



Transport Assessment

Land at Ducks Nest, Arborfield

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Basis of Report

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1.0 Introduction

- 1.1 SLR is retained by David Wilson Homes Southern (DWS) to provide transport and highways advice in relation to development proposals on land known as land at Ducks Nest, Arborfield, within the administrative boundary of Wokingham Borough Council (WBC).

Site Location

- 1.2 The Ducks Nest Farm site is presently occupied by a range of agricultural uses. To the south east the site fronts the strategic developments at Arborfield Garrison and Arborfield Green whilst Arborfield Cross is located to the north.
- 1.3 To the south of Arborfield Cross is the Arborfield Garrison strategic development location (SDL), which makes provision for 3,500 dwellings and a range of other community uses and employment opportunities. To date, a new secondary school, primary school and leisure centre are operational whilst a series of 'centres' are also due to be delivered.

Planning History

- 1.4 The site has been promoted as part of the call for sites for the emerging Local Plan. A public consultation was undertaken in June 2022, and the comments received at consultation have been taken into account when developing the proposals for the outline application.
- 1.5 In addition to the above, an application for the change of use of land from agricultural uses to an areas of suitable alternative natural greenspace (SANG) and a residential development of up to 210 dwellings was submitted in March 2023 but subsequently withdrawn prior to a planning decision being reached (Planning Ref. 230532). It should be noted that this report has been prepared having consideration to comments received from WBC Highways on that application, copies of which are provided at **Appendix A**.

Development Proposals

- 1.6 This document supports an updated hybrid application comprising:

A full application for the change of use of land from agricultural land to provide an area of Suitable Alternative Natural Greenspace (SANG), including the details of associated landscaping, planting, drainage measures, parking, walking routes and other works associated with the creation of the SANG.

An outline application with all matters reserved other than access into the site for a residential development of up to 135 dwellings, open space, internal accesses and parking, drainage measures, landscaping and all other associated works.

Report Structure

- 1.7 The remainder of this document comprises the following sections:
- Section 2 summarises the policy and guidance against which the development proposals will be considered at a national and local level;



- Section 3 provides an overview of the existing transport network in the vicinity of the site having regard for accessibility by public transport, active travel and private vehicles;
- Section 4 summarises the proposed development, including access, parking and servicing arrangements;
- Section 5 outlines the anticipated trip generation associated with the proposals with reference to person and vehicle trips;
- Section 6 considers the potential effect of the development on the local highway network with reference to junction modelling;
- Section 7 outlines a potential package of mitigation measures to minimise the impact of the proposals on the surrounding transport network; and,
- Section 8 summarises and concludes this report.



2.0 Policy Context

National Planning Policy Framework

2.1 The National Planning Policy Framework (NPPF) sets out national planning policies for England and how they should be applied. The NPPF must be considered in preparing the development plan and is a material consideration in planning decisions.

2.2 The NPPF identifies that “plans and decisions should apply a presumption in favour of sustainable development” and for decision-taking this means:

- *“approving development proposals that accord with an up-to-date development plan without delay; or*
- *where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:*
 - *the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or*
 - *any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.”*

2.3 Paragraph 109 states from a transport perspective that:

“...Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision making.”

2.4 When the NPPF refers to sustainable transport modes, it is worthy to take into account the definition that is provided in its Glossary which is namely:

“Any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, ultra low and zero emission vehicles, car sharing and public transport.”

2.5 Moreover, paragraph 89 of the NPPF states:

“Planning policies and decisions should recognise that sites to meet local business and community needs in rural areas may have to be found adjacent to or beyond existing settlements, and in locations that are not well served by public transport. In these circumstances it will be important to ensure that development is sensitive to its surroundings, does not have an unacceptable impact on local roads and exploits any opportunities to make a location more sustainable. The use of previously developed land, and sites that are physically well-related to existing settlements, should be encouraged where suitable opportunities exist.”

2.6 With the above in mind, paragraph 114 states:



“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.”*

2.7 With respect to the location and design of developments, it states at Paragraph 116 that applications 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.”*

2.8 In addition, it is stated at paragraph 115 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.”

2.9 As such development should provide opportunities for sustainable travel, safe and suitable access, align with national design guidance and mitigate any significant traffic impacts in terms of capacity, congestion or highway safety, noting that the extent to which these measures can be implemented will differ by land use and location.

2.10 It should be noted that at the time of writing the new Labour Government are undertaking a consultation exercise into an updated NPPF. At this stage the weight afforded to this document is limited, however it does set out the direction of travel for Transport Assessments moving forward. The biggest change is one that recognises and places an emphasis upon assessments taking into account behavioural changes that were emerging prior to the C-19 Pandemic, but have since accelerated. These being a general move away from reliance on the private car in favour of alternative modes of transport.



Wokingham Core Strategy

- 2.11 The Wokingham Core Strategy was adopted in January 2010 and outlines the policy and objectives against which planning decisions will be made until 2026.
- 2.12 Policy CP6 considers the management of travel demand and outlines a requirement for new development to:
- Be located for future users to benefit from transport choices;
 - Provide appropriate parking;
 - Mitigate any adverse effects on the local and strategic transport network; and,
 - Improve existing infrastructure including cycle and pedestrian infrastructure as well as provision for those with reduced mobility.

Managing Development Delivery Document (Wokingham Local Plan)

- 2.13 The Wokingham Local Plan, also known as the Wokingham Borough Managing Development Delivery Document, was adopted in February 2014 and operates alongside the Core Strategy in steering development within the Borough.
- 2.14 The Plan outlines at Policy CC01 a presumption in favour of sustainable development, in alignment with the NPPF, noting that applications that accord with the Plan will be approved without delay.
- 2.15 Policy CC03 considers green infrastructure, including a requirement for development to demonstrate that the following have been considered:
- *“Provide new or protect and enhance the Borough’s Green Infrastructure networks, including the need to mitigate potential impacts of new development.*
 - *Promote accessibility, linkages and permeability between and within existing green corridors including public rights of way such as footpaths, cycleways and bridleways.*
 - *Promote the integration of the scheme with any adjoining public open space or countryside.”*
- 2.16 Parking standards are contained within Appendix 2 of the Local Plan. Standards for residential car parking are based on accessibility with areas divided into three categories, Arborfield is categorised as a village. The vehicle parking standards associated with houses in village locations are summarised in **Table 2.1**.



Table 2.1 – WBC Parking Standards

No. Habitable Rooms	Allocated	Unallocated Demand		
	No. Bedrooms	0	1	2
3 or less	1-2	1.2	0.4	0.0
4	2	1.3	0.4	0.1
5	2-3	1.5	0.6	0.1
6	3	1.7	0.8	0.2
7	3-4	2.0	1.0	0.2
8+	4	2.2	1.3	0.4

- 2.17 In addition to the above, development is expected to provide visitor parking calculated at a ratio of 0.2 per dwelling for all dwellings that have 1 or more allocated spaces.
- 2.18 Cycle parking should be provided at a ratio of 1 space per dwelling with 1-3 habitable rooms, 2 spaces per dwelling with 4 or 5 habitable rooms and 3 spaces per all other dwellings.

Emerging Wokingham Borough Policy

- 2.19 A series of emerging policy documents are under consultation as part of a New Local Plan and provide an overview of the expected direction of development in the Borough in the future. It is expected that these will cover a period until 2040.

Draft Local Plan

- 2.20 Policy C1 considers sustainable transport and accessibility stating that development proposals should accord to a range of criteria including:
- Locating development to allow all users to access a range of amenities.
 - Include measures to make walking and cycling the primary transport mode where possible.
 - Include measures to reduce reliance on the private car and single occupancy trips.
 - Contribute to a legible environment through walking and cycling connections.
- 2.21 Policy C2 relates to the mitigation of transport impacts and highway safety. The Policy includes a requirement for development to be supported by a Transport Assessment or Statement as well as implementation of measures to reduce vehicle trips. Furthermore, it is expected that development provides safe and suitable access for all users whilst prioritising pedestrian and cycle movements.
- 2.22 The Borough declared a climate emergency in 2019 and, as a result, The emerging Plan considers actions to be implemented to mitigate and adapt to the changing climate. These include:
- Locate development where journeys can be undertaken via foot, cycle or public transport.
 - Provide a network of safe and convenient walking and cycling routes.
 - Require new major residential development to be carbon neutral.



- Facilitate and encourage use of electric vehicles through charging infrastructure.

Wokingham Revised Growth Strategy

- 2.23 The Revised Growth Strategy considers how development targets can be met within the Borough with reference to a need for 768 new homes per year.
- 2.24 The Strategy highlights that there is a preference for development needs to be met through larger scale developments, stating that these are:
- 2.25 “...often the best solution to meeting development needs in a way that responds to the challenges of climate change. They offer an opportunity to design in sustainability from the outset including measures to lessen the need to travel by private car, so reducing our carbon footprint and impact on the environment and air quality, as well as planning for accessible green space, drainage management, biodiversity enhancements and renewable energy.”
- 2.26 It is further noted within the Strategy that new opportunities in the vicinity of Strategic Development Locations (SDLs), such as Arborfield Garrison, to take advantage of infrastructure being delivered as part of these developments.

Arborfield & Barkham Neighbourhood Plan

- 2.27 The Arborfield & Barkham Neighbourhood Plan was adopted in December 2019 and provides a series of policies against which development will be considered until 2036.
- 2.28 The Plan has an overarching aim to deliver sustainable development throughout the area both in terms of sustainable transport, but additionally with consideration for wider factors such as managing the environment, protecting heritage assets and ensuring a thriving economy. The Plan highlights that the provision of walkable neighbourhoods could be a key element in securing sustainable development by connecting residents to facilities within a 10 minute walk.
- 2.29 It is outlined within the Plan that transport should be considered at the earliest stages of development proposals to ensure that any potential impacts can be addressed and that opportunities to promote sustainable transport can be identified and pursued. The latter of these is a key element of policy GA2 which notes that development proposals should aid the delivery of greenways and support provision of all-weather routes to key destinations including local schools. It is noted that links throughout the proposed development will provide connections to Arborfield as well as the Arborfield Garrison development in accordance with the aims of policy GA2.

Summary

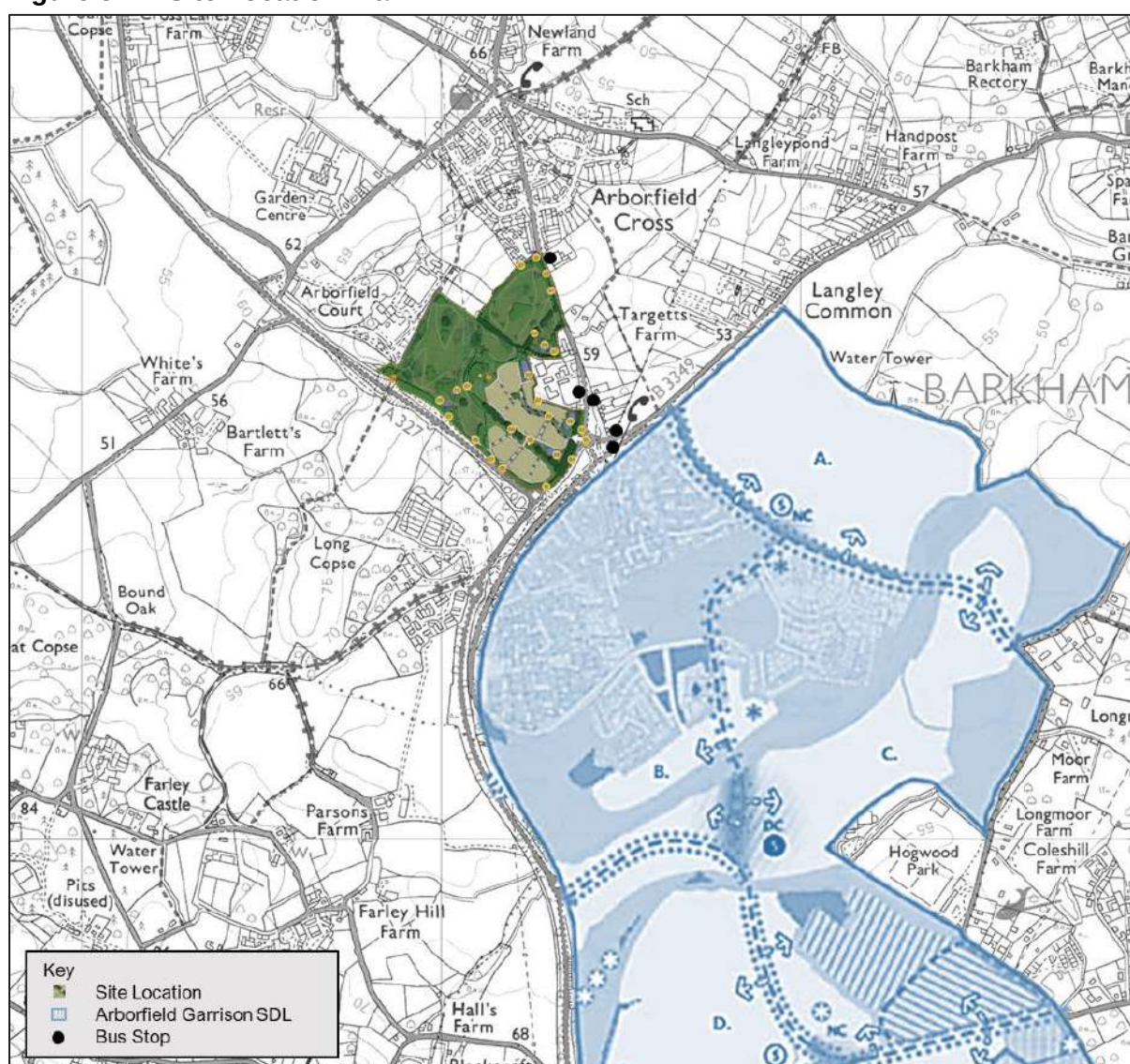
- 2.30 The above review demonstrates that national and local planning policy all require new development to be sustainably located with ready access on foot, cycle and by public transport. Section 3 of this report will outline the existing transport opportunities within the vicinity of the site with consideration for the above.



3.0 Baseline Conditions

- 3.1 The site is presently occupied by a range of agricultural uses, it is considered that the site could provide in the region of 135 dwellings. To the east the site fronts the strategic developments at Arborfield Garrison and Arborfield Green whilst Arborfield Cross is located to the north.
- 3.2 As outlined above, the site is closely located to the Arborfield Garrison strategic development location (SDL), which makes provision for 3,500 dwellings and a range of other community uses and employment opportunities. To date, a new secondary school, community centre and leisure centre are operational whilst a new primary school is under construction. The site location in relation to the surrounding area is shown below.

Figure 3.1 – Site Location Plan



Local Highway Network

- 3.3 The local highway network is largely centred around the A327 a section of which bisects the site, creating a bypass connecting Arborfield Garrison to the A327 to the west of Arborfield.



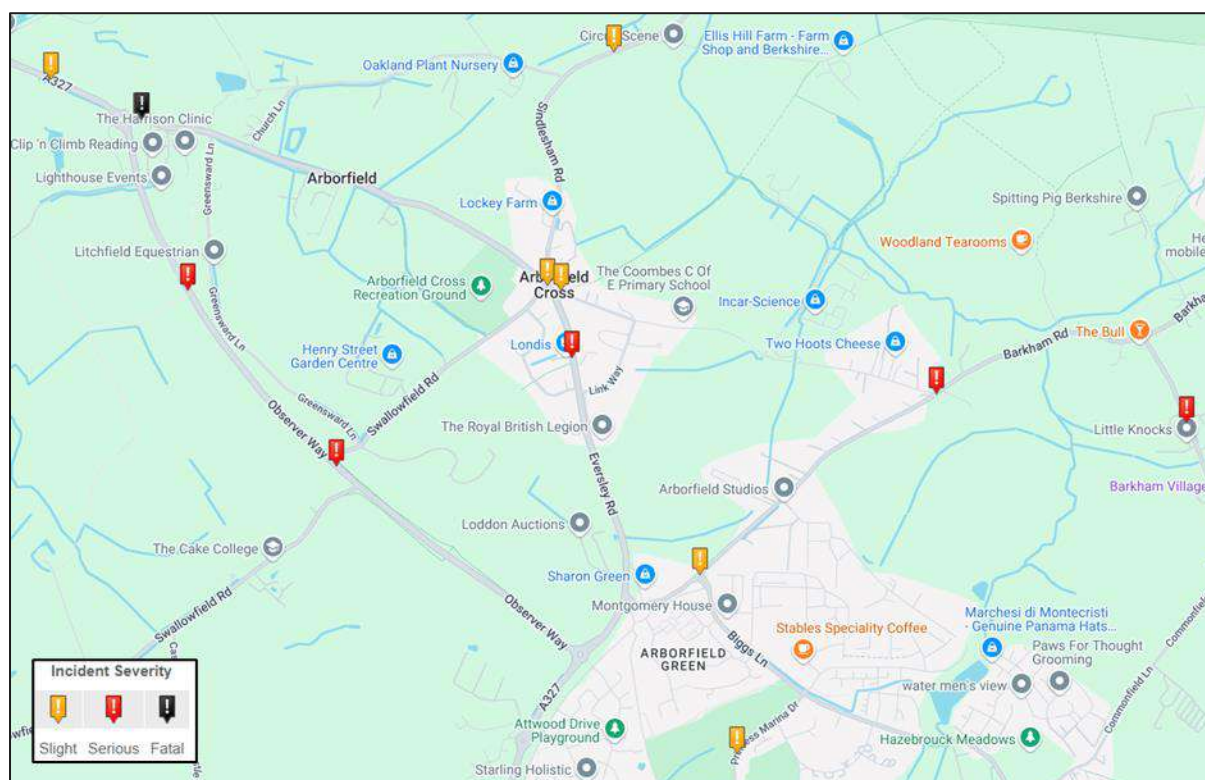
The A327 is a two-way carriageway subject to a 40mph speed limit along the site boundary whilst further south the speed limit increases to 50mph. To the north, the A327 provides a link to the M4 and A33 via Shinfield, as well as serving Reading town centre, whilst to the south it connects to the A30 and onto the M3.

- 3.4 To the east of the site Langley Common Road provides a direct link to Wokingham. Langley Common Road is a two-way carriageway subject to a 30mph speed limit adjacent to Arborfield Garrison with the limit increasing to 40mph further east.
- 3.5 Access to the wider strategic highway network includes connections to the M3 and M4. The former operates to the south of the site and links central London to the north east with Southampton to the south west. The M4 can be joined at junction 11 via the A327 and connects to London to the east, to the west it serves Bristol, Cardiff and Swansea.
- 3.6 It is noteworthy that the application site benefits from an existing vehicular access provided from Observer Way. In addition, there is an agricultural access located adjacent to the Harts Close junction on Eversley Road, however, this is presently closed off.

Personal Injury Collision Data

- 3.7 In order to determine the likely safety of the local highway, CrashMap has been used to ascertain the level of Personal Injury Collisions (PICs) that have occurred in the vicinity of the site over the most recent 3-year period. A summary of the registered collisions within the locality is provided below.

Figure 3.2 – CrashMap Extract



- 3.8 As highlighted above, during the most recent period a total of 11 collisions were recorded comprising 1 fatal, 5 serious incidents and 5 slight incidents. On account of there not being any apparent clustering of accidents it is considered that there are no inherent safety issues associated with the existing highway network and junction arrangements in the vicinity of the site that warrant any further detailed assessment. This is particularly evident given the majority of the accidents shown above occurred on roads that are peripheral to the application site.

Sustainable Transport Network

- 3.9 It is generally accepted that walking and cycling provide important alternatives to the private car and should also be encouraged to form part of longer journeys via public transport. For example, research undertaken by the Chartered Institution of Highways and Transportation (CIHT) outlines that most people could walk to a destination within one mile or cycle for a journey within five miles.
- 3.10 Paragraph 105 of the NPPF recognises different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural locations. Moreover, Manual for Streets (MfS) identifies 'walkable neighbourhoods' as being those with a range of facilities within a 10 minute walk (circa 800 metres). However, it is important to recognise that MfS does not consider 800 metres to be a maximum walking distance. Indeed, MfS contends that walking can be used to access a variety of destinations within a range of up to 2 kilometres.
- 3.11 More recently, there has been an emergence of 20-minute neighbourhoods, based on a design ethos of creating complete, compact and connected neighbourhoods, where people can meet their everyday needs within a short walk or cycle. This concept builds upon the notion of walkable neighbourhoods and places, designed at pedestrian scale, and is supported by a 20-minute neighbourhood guide published by the Town and Country Planning Association in March 2021. The idea of the 20-minute neighbourhood presents multiple benefits including boosting local economies, improving people's health and wellbeing, increasing social connections in communities, and tackling climate change.

Active Travel Network

- 3.12 Footways are provided throughout the local area including on both sides of Eversley Road, Reading Road, School Road and Swallowfield Road with onward connections provided to a range of local amenities within Arborfield Cross and the Arborfield Garrison SDL, as well as local bus stops.
- 3.13 In addition to local footways, Arborfield is closely located to a range of public rights of way providing traffic free connections to the wider area. These include public footpath connections towards Wokingham to the east, Swallowfield to the west and Winnersh to the north.
- 3.14 A range of recommended cycle routes operate throughout Arborfield Green and Arborfield Cross. These include the California Way Greenway, an off-road connection towards Finchampstead and Nine Mile Road, as well as links towards Reading and Shinfield via shared foot/cycleways along Observer Way.



- ### Figure 3.3 – Active Travel Network



- 3.16 Arborfield benefits from a range of local amenities including primary and secondary schools, supermarkets, healthcare facilities and leisure facilities. A summary of a selection of local amenities is provided in **Table 3.1** whilst the relative location of these facilities to the site are illustrated below. It should be noted that distances are measured from the midpoint of the site and comprise travel distances reflecting pedestrian and cycle routes rather than ‘as the crow flies’.

