



Land at Albion Road and Copper Lane, Marden

Transport Assessment Addendum

Client: B.Yond Homes Limited

i-Transport Ref: MG/ITB15098-106R

Date: 18 September 2024

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## Quality Management

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## SECTION 1 Introduction

- 1.1.1 Rydon Homes (now called B.Yond Homes) submitted an outline planning application to Maidstone Borough Council (MBC) in September 2023 (planning reference: 23/504068/OUT) for:
- “the removal of 2 former agricultural sheds and erection of up to 117no. dwellings and associated infrastructure including partial footways on Albion Road”.***
- 1.1.2 A Transport Assessment (report reference ITB15098-101B, dated 7 August 2023) and Framework Travel Plan (report reference ITB15098-101B, dated 7 August 2023) were submitted as part of the planning application.
- 1.1.3 The local highway authority, Kent County Council (KCC) provided a highway consultation response to the planning application dated 23 October 2023 (included at **Appendix A**), which raised a holding objection to the proposals on the basis that additional information was requested for review.
- 1.1.4 In summary, the additional information requested included:
- Submission of a revised pedestrian access strategy;
  - Submission of a Stage 1 Road Safety Audit and supporting Designer’s Response;
  - Submission of the raw traffic survey data used to derive the visibility splays from the primary vehicular access;
  - Recalculation of the visibility splays from the primary vehicular access, with bonnet length accounted for;
  - Amendments to the junction layout to accommodate larger vehicles, without the overrunning of adjacent traffic lanes;
  - Submission of appropriate evidence to demonstrate the suitability of the visibility sight lines from the emergency only access; and
  - Confirmation of the extent of off-site highway works being offered as part of the development.
- 1.1.5 The additional information requested formed the basis of a holding objection from KCC Highways on the planning application.

1.1.6 The application was refused on 22<sup>nd</sup> December 2023. There were 7 Reasons for Refusal (RfR), two of which relate to highways matters and are based on the additional information requested by KCC in their holding objection. The two highway reasons for refusal are set out below for ease of reference:

***RfR 3 – “Due to the absence of safe pedestrian and cycle access on Albion Road to access the services within the village of Marden, the residents are likely to be reliant on the private motor vehicle to travel for access to day-to-day needs. This would be contrary to the aims of sustainable development as set out in Policies SS1, SP17, SP23 and DM1 of the Maidstone Borough Local Plan, policy In2 of the Marden Neighbourhood Plan, the National Planning Policy Framework and the objectives of Active Travel England to secure good walking, wheeling and cycling infrastructure”.***

***RfR 4 – “The proposed access arrangement shows that refuse freighters are not able to safely access or egress from the site without overrunning adjacent traffic lanes. The Transport Assessment is deficient in that is no Road Safety Audit, there is inadequate raw data for traffic survey, visibility splays need recalculation and trip generation data needs sensitivity testing. The development is contrary to the NPPF which requires safe and suitable access to be achieved for all users and to policies DM1 and DM21 of the Maidstone Borough Local Plan 2017 and policy In3 of the Marden Neighbourhood Plan”.***

1.1.7 B.Yond Homes submitted an appeal against MBC’s refusal of the application on 21 June 2024.

1.1.8 Since the planning refusal the Appellant has been discussing the two transport reasons for refusal with KCC. It is understood that the appellant and KCC are now in agreed position on the transport infrastructure package to overcome these reasons for refusal.

1.1.9 The purpose of this Transport Assessment Addendum is therefore to provide the updated technical information and drawings of the site access and off-site highway improvements formally to MBC in order that it can be reviewed by the local planning authority and be the subject of public consultation. It should be read in conjunction with the original Transport Assessment that was submitted as part of the planning application.

1.1.10 The remainder of this document is set out in the following sections

- Section 2 – Policy Update;
- Section 3 – Baseline Data;
- Section 4 – Site Access Arrangements and Highway Improvements;
- Section 5 – Public Transport;
- Section 6 – Framework Travel Plan;
- Section 7 – Traffic Impact; and
- Section 8 – Summary and Conclusions.

## SECTION 2 Policy Update

### 2.1 Introduction

2.1.1 Since the outline planning application was submitted in September 2023:

- The National Planning Policy Framework (NPPF) was updated on 20 December 2023; and
- The Maidstone Borough Local Plan Review (MBLPR) 2021-2038 was adopted on 20 March 2024.

2.1.2 This section provides a summary of the relevant parts of these updated policy documents.

### 2.2 National Planning Policy Framework – December 2023

2.2.1 The National Planning Policy Framework (NPPF) sets out the Government’s planning policies for England and how these are expected to be applied.

2.2.2 Promoting sustainable transport is covered in Section 9 of the new NPPF (paragraphs 108 – 117), and is generally in accordance with the previous version of the NPPF. Paragraphs 114 – 117 consider development proposals.

2.2.3 Paragraph 114 states that:

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

***a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;***

***b) safe and suitable access to the site can be achieved for all users;***

***c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and***

***d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.***

2.2.4 Paragraph 115 states that:

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

2.2.5 Paragraph 116 states that:

***Within this context, applications for development should:***

***a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;***

***b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;***

***c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;***

***d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and***

***e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible, and convenient locations.***

2.2.6 Paragraph 117 states that:

***All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.***

## 2.3 **The Maidstone Borough Local Plan Review (MBLPR) 2021-2038 – March 2024**

2.3.1 The Maidstone Borough Local Plan Review (MBLPR) 2021-2038 was adopted on 20 March 2024 and sets out the policies and plans to guide future development within the Borough until 2038. The MBLPR allocates sites within Marden. Policy LPRSA295 - Land at Copper Lane and Albion Road, Marden is included as an allocation for the development of approximately 113 dwellings – an extract from the Local Plan Review policies map showing the site location is provided as **Image 2.1**. The policy states that a number of conditions are considered appropriate to be met before development is permitted. The access, highways and transportation conditions are as follows:

- Provision of suitable vehicular access to Albion Road that meet adequate capacity standards and safety provisions; and
- Development will be subject to the creation of safe pedestrian connections to the wider pedestrian network.



Image 2.1 Extract from the Local Plan Review - Location of the Policy LPRSA295 / Site



2.3.2 Policy LPRTRA2: Assessing the Transport Impacts of Development sets out that Transport Assessments and Travel Plans developed in accordance with KCC guidance will be expected to accompany all planning applications for new developments that reach the required threshold. The policy states that development proposals must:

***Demonstrate that the impacts of trips generated to and from the development are accommodated, remedied or mitigated to prevent severe residual highway safety or capacity impacts:***

***Demonstrate that any measures necessary to mitigate the transport impacts (in terms of highway safety and capacity as well as air quality) of development are viable and will be delivered at the appropriate point in the proposed development's buildout. This will be ahead of first occupation for some measures and at an agreed trigger point for others;***

***Provide a satisfactory Transport Assessment for proposals that reach the required threshold and a satisfactory Travel Plan in accordance with the threshold levels set by Kent County Council's Guidance on Transport Assessments and Travel Plans and in Highways England guidance; and***

***Demonstrate that development complies with the requirements of policy TRA1 for air quality and the guidance included in the Kent County Council Kent Design Guide.***

2.3.3 The policy goes on to state that proposals for development will be permitted if adequate provision is made, where necessary and appropriate, within the overall design and site layout for the following facilities for public transport and active travel secured through legal agreements:

