



**MIXED-USE DEVELOPMENT
A259 NEW ROAD
RUSTINGTON
WEST SUSSEX**

TRANSPORT ASSESSMENT

VOLUME 1 OF 4

On behalf of
**COMMERCIAL DEVELOPMENT PROJECTS LIMITED
&
MARKS AND SPENCERS PLC**

PMcL/3167d1/Feb 2015



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1.0 INTRODUCTION

- 1.1 The Redwood Partnership has been instructed by Commercial Development Projects Limited and Marks and Spencers PLC to provide highways and transportation planning advice and prepare a Transport Assessment for a proposed development on land at the northern boundary of Rustington, West Sussex. The site is located in the Ward of Angmering and is situated on the south side of the A259 New Road dual carriageway, east of Brook Lane and approximately 400 metres west of the A259 New Road/Mill Lane roundabout.
- 1.2 The application site is adjacent to a new development yet to be constructed which recently received planning permission as a car showroom together with 2no. retail units (Arun District Council Planning Ref: A/125/13). For ease of reference this adjacent development will be referred to as 'the Mill Lane Development'.
- 1.3 The development proposals include an M&S Simply Food retail unit with 826 sq m of food and drink sales, potentially including a café of approximately 50 sq m plus approximately 10 sq m of general merchandise. The M&S Simply Food unit is located at the north-east corner of the site and a separate family pub and restaurant is proposed towards the north-west end of the site adjacent to the site access together with a shared 196 space car park. A site location plan is shown in **Figure A1**.
- 1.4 The Transport Assessment will measure and assess the highway and transportation effects of the development proposals on the surrounding highway network and review the sustainability and accessibility of the development proposals against local and national guidelines. The Transport Assessment will be undertaken generally in accordance with "Guidance on Transport Assessment", March 2007 produced by the Department for Transport and West Sussex County Council's Transport Assessment Methodology.
- 1.5 The Transport Assessment will consider the following issues:
 - **Chapter 2.0** will describe the existing highway conditions and patterns of movement within the study area together with public transport provision and accessibility of all modes of travel in the vicinity of the site



- **Chapter 3.0** will describe the development proposals & highway improvements
- **Chapter 4.0** will assess the volume, distribution and characteristics of trips likely to be attracted to the development, car parking and the likely impact of the development on the adjoining highway network
- **Chapter 5.0** will describe local and national planning policy background
- **Chapter 6.0** will provide a full summary and report conclusions

1.6 Local and national transport policy as it relates to the development will be reviewed in the Transport Assessment. The Highway Authority responsible for highways and transportation issues within the area is West Sussex County Council; the local planning authority is Arun District Council.

1.7 The Transport Assessment should be read in conjunction with the Framework Travel Plan prepared by the Redwood Partnership (Ref: PMcL/3167d2); the Planning Statement prepared by Blue Sky Planning and the architectural layout plans and details prepared by Add Architects.



2.0 EXISTING HIGHWAY & ACCESSIBILITY

- 2.1 The application site consists of open land on the south side of the A259 New Road dual carriageway located approximately 400 metres west of the A259 New Road/Mill Lane roundabout junction in Rustington, West Sussex. The site is located on the northern boundary of the town of Rustington but is in the Ward of Angmering, West Sussex (**Figure A1**).
- 2.2 The A259 New Road is dual carriageway and forms part of the County's Strategic Road Network. The westbound carriageway of this road abuts the northern boundary of the site. The road is subject to the national speed limit of 70 mph immediately after westbound traffic leaves the Mill Lane roundabout and whilst the development proposals are not reliant on traffic speed reduction, the application will include a request for the West Sussex County Council to consider a localised reduction from the national speed limit to 50 mph from the Mill Lane roundabout to a point just beyond the development's proposed acceleration lane entry onto the A259 New Road.
- 2.3 The application site has the benefit of two existing vehicular access points onto the A259 New Road; a gated field entrance in the north-east corner of the site which is currently barriered off and a minor priority junction serving a small number of dwellings along a private road known as Brook Lane. The proposals intend to upgrade the existing access to Brook Lane to provide a new improved site entrance in the same location together with the closure of the field access on the north-east corner. **Photo 2.1** and **Photo 2.2** show the junction of the A259 New Road with Brook Lane; **Photo 2.3** and **Photo 2.4** show the gated field entrance to be closed:

Photo 2.1
Existing A259/Brook Lane junction



Photo 2.2
Existing /Brook Lane access





Photo 2.3
Existing A259/field entrance junction



Photo 2.4
Existing A259/field entrance junction



Pedestrian and Cycle Routes

- 2.4 In terms of the acceptability of walk distances from the application site to local services and facilities, the Institution of Highways and Transportation (IHT) publication “*Guidelines for providing for journeys on foot*” (2000) defines acceptable walk distances for pedestrians without impaired mobility. The document refers to 2000 metres (2km) as being the maximum distance which the general public would consider when walking.
- 2.5 **Figure A3** shows the walking isochrones leading to the site up to 1200 metres (15 minute walk) which is a reasonable walking distance from the Rustington Retail Park; from the Mill Lane Development and from nearby residential areas. This confirms that the location of the site would be able to facilitate walking as a realistic mode of transport.
- 2.6 The site is not presently connected to pedestrian footways or dedicated cycle routes. The nearest surfaced public footway crosses over the railway at the Mill Lane Bridge located approximately 600 metres east of the application site. This footway becomes a footpath which links east through to Sainsbury’s and other retail units on the Rustington Retail Park approximately 200 metres further east of Mill Lane. A dedicated cycle path also connects the Sainsbury’s site to the Mill Lane Bridge where cyclists are required to join the main carriageway of Mill Lane.
- 2.7 Planning permission for the adjacent Mill Lane Development includes proposals for a new footpath link from the north-east corner of the Mill Lane Bridge, crossing Mill Lane via new PUFFIN pedestrian traffic signals then running north to the A259 New Road then west to



the Mill Lane Development entrance. Part of this new route adjacent to the A259 New Road includes an off-road cycle route shared with the footpath. This route will bring a dedicated shared public footpath/cyclepath to within 200 metres of the application site. The provision of this pedestrian/cycle link to the Mill Lane Development is yet to be constructed and its further extension to the application site will be discussed in further detail in Section 3.0.

- 2.8 South and west of the application site is an unmade public footpath which crosses the railway line turning west along Brook Lane. Brook Lane from the railway line north to the A259 New Road is not a Public Highway and therefore no public right of way to the application site exists from this direction. Pedestrians will not have a legal right of way to access the application site from this direction.
- 2.9 Cycle journeys of up to 5km can replace car borne trips. Littlehampton to the west and outskirts of Worthing to the east are approximately 5km from the site. **Figure A4** shows a closer 3km cycle isochrone for the site which includes all of Rustington; much of Angmering and East Preston and parts of Littlehampton. Many residential areas are within a 3km cycle distance of the site confirming that the location of the site would be able to facilitate cycling as a realistic mode of transport for customers to the foodstore, patrons to the public house and staff. Cycle parking facilities will be provided on the site to further encourage cycling.

Public Transport - Bus Services

- 2.10 The nearest bus stops are located at the Rustington Retail Park and south of Mill Lane/Worthing Road roundabout both approximately 800 metres (10 minutes' walk) from the site. Both bus stops are served by bus route No.12 operated by Compass Travel which access the Sainsbury's and other retail units on the Rustington Retail Park on an hourly basis during the week. Local bus-served routes are shown in **Figure A2** whilst the bus routes and daytime frequency are shown in **Table 2.1**:

**Table 2.1: Commercial Bus Service serving the Rustington Retail Park**

Service	Route	Daytime bus frequency		
		Mon-Fri	Sat	Sun
12	Sainsbury's, Rustington-Littlehampton-Wick-Tesco, Littlehampton	One per hour	One per hour	1 per hour

- 2.11 Proposals for the Mill Lane Development include the provision of a bus layby and shelter to bring customers directly into the adjacent development. The implementation of this new bus route will bring bus services to within a 200 metre walk distance of the application site.

Public Transport - Rail Services

- 2.12 Angmering Station and all trains serving it are run by Southern, with the typical off-peak service comprising the following:

Eastbound

- 1 train/hour to Brighton from Portsmouth Harbour
- 1 train/hour to Brighton from Southampton Central
- 1 train/hour to London Victoria from Littlehampton

Westbound

- 1 train/hour to Portsmouth Harbour from Brighton
- 1 train/hour to Southampton Central from Brighton
- 2 trains/hour to Littlehampton

- 2.13 After the construction of a new shared footpath/cyclepath link to the application site, Angmering Station will be approximately 1500 metres walk distance from the site via the existing footpath link from the station to Sainsbury's; onwards to Mill Lane, then along the proposed Mill Lane Development footpath/cyclepath extension and finally the proposed development's footpath/cyclepath extension from the Mill Lane Development.

- 2.14 The walk distance from Angmering station to the application site is a realistic distance for staff travelling on a daily commute. The railway station also offers the choice of shopping opportunity for customers who may wish to walk from the station to Sainsbury's and other



retail units at Rustington Retail Park through to the Mill Lane Development site and then on to the application site forming part of a linked shopping trip.

- 2.15 In summary, in view of the above existing and proposed transport links it is considered that the site is accessible by sustainable modes of transport other than the private car.

Traffic Volume and Speed Surveys

- 2.16 Peak hour periods for food retail traffic generation generally occur during the Friday PM peak hours and the Saturday peak lunchtime periods, whilst public house peak traffic generation occurs later in the evening on both Friday and Saturday. As part of the planning application for the Mill Lane Development (Application Ref: A/125/13) a comprehensive traffic survey was undertaken, submitted and accepted by the Council. The application site is located adjacent to the Mill Lane Site therefore for consistency, the same base traffic count data has been referred to within this assessment. The following junctions were surveyed on the dates specified:

- The A259 New Road/B2187 Mill Lane roundabout on Friday 15th and Saturday 16th March 2013 between 16:00-19:00hrs and 10:00-15:00hrs respectively
- The A259/B2187 Worthing Road/B2187 Horsham Road roundabout on Friday 19th and Saturday 20th March 2013 between 16:00-19:00hrs and 10:00-15:00hrs respectively

- 2.17 The results of the traffic surveys show that the network peak hours are from 16:45-17:45hrs during the Friday PM peak period and from 12:00-13:00hrs during the Saturday peak period. The surveyed traffic flows for the Friday PM and Saturday peak hours are shown in **Figures C1** and **Figure C2 (Appendix C)**.

- 2.18 Traffic speed surveys in accordance with TA 22/81 have been undertaken on the A259 New Road directly opposite the Brook Lane entrance. Two hundred vehicle speeds were measured over two days to determine the 85thile design speed of traffic passing the site at the Mill Lane junction. This data will provide the necessary guidance with regards the appropriate length of deceleration and acceleration lanes proposed at the site entrance. The



traffic speed survey established an 85thile traffic speed of 67mph on the A259 New Road. The survey data is included in **Appendix B**.

