely incidental impact on the surrounding highway network.

14.1.3 The primary infrastructure associated with the Proposed Development will generate appreciably greater construction traffic, typically occurring in the early years of development. During this period only some dwellings will be available for occupation, such that the combined traffic flows are modest. It should be noted that the temporary effects of construction traffic have been considered prior to mitigation and that the effects are considered to be medium term as a consequence of the overall construction period.

14.1.4 Having reviewed the indicative phasing strategy it is apparent that the effects are likely to be at their greatest in the early to mid phases of construction. For this reason Phase 2 has been chosen to assess the effect of construction traffic. Therefore construction movements have been calculated for Phase 2.

14.1.5 The calculation of construction traffic (HGVs and cars / vans) is based on previous experience, however it should be noted that the actual number of trips associated with construction can vary by method of construction and phasing. Therefore the figures provided in this report are indicative only.

14.1.6 For the purpose of the calculation of construction flows it has been assumed that the following construction works would be carried out simultaneously:

- Residential units (300 units per year, assuming 75 being built at any one time)
- Primary School
- Secondary School
- Link Road
- Gas Supply
- Electricity Supply (Cables and Primary Substation)
- Water Supply

14.1.7 Based on the above elements, it is likely that the construction of the development during Phase 2 would generate 38 HGV two-way trips on an annual average day (AADT) and 121 AADT car movements. This includes a car occupancy rate of 1.8 persons per vehicle which is typical for this type of work.

14.1.8 It is envisaged that the construction traffic would be managed through a Construction Management Plan which will include, but is not limited to, the following basic assumptions.

14.1.9 Construction will take place over 50 weeks per year, on five weekdays and half a day at the weekend (Saturday). A full working day is likely to start at 8am and finish at 6pm, however in winter construction would be limited to daylight hours. Therefore both workers trips and HGV trips are limited to times outside peak hours.

14.1.10 It is intended that construction HGV traffic will approach and leave the Application Site via the Strategic Road network, although initially construction traffic would use local access roads capable of handling large vehicles. This would exclude for example, Bartlets Lane, Criol Road and Mock Lane. For the purpose of this assessment it has been assumed that all HGVs will use the Sandy Lane site access and the A28 north towards the M20. Roads internal to the site have not been assessed as the exact routing of HGVs within the site depends to a large degree on the location of the construction works and will therefore vary throughout Phase 2. **Figure 14.1** shows the HGV routing strategy.

14.1.11 An even distribution of arrivals and departures has been assumed to occur throughout the day; however peak operation movements will be managed, and limited where necessary. These points can be considered in greater detail when the Construction Management Plan is advanced.

14.1.12 Construction workers trips have been distributed using a gravity model based on population and distance and assigned using the local road network.

14.1.13 The impact of the construction traffic flows has been measured against the 2010 base flows, which is considered to provide a robust assessment.

14.1.14 Table 14.1 shows a summary of the construction impact.

Table 14.1 – Construction Impact against 2010 Base Flows (AADT)

Corridor	Total vehicles			HGV		
	2010 Base	Construction Flows	% Impact	2010 Base	Construction Flows	% Impact
A28 / A20 (Ashford Road, Great Chart to Tithe Barn Lane)	8049	85	1.05%	461	38	8.20%
A28 (Chilmington Green Road to Sandy Lane)	9480	40	0.43%	169	38	22.35%
A28 (Tank Roundabout to A292)	13153	7	0.05%	269	0	0%
Ashford Road (Great Chart)	2941	0	0%	62	0	0%
Chilmington Green Road (Mock Lane to A28)	N/A					
Bartlets Lane	N/A					
Britannia Lane	4735	1	0.01%	89	0	0%
Brookfield Road (west of Kingsnorth Road)	15329	2	0.02%	299	0	0%
Brookfield Road (east of Kingsnorth Road)	12784	0	0%	432	0	0%
Romney Marsh Road (south of town centre to A2070)	19072	0	0%	1140	0	0%
Romney Marsh Road (A2070 to Forestall Meadow)	14500	1	0.01%	280	0	0%
Long Length	2090	10	0.50%	387	0	0%
Chilmington Green Lane	N/A					

14.1.15 Table 14.1 shows that the impact on the total daily number of vehicle movements as a result of the construction of the proposed development is well below 1% on the majority of the links considered. The highest impact in terms of total vehicles, i.e. cars and HGVs, occurs along the A28 between Great Chart and Tithe Barn Lane at 1.05%.

14.1.16 In terms of HGV the highest impact occurs along the A28 between Chilmington Green Road and Sandy Lane, where the increase in HGV due to the construction of the proposed development is anticipated to be approximately 22%, however the absolute number of HGV two-way trips is 38, which given the working hours, equates to just over 3 two-way trips per hour. Due to the routing strategy the majority of links do not experience any impact from the construction HGVs.

14.1.17 Therefore, the impact on the local highway network due to the construction of the proposed development is considered negligible.

15 Summary & Conclusion

15 Summary and Conclusion

15.1 SUMMARY

15.1.1 WSP has been commissioned by Hodson Developments, Malcolm Jarvis Homes, Pentland Homes and Ward Homes (The Consortium) to produce a Transport Assessment to support an application for the development of up to 5,750 dwellings, four primary schools, one secondary school and retail and employment land uses.

15.1.2 The land at Chilmington Green is detailed in Policy CS5 of the adopted Ashford Borough Core Strategy of 2008 as a suitable location for an urban extension which accommodates no less than 3,350 dwellings and 600 jobs by 2021 and had the potential for over 7,000 dwellings and 1,000 jobs.

POLICY

15.1.3 The proposals accord with national and local policies, creating a sustainable location which provides appropriate facilities (in the form of retail, schools and community uses) for new residents, employees and visitors as well as the opportunity to make trips by modes other than the private car, which is supported by Travel Plans and a new high frequency bus service.

SUSTAINABILITY

15.1.4 The site is located on the south-western edge of Ashford and currently has limited access to facilities on foot, by cycle and via public transport. The proposed development will make a comprehensive provision of facilities, ensuring that all residents are within a good walk or cycle distance of one of the district or local centres together with connecting the development with the neighbouring areas of Brisley Farm and Singleton.

15.1.5 The Master Plan layout has been designed to provide walkable neighbourhoods, with a mix of land uses and four primary and one secondary school reducing the need to travel outside of the development area for some trips.

15.1.6 The hierarchy of streets within Chilmington Green will create corridors of movement for pedestrians, cycles and public transport and will, in several locations, retain the current character of Chilmington Green and Great Chilmington.

15.1.7 The proposed development also aims to enhance accessibility by walking and cycling by implementing a series of pedestrian and cycling routes designed to integrate seamlessly with the area's existing Public Rights of Way. These routes have also been designed to follow desire lines to key destinations.

15.1.8 Residential, Workplace and School Travel Plans have been devised to monitor, promote and encourage the use of sustainable modes of transport over using a car. Although it is recognised that cars have an important role to play in transport of the future, it is the management of their use which will define how good a development will be. Chilmington Green has been developed around strong sustainable transport principals which provide all the necessary facilities to reduce the transport impact on the surrounding highway infrastructure.

15.1.9 An outline public transport strategy has been developed, which will see the introduction of a dedicated high frequency bus service between Chilmington Green and Ashford International station and Ashford town centre. This service will have a 10 minute frequency and will make the journey from Chilmington Green's district centre to Ashford town centre in 15 minutes.

15.1.10 Car parking provision will be provided in line with Ashford Borough Council's standards for residential development and with commercial uses will have parking provided in line with guidance from PPG13, as the most appropriate source in the absence of adopted guidance. Parking will be provided in line with current best practice in a number of forms, in courts, on curtilage and on-street.

15.1.11 Personal Injury Accident data was obtained from Jacobs on behalf of KCC for the latest five year period, 01/10/2006 – 30/09/2011. Analysis of this data indicates that overall there does not appear to be a pattern to the accident history to suggest that geometry is a causal factor, however, the development proposes to promote safety mitigation on local roads to maintain this good record of Personal Injury Accidents.

DEVELOPMENT IMPACT

15.1.12 KCC's VISSIM micro-simulation model of Ashford has been utilised to provide part of the evidence base for this TA. This model has been built and is maintained by KCC's consultant Jacobs.

15.1.13 Modelling results of the entire network show that within the morning peak hour, vehicles are likely to experience more delay than in the evening peak hour with the average delay per vehicle in the order of 255 seconds and 194 seconds respectively.

15.1.14 Improvements to the A28 corridor have been assessed in the traffic model based on the scheme designed by Jacobs. The assessment found that with the exception of northbound flows in the AM peak, vehicle movements on the improved section of the A28 in all other periods saw a reduction in average journey time between the Do Minimum scenario and Scenario 2 (which included Chilmington Green and A28 improvements).

15.1.15 The Scenario 2 model outputs show limited delays at the improved Tank and Matalan junctions. The delays are consistent with tidal flows in the AM and PM peak periods.

15.1.16 Following the Scenario 2 assessment, a combination of proposals from Jacobs and WSP have been agreed by KCC as their preferred strategic improvements for the A28.

15.1.17 The VISSIM model has assessed the operation of the proposed development access junctions on the A28 and found they will accommodate the proposed level of traffic. The model identifies no more than 8 seconds of delay on any one arm, with no junction delay over 5 seconds.

15.1.18 Redistribution of traffic from Mock Lane through the development access junctions has been undertaken manually to reflect the change in status from how it was included in Scenario 2 of the model. An updated assessment of the junctions has found that queues of no more than 9 vehicles are expected in the future forecast year.

15.1.19 Traffic calming measures will be introduced in Great Chart and on Magpie Hall Road. Those in Great Chart are intended to limit the attractiveness of the route through the village as an alternative to using the A28. The measures on Magpie Hall Road will control speeds, ensuring a safe environment which also allows pedestrians to benefit from a new footway provision.

15.1.20 The mode share targets for Chilmington Green illustrate the focus which has been given to providing for sustainable modes. The target mode share for the bus is 20%, which in this location would ordinarily represent a high target. The provision of the high frequency bus service, and the fact that it will be accessible within 400m of dwellings with Chilmington Green means that a 20% mode share is a very realistic target.

15.2 CONCLUSION

15.2.1 The sustainable nature of the development proposals, package of transport measures both on and off-site and the contribution towards KCC's strategic A28 improvements demonstrates that Chilmington Green will provide an excellent place to live and work without creating detriment to Ashford's transport network.

15.2.2 Consultation with KCC, ABC and local residents/stakeholders has been on-going throughout the preparation of this application and the comments and concerns raised have been incorporated within the development of the Master Plan and the transport strategy to deliver the development.

Appendices, Figures & Tables

Drawings

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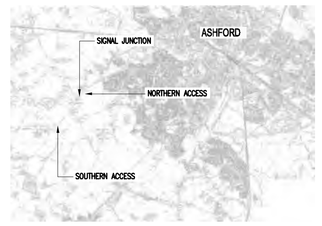

KEY:

LIGHTING COLUMNS

150W POST TOP MOUNTED LANTERN ON 10m COLUMN

100W POST TOP MOUNTED LANTERN ON 6m COLUMN.

FULL STANDARD 40mph 120m SSD

FULL STANDARD 40mph 120m SSD

FULL STANDARD 30mph 90m SSD

FULL STANDARD 40mph 120m SSD

SIGNAL JUNCTION INTER-VISIBILITY

FULL STANDARD 40mph 120m SSD

FULL STANDARD 40mph 120m SSD

FULL STANDARD 40mph 120m SSD

FULL STANDARD 40mph 120m SSD

REV	DATE	BY	DESCRIPTION	CHK	APD
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F	17/04/12	DDD	INCLUSION OF LIGHTING COLUMNS	CFCF	AB
E	27/03/12	DDD	RSA1 AMENDMENTS / INCLUSION OF VERTICAL LEVELS	CFCF	AB
D	15/03/12	DDD	INCLUSION OF FOOTWAYS	CFCF	AB
C	29/02/12	DDD	MINOR AMENDMENTS TO GEOMETRIES	CFCF	AB
B	22/02/12	TDM	PROPOSED SIGNAL JUNCTION ADDED	CFCF	AB
A	06/02/12	TDM	FIRST ISSUE	CFCF	AB

DRAWING STATUS:

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ARCHITECT:

JTP

PROJECT:

ChilmingtonGreen

TITLE:

ACCESS JUNCTION ARRANGEMENTS ON TO THE A28

SCALE @ A0	CHECKED:	APPROVED:
1:1500	DDD	AB
CAD FILE: 2761-GA-008	DESIGN DRAWN: TDM	DATE: February 2012

PROJECT No:	DRAWING No:	REV:
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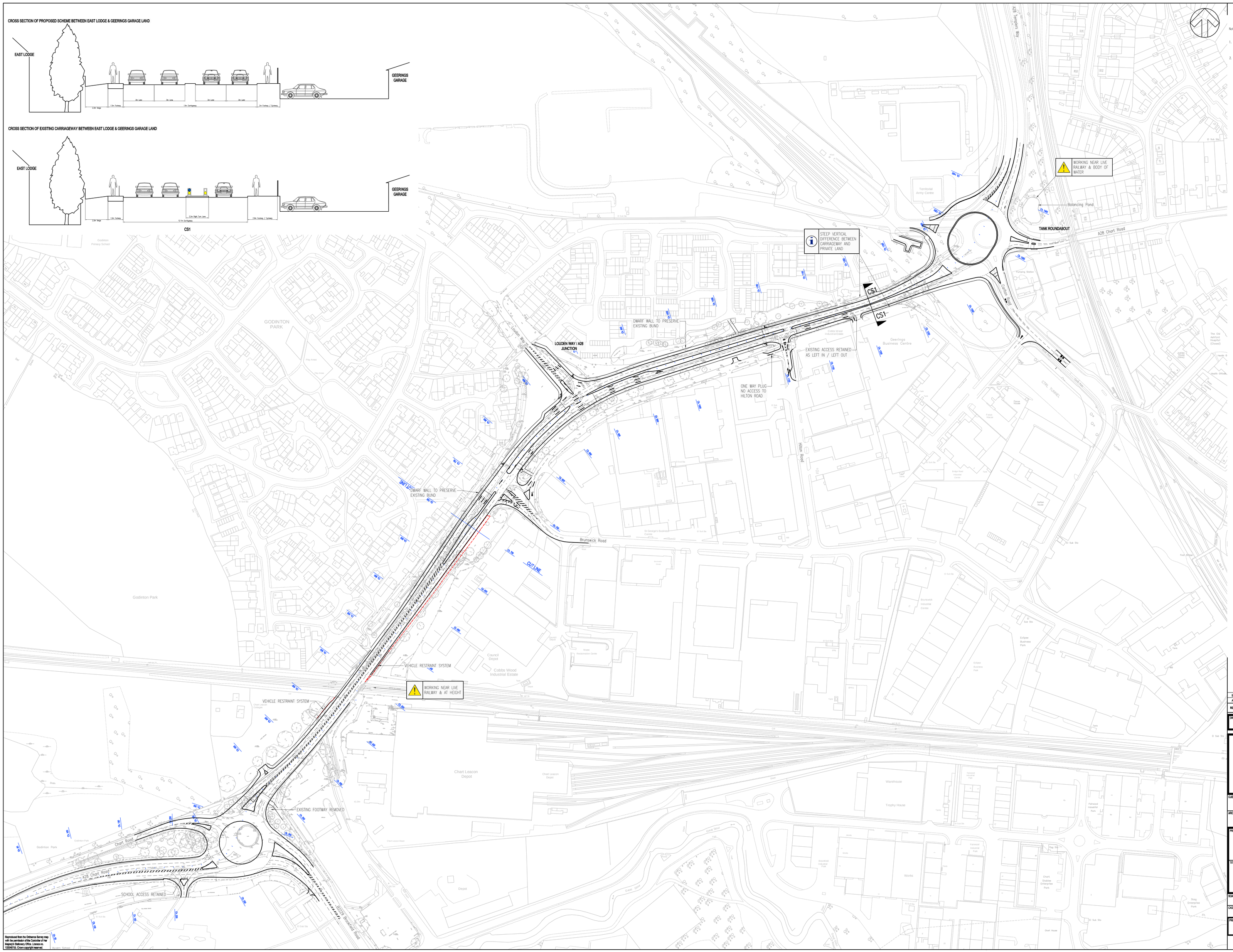
CROSS SECTION OF PROPOSED SCHEME BETWEEN EAST LODGE & GEERINGS GARAGE LAND

CROSS SECTION OF EXISTING CARRIAGEWAY BETWEEN EAST LODGE & GEERINGS GARAGE LAND

CS1



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B	02/05/12	DDD	AMENDMENTS TO MATALAN ROUNDABOUT	DDD	AB
A	10/02/12	DDD	FIRST ISSUE	DDD	AB

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ARCHITECT: JTP

PROJECT: ChilmingtonGreen

TITLE: PROPOSED IMPROVEMENTS TO A28 CORRIDOR & CONNECTING JUNCTIONS

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CAD FILE: 2761-GA-010	DESIGN ORIGINAL: KW	DATE: February 2012
PROJECT No: 11012761	DRAWING No: 2761/GA/010	REV: B

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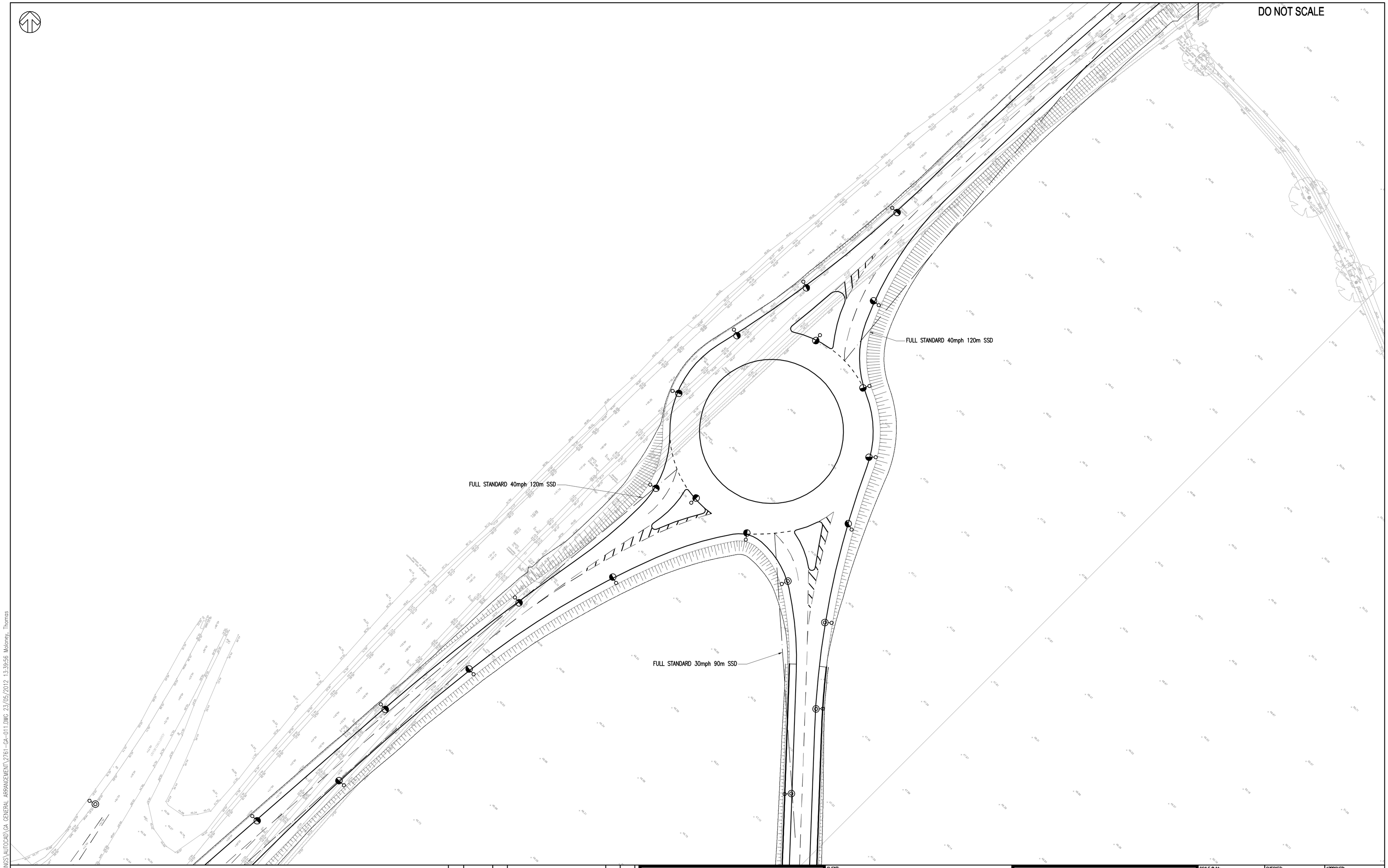

NOTE:

1. PLEASE REFER TO WSP DRAWING 2761/GA/008 FOR COMPLETE A28 ACCESS STRATEGY.

2. THIS CONCEPT DRAWING IS PRODUCED WITHIN THE SCOPE OF OUR CLIENT BRIEF. UNDER THE CDM REGULATIONS, BASED ON THE INFORMATION AVAILABLE TO THE DESIGNER AT THE DATE BELOW, NO RESIDUAL RISKS HAVE BEEN IDENTIFIED. SHOULD THIS CONCEPT DRAWING ADVANCE TO THE PRELIMINARY DESIGN STAGE, THE DESIGNER WILL BE RESPONSIBLE FOR ENSURING THAT ADEQUATE INFORMATION IS AQUIRED TO UNDERTAKE A MORE THOROUGH ASSESSMENT IN ACCORDANCE WITH THE REGULATIONS.

KEY:

LIGHTING COLUMNS

150W POST TOP MOUNTED LANTERN ON 10m COLUMN

100W POST TOP MOUNTED LANTERN ON 6m COLUMN.

REV	DATE	BY	DESCRIPTION	CHK	APD
D	23/05/12	TDM	ROUNDABOUT RELOCATED	DDD	AB
C	17/04/12	DDD	INCLUSION OF LIGHTING COLUMNS	DDD	AB
B	15/03/12	DDD	UPDATED FOOTWAYS	DDD	AB
A	01/03/12	DDD	ISSUED	DDD	AB

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ARCHITECT: JTP

PROJECT: ChilmingtonGreen

TITLE: NORTHERN ACCESS ON TO THE A28 (ACCESS A)

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CAD FILE: 2761-GA-011	DESIGN-DRAWN: TM	DATE: March 2012
PROJECT No: 11012761	DRAWING No: 2761/GA/011	REV: D

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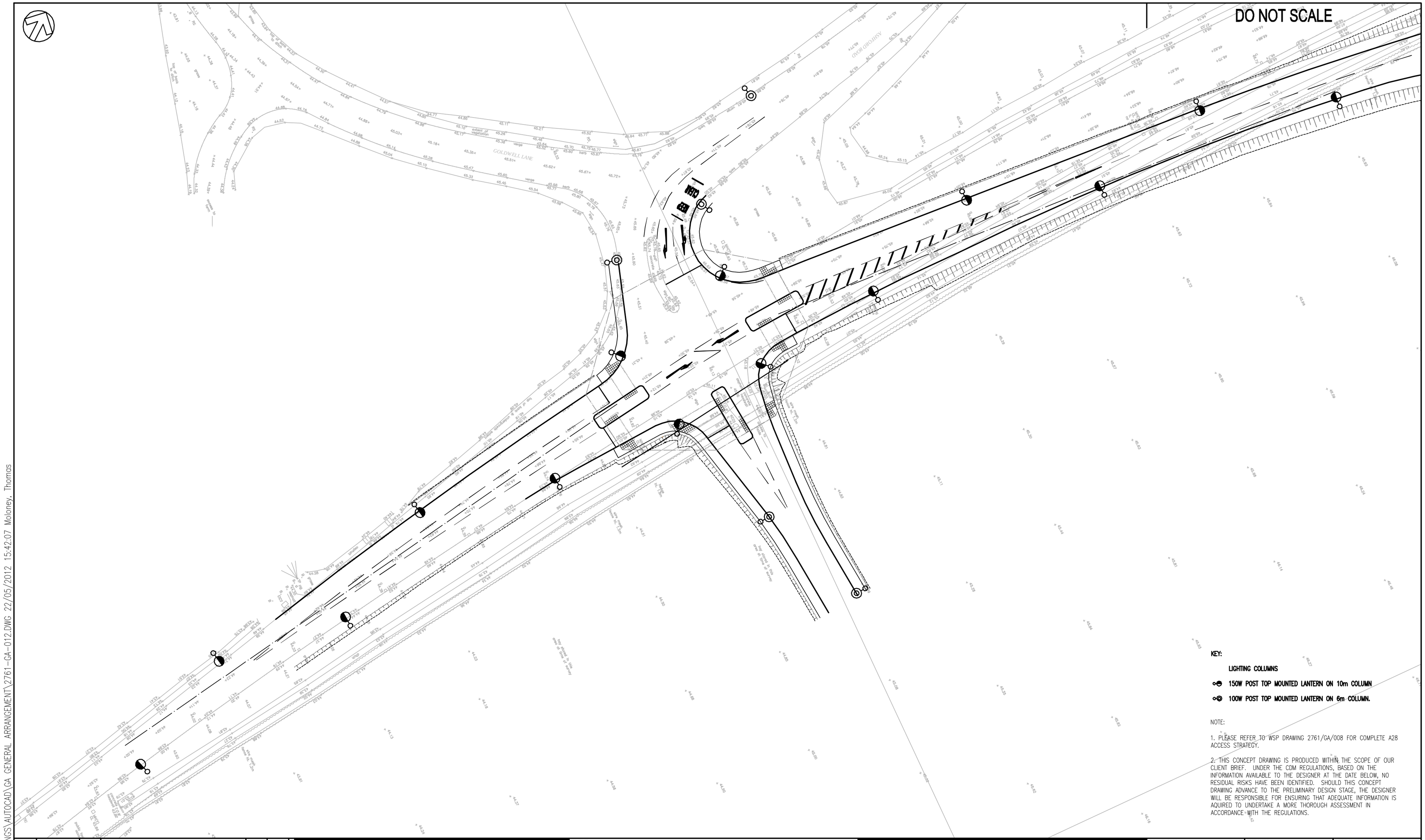

KEY:

LIGHTING COLUMNS

150W POST TOP MOUNTED LANTERN ON 10m COLUMN

100W POST TOP MOUNTED LANTERN ON 6m COLUMN.