***Priority or exclusive provision for public transport vehicle access to or through the proposed development area;***

***Safe and convenient passenger waiting facilities, information systems and signed pedestrian access routes to public transport services;***

***Suitable provision for disabled access to public transport waiting facilities from all parts of the development area;***

***Suitable provision for disabled access onto buses from the waiting facilities;***

***Priority for pedestrians and vulnerable road users through design throughout the development;***

***Suitable provision for safe active travel connectivity connecting the site to the local area.***

***Development proposals will be considered in the context of both their impacts in terms of motor vehicle movements and overall sustainability. The impacts of development on the functionality of the highways network will be considered in the context of any sustainable transport gains that are proposed to accompany them.***

## SECTION 3 Baseline Data

### 3.1 Introduction

3.2 This section of the Transport Assessment Addendum provides details on the baseline traffic / highway data including submission of the raw traffic data as requested by KCC

### 3.3 Local Highway Network

#### Albion Road

3.3.1 Albion Road has a varying carriageway width of around 5.0m – 5.5m, routes in a north-west south-east alignment, has some street lighting and is subject to a 30mph speed limit. There are no footways along Albion Road in the vicinity of the site frontage. To the north, the existing footways along Albion Road begin at the Seymour Drive junction (east side) and southern leg of Jewell Grove (west side) linking towards the B2079 / High Street. South of the Plain Road junction, Albion Road turns into Thorn Road and the 30mph speed limit ends to the south of the built-up part of Marden (south of a property called Oakleigh).

#### Albion Road – Automatic Traffic Counts

3.3.2 Automatic Traffic Counts (ATCs) were undertaken in February 2022 on Albion Road in the vicinity of the proposed site access to record traffic speeds and volumes. The surveys were undertaken outside of any school and/or public holiday periods and the weather during the survey period was predominantly dry. The location of the ATC surveys is shown on **Image 3.1**:

**Image 3.1: Location of ATC Traffic Surveys – Albion Road**



- 3.3.3 The traffic data obtained from the ATCs along Albion Road are summarised in **Table 3.1** which demonstrates the 5-day (weekday) average, two-way traffic flows. A copy of the traffic survey data is provided at **Appendix B**.

**Table 3.1: Albion Road - February 2022 Traffic Data (5 Day / Weekday Average)**

| Road        | Direction  | 08:00 – 09:00 | 17:00 – 18:00 | Daily (0000-2400) |
|-------------|------------|---------------|---------------|-------------------|
| Albion Road | Northbound | 90            | 87            | 912               |
|             | Southbound | 99            | 80            | 936               |
|             | Two-Way    | 189           | 167           | 1,848             |

Source: Traffic Surveys

- 3.3.4 The data shows that the average traditional weekday peak hour (08:00 – 09:00 and 17:00 – 18:00) traffic flow is circa 167-189 two-way movements along Albion Road in the vicinity of the site frontage. This equates to around 3 vehicle movements per minute during the busiest periods of the day.

- 3.3.5 Analysis of the ATC survey data has also been undertaken to understand the types of vehicles using the Albion Road throughout the day, a summary of the recorded vehicle classifications recorded across a typical weekday (5-day average) is presented in **Table 3.2** below:

**Table 3.2: Vehicle Classification on Albion Road (5-day average)**

| Road        | Direction  | Total Daily Traffic (0000-2400) | Total HGVs (0000-2400) | Daily % HGVs (0000-2400) |
|-------------|------------|---------------------------------|------------------------|--------------------------|
| Albion Road | Northbound | 912                             | 10                     | 1.1%                     |
|             | Southbound | 936                             | 4                      | 0.4%                     |
|             | Two-Way    | 1,848                           | 14                     | 0.8%                     |

Source: Traffic Surveys

- 3.3.6 It can be seen from **Table 3.2** that only a very small proportion of traffic on Albion Road (<1%) consists of heavy goods vehicles.

3.3.7 The ATC surveys also included speed survey results recorded along Albion Road along the site frontage which are summarised in **Table 3.3**, with the raw data provided at **Appendix B**.

**Table 3.3: Observed Speeds on Albion Road**

| Location                     | Direction                   | Average Speeds | 85 <sup>th</sup> Percentile |
|------------------------------|-----------------------------|----------------|-----------------------------|
| Albion Road Vehicular Access | Northbound (ATC Location 2) | 24.8mph        | 31.8mph                     |
|                              | Southbound (ATC Location 1) | 28.1mph        | 34.1mph                     |

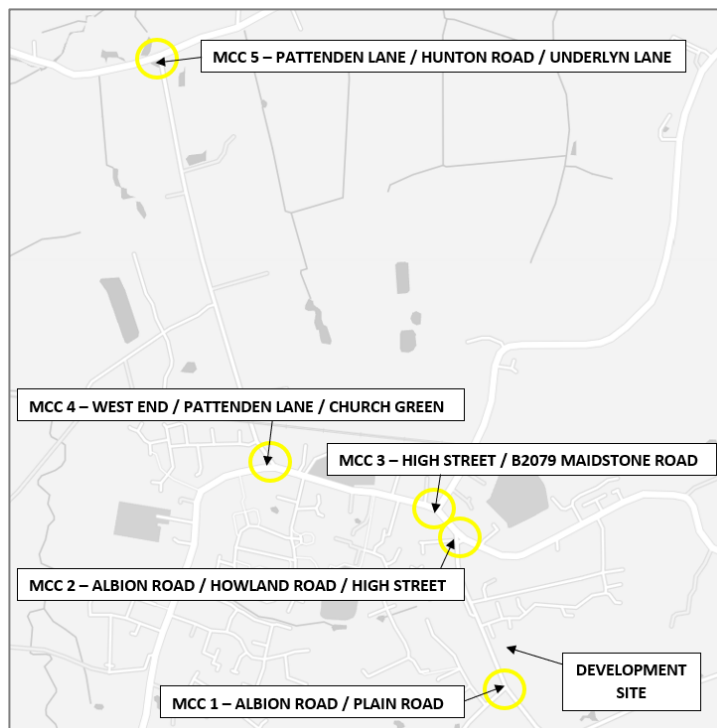
**Junction Turning / Manual Classified Counts**

3.3.8 In addition, manual classified counts were undertaken on Thursday 16th June 2022 at the following junctions within Marden on the basis of the study area agreed with KCC:

- MCC 1 – Albion Road / Plain Road;
- MCC 2 – Albion Road / Howland Road / High Street (triangle of priority junctions);
- MCC 3 – High Street / B2079 Maidstone Road;
- MCC 4 – West End / Pattenden Lane / Church Green; and
- MCC 5 – Pattenden Lane / Hunton Road / Underlyn Lane.

3.3.9 The location of the manual classified counts are shown on **Image 3.2** below:

**Image 3.2: Location of MCC Traffic Surveys**



- 3.3.10 The data obtained from the manual classified counts is in 15-minute periods (rather than hour periods in an ATC count). A copy of the raw traffic data is included at **Appendix B**. This has enabled the actual Thursday peak hour two-way traffic flows along Albion Road in the vicinity of the site frontage (i.e. traffic flows on Albion Road north of Plain Road) to be established as summarised in **Table 3.4**.