Personal Injury Accident Data

- 2.19 Personal injury accident data (PIA) on record for the period between 1st December 2009 and 30th November 2014 was obtained from Sussex Safer Roads Partnership working in partnership with West Sussex County Council and the Sussex Police. The area of interest included both sides of the A259 from the proposed site access east to the A259 New Road/Mill Lane roundabout. The PIA data and accident location map are included in **Appendix B**. **Table 2.2** provides a summary of all the accidents:

Table 2.2: Accident Data Summary (Source Sussex Safer Roads Partnership)

Junction/Link	Accident Severity			Vulnerable Road User Casualties		
	Slight	Serious	Fatal	Pedestrian	Cyclist	M/cyclist
A259 /B2187 Mill Lane Roundabout	10	0	0	0	1	0
A259 West	4	0	0	0	0	0
A259 East (New Road)	2	1	0	0	0	0
B2187 Mill Lane	3	0	0	0	1	0
TOTAL	19	1	0	0	2	0

- 2.20 No fatal accidents occurred within the vicinity of the site in the last five years. Only one serious accident was recorded within this time period. The single recorded serious incident was noted as a result of a medical episode suffered by the elderly driver.
- 2.21 An appraisal of the accident data over the recent 5 year period illustrates no history or pattern of traffic collisions to show that there are concerns with regard the local highway design. The data does not indicate any abnormal grouping of accidents or a statistically high occurrence of incidents near to the application site. The recorded incidents in many cases flagged up a lack of driver attention and driver error rather than junction inadequacies.



3.0 DEVELOPMENT PROPOSALS

- 3.1 The proposals include an M&S Simply Food retail unit with 826 sq m of food and drink sales, potentially including a café of approximately 50 sq m plus approximately 10 sq m of general merchandise, located at the north-east corner of the site. The development also includes a family pub located to the west of the food retail unit at the entrance to the development. A breakdown of the proposed internal floor areas for both units is shown in **Table 3.1** (for location refer to reduced architect's layout plan **Drg.No. 1117-P-11-Rev C** enclosed):

Table 3.1 Development Internal Floor Areas (GIA)

Unit	Use	Floor Area (GIA ft ²)	Floor Area (GIA m ²)
A	M&S Simply Food including mezzanine floor with potential ancillary café and general merchandise area	16,000	1,487
B	Family Pub	6,250	581
Total Floor Area (GIA)		22,250	2,068

Vehicular Access

- 3.2 The proposed site access will replace an existing priority junction connecting Brook Lane with the A259 New Road dual carriageway. The development will provide vehicular access to the site in the same location as the Brook Lane junction including appropriate deceleration and acceleration lanes.
- 3.3 The proposed site access from the A259 dual carriageway is a left in/left out junction with merge and diverge lanes as shown on **Drg.No. REDW-3167-110** attached. The junction has been designed using the DMRB (Design Manual for Roads and Bridges), in particular TD 42/95 Geometric Design of Major/Minor Junctions.



- 3.4 Traffic speed survey results indicate a dry weather 85%ile speed of 67mph (107kph) at the Brook Lane junction, slightly above the Design Speed category of 100kph. The proposed nearside diverge has been provided with a total deceleration length of 110m including a 30m taper as set out in DMRB TD 42/95 – Tables 7/5b and 7.4 for a 120kph design speed.
- 3.5 The proposed merge taper has been designed to a 120kph design speed. A 40m nose has been provided on the exit merge taper of 126m which is generally in accordance with DMRB TD 42/95 – Table 7/6 which suggests a 130m taper. The tie-in point is required to connect to the dual carriageway in advance of the at-grade pedestrian crossing of the A259 New Road just west of the exit taper. This results in a minor reduction in the design standard, but is considered acceptable as the full standard of a 120kph Design Speed is 13kph above actual dry weather 85%ile measured vehicle speeds on the road.
- 3.6 The site entrance and deceleration lane provides an auxiliary lane. A 20m nearside entry kerb radius is proposed where the diverge lane turns into the site entrance. DMRB TD42/95 – Fig 7.12 shows an example of an auxiliary lane with give way lines at the start of the entry radius indicating that this entry radius is not required as a speed reduction measure, but as a requirement to accommodate large vehicles turning at the junction. A reduced 20m entry radius has been provided in this instance due to site constraints with the access width widened to 6.5m to accommodate 16.5m articulated lorries accessing the site.
- 3.7 The nearside exit kerb radius where the minor road meets the merge lane is 30m as specified in the DMRB TD42/95 – Para 7.61 for a Design Speed of 120kph. The main road speed limit is currently subject to the national standard of 70 mph and whilst a reduction in speed limit is not necessary for the proposed design, we would suggest that West Sussex County Council consider a reduction in the speed limit on the A259 New Road in the vicinity of the site access and egress to 50 mph.
- 3.8 Once within the site all customers, patrons and service vehicles will pass through the on-site mini roundabout which will essentially be unobstructed by other traffic crossing their path within the site. The mini roundabout provides the most effective method of controlling the right of way for customers wishing to access and egress the main car park; for access to



Brook Lane and for a potential small future development site to the west of the mini roundabout.

- 3.9 The main car park is served from a central 7.0m wide site access road which extends east to the M&S Simply Food's service yard. The layout on the eastern boundary shows a potential direct access connection through to the Mill Lane Site. The development is not dependent upon a through connection to the Mill Lane Development which would be subject to the adjacent land owner's agreement.

Pedestrian Access

- 3.10 The Institution of Highways and Transportation (IHT) publication "Guidelines for providing for journeys on foot" (2000) suggests acceptable walk distances for pedestrians without impaired mobility. The document refers to 2km (slightly over one mile) as being the maximum distance the public would consider when walking. All of Rustington, East Preston and parts of Littlehampton and Angmering are within a 2000m walking distance of the site providing a realistic opportunity for staff and potentially customers and patrons to walk to the site from nearby residential areas. A walking catchment plan is shown in **Figure A3 (Appendix A)**, showing the walking catchment area of a shorter distance of 1200 metres.
- 3.11 The planning application for the Mill Lane Development (Application Ref: A/125/13) includes the provision of a new 3.0m wide shared footpath/cyclepath providing a pedestrian link from the Mill Lane Development site east to the existing footpath/cyclepath link to Sainsbury's located on the eastern side of Mill Lane. The new route will cross Mill Lane via a new PUFFIN traffic signal controlled pedestrian crossing just north of the bridge. This route will provide access to the residential areas of Rustington and East Preston to the south and Rustington Retail Park to the east.
- 3.12 **Drawing No. REDW-3167-111** shows the extent of the off-site footpath/cyclepath being implemented by others under the Mill Lane Development planning permission. **Drawing No. REDW-3167-111** also shows the proposed extension to the footpath/cyclepath from the Mill Lane Development site access west to the north-east corner of the application site which is included in this planning application. The total width of the proposed shared footpath/cyclepath extension is 3m. The footpath/cyclepath will be located a distance of



1.5m from the edge of the A259 New Road as suggested in DMRB TD 90/05 – Paragraph 7.22.

- 3.13 The Applicant has confirmed that should the Mill Lane Development not be implemented prior to the construction and opening of the proposed development, then the Applicant will fund the construction and completion of the 3m shared footpath/cyclepath link through to Mill Lane together with the PUFFIN pedestrian crossing works as currently agreed with West Sussex County Council and the Mill Lane Development applicant under a section 278 Highways Agreement.

Car Parking

- 3.14 The proposed car park will total 196 car parking spaces. **Table 3.2** summarises the designation of parking space which will be shared between the retail unit and the public house:

Table 3.2
Proposed Car Parking Designation

Space Description	Spaces (No.)
Standard parking spaces	172
Disabled (Blue Badge)	16
Parent & Child	8
Total	196

- 3.15 All proposed car parking spaces have a minimum dimension of 2.4x4.8m; disabled and parent and child bays will have an additional 1.2m zone to one side increasing the width of these bays to 3.6m. Aisle widths in front of parking bays are a minimum of 6.0m wide to allow for manoeuvring into the parking bays.
- 3.16 The proposed parking would be located at ground level and accessed via the internal mini roundabout. The maximum parking standard for non-residential development is contained in the saved Arun District Local Plan 2003, GEN12, Appendix 2, Table 4. For A1 food retail the parking standards suggest a maximum parking provision of 1 space per 10 sqm GFA. For



the family pub Use Class A3 Appendix 2, Table 7 suggests 1 space per 4.5sqm GFA public area + 2 spaces per bar for staff. The public house footprint will incorporate approximately 65% customer use and 35% back of house, which equates to 397sqm of customer area (610x0.65). Two bars are proposed in the public house.

- 3.17 Arun District Local Plan's maximum car parking standards for each use are shown in **Table 3.3** and relate to Gross Floor Area. This has been derived by using a 1.05 multiplier applied to the Gross Internal Areas shown in **Table 3.1** (i.e. GIAx1.05). The resultant Gross Floor Areas are shown in **Table 3.3**:

Table 3.3
Maximum car parking guidelines - Arun District Council

Unit	Use	Floor Area (GFA m ²)	Bars (No.)	ADC max Parking Standard (per GFA m ²)	Maximum Spaces (No.)
A	Food Retail (A1)	1,561		1 per 10	156
B	Family Pub customer area	397		1 per 4.5	88
B	Family Pub staff		2		4
Max car parking (No.)					248

- 3.18 The maximum car parking standard suggests an allowable parking provision of 248 spaces. A car parking layout is not proposed to meet the maximum car parking standard as the standard is not suggested as a desirable level to be achieved, if it is not required. The applicant does not propose excessive levels of car parking as:

- i) Parking space would be infrequently used for most of the week
- ii) Car parking would be an inefficient use of important development land
- iii) The mixed use of the development will provide the opportunity for linked trips between the M&S Simply Food and the public house creating a shared use of parking space. This will increase dwell time, however the resultant parking demand will be contained within the site



Disabled Parking

- 3.19 Arun District Local Plan 2003, GEN12, Appendix 2 states *‘in all parking areas, provision should be made for people with disabilities, at a ratio of one parking space for people with disabilities per 20 spaces or part thereof’*. An allowance of 5% of the total parking provision equates to 10 disabled spaces overall (196 x 0.05). The proposals include 16 disabled spaces located near to the entrances of each unit which is in excess of the minimum Council requirement and is therefore compliant. Eight customer and patron car parking spaces will also be designated as parent and child spaces designed to the same dimensions as disabled spaces.

Motorcycle Parking

- 3.20 Arun District Local Plan 2003, GEN12, Appendix 2 states *‘associated with any car parking provision, spaces for motorcycles shall be provided at a rate of 1 motorcycle space per 30 car parking spaces, subject to a minimum of 1 space’*. For the proposed site this equates to a minimum number of $196/30=7$ spaces. Motorcycle parking space will be located on the site in two locations near to the entrances of both the retail use and the public house. The two areas are of a sufficient size to contain in total at least 8 motorcycles. A single large area is proposed for each motorcycle parking area, rather than individually marked spaces as this enables a better and more efficient use of available space catering for a variety of large and small motorcycles.

Cycling

- 3.21 Cycling has the potential to substitute for short car trips, particularly those journeys under 5 kilometres and can form part of a longer journey by public rail transport. Arun District Local Plan 2003, GEN12, Appendix 2 states *‘associated with any car parking provision, appropriate facilities and/or a suitable area should be provided for the parking of bicycles. Provision shall be at the rate of:-*
- 1 cycle space per 8 car parking spaces, subject to a minimum of 2 cycle spaces, apart from at large out-of-town retail units, where the standard is 1 cycle space per 16 car parking spaces’*



- 3.22 The level of cycle parking provision will be provided in excess of Arun District Local Plan 2003, GEN12, Appendix 2 which requires a minimum cycle parking provision of 12 spaces (196/16). The proposals include separate secure and covered cycle parking areas for both uses with cycle parking for customers and patrons located near to the building entrances. Three cycle parking areas are proposed with a total of 16 cycle spaces; the public house will have separate cycle parking for staff and patrons (8 total); the M&S Simply Food unit will provide a single cycle parking area for staff and customers at the front of the unit (8 total). Additional space is available for more cycle parking if further cycle parking demand is measured during the Travel Plan monitoring process.
- 3.23 The proposals include an extension of the footpath/cyclepath route provided by the adjacent Mill Lane Development (**Drawing No. REDW-3167-111**). The proposed footpath/cyclepath route will enter the site at the north-east corner passing to the east of the Marks & Spencer's service yard, passing through the site on the north side of the site access road. The shared footway/cycleway route terminates at the mini roundabout and has the potential to be extended further west. A 3km cycling catchment plan is shown in **Figure A4 (Appendix A)**, showing a large cycling catchment area near to the site establishing that the site will be accessible to cyclists.