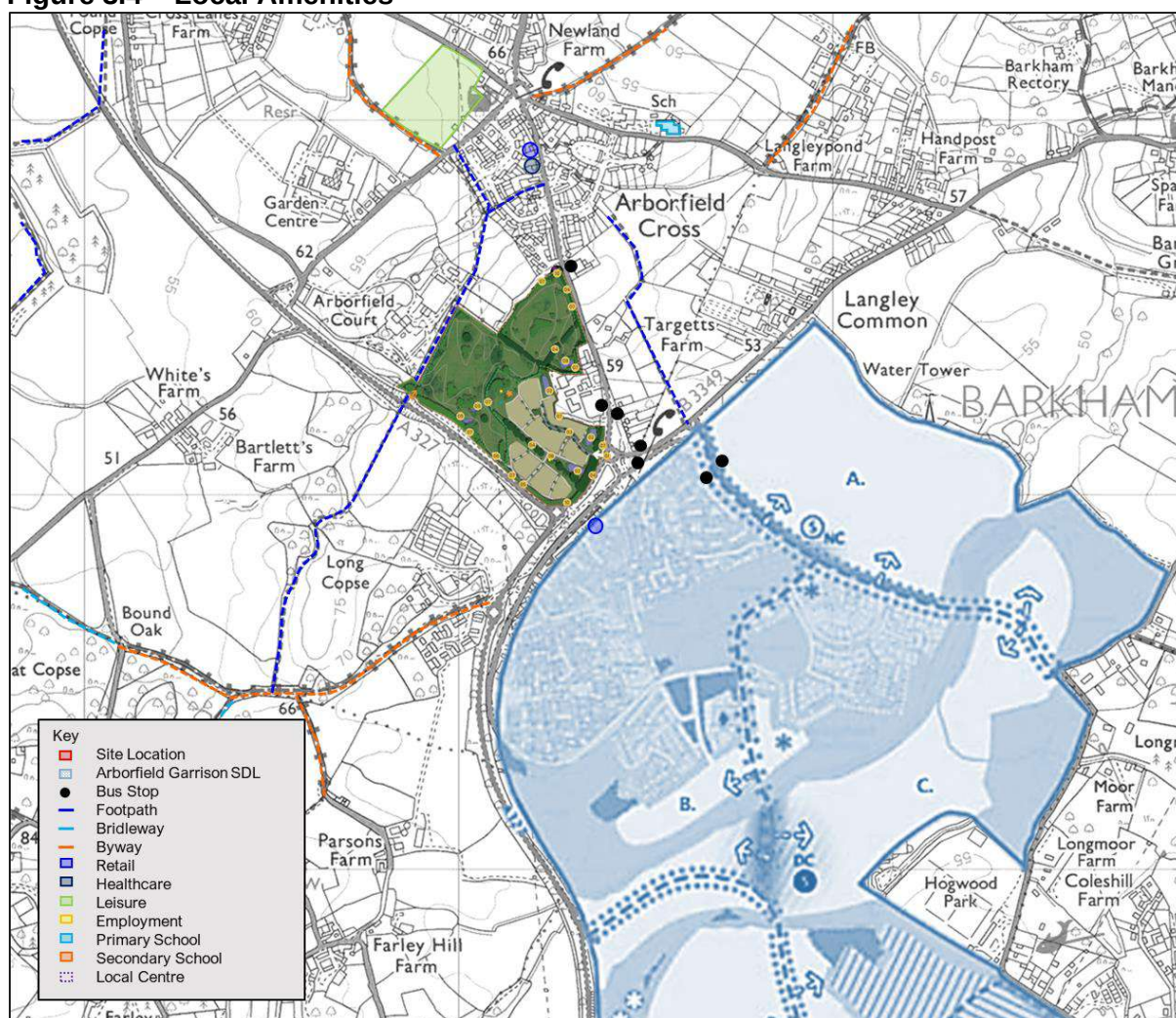
Table 3.1 – Local Amenities

Education	Distance	Walk Time	Cycle Time
Farley Hill Primary School (within the SDL)	800 metres	10 minutes	3 minutes
Hazebrouck Day Nursery & Pre-School	1100 metres	13 minutes	4 minutes
The Coombes CofE Primary School	1250 metres	15 minutes	5 minutes
Bohunt Wokingham Secondary School	1600 metres	19 minutes	6 minutes
Healthcare	Distance	Walk Time	Cycle Time
Arborfield Surgery	950 metres	11 minutes	4 minutes
Swallowfield Medical Practice (Shinfield)	4300 metres	51 minutes	17 minutes
Shinfield Pharmacy	4300 metres	51 minutes	17 minutes
Retail	Distance	Walk Time	Cycle Time
Coop Arborfield	300 metres	4 minutes	1 minute
Londis	950 metres	11 minutes	4 minutes
Leisure	Distance	Walk Time	Cycle Time
Arborfield Village Hall	950 metres	11 minutes	4 minutes
Arborfield Green Community Centre	1100 metres	13 minutes	4 minutes
Arborfield Green Cricket Ground	1100 metres	13 minutes	4 minutes
Arborfield Park Recreation Ground	1250 metres	15 minutes	5 minutes
Arborfield Green Leisure Centre	1750 metres	21 minutes	7 minutes
Employment	Distance	Walk Time	Cycle Time
Hogwood Industrial Estate	2250 metres	27 minutes	9 minutes
Thames Valley Science Park	4650 metres	55 minutes	18 minutes
Public Transport	Distance	Walk Time	Cycle Time
Eversley Road Bus Stops	350 metres	4 minutes	1 minute
Arborfield Garrison Bus Stops	350 metres	4 minutes	1 minute

- 3.17 In addition to the above amenities, a range are set to be provided at the Arborfield Garrison SDL including a local centre with shops and employment facilities.



Figure 3.4 – Local Amenities



Public Transport Network

- 3.18 Local bus stops are provided on Eversley Road and are served by routes 145 and 3 leopard. Route 145 operates twice-daily on Tuesdays only whilst the 3 leopard service operates every 30 minutes between Wokingham and Reading. In addition, the 93 bus service serves Arborfield Garrison and provides a twice-daily school service connecting between the new secondary school and Shinfield.
- 3.19 The local bus services provide key onward connections to local stations with Reading station able to be accessed via a 20 minute journey on the 3 leopard service with the first service operating to Reading at 05:38 and the last return service departing Reading at 23:10. Following the introduction of Crossrail in 2020, trains depart on average every 4 minutes to London with further direct trains also running to Bristol, Cardiff, Manchester, Newbury and Plymouth.

Summary

- 3.20 The above review demonstrates the site is readily accessible by a variety of modes of transport that have the potential to reduce reliance upon the private car. In addition to this it has been



established that the site is well located to a range of key local amenities. Finally, it has been confirmed that the design of the local highway network is not such that leads to a poor road safety record.



4.0 Development Proposals

4.1 The development proposals comprise:

A full application for the change of use of land from agricultural land to provide an area of Suitable Alternative Natural Greenspace (SANG), including the details of associated landscaping, planting, drainage measures, parking, walking routes and other works associated with the creation of the SANG.

An outline application with all matters reserved other than access into the site for a residential development of up to 135 dwellings, open space, internal accesses and parking, drainage measures, landscaping and all other associated works.

4.2 The site has been designed as two parcels with the majority of dwellings located on the northern parcel. To the south, the SANG car park and a smaller number of dwellings will be served by a separate access. Active travel and emergency vehicle links will be provided between the two parcels, no vehicle access for future residents will link the parcels.

4.3 An indicative site layout is included at **Appendix B**, at this stage the layout of the residential dwellings is illustrative and will be finalised as part of a future reserved matters application.

Access Strategy

4.4 Paragraph 114 of the NPPF states that all new developments should provide safe and suitable access for all people. The following text has therefore been prepared to set out how access to the development could be achieved by all modes of transport.

Vehicle Access

4.5 The primary vehicle access will be taken via a new fifth arm at the Eversley Road / Langley Common Road / Baird Road roundabout. The proposed access arrangement is included at **Appendix C**.

4.6 A secondary vehicle access will be provided from Observer Way serving both the SANG and a small number of residential units through upgrading an existing access to the site. The access to the SANG car park will incorporate a secure height barrier and a gate. The proposed access arrangement has been prepared through consultation with WBC and is included at **Appendix C**, notably there are no changes to the existing geometries of its junction with Observer Way.

4.7 Due to the proximity of the secondary access to the roundabout, visibility splays have been informed by the posted speed of 50mph. It is considered that this provides a robust assessment where, in reality, drivers are likely to be travelling slower. It is considered that appropriate visibility is achieved noting that the junction visibility has been measured to the position of the approaching traffic, the threat is not from vehicles waiting at the give way line at Eversley road roundabout but from vehicles approaching from the roundabout. Furthermore, the access is as per an existing arrangement which must have been assessed in terms of location and visibility by the highway authority previously. In addition, an assessment has been undertaken (see **Appendix C**) to determine the maximum achievable visibility to the north



which illustrates a splay of 2.4 metres x 373 metres which exceeds the DMRB standards for both 50mph and 60mph.

- 4.8 In addition to the above, an emergency access will be provided connecting the two residential parcels. As per WBC requirements, this link will be a minimum of 3.7 metres in width and will feature removable bollards.

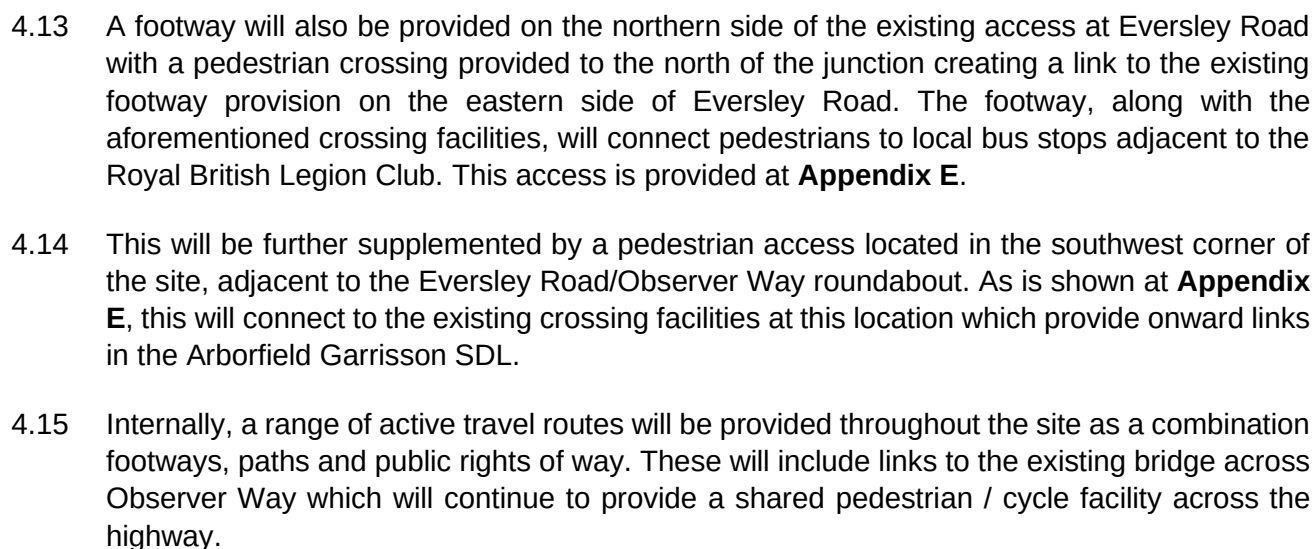
Stage One Road Safety Audit

- 4.9 A Stage One Road Safety Audit of the proposed site access points and associated off-site highway works has been undertaken by Gateway-TSP. This assessment, which is included at **Appendix D**, made only relatively minor observations about the design of the site access that can all be addressed at the detailed design stage.

Pedestrian and Cycle Access

- 4.10 The internal layout of the site will be designed to prioritise active travel users ahead of the private car. The internal layout will therefore be designed so as to be consistent with Manual for Streets (MfS), MfS2 and the WBC design guide. The final design of the internal layout will be agreed as part of subsequent Reserved Matters Applications.
- 4.11 The accesses outlined above will include provision for pedestrians and cyclists. In particular, the primary access will feature a shared pedestrian/cycle facility on both sides of the carriageway. This will connect with raised table crossing facilities provided at the site access, Eversley Road and Langley Common Road arms of the roundabout.
- 4.12 The proposed arrangement is consistent with the design principles that have been implemented as part of a traffic calming strategy in so much as there will be a reduction in road space on the approaches to the junction. An extract from the scheme that has been delivered by WBC is provided below:





Servicing and Delivery Access

- 4.16 The site accesses have been designed to enable the delivery and service vehicles that are likely to enter and exit the site on a regular basis, do so in a forward gear. In this regard, it is evident that the access strategy will not cause disruption to the free flow of traffic, or lead to an adverse effect upon the safety levels of the adjoining highway network. A review of the proposed site access has been undertaken through the use of AutoTRACK. The results of an AutoTRACK assessment are provided at **Appendix F**.

4.17 At the reserved matters stage the following design principles will be adopted in accordance with the normal requirements of WBC:

- Road surfacing that is able to withstand pressures placed upon it by the Council's current collection vehicle to restrict any unnecessary maintenance issues to the internal road network and the Council's vehicle fleet;
- The provision, and management of turning areas, that ensure the Council's current collection vehicle is able to enter and exit the development in a forward gear at all times;
- Ensuring that on-street parking and landscaping does not restrict the ability of the collection vehicle from manoeuvring through the proposed development;
- Providing bin collection points in designated locations that are located within the highway boundary, are not located adjacent to parking spaces and accord with the maximum carry distances that are set out in MfS; and,
- The rounding off of all corners that the refuse collection vehicle will pass through within the site.

Summary

4.18 On the basis of the above, it is evident that it is possible to provide an access strategy that will ensure safe and suitable access for all is provided in accordance with the requirements of the NPPF.

Parking Strategy

Vehicle Parking

4.19 Vehicle parking will be provided in accordance with the WBC standards outlined in Section 2 of this report, or any subsequent updated standards in place at the time of a reserved matters application.

4.20 As the layout is currently indicative reflecting the outline nature of the application, an estimate of parking mix is not available at this stage. A parking assessment will be undertaken as part of the reserved matters application when the mix of housing is identified.

4.21 Car parking will be provided in private garages, driveways and on-street spaces. As per WBC requirements:

- All driveways will be a minimum of 3.1 metres in width so as to allow for car doors to open.
- All parking spaces will be to be 5 metres x 2.5 metres, with any parallel spaces being 6 metres x 2.5 metres.
- Where garages are to be considered as part of the overall parking provision, these will have minimum internal dimensions of 6 metres x 3 metres or 7 metres x 3 metres if cycle storage is to be included.
- If parking courts are to be proposed there will be at least 6 metres behind the spaces to allow for safe manoeuvring.



- 4.22 Parking for electric vehicles will be provided in line with Building Control Approved Document S. The final level of charging facilities for electric vehicles will be provided at the reserved matters stage.
- 4.23 WBC standards do not include provision for SANG sites and therefore reference has been made to Guidelines for Creation of Suitable Alternative Natural Greenspace (SANG) (August 2021). Appendix 3 of the guidance states that a minimum of 1 car parking space per hectare should be provided. It is proposed to provide 11 standard and 1 accessible bay (8% of total provision) to serve the SANG.

Cycle Parking

- 4.24 Cycle parking will be provided in accordance with the WBC standards outlined in Section 2 of this report, or any subsequent updated standards in place at the time of a reserved matters application. As the layout is currently indicative reflecting the outline nature of the application, an estimate of cycle parking is not available at this stage.
- 4.25 Cycle parking will be provided throughout the site in a combination of sheds (in rear gardens with direct access), garages and shared stores (should flats be provided) noting that:
- Garages will have internal dimensions of 7 metres x 3 metres should cycle parking be contained within them.
 - If flats are provided, cycle parking would need to be in communal cycle storage areas which are accessible, sheltered and secure. Each cycle parking space would need to be 2 metres x 0.9 metres, all spaces would need to be at ground level and there needs to be ample space for manoeuvring.
- 4.26 In addition to cycle parking for future residents, the SANG will incorporate 8 Sheffield style cycle parking stands creating space for 16 cycles. It is noted that WBC does not provide specific SANG cycle parking standards.

Mitigation

Sustainable Transport Strategy

- 4.27 The development will be supported by a strategy to encourage travel via more sustainable transport modes. This incorporates the following elements:
- Provision of new active travel connections, including crossing facilities, to link the site to the existing networks in the surrounding area.
 - Moving the existing southbound bus stop on Eversley Road and upgrading the northbound bus stop to incorporate real time passenger information (RTPI), shelters and seating in accordance with the WBC Bus Stop Policy.
- 4.28 In addition to the above it is expected that the developer will be required to provide a contribution for access to the Arborfield Bus Strategy. Furthermore, a contribution would be expected to be required towards the My Journey Campaign to support sustainable transport modes.



Construction Method Statement

- 4.29 Alongside the sustainable transport strategy, a Construction Method Statement will be prepared to ensure that the impacts associated with the construction phase, such as increases in traffic, noise and dust, are minimised.
- 4.30 The construction programme and phasing will depend on a number of factors including safety, environmental considerations, economics, access and practicalities. In this regard, the type and number of vehicle movements generated during the construction period will be dependent on the type and intensity of work being undertaken at any one stage.
- 4.31 Similarly, the phasing of the construction programme will be dependent upon how the contractor appointed to carry out the works decides to manage the construction period. A CMP will be secured by a suitably worded condition and is likely to include some of the following measures which will be in place to mitigate impacts:
- Haulage routes will be agreed with the highway's authorities;
 - Provision will be made to ensure that vehicles can be loaded and unloaded off the public highway;
 - The site labour force will be encouraged to use sustainable modes of transport;
 - HGV wheels, and bodies as required, to be washed prior to vehicles leaving the site; and
 - Traffic management plans will be implemented to minimise potential impact of the works.
- 4.32 It is expected that the CMS will be secured via a suitably worded condition as applied by WBC to various other developments within Wokingham.



5.0 Trip Generation and Distribution

Trip Generation

- 5.1 For the purposes of this assessment, reference has been made to the Wokingham Strategic Transport Model (WSTM) and the trip rates provided within the WSTM. A summary of the trip rates and resulting vehicle trip generation is provided in **Table 5.1**.

Table 5.1 – Trip Generation

	Vehicle Trip Rate			Vehicle Trip Generation		
	Arr.	Dep.	Total	Arr.	Dep.	Total
AM Peak (0800-0900)	0.170	0.410	0.580	23	55	78
PM Peak (1700-1800)	0.360	0.160	0.510	49	22	70

- 5.2 It is demonstrated that, based on the WSTM trip rates, the proposed development could generate circa 80 trips during the morning peak hour and 70 during the evening peak hour equating to 1-2 vehicles per minute.
- 5.3 It should be noted that whilst these trip rates are used to inform assessments across the borough, they are considered to be representative of a worst-case scenario. A review of WSTM trip rates compared with TRICS database trip rates is provided at **Appendix G** which demonstrates how the WSTM trip rates provide a robust worst-case assessment.

Trip Distribution

- 5.4 The previously submitted assessment incorporated a distribution of residential trips informed by the WSTM. As this assessment was derived for a larger number of dwellings (300) and an alternative access strategy, it is considered that this would no longer be applicable. As such, for the purposes of this assessment reference has been made to the 2011 Census and journey to work data associated with those driving from the Wokingham 018 output area within which the site is located.
- 5.5 As noted in Section 4, there will be two accesses to the site with no vehicular link between them. It is intended that 85 dwellings (67%) will be accessed via the Eversley Road roundabout with the remaining 50 (33%) accessed via the Observer Way priority junction.
- 5.6 Full distribution calculations are included at **Appendix H**, whilst a summary of the expected development trips at these local junctions is provided in **Table 5.2**.



Table 5.2 – Trip Distribution

	AM Peak		PM Peak	
	Veh.	Veh/Min	Veh.	Veh/Min
Arborfield Road / Eastern Relief Road	22	0.37	20	0.33
Reading Road / Observer Way	25	0.42	22	0.37
Eversley Road / School Road / Reading Road	28	0.47	25	0.42
Swallowfield Road / Observer Way	25	0.42	22	0.37
Eversley Road / Observer Way	43	0.71	38	0.64
Eversley Road / Langley Common Road	66	1.10	59	0.98
School Road / Langley Common Road	10	0.16	9	0.14
Eversley Road / Nine Mile Road	12	0.21	11	0.19

- 5.7 The results presented in **Table 5.2** demonstrate that the increases in traffic on the local highway network are likely to range from between just 0.14 additional vehicles per minute to 1.1 vehicles per minute in the morning and evening peak hours. Increases of this magnitude are unlikely to materially affect the operation of the local highway network and will be consistent with daily variations in background traffic flows. However, in order to evaluate the impact of these increases upon the operation of the identified study area, a series of detailed capacity assessments have been undertaken. A summary of this is provided at Section 6.



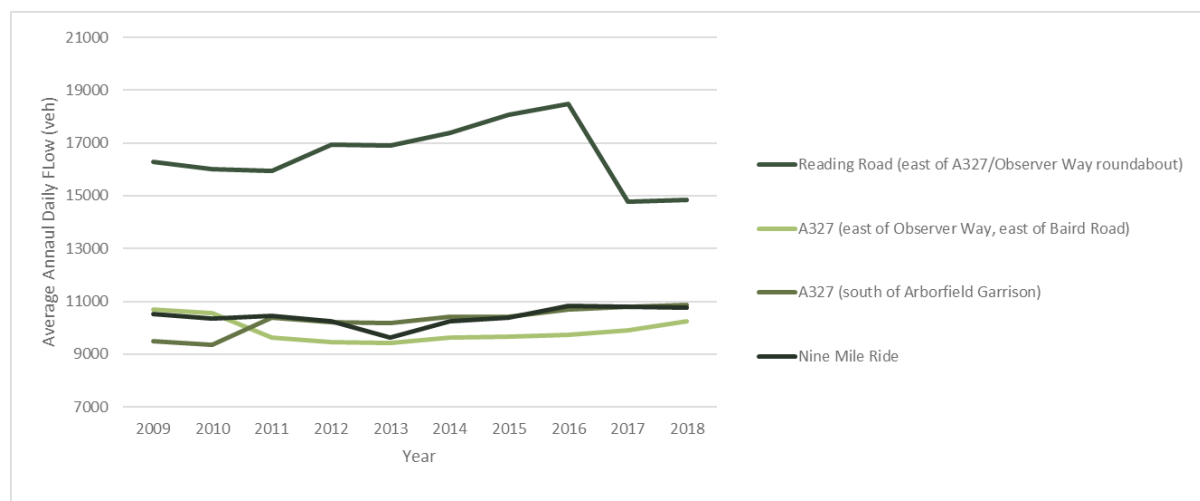
6.0 Highway Impact Assessment

Assessment Scenarios

6.1 A baseline assessment has been informed by surveys undertaken in June 2023. Future year assessments of 2026 (end of the current Local Plan) and 2036 have been calculated through the application of TEMPRO growth factors. As such, the following scenarios have been assessed:

- 2026 without development
- 2026 with development
- 2036 without development
- 2026 with development

6.2 It is considered that the use of TEMPRO growth factors provides a reasonable worst case scenario as it will include schemes that do not align with the definition of a committed development as set out in the Planning Policy Guidance and assume build out rates that are unlikely to be realistic. Equally, it is evident through data that the Department for Transport has collated that traffic flows in the area have remained largely static for a number of years as shown below.