**Table 3.4: Albion Road – Thursday 16<sup>th</sup> June 2022**

| Road        | Direction  | AM Peak Hour (07:45 – 08:45) | PM Peak Hour (16:30 – 17:30) |
|-------------|------------|------------------------------|------------------------------|
| Albion Road | Northbound | 83                           | 99                           |
|             | Southbound | 93                           | 103                          |
|             | Two-Way    | 176                          | 202                          |

Source: Traffic Surveys

- 3.3.11 The data shows that the actual Thursday peak hour (07:45 – 08:45 and 16:30 – 17:30) traffic flow is circa 176-202 two-way movements along Albion Road in the vicinity of the site frontage. This equates to around 3 vehicle movements per minute during the busiest periods of the day. The Thursday actual peak hour data is similar to the traditional average weekday peak hour. However, as the combined Thursday actual peak hour traffic flow is slightly higher than the average weekday flow then the Thursday data has been used for the remainder of the transport assessment process.

### **On-Street Parking**

- 3.3.12 There are parking restrictions in force along the northern section of Albion Road. Single yellow line parking restrictions (which restrict waiting on Monday to Friday between 11:00 and 11:30) are present on the eastern and western side of Albion Road between the B2079 High Street / Howlands Way junction and Roundel Way. Double yellow lines which restrict parking at any time are around the Sutton Forge/Albion Road junction. To the south of Stanleys petrol station, there are no on-street parking restrictions.
- 3.3.13 Parking beat surveys have been undertaken along Albion Road. The results are summarised at **Appendix C**. In summary, there is some on-street parking along Albion Road north of the site, however Albion Road is relatively lightly trafficked and operates acceptably, safely and well within capacity.

### Copper Lane

3.3.14 Cooper Lane is a rural single carriageway lane. The traffic data obtained from the ATCs along Copper Road undertaken in November 2023 are summarised in **Table 3.4** – this shows the 5-day (weekday) average, two-way traffic flows. A copy of the traffic survey data is provided at **Appendix B**.

**Table 3.4: Copper Lane - November 2023 Traffic Data (5 Day / Weekday Average)**

| Road        | Direction | 07:00 – 08:00 | 16:00 – 17:00 | Daily<br>(0000-2400) |
|-------------|-----------|---------------|---------------|----------------------|
| Copper Lane | Eastbound | 4             | 7             | 67                   |
|             | Westbound | 5             | 7             | 58                   |
|             | Two-Way   | 9             | 14            | 125                  |

Source: Traffic Surveys

3.3.15 The data shows that the average peak hour flows were recorded between 07:00 and 08:00 in the morning, and 16:00 and 17:00 during the afternoon. The recorded flows during the peak periods are circa 9-14 two-way movements in the vicinity of the site frontage. This equates to around one vehicle movements every 4-6 minutes during the busiest periods of the day.

3.3.16 The ATC surveys also included speed survey results recorded along Copper Lane on the site frontage, the weather during the surveys was predominantly dry. The speed survey results are summarised in **Table 3.5**, with the raw data provided at **Appendix B**.

**Table 3.5: Observed Speeds on Copper Lane**

| Direction on Albion Road | Recorded Average Speed (mph) | Recorded 85 <sup>th</sup> %ile Speed (mph) |
|--------------------------|------------------------------|--|
| Eastbound                | 26.3mph                      | 32.4mph                                    |
| Westbound                | 26.9mph                      | 33.9mph                                    |

### Public Footpath KM281

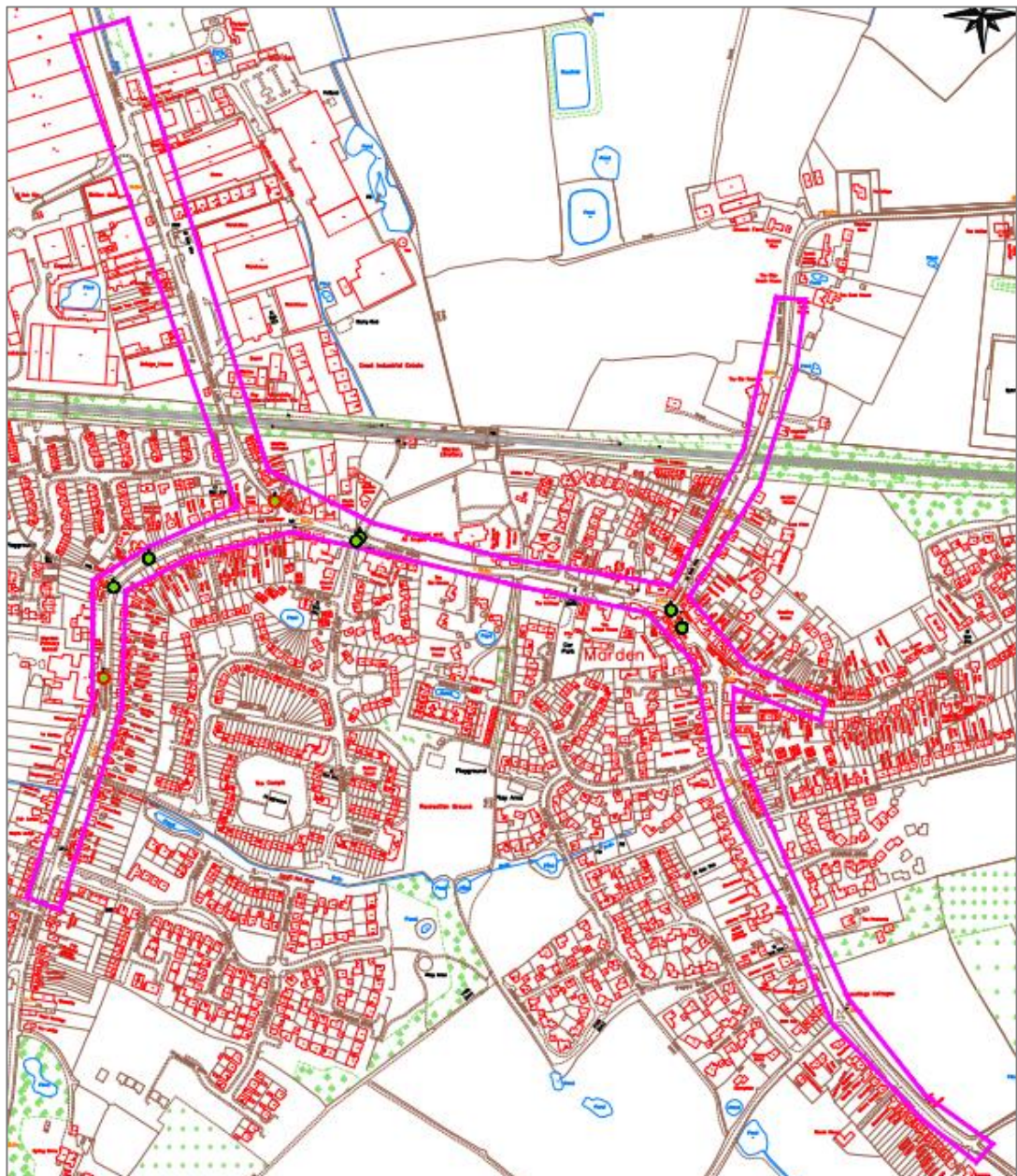
3.3.17 Public footpath KM281 routes between Albion Road (broadly opposite the proposed access to the site) and public footpath KM283 via Blossom Way – see **Appendix D**. This forms part of an alternative route between the site and the amenities in the High Street / village centre / area and amenities to the west side of the village.