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C	27/03/12	DDD	AMENDMENTS FOLLOWING RSA1	DDD	AB
B	15/03/12	DDD	UPDATED FOOTWAYS	DDD	AB
A	01/03/12	DDD	ISSUED	DDD	AB

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ARCHITECT: JTP

PROJECT: ChilmingtonGreen

TITLE: TRAFFIC LIGHT CONTROLLED ACCESS ON TO THE A28 (ACCESS B)

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CAD FILE: 2761-GA-012	DESIGN-DRAWN: TM	DATE: March 2012
PROJECT No: 11012761	DRAWING No: 2761/GA/012	REV: D

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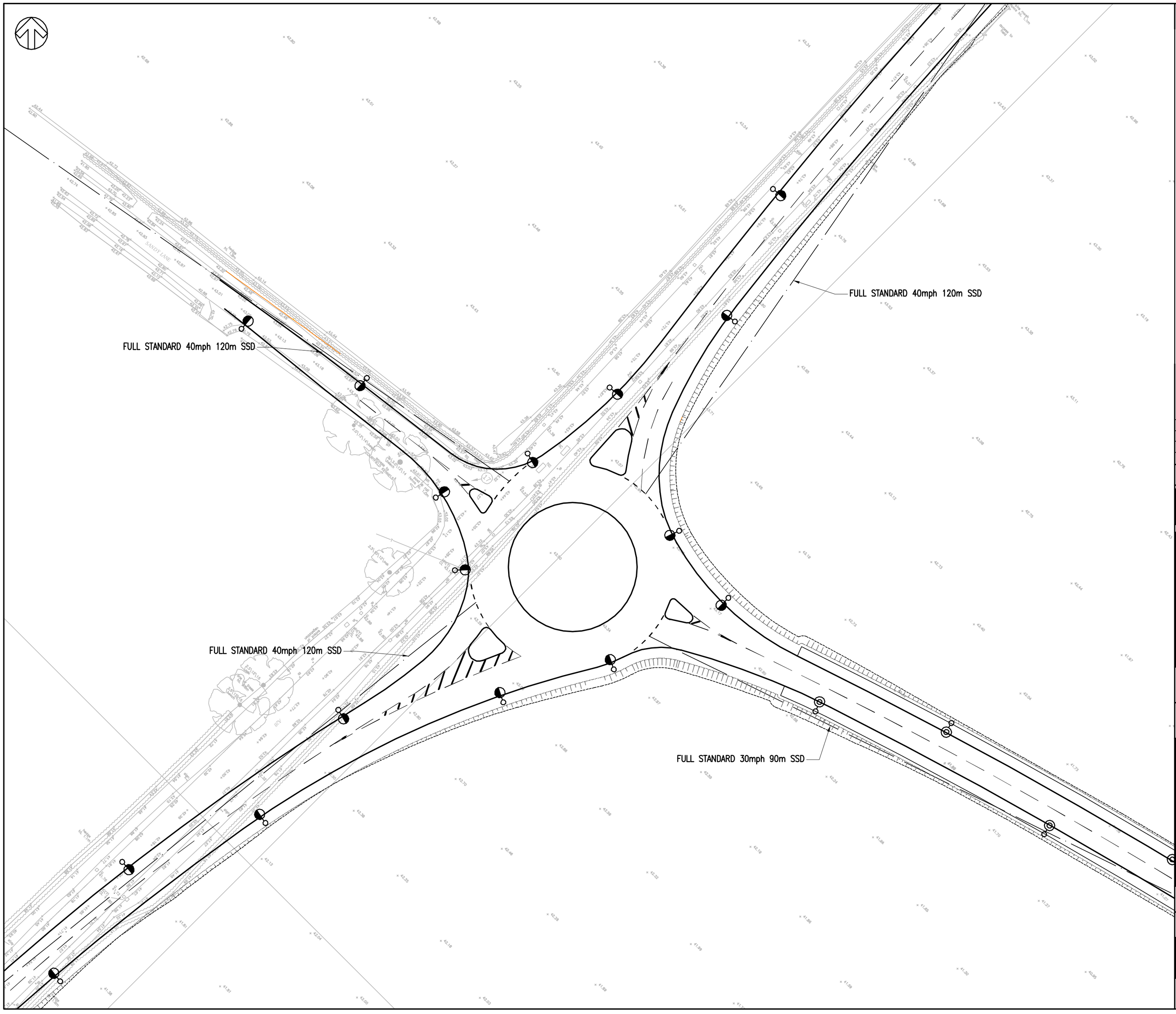

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KEY:

LIGHTING COLUMNS

150W POST TOP MOUNTED LANTERN ON 10m COLUMN

100W POST TOP MOUNTED LANTERN ON 6m COLUMN.

REV	DATE	BY	DESCRIPTION	CHK	APD
D	17/04/12	DDD	INCLUSION OF LIGHTING COLUMNS	DDD	AB
C	27/03/12	DDD	AMENDED EXIT RADIUS ON WESTERN APPROACH	DDD	AB
B	15/03/12	DDD	UPDATED FOOTWAYS	DDD	AB
A	01/03/12	DDD	FIRST ISSUE	DDD	AB

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ARCHITECT:
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PROJECT:
ChilmingtonGreen

TITLE:
SOUTHERN ACCESS ON TO THE A28 (ACCESS C)

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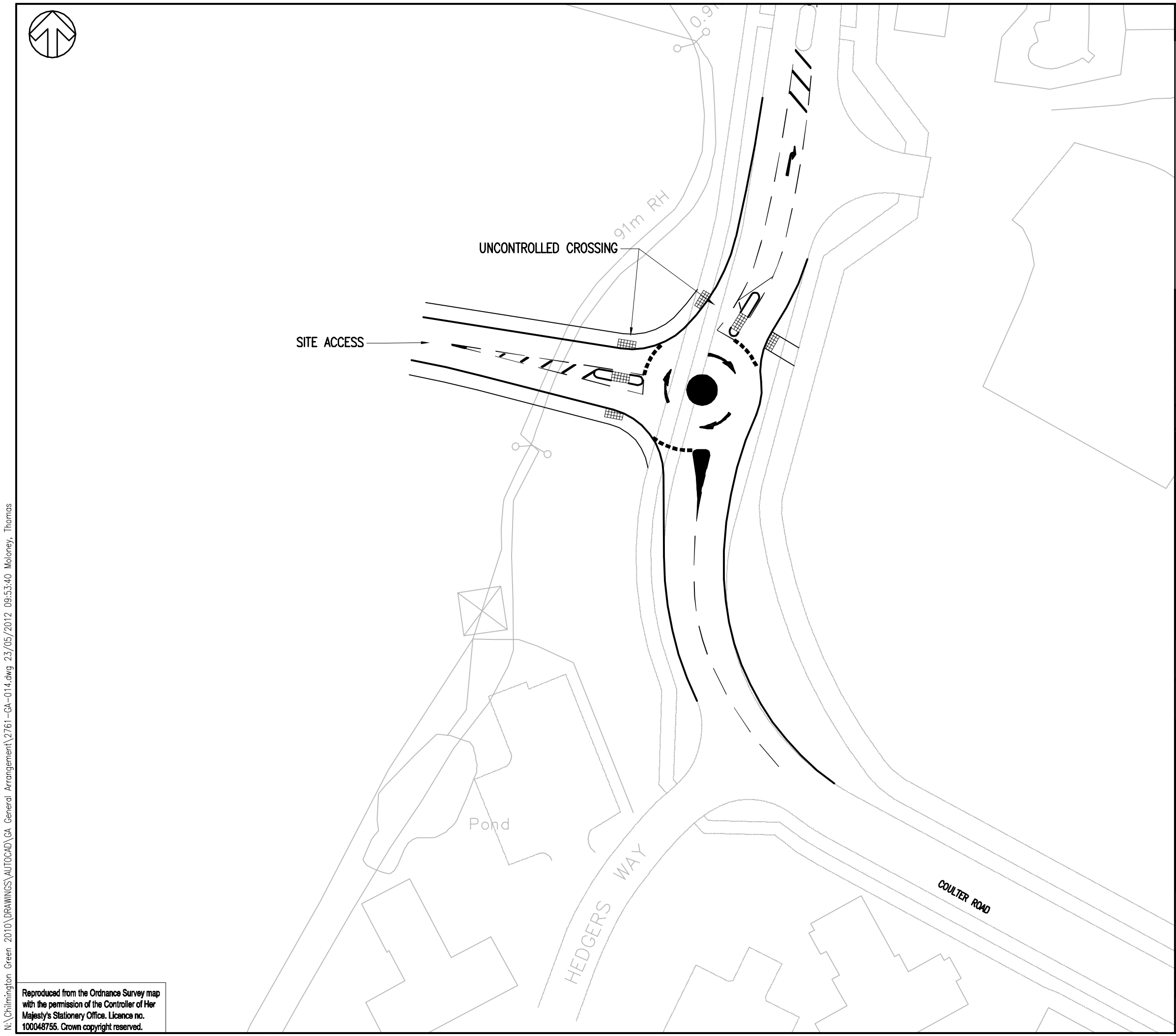

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B	27/03/12	DDD	AMENDMENTS FOLLOWING RSA1	DDD	AB
A	06/03/12	DDD	FIRST ISSUE	DDD	AB

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ARCHITECT:
JTP

PROJECT:
ChilmingtonGreen

TITLE:
COULTER ROAD / CUCKOO LANE
MINI ROUNDABOUT ACCESS (ACCESS D)

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CAD FILE: 2761-GA-014	DESIGN-DRAWN: DDD	DATE: March 2012

PROJECT No:	DRAWING No:	REV:
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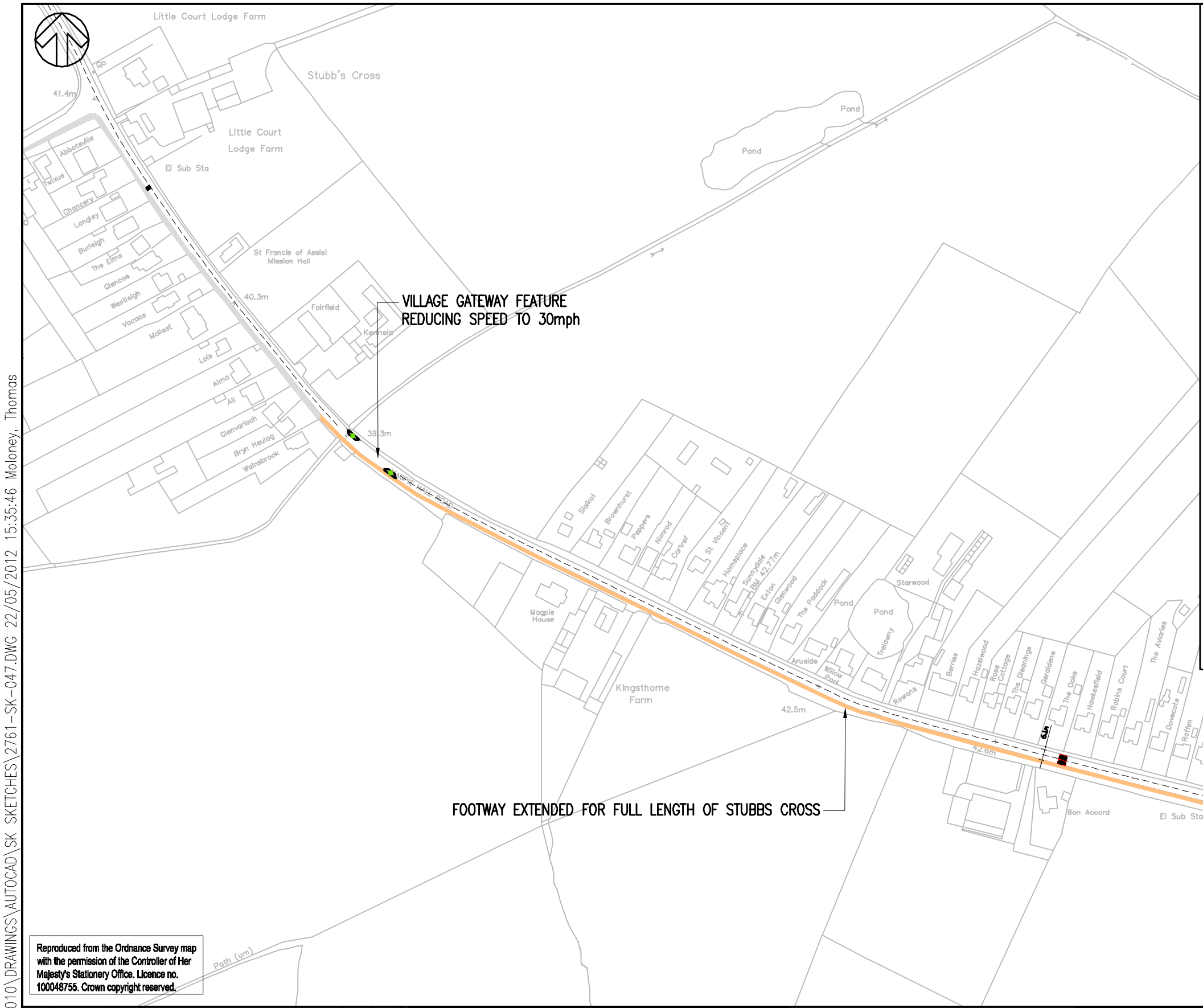

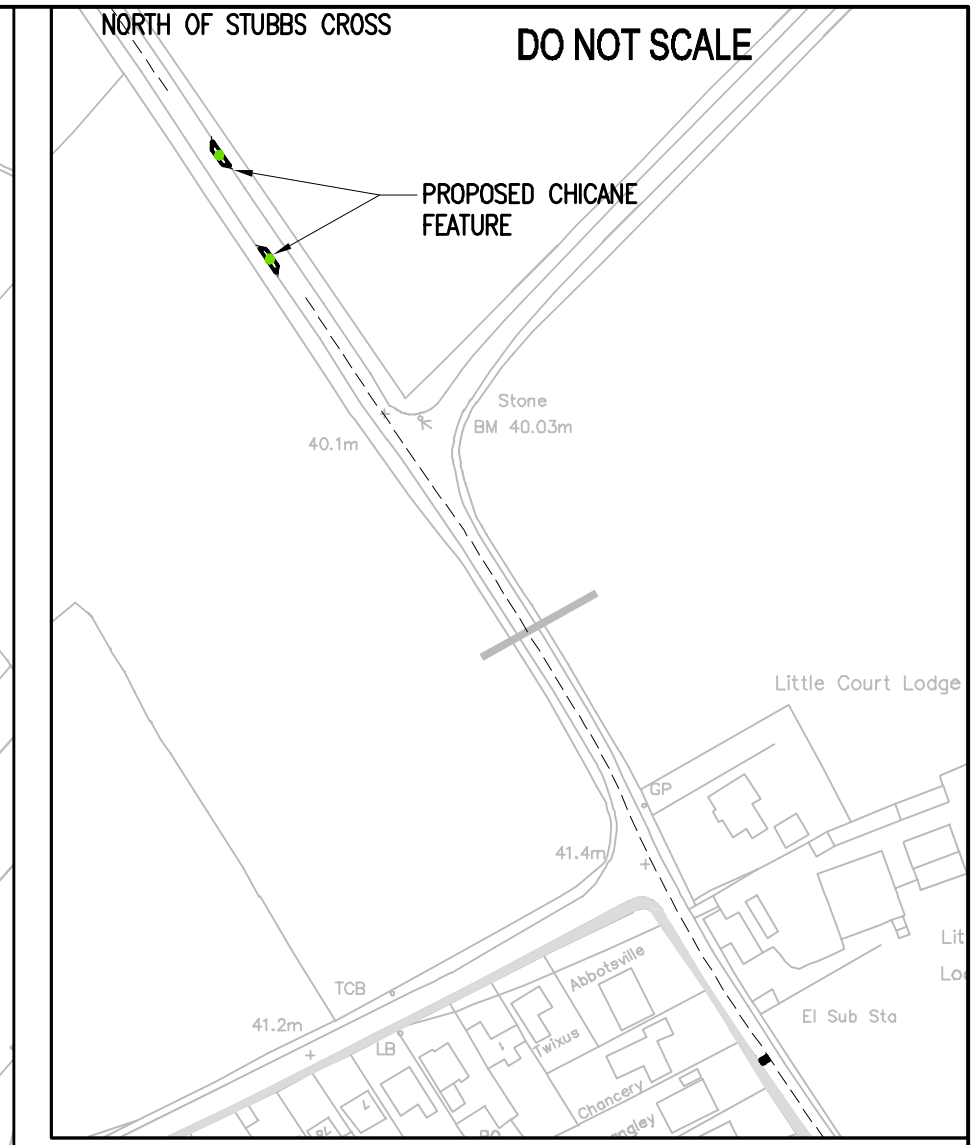

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REV	DATE	BY	DESCRIPTION	CHK	APD
A	02/03/12	TDM	ISSUED	DDD	AL

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ARCHITECT: JTP

PROJECT: ChilmingtonGreen

TITLE: PROPOSED MITIGATION IMPROVEMENTS TRAFFIC CALMING ON MAGPIE HALL ROAD

SCALE @ A3:	CHECKED:	APPROVED:
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CAD FILE: 2761-SK-047	DESIGN-DRAWN: TDM	DATE: October 2011
PROJECT No: 11012761	DRAWING No: 2761/SK/047	REV: A

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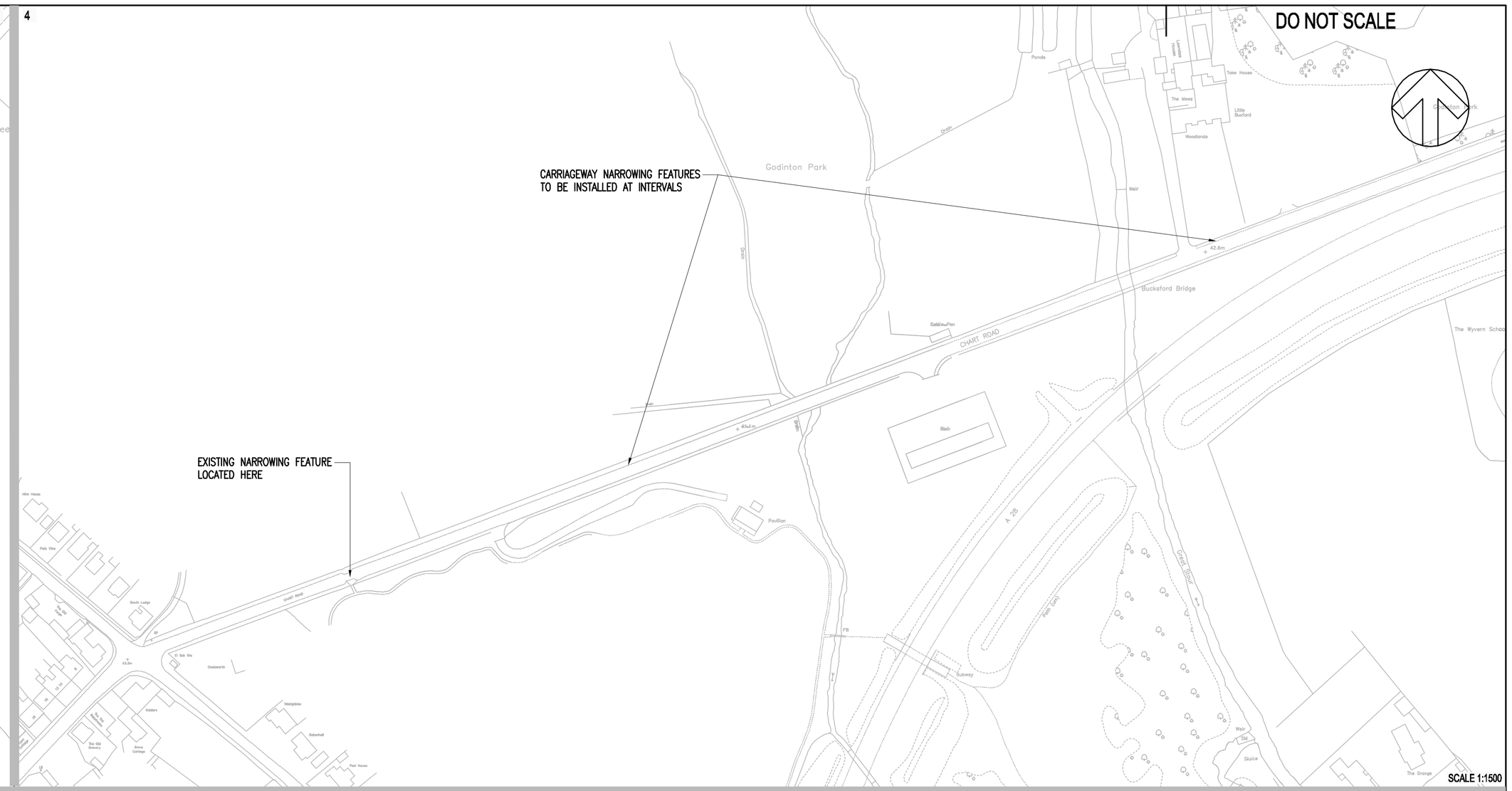

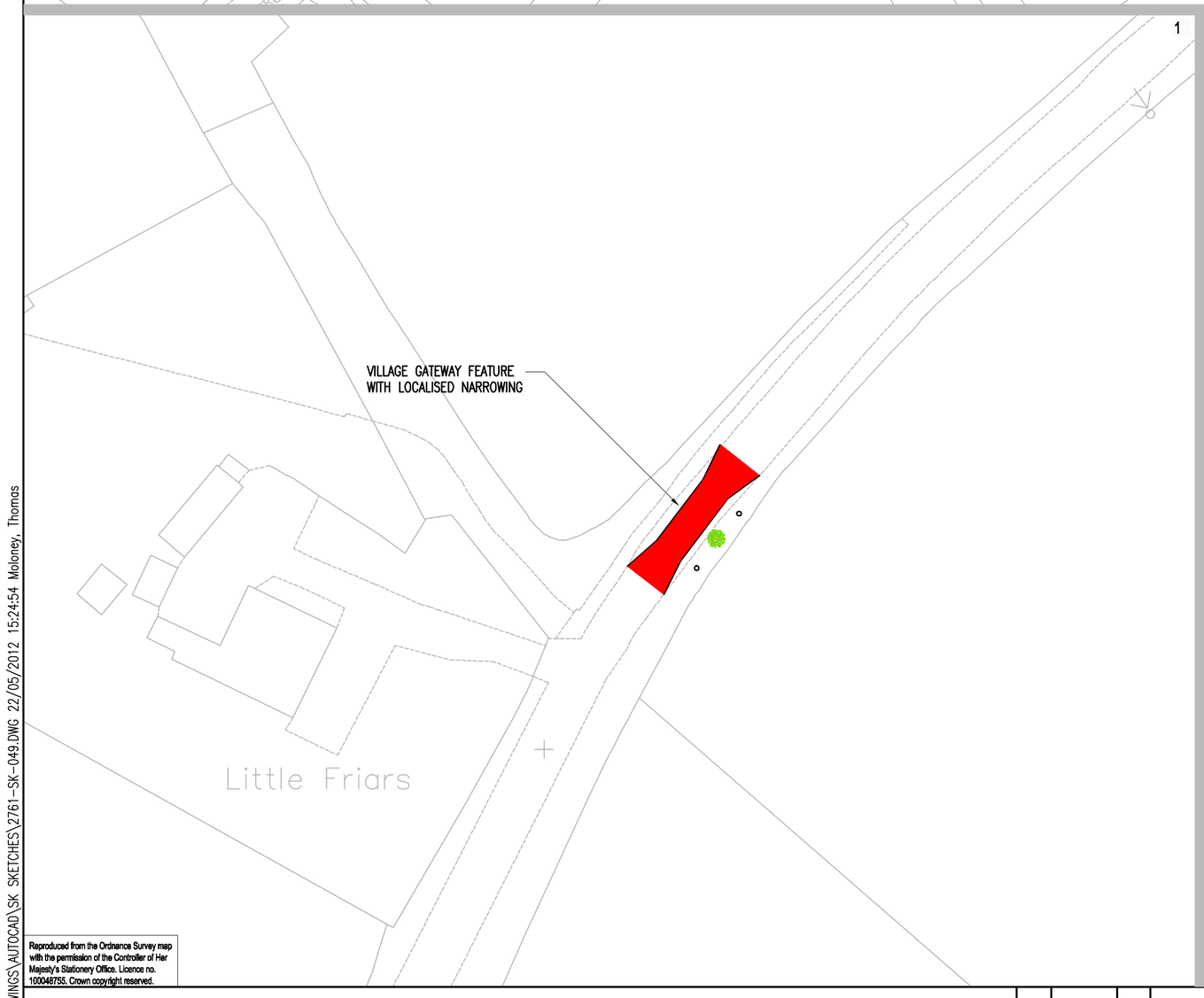

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REV	DATE	BY	DESCRIPTION	CHK	APD
A	28/02/12	TDM	ISSUED	DDD	AB

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ARCHITECT: JTP

PROJECT: ChilmingtonGreen

TITLE: PROPOSED TRAFFIC CALMING GREAT CHART

SCALE @ A1:	CHECKED:	APPROVED:
1:500	DDD	AB
CAD FILE: 2761-SK-049	DESIGN-DRAWN: TDM	DATE: October 2011
PROJECT No: 11012761	DRAWING No: 2761/SK/049	REV: A

© WSP Group plc

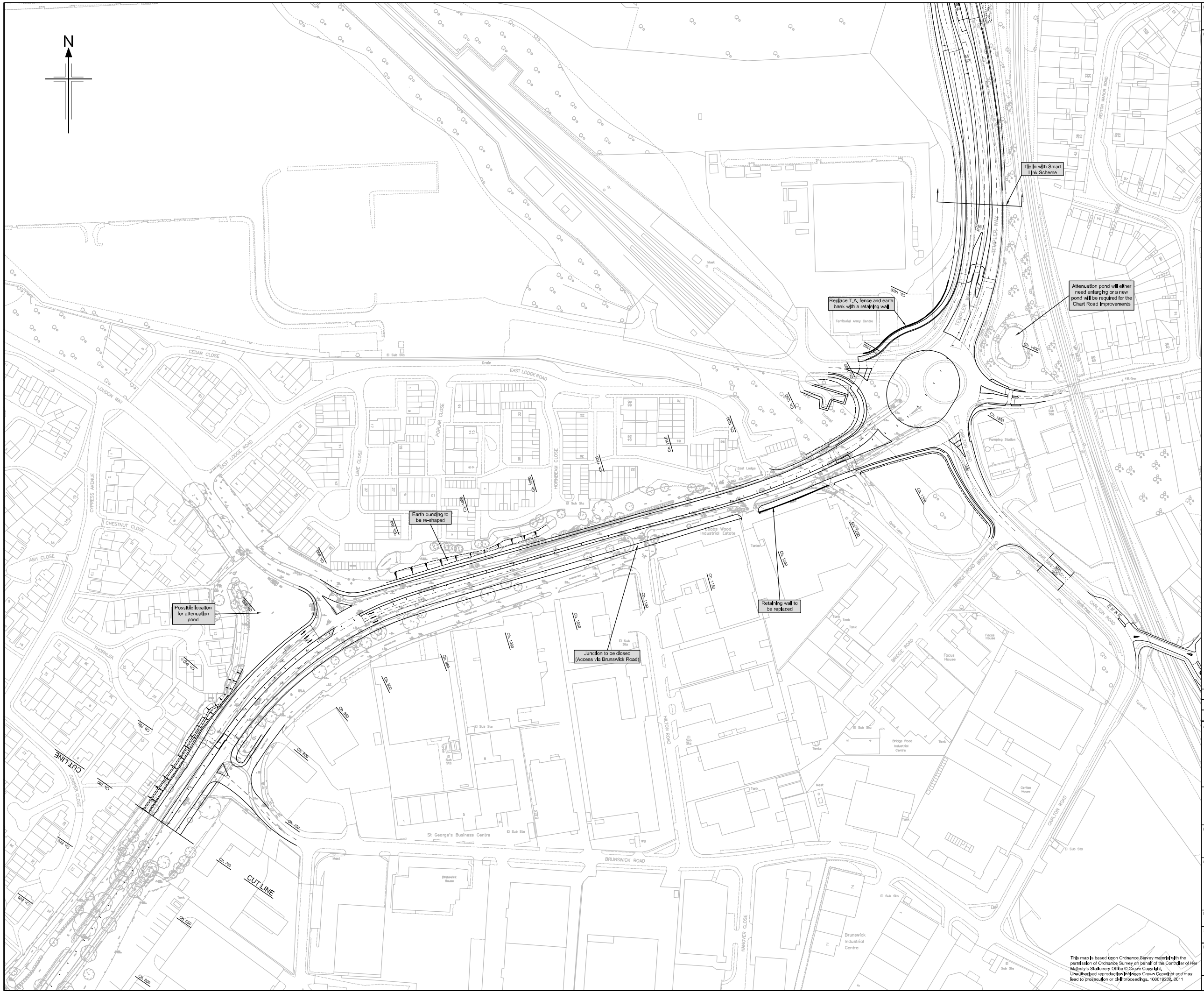
N:\CHILMINGTON GREEN 2010\DRAWINGS\AUTOCAD\SK SKETCHES\2761-SK-049.DWG 22/05/2012 15:24:54 Moloney, Thomas

Drawing number

B1620900/H/003

Notes

1. To be read in conjunction with B1620900/H/007
2. Pedestrian Crossings in Templar Way and Chart Road to be used to assist SmartLink bus movements and from Carlton Road.
3. Tank Roundabout has a circulatory width of 15m.



