Chilmington Green

Supplementary Transport Assessment

May 2014

Network Building, 97 Tottenham Court Road, London W1T 4TP www.vectos.co.uk
Registered address: Vectos (South) Limited, Hardwick House, Prospect Place, Swindon SN1 3LJ Company no. 7591661

Contents

Appendices

NON TECHNICAL SUMMARY

- Vectos has been retained by the Chilmington Green Consortium to produce a Supplementary Transport Assessment to address the comments made on transport issues following the submission of the application planning application for the proposed urban extension.
- Access to the proposed development will be provided from two new roundabouts and a priority junction onto the A28 and via a mini roundabout onto Coulter Road.
- New and improved links will be provided both to and within the development site for pedestrians and cyclists
- Improvements to the A28 from Matalan roundabout through to Tank roundabout will be funded in association with the proposed development. These improvements will provide sufficient capacity to accommodate the traffic associated with the development. There will be an improvements in peak period queuing and journey times on the A28 between the situation of no development and no improvements to that with the development and with the improvements.
- A contribution will be made towards the recovery of the funding used for the improvements at Drovers Roundabout and J9 of the M20.
- Funding will be provided to allow traffic calming to be provided in Great Chart, on Magpie Hall Road and in Shadoxhurst to be provided.
- Monitoring of the traffic associated with the proposed development will be undertaken.
- Subsidised bus services will be provided from an early stage in the development
- Bus priority measures will be undertaken at key junctions between the town centre and the railway station
- Travel Plans for all of the land use elements within the development scheme will be prepared
- This package of transport improvements will be delivered in stages linked to the progress of the development and is secured through a mixture of planning conditions and obligations
- The transport strategy that has been identified mitigates the impact of traffic associated with the proposed development and would have wider benefits for existing residents and road/transport users.

EXECUTIVE SUMMARY

1. Vectos has been retained by the Chilmington Green Consortium to produce a Supplementary Transport Assessment (STA) responding to stakeholders comments provided on the planning application for a proposed urban extension at Chilmington Green, Ashford, Kent (Planning Ref: 12/00400/AS).

2. Vectos has been retained by the Chilmington Green Consortium to produce a Supplementary Transport Assessment (STA) responding to stakeholders comments provided on the planning application for a proposed urban extension at Chilmington Green, Ashford, Kent (Planning Ref: 12/00400/AS).

3. In July 2013 ABC provided a comprehensive Schedule of Comments on the application from all of the key stakeholders including from ABC as the local planning authority and Kent County Council (KCC) as the local highway authority. Following the submission of the schedule of comments by the key stakeholders, Vectos has engaged in a number of further meetings with ABC, KCC, and undertaken presentations to local residents and stakeholders including parish council members in seeking to address the issues raised to determine the most appropriate sustainable mitigation strategy.

4. This STA provides a detailed response to the schedule of stakeholder comments and to set out the revised transport strategy that will ensure the proposed development at Chilmington Green development is in accordance with the adopted AAP.

5. The proposed site accesses to the development have been re-considered in the light of the comments received and the following are proposed:-

    - Access A – A28 Northern Access Roundabout – **drawing 131065-A-01 Rev B;**
    - Access B – A28 Priority Junction – **drawing 131065-A-04 Rev A;**
    - Access C – A28 Southern Access Roundabout **– drawing 131065-A-02 Rev B; and**
    - Access D – Coulter Road Mini Roundabout **– drawing 131065-A-15**

6. A cross section has been prepared for Access A to show the extent of the earthworks needed and this is shown on **drawing 131065-A-17.**

7. These plans were submitted to ABC in September 2013 as amendments to the planning application for approval.

8. In the light of comments made by KCC land will be safeguarded to allow the roundabout at site access A to be enlarged to accommodate additional development and/or future traffic growth should this prove to be necessary. This is shown on **drawing 131065-A-35 Rev A** with the cross section of this enlarged roundabout being shown on **drawing 131065-A-36.** These plans do not form part of the planning application and have not been submitted for approval as the submitted plans would provide sufficient capacity to accommodate the traffic associated with the proposed development. The plans identify the land needed to improve the roundabout that will be safeguarded should there be a need for further capacity improvements in the light of future developments.

9. The comments made on Public Rights of Way and pedestrian and cyclist linkages both within the proposed development and to provide connections to the surrounding area, have been considered in detail within the overall context of the objective to make the development as accessible as possible by all modes of transport.

10. The plans that both form part of the planning application in terms of the Parameter Plans and those that are supporting information, including how the Masterplan has evolved, show how the network of routes for pedestrians and cyclists within the site will be provided. This is shown on **drawing 131065-A-14 Rev A.** This work will be carried forward into the emerging Design Code for the site.

11. The proposed offsite connections are shown, in particular the route on the A28 from the Matalan Roundabout to the Tank Roundabout, have been designed in some detail and are shown on **drawing 131065-A-16 Rev A**. These facilities on the A28 would be provided at the same time as the proposed highway improvements to this section of road to ensure that the facilities for all modes of transport are co-ordinated.

12. The trip generation from the proposed development, the internalisation of trips, the distribution of this traffic and future traffic growth assumptions have been discussed with KCC during post application discussions and it is believed that the queries made have been addressed and the approach that is being taken is agreed.

13. The Transport Chapter of the revised ES together with this report responds to all of the queries raised in relation to the transport related environmental impacts of the proposed development.

14. A Construction Management Plan will be prepared prior to each phase of development commencing.

15. Working on behalf of KCC Jacobs produced plans showing an improvement scheme to the A28 from Matalan Roundabout in the south through the railway bridge and the Louden Way traffic signals to Tank Roundabout in the north. This scheme was shown on drawing nunbers. B1620900/H/007 Rev A and B1620900/H/003 Rev A both dated 12th May 2011. At the time of writing this report copies of this plan were not available.

16. In the preparation of the outline planning application WSP prepared drawing no 2761/GA/009 Rev which showed the scheme designed by Jacobs in the context of land ownership.

17. Vectos has prepared the following drawings have been prepared to show slightly amendments proposed improvements to the A28 Chart Road:-

- **131065-A-53 Rev A – Key Plan – A28 Corridor;**
- **131065-A-54 – Matalan Roundabout – Phase 1;**
- **131065-A-42 Rev B – Tank Roundabout – Phase 2 or 3;**
- **131065-A-47 – Rail Overbridge Widening – Phase 2 or 3;**
- **131065-A-47 – Rail Overbridge Widening – Cross-Section; and**
- **131065-A-50 – Louden Way – Phase 4.**

18. The differences in the scheme designs are that the Vectos design allows the improvement scheme to be implemented within land that is available and using the existing service bridge over the railway line. This ensures that the required improvements can be achieved in the most cost effective way.

19. It is proposed that the improvements are implemented as a single scheme, but this will be in a phased approach to minimise disruption on the A28.

20. Further modelling has been underway to consider the impact of the proposed development on the A28 Chart Road, the proposed improvements and the timing of the implementation of the works. This has been based on the Vectos improvement schemes as the previous Jacobs scheme plans were not available in a suitable format to allow the modelling to be

undertaken. It was also determined that due to the strategic nature of this modelling there would be little difference between the two schemes.

21. The results of this modelling can be summarised as follows:-

- The proposed improvements to the A28 will deliver sufficient increased capacity to accommodate the traffic associated with the proposed development;
- A comparison of the future situation with no development and no improvements to the situation of the development and the improvements having been implemented accommodate higher levels of traffic with reduced peak period queuing and shorter journey times;
- The improvements at Matalan Roundabout need to be completed prior to the occupation of 500 residential units on the site;
- The sequence then needs to be either the Railway Bridge or Tank Roundabout, but other factors will determine which can be implemented first;
- All of the improvements need to be in place by 2,500 units; and
- If the proposed improvements are implemented prior to the completion of 2,500 units then there are significant benefits.

22. The funding to allow the full implementation of the A28 improvement scheme will be provided in association with the proposed development. This will be in the form of a financial contribution to allow KCC to implement whichever scheme they determine is appropriate.

23. In addition to this funding a contribution to the RIF funding will be made in association towards the recouping of the funding used for the improvements that have already been implemented at the Drovers Roundabout and at J9 of the M20.

24. These contributions will ensure that the wider implications of traffic associated with the proposed development are addressed.

25. The proposed traffic calming schemes are outlined and how the monitoring of the traffic associated with the development will be undertaken for a number of reasons:-

- To determine when the traffic calming schemes in Great Chart (**drawing 131065-A-24 Rev B**), on Magpie Hall Road (**drawing 131065-A-25 Rev B**) and Shadoxhurst (**drawing 131065-A-60 Rev A)** are needed;
- To monitor the impact of traffic associated with the development on local roads; and
- To monitor the impact of traffic associated with the development on the A28.

26. The bus strategy associated with the proposed development has been developed through discussions with KCC and Stagecoach the local bus operator and a route has been identified that would serve each phase of the development as it progresses.

27. Bus priority measures have been identified at the Tithe Barn Lane/Brookfield Road junction as shown on **drawing 131065-A-28** and an additional bus stop on Beaver Road junction as shown on **drawing 131065-A-66.** These measures would be funded in association with the proposed development.

28. Travel Plans have been prepared for each of the land uses included within the proposed development.

29. This STA sets out a response to the comments received and takes into account the post application discussions that have been held with KCC and ABC and key stakeholders.

30. This forms a basis for discussion about the S106 agreement that will be required in association with the proposed development by providing more details on the proposed transport strategy that has been formulated to support the proposed development.

31. The transport strategy that has been identified mitigates the impact of traffic associated with the proposed development and would have wider benefits for existing residents and road/transport users.

1 INTRODUCTION

1.1 Vectos has been retained by the Chilmington Green Consortium to produce a Supplementary Transport Assessment (STA) responding to stakeholders comments provided on the planning application for a proposed urban extension at Chilmington Green, Ashford, Kent.

1.2 The Chilmington Green planning application (Ref: 12/00400/AS) was submitted to Ashford Borough Council (ABC) in August 2012 and was supported by a detailed Transport Assessment Report that had been prepared by WSP.

1.3 In July 2013 ABC provided a comprehensive Schedule of Comments on the application from all of the key stakeholders including from ABC as the local planning authority and Kent County Council (KCC) as the local highway authority.

1.4 Formal amendments to the scheme were submitted in September 2013; these comprised minor amendments to the masterplan proposals and site access junctions and are discussed in Section 2 of this report.

1.5 Since the comments were issued, further meetings and discussions have taken place with key stakeholders, including ABC and KCC to agree the additional work to be undertaken and how the transport related comments can be addressed.

1.6 The purpose of this STA is to provide a detailed response to the schedule of stakeholder comments and to set out the revised transport strategy that will ensure the proposed development at Chilmington Green is in accordance with the adopted AAP. The schedule of numbered stakeholder transport comments which have been addressed in this STA are 21 to 31, and 155 to 182; these are contained within **Appendix A**.

1.7 The issues raised in the stakeholder comments have been addressed in turn under in the following sections:

Section 2 - Proposed Changes to the Development Masterplan;
Section 3 - PROW's, pedestrian and cycle links and infrastructure;
Section 4 - Environment Statement Addendum;
Section 5 - Trip generation and distribution;
Section 6 - Access junction design and modelling assessments;
Section 7 - Off-site A28 junction improvements;

Section 8 - Traffic Calming strategy;

Section 9 - Public transport strategy;

Section 10 - Other Transport issues;

Section 11 - Summary and Conclusions

2 REVISIONS TO THE PROPOSED DEVELOPMENT

2.1 This section of the STA describes the minor revisions that have been made to the proposed development.

Development Masterplan

2.2 Minor amendments to the application were submitted to ABC in September 2013, including an amended description of development, as follows:

"Outline application for a Comprehensive Mixed Use Development comprising:

- *up to 5,750 residential units, in a mix of sizes, types and tenures;*
- *up to 10,000 sq m (gross external floorspace) of Class B1 use;*
- *up to 9,000 sq m (gross external floorspace) of Class A1 to A5 uses;*
- *Education (including a secondary school of up to 8 ha and up to four primary schools of up to 2.1 ha each);*
- *Community Uses (class D1) up to 7,000 sq m (gross external floorspace);*
- *Leisure Uses (class D2) up to 6,000 sq m (gross external 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 (including CHP in the District Centre);*
- *Transport infrastructure, including provision of three accesses on to the A28, an access on to Coulter Road / Cuckoo Lane, other connections on to local roads 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.*

where appearance, landscaping, layout and scale are reserved for future approval and where access is reserved for future approval with the exception of the three accesses on to the A28 and the access on to Coulter Road / Cuckoo Lane".

2.3 The amendments submitted in September 2013 emerged through various discussions with key stakeholders, including ABC, KCC, Stagecoach Kent, Great Chart with Singleton Parish Council, and local residents. These amendments include:

- Removal of the Park and Ride facility from the application, although the site is shown as safeguarded in accordance with Policy CG14 of the AAP;
- Increasing in D1 floorspace by 2,000 sq m and D2 floorspace by 1,000 sq m;
- Outline planning permission is sought for renewable energy infrastructure including a CHP facility in the District Centre. For the avoidance of doubt, this does not include commercial scale wind turbines;
- Changes to the type and distribution of open space from green space and equipped play spaces to the strategic open space which will form Discovery Park;
- Minor changes to the pattern of residential densities (however still achieving 5,750 dwellings); and
- Revised northern A28 site access (40m diameter rather than 60m) plus amending the middle A28 signalised access to a staggered priority junction.

Site Accesses

2.4 The submitted application is an outline proposal, but with details for the means of access. As part of the original submission designs for 4 access points were submitted. These designs have been revised in the light of the comments made and amended plans were submitted to ABC for approval as part of the planning application in September 2013. The changes are summarised below and are detailed in **Section 7** of this STA.