### 3.4 Personal Injury Accident Data

3.4.1 Personal injury accident (PIA) data has been obtained from Kent County Council for the five-year period (between 01-04-2019 and 31-03-2024) for the area shown on **Image 3.3**. The study area includes all the main routes through the village of Marden. The data has been analysed, which demonstrates that there have only been 8 recorded PIAs within Marden, all of which were classified as being slight in nature. A summary of the individual PIAs is provided in **Table 3.6**. It is of note that no recorded PIAs have occurred in the vicinity of the site frontage or along Albion Road and Thorn Road during the study period.

**Image 3.3: Personal Injury Accident Data Study Area**





3.4.2 A summary of the individual recorded personal injury accidents is provided in **Table 3.6**:

**Table 3.6: Summary of Personal Injury Accident Data**

| Location                         | Description  | Severity |
|----------------------------------|--|----------|
| Chantry Road/Church Green        | A vehicle turning right out of the station onto Church Green did so into the path of an oncoming vehicle.  | Slight   |
|                                  | An unknown vehicle has struck a mobility scooter, causing it to veer into the path of another vehicle which was turning right into Chantry Road.     | Slight   |
| High Street West of Albion Road  | A vehicle parked outside Marden Pharmacy was struck by another vehicle which was reversing out of a parking space by the local bakery.               | Slight   |
| Pattenden Lane North of West End | A vehicle turned right into Pattenden Lane before colliding with a pedestrian who was crossing the road at night wearing dark clothing.              | Slight   |
| B2079                            | A vehicle travelling along Goudhurst Road left the carriageway on the right bend due to the drivers visibility being obscured by fog.                | Slight   |
|                                  | A vehicle pulling out of the West End Tavern car park did so into the path of an oncoming vehicle.   | Slight   |
|                                  | A pedestrian walking on the pavement was struck by the wingmirror of a passing vehicle.  | Slight   |
| High Street/Maidstone Road       | A vehicle travelling around the bend by Maidstone Road was struck by the rear wheel of a trailer being towed by a tractor in the opposite direction. | Slight   |

3.4.3 Taking contributory factors into account as well as the geographic and temporal spread of accidents within the study area there is no established pattern of recorded personal injury accidents across the study area.

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## SECTION 4 Site Access Arrangements and Highway Improvements

### 4.1 Introduction

4.1.1 This section of the Transport Assessment Addendum summarises the updated site access drawings / highway improvements to address KCC's consultation response on the outline planning application covering:

- Submission of a revised pedestrian access strategy from the Albion Road access to the existing footway network to the north along Albion Road;
- Amendments to the Albion Road site access junction layout to better accommodate the vehicle swept path of larger vehicles;
- Recalculation of the visibility splays from the primary vehicular access, with bonnet length accounted for;
- Submission of appropriate evidence to demonstrate the suitability of the visibility sight lines from the Copper Lane pedestrian / cycle / emergency access; and
- Submission of a stage 1 RSA and supporting designer's response;

### 4.2 Albion Road Access Arrangements and Footway

#### Background


4.2.1 The planning application did not include a footway link along Albion Road between the site and the existing footway network to the north instead relying on the continued use of Albion Road as a safe shared surface environment. KCC's request to submit a revised pedestrian access strategy from Albion Road can basically be summarised that to remove their holding objection KCC have a requirement for a footway link along Albion Road between the site and the existing footway network to the north.

4.2.2 The design team has therefore undertaken an optioneering exercise for this footway link.

4.2.3 The development of the scheme has taken into account the Manual for Streets / Kent County Council transport user hierarchy which shows that KCC will adopt the user hierarchy of considering travel by pedestrians first, then cyclists, then public transport users, service vehicles (emergency services, waste etc.) followed by other motor traffic.

**Image 4.1 Extract from Manual for Streets – User Hierarchy**

**Table 3.2: User hierarchy**

|  |  |
|--|--|
| <p><b>Consider first</b></p>  <p><b>Consider last</b></p> | Pedestrians  |
|  | Cyclists   |
|  | Public transport users   |
|  | Specialist service vehicles (e.g. emergency services, waste, etc.) |
|  | Other motor traffic  |

4.2.4 The design team has investigated a number of options for the footway:

- Utilising the east side highway verge connecting the site with the existing footway network at the Albion Road / Seymour Drive junction – however the analysis identified deliverability constraints given topography and the requirement for a no-dig solution to protect the root protection area of trees along this section of Albion Road;
- Utilising the west side highway verge connecting the site with the existing footway network at the Albion Road / Jewell Grove junction – however the analysis identified similar deliverability constraints relating to the requirement for a no-dig solution to protect the root protection area of trees along this section of Albion Road whilst also maintaining access to private driveways.

4.2.5 Having regard to the above the Albion Road site access and footway solution has been further developed taking into account these constraints.

4.2.6 The proposed highway scheme includes a proposed simple priority junction site access from the east side of Albion Road (suitable for a residential development), with a new footway on the east side of Albion Road providing a connection to the existing footway at the Albion Road / Seymour Drive junction to the north. The footway is achieved via a build out and priority working arrangement on Albion Road. The proposals are shown in the following appendices / drawings:

- **Appendix E** - Proposed Albion Road All Purpose Access and Footway - Drawing ITB15098-GA-060 Rev E;
- **Appendix F** - Proposed Albion Road All Purpose Access and Footway – Visibility Drawings - Drawing ITB15098-GA-074 and Drawing ITB15098-GA-063 Rev D and;

- **Appendix G** - Proposed Albion Road All Purpose Access and Footway – Indicate Long and Cross Sections - Drawing 6730-1510 Rev P3 and Drawing 6730-1511 Rev P2;
- **Appendix H** – Proposed Albion Road All Purpose Access and Footway - Vehicle Swept Path Analysis:
  - Drawing ITB15098-GA-064C - Refuse Vehicle and Car;
  - Drawing ITB15098-GA-067C – Van and Car;
  - Drawing ITB15098-GA-069 – Car
  - Drawing ITB15098-GA-070B - Pumping Appliance
  - Drawing ITB15098-GA-071B - Car
- **Appendix I** – Proposed Albion Road All Purpose Access and Footway Stage 1 Road Safety Audit and Designer’s Response

4.2.7 The drawings presented in Appendices E - H are the amended proposals following the Stage 1 Road Safety Audit process addressing the highway safety comments raised and KCC’s comments.

#### **Albion Road All Purpose Access**

4.2.8 The proposed access from Albion Road will take the form of an all-purpose simple priority junction. It is proposed that the junction would have a kerbed radii of 10m. The access road carriageway width will measure 7m at its western section near Albion Road narrowing to 5.5m within the site. This improves turning and access for the occasional larger vehicles such as refuse vehicles.

4.2.9 Footways (2.0m wide) will be provided either side of the access road within the site. The southern footway terminates at the bellmouth of the junction but facilitates a dropped kerb crossing to access the west side of Albion Road and public footpath KM281. An uncontrolled crossing with dropped kerbs and tactile paving is provided across the bellmouth of the proposed access to enable safe pedestrian crossing. The proposed footway along Albion Road to the north is discussed later in this section.

4.2.10 As set out in the guidance in Manual for Streets, visibility splay requirements for an access such as that proposed from Albion Road should be determined from the observed vehicle speeds. As described in Section 4, a speed survey was undertaken in February 2022. The 85th percentile speeds recorded are shown in **Table 4.1**, along with visibility requirements calculated in accordance with the formula in Manual for Streets.