6.3 The traffic flows that have been used to inform the various assessments are included at **Appendix I** whilst **Table 6.1** summarises the percentage impact of the proposals across the study area.



Table 6.1 – Impact Assessment

2026	AM Peak			PM Peak		
	Without Dev.	With Dev.	Impact	Without Dev.	With Dev.	Impact
Arborfield Road / Eastern Relief Road	2163	2184	+0.97%	1921	1939	+0.98%
Reading Road / Observer Way	2094	2117	+1.09%	1905	1926	+1.08%
Eversley Road / School Road / Reading Road	1295	1324	+2.20%	1140	1166	+2.24%
Swallowfield Road / Observer Way	1793	1817	+1.32%	1631	1652	+1.31%
Eversley Road / Observer Way	2739	2782	+1.56%	2517	2555	+1.52%
Eversley Road / Langley Common Road	2426	2491	+2.69%	2173	2232	+2.69%
School Road / Langley Common Road	1067	1077	+0.91%	1004	1013	+0.87%
Eversley Road / Nine Mile Road	2137	2149	+0.58%	2075	2086	+0.53%
2036	AM Peak			PM Peak		
	Without Dev.	With Dev.	Impact	Without Dev.	With Dev.	Impact
Arborfield Road / Eastern Relief Road	2374	2395	+0.89%	2116	2135	+0.89%
Reading Road / Observer Way	2298	2321	+1.00%	2099	2120	+0.98%
Eversley Road / School Road / Reading Road	1422	1450	+2.00%	1257	1282	+2.03%
Swallowfield Road / Observer Way	1968	1992	+1.21%	1797	1818	+1.19%
Eversley Road / Observer Way	3006	3049	+1.42%	2774	2812	+1.38%
Eversley Road / Langley Common Road	2662	2727	+2.45%	2395	2453	+2.44%
School Road / Langley Common Road	1171	1181	+0.83%	1107	1115	+0.79%
Eversley Road / Nine Mile Road	2346	2358	+0.53%	2287	2298	+0.49%



- 6.4 Whilst there is not a uniformly accepted threshold at which junction modelling should be undertaken, it is pertinent to note that Environmental Assessments typically refer to transport impacts warranting further investigation when traffic flows increase by more than 10% in sensitive locations and 30% in those areas that are not considered sensitive. The lower threshold is consistent with what are generally accepted to reflect typical daily fluctuations in exiting traffic flows.
- 6.5 When viewed in this context the information presented at **Table 6.1** would suggest that the increases in development related traffic would not warrant further detailed investigation. Indeed, historic guidance prepared by the IHT suggested that detailed modelling would only normally be required once traffic flows increased by 5% and therefore it could be expected that junctions would not require detailed junction modelling.

Strategic Modelling

- 6.6 Notwithstanding the above, reference has been made to strategic modelling results in the form of the WSTM to ascertain whether the conclusions arising from the percentage impact assessment are consistent with the modelling outputs. It is pertinent to note that the WSTM outputs consider a larger quantum of development than is now proposed.
- 6.7 The WSTM assessment results are included at **Appendix J** and demonstrate that the proposals would have a negligible impact on delay times in the local area. This is further illustrated in **Table 6.2** at key local links which illustrates that the proposed development would result in a minimal change in delay when compared with the 'without development' scenarios in the WBC model.

Table 6.2 – WSTM Results (Change in Delay)

2026	Maximum Delay (seconds)			
	Without AM	With AM	Without PM	With PM
Observer Way north of Swallowfield Road	24	24	18	18
Observer Way south of Swallowfield Road	20	17	25	14
Eversley Road south of Observer Way	20	21	18	19
Eversley Road east of Observer Way	20	20	13	15

- 6.8 It is demonstrated above that the development as assessed would not have a material impact on driver delay in the local area. Furthermore, the proposed development now comprises circa half the number of dwellings that informed the above, thus any impact would be reduced.



Detailed Junction Modelling

- 6.9 It has been demonstrated that the proposals would not be expected to have a material impact on the operation of the local network with the greatest impact being a circa 2.75% increase in vehicle trips when compared with existing traffic levels. This has further been evidenced through a review of the change in delay as determined by the WSTM.
- 6.10 With the above in mind, detailed junction modelling is not considered necessary for the local network, with the exception of the two site accesses which have been subject to detailed modelling. This is outlined below.
- 6.11 For the purposes of this assessment, reference has been made to Junctions 10 which includes the current version of ARCADY and PICADY. Both ARCADY and PICADY, which are produced by the Transport Research Laboratory (TRL), express the relationship between traffic flow and capacity of roundabouts and priority-controlled junctions as a ratio, referred to as the Ratio of Flow to Capacity (RFC). Based upon these results it also predicts the anticipated queue lengths (Q) and delays that are likely to occur at the junction. Junctions 10 also provides a further performance measurement, which correlates the length of the delay experienced by arriving vehicles to a scale that is referred to as the 'Level of Service' (LoS).
- 6.12 The LoS is determined having regard to the banding system set out in the Highway Capacity Manual approach to traffic capacity. The following summarises the definitions that are provided within Highway Traffic Analysis and Design (Salter & Hounsell, 1996) for the various bandings that are predicted in Junctions 10:
- LoS A: Free Flow - Primarily free-flow operation with vehicles having almost complete freedom to manoeuvre;
 - LoS B: Reasonably Free Flow - Reasonable free-flow conditions with vehicles having slightly restricted freedom to manoeuvre;
 - LoS C: Stable Flow - Stable operation but freedom to manoeuvre is restricted;
 - LoS D: Approaching Unstable Flow - Borders on unstable flow with freedom to manoeuvre severely limited;
 - LoS E: Unstable Flow - Traffic flow is very unstable and approaching capacity; and,
 - LoS F: Forced or Breakdown Flow - The point at which demand exceeds capacity.

Eversley Road / Langley Common Road / Baird Road / Site Access

- 6.13 Baseline traffic data was collected in May 2023 to inform junction modelling, it is noted that there were road closures impacting the assignment of traffic at the junction. Updated surveys were therefore undertaken at the Eversley Road roundabout in September 2023 to capture more representative movements and highlighted that, whilst the total vehicle movements were similar, the assignment was noticeably different with a reduction in vehicles using Langley Common Road. With this in mind, the September 2023 surveys have been used as the basis of the assessment.
- 6.14 A summary of the modelling results associated with the proposed addition of a fifth arm to the Eversley Road / Langley Common Road / Baird Road roundabout is provided below, full modelling outputs are included at **Appendix K**.



Table 6.3 – Eversley Road / Langley Common Road / Baird Road / Site Access

	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Queue	Delay	RFC	Queue	Delay	RFC
2026 + Development	2.4	11.20	0.71	1.6	8.76	0.62
2036 + Development	3.7	15.54	0.79	2.2	10.95	0.69

- 6.15 It is demonstrated that the roundabout would operate within theoretical capacity following the inclusion of traffic associated with the development. The junction is demonstrated to operate with an LoS rating of A showing a free-flowing operation with vehicles having almost complete freedom to manoeuvre.

Observer Way Access

- 6.16 Baseline traffic flows have been obtained from surveys undertaken in May 2023 to inform the junction modelling.
- 6.17 A summary of the modelling results associated with the proposed Observer Way access is provided below, full modelling outputs are included at **Appendix K**.

Table 6.4 – Observer Way Access

	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Queue	Delay	RFC	Queue	Delay	RFC
2026 + Development	0.0	16.83	0.03	0.1	3.66	0.05
2036 + Development	0.1	2.92	0.04	0.1	3.53	0.05

- 6.18 The junction with Observer Way to the south of the site has been demonstrated to have a level of service of A across all scenarios highlighting free-flowing conditions throughout. Indeed, it should be noted that the detailed modelling results provided at **Appendix K** confirm that the level of development that is predicted to use this access will not result in any queuing that would block back to the Observer Way/Site Access roundabout. In this regard, the use of this access for residential uses will not introduce a road safety issue.

Summary

- 6.19 The modelling results outlined above demonstrate that the proposed development can be accommodated without detriment to the operation of the local highway network. In this regard, it is considered that the proposals would not have a material impact upon the adjoining highway network, let alone the 'severe' impact that is referred to in the NPPF.
- 6.20 It is therefore concluded that the proposed development is entirely acceptable from a highway capacity perspective.



7.0 Summary and Conclusions

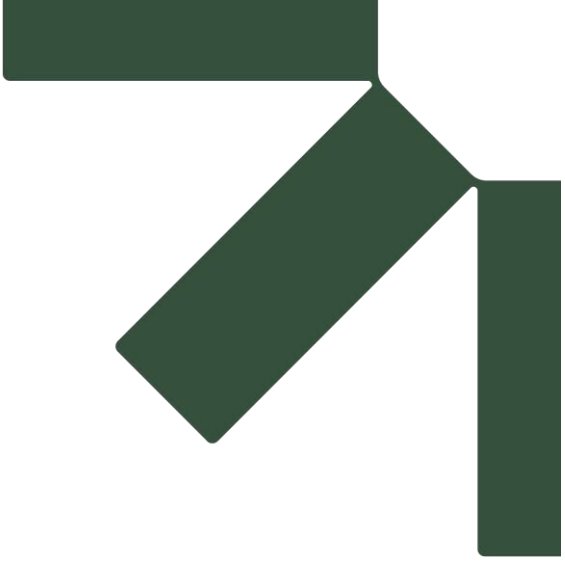
- 7.1 SLR is retained by David Wilson Homes Southern (DWS) to provide transport and highways advice in relation to development proposals on land known as land at Ducks Nest, Arborfield, within the administrative boundary of Wokingham Borough Council (WBC).
- 7.2 The Ducks Nest Farm site is presently occupied by a range of agricultural uses. To the south east the site fronts the strategic developments at Arborfield Garrison and Arborfield Green whilst Arborfield Cross is located to the north.
- 7.3 To the south of Arborfield Cross is the Arborfield Garrison strategic development location (SDL), which makes provision for 3,500 dwellings and a range of other community uses and employment opportunities. To date, a new secondary school, primary school and leisure centre are operational whilst a series of 'centres' are also due to be delivered.
- 7.4 The site has been promoted as part of the call for sites for the emerging Local Plan. A public consultation was undertaken in June 2022, and the comments received at consultation have been taken into account when developing the proposals for the outline application.
- 7.5 In addition to the above, an application for the change of use of land from agricultural uses to an areas of suitable alternative natural greenspace (SANG) and a residential development of up to 210 dwellings was submitted in March 2023 but subsequently withdrawn prior to a planning decision being reached (Planning Ref. 230532). It should be noted that this report has been prepared having consideration to comments received from WBC Highways on that application.
- 7.6 The proposals now comprise a full application for the change of use of land from agricultural land to provide an area of Suitable Alternative Natural Greenspace (SANG) and an outline application for 135 residential dwellings.
- 7.7 This Transport Assessment has demonstrated the following:
- The site is situated in an accessible location with a range of sustainable transport opportunities including access to public transport and the active travel network within the immediate vicinity.
 - An analysis of personal injury accident data records has identified that the local highway network is not subject to poor safety record.
 - Safe and suitable access to the site can be achieved via an additional arm at the Eversley Road / Langley Common Road / Baird Road roundabout with a secondary access provided from Observer Way.
 - The development could generate approximately 80 trips during the morning peak hour and 70 during the evening peak hour.
 - A percentage impact assessment of development traffic on the local network demonstrates a change of 0.49% to 2.69%, well within expected daily fluctuations of +/-10%.
 - Strategic modelling results that the development as assessed would not have a material impact on driver delay in the local area.



- Junction modelling of key local junctions demonstrates that all junctions are expected to operate within theoretical capacity with minimal delays and queuing following the inclusion of development traffic.

7.8 With regard for the above, it has been demonstrated that the development proposals accord with local and national transport planning policy and would not have a severe impact on the local highway or transport networks. It is therefore concluded that there the proposals will provide a sustainable development for the future in traffic and transportation terms.





Appendix A Walking and Cycling Audit

Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

27 November 2024

PEDESTRIAN AND CYCLE AUDIT

David Wilson Homes (Southern)

Land at Ducks Nest

Arborfield

May 2023

Pedestrian and Cycle Audit

Report control

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Client: David Wilson Homes (Southern)

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Figure 2.2	– Accident Data
Figure 2.3	– Trip Attractors
Figure 2.4	– Audit Routes
Figure 2.5	– Public Rights of Way

1 Introduction

- 1.1 Vectos (part of SLR) is retained by David Wilson Homes Southern (DWS) to provide transport and highways advice in relation to development proposals on land known as land at Ducks Nest, Arborfield, within the administrative boundary of Wokingham Borough Council (WBC).
- 1.2 In support of this application a pedestrian and cycle audit has been undertaken with respect to GG142, the DMRB guidance for Walking, Cycling and Horse-riding assessments.

Site Location

- 1.3 The Ducks Nest Farm site is presently occupied by a range of agricultural uses. To the south east the site fronts the strategic developments at Arborfield Garrison and Arborfield Green whilst Arborfield Cross is located to the north.
- 1.4 To the south of Arborfield Cross is the Arborfield Garrison strategic development location (SDL), which makes provision for 3,500 dwellings and a range of other community uses and employment opportunities. To date, a new secondary school, primary school and leisure centre are operational whilst a series of ‘centres’ are also due to be delivered.

Development Proposals

- 1.5 The development proposals comprise a hybrid application for:
- A full application for the change of use of land from agricultural use to provide an area of Suitable Alternative Natural Greenspace (SANG), including the details of associated landscaping, planting, drainage measures, parking, walking routes and other works associated with the creation of the SANG.
 - An outline application with all matters reserved other than access into the site, for a residential development of up to 210 dwellings, open space, internal accesses and parking, drainage measures, landscaping and all other associated works. Access will be taken via the Eversley Road / Langley Common Road / Baird Road roundabout and Observer Way.

Proposed Highway Scheme

- 1.6 The local active travel network, as outlined above, is summarised below with reference to the site location. The infrastructure works are provided at **Appendix A**.
- 1.7 The primary vehicular access will be taken via a new fifth arm on the Eversley Road / Langley Common Road / Baird Road roundabout. This will serve the majority of the proposed residential dwellings.
- 1.8 A secondary vehicular access will be provided in the form of a priority junction with Observer Way at the western boundary of the site. This is expected to serve in the region of 54 residential dwellings as well as the SANG car park and will comprise upgrading an existing agricultural access that was delivered as part of the Observer Way works.

- 1.9 An emergency access, also for use by pedestrians and cyclists, will be provided at the eastern boundary of the site connecting to Eversley Road to the south of its junction with Harts Close.
- 1.10 A pedestrian access will also be provided on the northern side of the site which will double as an emergency access with retractable bollards to limit vehicular access. This access will join directly onto Harts Close with dropped kerbs and tactile paving provided for mobility impaired users to cross to the northern side of Harts Close. A drawing of this access and crossing is shown on the drawings provided at **Appendix A**.
- 1.11 In addition to the above, the proposed vehicular access on Observer Way will incorporate a shared pedestrian/cycle facility on either side of the access road. These will connect to the shared pedestrian/cycle facility that runs alongside Observer Way.
- 1.12 There will be a priority crossing for pedestrians and cyclists over Langley Common Road from the footpath on the northern side of the carriageway to the southern side which will connect to the footway on the northern side of Baird Road.

2 Pedestrian and Cycle Audit

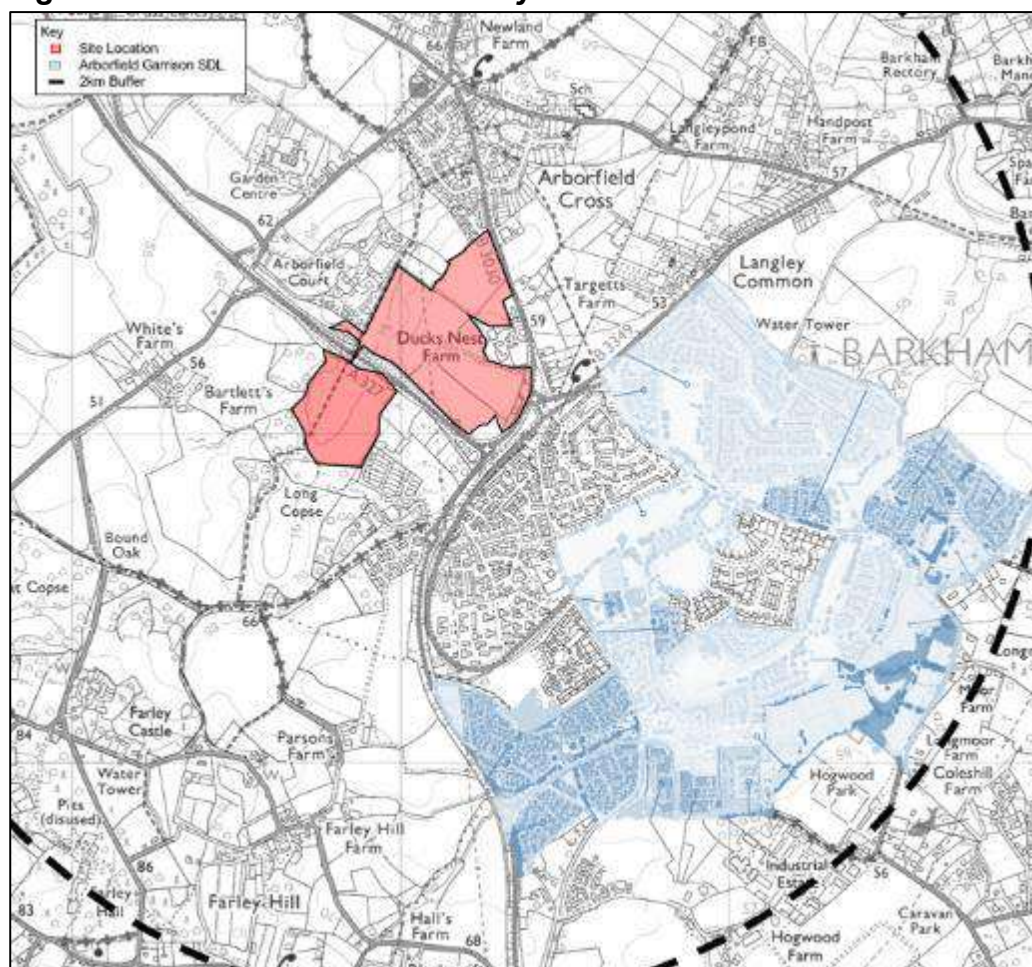
Background

- 2.1 The GG 142 (formerly HD42/17) of the Design Manual for Roads and Bridges (DMRB) was employed as the guidance in preparing this audit. The purpose of GG 142 is to ensure the integration of walking and cycling throughout the highway scheme design process, enabling the design team to identify opportunities for improved facilities and incorporation into the local and national network.
- 2.2 With respect to this, the aims of this audit is:
- “To obtain an appropriate understanding of all relevant existing facilities for pedestrians and cyclists in the local area.
 - To identify opportunities for improvements for users.”

Study Area

- 2.3 The study area incorporates a 2km distance from the proposed highway scheme as shown in **Figure 2.1** below.

Figure 2.1. Site Location and Study Area



Policy Review

- 2.4 This section summarises the relevant transport planning policy documents:
- National Planning Policy Framework (July 2021);
 - Wokingham Core Strategy (January 2010);
 - Managing Development Delivery Document (Wokingham Local Plan) (February 2014);
 - Emerging Wokingham Borough Policy; and,
 - Arborfield & Barkham Neighbourhood Plan (December 2019).
- 2.5 There are a number of documents that contain planning policies relevant to transport and this section of the report provides a summary of the key transport policies at national and local level in the context of the development proposals with a focus on walking and cycling.

National Planning Policy Framework (NPPF) (2021)

- 2.1 The current version of the national Planning Policy Framework was published in July 2021 and sets out the Government's planning policies and how these are expected to be applied.
- 2.2 In promoting sustainable transport, the NPPF identifies at paragraph 105 that:

“Significant development should be focused on locations which are or can be made sustainable through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”

- 2.3 Paragraph 110 of the NPPF states that:

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

- Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- Safe and suitable access to the site can be achieved for all users; and,*
- Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.”*

- 2.4 Furthermore, paragraph 111 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.”

Wokingham Core Strategy

- 2.5 The Wokingham Core Strategy was adopted in January 2010 and outlines the policy and objectives against which planning decisions will be made until 2026.
- 2.6 Policy CP6 considers the management of travel demand and outlines a requirement for new development to:
 - Be located for future users to benefit from transport choices;
 - Provide appropriate parking;
 - Mitigate any adverse effects on the local and strategic transport network; and,
 - Improve existing infrastructure including cycle and pedestrian infrastructure as well as provision for those with reduced mobility.

Managing Development Delivery Document (Wokingham Local Plan)

- 2.7 The Wokingham Local Plan, also known as the Wokingham Borough Managing Development Delivery Document, was adopted in February 2014 and operates alongside the Core Strategy in steering development within the Borough.
- 2.8 Policy CC03 considers green infrastructure, including a requirement for development to demonstrate that the following have been considered:
 - *“Provide new or protect and enhance the Borough’s Green Infrastructure networks, including the need to mitigate potential impacts of new development.*
 - *Promote accessibility, linkages and permeability between and within existing green corridors including public rights of way such as footpaths, cycleways and bridleways.*
 - *Promote the integration of the scheme with any adjoining public open space or countryside.”*

Emerging Wokingham Borough Policy

- 2.9 A series of emerging policy documents are under consultation as part of a New Local Plan and provide an overview of the expected direction of development in the Borough in the future. It is expected that these will cover a period until 2038.