Access A - Northern A28 Roundabout

2.5 This roundabout has been reduced in size to be a 40m diameter roundabout which would accommodate the traffic associated with the full development proposed. The design is shown on **drawing 131065-A-01 Rev B** as contained in **Appendix B**.

2.6 A cross section and initial earthworks drawing has been produced for the northern access roundabout as shown within **drawing 131065-A-17** contained in **Appendix B**.

2.7 To answer a subsequent concern expressed by KCC, **drawing 131065-A-35 Rev A** and a cross section for this option shown on **drawing 131065-A-36**, are also contained in **Appendix B.** These drawings show how the capacity of the roundabout could be improved in the future.

This larger roundabout is not needed to facilitate the proposed development, but it is proposed to reserve the land outside of the public highway needed to allow this larger roundabout should it be needed in the future. This plan is not part of the submitted development for which planning permission is being sought.

2.8 As stated above, the detailed work undertaken in developing this revised design for the northern gateway roundabout is set out in **Section 7** below.

Access B - A28 Priority Junction

2.9 This is the access onto the A28 that is proposed in between the northern and southern accesses. The form of this junction when submitted with the outline application was a traffic signal control junction that formed a crossroads with Ashford Road on the opposite side of the A28.

2.10 In the light of the comments received and the further work undertaken the form of this junction has been revised to be a priority junction that would create a staggered junction with Ashford Road. The revised design of this junction is shown on **drawing 131065-A-04 Rev A** contained in **Appendix B**.

Access C - Southern A28 Roundabout

2.11 The design of the southern roundabout on the A28 submitted with the outline application was a 40m diameter roundabout. This design has been revised in the light of the comments received, but the basic form of the access is the same. The revised design is shown on **drawing 131065-A-02 Rev B** contained in **Appendix B**.

Access D - Coulter Road Mini Roundabout

2.12 The design of the new mini-roundabout junction with Coulter Road has been amended in the light of the comments received and after a design review was undertaken. The revised design is shown on **drawing 131065-A-15** contained in **Appendix B**.

Highway Drainage Design

2.13 In response to the query raised about the details of the highway drainage design it can be confirmed that in line with usual practise this would be part of the detailed design stage that would be under a S278 agreement after the grant of planning consent.

3 PUBLIC RIGHTS OF WAY, PEDESTRIANS AND CYCLISTS

3.1 With reference to the compilation document of stakeholder comments and issues raised within **Appendix A** (comments 21, 22, 175, and 177), this chapter addresses a series of comments and issues raised in relation to how public rights of way (PRoW), pedestrian and cycle connections could be enhanced. The issues raised include:

- Clarification on the representation of proposed and existing cycle routes shown in plans submitted with the planning application;
- Clarification on diversion of PRoW and the existing number of users of PRoW network;
- The provision of a continuous cycle/pedestrian route and crossings on the A28 between the Matalan and Tank roundabouts;
- Cycle link to the town centre and stopping-up of Bartlets Lane to avoid rat-running;
- Update to PRoW Plans and consideration of changes to PRoW network;
- Request for the provision of a new footway on the southern side of Magpie Hall Road to connect to Stubbs Cross.

Response to Key Comments

3.2 Many of the comments made are very detailed in terms of addressing them at the stage of an outline planning application. The principle needs to be established now of the routes that need to be amended and new ones provided, but the detailed alignment of future routes needs to be left to the stage when detailed planning applications are submitted for each phase of development.

PRoW Diversions and Usage

3.3 Updated PRoW plans clarifying the proposed changes to the PRoW network and ensuring that the existing PROWs are correctly shown are contained within **Appendix C.**

3.4 The existing number of users of the PRoW network is difficult to quantify due to the size of the Site and the extent of the surrounding PRoW network. It is also not considered necessary to understand the level of usage of each route when the intention is to protect and enhance the existing network of routes.

3.5 This is an outline planning application and when detailed planning applications are submitted then further discussions will be needed with KCC's Countryside Access service and PRoW officers regarding the details of the proposed changes to the PRoW network. This will include discussing the precise alignments for the diversions of existing PRoW including the realignment of Greensand Way and the design of AW219 between Mock Lane and Chilmington Lane. Any changes to existing PROWs in terms of their alignment will be subject to S257 applications and at this stage detailed discussions with be held with KCC's PROW officers and local user groups.

3.6 The proposed bridleway connection toward Tally Ho Road and pedestrian improvements to the south side of Magpie Hall Road will also need to be discussed in more detail when the detailed planning application for these phases of the proposed developments are submitted. The traffic calming proposals for Magpie Hall Road include the provision of a footway on the southern side of the road and this is discussed in more detail in **Section 8** below.

A28 Pedestrian/Cycle Route

3.7 The provision of a continuous cycle/pedestrian route on the A28 between the Matalan and Tank roundabouts is proposed in association with the offsite highway works. However, the detailed design of this route needs to be co-ordinated with the proposed highway improvements along this route.

3.8 The potential design for this route is shown on **drawing 131065-A-16 Revision B** which is contained in **Appendix C.** This proves a 3m footway/cycleway for the majority of the route, but where constraints exist a 2m wide route is proposed. Where the route is 2m these sections could be shared use or could be signed for cyclists to dismount. The former is the preferred approach to provide a continuous off-road route for cyclists.

3.9 At the existing railway bridge the proposed approach (subject to confirmation of the design of the proposed highway improvements and confirmation of the loading capacity of the bridge) is for a segregated route to be cantilevered. **Drawings 131065-A-47** and **131065-A-52** contained in **Appendix G** provide further information in relation to the proposed alignment of the cantilevered pedestrian / cycle link section at the rail bridge.

3.10 Toucan crossings are proposed for pedestrians and cyclists along the A28 corridor where they are needed and are possible; these will be provided with 3 metre wide islands to allow safe cycling. Crossing are proposed at the following locations:

- A28 northern arm of the Matalan roundabout
- A28 at proposed signal junction with Brunswick Road;
- A28 at proposed signal junction with Hilton Road; and
- Loudon Road at proposed amended signal junction with A28.

3.11 The feasibility of delivering enhancements to pedestrian/cycle crossing facilities will be fully investigated during the detailed design stage of the A28 infrastructure improvement works.

NCN18 Cycle Link/Bartletts Lane

3.12 Recommendations have been made to stop-up Bartletts Lane at the northern end in order to retain its rural character and avoid rat-running traffic. However, this is not considered to be necessary.

3.13 Bartletts Lane is a narrow (approximately 3 – 4m wide for most of its length), lightly trafficked, winding, country lane that is unlikely to be accessed in significant numbers by motorised vehicles. This is supported by the results of the traffic modelling assessment undertaken and therefore it is not considered that leaving Bartletts Lane open to local traffic would be counter to the promotion of NCN18.

3.14 KCC has suggested the development of a traffic-free route through the ABC Environment Centre land in order to avoid cyclists having to share a section of Bucksford Lane (the Environment Centre is located on Wesley School Road, TN23 5LW). It is noted that the DfT's Manual for Streets (2007) at paragraph 2.2.7 states that '*lanes in rural areas can provide other functions than just movement, including various leisure activities such as walking, cycling and horse riding*'. Cyclists are recommended to be generally accommodated '*on streets rather than routes segregated from motor traffic. Being seen by drivers, residents and other users affords a greater sense of security*' (*Manual for Streets* para. 4.2.4). It is therefore not considered necessary to provide an off road route.

3.15 In the light of the above, NCN18 should be retained on its current route and promoted as the key cycle link between the development and the town centre.

PRoW Network and Proposed Changes

3.16 Reference should be made to Parameter Plans **OPA05R** and **OPA08R** for further reference on routes to and from the development. **Drawing 131065-A-14 Rev A** contained in **Appendix C** also identifies existing PROWs, pedestrian and cycle links within the Site and the subsequent key connection to Ashford Town Centre via NCN18.

3.17 KCC has requested that Greensand Way should be realigned along the proposed bridleway to the north-west of the development and not along Mock Lane. **Figure 7.4** of the Design and Access Statement (Movement Hierarchy) shows a proposed bridleway along the north-west of the development site, mainly within the application boundary. A pedestrian route is also proposed which closely follows the route of the bridleway. As such, the retention of Greensand Way along Mock Lane facilitates additional pedestrian route choice, therefore the realignment of this route is not considered necessary.

3.18 The developer notes the aspiration for a bridleway between Discovery Park and Singleton Environment Centre. The appropriate time to consider the delivery of the bridleway will be as part of the reserved matters and masterplan for Discovery Park.

3.19 The developer will provide a financial contribution for the delivery of a 2m wide footway on the southern side of Magpie Hall Road to connect Stubbs Cross with the Chilmington Green development; this is indicated on **drawing 130165-A-25 Rev B** contained in **Appendix K**.

3.20 Further discussions will be required on diversions of existing PRoW, the design of AW219 between Mock Lane and Chilmington Lane, proposed bridleway connection toward Tally Ho Road, and pedestrian improvements to the south side of Magpie Hall Road.

3.21 Following discussions with ABC, Vectos has investigated the potential to provide a pedestrian/cycle link between the Chilmington Green site and the existing pedestrian footbridge across the A28 which forms a section of the Greensands Way. This would provide a direct pedestrian/cycle link between the site and the village of Great Chart. A footpath/cycleway will be provided from the site which would tie into the existing footpath situated adjacent to Pearmain Way as indicated in **131065-A-14 Rev C** which contained in **Appendix C.**

Further Pedestrian and Cycle Improvements

3.22 In line with the aspiration in the AAP (paragraph 9.32), the developer will provide a financial contribution to KCC for the delivery of a 2 metre wide section of footway on the south side of Magpie Hall Road between the properties of Wainsbrook and Kingsthorne Farm. This feature will be provided to improve pedestrian safety on this bend in the road, and as stated above is shown on **drawing 131065-A-25 Rev B** contained in **Appendix K.**

3.23 The design of the proposed chicane build-out traffic calming features submitted with the planning application (as shown in **Drawing 2761-SK-049 Rev A**) has been updated to incorporate a 2 metre wide bypass within the verge/edge of carriageway to allow cyclists to pass through without being forced out into the traffic. The amended design is shown in **drawing 131065-A-05** contained in **Appendix C**.

Section Summary

3.24 The comments made on Public Rights of Way and pedestrians and cyclists linkages both within the proposed development and to provide connections to the surrounding area have been considered in detail within the overall context of the objective being to make the development as accessible as possible by all modes of transport.

3.25 The plans that both form part of the planning application in terms of the Parameter Plans, the 5 access plans and those that are supporting information, including how the Masterplan has evolved, show how the network of routes for pedestrians and cyclists within the site will be provided. This is shown on **drawing 131065-A-14 Rev A.** This work will be carried forward into the emerging Design Code for the site.

3.26 The proposed offsite connections are shown, in particular the route on the A28 from the Matalan Roundabout to the Tank Roundabout, have been designed in some detail and are shown on **drawing 131065-A-16 Rev A**. These facilities on the A28 would be provided at the same time as the proposed highway improvements to this section of road to ensure that the facilities for all mode of transport are co-ordinated.

4 ENVIRONMENTAL STATEMENT

4.1 With reference to the compilation document of stakeholder comments and issues raised (**Appendix A**, items comments 23-31), the issues raised in relation to the Environmental Statement are summarised as follows:

- Clarification on ES assessment scenarios;
- Phasing of the A28 improvement works relative to the phased construction of the development site;
- Clarification over inclusion of A28 and Junction 10A works in assessment;
- Request for details of the construction traffic trip generation.
- Clarification over mitigation strategy and need for additional measures; and
- Clarification over public transport changes and inclusion of inclusion of updated committed development site details.

4.2 The Transportation and Access section of the Environmental Statement Addendum addresses the key stakeholder issues raised and should be read in conjunction with this Supplementary Transport Assessment.

Response to Key Comments

4.3 The Transport Assessment and thus the work for the Environmental Chapter were undertaken before the adoption of the Chilmington Green Area Action Plan (July 2013). The Masterplan has considered the requirements of the AAP in light of Policy CG1 which sets out that the site should be well designed, safe, accessible and sustainable, supporting a viable public transport network and walkable neighbourhood.

4.4 The principal site access points are via the A28 as specified by the AAP (Para. 9.3). Policy CG11 requires two new roundabout junctions with the A28, which have been designed as the northern and southern gateway roundabouts. The developer proposes a staggered priority junction access between the north and south accesses instead of a signal-controlled junction. This has been found to work optimally in junction capacity assessments (refer to **Section 6** of this report for further details).

4.5 The potential environmental impacts and implications of the revised access strategy have been considered within the ES Addendum.

Scenarios Assessed

4.6 The ES assumes that the A28 improvements will not have taken place in the 2031 'Do-Nothing' scenario. Discussions with KCC have clarified that a financial contribution from the Chilmington Green development is required in order to realise the improvement scheme; without this contribution there is no prospect of implementing the improvements. It is therefore considered appropriate that the A28 improvement works are not considered within the 2031 Do Nothing scenario, and that this does not result in reporting artificially high impacts, such as driver stress.

4.7 The ES assessed 2031 'With Development' scenario when the development is complete. The completed development was assessed as this reflects the scenario in which the transport effects of the development are at their greatest. It is therefore not considered relevant to undertake interim assessment within the ES.

4.8 With regard to the timing of delivery of the component parts of the A28 improvement scheme, a phasing assessment of the capacity of the A28 corridor relative to development delivery is currently being undertaken with KCC, as set out within **Section 7** of this report.

4.9 Finally, the internal layout of estate roads is intended to be indicative and allows a degree of flexibility. The key road corridors have limits of deviation fixed by the Parameter Plans, a design within those limits of deviation would not have a material effect on the assessment as set out within the ES and ES Addendum.