**Table 4.1: Albion Road - Speed Survey Results and Visibility Requirements**

| Direction on Albion Road | Recorded Average Speed (mph) | Recorded 85 <sup>th</sup> %ile Speed (mph) | Visibility requirement based on MFS | Visibility requirement adjusted for bonnet length |
|--------------------------|------------------------------|--|-------------------------------------|---|
| Northbound – ATC 2       | 24.8mph                      | 31.8mph                                    | 2.4m x 44m                          | 2.4 x 47m   |
| Southbound – ATC 1       | 28.1mph                      | 34.1mph                                    | 2.4m x 49m                          | 2.4 x 52m   |

Source: ATC Surveys / Visibility Splay Calculator.

4.2.11 It is of note that the visibility splays do not need to be adjusted for bonnet length, as a driver only needs to see the front of another vehicle approaching to know whether it is safe to egress from the access and not the driver of the oncoming vehicle. This is supported by the Manual for Streets guidance, which states that *“the Y distance represents the distance that a driver who is about to exit from the minor arm can see to his left and right along the main alignment”* and therefore only needs to see to the front of the car. The Stopping Sight Distance (SSD) however, is identified as the distance that a driver needs to be able to see and stop at a given speed i.e. a car approaching the junction. Consequently, the SSD / forward visibility relates to the position of the driver and given the distance between the driver and the front of the vehicle is typically up to 2.4m, the SSD should be adjusted by 2.4m, however, there is no guidance to support the Y distance being increased by 2.4m. Therefore, while it is not considered necessary to do so, the proposed access drawing has been updated and additional ‘Y’ visibility splays have been shown to account for the bonnet length (2.4m) nevertheless.

4.2.12 The visibility splays (to accord with KCC’s requirements ie including the adjustment for bonnet length) are shown in the drawing in Appendix E (drawing ITB15098-GA-074) as follows:

- 2.4m x 52m to the north; and
- 2.4m x 47m to the south.

### Albion Road Footway

4.2.13 The footway is proposed along the east side of Albion Road between the site and the existing footway network at the Albion Road / Seymour Drive junction to the north.

4.2.14 Key aspects are summarised below:

- A 1.5m footway except where tree or highway boundary constraints require a reduction to 1.2m (there is a very short section of narrower footway at the northern end to tie into the Albion Road / Seymour Drive junction);

- The majority of the footway will have standard construction and 125mm kerb heights;
- At the northern end, a short section of the footway scheme requires no dig construction techniques to remove impact on the root protection area of a third party tree (Ash tree 3019) – in this location it is suggested to have construction of cell web with double height kerb setting the footway at a level of 300mm above the carriageway for a short length before dropping back to 125mm either side;
- To achieve the footway, a priority working / build out providing narrowing for a length of circa 45m is proposed – priority to northbound traffic;
- Width of carriageway through priority working / build out - minimum width of 3.5m to accommodate abnormal loads / agricultural vehicles at KCC's request – white lining to reduce effective running width to 2.75m-3m; and
- The above scheme does require the removal of trees TG3007, 3027 and 3028 (which fall within the site / highway boundary) to address safety audit comments.

#### **Vehicle Swept Path Analysis**

- 4.2.15 A refuse vehicle can pass a car at the proposed site access junction. The wider access bellmouth significantly reduces the extent of overrunning of a large vehicle, but it is acknowledged does not remove it entirely. Given the location of the site and nature of Albion Road, it is considered that these larger vehicle movements would be very infrequent and as such are acceptable (as per Manual for Streets and KCC guidance).
- 4.2.16 A refuse vehicle can pass a car waiting at the southbound give way to the priority working and turn right into Seymour Drive.
- 4.2.17 The scheme provides widening to the carriageway south of the priority working to accommodate the tracking of the car and refuse vehicle passing. Additionally, a driver / vehicle exiting the proposed priority access, has clear visibility to the north extending beyond the section of priority working and will therefore not exit unless it is safe to do so.

4.2.18 A fire pumping appliance accessing the private property within the scheme – the existing situation and with proposed improvements are shown. A fire pumping appliance is extremely rare and the analysis shows that for both the existing and proposed situations: the existing overall width of the entrance frontage and gate can accommodate a pumping appliance (although the tracking shows that there would be overrun of the current pillar split in the gate between pedestrians and vehicles) and a minor reverse and forward allows a pumping appliance to access via the vehicular part of the gate. In addition, fire pumping appliances could access via parking parallel to Albion Road and in front of the gate. Satisfactory access for emergency services is therefore provided for.

### **Stage 1 Road Safety Audits and Designer’s Response**

4.2.19 The Stage 1 Road Safety Audit and Designer’s Response for the Albion Road access and footway confirms that all road safety comments have been addressed in the updated drawings.

## **Copper Lane - Pedestrian / Cycle / Emergency Access**

4.3.1 A pedestrian / cycle / emergency access from Copper Lane is proposed in the broad position of the existing field gate access – see **Appendix J** (Drawing ITB15098-GA-057 Rev B). This access would have a width of 3.0m to enable emergency vehicle access to the site in the (very unlikely) event that the proposed access is blocked. A removable bollard or similar would be installed to prevent car access. The informal passing place for vehicles travelling along Copper Lane at the field gate access is retained.

4.3.2 An Automatic Traffic Count (ATC) survey was undertaken on Copper Lane in November 2023 which recorded vehicle speeds and volumes. A summary of the recorded speeds are shown in **Table 4.2**, along with visibility requirements calculated in accordance with the formula in Manual for Streets.

**Table 4.2: Albion Road - Speed Survey Results and Visibility Requirements**

| Direction on Albion Road | Recorded Average Speed (mph) | Recorded 85 <sup>th</sup> %ile Speed (mph) | Visibility requirement based on MfS | Visibility requirement adjusted for bonnet length |
|--------------------------|------------------------------|--|-------------------------------------|---|
| Eastbound                | 26.3mph                      | 32.4mph                                    | 2.4m x 45m                          | 2.4m x 48m  |
| Westbound                | 26.9mph                      | 33.9mph                                    | 2.4m x 49m                          | 2.4m x 51m  |

Source: ATC Surveys / Visibility Splay Calculator.

4.3.3 Drawing ITB15098-GA-057A shows the required visibility splays adjusted for bonnet length as required by KCC. Copper Lane is a single track road in the vicinity of the proposed access, therefore, to the left/east of the access a visibility splay of 2.4m x 51m can be achieved to a 0.5m offset, while to the right/west, a visibility splays of 2.4m x 48m to the centreline of the carriageway can be achieved which reflects the realistic position of a driver / car travelling along Copper Lane.

4.3.4 A Stage 1 Road Safety Audit and Designer's Response for the pedestrian / cycle / emergency access from Copper Lane is provided at **Appendix K**. This confirms that all road safety comments have been addressed.

#### 4.4 **Public Footpath KM281**

4.4.1 An improvement scheme to public footpath KM281 between Albion Road and Blossom Way to enable all weather / year-round use by pedestrians has been discussed / agreed with KCC Public Rights of Way officers. The improvement scheme is shown in drawing ITB15098-GA-051 Rev B provided at **Appendix L** and is largely a surfacing improvement to provide a tarmacked route to the Blossom Way east side footway within the highway.

4.4.2 KCC PRow have advised that short section of gravel adjacent to the Albion Road carriageway would need to remain and it is not proposed to streetlight the public footpath.