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Rev	Revision Date	Purpose of revision	Drawn	Checked	Reviewed	Approved
A	12.05.2011	CHANGES TO TANK ROUNDABOUT, LOUDON WAY AND BRUNSWICK ROAD, CHAINAGES ADDED	JMB	CET	CET	CET
0	06.04.2011	FIRST ISSUE	JMB	CET	CET	CET

Client

Kent Highway Services

JACOBS

Miller House, 43 - 51 Lower Stone Street, Maidstone, Kent, ME15 6GB, England
Tel: 01622 666000 Fax: 01622 695085 www.jacobs.com

Project

A28 CHART ROAD, ASHFORD
STAGE 2

Drawing title

LOUDON WAY TO TANK ROUNDABOUT - PHASE 2
FULL STANDARD OPTION

SHEET 2 OF 2

Drawing status: FOR INFORMATION ONLY

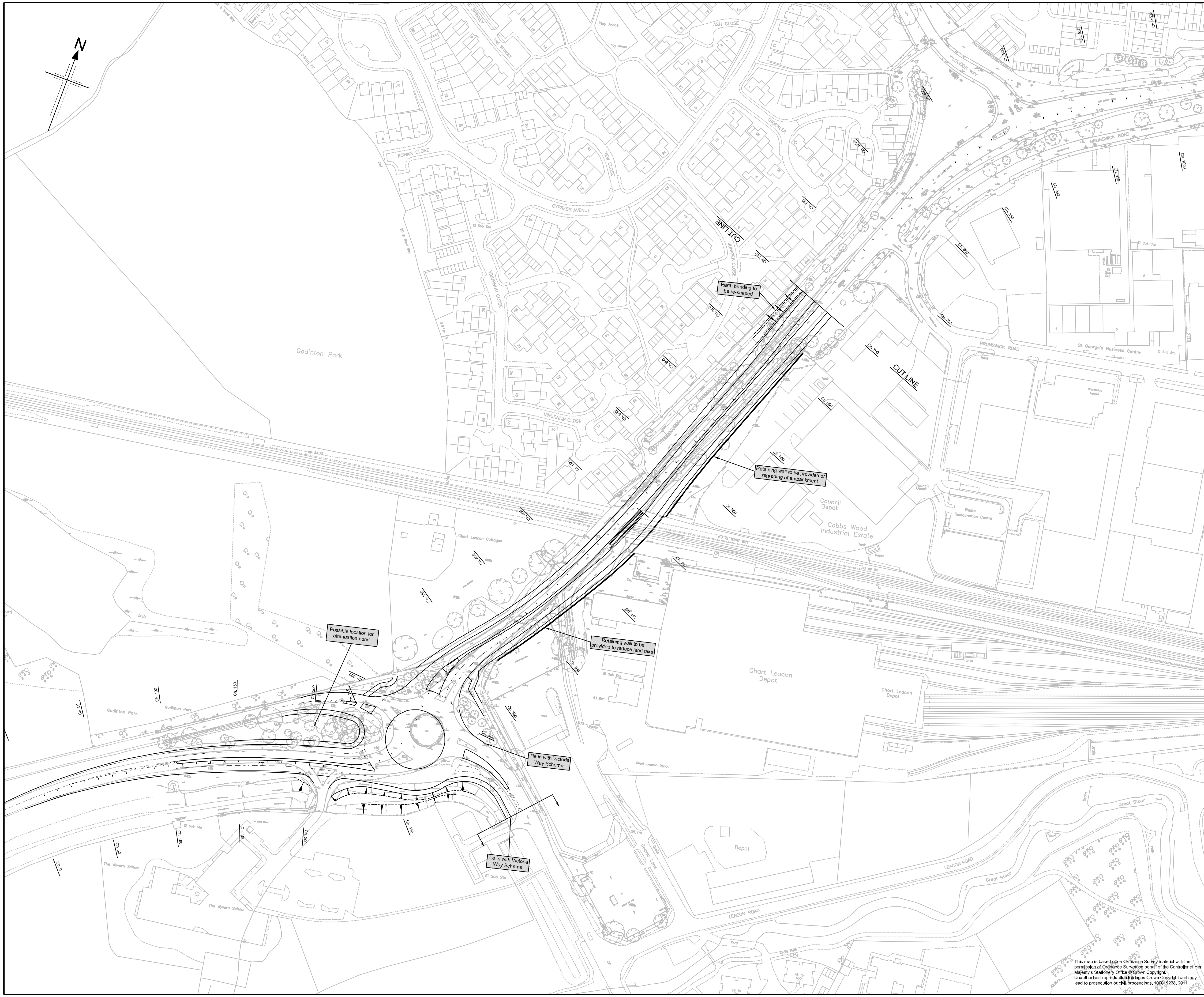
Scale: 1:1250 @ A1 — Do not scale

Drawing number: B1620900/H/003 — Rev: A

This drawing is not to be used in whole or part other than for the intended purpose and project as defined on this drawing. Refer to the contract for full terms and conditions.

P:\Highways Design Team\CWProjects\B1620900 A28 Chart Rd\Stage2\Acad\Drawings

A1



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P:\Highways Design-Team\CW\Projects\B1620900 A28ChartRd-Stage2\Acad\Drawings

Drawing number

B1620900/H/007

Notes

1. To be read in conjunction with B1620900/H/003 Rev. A
2. Pedestrian crossing east of Brunswick Road to be used to assist vehicle movements into and out of Brunswick Road. Right Turn movements into and out of Brunswick Road are to be banned.
3. Matalan Roundabout has a circulatory width of 15m.

Rev	Revision Date	Purpose of revision	Drawn	Checked	Reviewed	Approved
A	12.05.2011	CHANGES TO LOUDON WAY AND BRUNSWICK ROAD + CHAINAGES ADDED	JMB / ARW3	CET	CET	CET
0	05.04.2011	FIRST ISSUE	JMB	CET	CET	CET

Client

Kent Highway Services

JACOBS

Miller House, 43 - 51 Lower Stone Street, Maidstone, Kent, ME15 6GB, England
Tel: 01622 666000 Fax: 01622 695085 www.jacobs.com

Project

A28 CHART ROAD, ASHFORD
STAGE 2

Drawing title

MATALAN ROUNDABOUT TO LOUDON WAY
PHASE 2
FULL STANDARD OPTION
SHEET 1 OF 2

Drawing status

FOR INFORMATION ONLY

Scale

1:1250 @ A1

Do not scale

Drawing number

B1620900/H/007

Rev

A

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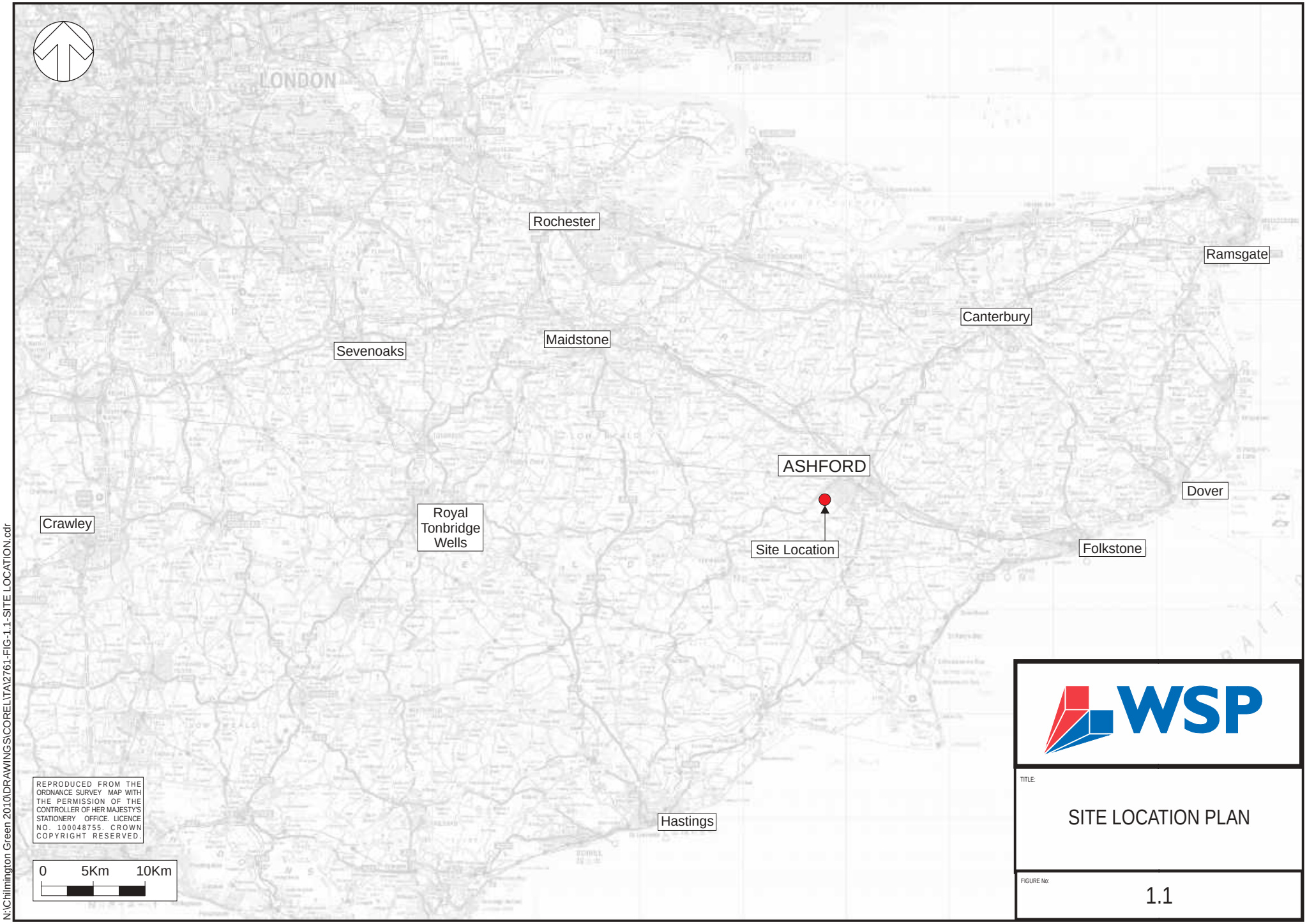
A1

Figures



N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-1.1-SITE LOCATION.cdr

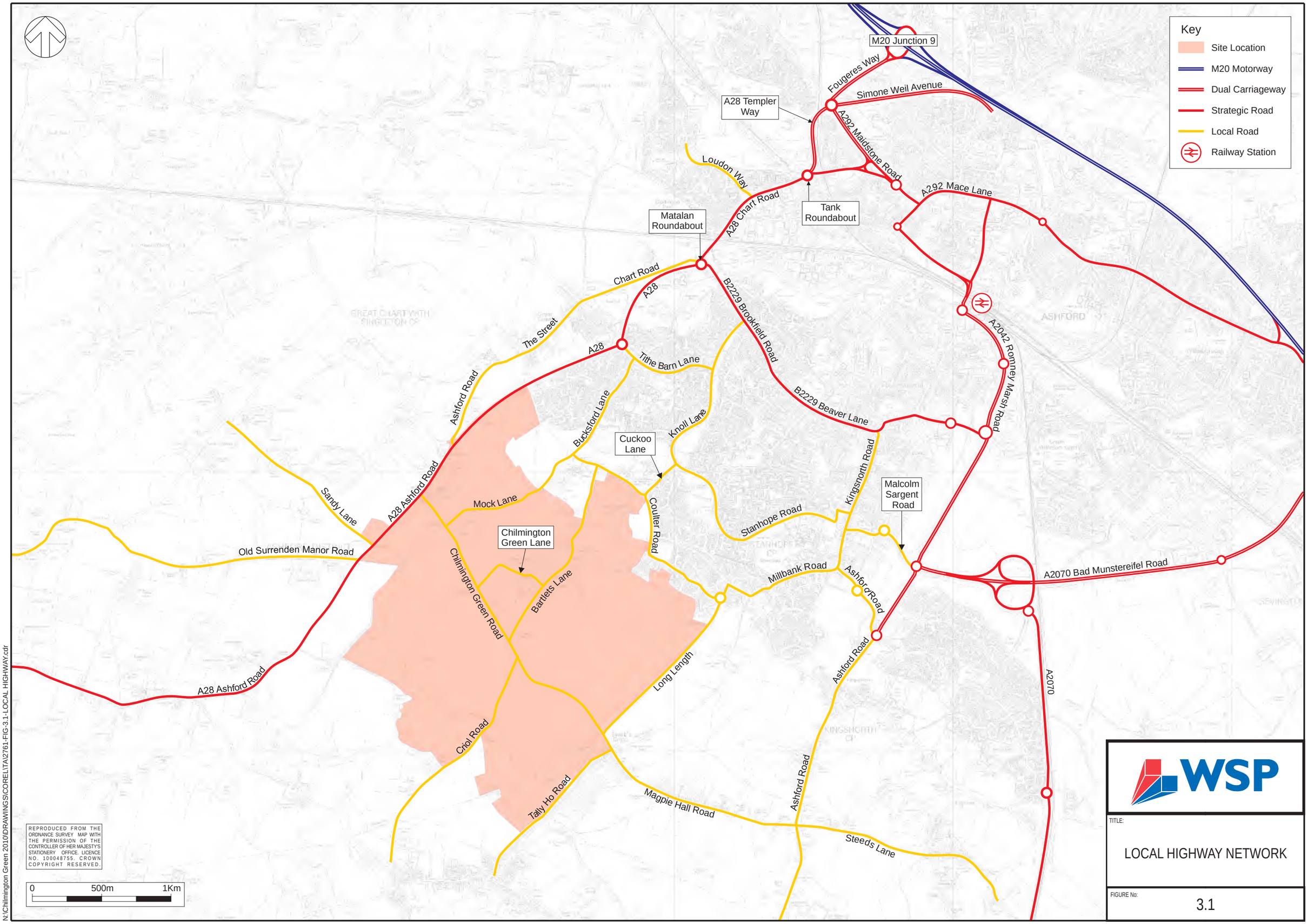
WSP

TITLE:

SITE LOCATION PLAN

FIGURE No:

1.1


Key
Site Location
M20 Motorway
Dual Carriageway
Strategic Road
Local Road
Railway Station
M20 Junction 9
Fougeres Way
Simone Weil Avenue
A28 Templer Way
A292 Maidstone Road
Loudon Way
A292 Mace Lane
Tank Roundabout
A28 Chart Road
Matalan Roundabout
Chart Road
A28
B2229 Brookfield Road
The Street
A28
Tithe Barn Lane
A2042 Romney Marsh Road
Ashford Road
Buckstford Lane
Knoll Lane
B2229 Beaver Lane
Cuckoo Lane
Kingsnorth Road
Malcolm Sargent Road
Sandy Lane
A28 Ashford Road
Mock Lane
Coulter Road
Stanhope Road
Old Surrenden Manor Road
Chilmington Green Lane
Chilmington Green Road
Bartlets Lane
Millbank Road
Ashford Road
A2070 Bad Munstereifel Road
A28 Ashford Road
Long Length
Ashford Road
A2070
Criol Road
Tally Ho Road
Magpie Hall Road
Ashford Road
Steeds Lane
GREAT CHART WITH SINGLETON CP
ASHFORD
STANHOPE CP
KINGSNORTH CP
SEWINGTON
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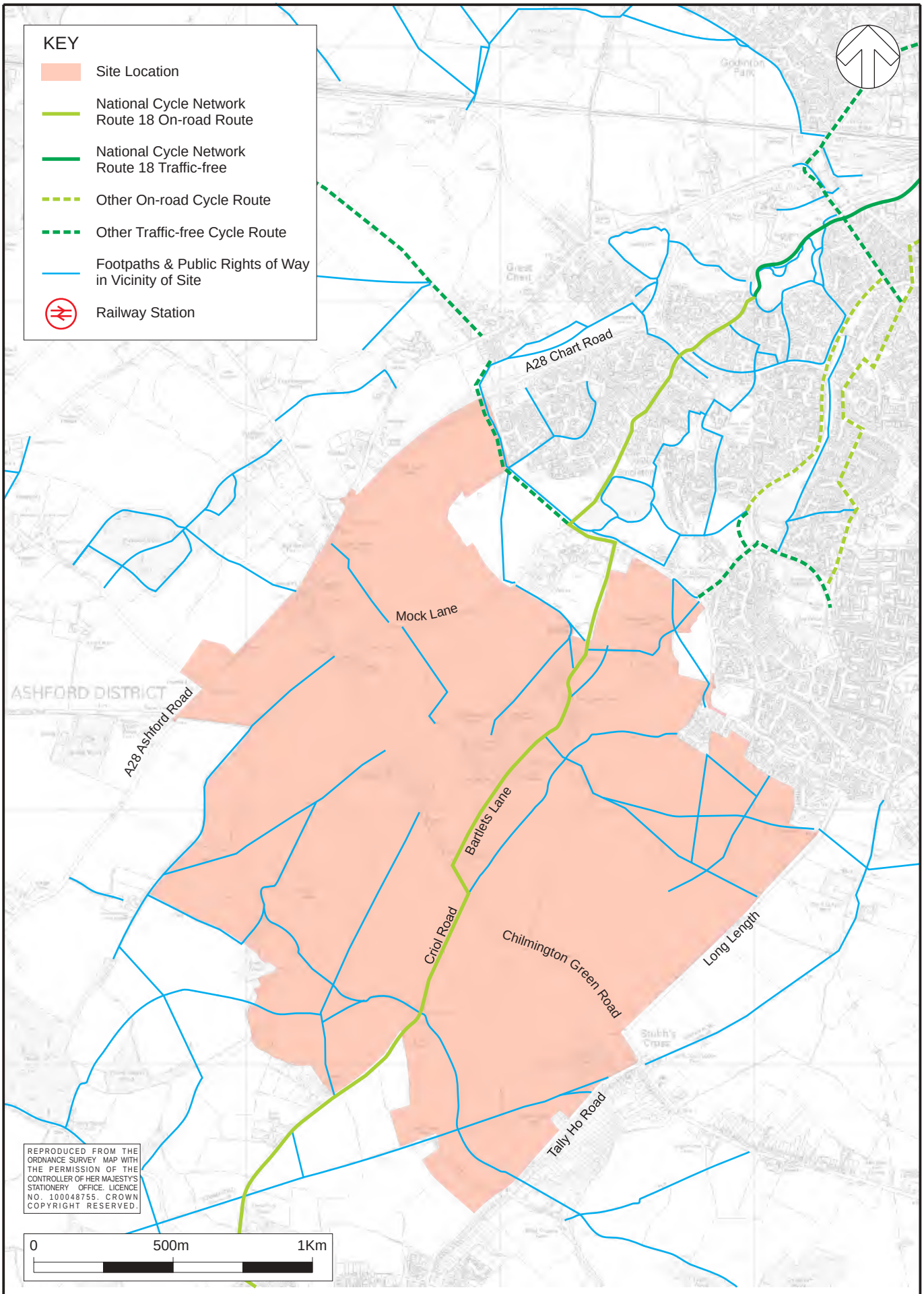
0
500m
1Km
WSP
TITLE:
LOCAL HIGHWAY NETWORK
FIGURE No:
3.1
N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-3.1-LOCAL HIGHWAY.cdr



N:\Chilmington Green 2010\DRAWINGS\CORELTTA\2761-FIG-3.2-CYCLE ROUTES.cdr

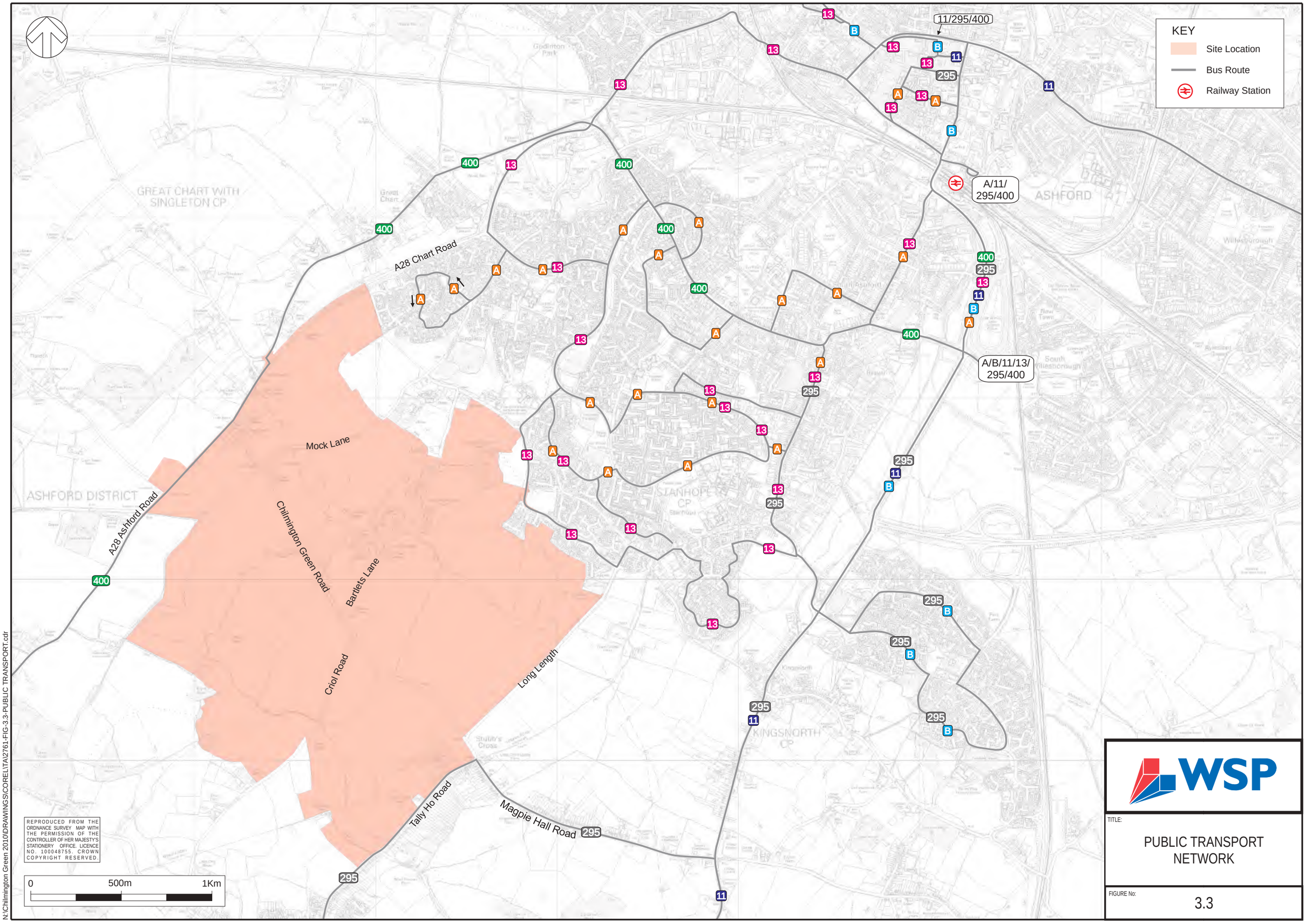
WSP

TITLE:

PEDESTRIAN & CYCLE NETWORK

FIGURE No:

3.2



N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-3.3-PUBLIC TRANSPORT.cdr

WSP

TITLE:

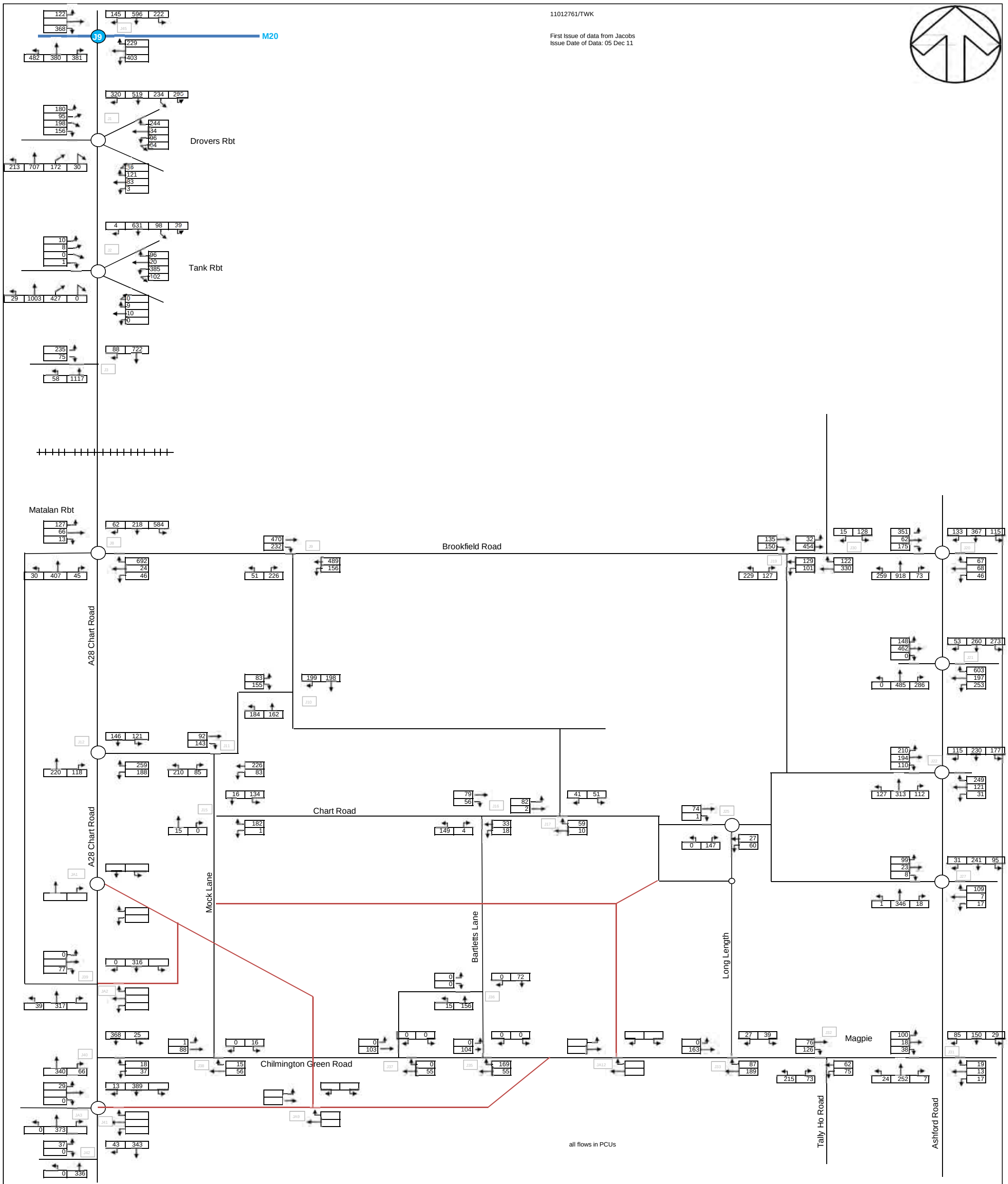
PUBLIC TRANSPORT NETWORK

FIGURE No:

3.3

11012761/TWK

First Issue of data from Jacobs
Issue Date of Data: 05 Dec 11



TITLE

2010 BASELINE AM PEAK NETWORK MODEL FLOWS

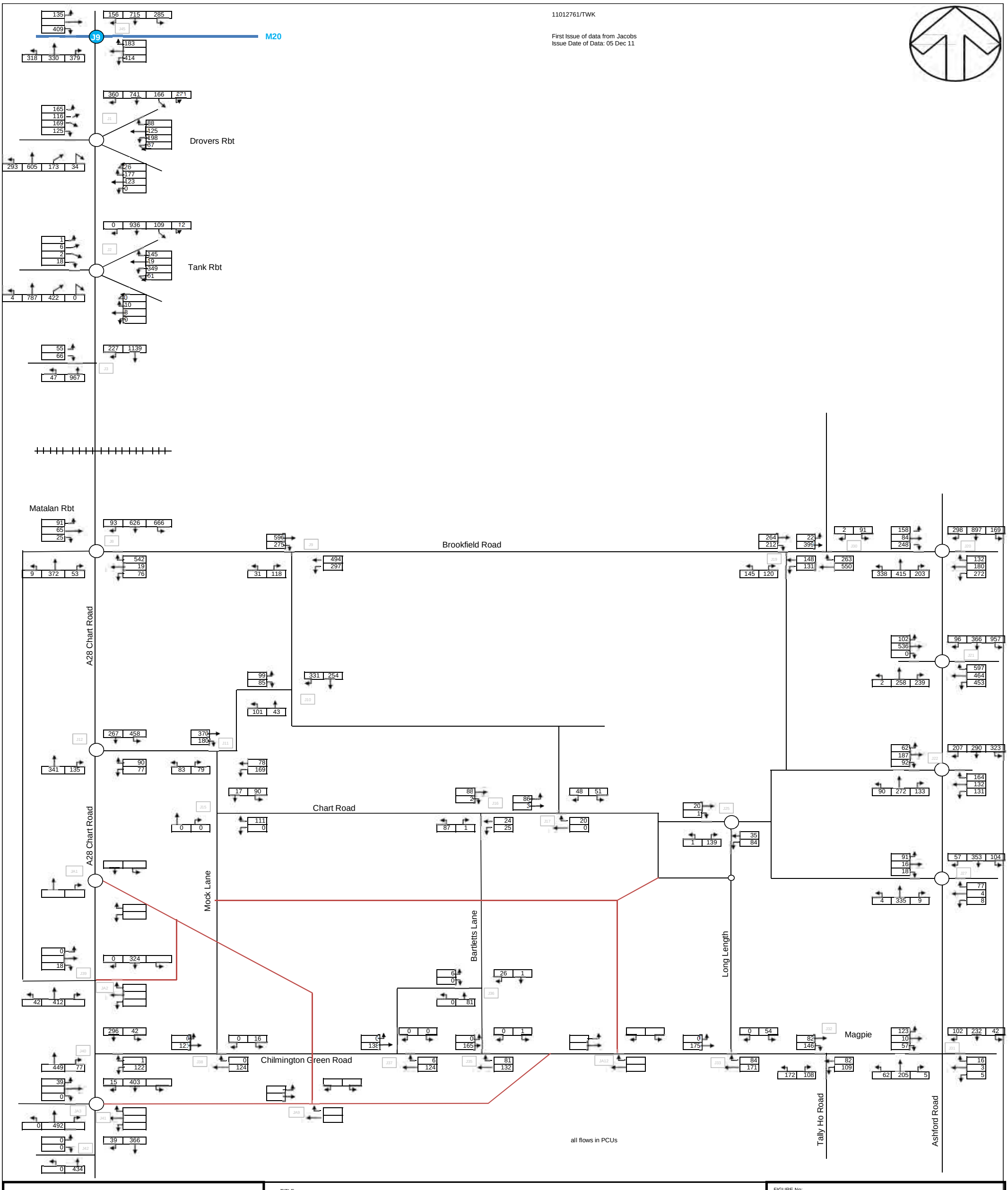
FIGURE No:

3.4

N:\Chilmington Green 2010\ANALYSIS\2011 Traffic flows_ES chapter and AQ Flows\Latest ES flows\Feb12\Feb12_Traffic Flow Diagrams.xlsx

11012761/TWK

First Issue of data from Jacobs
Issue Date of Data: 05 Dec 11



N:\Chilmington Green 2010\ANALYSIS\2011 Traffic flows_ES chapter and AQ Flows\Latest ES flows\Feb12\Feb12_Traffic Flow Diagrams.xlsx

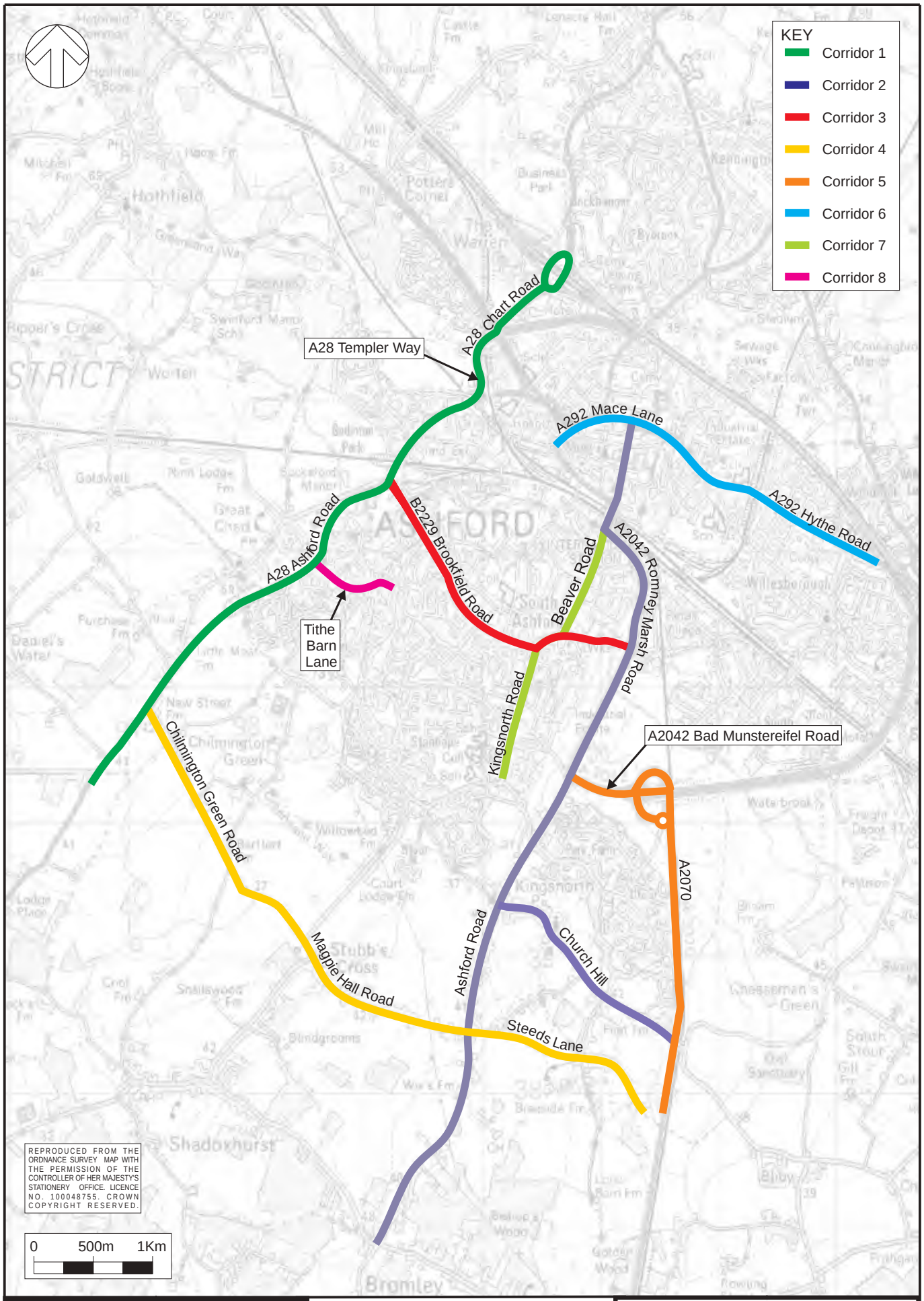
WSP

TITLE

2010 BASELINE PM PEAK NETWORK MODEL FLOWS

FIGURE No:

3.5



N:\Chilmington Green 2010\DRAWINGS\COREL\2761-FIG-3.6-PIA STUDY AREA.cdr

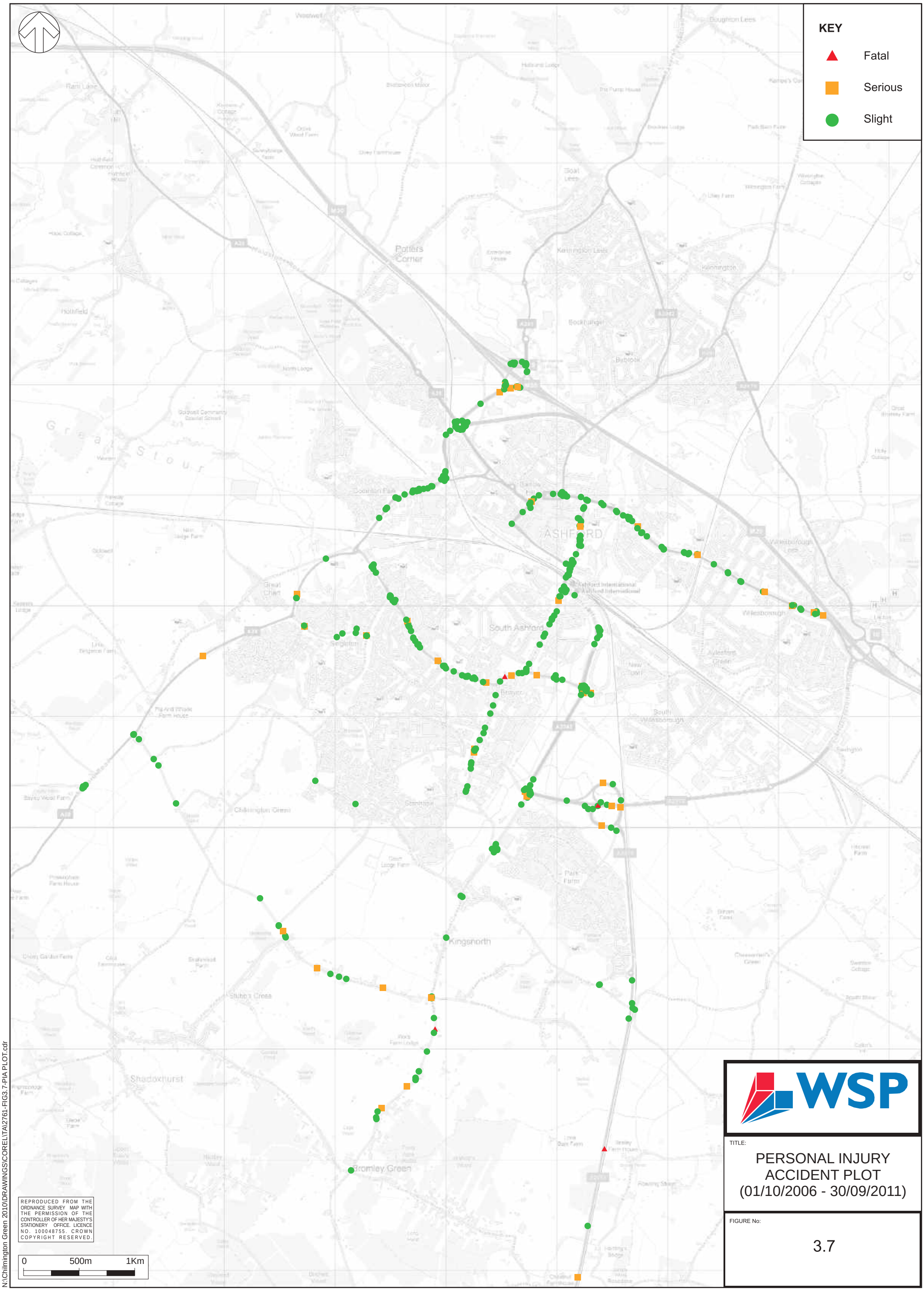
WSP

TITLE:

PERSONAL INJURY ACCIDENT STUDY AREA

FIGURE No:

3.6



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WSP

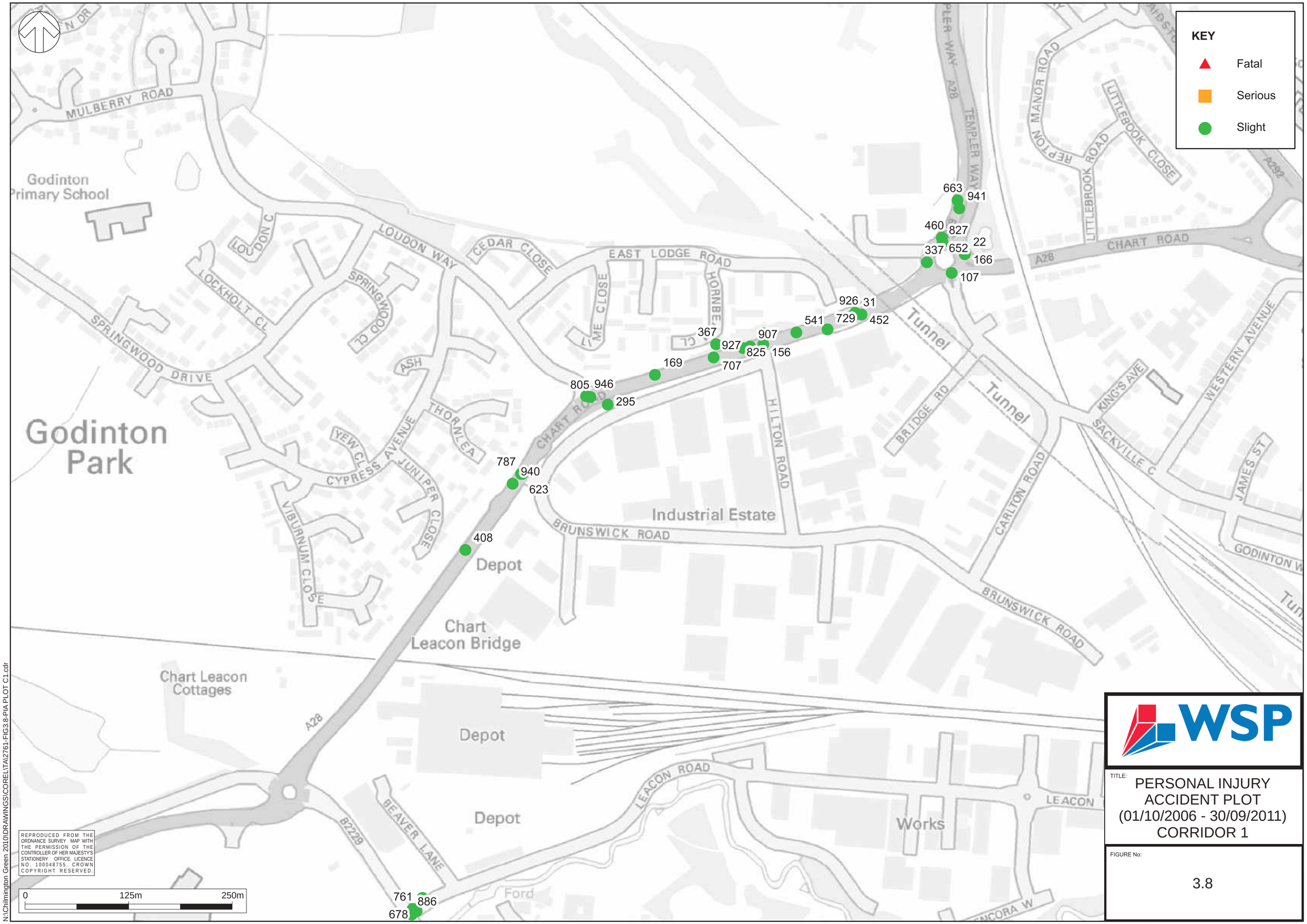
TITLE:

PERSONAL INJURY ACCIDENT PLOT (01/10/2006 - 30/09/2011)

FIGURE No:

3.7

N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG3.7-PIA PLOT.cdr

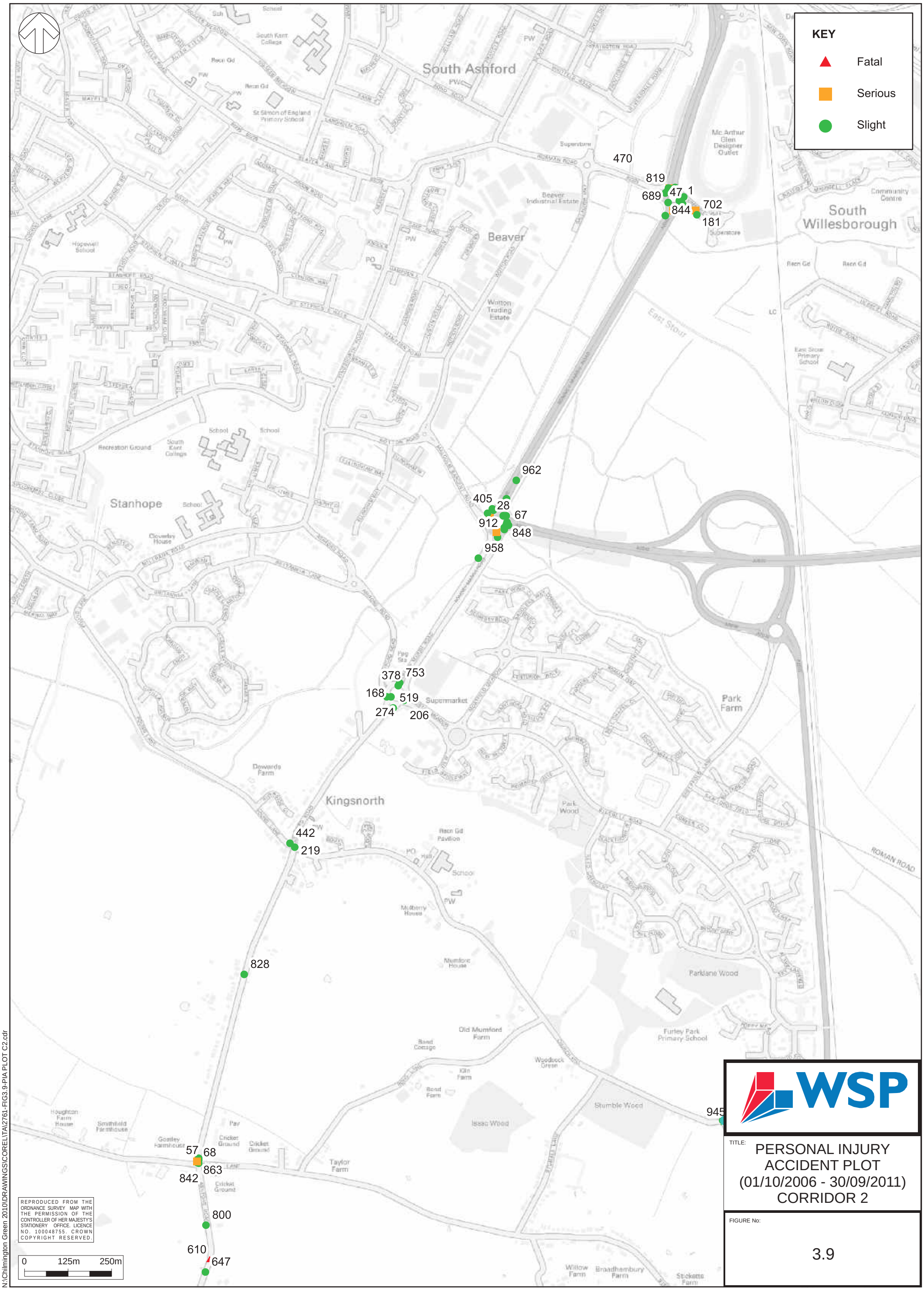


N:\Chilmington Green 2010\DRAWINGS\CORELITA\2761-FIG3.8-PIA PLOT C1.cdr

WSP

TITLE:
PERSONAL INJURY ACCIDENT PLOT (01/10/2006 - 30/09/2011) CORRIDOR 1

FIGURE No:
3.8



WSP

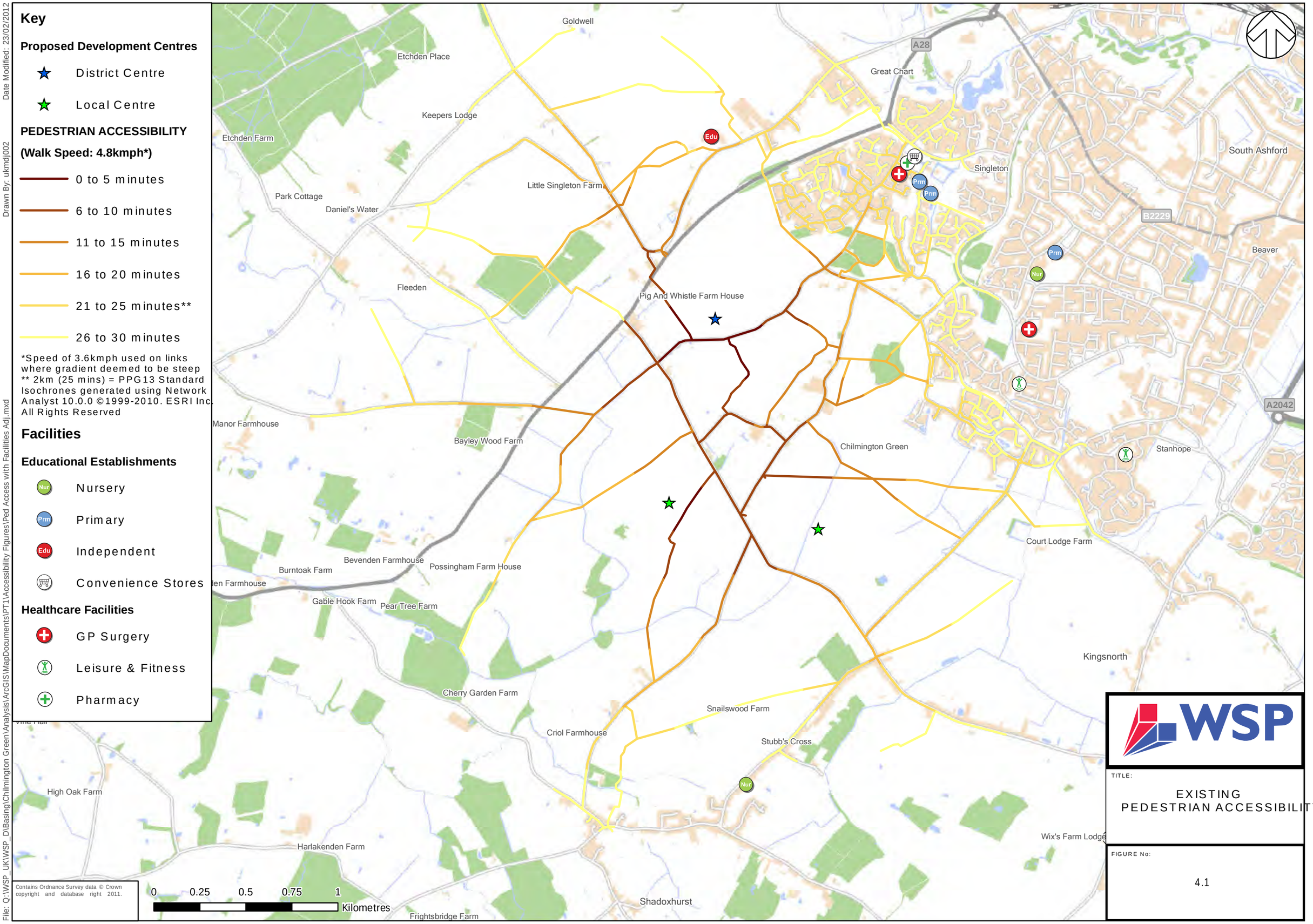
TITLE:

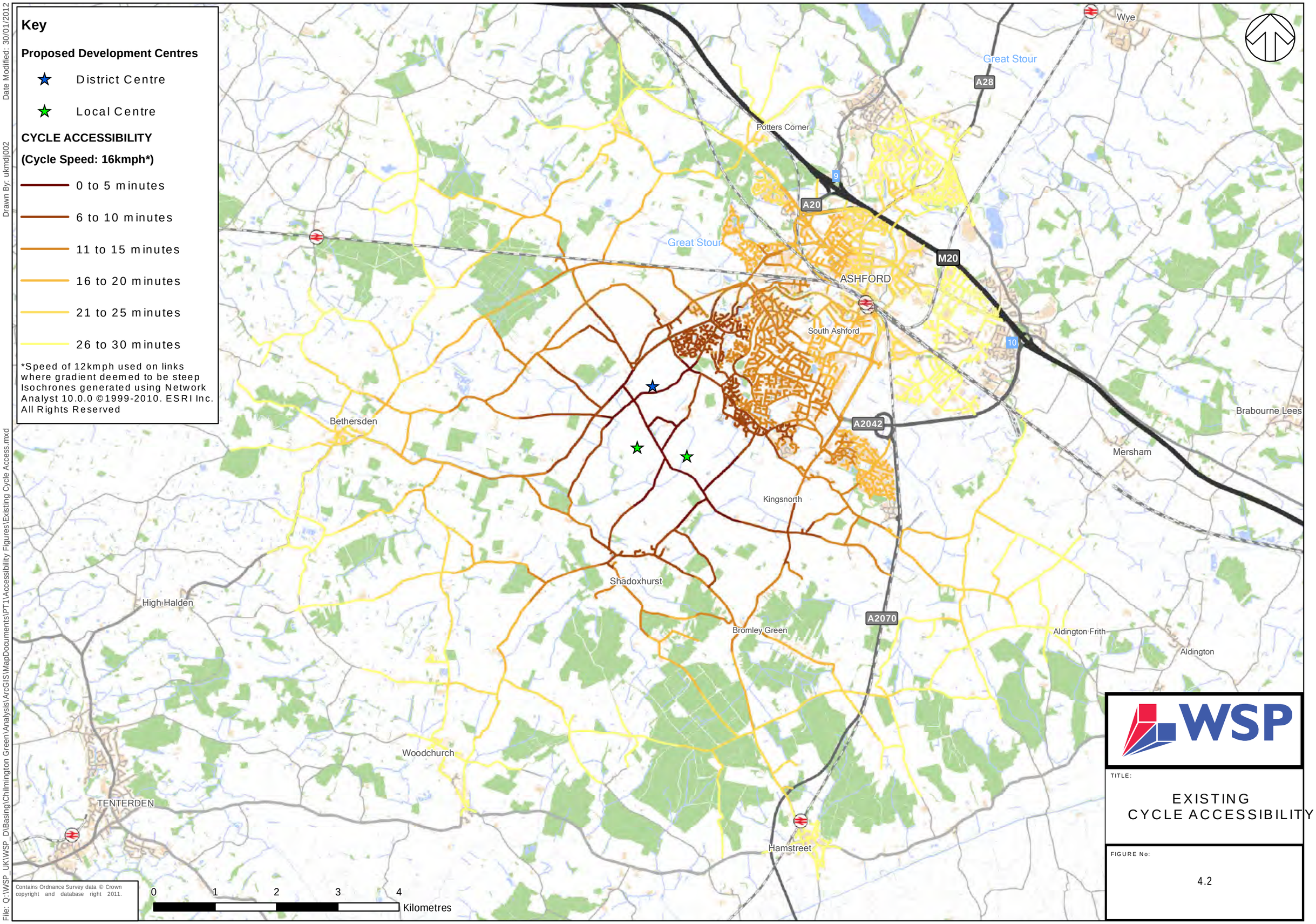
PERSONAL INJURY ACCIDENT PLOT (01/10/2006 - 30/09/2011) CORRIDOR 2

FIGURE No:

3.9

N:\Chilmington Green 2010\DRAWINGS\CORELLTA\2761-FIG3.9-PIA PLOT C2.cdr


Key
Proposed Development Centres
District Centre
Local Centre
PEDESTRIAN ACCESSIBILITY
(Walk Speed: 4.8kmph*)
0 to 5 minutes
6 to 10 minutes
11 to 15 minutes
16 to 20 minutes
21 to 25 minutes**
26 to 30 minutes
*Speed of 3.6kmph used on links where gradient deemed to be steep
** 2km (25 mins) = PPG13 Standard
Isochrones generated using Network Analyst 10.0.0 ©1999-2010. ESRI Inc. All Rights Reserved
Facilities
Educational Establishments
Nursery
Primary
Independent
Convenience Stores
Healthcare Facilities
GP Surgery
Leisure & Fitness
Pharmacy
Goldwell
Etchden Place
Keepers Lodge
Etchden Farm
Great Chart
A28
Singleton
South Ashford
Little Singleton Farm
Park Cottage
Daniel's Water
B2229
Beaver
Fleeden
Pig And Whistle Farm House
Manor Farmhouse
Bayley Wood Farm
Chilmington Green
Stanhope
A2042
Court Lodge Farm
Bevenden Farmhouse
Possingham Farm House
Burntoak Farm
Gable Hook Farm
Pear Tree Farm
Kingsnorth
Cherry Garden Farm
Snailswood Farm
Criol Farmhouse
Stubb's Cross
High Oak Farm
Harlakenden Farm
Wix's Farm Lodge
Shadoxhurst
Frightsbridge Farm
Contains Ordnance Survey data © Crown copyright and database right 2011.
0 0.25 0.5 0.75 1 Kilometres
WSP
TITLE:
EXISTING PEDESTRIAN ACCESSIBILITY
FIGURE No:
4.1
Date Modified: 23/02/2012
Drawn By: ukmdj002
File: Q:\WSP_UK\WSP_D\Basing\Chilmington Green\Analysis\ArcGIS\MapDocuments\PT1\Accessibility Figures\Ped Access with Facilities Adj.mxd


Key
Proposed Development Centres
District Centre
Local Centre
CYCLE ACCESSIBILITY
(Cycle Speed: 16kmph*)
0 to 5 minutes
6 to 10 minutes
11 to 15 minutes
16 to 20 minutes
21 to 25 minutes
26 to 30 minutes
*Speed of 12kmph used on links where gradient deemed to be steep
Isochrones generated using Network Analyst 10.0.0 ©1999-2010. ESRI Inc. All Rights Reserved
Wye
Great Stour
A28
Potters Corner
A20
M20
ASHFORD
South Ashford
Bethersden
A2042
Brabourne Lees
Mersham
Kingsnorth
Shadoxhurst
High Halden
A2070
Bromley Green
Aldington Frith
Aldington
Woodchurch
TENTERDEN
Hamstreet
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0 1 2 3 4
Kilometres
WSP
TITLE:
EXISTING CYCLE ACCESSIBILITY
FIGURE No:
4.2
Date Modified: 30/01/2012
Drawn By: ukmdj002
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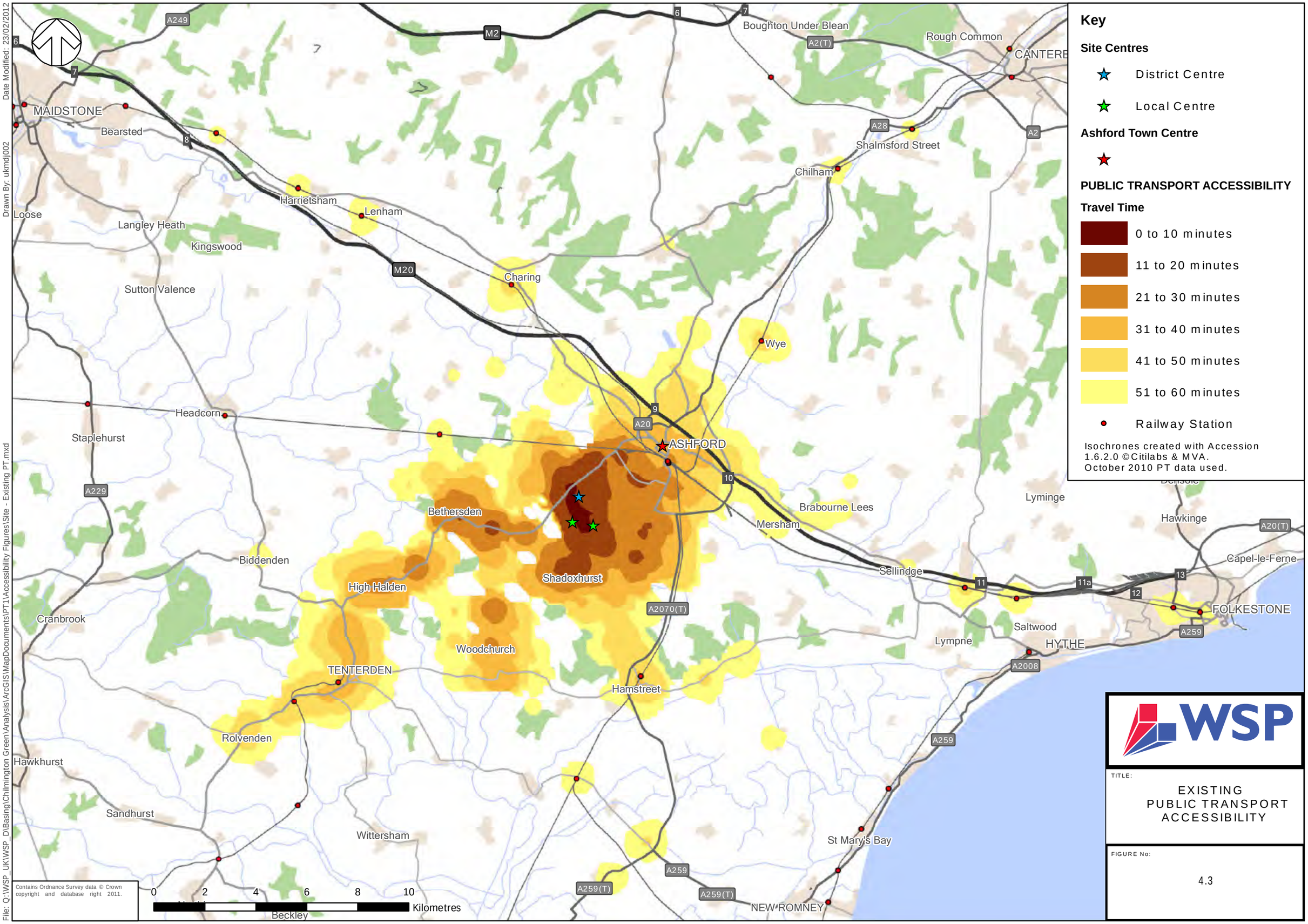
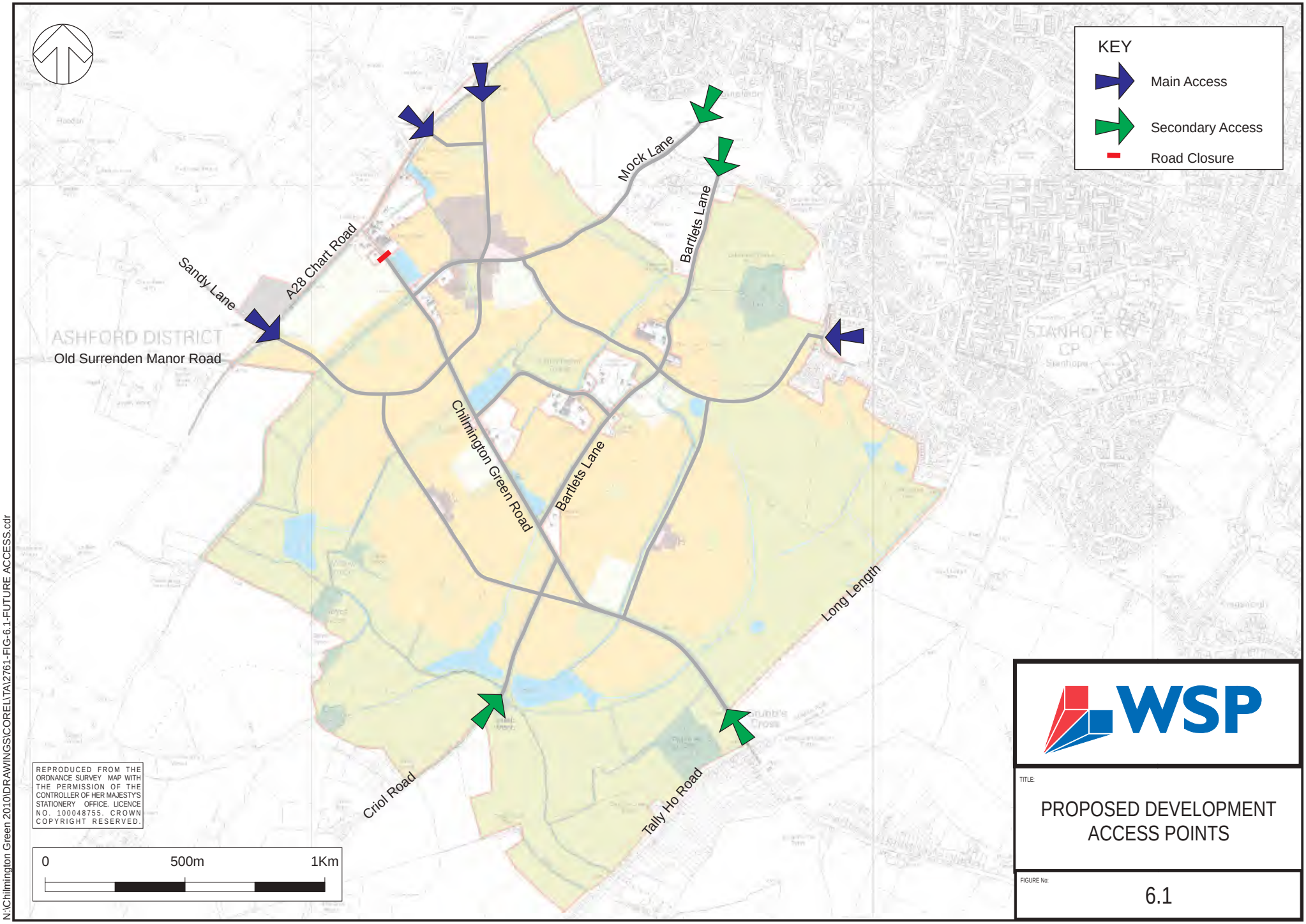

Key
Site Centres
District Centre
Local Centre
Ashford Town Centre
PUBLIC TRANSPORT ACCESSIBILITY
Travel Time
0 to 10 minutes
11 to 20 minutes
21 to 30 minutes
31 to 40 minutes
41 to 50 minutes
51 to 60 minutes
Railway Station
Isochrones created with Accession 1.6.2.0 ©Citilabs & MVA.
October 2010 PT data used.
MAIDSTONE
Bearsted
Loose
Langley Heath
Kingswood
Sutton Valence
Harrietsham
Lenham
Charing
Boughton Under Blean
Rough Common
CANTERBURY
Shalmsford Street
Chilham
Wye
Headcorn
Staplehurst
ASHFORD
Bethersden
Shadoxhurst
Brabourne Lees
Mersham
Lyminge
Hawkinge
Capel-le-Ferne
Biddenden
High Halden
Sellindge
FOLKESTONE
Cranbrook
Woodchurch
Saltwood
Lympne
HYTHE
TENTERDEN
Hamstreet
Rolvenden
Hawkhurst
Sandhurst
Wittersham
St Mary's Bay
NEW ROMNEY
Beckley
0 2 4 6 8 10 Kilometres
Contains Ordnance Survey data © Crown copyright and database right 2011.
WSP
TITLE:
EXISTING PUBLIC TRANSPORT ACCESSIBILITY
FIGURE No:
4.3
Date Modified: 23/02/2012
Drawn By: ukmdj002
File: Q:\WSP_UK\WSP_D\Basing\Chilmington Green\Analysis\ArcGIS\MapDocuments\PT1\Accessibility Figures\Site - Existing PT.mxd



WSP

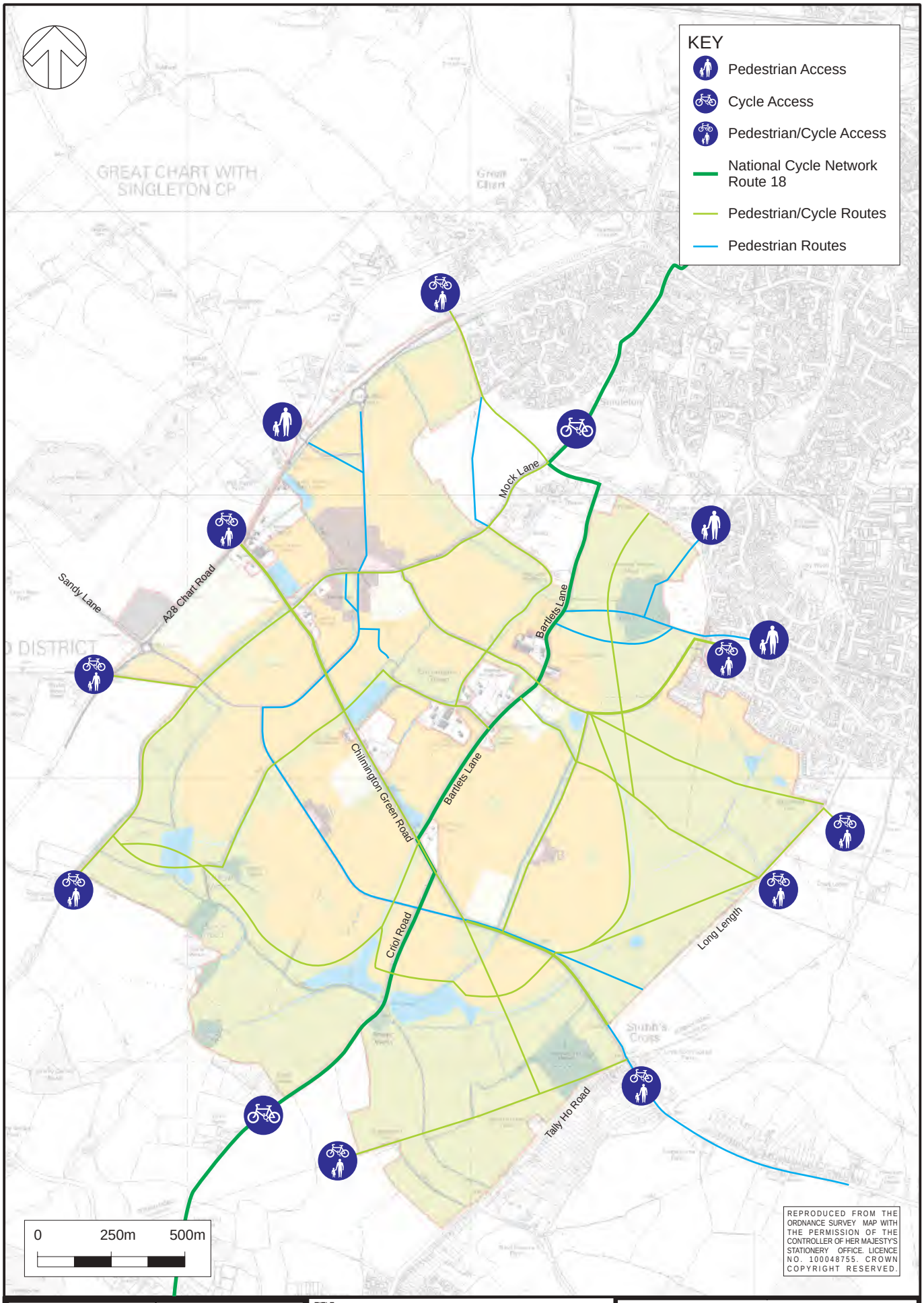
TITLE:

PROPOSED DEVELOPMENT ACCESS POINTS

FIGURE No:

6.1

N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-6.1-FUTURE ACCESS.cdr



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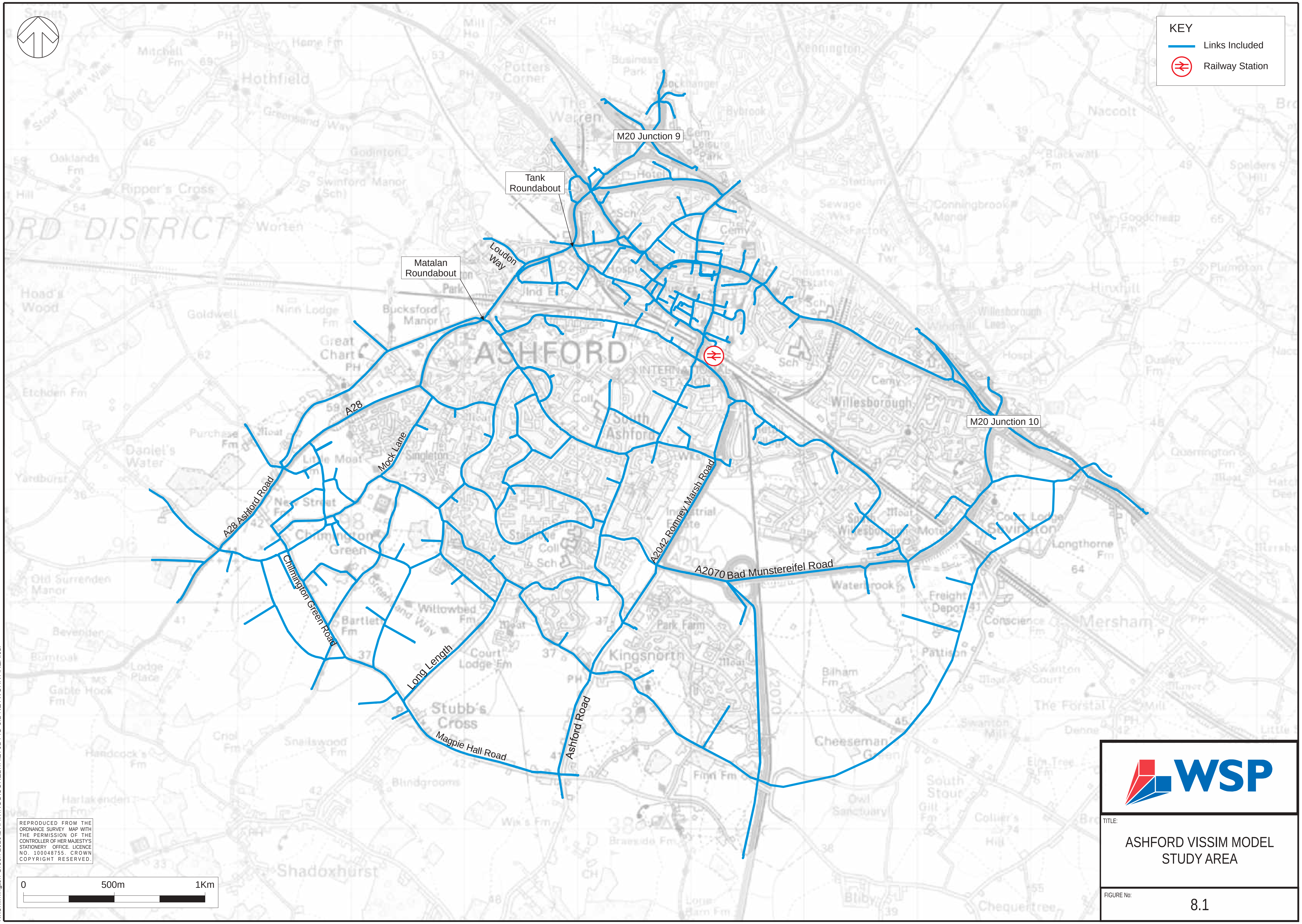
TITLE:

PROPOSED DEVELOPMENT PEDESTRIAN & CYCLE ROUTES

FIGURE No:

6.2

N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-6.2-FUTURE PED - CYCLE.cdr



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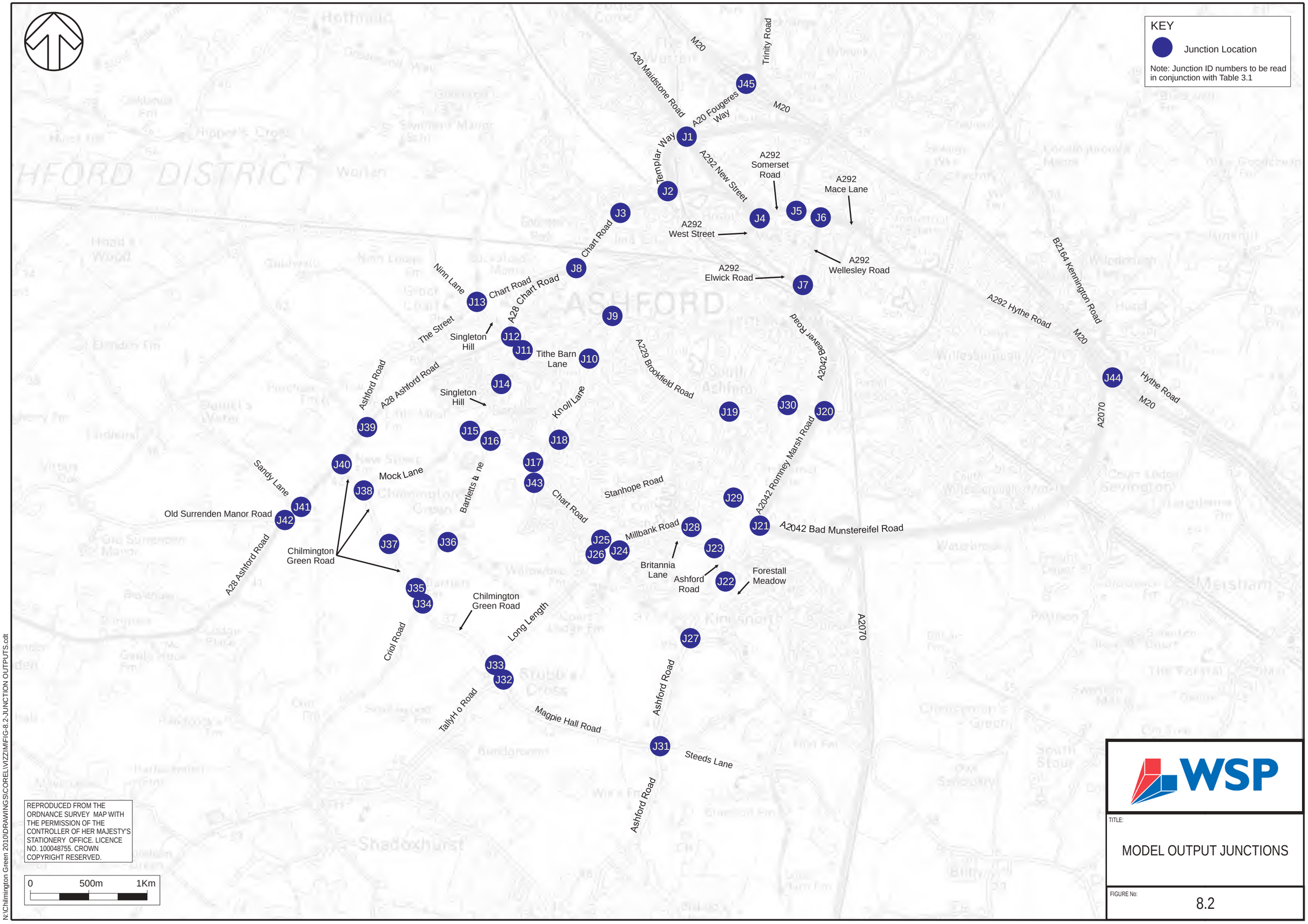
TITLE:

ASHFORD VISSIM MODEL STUDY AREA

FIGURE No: 8.1

N:\Chilmington Green 2010\DRAWINGS\COREL\TA\2761-FIG-8.1-NETWORK AREA.cdr


KEY
Junction Location
Note: Junction ID numbers to be read in conjunction with Table 3.1
M20
Trinity Road
A30 Maidstone Road
A20 Fougeres Way
Templar Way
A292 New Street
A292 Somerset Road
A292 Mace Lane
A292 West Street
A292 Wellesley Road
A292 Elwick Road
Chart Road
Ninn Lane
A28 Chart Road
The Street
Singleton Hill
Tithe Barn Lane
A229 Brookfield Road
Beaver Road
A2042
A292 Hythe Road
B2164 Kennington Road
Hythe Road
A2070
Ashford Road
A28 Ashford Road
Knoll Lane
Romney Marsh Road
Sandy Lane
Mock Lane
Bartletts Lane
Stanhope Road
Old Surrenden Manor Road
Millbank Road
A2042 Bad Munstereifel Road
Chilmington Green Road
Britannia Lane
Forestall Meadow
Long Length
Criol Road
Tally Ho Road
Magpie Hall Road
Steeds Lane
J1
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
J17
J18
J19
J20
J21
J22
J23
J24
J25
J26
J27
J28
J29
J30
J31
J32
J33
J34
J35
J36
J37
J38
J39
J40
J41
J42
J43
J44
J45
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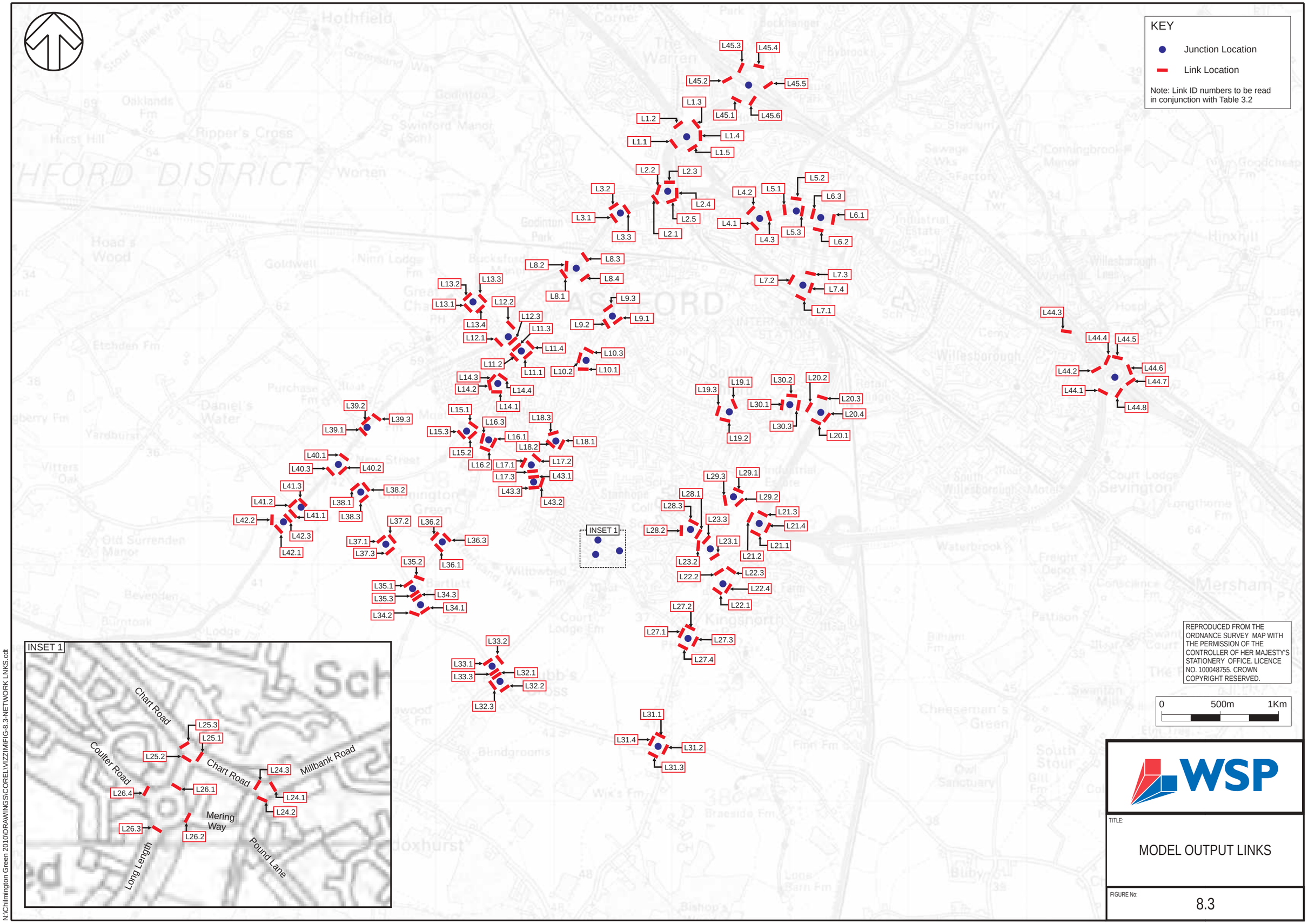
0
500m
1Km
WSP
TITLE:
MODEL OUTPUT JUNCTIONS
FIGURE No:
8.2
N:\Chilmington Green 2010\DRAWINGS\CORELLVIZ\IMFIG-8.2-JUNCTION OUTPUTS.cdt


KEY
Junction Location
Link Location
Note: Link ID numbers to be read in conjunction with Table 3.2
L45.3
L45.4
L45.2
L45.5
L45.1
L45.6
L1.3
L1.2
L1.1
L1.4
L1.5
L2.2
L2.3
L2.4
L2.5
L2.1
L3.2
L3.1
L3.3
L4.2
L5.1
L5.2
L6.3
L6.1
L4.1
L4.3
L5.3
L6.2
L8.2
L8.3
L8.4
L8.1
L7.2
L7.3
L7.4
L7.1
L13.2
L13.3
L13.1
L13.4
L12.2
L12.3
L9.3
L9.2
L9.1
L12.1
L11.3
L11.4
L10.3
L11.2
L10.2
L10.1
L11.1
L14.3
L14.2
L14.4
L14.1
L44.3
L44.4
L44.5
L44.2
L44.6
L44.7
L44.1
L44.8
L19.3
L19.1
L30.2
L20.2
L30.1
L20.3
L20.4
L30.3
L20.1
L19.2
L39.2
L39.3
L39.1
L15.1
L16.3
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L18.2
L15.2
L16.2
L17.1
L17.2
L17.3
L43.1
L43.3
L43.2
L40.1
L40.3
L40.2
L41.3
L41.2
L41.1
L38.2
L38.1
L38.3
L42.2
L42.3
L42.1
L37.2
L36.2
L37.1
L36.3
L37.3
L36.1
L35.2
L35.1
L35.3
L34.3
L34.2
L34.1
INSET 1
L29.3
L29.1
L28.1
L29.2
L28.3
L21.3
L23.3
L21.4
L28.2
L23.1
L21.1
L21.2
L23.2
L22.2
L22.3
L22.4
L22.1
L27.2
L27.1
L27.3
L27.4
L33.2
L33.1
L32.1
L33.3
L32.2
L32.3
L31.1
L31.4
L31.2
L31.3
INSET 1
Chart Road
L25.3
L25.1
Coulter Road
L25.2
Chart Road
L24.3
Millbank Road
L26.4
L26.1
L24.1
L24.2
Mering Way
L26.3
L26.2
Pound Lane
Long Length
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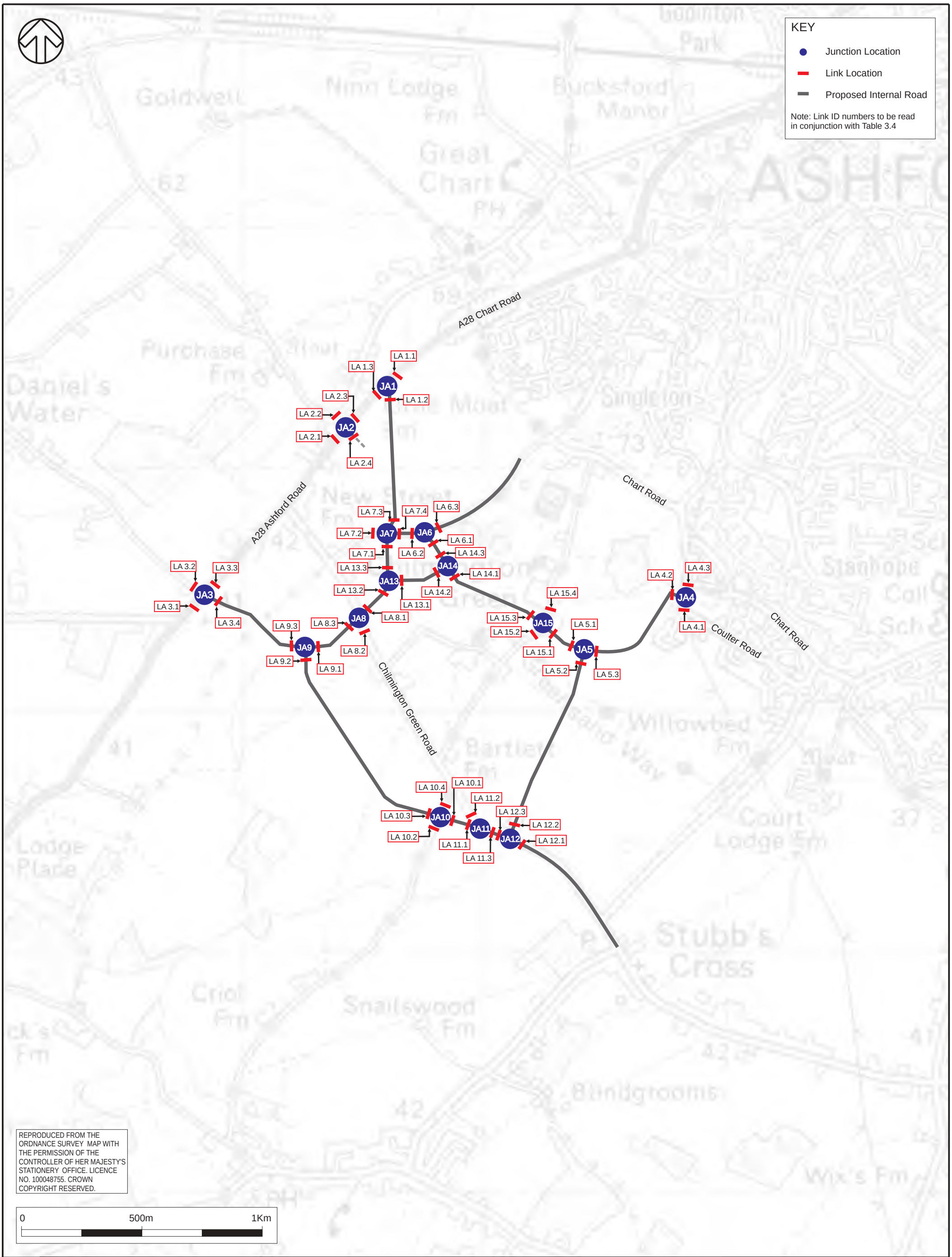
0
500m
1Km
WSP
TITLE:
MODEL OUTPUT LINKS
FIGURE No:
8.3
N:\Chilmington Green 2010\DRAWINGS\CORELVIZZ\MFIG-8.3-NETWORK LNKS.cdt



REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. LICENCE NO. 100048755. CROWN COPYRIGHT RESERVED.

WSP

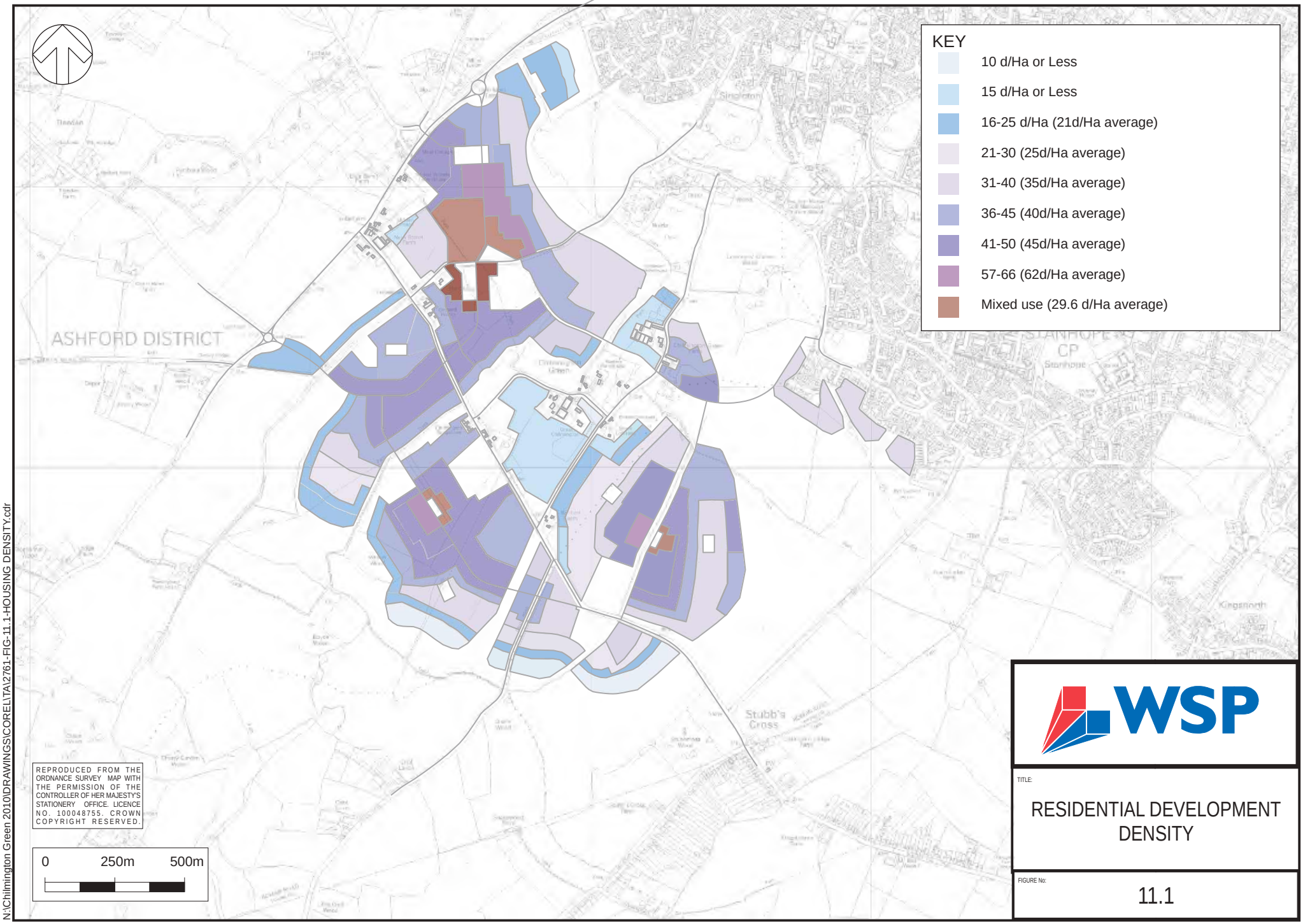
TITLE:

PROPOSED DEVELOPMENT MODEL OUTPUT JUNCTIONS AND LINKS

FIGURE No:

8.4

N:\Chilmington Green 2010\DRAWINGS\COREL\VZZIM\FIG-8.4-FUTURE MODEL OUTPUTS.cdr



REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. LICENCE NO. 100048755. CROWN COPYRIGHT RESERVED.

WSP

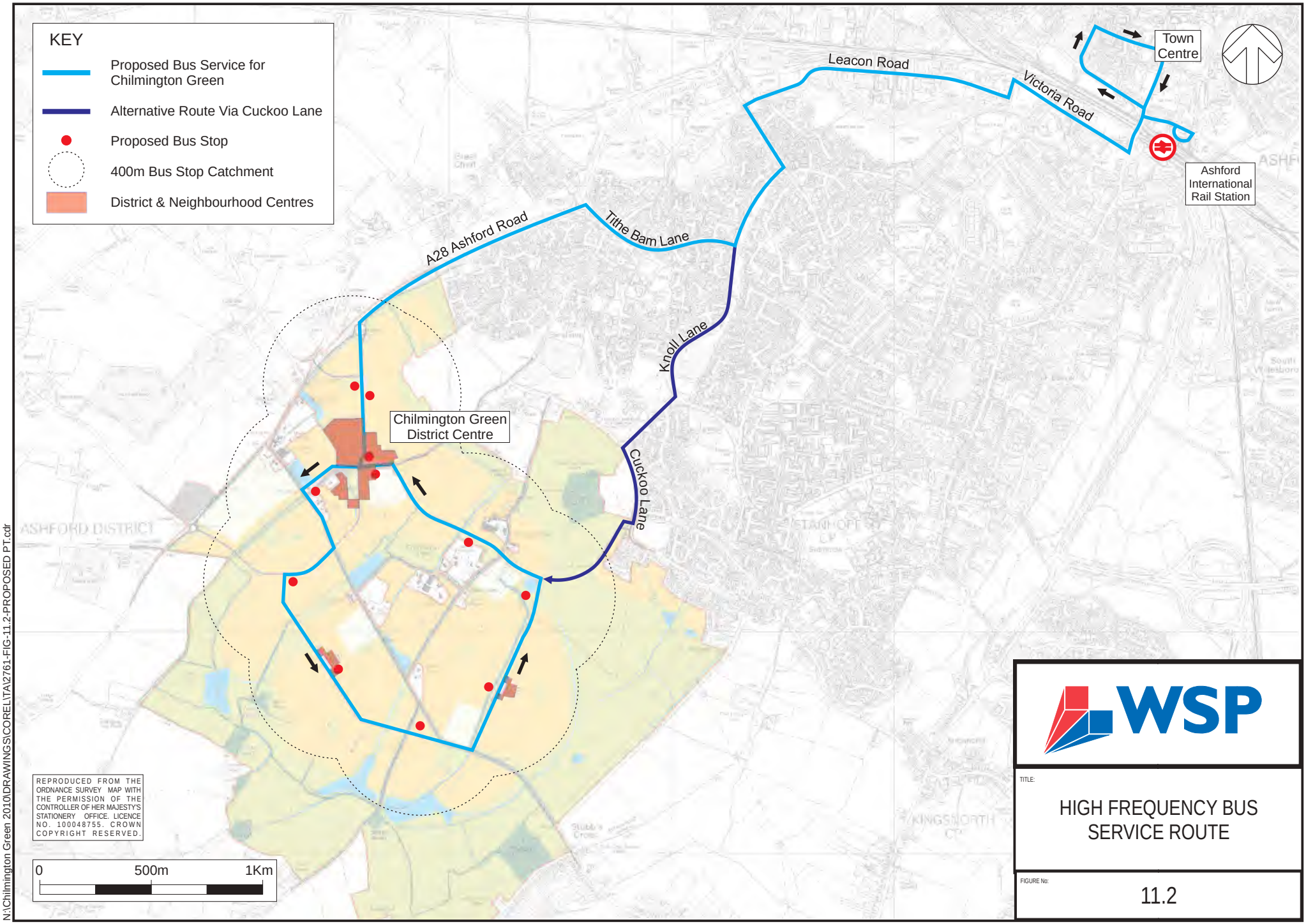
TITLE:

RESIDENTIAL DEVELOPMENT DENSITY

FIGURE No:

11.1

N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-11.1-HOUSING DENSITY.cdr



N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-11.2-PROPOSED PT.cdr

WSP

TITLE:

PHASED HIGH FREQUENCY BUS SERVICE ROUTE

FIGURE No:

11.3

N:\Chilmington Green 2010\DRAWINGS\COREL\Public Transport Strategy\2761-FIG-11.3-BUS ROUTE PHASING.cdt

Key

Proposed Development Centres

- District Centre
- Local Centre

PEDESTRIAN ACCESSIBILITY

(Walk Speed: 4.8kmph*)

- 0 to 5 minutes
- 6 to 10 minutes
- 11 to 15 minutes
- 16 to 20 minutes
- 21 to 25 minutes**
- 26 to 30 minutes

*Speed of 3.6kmph used on links where gradient deemed to be steep
** 2km (25 mins) = PPG13 Standard
Isochrones generated using Network Analyst 10.0.0 ©1999-2010. ESRI Inc. All Rights Reserved

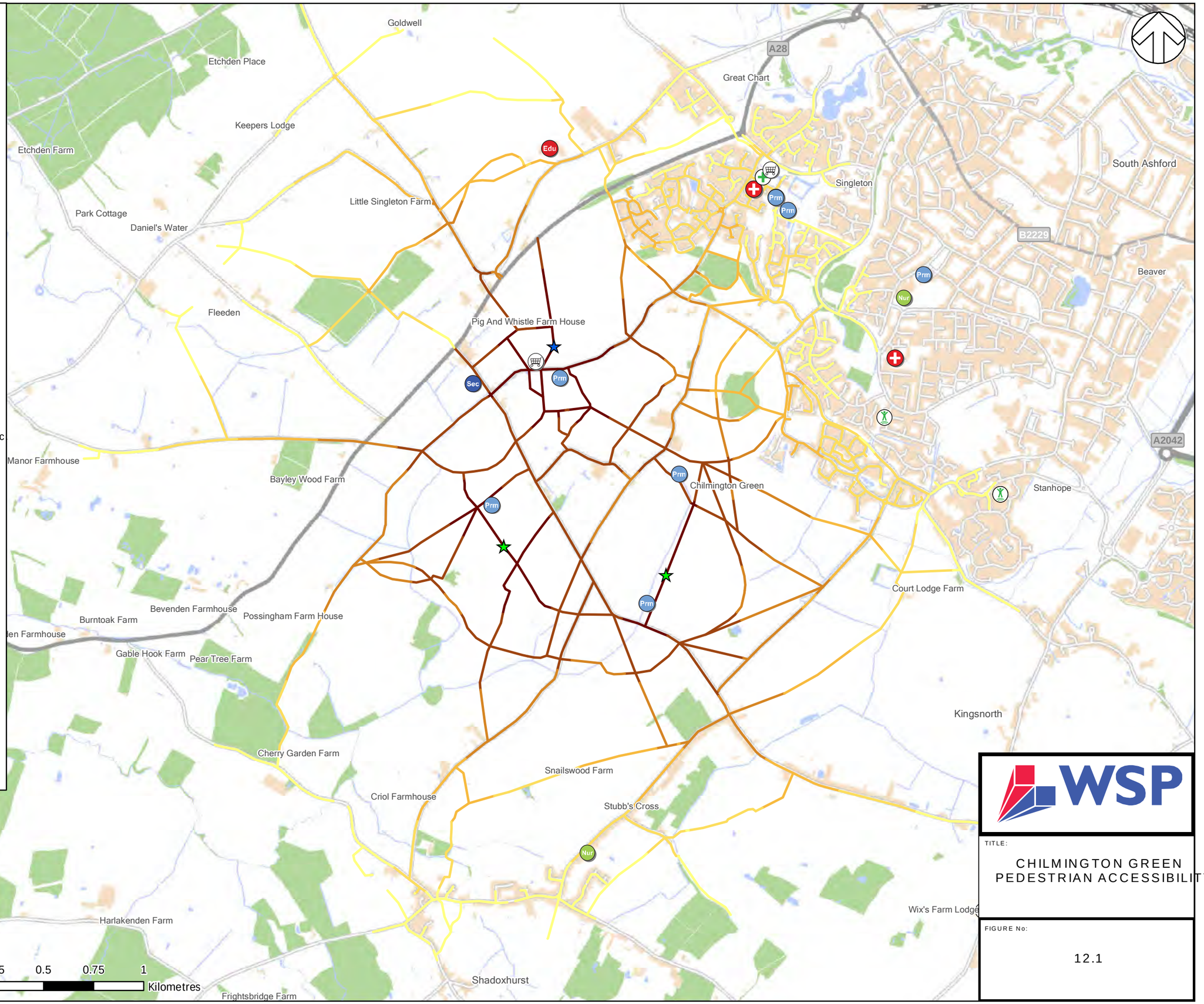
Facilities

Educational Establishments

- Nursery
- Primary
- Independent
- Convenience Stores

Healthcare Facilities

- GP Surgery
- Leisure & Fitness
- Pharmacy



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WSP

TITLE:

CHILMINGTON GREEN
PEDESTRIAN ACCESSIBILITY

FIGURE No:

12.1

Date Modified: 31/01/2012
Drawn By: ukmdj002
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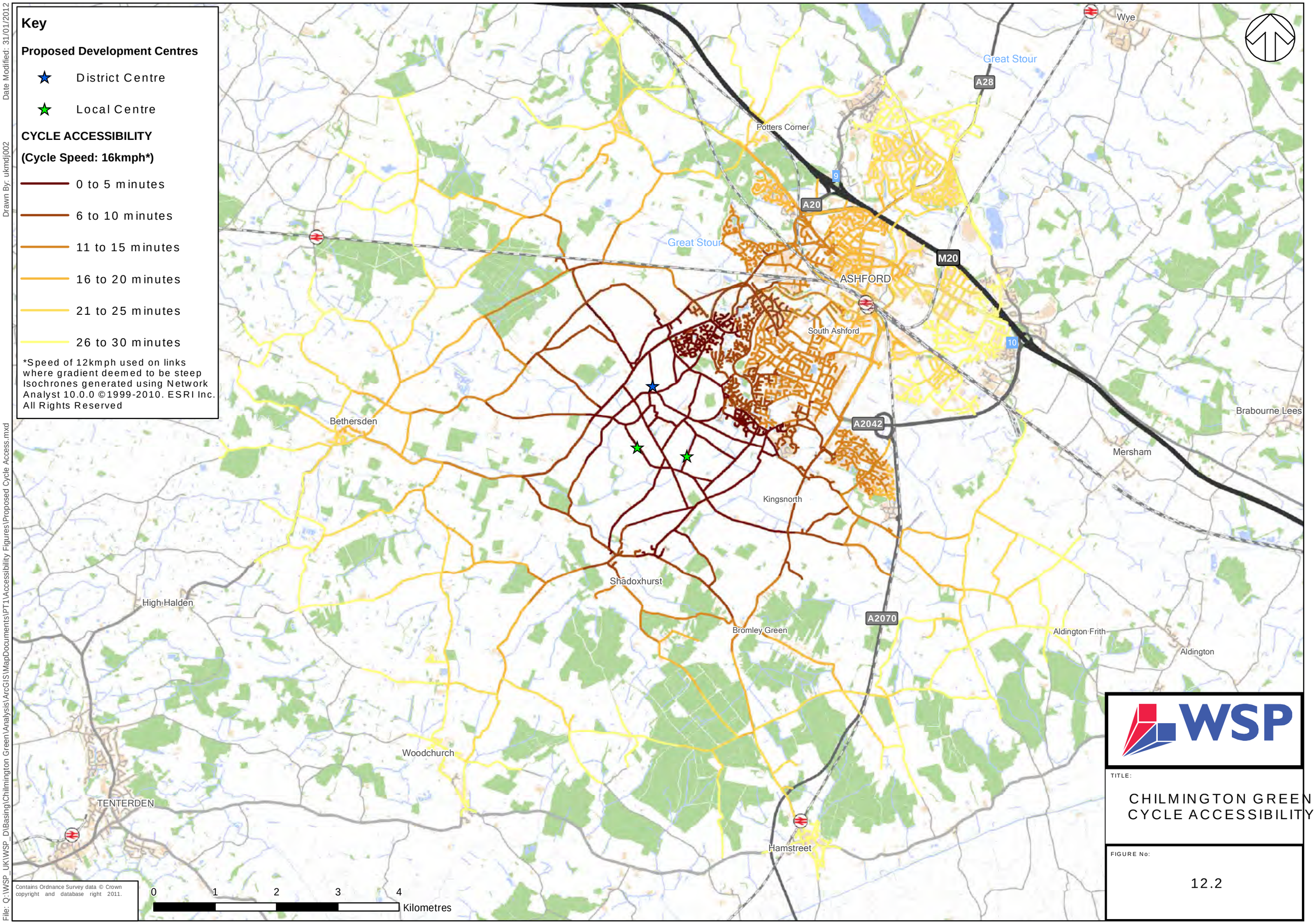
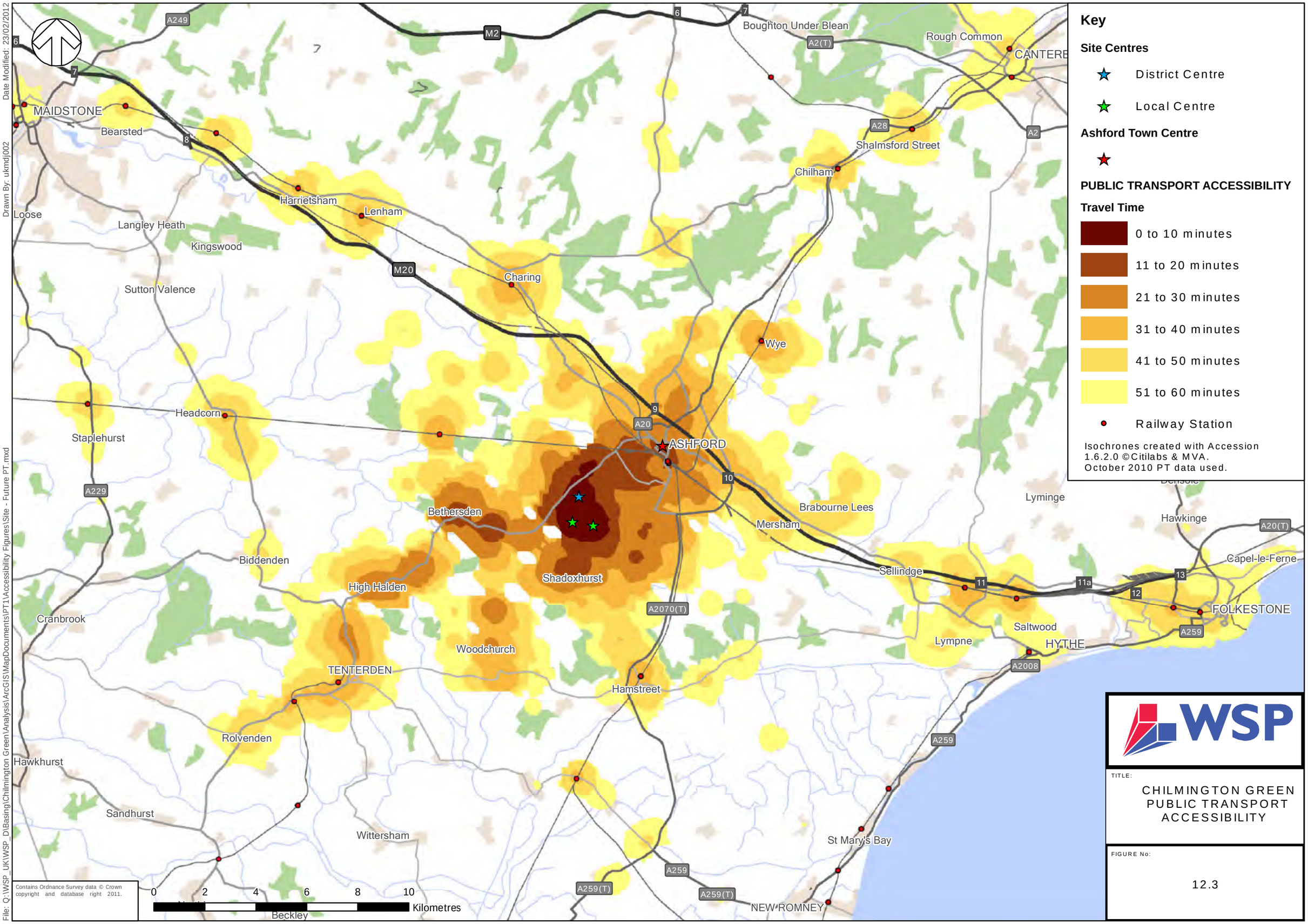
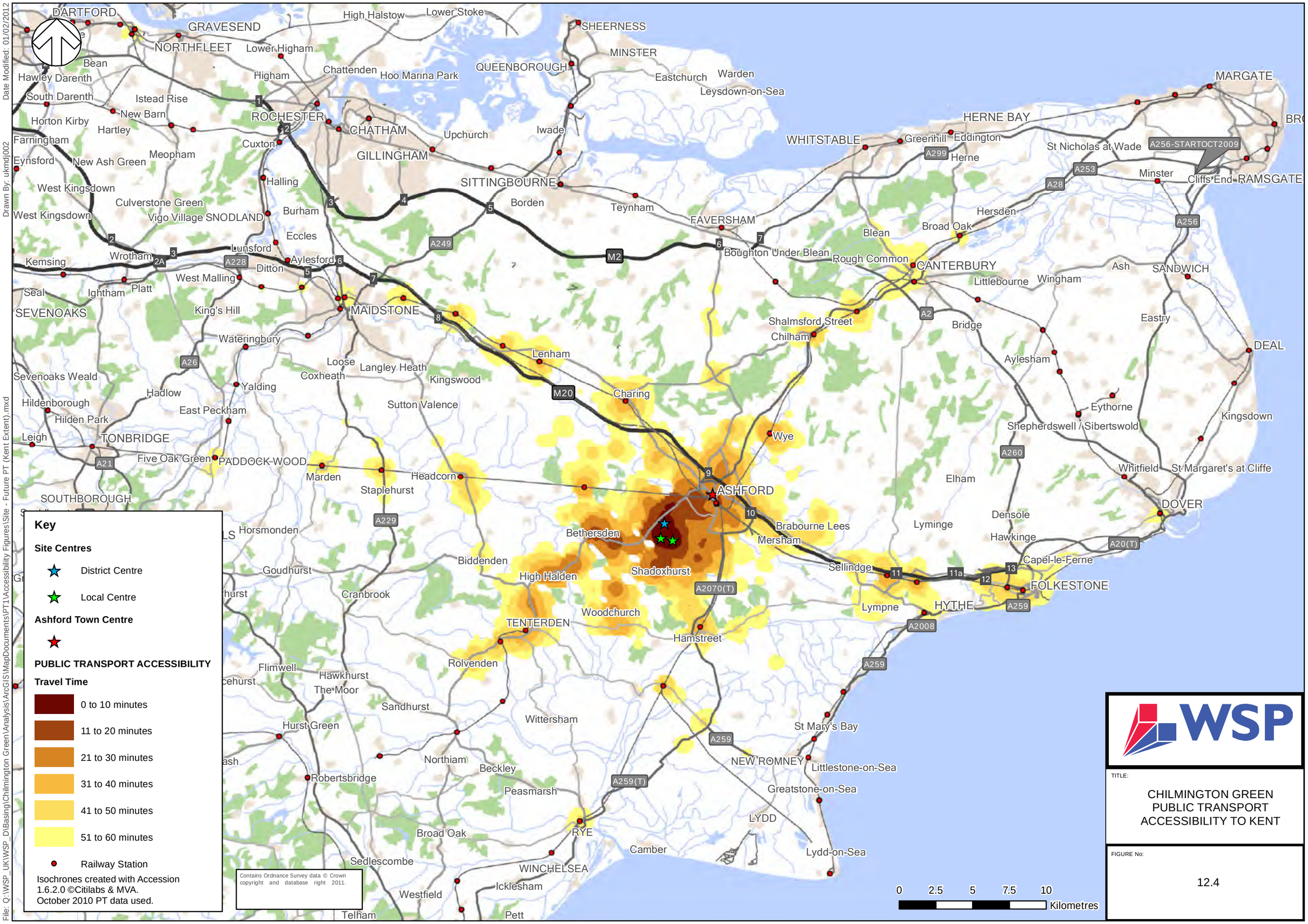


Date Modified: 31/01/2012

Drawn By: ukmdj002

File: Q:\WSP_UK\WSP_D\Basing\Chilmington Green\Analysis\ArcGIS\MapDocuments\PT1\Accessibility Figures\Proposed Cycle Access.mxd


Key
Site Centres
District Centre
Local Centre
Ashford Town Centre
PUBLIC TRANSPORT ACCESSIBILITY
Travel Time
0 to 10 minutes
11 to 20 minutes
21 to 30 minutes
31 to 40 minutes
41 to 50 minutes
51 to 60 minutes
Railway Station
Isochrones created with Accession 1.6.2.0 ©Citilabs & MVA.
October 2010 PT data used.
MAIDSTONE
Bearsted
Loose
Langley Heath
Kingswood
Sutton Valence
Harrietsham
Lenham
Charing
Boughton Under Blean
Rough Common
CANTERBURY
Shalmsford Street
Chilham
Wye
Headcorn
Staplehurst
ASHFORD
Bethersden
Biddenden
High Halden
Shadoxhurst
Brabourne Lees
Mersham
Lyminge
Hawkinge
Capel-le-Ferne
Sellindge
FOLKESTONE
Saltwood
HYTHE
Lympne
Cranbrook
Woodchurch
TENTERDEN
Hamstreet
Rolvenden
Hawkhurst
Sandhurst
Wittersham
St Mary's Bay
NEW ROMNEY
Beckley
Contains Ordnance Survey data © Crown copyright and database right 2011.
0 2 4 6 8 10
Kilometres
WSP
TITLE:
CHILMINGTON GREEN PUBLIC TRANSPORT ACCESSIBILITY
FIGURE No:
12.3
Date Modified: 23/02/2012
Drawn By: ukmdj002
File: Q:\WSP_UK\WSP_D\Basing\Chilmington Green\Analysis\ArcGIS\MapDocuments\PT1\Accessibility Figures\Site - Future PT.mxd


DARTFORD
GRAVESEND
NORTHFLEET
High Halstow
Lower Stoke
SHEERNESS
MINSTER
QUEENBOROUGH
Eastchurch
Warden
Leysdown-on-Sea
Lower Higham
Bean
Hawley Darenth
Higham
Chattenden
Hoo Marina Park
South Darenth
Istead Rise
New Barn
Horton Kirby
Hartley
ROCHESTER
CHATHAM
Upchurch
Iwade
Farningham
Cuxton
GILLINGHAM
Eynsford
New Ash Green
Meopham
SITTINGBOURNE
West Kingsdown
Halling
Culverstone Green
Borden
Teynham
West Kingsdown
Vigo Village SNODLAND
Burham
FAVERSHAM
Eccles
Lunsford
Wrotham
Aylesford
Ditton
Kemsing
West Malling
Boughton Under Blean
Seal
Ightham
Platt
SEVENOAKS
King's Hill
MAIDSTONE
Wateringbury
Lenham
Loose
Langley Heath
Coxheath
Kingswood
Sevenoaks Weald
Yalding
Hadlow
Charing
Hildenborough
Hilden Park
East Peckham
Sutton Valence
Leigh
TONBRIDGE
Five Oak Green
PADDOCK WOOD
Marden
Headcorn
Staplehurst
SOUTHBOROUGH
Horsmonden
Bethersden
Biddenden
Goudhurst
High Halden
Shadoxhurst
Cranbrook
Woodchurch
TENTERDEN
Hamstreet
Rolvenden
Flimwell
Hawkhurst
The Moor
Sandhurst
Wittersham
Hurst Green
Northiam
Beckley
Robertsbridge
Peasmarsh
RYE
Broad Oak
Sedlescombe
WINCHELSEA
Icklesham
Westfield
Telham
Pett
Camber
Wye
ASHFORD
Brabourne Lees
Mersham
Sellindge
Lympne
HYTHE
Shalmsford Street
Chilham
Bridge
Aylesham
Eythorne
Shepherdswell / Sibertswold
Elham
Lyminge
Densole
Hawkinge
Capel-le-Ferne
FOLKESTONE
Whitfield
St Margaret's at Cliffe
DOVER
Kingsdown
DEAL
Eastry
SANDWICH
Ash
Wingham
Littlebourne
CANTERBURY
Rough Common
Blean
Broad Oak
Hersden
WHITSTABLE
Greenhill
Eddington
HERNE BAY
Herne
St Nicholas at Wade
MARGATE
Minster
Cliffs End
RAMSGATE
A256-STARTOCT2009
M2
M20
A2
A20(T)
A2070(T)
A259
A259(T)
A2008
A229
A26
A21
A228
A249
A299
A253
A28
A256
A260
St Mary's Bay
NEW ROMNEY
Littlestone-on-Sea
Greatstone-on-Sea
LYDD
Lydd-on-Sea
0 2.5 5 7.5 10 Kilometres
Key
Site Centres
District Centre
Local Centre
Ashford Town Centre
PUBLIC TRANSPORT ACCESSIBILITY
Travel Time
0 to 10 minutes
11 to 20 minutes
21 to 30 minutes
31 to 40 minutes
41 to 50 minutes
51 to 60 minutes
Railway Station
Isochrones created with Accession 1.6.2.0 ©Citilabs & MVA.
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WSP
TITLE:
CHILMINGTON GREEN PUBLIC TRANSPORT ACCESSIBILITY TO KENT
FIGURE No:
12.4
Date Modified: 01/02/2012
Drawn By: ukmdj002
File: Q:\WSP_UK\WSP_D\Basing\Chilmington Green\Analysis\ArcGIS\MapDocuments\PT1\Accessibility Figures\Site - Future PT (Kent Extent).mxd

ARRIVAL

DEPARTURE

NOTE: Traffic flows are based upon development of 5750 units. Scenario 2 modelling assumes 7000 unit development

WSP

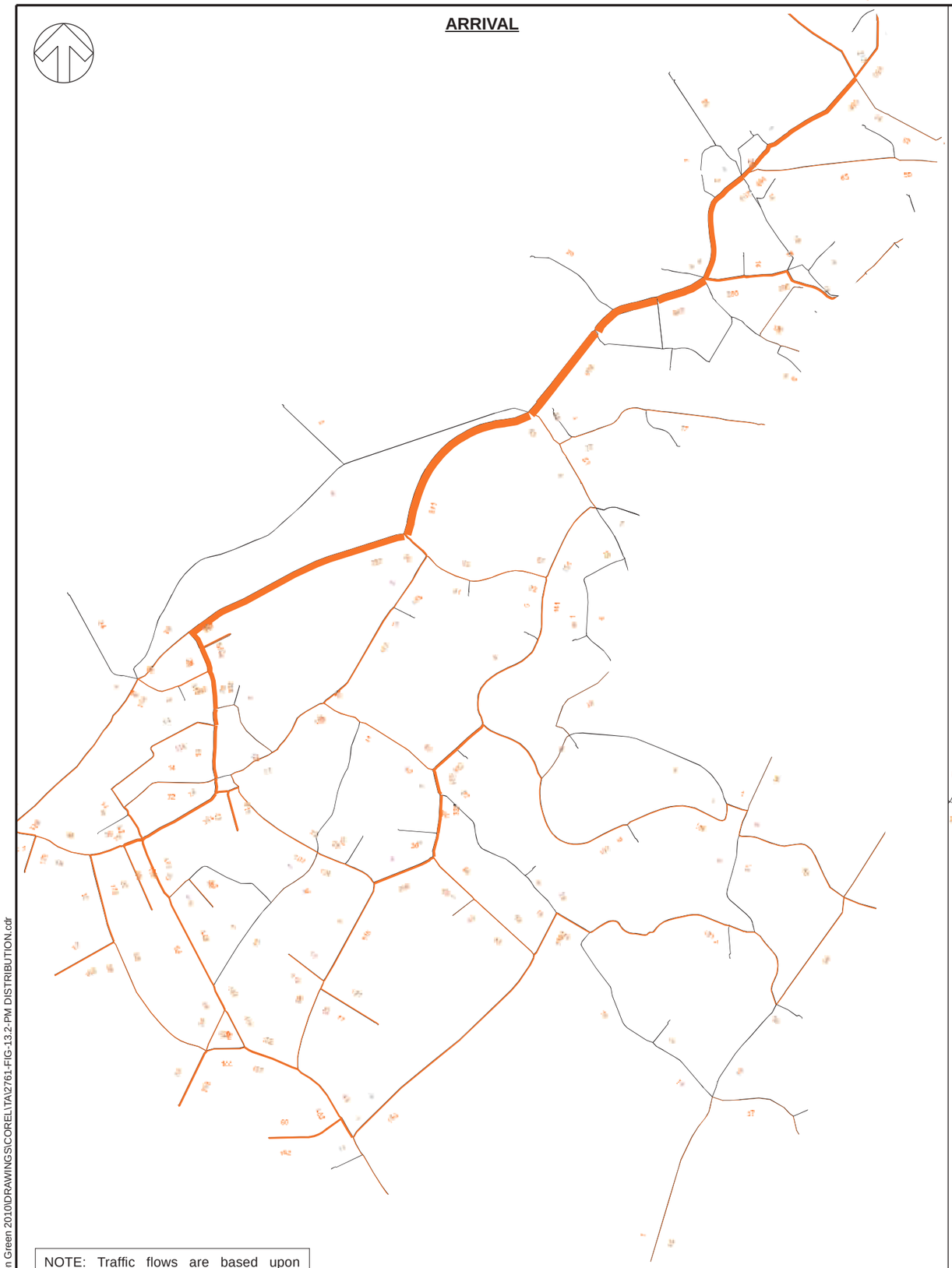
TITLE:

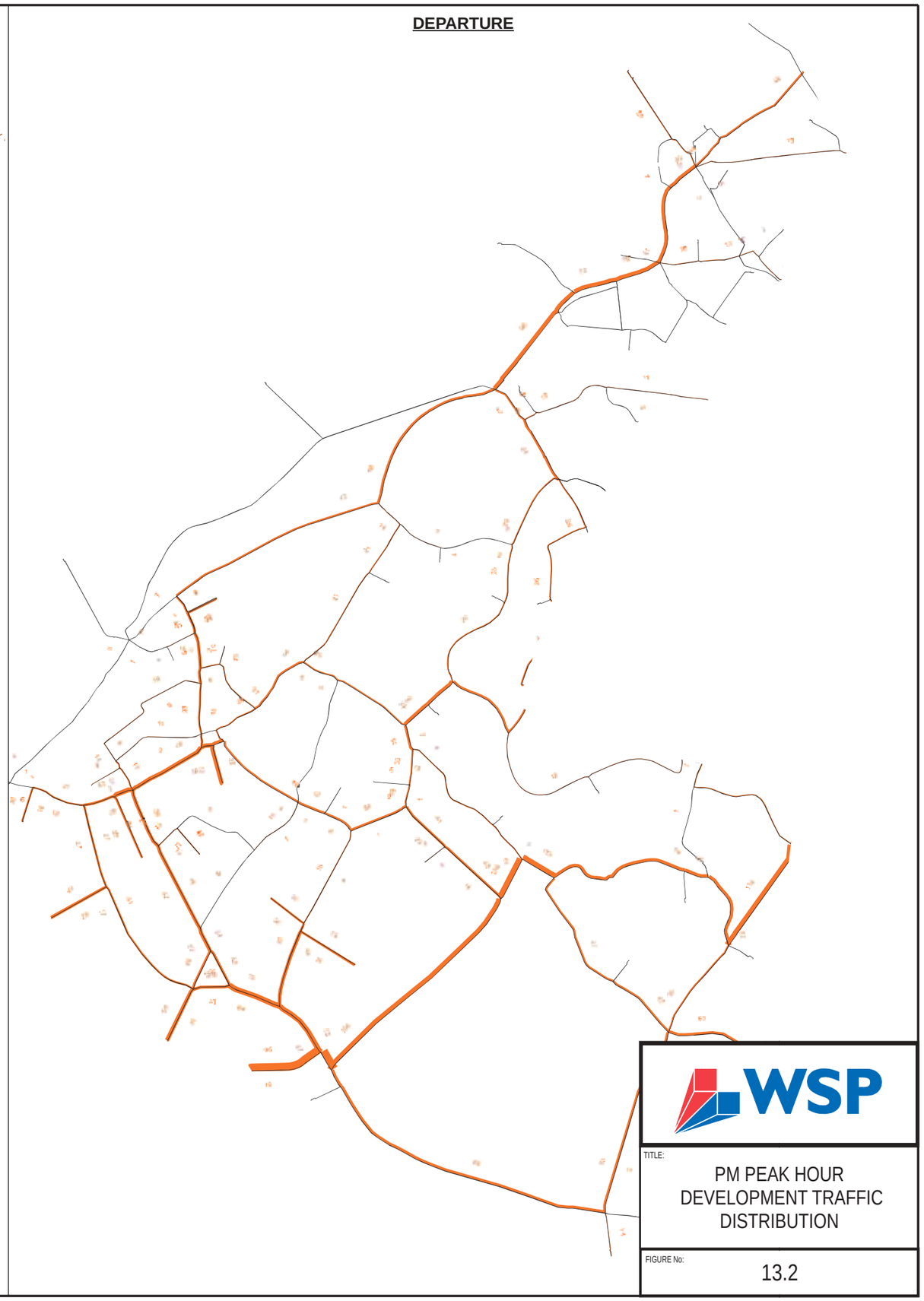
AM PEAK HOUR DEVELOPMENT TRAFFIC DISTRIBUTION

FIGURE No:

13.1

N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-13.1-AM DISTRIBUTION.cdr





NOTE: Traffic flows are based upon development of 5750 units. Scenario 2 modelling assumes 7000 unit development

WSP

TITLE:

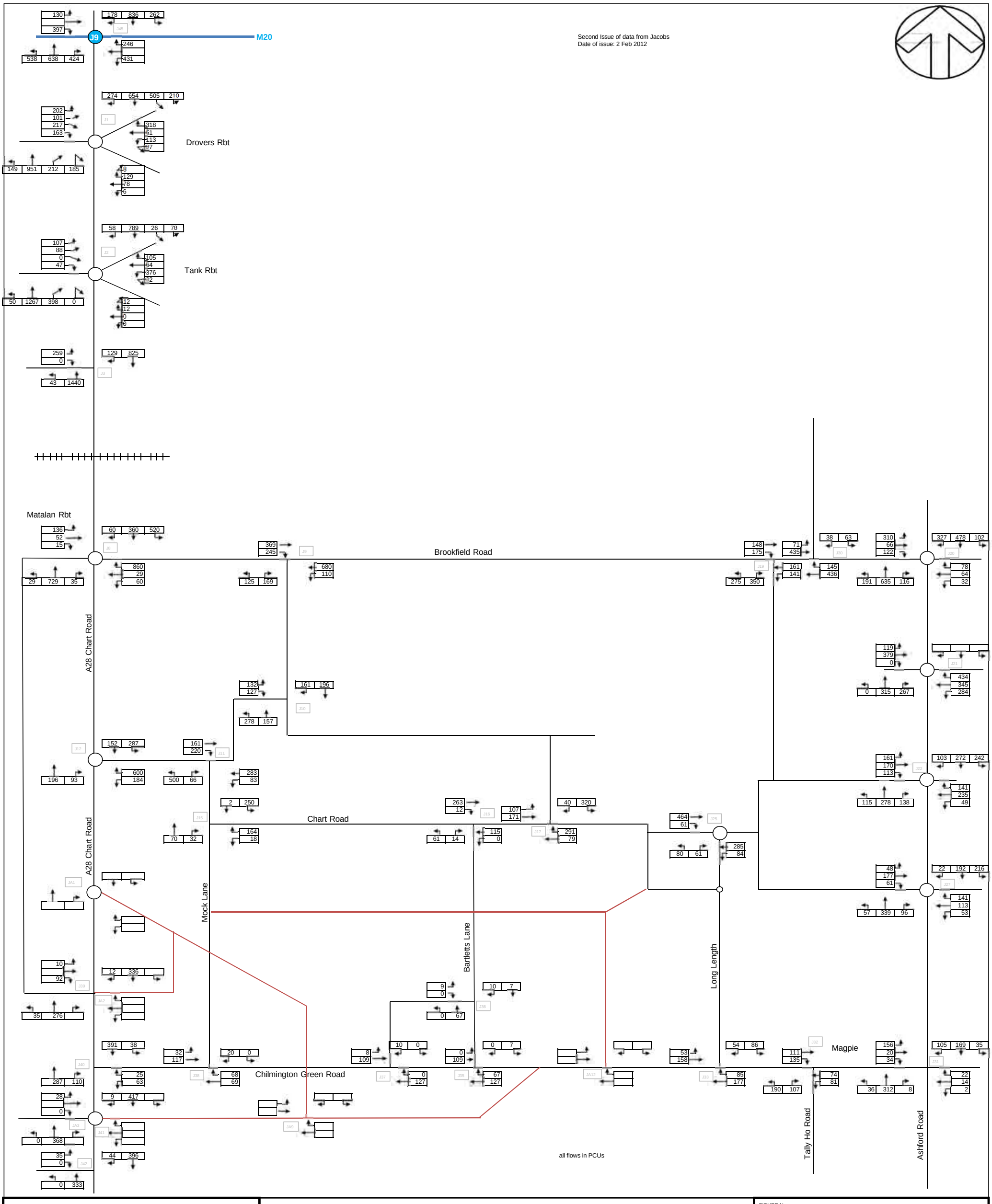
PM PEAK HOUR
DEVELOPMENT TRAFFIC
DISTRIBUTION