Construction Traffic Generation

4.10 The calculation of construction traffic (HGVs and cars /vans) within the ES is based on previous experience of similar types of development. The numbers are based on 300 dwellings per year, assuming 75 dwellings being built at any one time, resulting in 38 two-way daily HGV trips and 121 two-way daily car trips.

4.11 The construction traffic, HGV and other vehicle trip profiles are indicative and will need to be confirmed once a contractor(s) has been appointed and specific haul routes and construction methodologies are known. The initial vehicle movements may subsequently reduce as material is stockpiled on site. The build-out rate of circa 300 dwellings/year is anticipated to be consistent during each phase.

Construction Traffic Management Plan

4.12 Prior to the commencement of each phase of development a Construction Management Plan will be completion using the headings set out in **Appendix D**.

4.13 As part of any planning consent granted, the submission of these Construction Management Plans can be required for approval prior to the commencement of each phase of the development.

Mitigation

4.14 Measures associated with mitigating the traffic and transport related environmental impacts as a result of the Chilmington Green development include:

- Strategic highway improvements to the A28 corridor between Matalan and Tank Roundabouts;
- The provision of pedestrian crossings at the A28 site access junctions;
- The provision of a footway on the southern section of Magpie Hall Road; and
- The implementation of traffic calming measures at Great Chart and Magpie Hall Road.

4.15 Mitigation measures have not been proposed at all receptor points which exhibit moderate or major negative adverse impacts. Examples include Long Length in relation to accidents and safety, as the overall sensitivity of the receptor is minor due to the low existing traffic flows. However, monitoring of traffic flows as part of the Travel Plan will ensure that any potential future issues such as rat-running via Long Length could be mitigated against should the identified minor negative impacts increase to moderate or major negative adverse impacts.

Further Clarification

4.16 The statement in the ES at paragraph 6.5.33 that public transport will not change in 2031 with the addition of the development was incorrect. A bespoke high quality, frequent and direct bus service to Ashford Town Centre is proposed. The service will provide a direct and attractive link between Chilmington Green, Ashford Town Centre and Ashford International Rail Station (from which high speed rail services to London can be accessed).

Further details regarding discussions with KCC, ABC and Stagecoach Kent and the public transport strategy are set out in **Section 9** of this report.

4.17 The adopted Urban Sites DPD was issued in October 2012. The ES assessed that the Conningbrook Strategic Park is referenced in paragraph 4.14 of the Core Strategy highlighted that some 'enabling' housing development may be required at Conningbrook as the means of helping to fund the delivery of the wider sporting and recreational objectives there. The assessment work established that a residential development of around 300 dwellings would be necessary to fund the establishment of the proposed sporting and recreational facilities.

Section Summary

4.18 The Transport Chapter of the revised ES together with this report responds to all of the queries raised in relation to the transport related environmental impacts of the proposed development.

4.19 A Construction Management Plan will be prepared prior to each phase of development commencing.

5 TRIP GENERATION & DISTRIBUTION

5.1 With reference to the compilation document of stakeholder comments and issues raised within **Appendix A**, the issues raised in relation to trip generation and distribution are recorded within comments 161-165, 178 (KCC); and 182d-e (Highways Agency).

5.2 The comments provided by KCC and the HA can be summarised as follows:

- Breakdown of vehicle trips by land use type and clarification of floor areas;
- Trip distribution for each phase of the development;
- Clarification of trip generation vehicle flows & assignment;
- Appropriate measures to integrate impact of additional traffic; and
- Traffic growth, distribution and assignment derived from the Peter Davidson Demand model.

Response to Key Comments

Trip Rates

5.3 The trip rates have been previously agreed with Kent Highway Services, Ashford's Future and the Highways Agency. **Appendix G** of the originally submitted TAR provides a technical note which details the approximate building footprint of the respective land use types within the proposed development. A review of the numbers previously quoted has been undertaken with the revised quantum of development provided within **Table 5.1** below.

Table 5.1: Land Use Quantum

Land Use Type	Quantum
Residential Dwellings	5,750 (7,000 previously assumed within VISSIM model)
Primary Schools (2fe x4)	1,200 pupils
Secondary School (6fe)	1,080 pupils
District Centre – A1-A5	9,000 sqm

5.4 The July 2012 Transport Assessment is based on agreed trip rates contained in the Ashford VISSIM model. These were obtained from the Ashford Highway and Traffic Study (AHTS) report prepared by the Highways Agency in September 2006.

5.5 As a sensitivity test, the trip rate selection has been reconsidered using the TRICS® database 2013a.

5.6 The comparison demonstrated that as a result of interrogating sites within TRICS 2013a it can be seen that the trip generation assumptions in the submitted TAR are comparable to those derived from the TRICS 2013 surveyed sites. The trip rates applied within the submitted TAR are considered robust. The application of the trip rates derived from the AHTS report within the submitted TA are agreed with KCC and have subsequently been applied to undertake further modelling analysis of the A28 corridor using the traffic micro-simulation software VISSIM, which has been undertaken by Amey, the term transport consultants for KCC.

5.7 In relation to the floor area of the education and community uses, for clarification, the community uses (Use Class D1) will have up to 7,000 sq m gross floorspace. The leisure uses (Use Class D2) will have up to 6,000 sq m gross floorspace. The changes are negligible in transport terms.

5.8 The education uses will include a secondary school of up to 8ha and up to four primary schools of up to 2.1ha each.

5.9 Clarification was requested By KCC in relation to the minor change in floor area in relation to the D1 & D2 land uses. The community and leisure uses will predominantly be patronised by the local residents of Chilmington Green and adjoining residential areas. As a result, the majority of trips will be internal to the site. The small uplift in the D1 and D2 uses will subsequently lead to a negligible increase in vehicle trips and subsequently no uplift was accounted for in the modelling analysis.

Phased Traffic Distribution

5.10 The highway enhancements will be phased as described in further detail in **Section 7**. The traffic distribution which has been applied to assess the A28 existing and proposed junctions is based on the VISSIM outputs derived from Peter Davidson's Consultancy Demand Model and produced by JACOBS on behalf of Kent County Council. The distribution is based on the defined Core Strategy scenario for Chilmington Green, and therefore provides the best available robust analysis of the "Do Something" scenario for further options testing.

5.11 The proposed highway interventions that were assumed to form part of the development proposals include:

- A northern and southern roundabout site access roundabout with the A28 in addition to a priority junction;
- A new Coulter Road mini-roundabout site access junction;
- A28 existing junction enhancements - Matalan roundabout, Tank Roundabout and Louden Way signalised junction; and
- Traffic calming along Magpie Hall Road and Ashford Road within Great Chart village.

5.12 The VISSIM model indicates the distribution of development traffic as a result of the capacity enhancements on the A28 combined with the implementation of traffic calming on Magpie Hall Road and in Great Chart.

5.13 The distribution of traffic to/from the site via the local highway network is illustrated within the figure contained in **Appendix F** of the submitted TAR and is summarised as follows:

- A28 North – 67%;
- A28 South -7%;
- Mock Lane -4%;
- Criol Lane – 1%;
- Cuckoo Lane - 2%;
- Magpie Hall Road -2%;
- Tally Ho Road (South-East) – 3%;
- Tally Ho Road (South-West) – 1%; and
- North-East via new Coulter Road link – 13%.

Traffic Distribution Discrepancy

5.14 In terms of any difference in vehicle trips (comments 163-165), it is understood that the discrepancy between the submitted TAR and the data presented at the AAP Stakeholder Workshop (November 2011) is due to the application of internalisation rates to identified land uses within the overall Masterplan.

5.15 Paragraph 9.4.1 of the submitted TAR states that 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'.

5.16 **Appendix G** of the originally submitted TAR provides more information on how the vehicular traffic internalisation was applied. Other than residential use, the three land uses which had an applied internalisation factor were employment, community and retail. This was done to reflect trips which start and/or end at the residential dwelling within the expanded community (i.e. linked trips). **Appendix G** of the submitted TAR sets out the following internalisation factors as shown below.

- Employment: 10%.
- Education: The factors are split for staff and pupils. The employment factor is applied to staff; an internalisation factor of 61% is applied to pupils.
- Food Retail: 75%
- District / Neighbourhood Centre Retail: 90%.

5.17 These internalisation factors are considered to be robust and reflect the stated objective of the masterplan for the new development of providing facilities within the new housing for residents to use.

5.18 It is understood that both the distribution of traffic and the internalisation of trips has been agreed with KCC during post application discussions.

Traffic Distribution between the A28 and Magpie Hall Road

5.19 As discussed within the submitted TAR (paragraph 13.4), the low proportion of development trips associated with the alternate distribution typically relate to non-commuting, social based trips. The low proportion of traffic which would assign via the A2070 will be further reduced following the introduction of traffic calming measures along Magpie Hall Road and therefore the resulting low number of trips during the weekday AM and PM Peak periods would not have any material impact upon Magpie Hall Road and the A2070.

Future Year Traffic Growth

5.20 In relation to the determination of future year traffic growth, committed development sites as listed within **Table 8.1** of the submitted TAR were applied within the 2031 'Do Something' VISSIM model. The growth factors presented in Table 8.2 (of the submitted TAR) reflect the TEMPRO growth factors for 2010-2031 following the removal of the committed sites included within the TEMPRO projections to ensure that double counting does not occur. This is a robust approach.

5.21 Again, it is understood from post application discussions with KCC that future predictions of traffic growth has been agreed.

5.22 As part of the additional modelling of the A28 set out below, a review of the traffic growth assumptions indicated that the application of TEMPRO growth factors to the surveyed 2013 traffic flows would lead to an over-estimation of future traffic volumes once the traffic associated with the full build-out (5,750 dwellings) at Chilmington Green was applied.

5.23 As a result, further traffic growth scenarios have been assessed to include no background growth with full Chilmington Green traffic. It is anticipated that a combination of peak hour spreading, re-distribution of traffic and mode shift onto non-car modes would result in a much lesser increase in background traffic up to 2031 along the A28 corridor particularly as other than Chilmington Green, there are no other proposed developments likely to come forward on a strategic scale that would generate increased traffic flows on the A28.

Post Occupation Monitoring and Mitigation

5.24 In association with the monitoring of travel patterns as part of the Travel Plan the use of the roads to the south and east of the development site will be monitored as the development progresses. Should the traffic on these roads grow faster than anticipated and the reason for this high level of growth is due to traffic associated with the proposed development then funding for additional traffic calming measures will be made available. Permanent loop counters will be placed within the carriageway of the agreed locally identified sensitive roads to allow for traffic flows to be monitored as the development is implemented. This will be at the start and end of each phase of development and up to two occasions should this be requested during the phases of development.

5.25 The level of this funding will need to be set out in detail in the S106 agreement that will be associated with the outline planning consent. This will provide certainty that, should they be needed, funds are available and also certainty for the developers of the potential level of funding that may be required. This is considered in more detail in **Section 8** below.

Section Summary

5.26 The trip generation from the proposed development, the internalisation of trips, the distribution of this traffic and future traffic growth assumptions have been discussed with

KCC during post application discussions and it is believed that the queries made have been addressed and the approach that is being taken is agreed.

5.27 The future monitoring of traffic associated with the development is considered in more detail in **Section 8** below.

6 SITE ACCESS JUNCTION DESIGNS & MODELLING ANALYSIS

6.1 This chapter focuses upon the comments/issues raised in relation to the highway design and capacity of the proposed site access junctions, as set out at stakeholder comments 157-160 in **Appendix A**.

6.2 This chapter details the following:

- Revised vehicular access strategy design;
- Distribution of vehicular traffic via the proposed site access junctions; and
- Proposed phasing of access junction delivery.

Response to Key Comments

Key Vehicular Access Drawings & Safety Audits

6.3 The A28 site access drawings issued within the submitted TAR were as follows:

- Access A - A new northern A28 roundabout with a 60m ICD (**drawing 2761-GA-011-D**)
- Access B - A signalised junction off the A28, Goldwell Lane and a new site access arm to replace the existing priority junction arrangement (**drawing 2761-GA-012-D**)
- Access C - A new southern A28 roundabout with a 40m ICD (**drawing 2761-GA-013-D**)
- Access D - A new mini-roundabout junction with Coulter Road and a new site access arm (**drawing 2761-GA-014-C**).

6.4 These plans formed part of the planning application that was submitted for approval in August 2012.

6.5 Following a review of the traffic distribution via the proposed A28 site access junctions and detailed discussions on the access designs with KCC, the following amendments have been made:

- Access A - northern access roundabout ICD has been reduced from 60 metres to 40 metres;

- Access B - the proposed signalised junction with Goldwell Lane has been revised to a staggered priority junction arrangement;
- Access C – minor amendments have been made to the southern access roundabout following a design review; and
- Access D – minor amendments have been made to the mini roundabout following a design review

6.6 The form of the Access B has been changed from a traffic signal junction to a priority junction for a number of reasons including that a traffic signal junction was not needed to accommodate future development traffic, and may have led to future road safety problems. A further reason related to the agreement with KCC that there would not be a significant future desire for pedestrians and cyclists to cross the A28 in this location.

6.7 Independent Road Safety Audits have been commissioned for all of the revised access junction designs. **Appendix R** contains the Road Safety Audit reports and the Designer's Responses. All of the recommendations made in the Safety Audit have been incorporated into the proposed amended designs.

6.8 These revised access designs have been discussed with KCC and have been agreed in principle.

6.9 A cross section and initial earthworks drawing has been produced for the northern access roundabout as shown within **drawing 131065-A-17** of **Appendix B**. It is envisaged that the extent of the ground level remodelling and re-grading would be modest.

6.10 These plans were submitted for approval as part of the planning application in September 2013 in place of the plans previously submitted in August 2012.