Draft Local Plan

- 2.10 Policy C1 considers sustainable transport and accessibility stating that development proposals should accord to a range of criteria including:

- Locating development to allow all users to access a range of amenities.
- Include measures to make walking and cycling the primary transport mode where possible.
- Include measures to reduce reliance on the private car and single occupancy trips.
- Contribute to a legible environment through walking and cycling connections.

2.11 The Borough declared a climate emergency in 2019 and, as a result, Policy SS8 considers actions to be implemented to mitigate and adapt to the changing climate. These include:

- Locate development where journeys can be undertaken via foot, cycle or public transport.
- Provide a network of safe and convenient walking and cycling routes.

Arborfield & Barkham Neighbourhood Plan

2.12 The Arborfield & Barkham Neighbourhood Plan was adopted in December 2019 and provides a series of policies against which development will be considered until 2036.

2.13 The Plan highlights that the provision of walkable neighbourhoods could be a key element in securing sustainable development by connecting residents to facilities within a 10-minute walk.

2.14 It is outlined within the Plan that transport should be considered at the earliest stages of development proposals to ensure that any potential impacts can be addressed and that opportunities to promote sustainable transport can be identified and pursued. The latter of these is a key element of policy GA2 which notes that development proposals should aid the delivery of greenways and support provision of all-weather routes to key destinations including local schools. It is noted that links throughout the proposed development will provide connections to Arborfield as well as the Arborfield Garrison development in accordance with the aims of policy GA2.

Summary

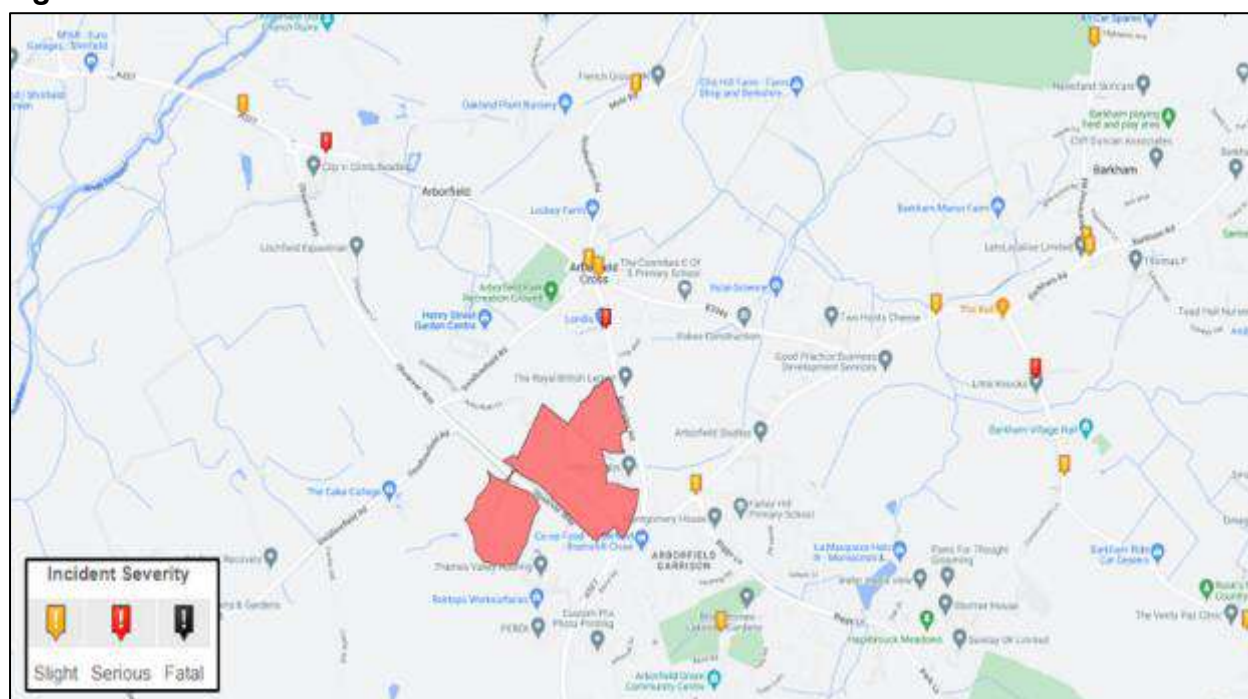
2.15 The above review demonstrates that national and local planning policy all require new development to be sustainably located with ready access on foot and by cycling.

Personal Injury Collision (PIC) Data

2.16 A full review of Personal Injury Collision (PIC) Data has been undertaken within the corresponding Transport Assessment and this has been re-provided below.

2.17 In order to determine the likely safety of the local highway, CrashMap has been used to ascertain the level of Personal Injury Collisions (PICs) that have occurred in the vicinity of the site over the most recent 3-year period. A summary of the registered collisions within the locality is provided below in **Figure 2.2**.

Figure 2.2. PIC Data



2.18 **Figure 2.2** demonstrates that during the most recent period a total of 15 collisions were recorded comprising 3 serious incidents and 12 slight incidents, no fatalities were recorded. On account of there not being any apparent clustering of accidents it is considered that there are no inherent safety issues associated with the existing highway network and junction arrangements in the vicinity of the site that warrant any further detailed assessment. This is particularly evident given the majority of the accidents shown above occurred on roads that are peripheral to the application site.

Public Transport Network

- 2.19 Local bus stops are provided on Eversley Road and are served by routes 145 and 3 leopard. Route 145 operates once a day on Tuesdays only whilst the 3-Leopard service operates approximately every 15-25 minutes between Wokingham and Reading on a weekday. In addition, the 93 bus service serves Arborfield Garrison and provides a twice-daily school service connecting between the new secondary school and Shinfield.
- 2.20 The local bus services provide key onward connections to local stations with Reading station able to be accessed via a 20-minute journey on the 3 leopard service with the first service operating to Reading at 05:43 and the last return service departing Reading at 23:44. Following the introduction of Crossrail in 2020, trains depart on average every 4 minutes to London with further direct trains also running to Bristol, Cardiff, Manchester, Newbury and Plymouth.

Table 2.1: Local Bus Services

Service	Route	Frequency		
		Mon-Fri	Saturday	Sunday
145	Three Mile Cross Post Office to Wokingham via Winnersh	Once a day	n/a	n/a
3 Leopard	Reading Station to Wokingham via Royal Berkshire Hospital, Shinfield and Arborfield	3-4 times per hour	3 times per hour	Every 30 mins
93	School Service only			

Key Trip Attractors and Local Amenities

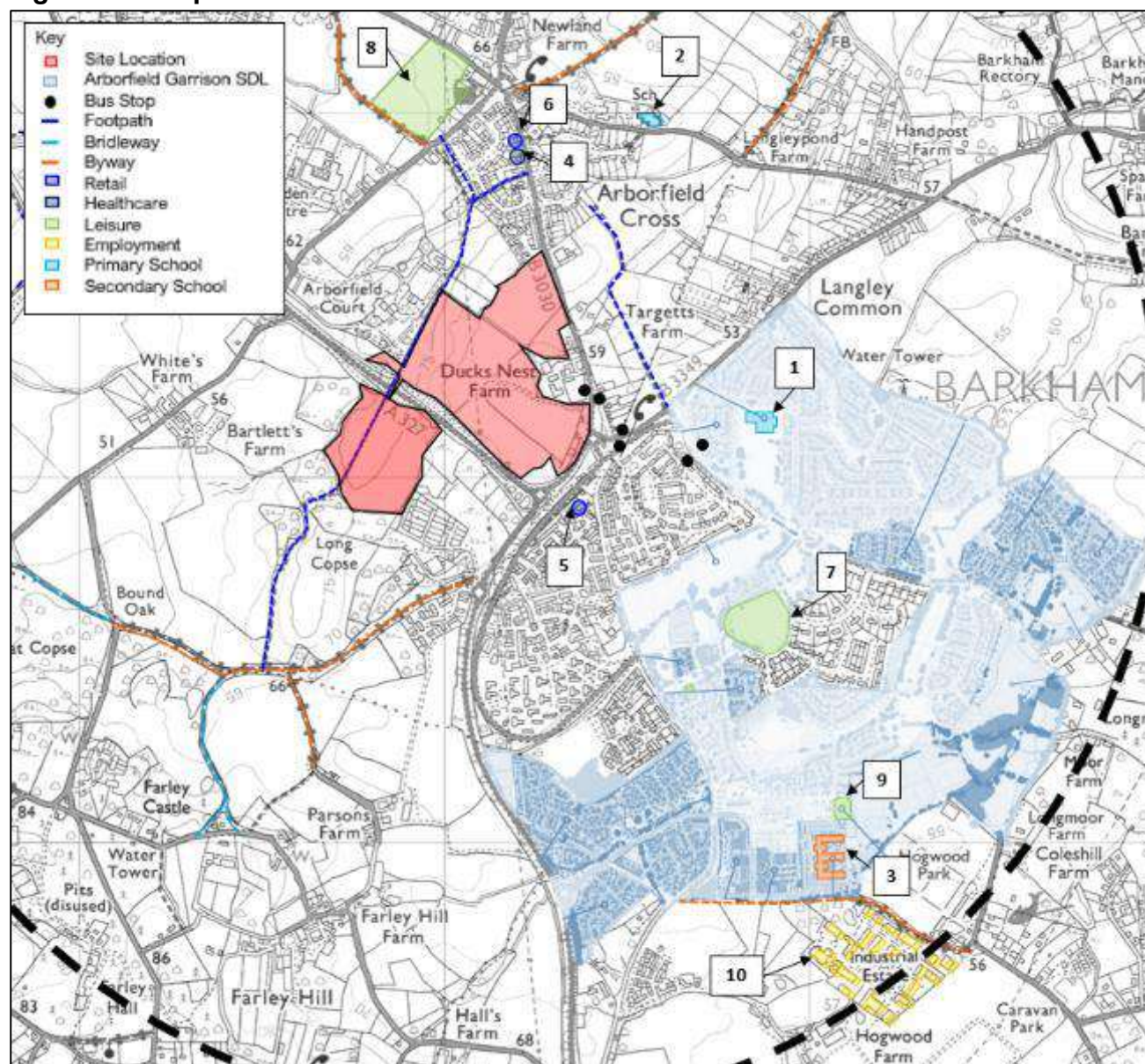
- 2.21 The key trip attractors and local amenities surrounding the site have been assessed to identify common walking routes that might be undertaken as part of the proposed development.
- 2.22 Arborfield benefits from a range of local amenities including primary and secondary schools, supermarkets, healthcare facilities and leisure facilities. A selection of local amenities is provided in **Table 2.2** whilst the relative location of these facilities to the site are illustrated in **Figure 2.3** below. It should be noted that distances are measured from the proposed primary vehicle access at the Eversley Road / Langley Common Road / Baird Road roundabout.

Table 2.2: Local Amenities

Label	Education	Distance	Walk Time	Cycle Time
1	Farley Hill Primary School (within the SDL)	650 metres	8 minutes	3 minutes
2	The Coombes CofE Primary School	1100 metres	13 minutes	4 minutes
3	Bohunt Wokingham Secondary School	1800 metres	17 minutes	6 minutes
	Healthcare	Distance	Walk Time	Cycle Time
4	Arborfield Surgery	800 metres	10 minutes	3 minutes
	Retail	Distance	Walk Time	Cycle Time
5	Coop Arborfield	160 metres	2 minutes	1 minutes
6	Londis	800 metres	10 minutes	3 minutes
	Leisure	Distance	Walk Time	Cycle Time
7	Arborfield Green Cricket Ground	950 metres	11 minutes	4 minutes
8	Arborfield Park Recreation Ground	1100 metres	13 minutes	4 minutes
9	Arborfield Green Leisure Centre	1600 metres	19 minutes	6 minutes
	Employment	Distance	Walk Time	Cycle Time
10	Hogwood Industrial Estate	2100 metres	25 minutes	8 minutes

- 2.23 In addition to the above amenities, a range are set to be provided at the Arborfield Garrison SDL including a local centre with shops and employment facilities.

Figure 2.3. Trip Attractors



2.24 As demonstrated by **Figure 2.3**, a wide range of facilities can be accessed within the 2km study area including several schools both primary and secondary, retail outlets, employment facilities, leisure centres, and healthcare facilities. All of the amenities outlined above can be accessed within a 10-minute cycle and 30-minute walking distance from the site.

Site Visit

2.25 A site visit was undertaken on 01/06/2023 between the hours of 09:00 and 16:30. The walking and cycling routes from the site to key destinations in and around Arborfield Garrison, i.e., the local schools, the nearest area of employment and recreational facilities were undertaken. A collection of photos from the site visit are provided below as evidence.



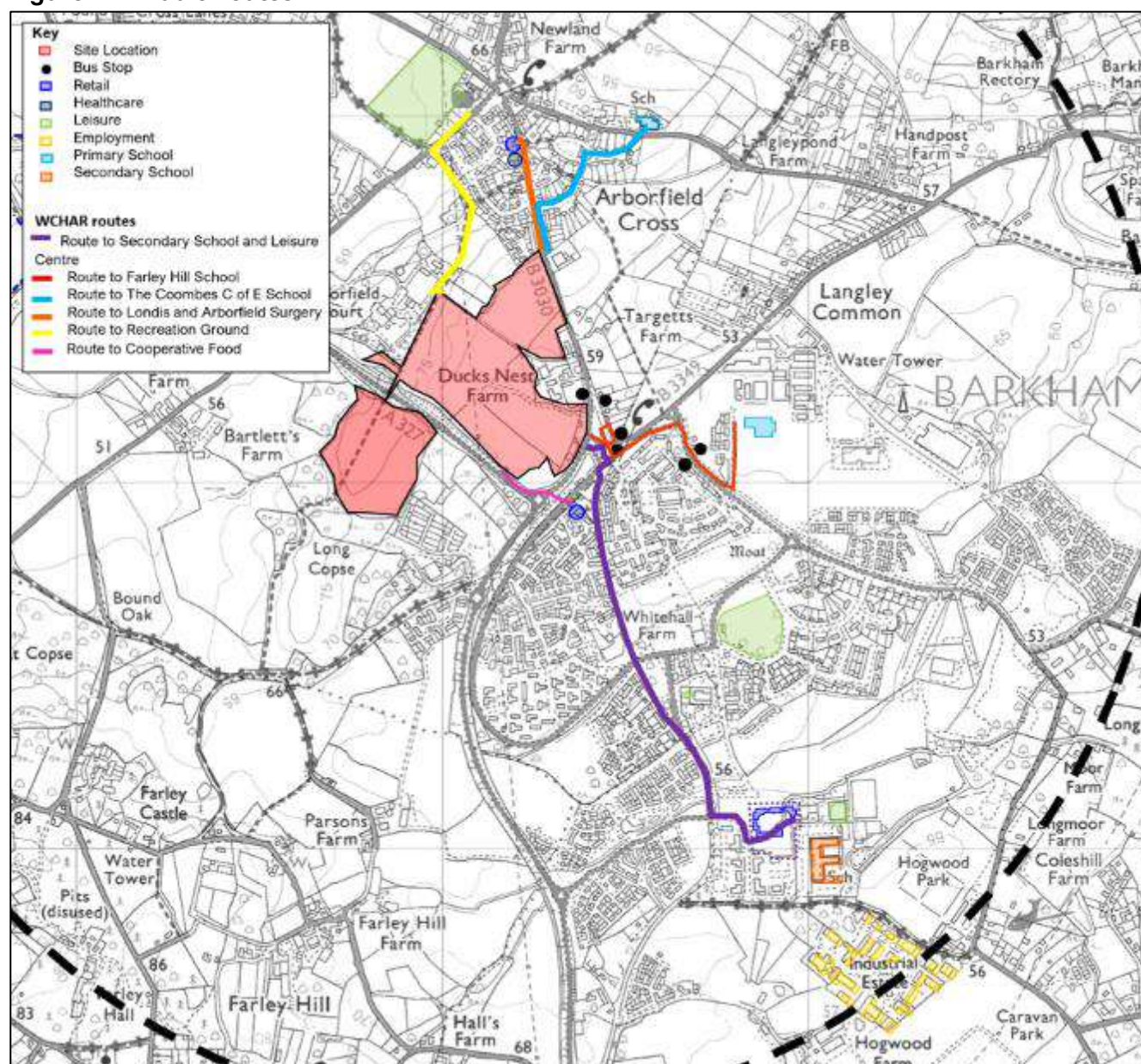
Existing Pedestrian and Cyclist facilities within the local area

2.26 This audit assesses the current walking and cycling provision on five routes within the study area outlined in **Figure 2.4** below, that are likely to be undertaken by the proposed residents and are related to the proposed highway scheme. These routes comprise:

- Route 1: to Arborfield Green Leisure Centre and Bohunt Secondary School
- Route 2: to Farley Hill Primary School;
- Route 3: to The Coombes C of E Primary School;
- Route 4: to the Londis and Arborfield Surgery;
- Route 5: to Arborfield Recreation Ground ; and
- Route 6: to Cooperative Food

2.27 A figure of each route and the crossings along each are provided at **Appendix B**.

Figure 2.4: Audit Routes



Route 1: To Arborfield Green Leisure Centre and Bohunt Secondary School

- 2.28 This section focuses on the current walking and cycling provisions on route to Bohunt Secondary School, circa 1.8km to the south of the site and Arborfield Green Leisure Centre that is 1.6km south of the site access.
- 2.29 **Image 1** has been taken from google street view as the site access and proposed highway scheme has not been developed yet.
- 2.30 Leaving the site premises, pedestrians would cross the Eversley Road/ Baird Road/Langley Common Road roundabout, in the direction of Rickman Close.

- 2.31 Cyclists can travel on road leaving the roundabout at Baird Road, which pedestrians would reach further south at a later stage.

Image 1: East facing



- 2.32 As shown in **Image 2**, pedestrians would walk north along Rickman Close to reach the footpath underpass. Rickman Close is a short cul-de-sac with a footway on the eastern side of the carriageway.
- 2.33 The site visit showed that the route along Rickman Close was low trafficked and therefore walking on-road was considered viable.

Image 2: North facing



- 2.34 Circa 40m along Rickman Close, pedestrians would approach the underpass through two staggered metal gates and follow this southbound, as shown in **Image 3**. The underpass leads beneath Langley Common Road and exits onto Baird Road.

Image 3: West facing



- 2.35 At the junction with Baird Road, there is an informal crossing with dropped kerbs and tactile paving that connect to the footpath on the southern side of Baird Road as shown in **Image 4**.

Image 4: South facing



- 2.36 The footpath exits onto Bramshill Close, along which pedestrians would route south using the footway present on the eastern side of the carriageway for 350m before reaching the footway/cycleway on Whitehall Drive.
- 2.37 Cyclists would route from Baird Road onto Bramshill Close and remain on-road. Bramshill Close and the footway from Baird Road are shown in **Image 5**.

Image 5: North facing



- 2.38 After 350m south along the footway, pedestrians and cyclists would approach the end of Bramshill Close and continue on to Whitehall Drive. This is a shared footway/cycleway not permitting of vehicle access as shown in **Image 6**.

Image 6: South facing



- 2.39 After following the shared footway/cycleway for 190m south, pedestrians would reach Baird Road. At this junction, there is an informal crossing allowing pedestrians to cross Baird Road to meet the footpath on the adjacent side of the carriageway. **Image 7** illustrates this.
- 2.40 Cyclists would travel 90m east from Whitehall Drive to arrive at the junction of Baird Road and Sheerlands Road. They would turn south and continue along Sheerlands Road for approximately 470m.

Image 7: South facing



- 2.41 Pedestrians would continue for 20m south along the footpath to join the footway on the eastern side of Sheerlands Road illustrated in **Image 8** overleaf.

Image 8: North facing



- 2.42 Following the footway on the eastern side of Sheerlands Road for approximately 95m south, pedestrians would cross over Sheerlands Road and continue south along the footpath as shown in **Image 9**.
- 2.43 This footpath continues for 75m until it approaches the crossing at Sheerlands Road.

Image 9: South facing



2.1 At the crossing at Sheerlands Road there are dropped kerbs on either side of the road and a wayfinding sign for Bohunt Secondary School as illustrated in **Image 10**.

Image 10: South facing



- 2.2 Continuing along the footway on the western side of the carriageway for 100m, pedestrians would cross Weaver Avenue via the dropped kerbs and tactile paving on either side of the carriageway as illustrated in **Image 11**.
- 2.3 Cyclists on the other hand, would continue on-road.

Image 11: South facing



- 2.4 Circa 180m south of Weaver Avenue brings pedestrians and cyclists to the Nine Mile Ride Extension. There are dropped kerbs and tactile paving across Sheerlands Road at its southernmost end to enable crossing for those with visual and physical impairments. Pedestrians should cross over here as there are no formal crossing facilities further along the carriageway.
- 2.5 The crossing at the Nine Mile Ride Extension junction is evident in **Image 12**.
- 2.6 Cyclists will turn east at the junction, directly on to the Nine Mile Ride Extension.

Image 12: East facing



- 2.7 Approximately 140m in a southeast orientation from the junction between Sheerlands Road and the Nine Mile Ride Extension, is a construction access road into the west of the Leisure Centre site. This is not accessible by pedestrians and cyclists.
- 2.8 This construction road is not safe to walk along due to the lack of footways therefore no images of it are available. There are however, dropped kerbs and tactile paving on either side of the carriageway at the junction with the Nine Mile Ride Extension, which can be viewed in **Image 13**.

Image 13: East facing



- 2.9 The footway continues on the eastern side of the Nine Mile Ride Extension. Pedestrians would walk a further 160m and reach Remount Drive. Cyclists on the other hand, would route along the Nine Mile Ride Extension and turn into Remount Drive where Bohunt Secondary School and the access for the Leisure Centre is located.
- 2.10 Remount Drive is illustrated in **Image 14**.