4.4.3 The improvements to public footpath KM281 are deliverable in the highway boundary and can be secured by condition or planning obligation and delivered by the developer under Section 278 of the Highways Act or as a financial contribution for KCC to deliver.

#### 4.5 **Summary**

4.5.1 In summary, the updated site access arrangements (all purpose access from Albion Road, new footway connection along Albion Road to Seymour Drive and pedestrian / cycle / emergency access from Copper Lane) provide for safe and appropriate access to the site for all modes. In addition surface improvements to public footpath KM281 are proposed.

4.5.2 The access arrangements therefore meet with the site specific requirements of Policy LPRSA295.



## SECTION 5 Public Transport

### 5.1 Introduction

5.1.1 This section of the Transport Assessment Addendum summarises the public transport opportunities for residents of the proposed development.

### 5.2 Bus

5.2.1 The site access arrangements and off site highway improvements ensure that there is appropriate pedestrian access to the bus stops on Plain Road and the B2079 / High Street.

5.2.2 The closest bus stops to the site are located on Plain Road (near the Albion Road junction), around 300m from the centre of the site. Further bus stops can be accessed around 700m from the site on the B2079 / High Street which can be accessed via the new footway proposed along Albion Road, which provides a link to the existing footway network at Seymour Drive.

5.2.3 Marden is served by bus services 22, 23 and 27 which provide a service approximately every two hours between Marden and Maidstone Monday to Saturday. The bus service could be used by commuters, as well as for other journey purposes such as retail and leisure journeys.

5.2.4 Bus service 527 also serves Marden and provides access to a number of educational establishments including: Oakwood Park Grammar School, Mid Kent College (Oakwood Park Campus), St Augustine Academy and Saint Simon Stock Catholic School. The bus service runs from Marden (opposite the library) at 07:24, arriving in proximity to the schools at 08:15 in time for the school day. The bus service returns from the schools at 15:50, arriving in Marden at 16:24.

### 5.3 Rail

5.3.1 Marden has a rail station, located approximately 1km to the northwest of the site. The station is situated on the South East Main Line and provides services to high order destinations such as London Tonbridge and Ashford (2 services per hour)

5.3.2 Marden Station is within a reasonable walking distance (12 minutes) and comfortable cycle distance (4 minutes). There is appropriate pedestrian and cycle access to the station.

5.3.3 In summary, there are appropriate opportunities for future residents to access public transport services (bus and rail).

## SECTION 6 Framework Travel Plan

- 6.1.1 KCC's consultation response does not provide any comments / objections on the Framework Travel Plan submitted with the outline planning application.
- 6.1.2 The travel plan promotion measures (and infrastructure measures as updated to the Transport Assessment Scoping Report) to be brought forward by the developer are summarised in **Table 6.1** below.

**Table 6.1 – Summary of Framework Travel Plan Measures**

| Measures  | Summary of Measures   |
|---|---|
| Management  | Appointment of Travel Plan Co-ordinator   |
| Infrastructure Measures                               | Albion Road access and footway along Albion Road  |
|   | Copper Lane pedestrian / cycle / emergency access   |
|   | Site layout infrastructure, including footways, pedestrian/cycle links, signage and car parking spaces        |
|   | Install cycle parking and associated facilities   |
|   | Provision of Electric Car Charging Points   |
|   | Provision of broadband in homes   |
|   | Provide car club bay and vehicle on site (Subject to discussions)   |
| Establish Baseline                                    | Off-site highway improvements:<br>Footway along Albion Road<br>Public Footpath KM281                          |
|   | Baseline survey of site   |
| Travel Plan Promotion Measures                        | Update Travel Plan following baseline surveys and seek agreement with KCC                                     |
|   | Prepare Residents Travel Information Pack   |
|   | Provide sustainable travel vouchers - £150 for first occupant of each dwelling                                |
|   | Walking and Cycling maps  |
|   | Prepare dedicated webpage /Facebook page that references Travel Plan and includes relevant travel information |
|   | Personalised Travel Planning sessions   |
| Promote car sharing scheme Kent Connected Car sharing |   |

- 6.1.3 The Travel Plan will be secured via a S106 obligation.
- 6.1.4 The S106 obligation will require the Travel Plan to be implemented, in accordance with the Framework Travel plan and summary table of actions above.

## SECTION 7 Traffic Impact

### 7.1 Trip Generation

7.1.1 The original Transport Assessment provided an analysis of the likely multi modal trip generation of the proposed development. A multi-modal trip rate was obtained from TRICS, and applied to the development of 117 dwellings using the following criteria:

- Houses Privately Owned;
- Sites between 50-150 dwellings;
- Sites across England (excluding Greater London);
- Weekday surveys only; and
- Sites in Edge of Town locations.

7.1.2 A breakdown of the trip rates and likely number of trips by trip mode (identified as the main mode of travel for that trip) is presented in **Table 7.1**.

**Table 7.1: Proposed Development Trip Generation – Multi-Modal Trip Rates and Trip Generation (117 Dwellings)**

| Time Period                            | AM Peak Hour |       |         | PM Peak Hour |       |         | Daily (0700-1900) |       |         |
|--|--------------|-------|---------|--------------|-------|---------|-------------------|-------|---------|
|  | In           | Out   | Two-way | In           | Out   | Two-way | In                | Out   | Two-way |
| <b>Trip Rates - per dwelling</b>       |              |       |         |              |       |         |                   |       |         |
| Trip Rate (Total Person)               | 0.214        | 0.699 | 0.913   | 0.564        | 0.265 | 0.829   | 3.759             | 3.766 | 7.525   |
| Trip Rate (Total Vehicles)             | 0.150        | 0.369 | 0.519   | 0.373        | 0.163 | 0.536   | 2.376             | 2.391 | 4.767   |
| Trip Rate (Pedestrians)                | 0.035        | 0.122 | 0.157   | 0.064        | 0.034 | 0.098   | 0.474             | 0.493 | 0.967   |
| Trip Rate (Cyclists)                   | 0.000        | 0.008 | 0.008   | 0.005        | 0.003 | 0.008   | 0.051             | 0.053 | 0.104   |
| Trip Rate (Public Transport)           | 0.000        | 0.019 | 0.019   | 0.022        | 0.000 | 0.022   | 0.07              | 0.071 | 0.141   |
| <b>Trip Generation – 117 dwellings</b> |              |       |         |              |       |         |                   |       |         |
| Total Person Trips                     | 25           | 82    | 107     | 66           | 31    | 97      | 440               | 441   | 881     |
| Total Vehicle Trips                    | 18           | 43    | 61      | 44           | 19    | 63      | 278               | 280   | 558     |
| Walking Trips                          | 4            | 14    | 18      | 7            | 4     | 11      | 55                | 58    | 113     |
| Cycle Trips                            | 0            | 1     | 1       | 1            | 0     | 1       | 6                 | 6     | 12      |
| Total Public Transport Trips           | 0            | 2     | 2       | 3            | 0     | 3       | 8                 | 8     | 16      |

7.1.3 The proposed development is anticipated to generate circa 61-63 two-way vehicle movements in the weekday peak hours (around 1 vehicle per minute), and around 558 across the day (12-hour period).