Servicing

- 3.24 The M&S Simply Food unit (Unit A) will be serviced from a service yard located to the east of the unit. Food retail HGV service vehicles will access the site from the A259 New Road across the mini roundabout and east along the central site access road. The track swept path of a 16.5m articulated lorry arriving and departing the site is shown on **Drawing .No. REDW-3167-112** and **Drawing. No. REDW-3167-113** respectively.
- 3.25 Servicing of the public house will access a small service area to the south of the public house yard accessed after passing through the mini roundabout. The exit route will make use of the customer car park which will be constructed to a sufficient standard to allow for HGV vehicle movements. The track swept path of both a 16.5m articulated lorry and a 12m rigid beer lorry is shown on **Drawing. No. REDW-3167-114** and **Drawing. No. REDW-3167-115** respectively.



- 3.26 Private refuse/recycling companies will be used for refuse collection and all refuse/recycling HGVs will collect waste from the service yards. The site is accessible to large fire tenders by default as the turning area required for a fire tender is less than that required for a 16.5m articulated lorry turning.
- 3.27 The track swept paths confirm that sufficient space has been provided to accommodate large heavy goods vehicle manoeuvring on the site.



4.0 TRAFFIC ASSESSMENT

4.1 An assessment of the traffic impact of the development proposals has been made at the following junctions forming the study area:

- i) The proposed site access on the A259 New Road
- ii) The existing A259 New Road/B2187 Mill Lane roundabout
- iii) The existing A259 New Road/B2187 Horsham Road roundabout (The Body Shop roundabout)

Assessment Years and Traffic Growth

4.2 The following Assessment Years have been used for the traffic impact assessment:

- Year of development opening – 2016
- Horizon Year – 2020 (Planning application year + 5 years)

4.3 Traffic growth factors will be applied to base traffic survey information to arrive at base traffic flows for both the Year of Opening 2016 and the Horizon Year 2020. Growth factors already take account of increased traffic flows brought about by new committed development and including both committed development and traffic growth results in an element of double counting of traffic flows.

4.4 The growth factors were derived from the National Transport Model (NTM) 2013 data using localised Tempro 6.2 datasets for the Littlehampton (main) area, Ref: 45UC1. A summary of the growth factors applied to the base traffic flows are shown in **Table 4.1** using an average of origin and destination growth figures:

Table 4.1
Tempro adjusted traffic growth figures

Time Period	NTM Growth Factors with Tempro Adjustment	
	Growth Factor 2013-2016	Growth Factor 2013-2020
Friday PM	1.042	1.042
Saturday	1.098	1.098



- 4.5 Base traffic turning movements as submitted in the Mill Lane Development application are shown in **Figure C1** and **Figure C2 (Appendix C)** and converted to equivalent passenger car units in **Figure C3** and **Figure C4**. Base traffic turning movements for both peak hours have been growthed to the year of opening 2016 and horizon year 2020 by applying the growth factors are shown in **Table 4.1**. The resultant traffic figures are included in **Figure C5** to **Figure C8**.

Committed Development

- 4.6 The following committed developments within the vicinity of the proposed site have been considered:

- Courtwick Lane (LU/355/10) – residential development
No Saturday data available
- North Littlehampton (LU/47/11) – residential development
No Saturday data available
- Country Fayre (FG33/10 (FG/16/12)) – approved change of use from garden centre to open A1 with no traffic impact, amended to A1 Food (Asda) and approved as having minimal impact
- Haskins Roundstone (A/109/10) - minimal increase in garden centre floor area, no TA produced on agreement with WSCC
- Morrisons Wick (LU/27/11) – A1 foodstore and B1A offices
- Windroos Nursery (LU/229/10) – residential development on former distribution centre site, approved as having less impact than existing use
- Sainsbury's, Rustington (R/59/12) – Foodstore knock down and rebuild scheme
- Rustington Retail Park (R/210/11) – increase in retail floor area involving demolishing an existing building and replacing with three additional retail units
- Mill Lane Development including car showrooms (site adjacent)

- 4.7 Total traffic flows as a result of the first eight committed developments for both the Friday and Saturday peak hours are shown in **Figure C9** and **Figure C10 (Appendix C)**. These were derived from Mayer Brown's (MB) Transport Assessment for the Mill Lane Development (Mayer Brown's Figure 07 less Figure 03 and Figure 08 less Figure 04 respectively). Total traffic flows as a result of the adjacent Mill Lane Development for both the Friday and Saturday peak hours are shown in **Figure C11** and **Figure C12 (Appendix C)**. These were



derived from Mayer Brown's Transport Assessment for the Mill Lane Development (MB Figure 25 and MB Figure 26).

Estimated development traffic flows

- 4.8 Trip generation for the M&S Simply Food unit has utilised the agreed trip rates used in the Mill Lane Development application (Mayer Brown Transport Assessment, Table 5.7). For the public house the TRICS database has been interrogated to derive trip generation rates based upon gross floor area, therefore using the TRICS database (**Appendix D**) we can estimate gross unfettered trips to the site attracted to the public house. **Table 4.2** shows a schedule of TRICS peak hour trip rates for the public house and the M&S Simply Food trip rates taken from the Mayer Brown Transport Assessment. **Table 4.3** shows the resultant unfettered peak hour traffic flows derived from the factored gross floor area of each unit multiplied by the trip factor per 100sqm GFA:

Table 4.2
TRICS Peak Hour Vehicle Trip rates per 100 sq m GFA

Use	Friday PM Peak 16:45-17:45hrs		Saturday Midday Peak 12:00-13:00hrs	
	Trip rate Arrival	Trip rate/ Departure	Trip rate/ Arrival	Trip rate/ Departure
M&S Simply Food ⁽¹⁾	3.880	4.188	5.763	5.684
Public House ⁽²⁾	3.798	2.017	3.739	1.769

Notes

1. Taken from Mayer Brown Transport Assessment, Table 5.7
2. TRICS assessment (Appendix D)

Table 4.3
TRICS Vehicle Traffic Flows-Unfettered Traffic in Individual Units

Use	Friday PM Peak 16:45-17:45hrs		Saturday Midday Peak 12:00-13:00hrs	
	Vehicles Arrival	Vehicles Departure	Vehicles Arrival	Vehicles Departure
M&S Simply Food 1561m ² GFA	61	65	90	89
Public House- 610m ² GFA	23	12	23	11
TOTAL (vehicles)	84	77	113	100



M&S Simply Food Vehicle Trip Types

- 4.9 Research by the Competition Commission (Supermarkets – October 2000) examined the different factors that might affect customer's choice of store for main grocery shopping. Just over two-fifths of respondents (43 per cent) indicated that the main factor was "*the ability to get most of the weekly shopping done under one roof*". The Competition Commission also considered to what extent supermarkets were used for 'top-up' or 'convenience shopping'. The Commission concluded that top-up stores were more often located in town centres and that one-stop (main weekly food shop) shopping was carried out in stores with a size greater than 1,400m² where there was a wider range of goods.
- 4.10 TRICS Research Report 14/1 'Pass-By & Diverted Trips (Dec 2014). Paragraph 11.9 suggests that even larger store sizes can act as a convenience store stating '*.... stores with a GFA of 4,000m² or less are more likely to act as convenience stores, whilst those with a GFA higher than 4,000m² are more likely to act as comparison stores*'. Paragraph 11.10 states '*Convenience stores are more likely to produce pass-by trips, whilst comparison stores are more likely to produce diverted trips*'.
- 4.11 The proposed M&S Simply Food is significantly below the 4,000m² suggested (i.e. 1,561 m² GFA), therefore the Pass-by trip proportions are expected to be high essentially coming from westbound traffic already on the highway network dropping in at the site for small purchases.
- 4.12 Clearly, given the relatively small size of the proposed M&S Simply Food unit, which is somewhat smaller than the nearby Sainsbury's supermarket and other foodstores located on the A259, we consider that the M&S Simply Food would not in the main generate Primary New trips but would instead cater for mainly top-up or convenience shopping, where shoppers would combine their shopping trip with food or other shopping trips either travelling to and from Littlehampton and Worthing or as pass-by commuter trips already passing the site which we consider will form a large element of the food retail trips to the site.
- 4.13 Essentially food shopping trips can be classed as Primary New trips which are vehicle trips made from home returning directly to home after the shopping activity and Secondary trips



which are linked with a number of other activities such as work, leisure or other shopping destinations. Secondary trips can be further categorised into Pass-by trips, Diverted trips and Transferred trips.

- 4.14 Primary New trips are vehicle trips that do not appear anywhere on the road network prior to the opening of the development. Research has shown that this element of generated trips can be relatively small or quite often zero (especially during peak hours) which confirms that all shopping trips already exist on the area-wide network prior to the new development opening or would have occurred anyway with shoppers travelling further afield to satisfy bulky shopping requirements. The new development will simply result in a redistribution of trips. New trips could however be generated from committed development not yet built and an allowance for this is made in traffic growth factors applied to the base traffic flows.
- 4.15 We consider that 0%-5% of vehicle trips to the M&S Simply Food would be newly generated, especially during the peak hours and especially in areas where high volumes of traffic are already passing the site, which is the case for the A259 and Mill Lane. The remainder of trips to the M&S Simply Food unit would either already be on the local highway network in the vicinity of the site; attracted to it from other nearby developments or diverted from a route to a further destination. For a robust assessment of the highway network we have assumed a conservative 10% of M&S Simply Food vehicle trips would be totally new to the local highway network.
- 4.16 Pass-by trips are trips which, strictly speaking, pass the site access to the development without diversion, i.e. existing trips that are already present on the A259 New Road passing the site and on Mill Lane which are already turning left onto the A259 New Road. Overall in this location during the peak hour, pass-by trips are expected to be significant. We would expect up to 50% of M&S Simply Food traffic to be a reasonable proportion of trips that are likely to be Pass-by trips due to the lack of a right turn movement from the site, however for a robust test we have assumed a lower 30% Pass-by trips which is consistent with the Mill Lane Development Transport Assessment.
- 4.17 We expect the vast majority of the Pass-by trips to consist of westbound traffic; eastbound traffic passing by when leaving the site would be required to drive to the Body



Shop roundabout approximately 1.6km west of the site before returning east on the A259 to return to their original position at the A259/Mill Lane roundabout. This route requires a long diversion and would not be an attractive choice especially during the peak hour periods being assessed, therefore eastbound Pass-by traffic is not expected to be a significant proportion of vehicle trips to the M&S Simply Food. However in order to provide a robust test of U-turning traffic at both roundabouts being tested we have included 10% eastbound Pass-by traffic.