Image 14: East facing



Route 2: To Farley Hill Primary School

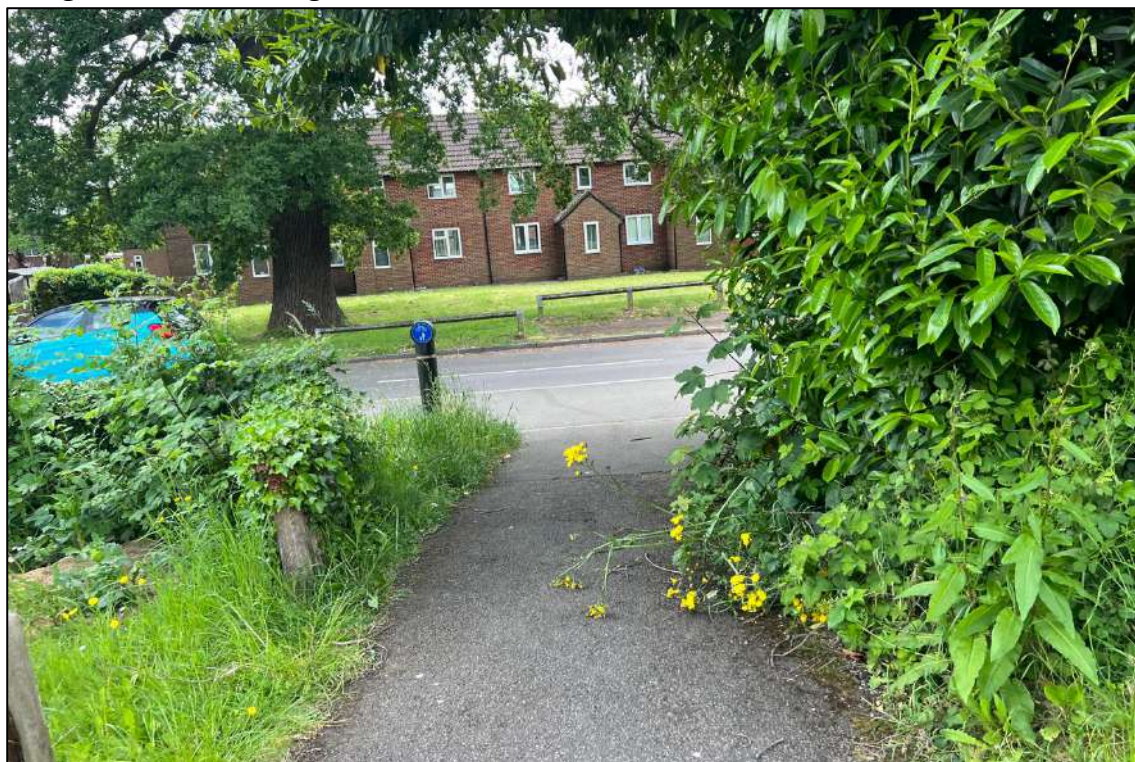
- 2.11 The route to Farley Hill School begins the same as Route 1 and continues after **Image 2** above. Pedestrians and cyclists would follow the underpass from Rickman Close to the shared footway/cycleway on the northern side of Baird Road.
- 2.12 **Image 15** illustrates the underpass beneath Langley Common Road.

Image 15: South facing



- 2.13 After following the underpass south for approximately 60m, pedestrians and cyclists would approach Baird Road as shown in **Image 4**.
- 2.14 Circa 70m east of **Image 4**, there is a shared pedestrian/cycle use sign for Baird Road. This is illustrated in **Image 16**.

Image 16: East facing



- 2.15 Pedestrians and cyclists would follow the footway east for 210m until reaching the junction with Biggs Lane. Approximately 10m north of this junction, there is a crossing providing dropped kerbs and tactile paving from the footway on the western side of Biggs Lane to the eastern side.
- 2.16 Cyclists would exit the Eversley Road/ Baird Road/ Langley Common Road Roundabout in the direction of Baird Road and follow the carriageway eastbound to reach the junction between Baird Road and Biggs Lane.
- 2.17 The crossing over Baird Road, parallel to Biggs Lane can be viewed at **Image 17**.

Image 17: East facing



2.18 After crossing Biggs Lane via the crossing facilities here, pedestrians and cyclists would then continue south on the shared use footway on the eastern side of the carriageway for 250m before reaching Baston Road.

2.19 **Image 18** illustrates the footway on the eastern side of Biggs Lane.

Image 18: South facing



- 2.20 After routing circa 250m from the junction between Baird Road and Biggs Lane, pedestrians and cyclists would reach Baston Road, where the school is located.
- 2.21 Pedestrians and cyclists would use the dropped kerbs and tactile paving to follow the shared footway/cycleway on to the eastern side of Baston Road. They would then route north for 115m before reaching the school entrance.
- 2.22 **Image 19** illustrates the crossing at the southern end of Baston Road and the shared cycleway/footway signpost.

Image 19: North facing



Route 3: To the Coombes C of E Primary School

- 2.23 The beginning of this route commences at Harts Close on Eversley Road to the south of Arborfield Cross, as illustrated in **Image 20**.

Image 20: North facing



- 2.24 Travelling 160m north along the footway on the western side of Eversley Road, pedestrians would cross Eversley Road via the signalised crossing to access the footway on the adjacent side of the carriageway.
- 2.25 There is no public lighting along Eversley Road, however, there is good clearance and visibility during the day providing good surveillance to increase feelings of safety.
- 2.26 **Image 21** illustrates the signalised crossing over Eversley Road.
- 2.27 Cyclists would use the road to travel north along Eversley Road from Harts Close to the junction with Link Way.

Image 21: North facing



- 2.28 After crossing Eversley Road via the signalised crossing, pedestrians would then follow the footway on the eastern side of the carriageway 30m south to Link Way.
- 2.29 Cyclists on the other hand, would turn east onto Link Way and route in a northerly direction on-road.
- 2.30 **Image 22** shows the footway on the northern side of Link Way.

Image 22: East Facing



- 2.31 Approximately 140m northeast of the junction illustrated in **Image 22**, pedestrians would cross Link Way informally via the vehicle crossover and dropped kerbs to access the eastern side of Link Way. This is highlighted in **Image 23** below.
- 2.32 Cyclists on the other hand, would route on-road along Link Way for 300m before reaching the junction between Link Way and School Road (B3349).

Image 23: East facing



- 2.33 Approximately 70m north of the vehicle crossover illustrated in **Image 23** above, pedestrians would approach Emblen Crescent which they must cross via the dropped kerbs. This is illustrated in **Image 24**.

Image 24: North facing



- 2.34 Pedestrians would then follow the footway on the eastern side of Link Way for a further 60m before reaching the junction with School Road (B3349).
- 2.35 The junction between Link Way and School Road is evident in **Image 25**.
- 2.36 As mentioned previously, cyclists would route on-road for the total length of Link Way from Eversley Road to School Road.

Image 25: Northeast facing



- 2.37 As shown in **Image 26**, routing 118m east along the footway on the southern side of School Road from the junction between Link Way and Station Road, pedestrians would reach the signalised crossing adjacent to the Coombes C of E primary School.
- 2.38 The signalised crossing is directly opposite the main entrance gates of the school and provides dropped kerbs and tactile paving for those with disabilities or pushchairs.
- 2.39 Cyclists would also turn east here on to Station Road and follow the same route on-road in the direction of the school.

Image 26: East facing



Route 4: To the Londis and Arborfield Surgery

- 2.40 As explained in Route 3, the pedestrian and cycling route to the Londis and Arborfield Surgery facilities within Arborfield Cross are accessed via Eversley Road. The route starts at Harts Close as explained and shown in **Image 20**, however pedestrians and cyclists would route further north past the junction with Link Way.
- 2.41 Following on from **Image 20**, pedestrians would route north for 124m along the footway on the western side of Eversley Road until approaching Melrose Gardens. There is a dropped kerb on the southern side of Melrose Gardens. This is highlighted in **Image 27**.
- 2.42 Cyclists would route on-road for 228m before arriving at the Londis car park.

Image 27: North facing



- 2.43 After using the crossing at Melrose Gardens pedestrians would route north for circa 90m before meeting the Londis Car Park; 15m further north is the Arborfield Surgery Car Park. Both the Londis and the Surgery are directly west off Eversley Road and this is evident in **Image 28**.

Image 28: West facing



Route 5: To Arborfield Recreation Ground

- 2.44 Pedestrians and cyclists will take two separate routes for this journey. The initial stretch of this route for pedestrians commences at the Public Right of Way (PRoW) off Observer Way.
- 2.45 Cyclists are not permitted along this Public Right of Way and therefore would commence their route to the Recreation Ground from Harts Close as illustrated in **Image 20** above.
- 2.46 Pedestrians would walk north along footway on the northern side of Observer Way for 390m before approaching the access to the Public Right of Way.
- 2.47 The footway on the northern side of Observer Way and to the west of the site is shown in **Image 29**.

Image 29: North facing



- 2.48 Pedestrians will pass through the gated access illustrated in **Image 30** below and follow the footpath for its entire extent, in the direction of Arborfield Recreation Ground.

Image 30: West facing

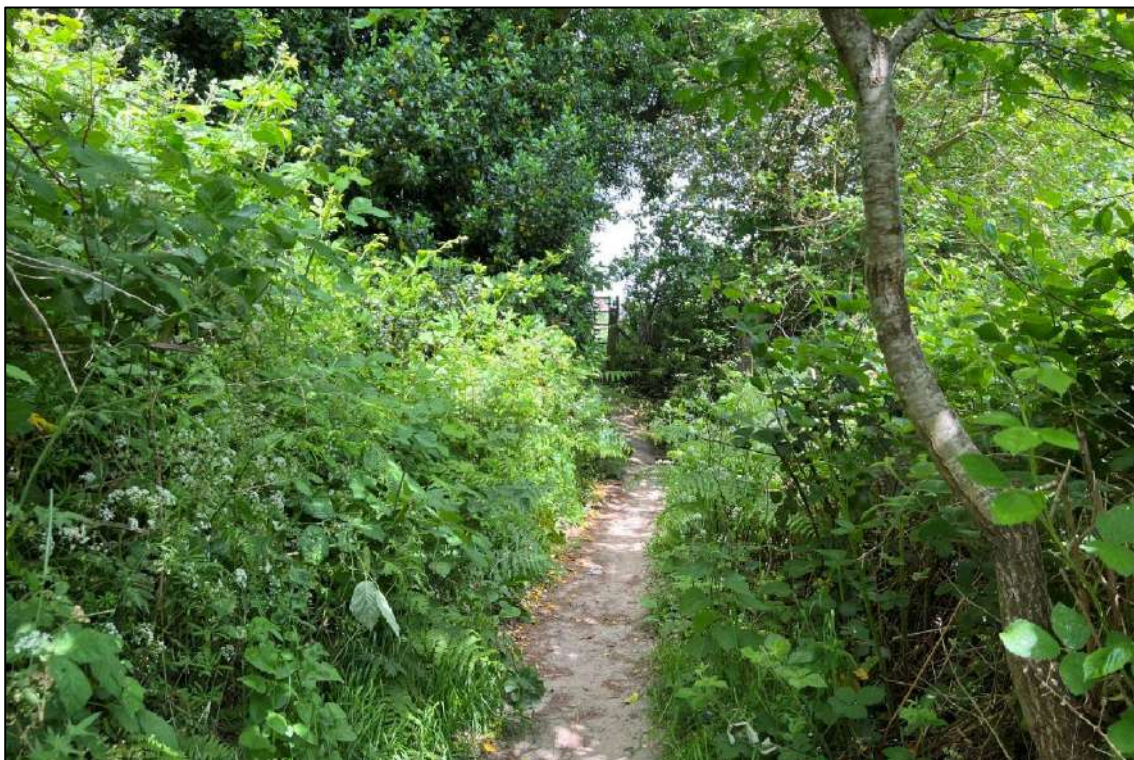


- 2.49 The PRow extends in a north easterly direction for 700m before terminating at Swallowfield Road. The footpath routes mainly through undeveloped land and woodland paths, therefore unsuitable for cycling use. The route is illustrated in **Images 31 and 32**.

Image 31: South west facing



Image 32: North east facing



- 2.50 As mentioned previously, after 700m pedestrians will arrive at Swallowfield Road. There is a footway on the southern side of the carriageway which pedestrians would follow east for 55m before approaching the crossing opposite the Arborfield Recreation Ground.

2.51 The end of footpath 17 and Swallowfield Road is evident in **Image 33**.

Image 33: South facing



2.52 At the crossing with the recreation ground, there are dropped kerbs and tactile paving on either side of Swallowfield Road to provide for people with visual impairments. There is a metal gate leading directly to a footpath into the site that is parallel to the crossing. This is shown below in **Image 34**.

Image 34: East Facing



- 2.53 Cyclists on the other hand, would route north on Eversley Road for 450m from Harts Close until arriving at the Eversley Road/ B3349/ Cole Lane/ Reading Road/ Swallowfield Road roundabout.
- 2.54 The Roundabout junction is illustrated in **Image 35**

Image 35: North facing



- 2.55 From here, cyclists will exit west on to Swallowfield Road and continue west on-road for circa 160m before reaching the recreation ground car park.
- 2.56 The entrance to Arborfield Recreation Ground car park from Swallowfield Road is shown in **Image 36**.

Image 36: West facing



Route 6: To Cooperative Food

- 2.57 The route to the Cooperative Food commences at the proposed access at Observer Way as shown in **Image 29**. Pedestrians and cyclists would follow the shared footway/ cycleway on the northern side of the carriageway for 140m eastbound before approaching the A327/ Eversley Road roundabout.
- 2.58 At the roundabout, pedestrians and cyclists would cross Eversley Road via the dropped kerbs and tactile paving and access the shared footway/cycleway on the eastern side of the carriageway.
- 2.59 The following crossing is shown in **Image 37**.

Image 37: South facing



- 2.60 Once crossed, pedestrians and cyclists would approach a shared footway/cycleway on the southern side of Eversley Road and follow the most northern route in an easterly direction for 80m before approaching Baird Road.
- 2.61 The shared footway/ cycleway from Eversley Road to Baird Road is shown in **Image 38**.

Image 38: South facing



- 2.62 At the junction with Baird Road, pedestrians and cyclists will be required to informally cross on to the eastern side of the carriageway, parallel to the end of the footway is the Cooperative Food.
- 2.63 **Image 39** illustrates the end of the shared cycleway/footway and the Cooperative opposite.

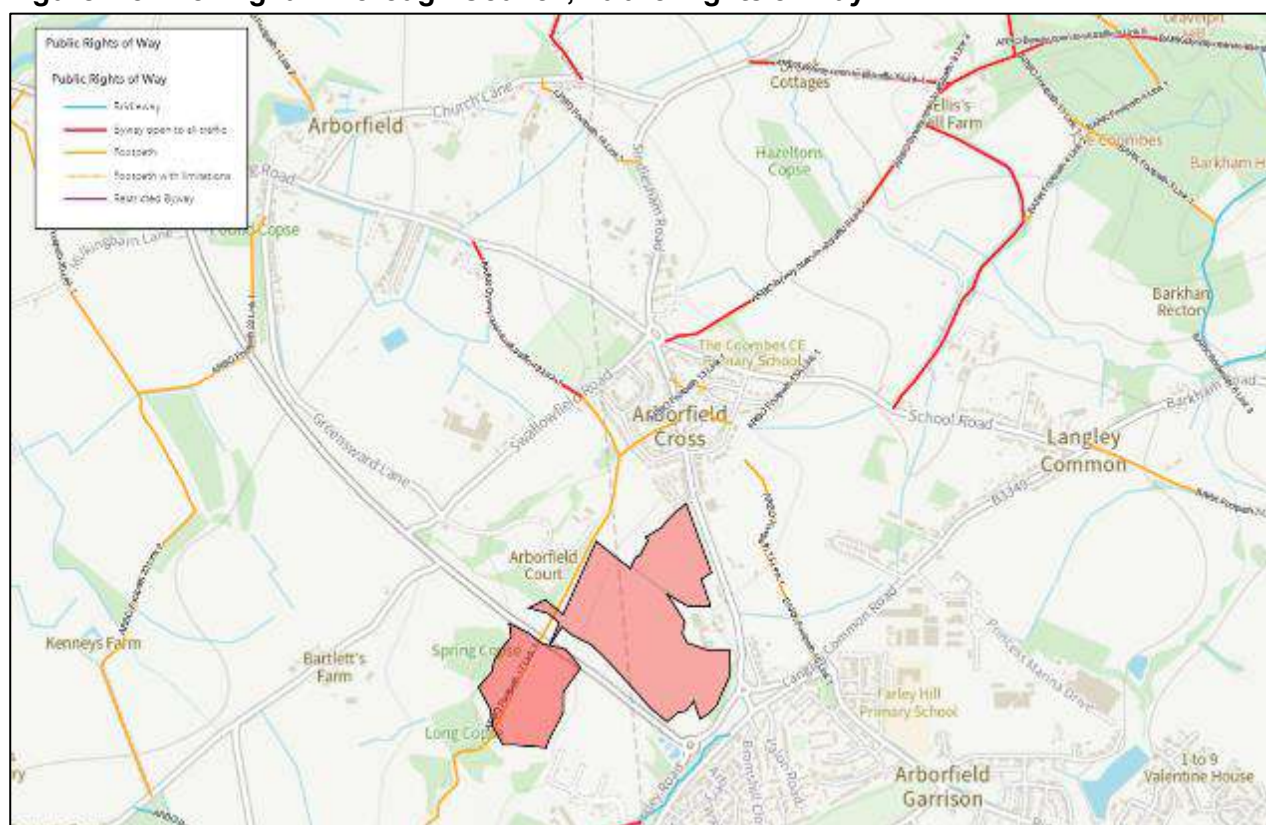
Image 39: East facing



Equestrians

- 2.64 Equestrians have not been considered within the audit. This is because equestrians are not relevant when considering connecting the site to its nearby amenities and it is unlikely that any equestrian users are to ride within the vicinity of the site due to the lack of provision and it is not likely to change as an outcome of the proposed modifications. Public right of way (PRoWs) data has been obtained from Arborfield and Newland Parish Council which demonstrate the lack of nearby bridleways is shown in **Figure 2.5**.

Figure 2.5: Wokingham Borough Council, Public Rights of Way



Identified user opportunities from across the study area

- 2.65 This section outlines the potential opportunities for improvements within the assessed study area. These improvements are tailored specifically to vulnerable road users and the improvement of their existing provisions.

Pedestrians and Cyclists

- 2.66 Pedestrians and cyclists would benefit from a length of footway along the western side of Eversley Road between the site access and the Eversley Road/ Baird Road/Langley Common Road Roundabout. This would allow safe access to any proposed crossings.
- 2.67 Pedestrians and cyclists would benefit from a designated pedestrian and cycle crossing over Rickman Close and Langley Common Road to better accommodate cyclists and enable better access to the footpaths and facilities further south.
- 2.68 Notwithstanding the above opportunities, it is noted that the proposed highway scheme includes improvements to the access arrangements at Eversley Road and Observer Way: These improvements are provided in the scheme at **Appendix A** and include:
- Primary vehicular access via a new fifth arm on the Eversley Road / Langley Common Road / Baird Road roundabout;

- A secondary vehicular access will be provided in the form of a priority junction with Observer Way at the western boundary of the site;
- A shared pedestrian/cycle facility on either side of the access road off Observer Way. These will connect to the shared pedestrian/cycle facility that runs alongside Observer Way.
- An emergency access, also for use by pedestrians and cyclists, at the eastern boundary of the site connecting to Eversley Road to the south of its junction with Harts Close;
- A footway on the northern side of the existing access at Eversley Road with a pedestrian crossing provided to the north of the junction;
- A new pedestrian refuge to facilitate pedestrians crossing Eversley Road; and
- A priority pedestrian and cyclist crossing facility over Langley Common Road.

Equestrians

- 2.69 As stated above, it is unlikely that any equestrian users are to ride within the vicinity of the site due to the lack of provision and it is not likely to change as an outcome of the proposed modifications.

3 Pedestrian and Cycle Audit Review

- 3.1 This section reviews the existing provisions assessed within the sections above to highlight if any improvements are needed.

Review of assessment report

- 3.2 This section reviews the 'identified user opportunities from across the study area' and why they have or have not been included within highway designs.
- 3.3 The pedestrian and cycle audit highlighted areas that could be improved for pedestrians and cyclists; all of these have been taken into account within the proposed highway scheme at paragraph 1.6 and shown within **Appendix A**.

Actions taken to implement opportunities

- 3.4 There are no new opportunities to improve or introduce new facilities for pedestrians, cyclists or equestrians in addition to what is already captured within the proposed highway scheme. As such, no further actions need to be taken.