6.11 The distribution of traffic from the site is focused upon the A28 (74%), as identified in the previous section of this report, with the proportion of development traffic distribution informed by the JACOBS VISSIM model which includes the proposed infrastructure improvements to 2031.

6.12 The northern site access roundabout with the A28 was previously designed as the principal form of access, with circa 93% of (A28) development traffic assigning via this junction. As a result, an ICD of 60 metres was provided to accommodate the circa 1,180 northbound vehicles exiting the roundabout in the weekday AM Peak hour.

6.13 This would require a considerable proportion of all traffic from Chilmington Green to select a route which passes through the District Centre in accessing/egressing the site via the northern gateway roundabout with the A28.As the internal road layout will be designed to accommodate low vehicle speeds through restrictive carriageway widths, and visual and horizontal calming features, it is anticipated that a higher proportion of traffic, particularly in relation to the dwellings situated within the eastern section of the site, including the Orchard Village Neighbourhood Centre, would assign onto the A28 via the staggered priority junction and southern roundabout junction.

6.14 The impact of assigning 74% (67% Northbound/7% Southbound) of all vehicle trips via the 3 proposed A28 site access junctions has subsequently been assessed on the Louden Way junction and the Tank and Matalan roundabouts. The assignment of vehicle trips is detailed within **Appendix E**.

6.15 It is anticipated that 50-60% of (A28) traffic would assign via the northern roundabout, with the remaining 40-50% of site traffic assigning via the A28 via the southern roundabout and the priority junction. A robust sensitivity test has been undertaken which assesses a 65% distribution of traffic in terms of assignment onto the A28 via the northern roundabout, with a further 35% of traffic assigned via the southern roundabout.

Site Access Junction Assessments

6.16 The A28 southern and northern site access roundabouts have been modelled using ARCADY software with the staggered priority site access modelled using PICADY software. The junction assessment outputs are contained within **Appendix F.**

Access A - Northern A28 Roundabout

6.17 The revised 40m ICD roundabout design is shown within **drawing 131065-A-01 Rev C**. The ARCADY modelling assessed 65% of all A28 site traffic, equating to 48.1% of all site traffic (74% x 65%).

Table 6.1: Northern Site Access Junction – ARCADY Results – Weekday Peak

	AM Peak		PM Peak	
Arm	**Maximum RFC**	**Maximum Queue**	**Maximum RFC**	**Maximum Queue**
A28 (North)	0.73	3	0.93	11
Site Access	0.73	3	0.48	1
A28 (South)	0.73	3	0.63	2

6.18 The results indicate that the roundabout will continue to operate within capacity in both the AM and PM Peak hours, with a maximum RFC (Ratio of Flow/Capacity) of 0.93 recorded on the A28 North arm in the PM Peak, with a corresponding maximum queue length of 11 vehicles.

Access A - Enlarged Northern A28 Roundabout

6.19 Following comments made by KCC about the need to ensure "future proofing" of the access should additional capacity be needed in the future to accommodate additional development and/or traffic growth junction assessments have been undertaken to assess a worst case scenario which assumed additional traffic using the junction.

6.20 In the event that further junction capacity proves to be required in the future to accommodate additional development and/or traffic growth then the roundabout can be enlarged to provide additional capacity. **Drawing 131065-A-35 Revision A** contained in **Appendix B** provides a design to enhance the capacity of the roundabout approaches for information purposes. This larger roundabout can be constructed on land that is either part of the development site or is part of the existing public highway. This plan is not part of the submitted development for which planning permission is being sought.

6.21 The enhanced 40 metre ICD roundabout has been assessed for the full 2031 site build-out (5,750 dwellings & associated land uses).

Table 6.2: Enhanced Northern Site Access Junction – ARCADY Results – Weekday Peak

	AM Peak		PM Peak	
Arm	**Maximum RFC**	**Maximum Queue**	**Maximum RFC**	**Maximum Queue**
A28 (North)	0.5	1	0.63	2
Site Access	0.61	2	0.4	1
A28 (South)	0.51	1	0.45	1

6.22 The ARCADY results indicate that the roundabout will continue to operate within capacity in both the AM and PM Peak hours, with a maximum RFC of 0.63 recorded on the A28 North arm in the PM Peak, with a corresponding maximum queue length of 2 vehicles.

6.23 This larger roundabout is not required to facilitate the proposed development and therefore does not form part of the proposed access arrangements. Through discussions with KCC it has been agreed that the additional land needed to allow this roundabout to be constructed

will be identified and safeguarded for future highway improvements. It is not proposed that the land is adopted as part of the public highway from the outset as it can be managed as part of the landscaping for the development and this would avoid any additional maintenance liability for the Council.

6.24 The safeguarding of the identified land for potential future highway improvements will form part of the S106 agreement that will be associated with the grant of any planning consent for the proposed development.

Access B – A28 Priority Junction

6.25 Phase 1 has been assumed for the year 2018 assuming the construction of 1,500 dwellings and no access via the proposed southern or northern access roundabouts as a worst case scenario. The PICADY results indicate that the priority junction will operate within design capacity during both peak periods.

Table 6.4: Southern Site Access Junction – ARCADY Results – Weekday Peak

	AM Peak		PM Peak	
Arm	**Maximum RFC**	**Maximum Queue**	**Maximum RFC**	**Maximum Queue**
A28 (North)	0.24	1	0.05	0
Site Access	0.86	5	0.53	1
A28 (South)	0.04	0	0.06	0

6.26 In the AM Peak the site access approach (northbound) reaches a maximum RFC of 0.86 and a corresponding queue of 5 vehicles.

6.27 In the PM Peak the junction is less congested, operating with a maximum RFC of 0.53 and a corresponding queue of 1 vehicle on the site access approach (northbound).

Access C - Southern A28 Roundabout

6.28 The proposed southern roundabout was reviewed and only very minor design layout changes were made which have no material impact upon the junction capacity.

6.29 As the level of traffic predicted to use this access has been reviewed and amended a detailed capacity assessment of the junction has been undertaken.

6.30 This roundabout has been assessed for the full 2031 site build-out (5,750 dwellings & associated land uses), assuming that 35% of all A28 site traffic, equating to 25.9% of all site traffic (35% x 74%).

Table 6.4: Southern Site Access Junction – ARCADY Results – Weekday Peak

	AM Peak		PM Peak	
Arm	**Maximum RFC**	**Maximum Queue**	**Maximum RFC**	**Maximum Queue**
A28 (North)	0.55	2	0.63	2
Site Access	0.46	1	0.3	1
A28 (South)	0.39	1	0.46	1
Sandy Lane	0.06	0	0.09	0

6.31 The ARCADY results indicate that the roundabout will operate well within capacity in both the AM and PM Peak hours, with a maximum RFC of 0.63 recorded on the A28 North arm in the PM Peak, with a corresponding maximum queue length of 2 vehicles.

Access D – Coulter Road Mini Roundabout

6.32 The proposed mini roundabout was reviewed and only very minor design layout changes were made which have no material impact upon the junction capacity.

6.33 No additional capacity analysis of this access has been undertaken above that set out in the submitted TAR as there has been no change in the predicted level of traffic predicted to use this junction.

Phasing Strategy

6.34 It is proposed to construct Access A - Northern roundabout and Access B - A28 priority junction within Phase 1. The modelling undertaken has demonstrated that the priority junction could accommodate development traffic associated with 1,500 dwellings and could therefore be constructed prior to the occupation of any dwellings on-site if necessary, prior to the completion of the northern access roundabout.

6.35 It is anticipated that Access C – A28 Southern roundabout could be constructed within phase 3 of the development and Access D - Coulter Road mini-roundabout within phase 4.

6.36 Precise triggers for the construction of the site accesses will be agreed with ABC and KCC to be included as part of the conditions that form part of any planning consent granted or as part of the S106 agreement.

Section Summary

6.37 The proposed site accesses to the development have been re-considered in the light of the comments received and the following are proposed:-

- Access A – A28 Northern Access Roundabout – **drawing 131065-A-01 Rev B;**
- Access B – A28 Priority Junction – **drawing 131065-A-04 Rev A;**
- Access C – A28 Southern Access Roundabout **– drawing 131065-A-02 Rev B;** and
- Access D – Coulter Road Mini Roundabout **– drawing 131065-A-15**

6.38 A cross section has been prepared for Access A to show the extent of the earthworks needed and this is shown on **drawing 131065-A-17.**

6.39 These plans were submitted to ABC in September 2013 as amendments to the planning application for approval.

6.40 In the light of comments made by KCC land will be safeguarded to allow the roundabout at site access A to be enlarged to accommodate additional development and/or future traffic growth should this prove to be necessary. This is shown on **drawing 131065-A-35 Rev A** with the cross section of this enlarged roundabout being shown on **drawing 131065-A-36.** These plans do not form part of the planning application and have not been submitted for approval as the submitted plans would provide sufficient capacity to accommodate the traffic associated with the proposed development. The plans identify the land needed to improve the roundabout that will be safeguarded should there be a need for further capacity improvements in the light of future developments.

7 OFF-SITE A28 JUNCTION IMPROVEMENTS AND TRIGGERS

7.1 This chapter focuses upon the comments/issues raised in relation to the delivery of the A28 improvement scheme, as set out at stakeholder comments 157, 159 and 160 in **Appendix A**.

7.2 This key stakeholder comments can be summarised as follows:

- Phasing of development to be assessed against implementation of off-site highway works;
- Trigger points for the delivery of key junctions should be established; and
- KCC should not be subjected to financial risk, off-site highway works cannot be progressed until funding is received.

Development Phasing

7.3 The construction programme for the delivery of the Chilmington Green masterplan envisages the delivery 5,750 dwellings and non-residential land uses will be built across a total of 4 phases.

7.4 KCC has previously stated that improvements to the A28 corridor between the site and Ashford Town Centre/M20 Junction 9 will be required to accommodate future growth within Ashford.

7.5 The Chilmington Green Area Action Plan states that, *"It is apparent that the existing capacity of the A28 is a potential barrier to the unconstrained delivery of the Chilmington Green* development". The document continues to state that, *"the implementation of off-site highway improvements to the A28 and any other primary or secondary links or junctions within the adjacent parts of the urban road network to ensure that, at least, a "nil detriment" position is achieved".*

7.6 It is therefore acknowledged by ABC and KCC that highway infrastructure improvements are required to facilitate development in meeting the housing trajectory targets as set out within the Core Strategy. The AAP also states that, "*the forward funding of the KCC promoted improvements to the A28 by the developer combined with a reasonable commitment to implement the works by KCC should avoid the need for the development to be stalled*."

7.7 Funding for the highway works will be procured in association with the proposed development where it can be shown that the needs for the works directly relates to the traffic associated with the development and the request for any funding is consistent with the guidance in the NPPF.

7.8 The highway constraints along the A28 have been acknowledged as the Matalan Roundabout (A28/B2229 Brookfield Road/Chart Road), the Louden Way/A28 junction, the Tank roundabout (A28/Sir Henry Brackenbury Road/Chart Road), and the rail bridge located between the Matalan roundabout and Louden Way junction, which acts as a bottleneck constraint in terms of dualling this section of the A28.

7.9 Working on behalf of KCC Jacobs produced plans showing an improvement scheme to the A28 from Matalan Roundabout in the south through the railway bridge and the Louden Way traffic signals to Tank Roundabout in the north. This scheme was shown on drawing numbers B1620900/H/007 Rev A and B1620900/H/003 Rev A both dated 12th May 2011. At the time of writing this report copies of this plan were not available.

7.10 In the preparation of the outline planning application WSP prepared drawing number 2761/GA/009 Rev which showed the scheme designed by Jacobs in the context of land ownership. This plan is contained in **Appendix G**.

7.11 Vectos has prepared the following drawings have been prepared to show slightly amended proposed improvements to the A28 Chart Road:-

- **131065-A-53 Rev A** – Key Plan – A28 Corridor;
- **131065-A-54** – Matalan Roundabout – Phase 1;
- **131065-A-42 Rev B** – Tank Roundabout – Phase 2 or 3;
- **131065-A-47** – Rail Overbridge Widening – Phase 2 or 3;
- **131065-A-52** – Rail Overbridge Widening – Cross-Section; and
- **131065-A-50** – Louden Way – Phase 4.

7.12 These plans are contained in **Appendix G**.

7.13 The differences in the scheme designs are that the Vectos design allows the improvement scheme to be implemented within land that is available and using the existing service bridge

over the railway line. This trying to ensure that the required improvements can be achieved in the most cost effective way.

7.14 It is proposed that the improvements are implemented as a single scheme, but this will be in a phased approach to minimise disruption on the A28.

7.15 Extensive traffic data has been surveyed on the A28 during 2013 to assist with developing the identified improvement work. This includes traffic flows, speed data and queuing. This data is contained in **Appendix H**.

7.16 In addition to the traffic surveys, peak journey time surveys were also undertaken in 2013 and are contained in **Appendix I**.

Observed A28 AM Peak Vehicle Queues

7.17 Following recent public consultation through stakeholder meetings, the perception of traffic congestion issues on the A28 corridor from local residents related to the view that the Louden Way signalised junction was the direct result of extensive vehicle queues along the A28 particularly in the northbound direction during the weekday AM Peak period. This did not concur with the results of the VISSIM modelling results which indicated that traffic was unable to discharge through the Louden Way junction during the green stage due to vehicles queuing back from the Drovers and Tank Roundabouts to the north.

7.18 In order to validate the modelling results Vectos commissioned high mast CCTV cameras to be positioned along the A28 facing northbound during the AM Peak hours (0600-1000) at two locations. The locations are identified within **Appendix H** with cameras placed immediately north of the Matalan roundabout to observe vehicles queuing back from the railway bridge and, approximately 200 metres south of the Louden Way junction to observe vehicles queuing back to the junction from queues tailing back from Drovers and Tank.