7.1.4 There will be some 11-18 pedestrian trips occurring in a weekday peak hour with some 113 daily pedestrian trips. There is also estimated to be around 1 cycle trip occurring each peak hour and around 12 cycling trips each day (12-hours). Public transport as a main journey purpose is expected to account for some 2-3 trips in a weekday peak hour and circa 16 trips across a day. On the basis that these public transport trips involve people walking or cycling in / out of the site (i.e people walk / or cycle to the rail station and or bus stops) then within Marden itself, the development would generate an additional 2-3 walk or cycle trips in a weekday peak hour and an additional 16 walk or cycle trips across a day.

## 7.2 Sensitivity Test

7.2.1 KCC's highway consultation response on the planning application noted that:

*“To derive the trip generation forecasts the applicant has interrogated the TRICS database focusing on sites in an ‘edge of town’ location. Whilst KCC Highways consider that the sites selected broadly reflect the development’s locational characteristics there are concerns about the inclusions of TRICS sites ES-03-A-08, given how it is located in a larger town near to regular bus and train services. This contrasts to the development site which whilst near to a mainline train station with a good frequency of service, it limited bus services. Sensitivity testing should therefore be completed”.*

7.2.2 Consequently, in line with KCC's request a sensitivity test has been undertaken which removes site ES-03-A-08. A summary of the revised trip rates and multi-modal trip generation is provided in **Table 7.2** below, while the TRICS output report is included at **Appendix M**.

**Table 7.2 Sensitivity Test Multi-Modal Trip Rates and Trip Generation (117 Dwellings)**

| Time Period                            | AM Peak Hour |       |         | PM Peak Hour |       |         | Daily (0700-1900) |       |         |
|--|--------------|-------|---------|--------------|-------|---------|-------------------|-------|---------|
|  | In           | Out   | Two-way | In           | Out   | Two-way | In                | Out   | Two-way |
| <b>Trip Rates - per dwelling</b>       |              |       |         |              |       |         |                   |       |         |
| Trip Rate (Total Person)               | 0.218        | 0.702 | 0.920   | 0.581        | 0.263 | 0.844   | 3.758             | 3.784 | 7.542   |
| Trip Rate (Total Vehicles)             | 0.151        | 0.369 | 0.520   | 0.379        | 0.162 | 0.541   | 2.377             | 2.394 | 4.771   |
| Trip Rate (Pedestrians)                | 0.036        | 0.117 | 0.153   | 0.043        | 0.030 | 0.073   | 0.463             | 0.482 | 0.945   |
| Trip Rate (Cyclists)                   | 0.000        | 0.006 | 0.006   | 0.006        | 0.003 | 0.009   | 0.055             | 0.052 | 0.107   |
| Trip Rate (Public Transport)           | 0.000        | 0.021 | 0.021   | 0.021        | 0.000 | 0.021   | 0.070             | 0.072 | 0.142   |
| <b>Trip Generation – 117 dwellings</b> |              |       |         |              |       |         |                   |       |         |
| Total Person Trips                     | 26           | 82    | 108     | 68           | 31    | 99      | 440               | 443   | 882     |
| Total Vehicle Trips                    | 18           | 43    | 61      | 44           | 19    | 63      | 278               | 280   | 558     |
| Walking Trips                          | 4            | 14    | 18      | 5            | 4     | 9       | 54                | 56    | 111     |
| Cycle Trips                            | 0            | 1     | 1       | 1            | 0     | 1       | 6                 | 6     | 13      |
| Total Public Transport Trips           | 0            | 2     | 2       | 2            | 0     | 2       | 8                 | 8     | 17      |

7.2.3 The difference between the proposed trip generation set out in **Table 7.1** and sensitivity test trip generation provided in **Table 7.2** is included as **Table 7.3** below:

**Table 8.3: Difference in Trip Generation between Proposed Development Trips and Sensitivity Test Trip Generation**

| Time Period                            | AM Peak Hour |     |         | PM Peak Hour |     |         | Daily (0700-1900) |     |         |
|--|--------------|-----|---------|--------------|-----|---------|-------------------|-----|---------|
|  | In           | Out | Two-way | In           | Out | Two-way | In                | Out | Two-way |
| <b>Trip Generation – 117 dwellings</b> |              |     |         |              |     |         |                   |     |         |
| Total Person Trips                     | 1            | 0   | 1       | 2            | 0   | 2       | 0                 | 2   | 1       |
| Total Vehicle Trips                    | 0            | 0   | 0       | 0            | 0   | 0       | 0                 | 0   | 0       |
| Walking Trips                          | 0            | 0   | 0       | -2           | 0   | -2      | -1                | -2  | -2      |
| Cycle Trips                            | 0            | 0   | 0       | 0            | 0   | 0       | 0                 | 0   | 1       |
| Total Public Transport Trips           | 0            | 0   | 0       | -1           | 0   | -1      | 0                 | 0   | 1       |

7.2.4 **Table 7.3** demonstrates that there is only a slight difference in the number of total person trips and no difference in vehicle trips between the proposed and sensitivity trip calculations. Consequently, the removal of TRICS site ES-03-A-08 which KCC does not consider representative of the proposed development has a negligible impact on the trip generation of the site, therefore, the proposed trip rates and subsequent trip generation set out in **Table 7.1** are still considered representative of the proposed development site and thus used in the traffic impact analysis.

### 7.3 Traffic Impact Analysis

7.3.1 Therefore the junction analysis contained in the original Transport Assessment utilised robust trip generation data. For ease of reference the conclusions are provided below:

- Traffic analysis was undertaken for a design year of 2028 – 5 years after submission of the planning application;
- Assessments were carried out at the following junctions:
  - Site Access / Albion Road;
  - Albion Road / Plain Road;
  - Albion Road / High Street / Howland Road;
  - B2079 High Street / B207 Maidstone Road; and
  - West End / Pattenden Lane / Church Green.
- All all of the above junctions are expected to operate well within capacity allowing for development generated traffic. The addition of the proposed development traffic is not forecast to have a significant impact on the operation of the local highway network (in terms of capacity / congestion or safety) and there is no need to provide capacity improvements.

7.3.2 It is noted that the appeal is now in late 2024. For robustness the traffic analysis has been updated to a design year of 2029 - 5 years after the appeal date. This is reported below.

7.3.3 A review of the local planning authority application register has been undertaken to identify if there have been any permitted developments since the Transport Assessment was prepared that need to be considered as committed developments. The review identified no major permitted developments that would have an impact on the operation of the local highway network.

7.3.4 As there are no local committed developments, unadjusted TEMPRO growth rates have been obtained to factor traffic from the 2022 traffic survey data to the 2029 future year. **Table 7.4** summarises the growth factors to derive the 2029 peak hour traffic flows. The TEMPRO calculations are included as **Appendix N**.

**Table 7.4: Traffic Growth Factors**

| Growth Period | Time Period       | Growth Rate |
|---------------|-------------------|-------------|
| 2022 – 2029   | Morning Peak Hour | 1.0479      |
|               | Evening Peak Hour | 1.0542      |

Source: TEMPRO Growth rates for Maidstone 018 MSOA - Minor Road Types

7.3.5 The 2022 and 2029 without / with development weekday morning and evening peak hour traffic flows on the highway network within Marden are shown at **Appendix O**.

7.3.6 Updated junction capacity assessments have been undertaken include the following scenarios:

- 2029 'without development'; and
- 2029 'with development' i.e., allowing for background traffic growth and the development proposal.