FIGURE No:

13.2

N:\Chilmington Green 2010\DRAWINGS\CORELTA\2761-FIG-13.2-PM DISTRIBUTION.cdr

Second Issue of data from Jacobs
Date of issue: 2 Feb 2012



V:\Cad\Excel\Traffic Flows\A3 Landscape frame.xls

WSP

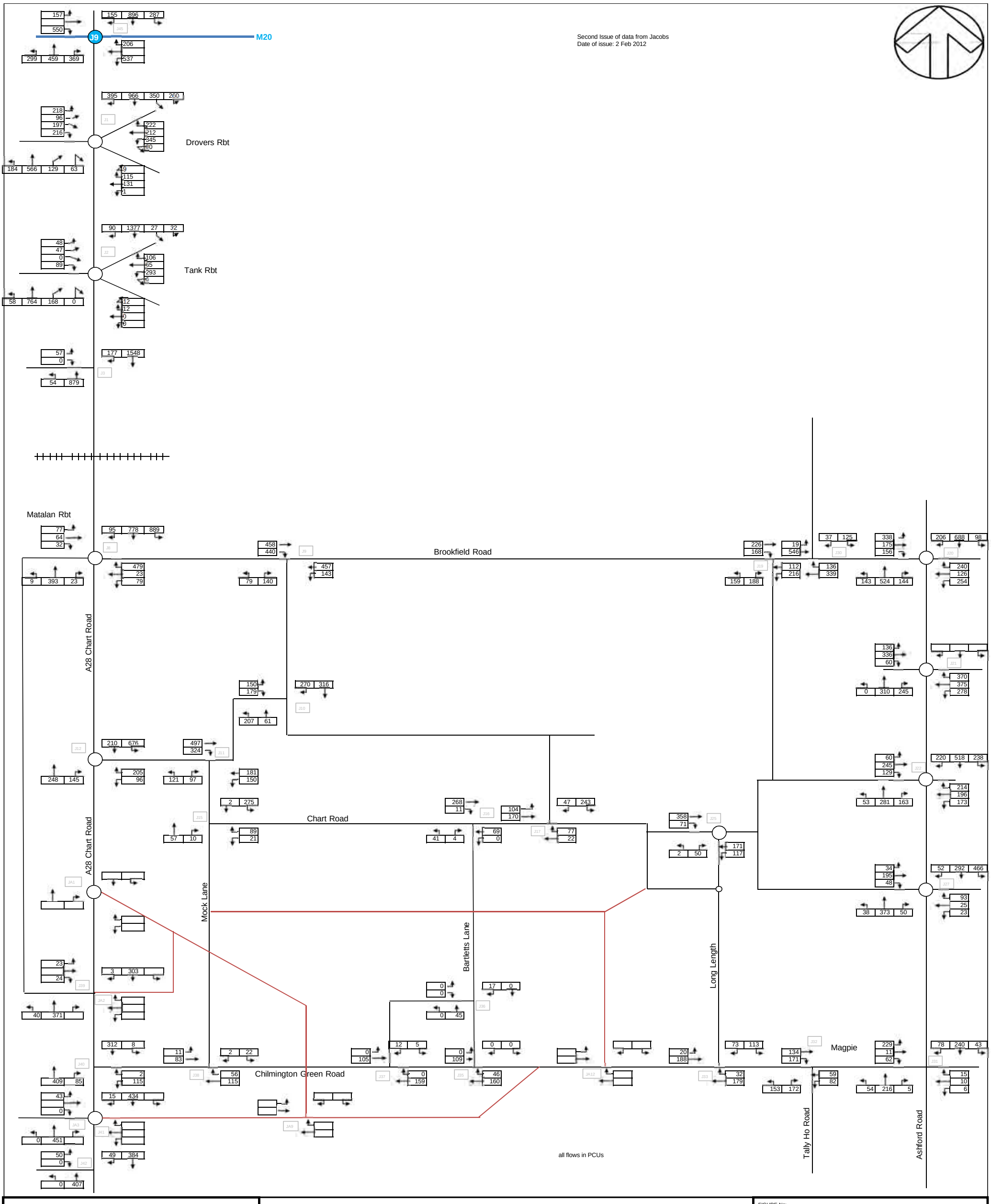
TITLE

2031 Do Minimum AM Peak
Network Model Flows

FIGURE No:

13.3

Second Issue of data from Jacobs
Date of issue: 2 Feb 2012



V:\Cad\Excel\Traffic Flows\A3 Landscape frame.xls

WSP

TITLE

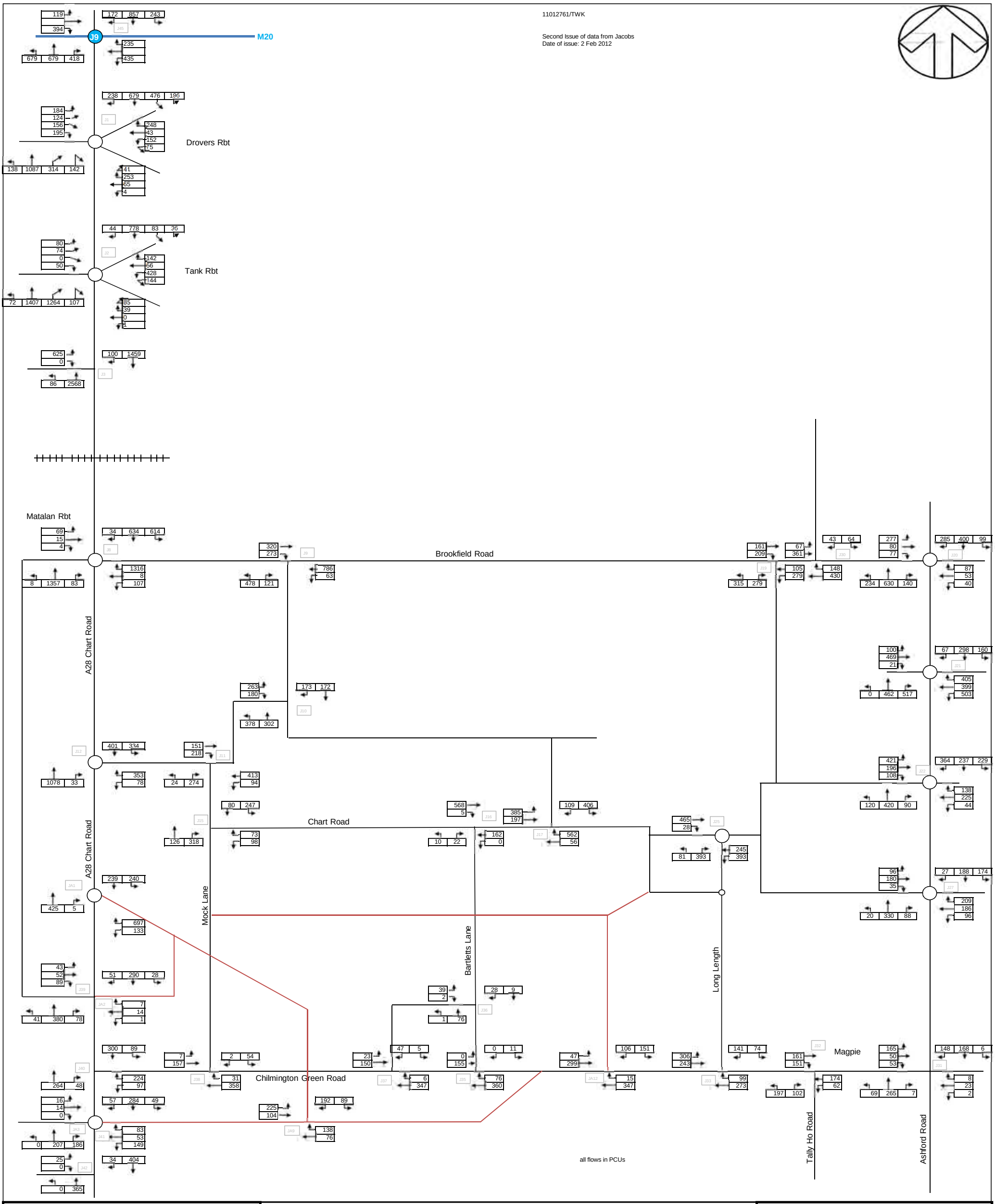
2031 Do Minimum PM Peak
Network Model Flows

FIGURE No:

13.4

11012761/TWK

Second Issue of data from Jacobs
Date of issue: 2 Feb 2012



V:\Cad\Excel\Traffic Flows\A3 Landscape frame.xls

WSP

TITLE

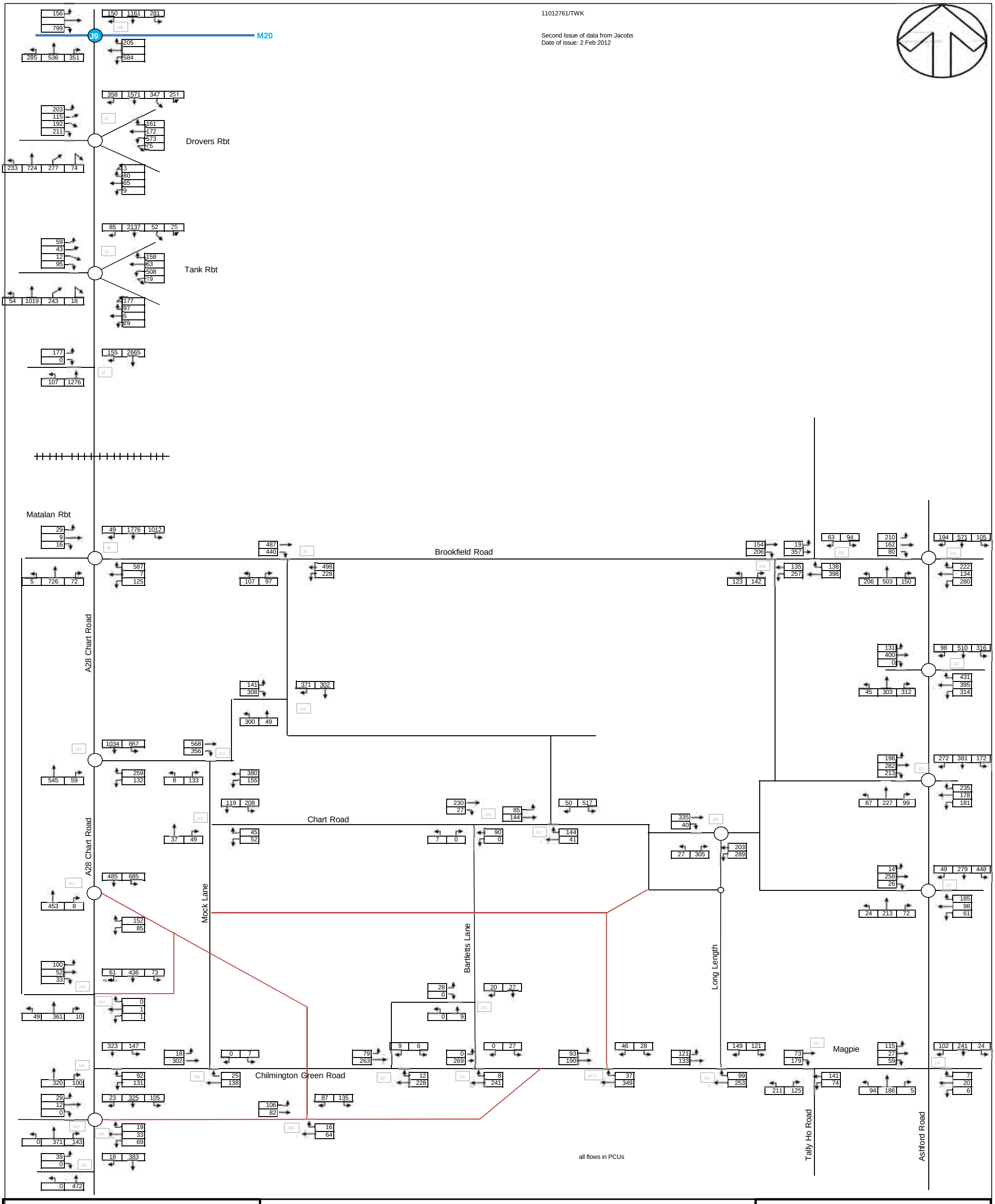
2031 Scenario 2 AM Peak
Network Model Flows

FIGURE No:

13.5

11012761/TWK

Second Issue of data from Jacobs
Date of issue: 2 Feb 2012



V:\Cad\Excel\Traffic Flows\A3 Landscape frame.xls

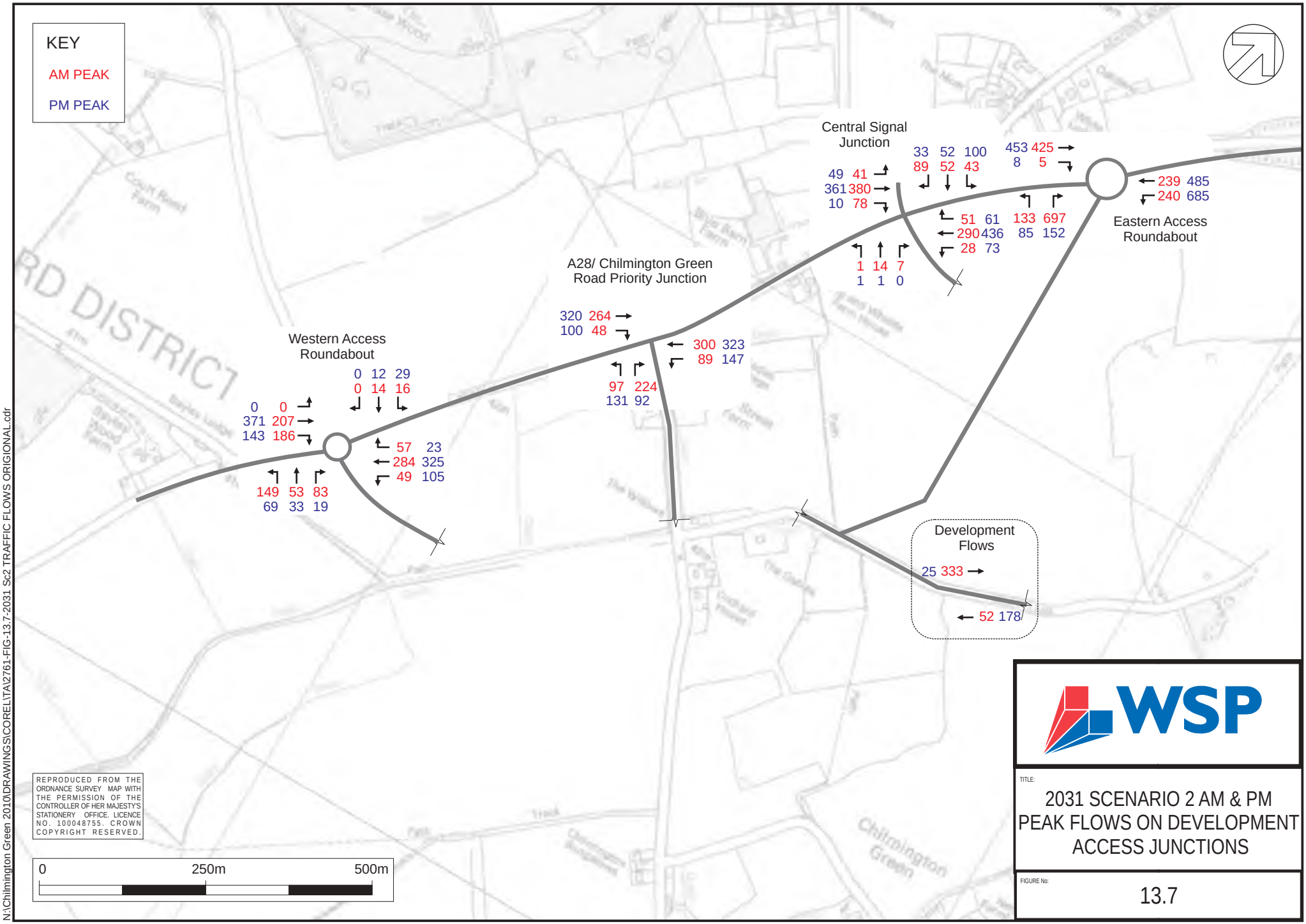
WSP

TITLE

2031 Scenario 2 PM Peak
Network Model Flows

FIGURE No:

13.6


KEY
AM PEAK
PM PEAK
Central Signal Junction
33 52 100
89 52 43
453 425
8 5
49 41
361 380
10 78
51 61
290 436
28 73
133 697
85 152
1 14 7
1 1 0
239 485
240 685
Eastern Access Roundabout
A28/ Chilmington Green Road Priority Junction
320 264
100 48
300 323
89 147
97 224
131 92
Western Access Roundabout
0 12 29
0 14 16
0 0
371 207
143 186
57 23
284 325
49 105
149 53 83
69 33 19
Development Flows
25 333
52 178
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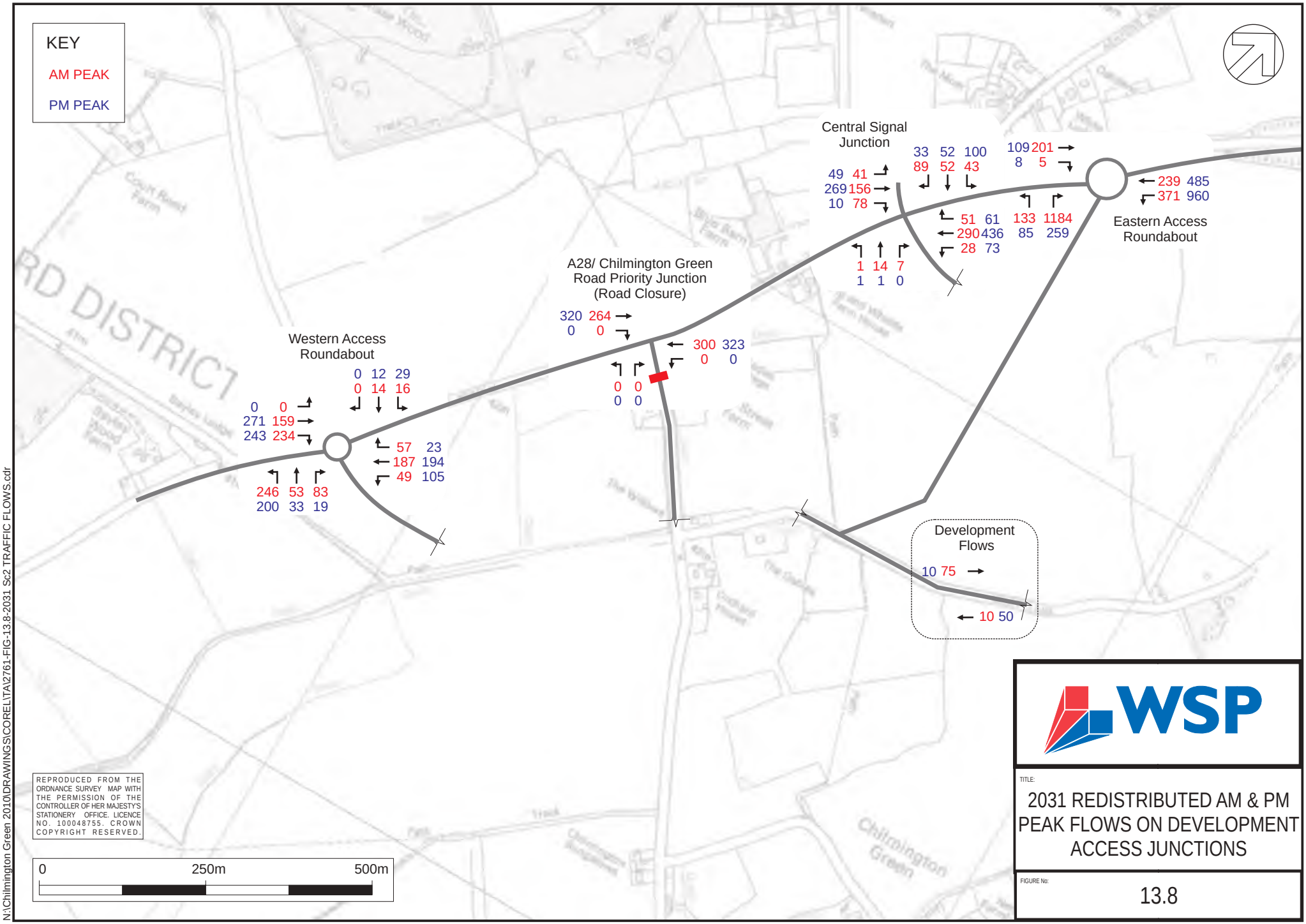
0
250m
500m
WSP
TITLE:
2031 SCENARIO 2 AM & PM PEAK FLOWS ON DEVELOPMENT ACCESS JUNCTIONS
FIGURE No:
13.7
N:\Chilmington Green 2010\DRAWINGS\CORE\TA\2761-FIG-13.7-2031 Sc2 TRAFFIC FLOWS ORIGIONAL.cdr


KEY
AM PEAK
PM PEAK
Central Signal Junction
33 52 100
89 52 43
109 201
8 5
49 41
269 156
10 78
239 485
371 960
51 61
290 436
28 73
133 1184
85 259
1 14 7
1 1 0
Eastern Access Roundabout
A28/ Chilmington Green Road Priority Junction (Road Closure)
320 264
0 0
300 323
0 0
0 0
0 0
Western Access Roundabout
0 12 29
0 14 16
0 0
271 159
243 234
57 23
187 194
49 105
246 53 83
200 33 19
Development Flows
10 75
10 50
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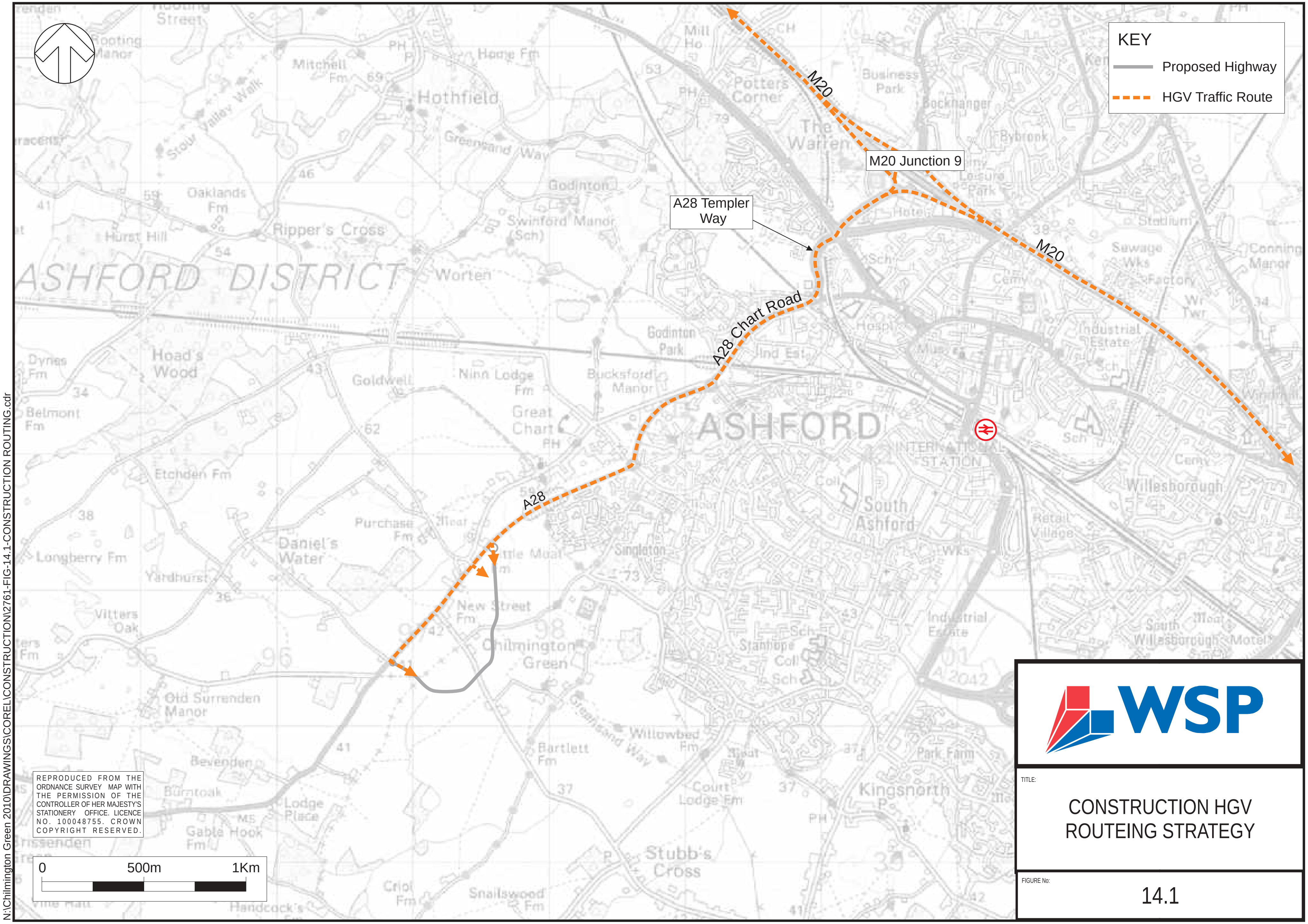
0
250m
500m
WSP
TITLE:
2031 REDISTRIBUTED AM & PM PEAK FLOWS ON DEVELOPMENT ACCESS JUNCTIONS
FIGURE No:
13.8
N:\Chilmington Green 2010\DRAWINGS\CORE\TA\2761-FIG-13.8-2031 Sc2 TRAFFIC FLOWS.cdr



REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. LICENCE NO. 100048755. CROWN COPYRIGHT RESERVED.

TITLE:

CONSTRUCTION HGV ROUTEING STRATEGY

FIGURE No:

14.1

N:\Chilmington Green 2010\DRAWINGS\COREL\CONSTRUCTION\2761-FIG-14.1-CONSTRUCTION ROUTING.cdr