7.19 The CCTV observations have been summarised and are contained within **Appendix H.** During the 0600-0700 time period when vehicle flows are considerably lower, Louden Way operates satisfactorily as vehicles do not block back along the A28 from the Tank roundabout.

Louden Way Junction:

7.20 Traffic was observed to begin queuing from 07:30 back from the Tank roundabout. However, all vehicles were able to clear the junction within the green phase. There was very little

traffic observed turning left onto Louden Way, with the vast majority travelling northbound through the junction to Tank Roundabout.

7.21 A queue was observed on Louden Way with traffic turning in both directions onto the A28 although queues were observed to clear within each the green phase of each cycle. The peak 20 minute period was approximately from 08:20 to 08:40, with some queuing on the A28 approaches observed but clearing quickly during the green phase. A maximum of two vehicles were observed to not clear the stop-line on Louden Way turning onto the A28. Vehicles turning right into Louden Way, cleared the junction within each cycle. Vehicle queues did not extend back from Tank Roundabout (470 metres to the north), allowing A28 northbound vehicles to discharge without constraint to clear the junction.

Railway Bridge

7.22 From the recorded camera footage, traffic is heavy but moving when lights green until 9:30

7.23 At the railway bridge traffic was observed starting to build up from Matalan roundabout from 7:30 and continuing to be very busy until 9:15.

7.24 The vast majority of the time the traffic is very slow but is continually moving. From initial viewing there were a few occasions when the traffic is fully stopped, this occurred during the most congested period of 8.15 and 8.45.

7.25 Screenshot photographs and 5 minute CCTV video footage is available which focuses upon queuing traffic during this brief peak period and can be provided on request.

Scope of VISSIM Assessment

7.26 KCC, with the advice of their highways consultant Amey, identified that in order to establish the critical highway capacity constraints on the A28 and the extent of the improvements needed to mitigate the impact of the proposed development that the A28 VISSIM model should be used. The model could also be used to provide evidence for the sequence of the implementation of the works.

7.27 To facilitate this, the VISSIM model has been updated and re-validated and has then been used to test the highway improvements proposed as set out in the drawings identified above.

7.28 The surveyed traffic information for the A28 undertaken in 2013 has been used to update the transport model and to validate the base model.

7.29 The modelling exercise comprises using the Ashford VISSIM transport model to test potential highway improvements using a cordoned section of theA28 Chart Road, to the west of Ashford town centre, between the Tank and Matalan roundabouts. The aim of the modelling exercise will determine the appropriate phasing of the improvement measures and define appropriate trigger points in relation to the build-out of the 5,750 dwelling Chilmington Green development.

7.30 The forecast assessments will be based upon a validated VISSIM base model of the A28 corridor which has been developed by KCC and Amey. The forecasting will assess defined scenarios in terms of the phasing and combinations of the proposed highway improvements for the weekday AM and PM peaks in the future year 2031. The highway improvements have been set out in four distinct phases as below:

- Matalan roundabout improvement;
- Tank roundabout improvement;
- Widening of existing over bridge to accommodate dualling of A28; and
- Loudon Way junction improvement.

7.31 Sensitivity testing has also been undertaken to help define appropriate trigger points for the implementation of proposed highway improvements in terms of development quanta build-out.

7.32 This modelling has been based on the Vectos improvement schemes as the previous Jacobs scheme plans were not available in a suitable format to allow the modelling to be undertaken. It was also determined that due to the strategic nature of this modelling there would be little difference between the two schemes.

7.33 The meeting was an interactive process undertaken by Amey with the results being regularly discussed at meeting with ABC, KCC and with Vectos.

Modelling Report Summary

7.34 A VISSIM modelling Technical Note has been produced by Amey. The report describes the aforementioned scenario options that have been assessed and is contained within **Appendix S**. This sets out the various options that were tested.

7.35 The key modelling output that has been applied to compare the different modelling scenarios is the number of unassigned trips added onto the network. Unassigned trips are vehicles that cannot easily enter onto the network, resulting in over-saturation of certain road links. This provides a measure of the capacity of the network.

7.36 Further modelling was undertaken of scenarios with no background traffic growth and this is reported in a further Technical Note produced by Amey that also considers peak period queue lengths and journey times. This is contained with **Appendix V**.

7.37 The results of this modelling can be summarised as follows:-

- The proposed improvements to the A28 will deliver sufficient increased capacity to accommodate the traffic associated with the proposed development;
- A comparison of the future situation with no development and no improvements to the situation of the development and the improvements having been implemented accommodate higher levels of traffic with reduced peak period queuing and shorter journey times;
- The improvements at Matalan Roundabout need to be completed prior to the occupation of 500 residential units on the site;
- The sequence then needs to be either the Railway Bridge or Tank Roundabout, but other factors will determine which can be implemented first;
- All of the improvements need to be in place by 2,500 units; and
- If the proposed improvements are implemented prior to the completion of 2,500 units then there are significant benefits.

7.38 The funding to allow the full implementation of the A28 improvement scheme will be provided in association with the proposed development. This will be in the form of a financial contribution to allow KCC to implement whichever scheme they determine is appropriate.

7.39 While the strategic modelling exercise identified the triggers for the first phase of the proposed improvements at Matalan roundabout being prior to the occupation of 500 residential units within the proposed development and that the full scheme should be implemented prior to the occupation of 2,500 units with the last phase being the Louden Way traffic signals it was not conclusive about the triggers for the widening of the railway bridge or the improvement of Tank roundabout.

7.40 There are other, practical considerations about the timing of these elements of work including when they could actually be constructed within the sequencing of the overall improvement scheme. It is therefore that either the railway bridge is widening or Tank roundabout improved prior to the occupation of 1,200 units and then the other element ie that which has not been implemented is then undertaken prior to the occupation of 1,900 units.

7.41 This is a practical approach to ensure that the whole improvement scheme is implemented in as short a programme as possible while the A28 is kept open to minimise disruption as far as possible.

Proportional Impact at the A28 Junctions

7.42 In order to indicate the level of traffic associated with the phasing of the Chilmington Green development, **Table 7.1** provides a summary of the proportional increase in traffic at each of the four junctions/sections of highway identified for improvement. The proportionate impact has been undertaken when compared to:

- A – the 2013 base traffic flows; and
- B – the 2031 future year base flows (2013 base & 39% TEMPRO growth factor uplift).

7.43 The proportionate impact assessment has been undertaken based on the two base traffic scenarios based on additional traffic growth associated with 500, 1,000, 1,500, 2,000, and 2,500 dwellings. The full results are presented in **Appendix H. Tables 7.1 & 7.2** provide a summary of the proportionate impact based on a 500 dwelling and 2,500 dwelling development scenario only respectively.

Table 7.1 – Proportionate Traffic Impact at the Off-Site A28 Junctions – AM Peak Hour – 500 Dwellings

Junction/Link	Development Flows (All Movements)	**2013 Base Flows (All Movements)**	**% Impact**	**2031 Base Flows (All Movements)**	**% Impact**
Tank Roundabout	111	2938	4%	4061	3%
Louden Way	125	2634	5%	3641	3%
Matalan Roundabout	154	2784	6%	3848	4%
A28 Railway Bridge	125	2411	5%	3333	4%

Table 7.2 – Proportionate Traffic Impact at the Off-Site A28 Junctions – AM Peak Hour – 2,500 Dwellings

Junction/Link	Development Flows (All Movements)	2013 Base Flows (All Movements)	**% Impact**	**2031 Base Flows (All Movements)**	**% Impact**
Tank Roundabout	557	2938	19%	4061	14%
Louden Way	627	2634	24%	3641	17%
Matalan Roundabout	770	2784	28%	3848	20%
A28 Railway Bridge	627	2411	26%	3333	19%

7.44 The results indicate that during the weekday AM Peak hour period, following the completion of the highway improvements at Matalan Roundabout, the increase in traffic flow compared to the 2013 base traffic will be 6%. All identified improvements will be delivered prior to the completion of 2,500 dwellings which will give rise to a maximum increase of 28% during the AM Peak hour. The greatest proportionate level of traffic impact will occur at the Matalan Roundabout which further confirms the VISSIM modelling analysis that the Matalan improvements should be delivered within phase1 (prior to the completion of 500 dwellings).

Proposed Improvements to Tank Roundabout

7.45 The proposed improvements to the A28 that were designed by Jacobs on behalf of KCC requires land that is outside the public highway. This proposed improvement scheme is

identified in WSP drawing **2761/GA/009 Rev B** and contained within **Appendix G**. The majority of the land required outside of the public highway is either owned by ABC who are supportive of the scheme or is within land controlled by the Chilmington Green Consortium. The exception to this is at Tank Roundabout where the proposed improvement scheme requires third party land. As the improvement scheme would be delivered by KCC this land can be secured if necessary through a CPO process. However, this has been considered further to ensure that the improvement scheme is deliverable.

7.46 Subsequently Vectos has designed a slightly more moderate improvement scheme that does not require third party land and there is therefore certainty that this scheme is deliverable. This scheme layout is indicated within drawing **131065-A-42 Rev B.** As set out above, this is the scheme that was used for the strategic modelling. This alternative improvement would address the impact of the traffic associated with the proposed development at Chilmington Green.

7.47 In response to a concern about this alternative scheme expressed by KCC, vehicle swept path analysis in demonstrating that HGV vehicles can negotiate the site in tandem is presented within drawings **131065-AT-B02 Rev A.**

ARCADY Analysis at Tank Roundabout

7.48 In order to compare the highway capacity performance of both the Vectos and KCC improvement schemes at Tank roundabout, a junction modelling exercise has been undertaken using the modelling software ARCADY.

7.49 Following discussions with Amey (KCC transport consultants), based on the lack of other committed developments within Ashford that would be expected to attract traffic onto the A28, the TEMPRO growth rates for 2013 to 2031 (+39% uplift) is considered to be an over-estimation of traffic growth on the A28 corridor. As such, two traffic flow scenarios were modelled for each of the improved roundabout layouts:

- 2013 (no growth) Base & Full build-out (5,750 dwellings); and
- 2031 Base & Full build-out (5,750 dwellings).

7.50 The results are presented in **Tables 7.3 & 7.4,** with full outputs contained within **Appendix T.**

Table 7.3 – Tank Roundabout Capacity – AM Peak Hour

2013 Base & Development AM Peak						
	KCC Design			Vectos Design		
	Queue (Veh)	Delay(min)	RFC	Queue (Veh)	Delay(min)	RFC
Carlton Road	0	0.17	0.28	0	0.17	0.29
A28 (South)	21	0.56	0.97	8	0.22	0.9
Sir Henry Brackenbury Rd	0	0.31	0.27	37	26.86	****
A28 (Templar Way)	1	0.05	0.56	2	0.07	0.63
Chart Road	1	0.13	0.51	1	0.18	0.58
2013 Base & Development PM Peak						
Carlton Road	9.57	2.03	0.97	39	7.2	1.36
A28 (South)	2.8	0.1	0.74	2	0.07	0.68
Sir Henry Brackenbury Rd	0.1	0.13	0.09	0	0.35	0.21
A28 (Templar Way)	2.73	0.08	0.73	5	0.14	0.83
Chart Road	0.95	0.17	0.49	2	0.35	0.67

Table 7.4 – Tank Roundabout Capacity – PM Peak Hour

2031 Base & Development AM Peak						
	KCC Design			Vectos Design		
	Queue (Veh)	Delay(min)	RFC	Queue (Veh)	Delay(min)	RFC
Carlton Road	2	0.72	0.71	3	0.96	0.77
A28 (South)	304	7.37	1.23	192	3.98	1.14
Sir Henry Brackenbury Rd	1	0.51	0.46	110	166666666.7	****
A28 (Templar Way)	3	0.08	0.73	5	0.15	0.83
Chart Road	7	0.7	0.9	47	3.94	1.15
2013 Base & Development PM Peak						
Carlton Road	222	55.95	7.9	303	93.71	6.66
A28 (South)	9	0.26	0.91	5	0.13	0.83
Sir Henry Brackenbury Rd	0	0.2	0.18	9	6.87	1.24
A28 (Templar Way)	13	0.32	0.94	93	1.91	1.07
Chart Road	21	2.49	1.06	120	18.3	1.61

7.51 **Table 7.3** indicates that when applying the 2013 & development flows, both the KCC and Vectos improved roundabout layouts can accommodate the anticipated traffic levels with all approaches operating with all approaches operating within capacity with the exception of Sir Henry Brackenbury Road under the Vectos layout, which is a minor arm.

7.52 Of the A28 approaches, the RFC is actually greater under the KCC layout design, with the A28 south recording an RFC of 0.97 and a corresponding maximum queue of 21 vehicles, whereas

the Vectos scheme reports and RFC of 0.9 and a corresponding maximum queue of 8 vehicles.

7.53 **Table 7.4** represents a worst case scenario in terms of overall background traffic growth and demonstrates that both KCC and Vectos design layouts would operate beyond highway capacity. As referenced in paragraph 5.22, the anticipated traffic flows will more accurately be represented by the 2013 & development flows due to a combination of peak hour spreading, re-distribution of traffic and mode shift onto non-car modes.

Safety Audit

7.54 A safety audit has been undertaken of the Vectos design and this is contained in **Appendix U,** together with a Designer's Response. This identifies a number of issues with the initial design including around pedestrian facilities, land markings and works at the rear of footways where there are levels differences. It does not raise any issues about the potential for side swipe accidents which was the concern KCC raised with this alternative scheme.

7.55 In fact when asked about the differences between the KCC scheme shown on the WSP plan and the scheme designed by Vectos the auditor raised a concern over the availability of the land outside of the public highway.