Appendix A

Appendix B

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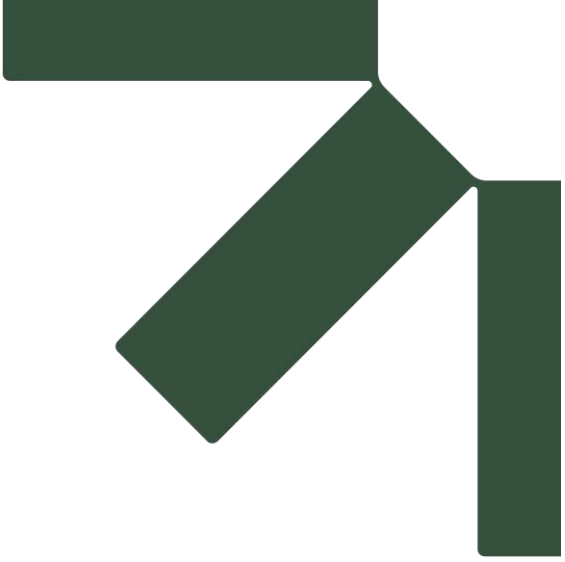
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Appendix B Indicative Site Layout

Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

27 November 2024



- Key
- Site Boundary
 - 01 Eversley Road/Langley Common Road/Baird Road roundabout access point
 - 02 Sustainable Drainage System (SuDS)
 - 03 Potential Swale
 - 04 Retained and enhanced vegetation
 - 05 Arborfield Cross Relief Road access point
 - 06 Proposed SANG car park
 - 07 Proposed enhancement planting
 - 08 Emergency access point
 - 09 Proposed dog pond
 - 10 Pedestrian access point

- Existing high voltage powerline including 30m no development zone
- Proposed LAPs
- Proposed LEAP & LAP
- Edible landscapes
- Proposed pedestrian crossing points
- Pedestrian/cycle bridge
- Existing Public Rights of Way
- Proposed SANG path
- Informal pedestrian routes
- Informal open space
- Potential development area
- Proposed planting
- Existing planting
- Proposed SANG

CLIENT:
David Wilson Homes

PROJECT:
Land at Ducks Nest, Arborfield

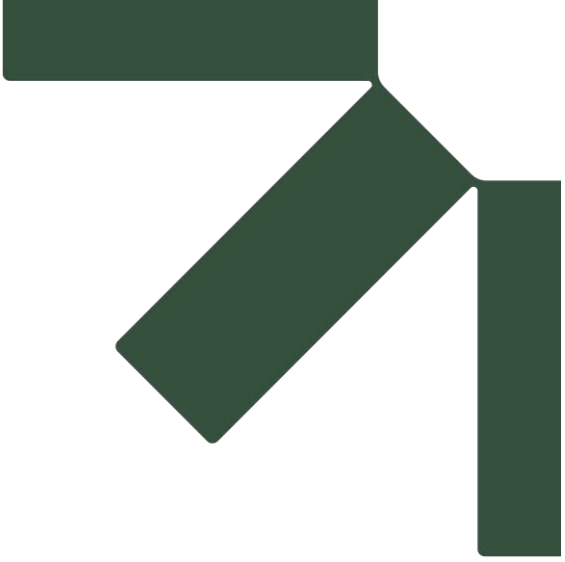
DRAWING:
Illustrative Masterplan

PROJECT NUMBER:
1309

DRAWING NUMBER: 003
CHECKED BY: JB/LA

REVISION: V21
STATUS: Draft

DATE: 03/09/2024
SCALE: 1:5000 @ A3



Appendix C Access Strategy

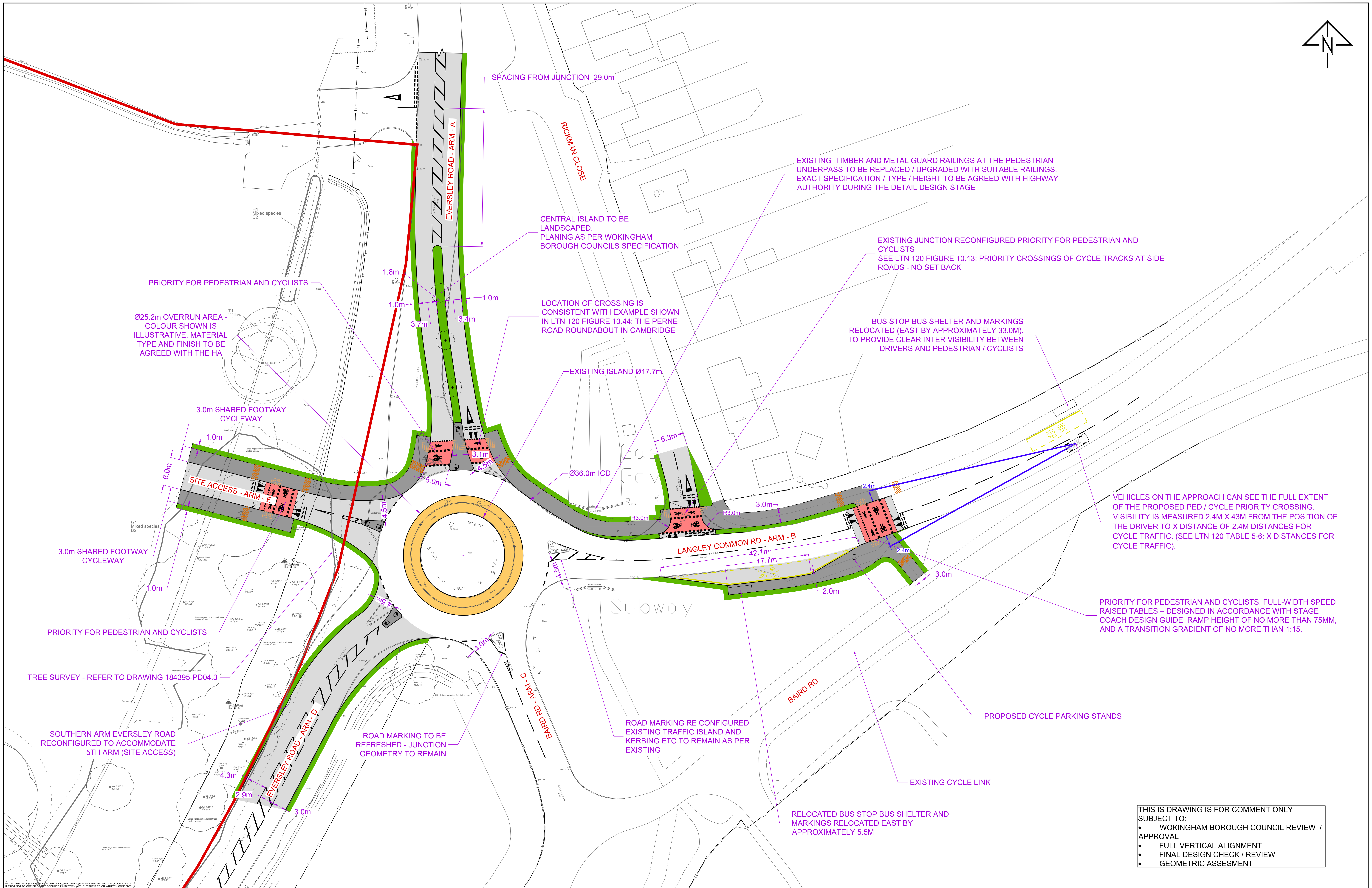
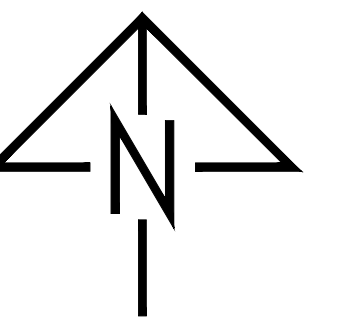
Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

27 November 2024



REV	DETAILS	DRAWN	CHECKED	DATE
A	POSITION OF BUS STOP UPDATED AND TEXT ALTERATION FOLLOWING RSC COMMENTS	SCJ	TB	23/08/22
B	EVERSLEY ROAD - ARM - A CENTRAL ISLAND LANDSCAPED	SCJ	JB	02/09/23

STATUS

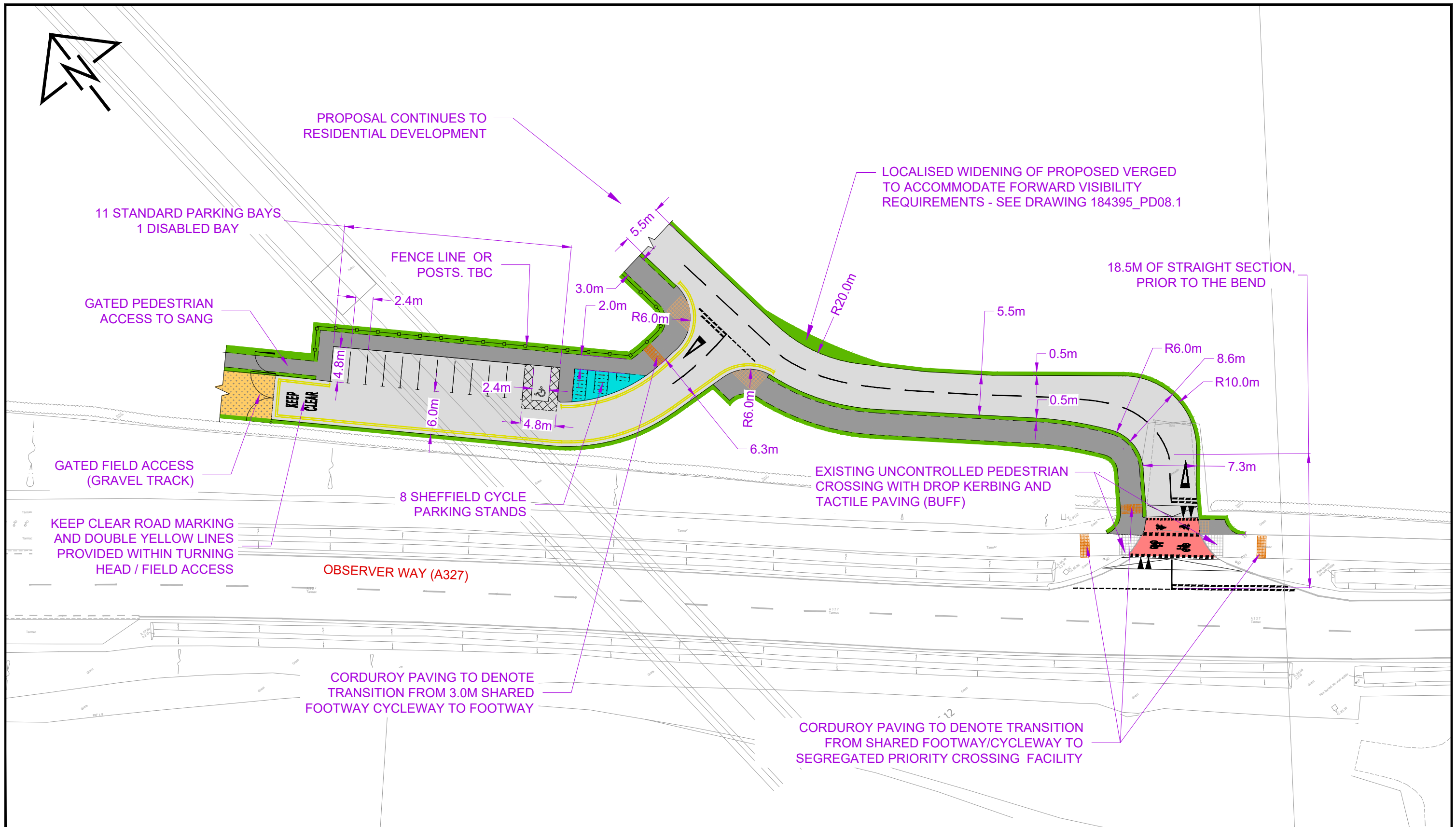
INFORMATION ONLY

KEY
HIGHWAY BOUNDARY (INTERPRETED FROM WOKINGHAM BOROUGH COUNCIL RECORDS)

PROJECT	Ducks Nest Farm, Arborfield	CLIENT	David Wilson Homes (Southern)
DRAWING TITLE	PROPOSED ALTERATIONS TO EXISTING ROUNDABOUT (COMPACT ROUNDABOUT 36ICD) GENERAL ARRANGEMENT		
DRAWN	SCJ	CHECKED	CHECKED
DATE	15/06/22	SCALES	1:250 @ A0
DRAWING NUMBER	184395-PD04.1	REVISION	B

THIS IS DRAWING IS FOR COMMENT ONLY
SUBJECT TO:
• WOKINGHAM BOROUGH COUNCIL REVIEW / APPROVAL
• FULL VERTICAL ALIGNMENT
• FINAL DESIGN CHECK / REVIEW
• GEOMETRIC ASSESMENT





REV.	DETAILS	DRAWN	CHECKED	DATE
A	DIMENSION SHOWING STRAIGHT SECTION OF CARRIAGEWAY	SCJ	KD	15/05/23
B	CAR PARK UPDATED	SCJ	JB	05/06/23

STATUS:
INFORMATION ONLY

PROJECT: Ducks Nest, Wokingham

DRAWING TITLE: PROPOSED SANG CAR PARK & ACCESS ROAD GENERAL ARRANGEMENT

DRAWN: LJ

CHECKED: SCJ

DATE: 20.09.22

SCALES: 1:500 @ A3

CLIENT: David Wilson Homes (Southern)

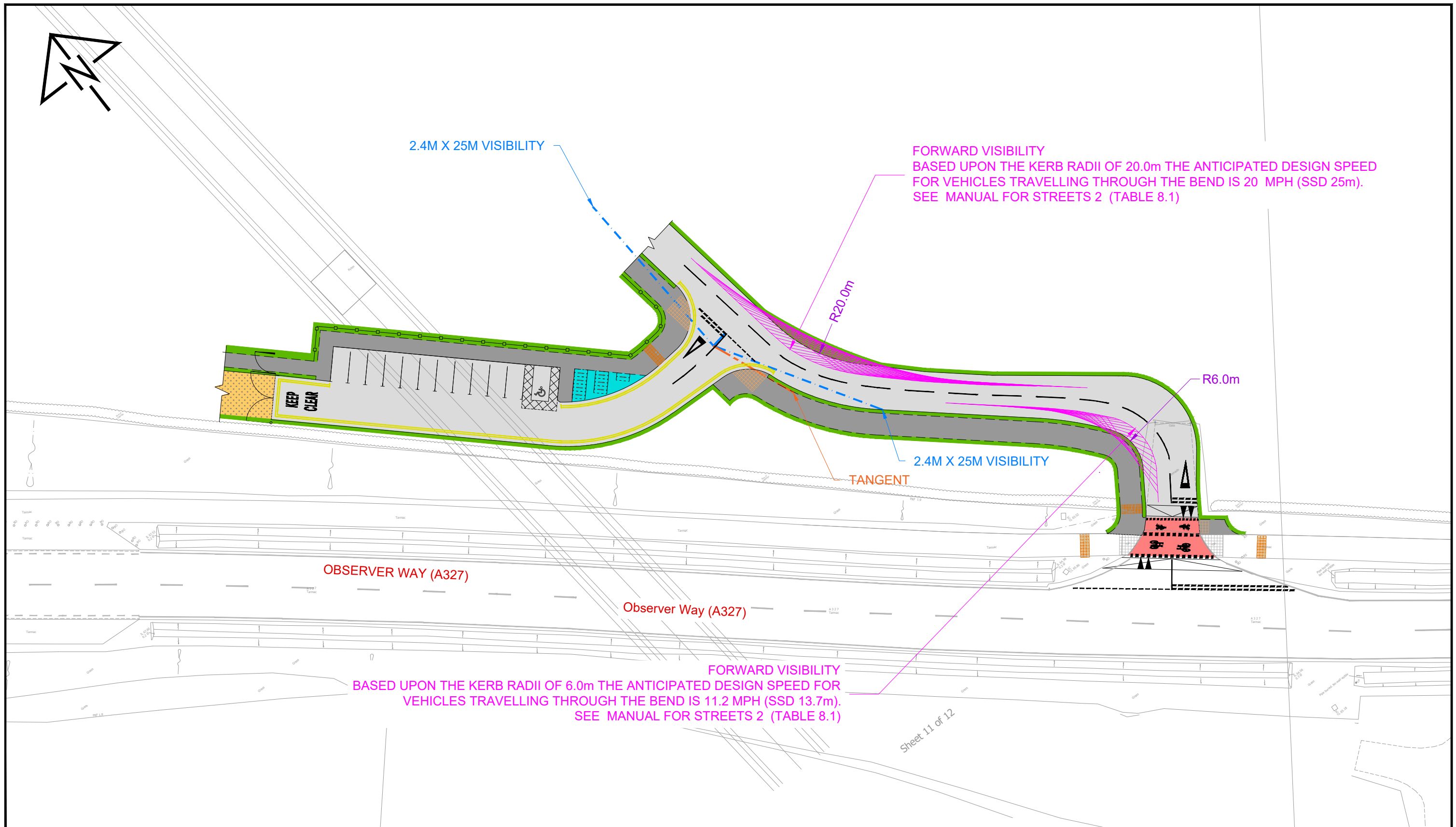
3rd Floor, Brew House, Jacob Street, Bristol, BS2 0EQ
t: 0117 203 5240
e: enquiries@vectos.co.uk

DRAWING NUMBER: 184395_PD08

REVISION: B

vectos. | PART OF **SLR**

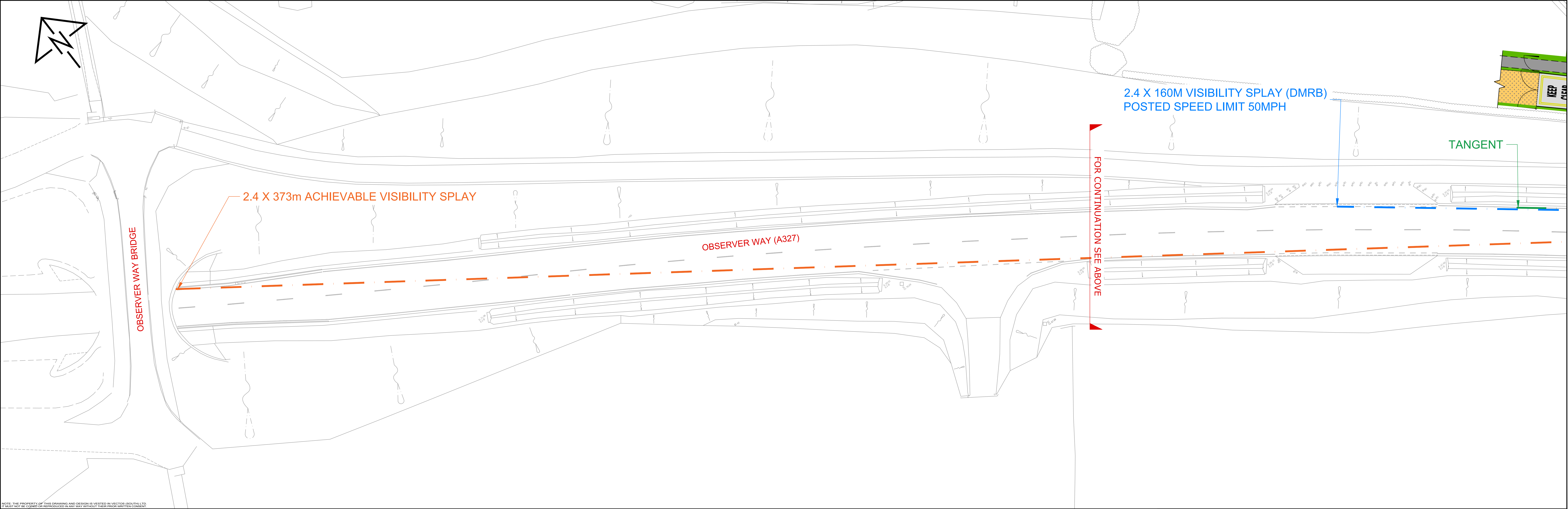
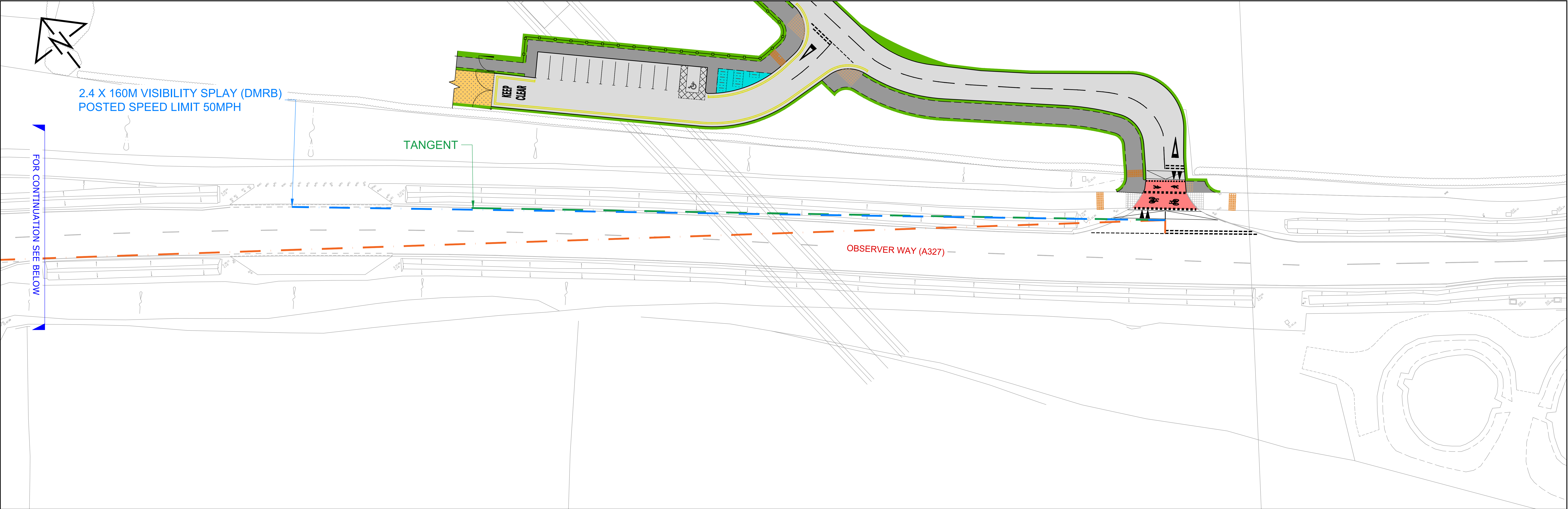
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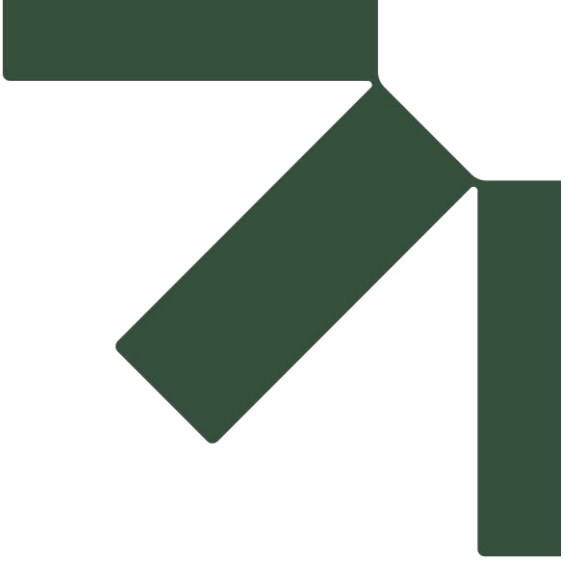
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STATUS: INFORMATION ONLY				

PROJECT: Ducks Nest, Wokingham		DRAWING TITLE: PROPOSED SANG CAR PARK & ACCESS ROAD VISIBILITY ASSESSMENT		
DRAWN: LJ	CHECKED: SCJ	DATE: 20.09.22	SCALES: 1:500 @ A3	

CLIENT: David Wilson Homes (Southern		vectos. PART OF SLR		
3rd Floor, Brew House, Jacob Street, Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectos.co.uk		DRAWING NUMBER: 184395_PD08.1		
		REVISION: .		