- 4.18 Diverted trips are trips that will have multiple destinations locally and would have to divert from their existing route to access the development, they are similar to Pass-by trips but would have to deviate from their route to access the development. In view of the left-turn only exit from the site and the distance required to return to their original route, we do not consider that during peak hours customers would divert from the A259/Mill Lane roundabout. Had a right turn egress been possible we would have expected a proportion of Diverted trips from the A259/Mill Lane roundabout. Therefore for this particular site location and the required routes for departing traffic, we have assumed no Diverted trips to the M&S Simply Food unit.
- 4.19 The remaining 60% of trips to the M&S Simply Food can be classified as Transferred trips. Transferred trips are vehicle trips that are already travelling on the A259 New Road, Mill Lane and other local roads for the single purpose of food shopping at similar sites and will divert from their existing route to access the site. The A259 New Road and Mill Lane form major routes in the area and therefore already carry a substantial proportion of potential customers who will be able to visit the M&S Simply Food. These vehicle trips are currently driving to the Sainsbury's Rustington Retail Park, the Asda Ferring, the Morrisons Wick, the Tesco Broadpiece and other food destinations and will divert into the site, returning home after shopping.
- 4.20 Transferred trips are generally already included within the traffic volume surveys however the traffic impact along the diverted routes needs to be assessed.
- 4.21 In conclusion the vehicle trip type assumptions for the M&S Simply Food are shown in **Table 4.4:**

**Table 4.4 - Estimated Trade Draw Distribution**

Trip Type	Peak hour %
New trips	10%
Pass-by trips	30%
Diverted trips	0%
Transferred trips	60%

- 4.22 Using the total peak hour trips to the M&S Simply Food as shown in **Table 4.3**, the quantum of vehicle trips for each trip type can be calculated as shown in **Table 4.5**:

Table 4.5
Traffic attraction to proposed M&S Simply Food

Trip type	Trip type proportion (Table 4.4)	Vehicles (No.)			
		Friday PM peak hour		Saturday peak hour	
		Arr	Dep	Arr	Dep
New trips	10%	6	7	9	9
Pass-by trips	30%	18	20	27	27
Diverted trips	0%	0	0	0	0
Transfer trips	60%	37	38	54	53
TOTAL (Table 4.3)	100%	61	65	90	89

Traffic Distribution

- 4.23 The public house traffic distribution has been assumed in proportion of turning count surveys carried out at the A29/Mill Lane roundabout. The turning proportions between the Friday and Saturday surveys are similar, therefore the Friday PM peak hour proportions have been used to calculate traffic distribution. The traffic distribution to the public house would include a number of Pass-by trips which would reduce the traffic impact on the adjacent roundabouts; however for this assessment we have assumed that all public house vehicle trips are new vehicle trips in the area. **Figure C13 (Appendix C)** shows the traffic distribution for both Friday and Saturday peak hour periods. **Figure C14** and



Figure C15 show the resultant public house peak hour traffic flows for the Friday and Saturday periods respectively.

- 4.24 The traffic distribution of New vehicle trips to the M&S Simply Food unit have been calculated by the use of a simple population gravity model which assumes that for this relatively small catchment area that higher populated areas will generate more vehicle trips and that all residents are equally likely to be attracted to the site independent of distance. Ward populations have been taken from the Arun District Council website. The original data has been compiled by the West Sussex Research Unit and relates to year 2013.
- 4.25 **Table 4.6** shows the proportional population catchment from the nearest Wards together with our assessment of the likely route persons living within each Ward would take to the M&S Simply Food unit:

Table 4.6
New trip traffic distribution to M&S Simply Food

Ward	Pop'n persons (2013)	Pop'n Proportion of catchment	Route to M&S Simply Food at A259/Mill Lane roundabout		
			A259 west	A259 east	Mill Lane
Wick with Toddington Ward	5,691	10%	10%		
Ham Ward	5,795	10%	10%		
River Ward	5,357	9%	9%		
Brookfield Ward	6,171	11%	9%		2%
Beach Ward	4,781	9%	9%		
Rustington West Ward	8,138	15%			15%
Rustington East Ward	5,159	9%		5%	4%
East Preston with Kingston Ward	7,149	13%		13%	
Angmering Ward	7,788	14%		14%	
TOTAL	50,672	100%	47%	32%	21%



- 4.26 **Figure C16 (Appendix C)** shows the traffic distribution derived in **Table 4.6** for both Friday and Saturday peak hour periods. **Figure C17** and **Figure C18** show the resultant M&S Simply Food New vehicle trips for the Friday and Saturday periods respectively
- 4.27 Pass-by trips for M&S Simply Food (**Table 4.5**) will have negligible impact on the roundabouts being tested. For a robust test, a proportion of U-turns has been assumed at the A259/Mill Lane roundabout which is unlikely to occur in practice. **Figure C19** and **Figure C20** show the resultant M&S Simply Food Pass-by trips for the Friday and Saturday periods respectively.
- 4.28 Transferred trips for M&S Simply Food (**Table 4.5**) will be made up of diverted trips currently made to other food retailers in the local area. The derivation of the potential trade draw within a 10 minute drive time of the site is included within the Planning Statement. **Table 4.7** shows the estimated trade draw to the M&S Simply Food unit across a typical trading year, **Figure A6** shows the relative location of the larger supermarkets referred to in **Table 4.7**:

Table 4.7
Estimated Trade Draw (i.e. Transferred trips)

Food retailers	% Trade draw Annual
Sainsbury Rustington, Tesco Broadpiece, Morrisons Wick, Asda Ferring	50%
M&S Worthing and M&S Chichester	15%
Sainsbury Littlehampton, Waitrose Littlehampton	15%
Other smaller outlets incl. Tesco Express Rustington, Iceland Rustington	5%
Outside catchment	15%
TOTAL	100%

- 4.29 We are testing the network during peak hours and as such we expect the Trade Draw catchment area during these periods to be smaller than that scheduled in **Table 4.7**, therefore to simplify the assessment we have derived two types of trip distribution for Transferred trips, each with differing characteristics; one for Trade Draw from existing



food retailers located west of the A259/Mill Lane roundabout and one for Trade Draw from existing food retailers located east of the A259/Mill Lane roundabout.

- 4.30 **Table 4.7** identifies the proportion of Transferred trips from local competing foodstores. **Table 4.8** shows for each existing food retailer our assumption of the new diverted route that customers would take when transferring from their current foodstore to the new M&S Simply Food. To simplify the assessment of Trade Draw from 'Other smaller outlets' and 'Outside catchment' have been assigned an appropriate distribution as shown in **Table 4.8**:

Table 4.8
Estimated Trade Draw Distribution

Food retailers	Proportion of Trade Draw (Table 4.7)	% distribution of Transferred trips	
		Sites west of A259/ Mill Lane roundabout	Sites east of A259/ Mill Lane roundabout
Sainsbury Rustington ⁽¹⁾	25%		25%
Morrisons Wick ⁽²⁾	10%	10%	
Tesco Broadpiece ⁽²⁾	10%	10%	
Asda Ferring ⁽²⁾	5%		5%
Sainsbury Littlehampton, Waitrose Littlehampton	15%	15%	
M&S Worthing	10%		10%
M&S Chichester	5%	5%	
Other smaller outlets	5%		5%
Outside catchment ⁽³⁾	15%	10%	5%
TOTAL		50%	50%

Notes

1. For transport purposes Sainsburys Rustington assumed to contribute more than twice the Trade Draw than Morrisons, Tesco or Asda which are located further from the development site
2. Morrisons and Tesco considered having equal Trade Draw. Asda do not offer premium range therefore less draw assumed
3. Assumed distribution



- 4.31 As calculated in **Table 4.8**, 50% of M&S Simply Food Transferred trips will originate from customers currently travelling to foodstores west of Mill Lane, the remaining 50% of trips from customers currently travelling to foodstores east of Mill Lane. The traffic distribution from each set of customers is shown in **Figures C21-C24** (sites west of Mill Lane) and **Figures C25-C28** (sites east of Mill Lane). To simplify the analysis, for customers currently shopping at foodstore sites west of Mill Lane, we have assumed that 80% will live west of Mill Lane, similarly for customers shopping at foodstore sites east of Mill Lane, we have assumed that 80% will live east of Mill Lane. This assumption is more appropriate to peak hour traffic when customers are more likely to shop closer to home. This assumption robustly introduces a large number of U-turn movements at the A259/Mill Lane roundabout which again we do not consider will occur in practice. Total Transferred trips and development trips are shown in **Figure C29** to **Figure C40**.

Capacity Assessment - Proposed Site Access

- 4.32 Capacity assessments have been undertaken for the proposed site access off the A259 New Road. The junction modelling program PICADY has been used to assess the new junction for the Friday PM and Saturday peak hours for the 2016 and 2020 base plus committed and proposed development scenarios. The one-way junction with the proposed site access has been modelled in accordance with 'TRL Software Knowledge Base Article 15: One-way roads'.
- 4.33 The results of the peak hour assessments for the 2016 and 2020 scenarios are shown in **Table 4.9** and **Table 4.10**:

Table 4.9
Proposed Site Access Year of Opening 2016 + Committed Development + Development

Arm	Friday PM Peak (P101)		Saturday Peak (P102)	
	Max RFC	Max Queue	Max RFC	Max Queue
Site Access Left Out	0.15	1	0.19	1



Table 4.10
Proposed Site Access Horizon Year 2020 + Committed Development + Development

Arm	Friday PM Peak (P103)		Saturday Peak (P104)	
	Max RFC	Max Queue	Max RFC	Max Queue
³¹⁶⁷ Site Access Left Out	0.15	1	0.19	1

- 4.34 Both **Table 4.9** and **Table 4.10** show that the proposed site access will operate well within capacity for the Year of Opening 2016 and Horizon Year 2020 traffic scenarios. The junction experiences a maximum RFC of 0.19 during both Saturday peak hours for 2016 and 2020 with a maximum theoretical queue rounded up to 1 vehicle during each peak hour. The PICADY output is attached at **Appendix E**.

Capacity Assessment - A259/Mill Lane Roundabout

- 4.35 Capacity assessments have been undertaken on the A259/Mill Lane roundabout to the east of the development site using ARCADY, the roundabout modelling program. The ARCADY output is attached in **Appendix E**.
- 4.36 The results of two peak hour assessments for Year 2016 traffic flows including committed development and Year of Opening 2016 traffic flows including both committed development and proposed development are shown in **Table 4.11** and **Table 4.12** respectively:
- 4.37 **Table 4.11** shows the A259/Mill Lane roundabout operating within capacity to Year 2016 traffic flows without development but including committed development. The roundabout shows a maximum RFC of 0.78 during the Friday PM peak hour and 0.70 during the Saturday peak hour on the A259 East arm with a maximum queue of 3 vehicles on Friday and 2 on Saturday:



Table 4.11
A259/Mill Lane Roundabout Opening Year 2016 + Committed Development

Arm	Friday PM Peak (A101)		Saturday Peak (A102)	
	Max RFC	Max Queue	Max RFC	Max Queue
Golfers Lane	0.28	1	0.57	1
A259 East	0.78	3	0.70	2
Mill Lane	0.55	1	0.62	2
A259 West	0.56	1	0.53	1

Table 4.12
A259/Mill Lane Roundabout Opening Year 2016 + Committed Development + Proposed Development

Arm	Friday PM Peak (A105)		Saturday Peak (A106)	
	Max RFC	Max Queue	Max RFC	Max Queue
Golfers Lane	0.29	1	0.60	1
A259 East	0.79	4	0.71	2
Mill Lane	0.57	1	0.65	2
A259 West	0.57	1	0.55	1

4.38 **Table 4.12** shows the A259/Mill Lane roundabout operating within capacity with the development traffic added to the 2016 traffic flows. The roundabout shows a maximum RFC of 0.79 during the Friday PM peak hour and 0.71 during the Saturday peak hour on the A259 East arm with a maximum queue of 4 vehicles on Friday and 2 on Saturday.