Tank Roundabout Summary

7.56 The scheme promoted by KCC requires third party land and this would need to be secured. To ensure that there is certainty that the roundabout can be improved to accommodate the traffic associated with the proposed development an alternative scheme that can be implemented within the public highway has been designed.

7.57 The capacity of the larger KCC scheme is greater, but the alternative scheme has greater capacity on the A28.

7.58 KCC expressed concern about HGVs using the alternative improvement and the risk of side swipe accidents. This is not shown in the swept path analysis undertaken and was not raised by the independent safety audit undertaken.

7.59 In summary, if the third party land cannot be secured by KCC there is an alternative scheme at this roundabout that can be implemented that will accommodate the traffic associated with the Chilimington Green development.

Railway Bridge

7.60 The scheme designed by Jacobs on behalf of KCC shows a new railway bridge to the east of the existing road bridge and it is understood that Network Rail has accepted this new structure in principle which gives certainty about the delivery of the improvement scheme.

7.61 The alternative and more cost effective option of using the existing service bridge has been considered and is feasible in terms of the road design. However, at this time of writing this report Network Rail had not confirmed the loading capacity of the service bridge and whether it would be able to carry a road.

7.62 Against the context of a feasible solution existing ie a new bridge it is recommended that further discussions are held with Network Rail to achieve the most cost effective scheme which could be the use of the service bridge.

KCC Progress

7.63 KCC's commitment to moving the A28 improvement scheme forward is demonstrated by the fact that a LEP funding bid has been submitted to bring the scheme forward.

7.64 A Scoping Report is also being prepared by KCC to determine whether an Environmental Impact Assessment will need to be undertaken for the improvement scheme and this will be submitted shortly.

7.65 There is certainty that the proposed scheme will be implemented to ensure that the implications of traffic associated with the Chilmington Green development will be addressed and there is no delay to the delivery of the housing.

A28 Summary

7.66 The funding to allow the full implementation of the A28 improvement scheme will be provided in association with the proposed development. This will be in the form of a financial contribution to allow KCC to implement whichever scheme they determine is appropriate.

RIF Funding

7.67 In addition to the funding for the A28 improvements, a contribution to the RIF funding will be made in association towards the recouping of the funding used for the improvements that have already been implemented at the Drovers Roundabout and at J9 of the M20.

Section Summary

7.68 The site access works have been re-designed and amended plans submitted which has been approved in principle by KCC.

7.69 Significant additional work has been undertaken on the proposed A28 improvement scheme to demonstrate that it is deliverable and would mitigate the impacts of traffic associated with the proposed development.

7.70 Funding will be provided in association with the proposed development to allow the improvement of the A28 from Matalan through to Tank Roundabout.

7.71 Additional funding will be provided towards the recovery of the costs of the improvement works at Drovers Roundabout and at J9 of the M20 in line with the RIF funding.

7.72 These works address the offsite highway implications of the traffic associated with the proposed development and would ensure that there is no residual impact.

8 TRAFFIC CALMING STRATEGY

8.1 This chapter focuses upon the comments/issues raised in relation to the traffic calming scheme and the future monitoring of traffic relating to the development, as set out at stakeholder comments 21(o), 178 and 179 in **Appendix A**.

8.2 Traffic calming scheme designs were submitted within the Transport Assessment for Great Chart and Magpie Hall Road. Stakeholder feedback on the proposed schemes was provided by ABC as set out below.

Comment 21(o):"the traffic calming measures proposed on drawing 2761/SK/049 Rev A show chicane style build outs without any cycle bypass measures in the design. Thus cyclists are forced out into the traffic. Alternative traffic calming measures should be used, or by pass measures for cyclists introduced."

8.3 The measures for both schemes have been reviewed in line with stakeholder comments and the revised schemes, which aim to reduce rat-running traffic and reduce vehicle speeds/improve driver behaviour in these sensitive areas, are discussed for Great Chart and Magpie Hall Road separately below.

8.4 To assist with the design of the proposed traffic calming scheme in Great Chart and on Magpie Hall Road traffic and speed surveys were undertaken in both roads during 2013. The results of these surveys are contained in **Appendix J.**

Great Chart

8.5 The main objectives for traffic calming in Great Chart is to reduce the rat-running of traffic through the village at peak periods (especially the weekday AM peak) to avoid the congestion on the A28 and to ensure that construction traffic does not pass through the village.

8.6 The first stage in this strategy is to improve the A28 to make this route more attractive than the alternative route of using Chart Road, this would be complemented by the traffic calming if needed.

8.7 The routing of construction traffic will be controlled by the Construction Management Plans and will use the A28 and will not pass through Great Chart.

8.8 The level of traffic passing through Great Chart will be monitored as the development progresses and the traffic calming will only be implemented if there is more than a 10% increase in either total traffic or HGVs using the road through the village.

8.9 This will avoid an impact on residents driving to/from the village from the traffic calming scheme, before the scheme is needed.

8.10 The revised traffic calming scheme has been designed to comprise improved village gateways and chicanes withy cycle bypass, which will complement the existing road narrowing already present on Chart Road.

8.11 The measures are focussed outside the centre of Great Chart, as the centre is subject to pedestrian movement and on-street parking, which will provide an element of natural traffic calming and speed reduction.

8.12 The proposed Great Chart traffic calming scheme is shown in **drawing 131065-A-24 Rev B** in **Appendix K**, while the measures are discussed below.

- Upgraded village gateway features – these will comprise coloured tarmac, dragon's teeth, speed limit roundels and gateway signs on the verges carrying the village name. The gateways are proposed at the southern end of Chart Road (approx. 150m northeast of the junction with the A28) and on Chart Road to the northeast of Great Chart (approx. 300m from the Matalan roundabout junction).
- Road Narrowing – two sets of narrowings are proposed between Ashford Friars School and St Mary's church, and approximately 300m northeast of the junction with Ninn Lane. In direct response to stakeholder feedback cycle bypasses have been incorporated into the design of these measures ensuring that cyclists are afforded priority. Illuminated bollards and supporting signage are proposed to ensure highway safety for motorists.

8.13 The proposed traffic calming measures in Great Chart have been discussed with representatives of the Parish Council who indicated their in-principle approach to the proposed traffic calming and the monitoring of traffic to determine when the traffic calming is needed.

Magpie Hall Road

8.14 The revised traffic calming scheme has been designed to comprise village gateways and speed limit roundels, which will act as reminders to motorists and reduce vehicle speeds through this sensitive residential area.

8.15 The proposed Magpie Hall Road scheme is shown in **drawing 131065-A-25** Rev B in **Appendix K**, while the measures are discussed below.

- Upgraded village gateway features – these will comprise coloured tarmac. The gateways are proposed at the western edge of Stubbs Cross (approx. 200m east of Tally Ho Road) and on the eastern edge of Stubbs Cross on Magpie Hall Road (approximately 350 metres to the west of the junction with Ashford Road.
- Speed limit roundels – these comprise red coloured tarmac along with painted speed limit on the carriageway. They are proposed equidistant between the village gateways to serve as a speed limit reminder to motorists.

8.16 In addition to the above, a section of footway is proposed between Wainscot and Kingsthorne Farm on the southern side of Magpie Hall Road. This will improve safety for pedestrians on the bend and is in line with the aspiration set out within the Chilmington Green AAP.

8.17 In a similar way to Chart Road, it is proposed that the level of traffic using Magpie Hall Road is monitored and that the traffic calming is implemented at the stage if there is more than a 10% increase in either total traffic or HGVs using the road through the village.

8.18 The proposed footway will be implemented during stage 4 of the development when the footway within the site is constructed so that there is a link between the site and the village.

8.19 The proposed traffic calming measures have been discussed with representatives of the Parish Council who indicated their in-principle approach to the proposed traffic calming and the monitoring of traffic to determine when the traffic calming is needed.

Shadoxhurst

8.20 Following extensive public consultation presentations and discussions with the local residents of Shadoxhurst Village, it was agreed that traffic calming measures would be proposed on Tally Ho Road, Hornash Lane, and Woodchurch Road.

8.21 Initially two options were prepared, but following more discussions the proposed approach is shown on drawing **131065-A-60 in Appendix K** and comprises:-

- Village gateway features and dragons teeth visual features and is based on retaining the existing 40 mph speed limit.

8.22 The features will act as reminders to motorists and reduce vehicle speeds through this sensitive residential area.

8.23 The potential for reducing the speed limit within the village to 30 mph will be investigated when the traffic calming scheme is designed in detail.

8.24 The proposed traffic calming measures have been discussed with representatives of the Parish Council who indicated their in-principle approach to the proposed traffic calming and the monitoring of traffic to determine when the traffic calming is needed.

Funding and Delivery

8.25 It has been agreed through discussions with KCC and ABC that the schemes will be delivered by KCC, with the developer consortium contributing the costs of delivery. This will allow KCC to undertake consultation with local community groups and allow flexibility to amend the schemes in line with feedback received prior to implementation, if this proves necessary.

8.26 While the timing of the implementation of the traffic calming will be subject to the future monitoring of traffic funding will be put in place to allow the schemes to be implemented through the S106 agreement.

Monitoring of Development Impacts

8.27 In addition to the monitoring identified above in Great Chart and on Magpie Hall Road in relation to the traffic calming there is a need for the monitoring of the transport implications of the development in terms of the Travel Plan(s). KCC also wish to see monitoring of the

impact of the traffic associated with the development on a number of the roads around the site.

8.28 In addition to the monitoring of Great Chart and Magpie Hall Road, KCC also wish to see monitoring of the minor access road to the development including on Mock Lane, Cuckoo Lane, Criol Lane and Tally Ho Road. These are the local roads that give access to the site. KCC also wish to see monitoring of the increases in traffic on the A28 as the development progresses.

8.29 In the light of the above it is proposed that ATC (Automatic Traffic Counts) are undertaken on the above roads prior to construction of the development commencing and then at the end of each of the four development phases. In addition to this, KCC and/or local residents could request one further set of traffic surveys at any stage within the development.

8.30 This would be a total of up to 6 traffic surveys (one before development commences, one at the each of the four development phases and one on request). A plan showing the locations of the future traffic surveys as shown on **drawing 131065-A-61 Rev A** and is contained in **Appendix L.**

Section Summary

8.31 This section of the report outlines the proposed traffic calming schemes and how the monitoring of the traffic associated with the development will be undertaken for a number of reasons:-

- To determine when the traffic calming schemes are needed;
- To monitor the impact of traffic associated with the development on local roads; and
- To monitor the impact of traffic associated with the development on the A28.

9 PUBLIC TRANSPORT STRATEGY

9.1 In terms of general public transport infrastructure the Design Code for Chilmington Green, once adopted, will provide the palette of materials which will include bus shelters, raised kerbs, bus stop flags and posts, which are acceptable to KCC and referenced within the Kent Design Guide.

9.2 Stakeholder response comments were received from ABC, KCC and Stagecoach Kent on a range of issues. These are included in full within **Appendix A** (comments 166 - 174c), and are summarised as falling in to the following categories:

- Bus routeing and journey times;
- Bus mode share;
- Bus priority measures;
- Bus infrastructure;
- Service procurement; and
- Bus travel incentives and Travel Plan.

9.3 Following the receipt of stakeholder comments, the public transport strategy was discussed with ABC, KCC and Stagecoach Kent at a meeting in September 2013. The following bus strategy to serve the development reflects the discussions at the meeting.

Bus Routing and Journey Times

9.4 It was agreed at the public transport meeting that the preferred routeing for the Chilmington Green bespoke bus service is as follows:

- Northern site access to A28
- Tithe Barn Lane
- Knoll Lane
- Brookfield Road
- Leacon Road – Victoria Way
- Beaver Road
- Elwick Road
- A292 Somerset Road
- A2042 Station Road

9.5 Discussions with Stagecoach Kent identified that average bus speeds in Kent are approximately 12mph, taking into account delays associated with peak traffic, passengers boarding and alighting, etc. Taking this speed into account, **Table 9.1** below summarises the distance and potential bus journey times from the Chilmington Green district centre.

Table 9.1: Potential Bespoke Bus Service Journey Times

Location	Distance from CG District Centre	Assumed Journey Speed	Forecast Journey Time
Ashford International Station[1]	3.42 miles	12 mph	17.1 minutes
Ashford Town Centre	3.85 miles	12 mph	19.3 minutes

[1] Assumes access via 'international' side of station and early drop-off at Victoria Way/Beaver Road junction

9.6 The application of the 12mph journey speed provides fairly crude journey times, which do not make allowance for time saving brought about by bus priority measures, or additional journey time through internal routeing within the development; these are considered below.

9.7 Bus priority measures are proposed at the Knoll Lane /Brookfield Road and Victoria Way/Beaver Road junction that, in addition to the phased A28 improvement scheme, will realise improvements in overall journey times between the site and Ashford town centre.

9.8 Whilst the actual time saving brought about by bus priority measures is difficult to forecast, it is considered that a robust assessment would be that 1 minute could be saved at each of the improved junctions on the bespoke bus route. As this would comprise the Knoll Lane/Brookfield Road and Victoria Way/Beaver Road junctions, it is considered that the journey times would be reduced by 2 minutes.

9.9 Conversely the journey times in **Table 9.1** do not take account of bus routing within the development. The internal bus route within the site is approximately 2 miles long, therefore the distance between the southernmost point in the site and the district centre would be 1 mile. This could add a further potential 5 minutes to the overall journey time from the furthest part of the site. The revised total and average journey times between the site and Ashford International/Town Centre are set out in **Table 9.2** below.