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REV. DETAILS DRAWN CHECKED DATE				DRAWING TITLE: SITE ACCESS VISIBILITY ASSESSMENT (NORTH)				PART OF vectos. SLR			
STATUS: INFORMATION ONLY				DRAWN: SCJ CHECKED: DR DATE: 14/06/2023 SCALE: 1:250 @ A0				DRAWING NUMBER: 184395_PD08.2 REVISION: -			
THIS IS DRAWING IS FOR COMMENT ONLY SUBJECT TO: • ROAD SAFETY AUDIT • LOCAL AUTHORITY REVIEW / APPROVAL								3rd Floor, Brew House, Jacob Street, Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectos.co.uk			



Appendix D Road Safety Audit

Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

27 November 2024

DUCKS NEST FARM, ARBORFIELD

Proposed Development Access Junctions

**Stage 1 Road Safety Audit
Prepared on behalf of David Wilson Homes (Southern)**

August 2022



Road Safety Engineering

Project:	Ducks Nest Farm, Arborfield Proposed Development Access Junctions
Document:	Stage 1 Road Safety Audit
Design Organisation:	Vectos
Overseeing Organisation:	Borough of Wokingham
Client:	David Wilson Homes (Southern)
Gateway RSE ref:	SG/JS/2208-08 RSA1 v1.0
Issue date:	19th August 2022
Status:	Issued as version 1.0
Authorised by:	SG

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Appendix A:	Items Considered by this RSA
Appendix B:	Location Plan(s)

1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit (RSA) of proposed development access junction arrangements at Arborfield, within the Borough of Wokingham. The audit brief, dated 10th August 2022, describes the scheme as follows:

- Main site access from Eversley Road Roundabout, serving approximately 180 dwellings
- A shared pedestrian/cycle/emergency vehicle access onto Harts Close
- Bus stop alterations and uncontrolled pedestrian crossing near Harts Close
- A third point of access from Observer Way via the existing access that has been installed as part of the wider relief road works around Arborfield

1.2 Eversley Road is a 2-lane single carriageway road running broadly north to south. It is lit, with no footways and a 40mph speed limit, changing to 50mph some 70 metres northeast of the Observer Way roundabout. Baird Road and Langley Common Road are, in the vicinity of the roundabout formed with Eversley Road, also lit and without footways, but subject to a 30mph speed limit.

1.3 Observer Way (A327) is a 2-lane single carriageway road running northwest from its roundabout junction with Eversley Road. It is unlit except at the roundabout, with a shared foot/cycleway running along its northeast side, connecting with a further shared use path on the southwest side via an overbridge approximately 470 metres northwest of the roundabout. It is subject to a 50mph speed limit.

1.4 Harts Close is a short residential cul-de-sac meeting Eversley Road some 520 metres north of Langley Common Road. It lies within the Arborfield built-up area, benefiting from street lighting and footways.

1.5 This Road Safety Audit was carried out by Steve Giles and Julian Smith and consisted of a desktop study and a site visit, which was carried out between 11.30am and 12.30pm on Wednesday 17th August 2022, when the weather was fine/overcast and the road surface dry. No traffic congestion was observed, whilst some pedestrian but no cyclist movements occurred. No cars were observed parked on the audited roads, except at the turning head within Harts Close.

- 1.6 The terms of reference for this RSA are as described in the Design Manual for Roads and Bridges (DMRB) document GG119. The Audit Team is independent of the project design team and has not been involved in the design process in any other capacity. The audit considers only the potential road safety implications of the scheme and has not verified compliance of the design with any other criteria.
- 1.7 The Audit Team has not been made aware of any Departures from Standard. Whilst reference may be made to design standards, this report is not intended to provide a design check.
- 1.8 Recommendations are aimed at addressing the identified potential road safety problems. However, there may be other acceptable ways to overcome a problem, considering wider constraints and opportunities; the Auditors would be pleased to discuss such alternative solutions as appropriate. The recommendations contained herein do not absolve the Designer of his/her responsibilities.

Collision Data

- 1.9 Personal Injury Collision (PIC) information was obtained from the Crashmap database (www.crashmap.co.uk). This indicates that no PICs occurred at or close to the proposed works during the latest five-year period.

Previous Road Safety Audit

- 1.10 The Audit Team is not aware of any previous RSA having been undertaken of this scheme.

2 PROBLEMS IDENTIFIED BY THIS ROAD SAFETY AUDIT

General Matters

- 2.1 The Audit Team raises no concerns in respect of general matters.

Local Alignment

- 2.2 The Audit Team raises no concerns in respect of local alignment.

Junctions

2.3 Problem

Powered 2-wheeled vehicles may lose control on raised table ramp

Location: Junction between Langley Common Road and Rickman Close

Powered 2-wheeled vehicles turning left from Langley Common Road into Rickman Close may lose control on the raised table ramp, particularly in wet or frosty conditions.

Recommendation

Omit the raised table at Rickman Close. Alternatively, set it back from the give way line allowing powered 2-wheeled vehicles to straighten to some extent before negotiating the ramp.

Walking, Cycling and Horse Riding

2.4 Problem

Increased injury severity if cyclists lose control on overbridge

Location: Langley Common Road, west of Rickman Close

The scheme incorporates a new shared use path between the development site and Baird Road, passing close to a pedestrian underpass beneath Langley Common Road. This area is presently grass verge. The drop to the underpass is protected by a part metal and part timber railing. Whilst currently sound, the timber railing could deteriorate to the point at which it does not provide adequate protection. Furthermore, cyclists colliding with either section of railing could potentially fall over it and into the underpass, leading to serious injuries.

Recommendation

Replace the timber and metal guard railings at the pedestrian underpass with new metal railings and ensure that they are of adequate height to prevent cyclists from falling over them into the underpass.

2.5

Problem

Pedestrian/cyclists colliding with vehicles

Location: Langley Common Road, proposed raised table crossing

The proposed raised table crossing will be located close to the relocated bus stop. Visibility to the east from the northern crossing point will be restricted when a bus is present, which may increase the number of pedestrians wishing to cross. Similarly, pedestrians and cyclists crossing north to south when a bus is present will not be visible to westbound vehicles. This could lead to collisions on the crossing.

Recommendation

Relocate the eastbound bus stop further to the east along Langley Common Road.

2.6

Problem

Pedestrian/cyclists may be struck by vehicles

Location: Priority crossings on the site access road, Langley Common Road and Eversley Road

The audit team is concerned that traffic volumes on the site access road, Langley Common Road and Eversley Road, combined with the relatively low conspicuity of the proposed cycle/pedestrian priority crossings at those locations may result in drivers of motorised vehicles failing to give way, which may lead to vehicles striking pedestrians and cyclists.

Recommendation

The conspicuity of the proposed cycle/pedestrian crossings should be increased on the site access road, Langley Common Road and Eversley Road.

Road Signs, Carriageway Markings and Lighting

- 2.7 The Audit Team raises no concerns in respect of road signs, carriageway markings and lighting.

3 AUDIT TEAM STATEMENT

- 3.1 We certify that this Road Safety Audit has been carried out in accordance with DMRB document GG119.

Audit Team Leader

Steve Giles
BEng (Hons), IEng, FIHE, MCIHT, MICE, CMILT, MSoRSA, HE Cert Comp
Senior Road Safety Engineer

Signed:



Date: 19/08/2022

Audit Team Member(s)

Julia Smith
BEng, MCIHT, MSoRSA
Senior Road Safety Engineer

Signed:



Date: 19/08/2022

APPENDIX A

Items Considered by this RSA

Items Considered by this Road Safety Audit

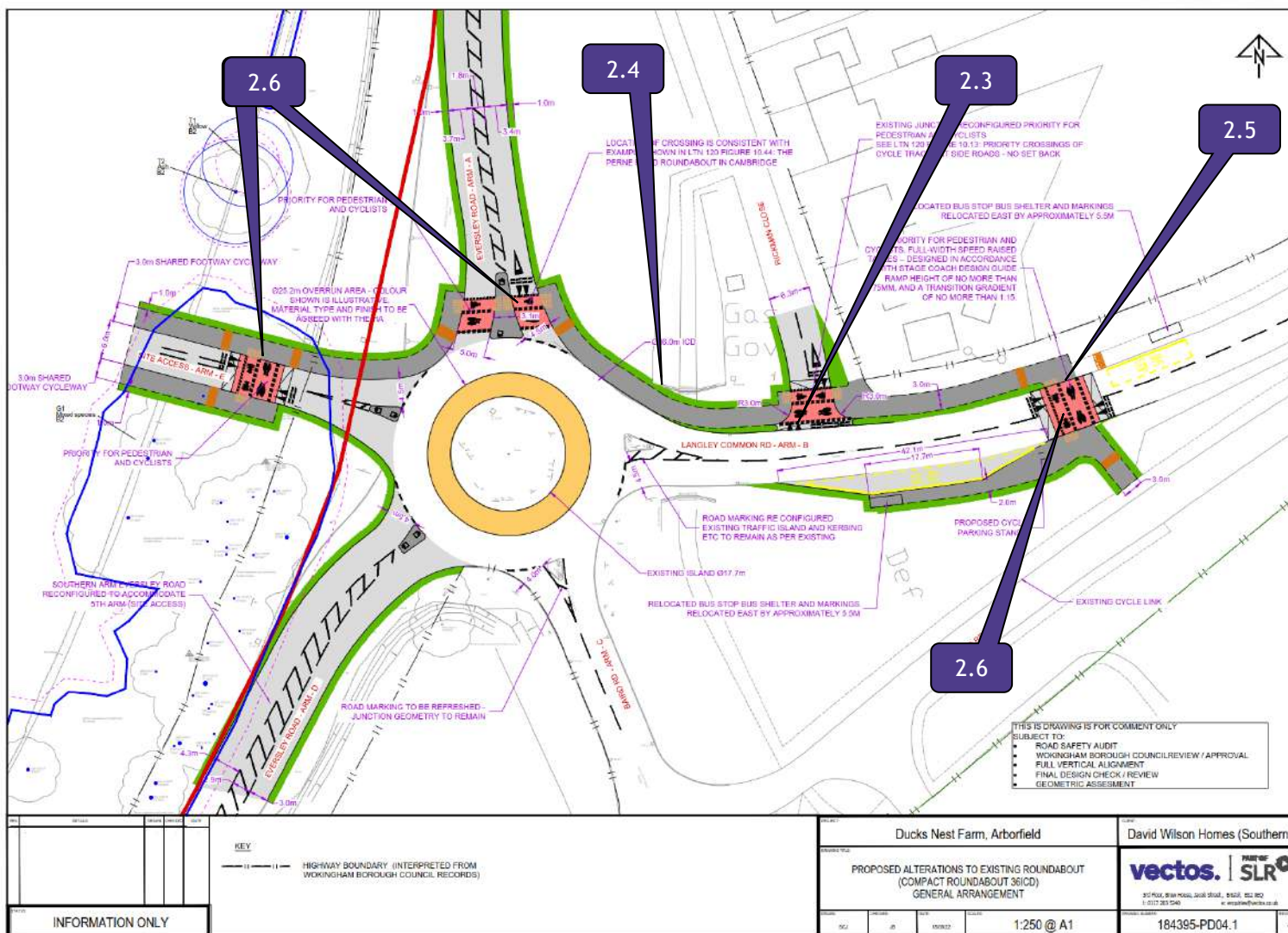
Document ref.	Rev.	Originator	Title
184395-PD04.1	-	Vectos	Proposed Alterations to Existing Roundabout (Compact Roundabout 36ICD) General Arrangement
184395/PD06	A	Vectos	Proposed Pedestrian/Emergency Vehicle Access and Bus Stops. Eversley Road/Harts Close
184395-PD07	A	Vectos	Proposed Improvements to Existing Access. General Arrangement and Visibility Splays Observer Way (A327)

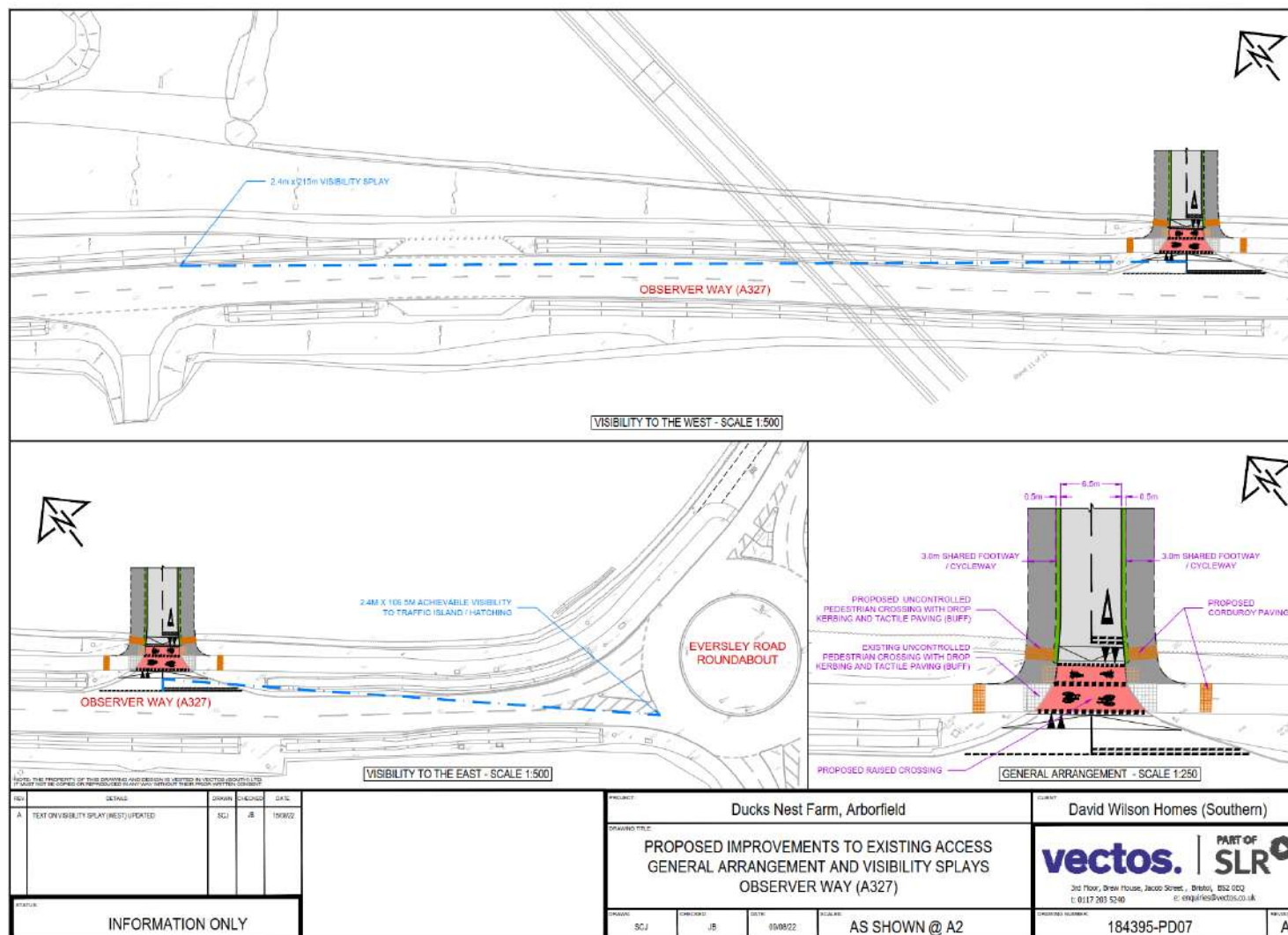
Additional/background information provided to the Audit Team

- Audit Brief Ref. dated 10th August 2022 (Vectos)

APPENDIX B

Location Plan(s)





ROAD SAFETY AUDIT RESPONSE REPORT

Project Details

Project: Ducks Nest Farm, Arborfield
Proposed Development Access Junctions
GRSE Ref: SG/JS/2208-08 RSA1 v1.0
Status: Issued as version 1.0
Issue date: 19th August 2022
Design Organisation: Vectos
Overseeing Organisation: Borough of Wokingham
Client: David Wilson Homes (Southern)

Authorisation

Prepared by:
Name: Simon Jones
Position: Principal Engineer
Organisation: Vectos

Approved by:
Name: James Bancroft
Position: Director
Organisation: Vectos
Signed:

The Scheme

The highway works considered by the Road Safety Audit comprise:

- Main site access from Eversley Road Roundabout, serving approximately 180 dwellings
- A shared pedestrian/cycle/emergency vehicle access onto Harts Close
- Bus stop alterations and uncontrolled pedestrian crossing near Harts Close
- A third point of access from Observer Way via the existing access that has been installed as part of the wider relief road works around Arborfield

Key Personnel

Overseeing Organisation:	[NAME (press F9)], [TITLE (press F9)] Borough of Wokingham
RSA Team:	Steve Giles, Senior Road Safety Engineer, Gateway RSE
	Julia Smith, Senior Road Safety Engineer, Gateway RSE
Design Organisation:	Simon Jones, Principal Engineer, Vectos
	James Bancroft, Director, Vectos

RSA Decision Log				
Item No.	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
2.3	Omit the raised table at Rickman Close. Alternatively, set it back from the give way line allowing powered 2-wheeled vehicles to straighten to some extent before negotiating the ramp.	Designers' response: <i>the crossing surface will be installed with the appropriate surface friction for powered motor vehicles. This design supported by LTN 1/20 will provide the necessary speed reduction for vehicles entering the minor arm.</i>		
2.4	Replace the timber and metal guard railings at the pedestrian underpass with new metal railings and ensure that they are of adequate height to prevent cyclists from falling over them into the underpass.	Designers' response: <i>Existing timber and metal guard railings at the pedestrian underpass to be replaced / upgraded with suitable railings. Exact specification / type / height to be agreed with highway authority during the detail design stage</i>		
2.5	Relocate the eastbound bus stop further to the east along Langley Common Road.	Designers' response: <i>Bus stop relocated east. The proposed location of the bus stop is based upon inter visibility splay shown on drawing 184395-PD04.1 Rev A vehicles on the approach can see the full extent of the proposed ped / cycle priority crossing. visibility is</i>		

RSA Decision Log				
Item No.	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
		<i>measured 2.4m x 43m from the position of the driver to x distance of 2.4m distances for cycle traffic. (see ltn 120 table 5-6: x distances for cycle traffic).</i>		
2.6	Conspicuity of the proposed cycle/pedestrian crossings should be increased on the site access road, Langley Common Road and Eversley Road.	Designers' response: <i>We disagree, on the following grounds -</i> <i>• The raised coloured surfacing provides a tonal contrast to both pedestrian, cyclists and drivers.</i> <i>• The crossings points are indicated by contrasting coloured tactile surfaces. Combined with signing and lining makes the proposal prominent to all user groups.</i> <i>• The raised table work as a traffic calming measure.</i> <i>• The design, location of the crossings has been designed in accordance / are consistent with LTN</i>		

RSA Decision Log				
Item No.	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
		120 guidance. Refer to drawing 184395-PD04.1 Rev A for further details. • The RSA stage 1 has raised no issues with Road Signs, Carriageway Markings and Lighting. • The same ped / cycle crossing principle is being proposed at the existing access at observer way (A327) The RSA stage 1 has not raised this as an issue (see drawing 184395-PD07 Rev A However, signage may be provided if deemed necessary following discussions with the local highway authority during the detailed design stage.		

Design Organisation Statement:

On behalf of the design organisation, I certify that:

The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.

.....

Name: Error! Reference source not found.

Organisation: Vectos

Position: Error! Reference source not found.

Date: [DATE]

Overseeing Organisation Statement:

On behalf of the overseeing organisation, I certify that:

The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Design Organisation.

The agreed RSA actions will be progressed.