4.39 The results of the Horizon Year peak hour assessments for Year 2020 traffic including committed development and Horizon Year 2020 traffic including both committed development and proposed development, are shown in **Table 4.13** and **Table 4.14** respectively:



Table 4.13
A259/Mill Lane Roundabout Horizon Year 2020 + Committed Development

Arm	Friday PM Peak (A103)		Saturday Peak (A104)	
	Max RFC	Max Queue	Max RFC	Max Queue
Golfers Lane	0.36	1	0.71	2
A259 East	0.82	4	0.73	3
Mill Lane	0.60	2	0.68	2
A259 West	0.59	2	0.57	1

Table 4.14
A259/Mill Lane Roundabout Horizon Year 2020 + Committed Development + Proposed Development

Arm	Friday PM Peak (A107)		Saturday Peak (A108)	
	Max RFC	Max Queue	Max RFC	Max Queue
Golfers Lane	0.37	1	0.75	2
A259 East	0.83	5	0.75	3
Mill Lane	0.62	2	0.71	2
A259 West	0.60	2	0.58	2

4.40 **Table 4.13** shows the A259/Mill Lane roundabout operating within capacity with Horizon Year 2020 traffic without development but including committed development. The roundabout has a maximum RFC of 0.82 during the Friday PM peak hour and 0.73 during the Saturday peak hour on the A259 East arm with a maximum queue of 4 vehicles on Friday and 3 vehicles on Saturday.

4.41 **Table 4.14** shows the A259/Mill Lane roundabout operating within capacity with Horizon Year 2020 traffic including development traffic. The roundabout has a maximum RFC of 0.83 during the Friday PM peak hour and 0.75 during the Saturday peak hour on the A259 East arm with a maximum queue of 5 vehicles on Friday and 3 on Saturday.

4.42 The results show that the proposed development traffic will have a minimal impact on future traffic flows including committed development and that the A259/Mill Lane



roundabout will operate within capacity.

Capacity Assessment - A259/A2187 Roundabout (The Body Shop Roundabout)

- 4.43 Capacity assessments have been undertaken for the A259/A2187 roundabout to the west of the development site using ARCADY, the roundabout modelling program. A copy of the ARCADY output is attached in **Appendix E**.
- 4.44 The results of two peak hour assessments for Year 2016 traffic flows including committed development and Year of Opening 2016 traffic flows including both committed development and proposed development are shown in **Table 4.15** and **Table 4.16**:

Table 4.15

A259/A2187 Opening Year 2016 + Committed Development

Arm	Friday PM Peak (A111)		Saturday Peak (A112)	
	Max RFC	Max Queue	Max RFC	Max Queue
A259 East	0.91	8	0.81	4
B2187 Worthing Road	0.64	2	0.58	1
B2187 Horsham Road	0.69	2	0.59	1
A259 Worthing Road	0.86	6	0.83	5
Norway Lane	0.30	1	0.00	0

Table 4.16

**A259/A2187 Roundabout Opening Year 2016 + Committed Development
+Proposed Development**

Arm	Friday PM Peak (A115)		Saturday Peak (A116)	
	Max RFC	Max Queue	Max RFC	Max Queue
A259 East	0.95	11	0.85	5
B2187 Worthing Road	0.66	2	0.59	1
B2187 Horsham Road	0.71	2	0.60	1
A259 Worthing Road	0.86	5	0.83	4
Norway Lane	0.30	1	0.00	0



- 4.45 **Table 4.15** shows the A259/A2187 roundabout operating within capacity with Year 2016 traffic flows including committed development. The roundabout experiences a maximum RFC of 0.91 during the Friday PM peak hour on the A259 East arm and 0.83 during the Saturday peak hour with a maximum queue of 8 vehicles on Friday and 5 vehicles on Saturday.
- 4.46 **Table 4.16** shows the A259/A2187 roundabout operating within capacity with Year of Opening 2016 traffic flows including development traffic. The roundabout experiences a maximum RFC of 0.95 during the Friday PM peak hour on the A259 East arm and 0.85 during the Saturday peak hour with a maximum queue of 11 vehicles on the Friday and 5 vehicles on the Saturday.
- 4.47 The results of the Horizon Year peak hour assessments for Year 2020 traffic including committed development and Horizon Year 2020 traffic including both committed development and proposed development, are shown in **Table 4.17** and **Table 4.18**:

Table 4.17
A259/A2187 Roundabout Horizon Year 2020 + Committed Development

Arm	Friday PM Peak (A113)		Saturday Peak (A114)	
	Max RFC	Max Queue	Max RFC	Max Queue
A259 East	0.97	14	0.86	5
B2187 Worthing Road	0.71	2	0.63	2
B2187 Horsham Road	0.75	3	0.64	2
A259 Worthing Road	0.92	9	0.88	7
Norway Lane	0.35	1	0.00	0

Table 4.18
A259/A2187 Horizon Year 2020 + Committed Development +Proposed Development

Arm	Friday PM Peak (A117)		Saturday Peak (A118)	
	Max RFC	Max Queue	Max RFC	Max Queue
A259 East	1.01	21	0.90	7
B2187 Worthing Road	0.72	2	0.65	2
B2187 Horsham Road	0.76	3	0.66	2
A259 Worthing Road	0.91	8	0.88	6
Norway Lane	0.36	1	0.00	0



- 4.48 **Table 4.17** shows the A259/A2187 roundabout approaching capacity with Horizon Year 2020 traffic flows including committed development. The roundabout has a maximum RFC of 0.97 during the Friday PM peak hour on the A259 East arm and 0.88 during the Saturday peak hour on the A259 Worthing Road arm with a maximum queue of 14 vehicles on Friday and 7 on Saturday.
- 4.49 **Table 4.18** shows the A259/A2187 roundabout operating marginally in excess of capacity with development traffic added to the 2020 traffic flows. The roundabout has a maximum RFC of 1.01 during the Friday PM peak hour on the A259 East arm and 0.90 during the Saturday peak hour with a maximum queue of 21 vehicles on Friday and 7 vehicles on Saturday.
- 4.50 The results indicate that the proposed development traffic will have a marginal impact on future traffic flows including committed development and that the A259 East arm will be operating slightly in excess of capacity in the 2020 scenario. However, it should be remembered the robust assumptions which have been made when deriving traffic flows for this assessment, namely:
- i) the assessments include both committed development flows and traffic growth factors which will result in double counting of traffic growth
 - ii) No reduction in traffic flows have been included to allow for the linking of trips between the site and the Mill Lane development
 - iii) All trips to the public house have been assumed new on the network
 - iv) A relatively large number of U-turn manoeuvres have been assumed at both roundabouts. We consider the number of U-turns will be lower than that modelled
 - v) We consider that the number of Pass-by trips will be higher than the 30% assumed in view of the fact that there is no right turn possible from the site. A higher number of Pass-by trips have the effect of reducing the number of Transfer trips thereby reducing the traffic impact modelled in this assessment
- 4.51 On the basis of the robust assumptions outlined in Section 4.50 it is considered that the A259/A2187 roundabout will in practice operate with spare capacity, although in future years beyond 2020 the roundabout will be approaching capacity. In future years we expect capacity on the A259 to be improved should the works recommended in West

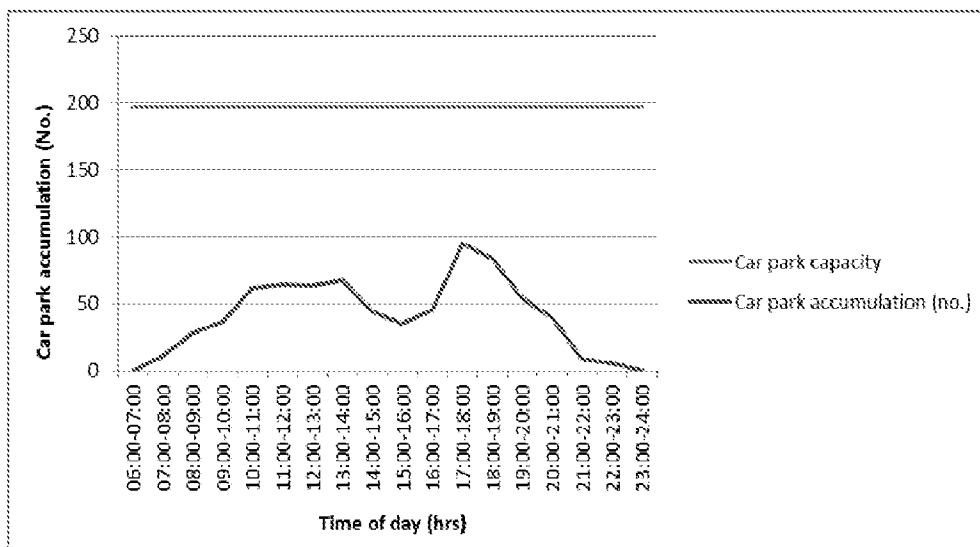


Sussex County Council's A259 Route Improvement Study be implemented, especially those at the A259/A2187 roundabout.

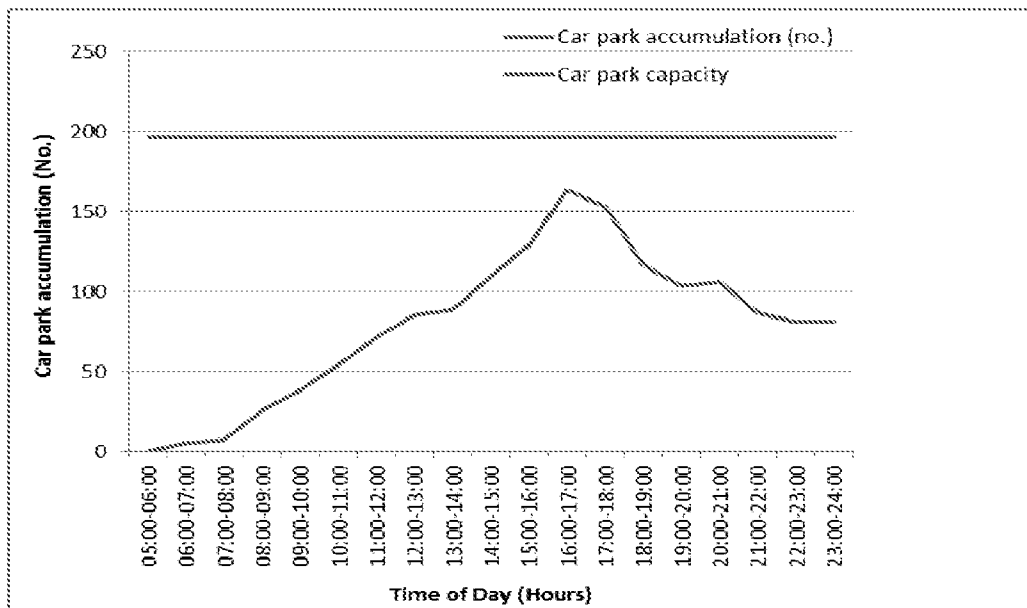
Parking Assessment

- 4.52 A predicted car park accumulation exercise has been undertaken for the Friday based on the hourly variation in trip rates obtained from the TRICS database. **Graph 4.1** shows the anticipated car park accumulation for a typical Friday with peak parking accumulation occurring in the early evening. M&S Simply Food use of the car park continues through the day with an increase in parking demand for the public house in the early evening:

Graph 4.1 – Typical weekday car park accumulation



- 4.53 **Graph 4.2** shows the parking profile during a typical Saturday including a higher parking demand from the public house in the late afternoon. The maximum estimated car park occupancy of 163 vehicles occurs on the Saturday:

**Graph 4.2 – Average Saturday car park accumulation**

- 4.54 The 196 space car park provision will provide approximately 17% additional capacity. The additional capacity will ensure that the site contains any variation in parking demand due to increased dwell time as the public house patron dwell time (i.e. time parked in a parking space) is longer than for the M&S Simply Food customer. The additional capacity will also allow for further dwell time and therefore additional parking demand for customers and patrons linking their visit with adjacent retail parks.