Table 9.2: Forecast Average Bus Journey Times to Ashford

Location	Journey Time from District Centre	Journey Time from Southern part of Site	Average of Journey Times
Ashford International Station[1]	15.1 minutes	20.1 minutes	17.6 minutes
Ashford Town Centre	17.3 minutes	22.3 minutes	19.8 minutes

[1] Assumes access via 'international' side of station and early drop-off at Victoria Way/Beaver Road junction

9.10 It is worth noting that the above are considered on the basis of the conservative 12mph bus speed, and should therefore be seen as a worst case assessment. For the sake of further assessment, it is considered that the bespoke bus service could realistically achieve an average 20 minute journey time between the site and Ashford Town Centre.

9.11 This journey times identified above would allow the provision of one dedicated bus to achieve a 40 minute headway frequency, which could be provided from day 1 of the development. As the development gathers pace, the introduction of a second would double the provision to achieve a 20 minute headway frequency. Three buses would allow a 13-14 minute headway frequency, while 4 buses would allow a 10-minute headway frequency to be achieved.

9.12 The proposed phasing of the introduction of bus services along with hourly capacity versus predicted trips is shown in **Table 9.3** below.

Table 9.3: Potential Bespoke Bus Service Frequency

Phase	Housing Delivery	Cumulative Total	Bus Service Frequency (minutes)	Buses Required	Buses Per Hour
1a	0-200	200	40	1	1.5
1b	1,122	1,222	20	2	3
2	1,550	2,772	13-14	3	5
3	1,335	4,107	13-14	3	5
4	1,643	5,750	10	4	6

9.13 To facilitate these bus services some pump-priming subsidies may be needed and the level of these subsidies will be agreed as part of the negotiation of the S106 agreement associated with any planning consent granted.

Bus Mode Share

9.14 Policy CG12 of the AAP states that "public transport services from Chilmington Green shall be designed to deliver at least a 20% public transport mode share for trips to and from the site".

9.15 At the meeting in September 2013 it was agreed that the bus service would need to be phased in order to avoid running empty buses and ensure that the service achieves value for money. It is also noted, however, that the phased introduction of bus services should ensure that bus travel represents a realistic alternative to car based travel, and as such early delivery is crucial.

9.16 The phased introduction of the bus service means that the achievement of the 20% bus mode share should be viewed as the target for the Chilmington Green development upon full occupation and realisation of the high frequency bus service, i.e. when the development and bus service reach 'critical mass'. The Supplementary Travel Plan contains details of the programme of monitoring and review of the bus mode share and measures that can be put in place should the development not meet the targets set out above.

9.17 It should also be noted that the achievement of a 20% bus mode share at Chilmington Green will also be reliant on realistic journey times between the site and Ashford Town Centre, which in turn will be supported by the provision of bus priority measures; these are discussed below.

Bus Priority Measures

9.18 Comments 171 (Stagecoach Kent) and 180h (KCC) set out the importance of bus priority measures between the site and Ashford Town Centre. The full comments are provided at **Appendix A**, while the points raised are discussed below.

9.19 It was agreed at the meeting that bus priority measures would be investigated at three key locations. These are summarised below and discussed in the following paragraphs.

- Tithe Barn Lane/Knoll Lane
- Knoll Lane/Brookfield Road
- Victoria Way/Beaver Road

Tithe Barn Lane/Knoll Lane

9.20 The Tithe Barn Lane/Knoll Lane junction comprises a priority junction with Tithe Barn Lane giving way to Knoll Lane. Delays are currently experienced by existing bus services turning left on to Knoll Lane which are required to wait for general traffic giving way to traffic on Knoll Lane.

9.21 A preliminary design has been undertaken changing the priority of this junction to allow continuous movement from Tithe Barn Lane to Knoll Lane north. A ghost-island right turn was incorporated in the design to reduce delays to traffic turning right in to Knoll Lane south. The preliminary design is shown in **drawing 131065-A-26** included at **Appendix M**.

9.22 Traffic surveys were undertaken at the junction to determine the prevailing traffic movements, which identified that Knoll Lane experiences heavy north/south movements during the peak hours. Delays are experienced by traffic on Tithe Barn Lane with queues reaching up to 8 vehicles at the busiest times.

9.23 The potential junction amendment was modelled using PICADY to ascertain the effects on general traffic. The modelling concluded that the junction would operate within design capacity. However due to the alignment of the junction, it is considered that the junction amendment could result in excessive delays for northbound traffic on Knoll Lane and traffic turning right into Knoll Lane south.

9.24 The safety for traffic using the amended junction was also considered. It was felt that the change in junction priority would be confusing for drivers. It was felt that it would be difficult for traffic to make the right turn from Tithe Barn Lane to Knoll Lane without conflicting with traffic in using the new priority route at the junction.

9.25 Due to the concern over the capacity of this junction and more importantly, the safety of the junction it is not proposed that this amendment to the junction is taken forward.

Knoll Lane/Brookfield Road

9.26 The Knoll Lane/Brookfield Road junction comprises a signalised junction. Delays to bus services would be experienced as buses are required to queue with other traffic awaiting a green signal.

9.27 An improvement scheme has been identified that provide a separate bus priority lane for the left turn from Knoll Lane to Brookfield Road, and vice-versa to allow buses to progress in advance of general traffic. Following discussions with Kent County Council, it was agreed that the bus priority lane could be converted into a general traffic lane, increasing the overall design capacity on Knoll Lane from one to two lanes and reducing vehicle queues on this link. The proposed design is shown in **drawing 131065-A-64** included at **Appendix M**.

9.28 The developer will provide a contribution to the value of the identified junction enhancement works, such that the works can be delivered by KCC as highway authority.

Initial Junction Capacity Analysis of Brookfield Road-Knoll Lane Bus Priority

9.29 Traffic surveys were undertaken at the Brookfield Road-Knoll Lane junction on Wednesday 27th November 2013. The traffic surveys are included at **Appendix N**.

9.30 The traffic signal phasing and staging information has been received from KCC and has been used to prepare the model of the existing junction. It should be noted that this exercise has been undertaken to demonstrate how the junction enhancement works are feasible and can be delivered. However, prior to the implementation of junction enhancement works at this junction, more detailed traffic signal analysis would be required.

9.31 At the time of commissioning the surveys it was not known that the Brookfield Road-Clockhouse junction is controlled by the same signal controller and that the junction operates as a single staggered signal control junction. Therefore it has been necessary to assume the traffic flows at the Clockhouse approach.

9.32 It has been assumed that 50 PCU's turn right into and left out of the Clockhouse approach during the AM and PM peak hours. This is considered to be a robust assumption as Clockhouse is a residential access road that is unlikely to carry through traffic. It has also been assumed that a proportion of the traffic entering and exiting the junction from the Brookfield Road (E) approach will have originated from/departed the Clockhouse approach in the AM peak. This has been mirrored in the PM peak.

9.33 A summary of the observed (2013) and assumed AM peak traffic flows are shown in **Table 9.4** and **9.5**.

Table 9.4: Observed (2013) AM Peak Traffic Flows (PCU's)

	Brookfield Road (E)	Knoll Lane	Brookfield Road (W)	Total
Brookfield Road (E)	0	177	540	717
Knoll Lane	157	0	369	526
Brookfield Road (W)	441	128	0	569
Total	598	305	909	1812

Table 9.5: Observed (2013) AM Peak Traffic Flows (PCU's) – Including Clockhouse Assumption

	Brookfield Road (E)	Knoll Lane	Brookfield Road (W)	Clockhouse	Total
Brookfield Road (E)	0	150	480	50	680
Knoll Lane	140	0	369	17	526
Brookfield Road (W)	421	128	0	20	569
Clockhouse	50	27	60	0	137
Total	611	305	909	87	1912

9.34 A summary of the observed (2013) and assumed PM peak traffic flows are shown in **Table 9.6** and **9.7**.

Table 9.6: Observed (2013) PM Peak Traffic Flows (PCU's)

	Brookfield Road (E)	Knoll Lane	Brookfield Road (W)	Total
Brookfield Road (E)	0	148	478	626
Knoll Lane	167	0	175	342
Brookfield Road (W)	631	319	0	950
Total	798	467	653	1918

Table 9.7: Observed (2013) PM Peak Traffic Flows (PCU's) – Including Clockhouse Assumption

	Brookfield Road (E)	Knoll Lane	Brookfield Road (W)	Clockhouse	Total
Brookfield Road (E)	0	131	458	50	639
Knoll Lane	140	0	175	27	342
Brookfield Road (W)	571	319	0	60	950
Clockhouse	50	17	20	0	87
Total	761	467	653	137	2018

9.35 The existing junction has been modelled using LinSig. The junction has been modelled with a 90 second cycle time and it has been assumed that the pedestrian stage is called every other cycle, meaning the pedestrian stage is called an average of once every 3 minutes over the course of the modelled hour.

9.36 The full LinSig output of the existing junction is included at **Appendix O**. A summary of the results of the modelling under the loading of the AM peak traffic flows is shown in **Table 9.8**.

Table 9.8: Existing Brookfield Road-Knoll Lane-Clockhouse Junction Modelling Summary

Link	Lane	Weekday AM Peak		Weekday PM Peak	
		DoS	MMQ (PCU)	DoS	MMQ (PCU)
1/1+1/2	Brookfield Road (Eastbound) Ahead	46.4%	6	65.8%	8
1/3	Brookfield Road (Eastbound) Right	72.6%	5	75.0%	10
2/1	Brookfield Road (Westbound Internal) Ahead Left	68.9%	2	59.6%	1
2/2	Brookfield Road (Westbound Internal) Ahead	69.9%	3	59.0%	1
3/1	Knoll Lane Left Right	72.7%	14	74.8%	10
5/1	Brookfield Road (Eastbound Internal) Left Ahead	55.5%	3	74.3%	4
5/2	Brookfield Road (Eastbound Internal) Ahead	58.4%	4	75.8%	5
7/1	Clockhouse Right Left	21.3%	3	21.4%	2
8/1	Brookfield Road (Westbound) Ahead	64.9%	8	58.3%	7
8/2+8/3	Brookfield Road (Westbound) Ahead Right	71.4%	9	66.7%	8
Cycle Time (sec)		180 (Double Cycle)		180 (Double Cycle)	

9.37 The results show that the existing junction operates within design capacity with minimal queuing on all approaches. The maximum queue of 14 PCU's occurs on the Knoll Lane approach during the AM peak hour, with an associated DoS of 72.7%.

9.38 The LinSig output of the proposed junction is included at **Appendix O**. A summary of the results of the modelling is shown in **Table 9.9**. The bus lanes are modelled as a separate stage that is called every other cycle. The models have been optimised to minimise vehicle queues on the links with the cycle time reduced from 90 seconds to 60 seconds with double cycling.. The pedestrian stage has again been called every other cycle, equating to every 2 minutes.

Table 9.9: Proposed Brookfield Road-Knoll Lane-Clockhouse Junction Modelling Summary

Link	Lane	Weekday AM Peak		Weekday PM Peak	
		DoS	MMQ (PCU)	DoS	MMQ (PCU)
1/1+1/2	Brookfield Road (Eastbound) Ahead Right	38.2%	4	49.7%	5
1/3	Brookfield Road (Eastbound) Right	49.7%	2	82.5%	8
2/1	Brookfield Road (Westbound Internal) Ahead Left	80.6%	7	79.1%	7
2/2	Brookfield Road (Westbound Internal) Ahead	82.8%	9	81.3%	8
3/1	Knoll Lane Left/Right	89.4%	11	80.7%	5
5/1	Brookfield Road (Eastbound Internal) Left Ahead	59%	5	81.8%	8
5/2	Brookfield Road (Eastbound Internal) Ahead	62.1%	5	83.5%	10
7/1	Clockhouse Right Left	30.1%	2	40.5%	2
8/1	Brookfield Road (Westbound) Ahead	45.9%	4	38%	4
8/2+8/3	Brookfield Road (Westbound) Ahead Right	53.6%	5	46.6%	5
Cycle Time (sec)		120 (Double Cycle)		120 (Double Cycle)	

9.39 The results show that the proposed junction would operate with additional design capacity with minimal queuing on all approaches. The maximum queue of 11 PCU's occurs on the Knoll Lane Left/ Right approach during the weekday AM peak, with a corresponding DoS of 89.4%.

9.40 There are a number of occasions when the modelled queue extends beyond the physical lane length of the internal lanes. LinSig is unable to model the impact that this would have on the operation of the junction, although it is not excessive and the initial assessment indicates that the modification is feasible, particularly when considering the improvement that it would bring for buses and general traffic.

9.41 This improvement could either be implemented in association with the proposed development or a contribution could be paid to allow the works to be implemented.

Victoria Way/Beaver Road

9.42 At the meeting in September 2013, Stagecoach identified concerns with delays of up to 8 minutes for bus services accessing the domestic side of Ashford International rail station (via the Station Loop) on the way to Ashford Town Centre.

9.43 It was agreed to investigate the potential for bus stop facilities, in combination with bus priority, at the junction of Victoria Way/Beaver Road. This could allow passengers to alight the service to access Ashford International rail station via the international side. This could allow buses to continue on Beaver Road to Ashford town centre without the need to visit the station directly, which could be done on the return leg. The route between the international and domestic sides of the station is DDA (Disability Discrimination Act) compliant with lifts provided ensuring ease of pedestrian movement.

9.44 A bus priority lane incorporating bus stop facilities was designed using land within the northwest quadrant of the junction. However, after further discussions with ABC and KCC the option of providing an additional bus stop on Beaver Road adjacent to the existing bus stop is proposed. ABC has concerns about the benefits of this layby against the impacts on the public realm design and whether the objectives of works in this area could be achieved without a negative impact on the design of the area.

9.45 A new layby would not lead to any direct reduction in journey times. Whilst this may be the case as it is proposed to provide an additional bus stop at this location, reference can be made to the issues raised by Stagecoach that delays of up to 8 minutes can occur for buses accessing the domestic side of Ashford International Rail Station.