7.3.7 The modelling outputs are provided at **Appendix P** and the results are summarised below:

#### Site Access/Albion Road

7.3.8 The capacity assessment results for the proposed Albion Road site access are summarised in **Table 7.5** for the 2029 with Development scenario.

**Table 7.5: Capacity Assessment Results – Albion Road Site Access**

| Arm                       | Morning Peak Hour |             |           | Evening Peak Hour |             |           |
|---------------------------|-------------------|-------------|-----------|-------------------|-------------|-----------|
|                           | RFC               | Queue (Veh) | Delay (s) | RFC               | Queue (Veh) | Delay (s) |
| <b>2029 + Development</b> |                   |             |           |                   |             |           |
| Site Access               | 0.09              | <1          | 8         | 0.04              | <1          | 7         |
| Albion Road S             | 0.01              | <1          | 5         | 0.02              | <1          | 5         |

Source: Junctions 10

7.3.9 As shown, the proposed site access is expected to operate well within capacity with a maximum vehicle delay of 8 seconds on the site access arm in the morning peak hour.

- 7.3.10 The access is located to the south of the proposed priority working arrangement. Priority is given to northbound vehicles, therefore, the operation of the proposed site access arrangement will not be affected by this feature.
- 7.3.11 The majority of traffic turns north from the Albion Road / Seymour Drive junction and its operation will not be materially affected by the priority working arrangement.
- 7.3.12 Future two way peak hour traffic flows along Albion Road between the site access and Seymour Drive will be just less than 300 vehicles per hour – in reality this is relatively lightly trafficked and the priority working arrangement will operate with minimal queuing and delay.
- 7.3.13 As set out within the Transport Assessment the Albion Road / Plain Road junction will operate with ample capacity and negligible queuing and delay.

#### Albion Road/High Street/Howland Road

- 7.3.14 The capacity assessment results for the Albion Road/High Street/Howland Road junction are summarised in **Table 7.6**.

**Table 7.6: Albion Road/High Street/Howland Road**

| Arm                            | Morning Peak Hour |             |           | Evening Peak Hour |             |           |
|--------------------------------|-------------------|-------------|-----------|-------------------|-------------|-----------|
|                                | RFC               | Queue (Veh) | Delay (s) | RFC               | Queue (Veh) | Delay (s) |
| <b>2029 Baseline</b>           |                   |             |           |                   |             |           |
| Albion Road - Left Turn        | 0.22              | <1          | 7         | 0.21              | <1          | 6         |
| High Street - Right Turn       | 0.25              | <1          | 8         | 0.36              | 1           | 8         |
| Howland Road Link - Right Turn | 0.01              | <1          | 8         | 0.01              | <1          | 8         |
| <b>2029 + Development</b>      |                   |             |           |                   |             |           |
| Albion Road - Left Turn        | 0.28              | <1          | 7         | 0.23              | <1          | 7         |
| High Street - Right Turn       | 0.27              | <1          | 8         | 0.43              | 1           | 9         |
| Howland Road Link - Right Turn | 0.01              | <1          | 8         | 0.01              | <1          | 8         |

Source: Junctions 10

- 7.3.15 The Albion Road/High Street/Howland Road junction is expected to operate well within capacity in all of the scenarios tested. A maximum vehicle delay of 9 seconds and a queue of one vehicle is forecast for the right turn movement from the High Street in the evening peak hour.



### High Street/Maidstone Road

7.3.16 The capacity assessment results for the High Street/Maidstone Road junction are summarised in **Table 7.7**.

**Table 7.7: High Street/Maidstone Road**

| Arm                       | Morning Peak Hour |             |           | Evening Peak Hour |             |           |
|---------------------------|-------------------|-------------|-----------|-------------------|-------------|-----------|
|                           | RFC               | Queue (Veh) | Delay (s) | RFC               | Queue (Veh) | Delay (s) |
| <b>2029 Baseline</b>      |                   |             |           |                   |             |           |
| Maidstone Road            | 0.38              | 1           | 14        | 0.36              | 1           | 13        |
| High Street               | 0.08              | <1          | 5         | 0.10              | <1          | 6         |
| <b>2029 + Development</b> |                   |             |           |                   |             |           |
| Maidstone Road            | 0.40              | 1           | 14        | 0.39              | 1           | 13        |
| High Street               | 0.11              | <1          | 5         | 0.12              | <1          | 6         |

Source: Junctions 10

7.3.17 The High Street/Maidstone Road junction is expected to operate well within capacity in all of the scenarios tested. A maximum vehicle delay of 14 seconds and a queue of one vehicle is forecast on the Maidstone Road arm during the morning peak hour.

### West End/Pattenden Lane/Church Green

7.3.18 The capacity assessment results for the West End/Pattenden Lane/Church Green junction are summarised in **Table 7.8**.

**Table 7.8: West End/Pattenden Lane/Church Green**

| Arm                       | Morning Peak Hour |             |           | Evening Peak Hour |             |           |
|---------------------------|-------------------|-------------|-----------|-------------------|-------------|-----------|
|                           | RFC               | Queue (Veh) | Delay (s) | RFC               | Queue (Veh) | Delay (s) |
| <b>2029 Baseline</b>      |                   |             |           |                   |             |           |
| Pattenden Lane            | 0.40              | 1           | 12        | 0.62              | 2           | 17        |
| Church Green              | 0.42              | 1           | 9         | 0.31              | 1           | 8         |
| <b>2029 + Development</b> |                   |             |           |                   |             |           |
| Pattenden Lane            | 0.41              | 1           | 13        | 0.65              | 2           | 19        |
| Church Green              | 0.46              | 1           | 9         | 0.33              | 1           | 8         |

Source: Junctions 10

7.3.19 The West End/Pattenden Lane/Church Green junction is expected to operate well within capacity in all of the scenarios tested. A maximum vehicle delay of 19 seconds and a queue of two vehicles is forecast on the Pattenden Lane arm during the evening peak.

#### **Summary**

7.3.20 All of the junctions included within the study area are expected to operate well within capacity with no noticeable change in performance for the updated 2029 design year. The addition of the proposed development traffic is not forecast to have a significant impact on the operation of the local highway network (in terms of capacity / congestion or safety) and there is no need to provide capacity improvements.

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## SECTION 8 Conclusions

### 8.1 Package of Access and Highway Improvements

8.1.1 The package of access and highway improvements associated with the proposed development is summarised below:

- Albion Road – All Purpose Access;
- New footway connection along Albion Road between the site and the existing footway at the Albion Road / Seymour Drive junction;
- Copper Lane – Pedestrian / Cycle / Emergency Access; and
- Proposed Improvements to Footpath KM281.

8.1.2 In addition, a Framework Travel Plan is provided to encourage non car travel for future residents

### 8.2 Conclusions

8.2.1 In conclusion:

- Safe and suitable access to the site is proposed from Albion Road and Copper Lane;
- Safe pedestrian connections to the wider pedestrian network are provided.
- All of Marden's amenities / facilities are accessible by walking and cycling from the site and the development provides appropriately for active travel modes;
- There is appropriate access to public transport modes (bus and rail);
- A Framework Travel Plan is provided to encourage non car travel for future residents; and
- The impact of development generated traffic on the operation of the highway network is not significant (safety or capacity) and there is no need to provide capacity improvements.

8.2.2 Therefore, the development meets the site specific transport requirements of Policy LPRSA295 - Land at Copper Lane and Albion Road, Marden as well as local and national transport planning policy requirements.