Service Deliveries

- 4.55 Service vehicles will access the site from the main site entrance off the A259 New Road. The predicted schedule of service vehicle movements for the M&S Simply Food unit throughout a typical weekday is as follows:

- 1 x fresh delivery
- 1 x ambient delivery
- 1 x chill/frozen delivery
- 1 x direct delivery (bread/milk etc)

- 4.56 In summary, for the M&S Simply Food unit we would anticipate up to 4 deliveries to occur over a typical day with the majority taking place using an articulated HGV. Marks &



Spencers currently use 16.5m articulated lorries to service their sites therefore the proposed junction and the site have been tested for turning for a 16.5m articulated lorry.

- 4.57 For the public house, we would anticipate approximately 1 HGV delivery per day with 1-2 smaller goods vehicle deliveries per day for food and other miscellaneous goods.

Employment accessibility

- 4.58 Overall, the development will provide approximately 110 employment opportunities in the local area. M&S Simply Foods will provide 50-55 jobs in a mixture of full and part-time positions equivalent to approximately 29 full time equivalent (FTE) jobs. The public house will provide an additional 50-55 full and part-time job opportunities.
- 4.59 It is M&S Food's policy to recruit as many new staff from the local area which will influence employee travel behaviour and this will undoubtedly make a significant contribution towards limiting unnecessary car usage. A local targeted advertising campaign prior to the store opening will ensure that all potential employees from the local area are reached. Further details are included in the Marks and Spencer Operator Statement.

Non-carborne person trips

- 4.60 An assessment of the potential modal split of other types of journeys to the site has been undertaken. Data has been taken from the DfT Transport Statistic Bulletin, National Travel Survey (NTS) 2013. Table NTS0409 chart 2 of this Bulletin summarises trips by purpose and main mode in Great Britain based on 2013 National Travel Survey data (**Appendix D**). The data for the M&S Simply Food (shopping) and the public house (leisure) is reproduced in **Table 4.19**:



Table 4.19
Modal Split for Shopping Trips adjusted for 100% for all modes (NTS 2013)

Mode of Travel	M&S Simply Food	Public house
	Percentage	Percentage
Walk	21%	15%
Bicycle	1%	2%
Car/van driver	45%	37%
Car/van passenger	21%	34%
Motorcycle	0%	1%
Local bus	11%	1%
Rail	1%	6%
Total	100%	100%

4.61 **Table 4.19** shows that UK non-car modes of travel for shopping trips comprise 21% walk trips and 11% public transport trips. Due to the location of the site, it will only be accessible by pedestrians from the east once the proposed improvements are made to the existing infrastructure. We expect for this site location that it is appropriate to reduce the predicted level of peak hour pedestrian movements by 50%. Rail trips for this site during the peak hour have been discounted. Additionally, for the purposes of this assessment we consider that cycle and motorcycle trips would be higher than the national average. **Table 4.19** shows a lower level of walk trips for leisure purposes than shopping; a higher level of carborne trips. Again rail trips for this site for leisure purposes have been discounted.

4.62 Adjustments to the modal split have been made for this particular site location and uses. **Table 4.20** shows the adjusted predicted modal split for the development:

**Table 4.20 Adjusted Modal Split**

Mode of Travel	M&S Food	Public house
	Percentage	Percentage
Walk	11%	15%
Car/van driver & passenger	78%	82%
Local bus	6%	1%
Cycle	3%	1%
Motorcycle	2%	1%
Total	100%	100%

- 4.63 The proportion of car driver trips predicted for the proposed development is shown in **Table 4.20**. The remaining non-car mode share can be calculated and the resulting trip attraction by mode produced as a proportion of vehicle trip attraction to the site as set out in **Table 4.21** and **Table 4.22** for the M&S Simply Food unit and the public house respectively for both the Friday PM and Saturday peak hours:

Table 4.21- Adjusted non-carborne modal split – M&S Simply Food

Modal Split	Friday PM		Saturday	
	Arrivals (persons)	Departures (persons)	Arrivals (persons)	Departures (persons)
Walk	7	7	10	10
Local bus	4	4	5	5
Cycle	2	2	3	3
Motorcycle	1	1	1	1
Total	14	14	19	19

Table 4.22 Adjusted non-carborne modal split – Public house

Modal Split	Friday PM		Saturday	
	Arrivals (persons)	Departures (persons)	Arrivals (persons)	Departures (persons)
Walk	3	2	3	2
Local bus	1	1	1	1
Cycle	1	1	1	1
Motorcycle	1	1	1	1
Total	5	5	5	5



5.0 PLANNING POLICY

- 5.1 This section reviews transport policies to determine whether the proposed development accords with the relevant objectives. Consideration is given to national, regional and local guidance.

National Planning Policy Framework (NPPF)

- 5.2 The National Planning Policy Framework (NPPF) was published on 27th March 2012 and replaces all Planning Policy Guidance and Statements. The NPPF sets out the Government's planning policies for England and how they are expected to be applied providing a framework within which councils can produce their own planning guidance.

- 5.3 The NPPF sets out 12 core planning principles to underpin plan-making and decision-taking. The principle relating to transport states:

"...actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable" (paragraph 17).

- 5.4 Section 4 of the NPPF relates to 'Promoting sustainable transport' and states that *"the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel"* (paragraph 29). It is recognised that different policies and measures will be required in different communities and *"opportunities to maximise sustainable transport solutions will vary from urban to rural areas"* (paragraph 29).

- 5.5 The NPPF states that *"all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment"* (paragraph 32). Plans and decisions should take account of whether:

- *"the opportunities for sustainable transport modes have been taken up..."*
- *"safe and suitable access to the site can be achieved for all people"*
- *"improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be*



prevented or refused on transport grounds where the residual cumulative impacts of development are severe” (paragraph 32). A Transport Assessment and Travel Plan accompany this planning application.

5.6 The NPPF states that plans and decisions should *“ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised”* (paragraph 34). It is recognised that this needs to take account of other policies in the NPPF, particularly those in respect of rural areas. The site being located next to a major bypass already carrying a large volume of traffic is ideally situated to attract traffic already passing and not divert new customers through smaller local roads.

5.7 With regards to sustainable transport modes is high on the agenda and the NPPF states that developments should be located and designed where practical to:

- *“give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;*
- *“create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;*
- *“consider the needs of people with disabilities by all modes of transport”*
(Paragraph 35)

5.8 A Travel Plan is regarded as a key tool to facilitate sustainable travel and *“all developments which generate significant amounts of movement should be required to provide a Travel Plan”* (paragraph 36). A Framework Travel Plan has been submitted as part of this planning application.

Local Planning Guidance

Arun District Local Plan (2003) Saved Policies

5.9 The Local Plan was adopted in April 2003 and sets out policies to guide development in the Arun District area. Prior to the replacement of the Local Plan by the emerging Local Plan 2011-2029 some of the Local Plan policies have been saved.



- 5.10 Saved policy GEN14 encourages the provision and improvement of public transport services, whilst saved policy GEN15 requires the development of safe cycle and footpath networks and states that *“where appropriate, new development will be required to provide safe and attractive facilities for cyclists and pedestrians, both within the site and in the form of links to the surrounding area.”* The proposals will provide a new shared footpath/cyclepath link to the site.
- 5.11 Saved policy GEN12 relates to parking and states that provision of parking in excess of Arun District Council's (ADC) parking standards will not be allowed. Details of the relevant parking standards are set out in Section 3 of this document. The maximum parking standards are not exceeded.
- 5.12 Saved policy DEV26 in relation to criteria for retail development, states that ADC will seek to maintain the existing hierarchy of retail centres within Arun and retail development which accords with this will be permitted provided that:
- i) *‘it is of a high standard of design, materials and layout, and has due regard to the character of the site and its surroundings;*
 - ii) *it is easily accessible by public transport;*
 - iii) *it includes provision for access by cycle and on foot;*
 - iv) *it includes appropriate provision to enable access for people with disabilities....’*
- 5.13 The application site is located outside the current settlement boundary (the railway line) but nonetheless provides relatively good accessibility to local bus stops and Angmering train station. The A259 New Road will also have a shared footpath and cyclepath along its southern side providing safe access to the site.

Arun District Local Plan 2011-2029

- 5.14 ADC is currently preparing its new Local Plan which will cover the period 2011-2029. A version of the Submission Local Plan was considered at full council in May 2013.
- 5.15 The Plan sets out a number of strategic objectives. Its objective in respect of transport states: *“To reduce the need to travel and promote sustainable forms of transport.”* Section 15 of the Plan relates specifically to transport.



5.16 Policy SP 21, Transport and Development, relates to supporting growth and development in the district whilst promoting sustainable transport, the efficient use of the existing transport network, safe access to developments, reducing congestion and emissions and improving accessibility. It states, ADC will support development which:

- i) *“Is designed to reduce the need to travel by car by identifying opportunities’ to improve access to public transport services and passenger transport services whilst making provision for safe access to the highway network...”*
- ii) *“Is incorporated into the District’s green infrastructure network and gives priority to pedestrian and cycle movements”*
- iii) *“Incorporates appropriate levels of parking in line with West Sussex County Council guidance on parking provision...”*
- iv) *“Where required by current guidance, is supported by an effective and deliverable Transport Assessment which demonstrates that the transport effects of development on the local and strategic road network can be satisfactorily mitigated and a Travel Plan, which is effective and deliverable...”*

5.17 It is considered that, the proposed development accords with emerging local policies relating to transport which are capable of being a material consideration.

West Sussex Transport Plan 2011-2026

5.18 The West Sussex Transport Plan 2011-2026 (LTP3), published in February 2011, sets the strategy for guiding future investment in West Sussex highways and transport infrastructure, and a framework for considering transport infrastructure requirements associated with future development in the county.

5.19 The overall vision of LTP3 is *“to achieve efficient, safe and less congested transport networks, which contribute towards:*

- *a more competitive and thriving economy*
- *reductions in emissions*
- *improved access to services*
- *jobs and housing, especially for those in need”*



5.20 The main objective of LTP3 is *“to improve quality of life for the people of West Sussex by helping to provide:*

- *a high quality transport network that promotes a competitive and prosperous economy in all parts of the County*
- *a resilient transport network that complements the built and natural environment whilst reducing carbon emissions over time*
- *access to services, employment and housing*
- *a transport network that feels, and is, safer and healthier to use”* (section 1.2).

5.21 LTP3 refers to *“promoting sustainable modes of travel, particularly for journeys to work”* and that *“parking space is provided at non-residential development in line with our agreed parking standards”* (section 1.2.1). To ensure that growth is sustainable, LTP3 states that new employment should be *“accessible by sustainable modes of transport”* (section 1.2.1). The development will provide approximately 110 job opportunities in the local area accessible by all modes of transport.

5.22 LTP3 aims to *“reduce unnecessary trips by motorised vehicles and encourage use of more sustainable modes of transport,”* including through securing travel plans for new development, investing in new walking and cycling facilities, and aims to *“reduce the need to travel”* more generally (section 1.2.2). LTP3 encourages *“local delivery of services so that people have to travel less”* (section 1.2.3).