9.46 The use of the new bus stop on Beaver Road would allow pedestrians to easily cross in accessing the station and negate the need for the bus to access the station loop, saving up to 8 minutes in total journey time.

9.47 Subsequently, and based on the conservative 12 mph average speed limit assumed as agreed with Stagecoach, Vectos are of the view that a 20 minute journey time is deliverable particularly within the first two phases, whereby the loop distance around the site is less than during the later phases. By removing the requirement to stop at the domestic rail station loop, a <20 minute journey time can be achieved.

9.48 The journey time survey analysis for the surveys undertaken in September 2013 is contained within **Appendix C**. A summary of the mean average speeds recorded over either 4 or 5 complete timing routes for the AM, PM and Inter-peak periods is provided within **Table 9.10.**

Table 9.10 – Comparison of Average Journey Speeds

Time Period	Average Speed
AM Peak	18
Inter-Peak	16
PM Peak	18
Total Mean Average	17.6

9.49 As can be seen from the table, the average vehicle speeds typically fluctuate between 16-18mph as recorded from the journey time surveys. The journey time surveys did not involve the vehicle stopping at bus stops and therefore an assumption of 12mph average speed to include delay associated with stopping for boarding/alighting passengers can be considered robust.

9.50 Based upon a conservative 12mph average speed, the one-way journey time between the site and Ashford Town Centre is 19-22 minutes, however when a 17.6 mph average speed is applied, the journey time reduces to 13-15 minutes.

9.51 In light of the above, the developer will provide a contribution to the value of the identified bus priority works, such that should ABC/KCC be able to negotiate the re-designation of this land as public highways with the HCA, the funds are available to deliver it.

Bus Infrastructure

9.52 Bus stop locations have been identified throughout the development aimed at ensuring that the maximum level of development is within a 400 metre walk of the bus service. The bus stop locations are shown on **drawing 131065-A-23** included at **Appendix P**.

9.53 During the later phases of development, a loop will be formed for the bus service; however this will not be present for Phase 1. As a result a turning facility will be provided to allow for buses to turn within the district centre.

9.54 The Chilmington Green Design Codes work has taken into account the carriageway widths along the proposed bus route within the development such that on-street parking will not impact on the smooth running of the bus service.

9.55 It is acknowledged that real-time public transport information is now readily available via mobile phone handsets, therefore is it not proposed to provide real-time information at bus stops. The developer(s) will work with the bus operator to ensure that information regarding

bus frequencies is disseminated to passengers through the appropriate web-sites links or mobile phone 'apps' via the Travel Plan. Information will also be posted at bus stops informing passengers how to access this information.

Bus Service Procurement

9.56 At the meeting attendees agreed that the bespoke bus service should be tendered in order to realise the most competitive deal for future operation. The tender specification should include information on triggers for bus service provision, along with agreed routing, and should comprise good quality buses.

9.57 It was also agreed that the developer need not purchase the buses directly as operators can get good bulk discounts for buses. The purchase of buses should be included in the tender specification for the bus service. The tender specification should ensure that operators are also able to use different sized vehicles to allow flexibility and value for money during the phasing of provision.

9.58 It is the developer's preference that the procurement of a bus service for a period of 5 years would be undertaken through liaison with KCC's Transport Integration Team to ensure that an appropriate level of frequency is provided during each phase of the development and that once the developer "pump prime" funding finishes, the bus operator is committed to ensuring the continuation of the bus service provision.

9.59 In reference to delivering a 10 minute service frequency, Vectos has assumed that this would require a total of 4 buses.

9.60 It is noted that there are 3 trains per hour from 7am-8am from Ashford International Rail station and 3 trains per hour between 5pm-7pm. The service frequency of the public transport strategy would be co-ordinated to ensure that the HS1 rail timetable to London St. Pancras could be accommodated.

9.61 The bus service funding and procurements will be secured through the S106 agreement.

Bus Travel Incentives and Travel Plan

9.62 The submitted Travel Plan contained a range of measures to encourage public transport use, including the provision of £100 worth of free travel passes to residents of Chilmington

Green. It is noted that in order to incentivise travel by bus in order to seek to meet the 20% mode share target, further incentive for residents may be required.

9.63 It is noted that bus operators are best placed to offer discounts/subsidised travel to passengers, therefore it is proposed that the developer will work with the bus service provider to secure an increased level of bus travel provision. It is proposed that all residential properties are provided with bus debit/smart cards pre-loaded with for example £50-100 of credit for bus travel.

9.64 The developer would fund a bus travel debit card credited with a pre-defined amount of money. The credit would be equivalent to a month's free travel and could potentially be undertaken in association with plusbus. An Ashford PLUSBUS ticket gives you unlimited bus travel on participating operators' services, around the whole urban area of Ashford and Wye. The participating partners include: Stagecoach, Kent Coach Tours, and Regent Coaches.

9.65 The developer will provide a safeguarded sum of money for residential travel passes against which the bus operating company can draw-down to fund this travel. This would allow the provision of a tangible incentive to residents whilst also delivering best value in terms of funding provided (i.e. all funds are not required on day one of development, however a commitment is provided for safeguarded funding in line with demand).

9.66 It is considered that the bus travel incentives should form an integral part of the bus tender specification. The provision of the bus incentive measures will be detailed further within the Supplementary Travel Plan.

Section Summary

9.67 This section has demonstrated how bus services to the development can be provided as the development progresses and how bus priority measures can be provided.

9.68 It also identifies how subsidised bus travel can be provided for new residents on the development.

10 OTHER TRANSPORT ISSUES

10.1 This Supplementary Transport Assessment has addressed all of the stakeholder comments as summarised in **Appendix A** in the proceeding sections. Other comments and issues that have been discussed include those on Travel Plans and Section 106 Agreement are discussed in the paragraphs below.

Travel Plans

10.2 In addition to the additional work undertaken that has been identified above, the Travel Plans that were submitted with the planning application have been amended in the light of the comments made. These Supplementary Travel Plans are contained in **Appendix Q.**

10.3 These Travel Plans can be secured through planning conditions to require that they are submitted and approved prior to the occupation of the element of the proposed development that they refer to.

10.4 Travel Plan monitoring would be undertaken through travel plan questionnaire surveys and household surveys on a biennial basis (every 2 years) as the scheme is delivered over a period of circa 15 years.

10.5 ATC surveys or permanent loops in the carriageway would be implemented to record and monitor any changes in traffic flow and determine whether mitigation such as the proposed traffic calming measures are required to be implemented.

A monitoring report would be provided which could be assessed using the "Jambusters" Travel Plan Management System or a similar approach.

S106 Agreement

10.6 KCC made comments in 180 recorded in **Appendix A** about measures that would need to be included within the S106 Agreement that would be associated with any planning consent granted as follows:-

- **Phased contributions towards the improvements of the A28 Chart Road (between Matalan Roundabout and Tank Roundabout) in line with the roll out of the development** – discussed in Section 7;

- **Traffic Management: Traffic Monitoring and Management Strategy** – discussed in **Section 8**;
- **Public Transport Services**: off-site improvements and revenue contributions to meet the additional costs associated with local bus provision – discussed in **Section 9**;
- **Travel Plans**: – discussed in **Section 10** and **Appendix Q;**
- **Off Site Walk/Cycle Links**: – discussed in **Section 3;**
- **Off-site Public Rights of Way**: – discussed in **Section 3**;
- **Public Transport Infrastructure / priority measures**: – discussed in **Section 9**;
- **Construction Management Strategy**:– discussed in **Section 4;**
- **Community Transport**:- More details are needed on what is required – related to the bus services discussed in **Section 9**; and
- **Commuted sums for maintenance**– linked to the measures discussed in **Section 9**.

Section Summary

10.7 This section of the report considers the comments made in relation to the Travel Plans associated with the proposed development.

10.8 The comments made by KCC on the S106 agreement are considered and are related to the earlier sections in the report.

11 SUMMARY AND CONCLUSIONS

Summary

11.1 Vectos has been retained by the Chilmington Green Consortium to produce a Supplementary Transport Assessment (STA) responding to stakeholders comments provided on the planning application for a proposed urban extension at Chilmington Green, Ashford, Kent.

11.2 In July 2013 ABC provided a comprehensive Schedule of Comments on the application from all of the key stakeholders including ABC as the local planning authority and Kent County Council (KCC) as the local highway authority.

11.3 The purpose of this STA is to provide a detailed response to the schedule of stakeholder comments and to set out the revised transport strategy that will ensure the proposed development at Chilmington Green development is in accordance with the adopted AAP. A series of meetings involving representatives of ABC, KCC, their transport consultants Amey; and Vectos have been held in the intervening months since September 2013 in order to discuss and agree an appropriate strategy to ensure that the phasing of Chilmington Green is delivered in a sustainable manner, with all identified mitigation measures implemented in a timely manner.

11.4 The proposed development description has been amended to provide clarity about the elements of the scheme.

11.5 The proposed site accesses to the development have been re-considered in the light of the comments received and the following have been formally submitted for approval:-

- Access A – A28 Northern Access Roundabout – **drawing 131065-A-01 Rev B;**
- Access B – A28 Priority Junction – **drawing 131065-A-04 Rev A;**
- Access C – A28 Southern Access Roundabout **– drawing 131065-A-02 Rev B;** and
- Access D – Coulter Road Mini Roundabout **– drawing 131065-A-15**

11.6 A cross section has been prepared for Access A to show the extent of the earthworks needed and this is shown on **drawing 131065-A-17.**

11.7 These plans were submitted to ABC in September 2013 as amendments to the planning application for approval.

11.8 In the light of comments made by KCC land will be safeguarded to allow the roundabout at site access A to be enlarged to accommodate additional development and/or future traffic growth should this prove to be necessary. This is shown on **drawing 131065-A-35 Rev A** with the cross section of this enlarged roundabout being shown on **drawing 131065-A-36.** These plans do not form part of the planning application and has not been submitted for approval.

11.9 The comments made on Public Rights of Way and pedestrians and cyclists linkages both within the proposed development and to provide connections to the surrounding area have been considered in detail within the overall context of the objective being to make the development as accessible as possible by all modes of transport.

11.10 The plans that both form part of the planning application in terms of the Parameter Plans and those that are supporting information, including how the Masterplan has evolved, show how the network of routes for pedestrians and cyclists within the site will be provided. This is shown on **drawing 131065-A-14 Rev A.** This work will be carried forward into the emerging Design Code for the site.

11.11 The proposed off-site connections shown, in particular the route on the A28 from the Matalan Roundabout to the Tank Roundabout, have been designed in some detail and are shown on **drawing 131065-A-16 Rev A**. These facilities on the A28 would be provided at the same time as the proposed highway improvements to this section of road to ensure that the facilities for all mode of transport are co-ordinated.

11.12 The Transport Chapter of the revised ES together with this report responds to all of the queries raised in relation to the transport related environmental impacts of the proposed development.

11.13 A Construction Management Plan will be prepared prior to each phase of development commencing.

11.14 The trip generation from the proposed development, the internalisation of trips, the distribution of this traffic and future traffic growth assumptions have been discussed with KCC during post application discussions and it is believed that the queries made have been addressed and the approach that is being taken is agreed.

11.15 Further modelling has been undertaken to consider the impact of the proposed development on the A28 Chart Road, the proposed improvements and the timing of the implementation of the works.

11.16 This modelling work has shown that the proposed improvements to the A28 would provide sufficient capacity to accommodate the traffic associated with the proposed development and would provide a betterment for existing road users.

11.17 Funding will be provided in association with the proposed development to allow KCC to implement the improvements on the A28 and work is already being undertaken by KCC to ensure that the scheme is delivered.

11.18 The proposed traffic calming schemes are outlined and how the monitoring of the traffic associated with the development will be undertaken for a number of reasons:-

- To determine when the traffic calming schemes in Great Chart (**drawing 131065-A-24 Rev B**) on Magpie Hall Road (**drawing 131065-A-25 Rev B**) and Shadoxhurst (drawing **131065-A-60** are needed;
- To monitor the impact of traffic associated with the development on local roads; and
- To monitor the impact of traffic associated with the development on the A28.

11.19 The bus strategy associated with the proposed development has been developed through discussions with KCC and Stagecoach the local bus operator and a route has been identified that would serve each phase of the development as it progresses.

11.20 Bus priority measures have been identified at the Tithe Barn Lane/Brookfield Road junction as shown on **drawing 131065-A-28** and a new bus stop on Beaver Road junction as shown on **Drawing 131065-A-66.** These measures would be funded in association with the proposed development. From discussions with KCC, it was agreed that general highway capacity enhancements to the Knoll Lane/Brookfield Road junction would be implemented, reducing vehicle queues on all approaches, benefiting both buses and general traffic.

11.21 Travel Plans have been prepared for each of the land uses included within the proposed development.

Conclusions

11.22 This Supplementary Transport Assessment sets out a response to the comments received and takes into account the post application discussions that have been held with KCC and ABC and key stakeholders.

11.23 It address all of the comments that were made and reports the results of the further work undertaken including the detailed modelling of the proposed works on the A28 Chart Road and the outcomes of more detailed discussions with local residents and stakeholders.

11.24 A detailed transport strategy has been developed to mitigate the traffic associated with the proposed urban extension and to ensure that the site is accessible to all modes of transport.

11.25 This work forms a basis for discussion about the S106 agreement that will be required in association with the proposed development by providing more details on the proposed transport strategy that has been formulated to support the proposed development.

11.26 The implementation of the identified transport measures would mean that there are no residual transport impacts that would arise in association with the proposed development.

11.27 There are no highway and transport related reasons why the proposed development should not be granted planning consent.