6.0 SUMMARY & CONCLUSIONS

- 6.1 The Redwood Partnership has been instructed by Commercial Development Projects Limited and Marks and Spencers PLC to provide highways and transportation planning advice and prepare a Transport Assessment for a proposed development on land at the northern boundary of Rustington, West Sussex. The site is located in the Ward of Angmering and is situated on the south side of the A259 New Road dual carriageway, approximately 400 metres west of the A259 New Road/Mill Lane roundabout.
- 6.2 The development will include an M&S Simply Food retail unit and a separate family public house. A new left in/left out junction will be provided in the location of the existing Brook Lane junction with the A259 leading to a 196 space car park.
- 6.3 An accessibility review indicates that the site is accessible by all modes of transport, in addition to the car. The proposed improvements to the pedestrian and cycle infrastructure will improve the site's accessibility by these modes. Buses will also be encouraged to serve the adjacent Mill Lane Development site with new bus facilities to be provided on-site, providing a short walk to the application site.
- 6.4 Junction capacity assessments have demonstrated that the proposed access road will operate well within capacity and that the predicted development traffic will not result in a significant impact on the A259/Mill Lane and A259/A2187 roundabouts. The results indicate that the proposed development traffic will have a marginal impact at the Body Shop roundabout and that the A259 East arm will be operating slightly in excess of capacity in the year 2020 scenario, however we consider this theoretical impact to be acceptable due to the robust estimate of new development traffic flows.
- 6.5 Travel Plans will be produced by each business on the site to encourage staff and visitors to use alternative modes of transport other than the private car to minimise the vehicular impact of the development on the highway.
- 6.6 A car parking accumulation assessment indicates that the proposed parking provision would be sufficient for the development and will contain parking demand within the site boundary. The parking provision is within the maximum standard set by Arun District



Council.

6.7 Analysis of accident statistics for the area within the vicinity of the site indicates that there are no inherent highway design problems. Infrastructure proposed to assist pedestrians and cyclists as part of the proposed development will improve highway conditions and safety for these users. The dual carriageway speed limit is currently subject to the national standard of 70 mph and whilst a reduction in speed limit is not necessary for the proposed design, we would suggest that West Sussex County Council consider a reduction in the speed limit on the A259 New Road in the vicinity of the site access and egress to 50 mph.

6.8 National Planning Policy Framework (NPPF) Para 32 (NPPF) states:

‘ All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- *the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe’*

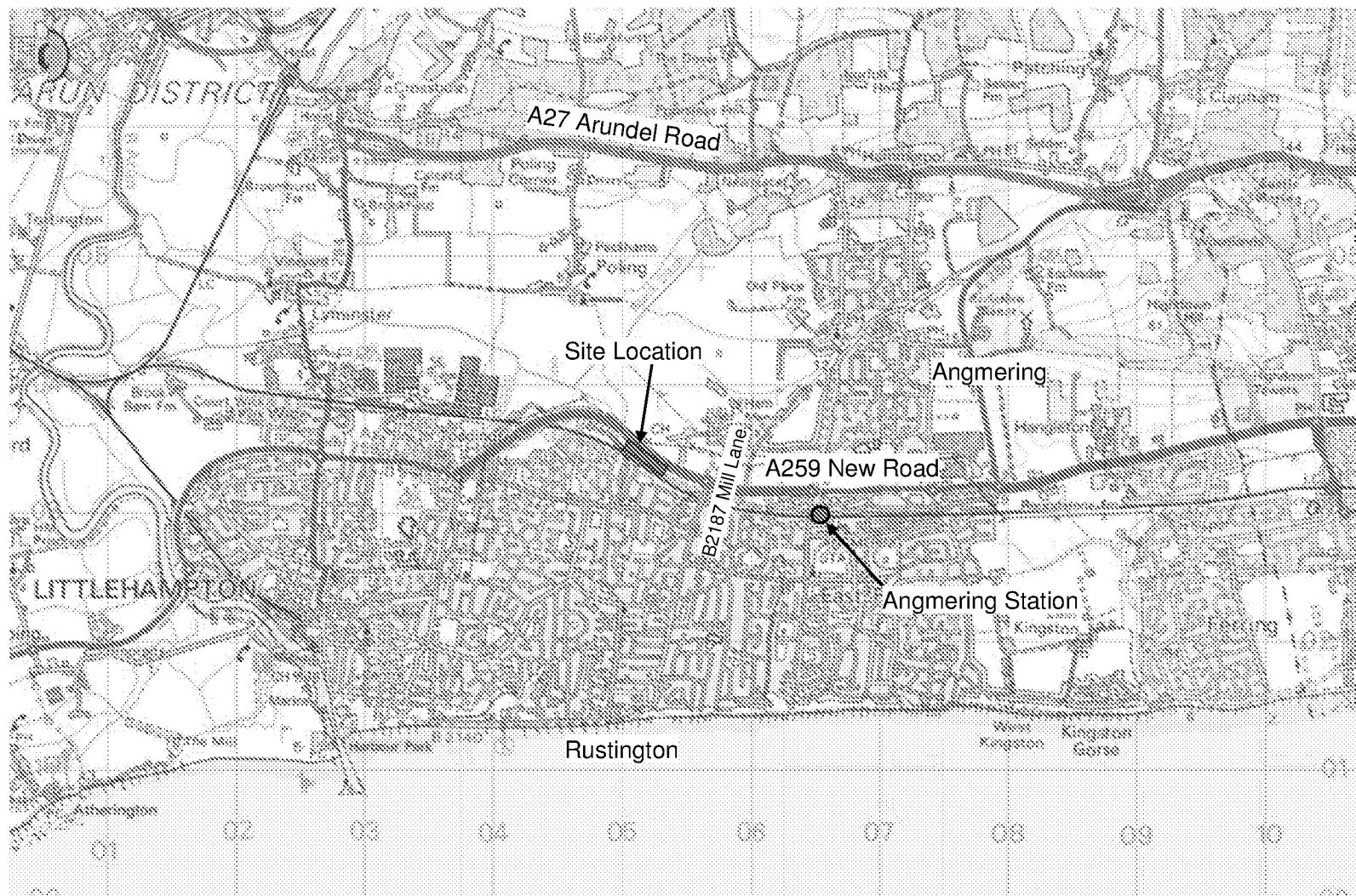
The development satisfies all the above requirements and the results of the Transport Assessment have not highlighted issues which would suggest a severe impact.

6.9 The majority of vehicular traffic associated with the new M&S Simply Food will not be new to the highway network, indeed research suggests that new traffic is likely to be 5% or less. The majority of trips to the foodstore will occur as a result of re-distribution of existing shopper trips. The site located next to a major bypass already carrying a large volume of traffic is ideally situated to attract traffic already passing and not divert new customers through smaller local roads.



- 6.10 In summary, the development site is well located in terms of access to sustainable modes of transport. Transport planning policy for new developments at national, regional and local level supports development schemes in areas where there is a choice of means of transport. The proposals have been reviewed in the light of current planning and transport policy and are fully compliant with policy objectives.

APPENDIX A



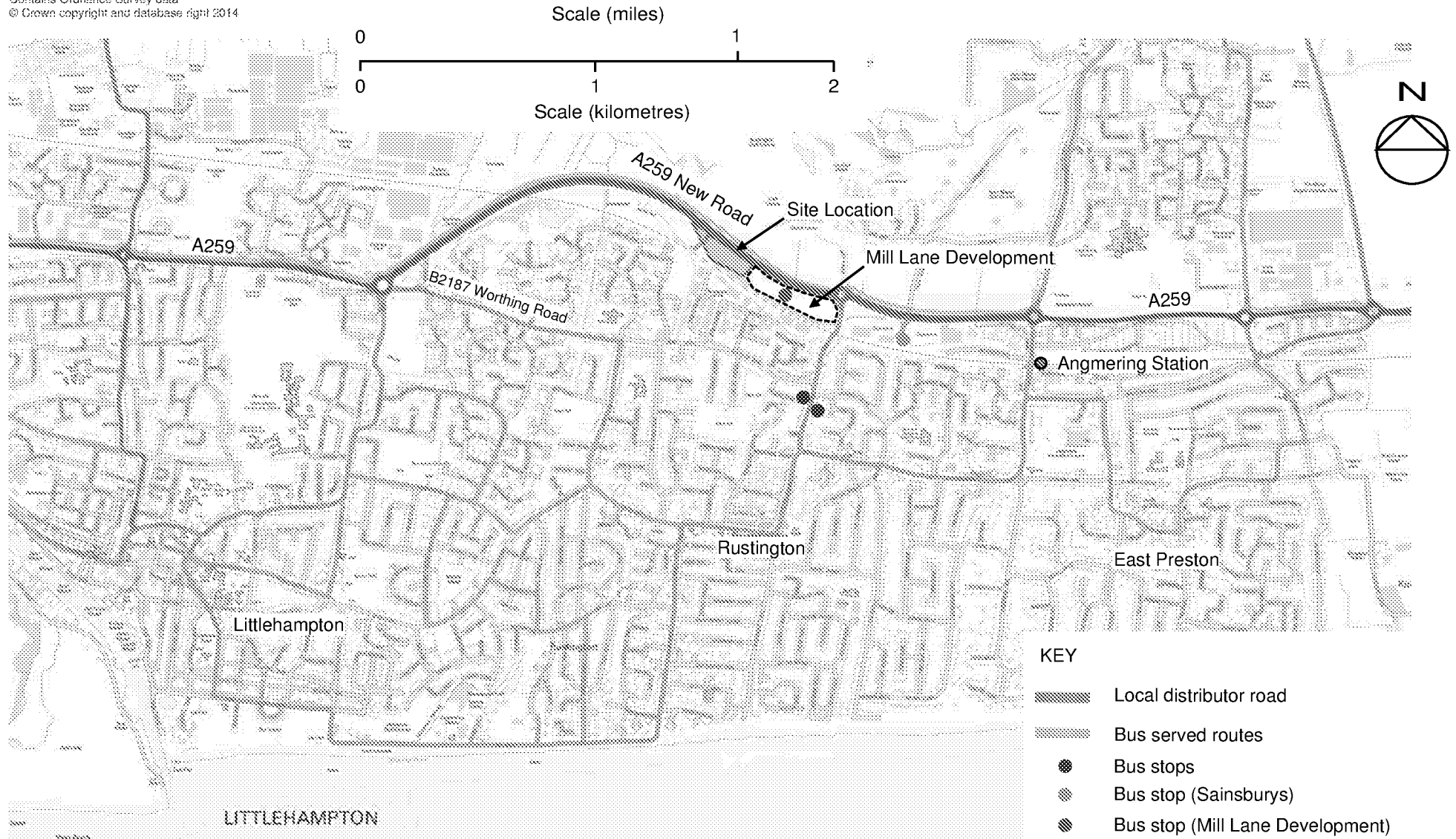
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LAND AT A259 NEW ROAD, RUSTINGTON, WEST SUSSEX
SITE LOCATION PLAN

FIGURE A1

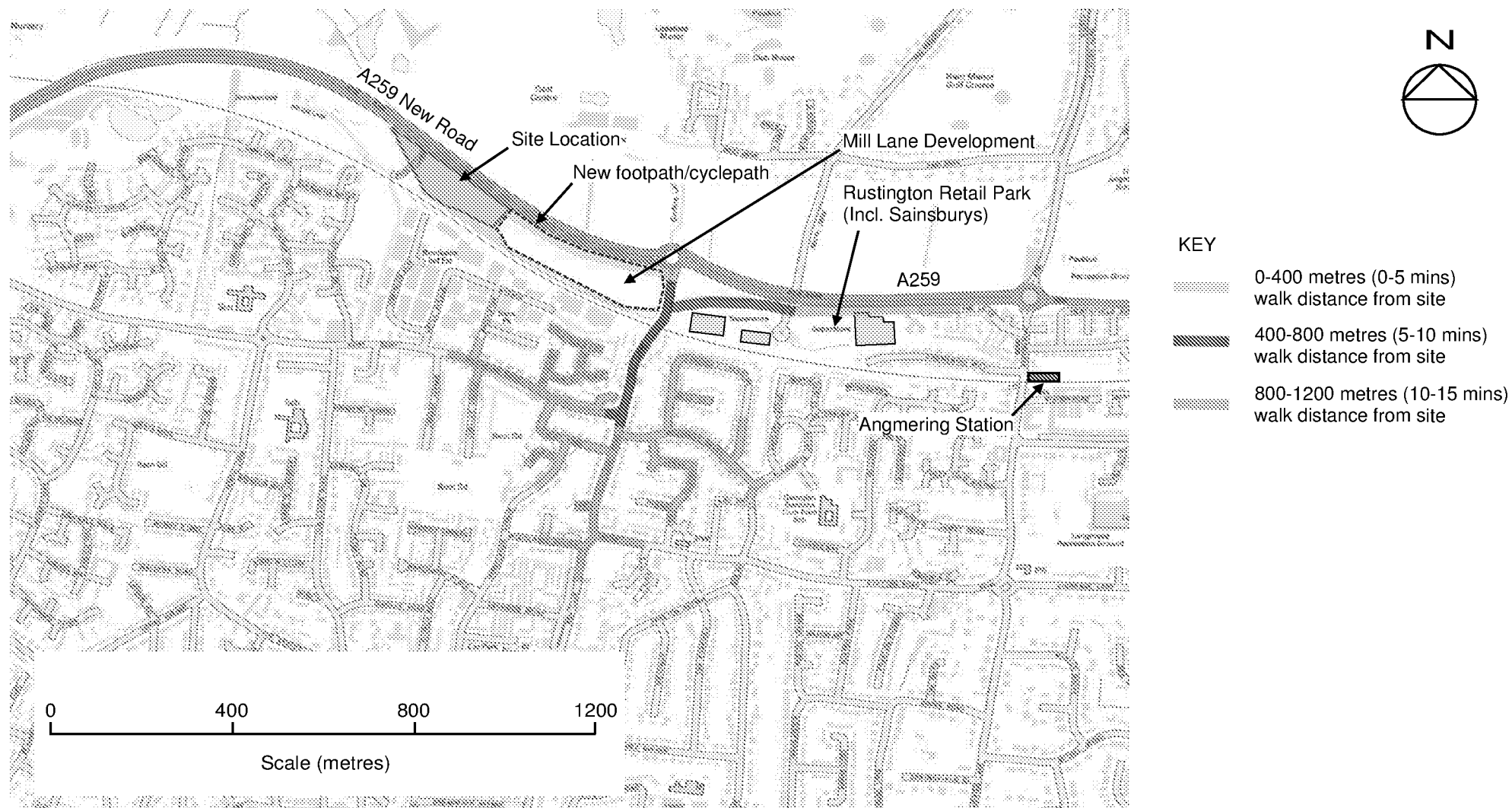
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LAND AT A259 NEW ROAD, RUSTINGTON, WEST SUSSEX
PUBLIC TRANSPORT PLAN

FIGURE A2

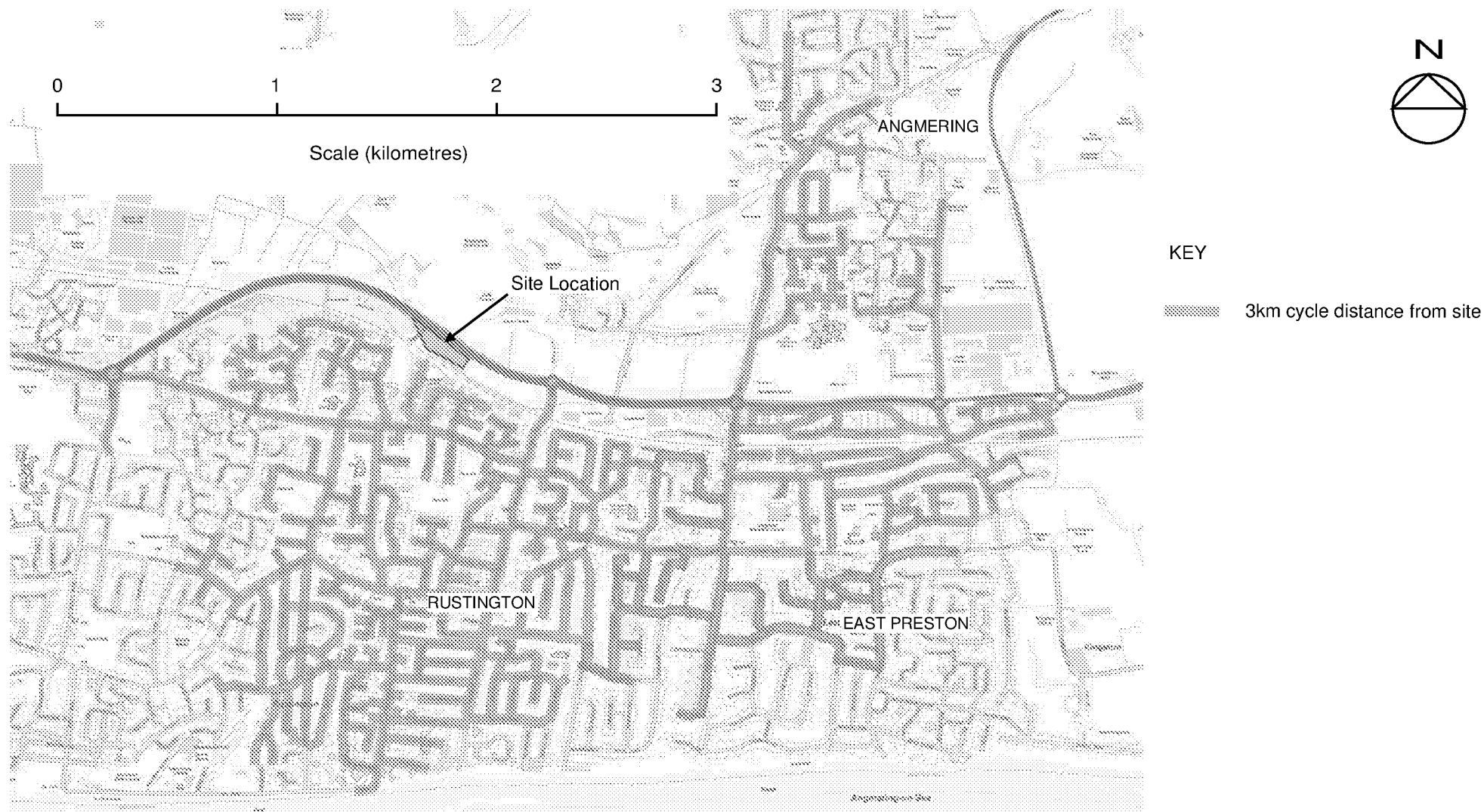
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LAND AT A259 NEW ROAD, RUSTINGTON, WEST SUSSEX
WALKING ACCESSIBILITY PLAN

FIGURE A3

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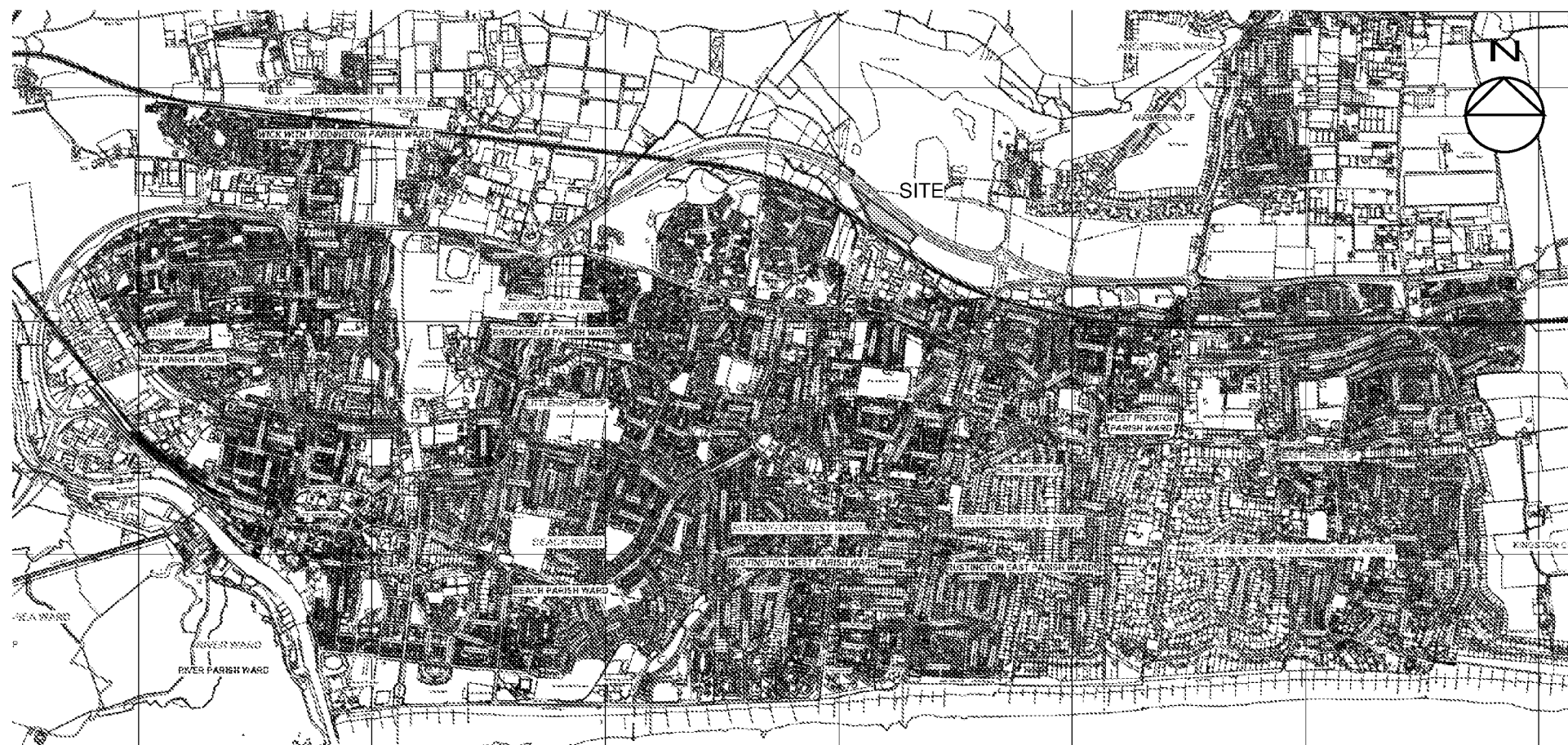


LAND AT A259 NEW ROAD, RUSTINGTON, WEST SUSSEX
CYCLING ACCESSIBILITY PLAN

FIGURE A4



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LAND AT A259 NEW ROAD, RUSTINGTON, WEST SUSSEX
WARD BOUNDARIES

FIGURE A5

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LAND AT A259 NEW ROAD, RUSTINGTON, WEST SUSSEX
M&S SIMPLY FOOD TRADE DRAW - LOCATION PLAN OF OTHER MAIN FOOD RETAILERS

FIGURE A6

DRAWINGS

- NOTES
1. All dimensions are in metres unless otherwise stated.

Proposed shared footway/cycleway link to Mill Lane (Refer to Drg.No. REDW-3167-111 for details)

Existing vehicular access to A259 to be closed

Potential link to adjacent development

3m shared footway/cycleway

Carriageway widened for new deceleration lane

Improved access at existing Brook Lane junction

Headwall to be relocated

Access to future development land

Vehicular access to Mill Lane retained

Carriageway widened for new acceleration lane

Pedestrian crossing

Rev Date Details Drawn Check

Drawing Status FOR APPROVAL

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Client COMMERCIAL DEVELOPMENT PROJECTS LTD

Project
**RETAILS DEVELOPMENT
ON A259 NEW ROAD
RUSTINGTON, LITTLEHAMPTON**

Title
HIGHWAY ACCESS PLAN

Drawn PL Scale 1:500 Date FEBRUARY 2015
Sheet A1

Drawing No. REDW-3167-110 Rev

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APPROVED DISTRICT COUNCIL 02/15/01/1