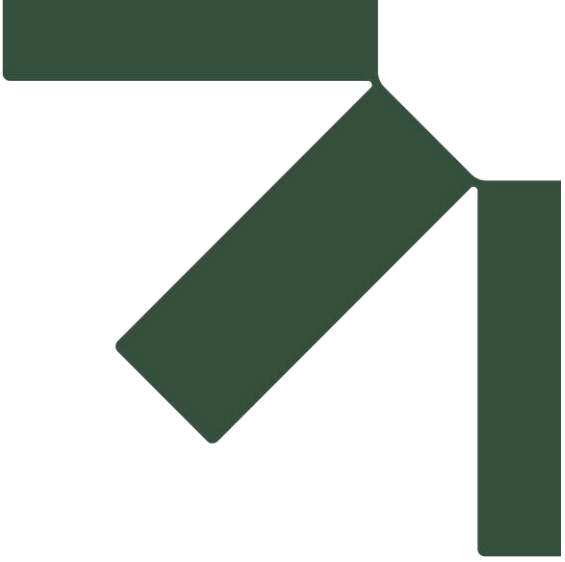
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Organisation: Borough of Wokingham

Position: [TITLE (press F9)]

Date: [DATE]



Appendix E Pedestrian Access Strategy

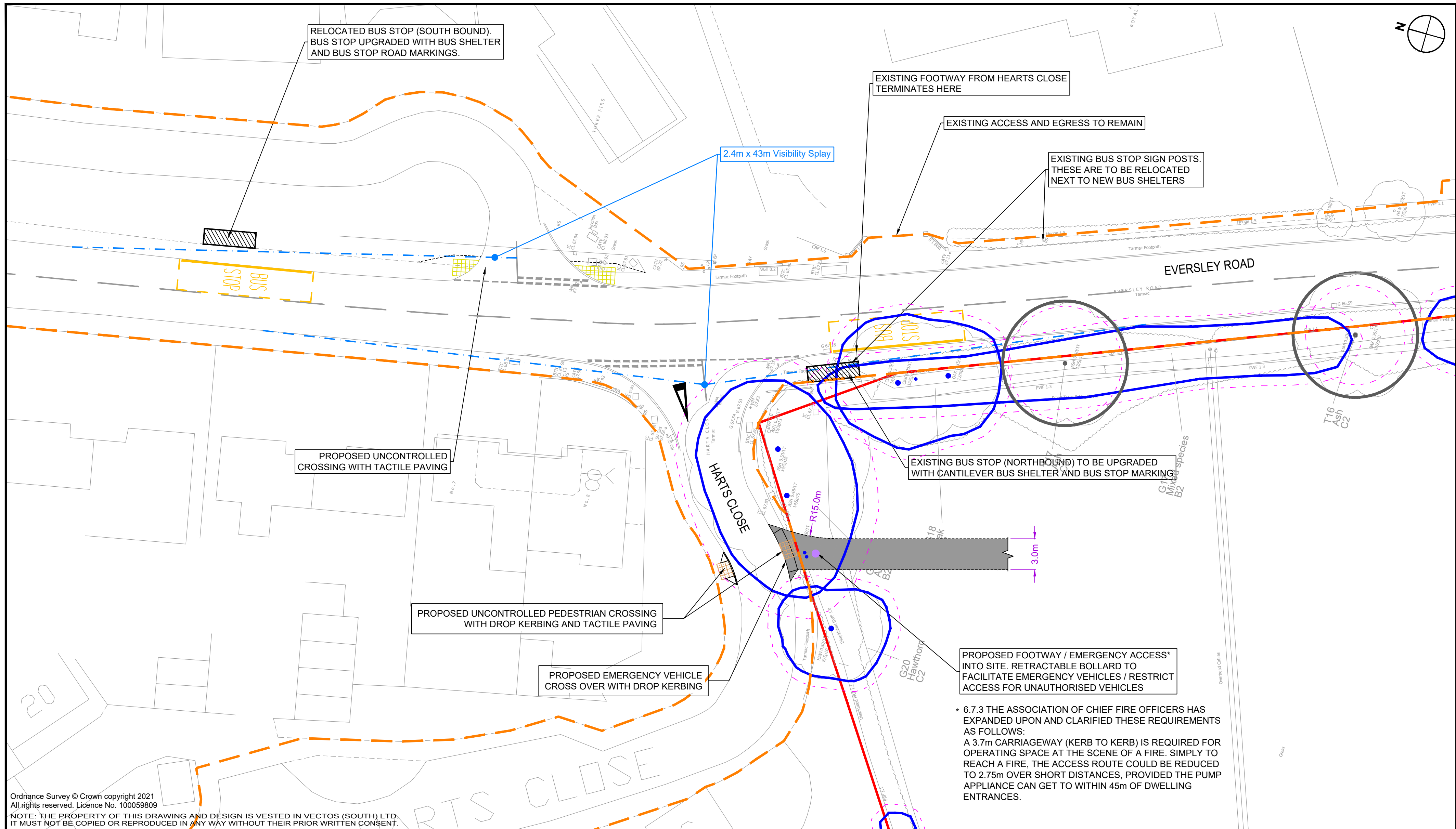
Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

27 November 2024



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A	EMERGENCY VEHICLE CROSS OVER SHOWN	SCJ	JB	08/08/22

DRAFT

Notes:

- This is not a construction drawing and is intended for illustrative purposes only.
- White lining is indicative only.
- This drawing is based on topographical survey information provided in drawing; ENC/270422/9VV8/T dated May 2022 by Encompass Surveys.
- Tree protection and tree canopy areas are based on information provided in drawing; 2099.12 / 02 to 06 dated June 2022 by hankinson duckett associates.

- HIGHWAY BOUNDARY
- SITE BOUNDARY
- PROPOSED BOLLARD
- ROOT PROTECTION AREA
- TREE CANOPY - MODERATE / LOW QUALITY

Ducks Nest Farm, Arborfield

PROPOSED PEDESTRIAN / EMERGENCY VEHICLE ACCESS AND BUS STOPS. EVERSLEY ROAD / HARTS CLOSE

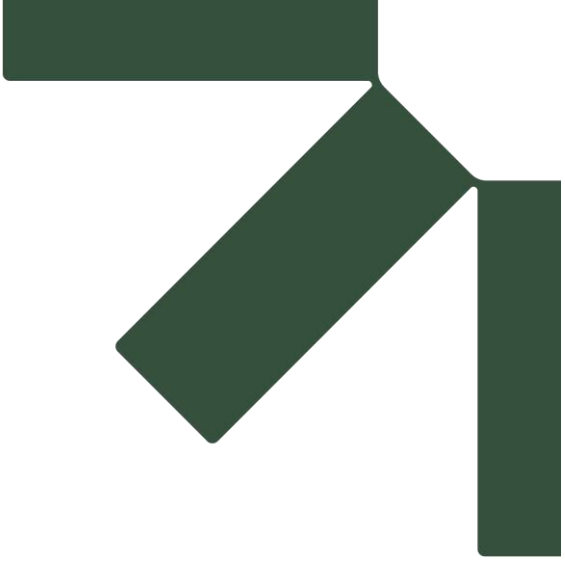
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David Wilson Homes (Southern)

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The Cursitor, 38 Chancery Lane, London, WC2A 1EN
020 7580 7373
vectos@vectos.co.uk

DRAWING NUMBER:	REVISION:
184395/PD06	A



Appendix F Swept Path Analysis

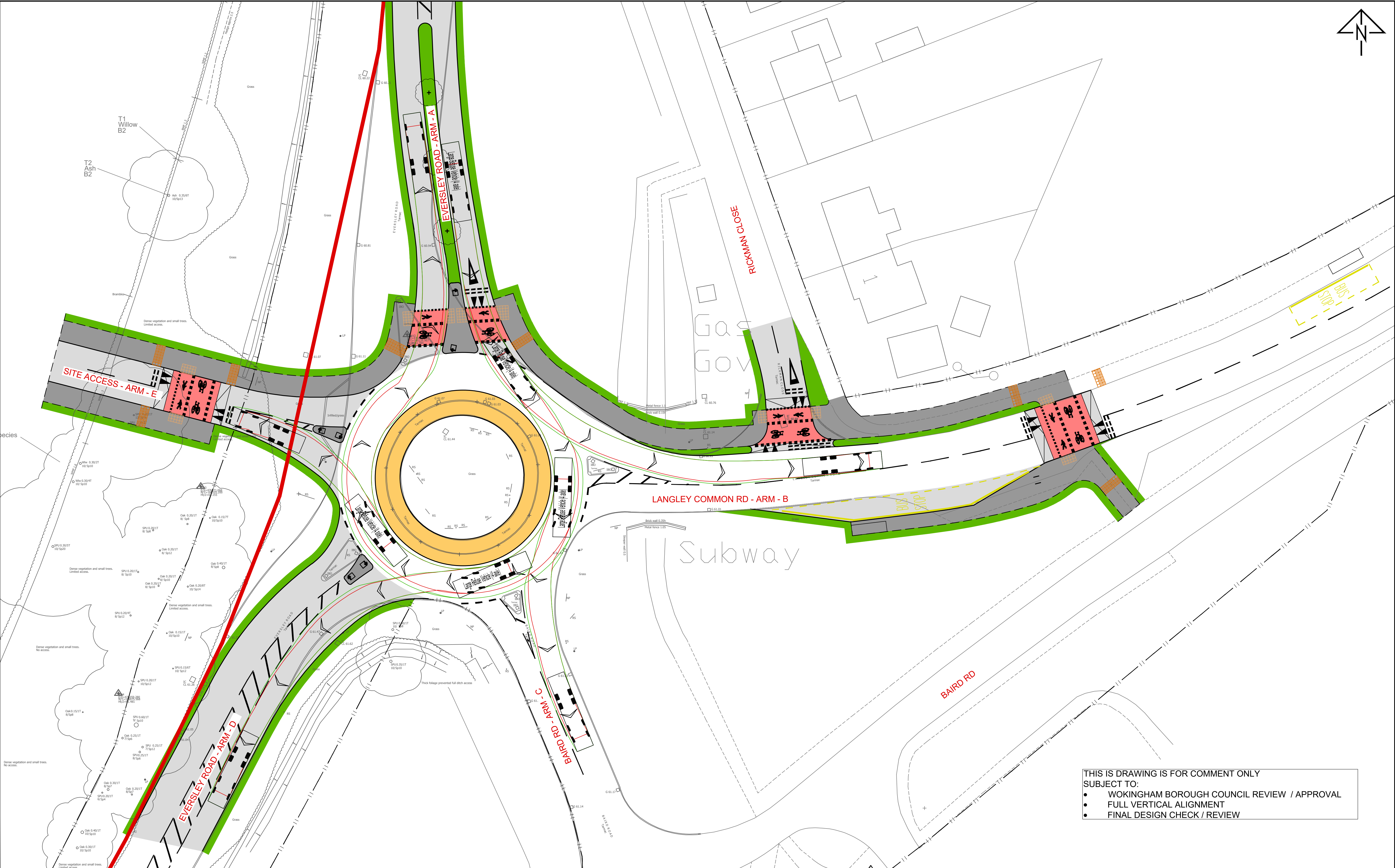
Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

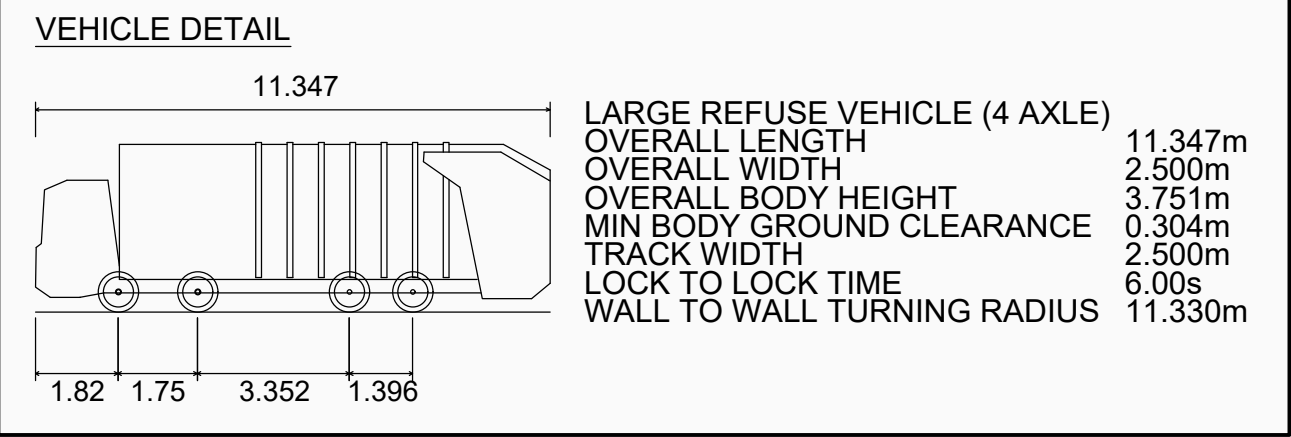
27 November 2024



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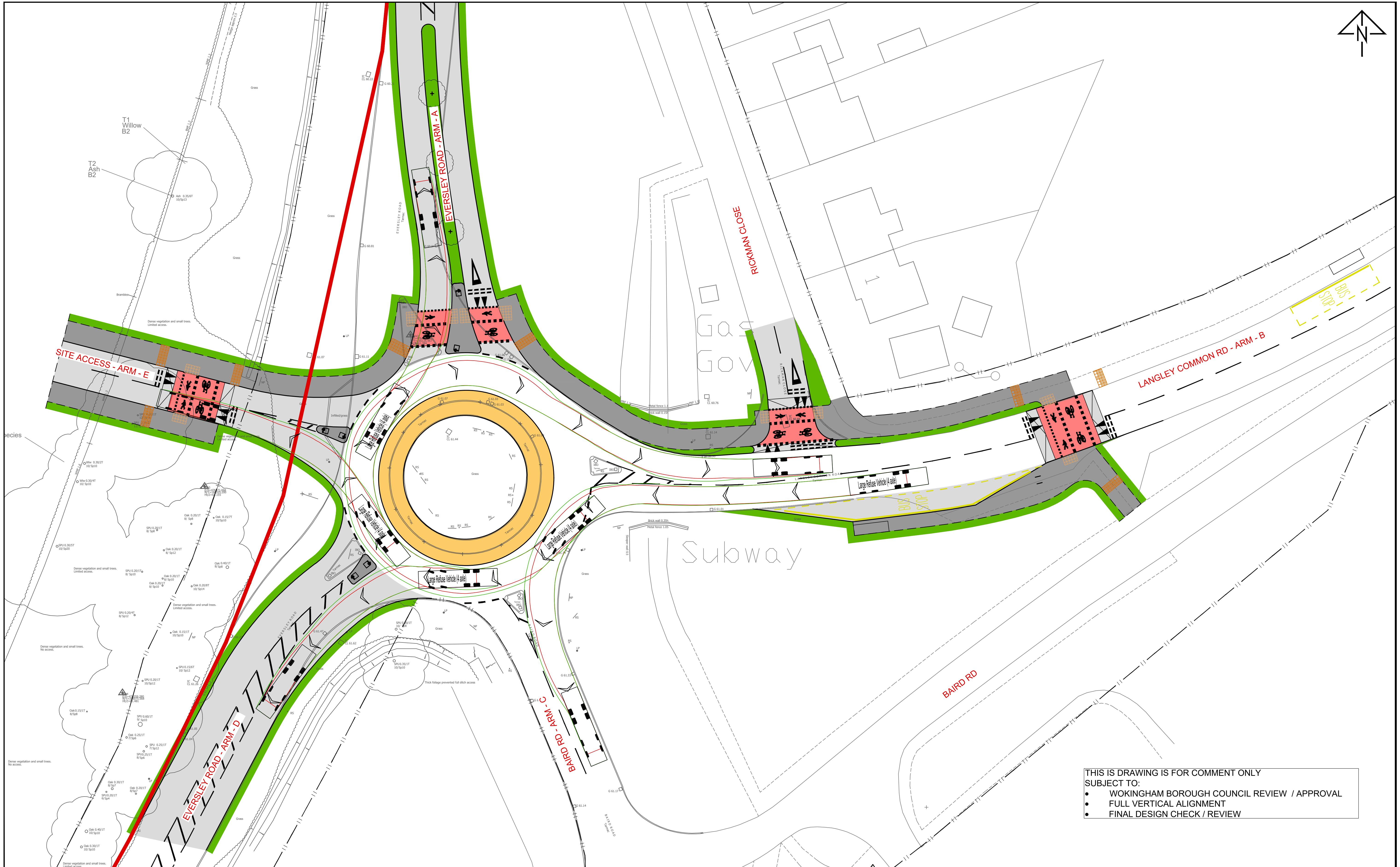
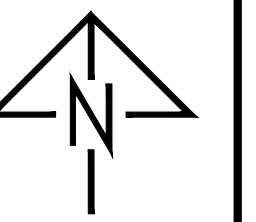
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KEY
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HIGHWAY BOUNDARY
(INTERPRETED FROM WOKINGHAM
BOROUGH COUNCIL RECORDS)



PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
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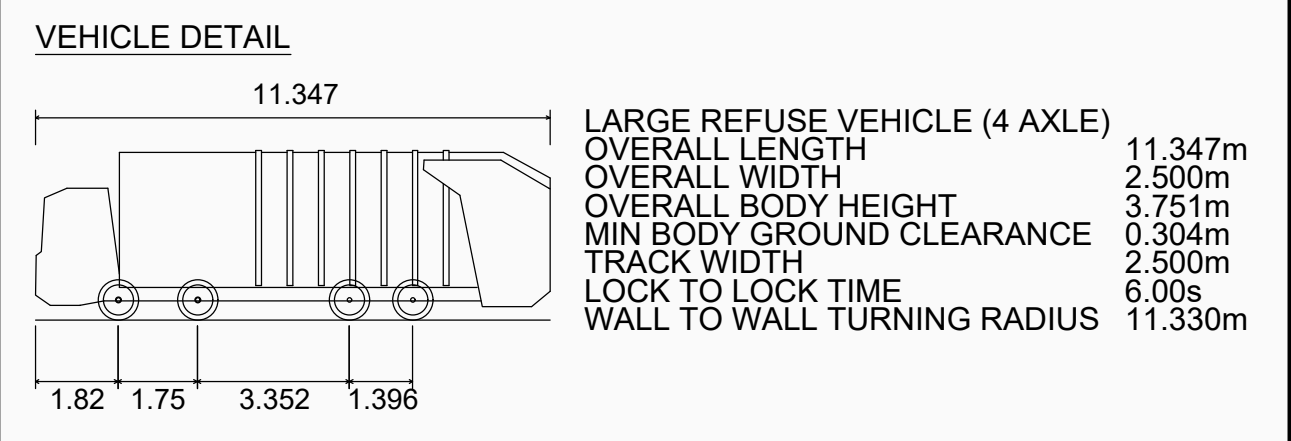
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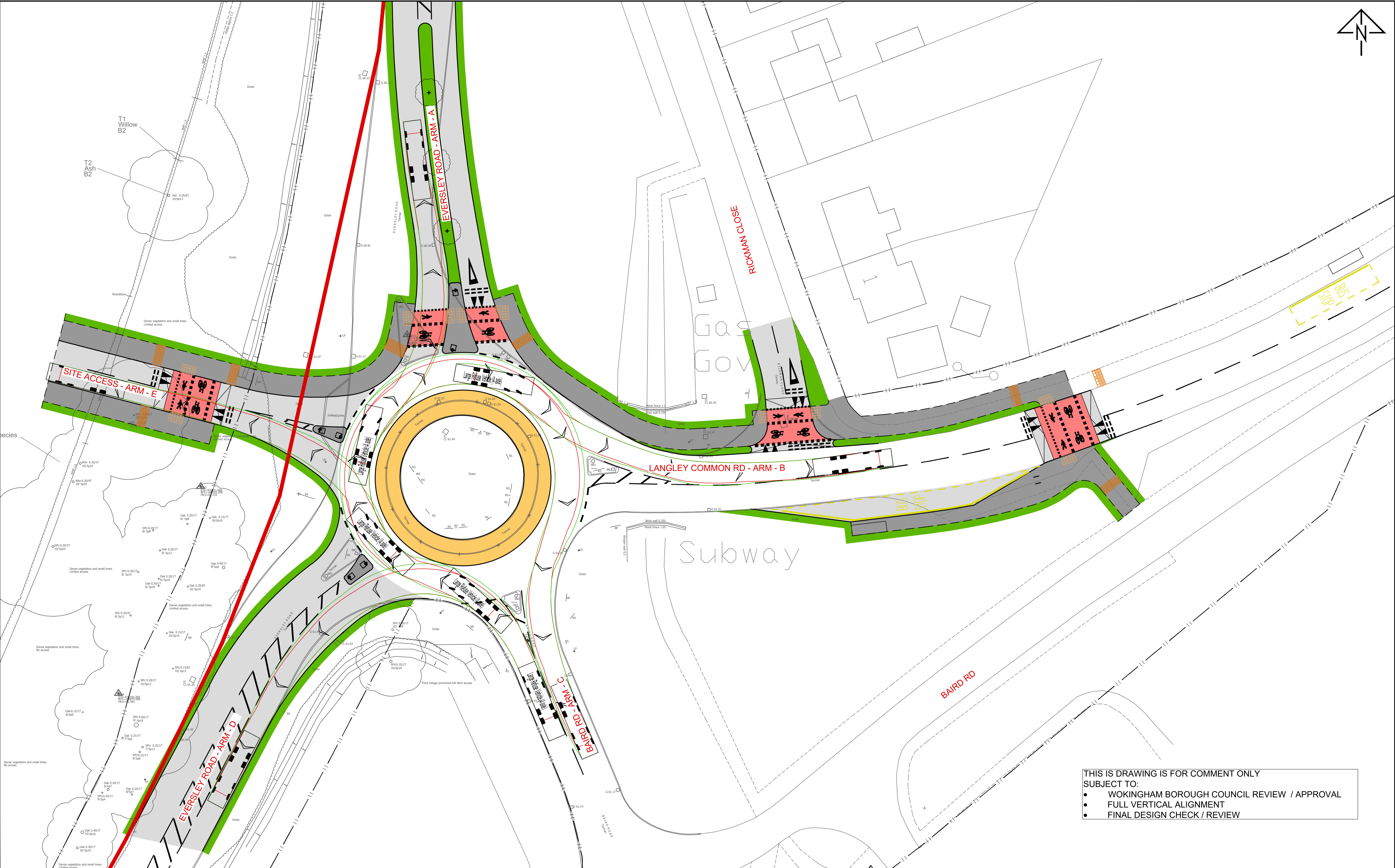
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STATUS: INFORMATION ONLY				

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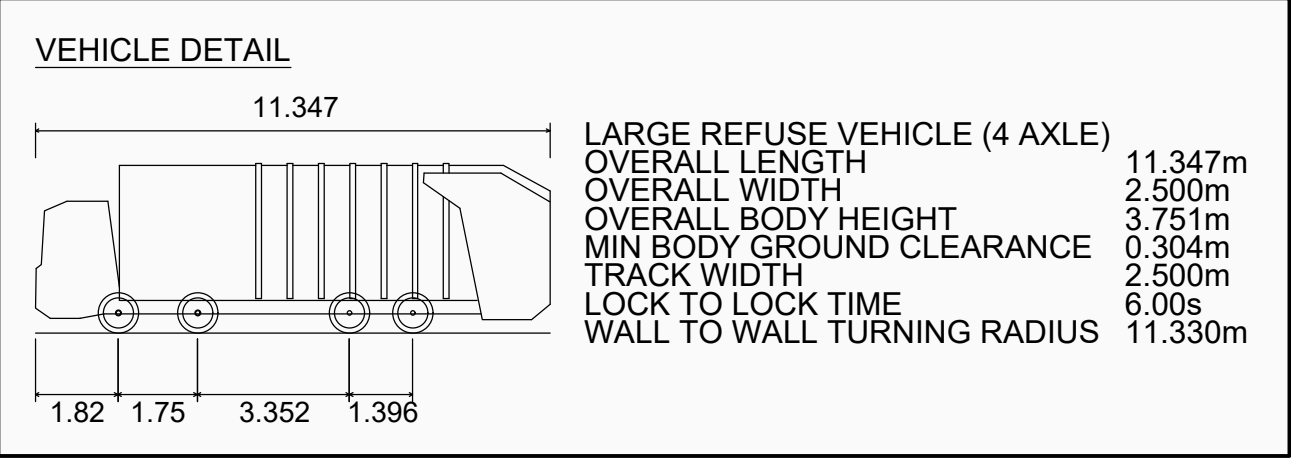
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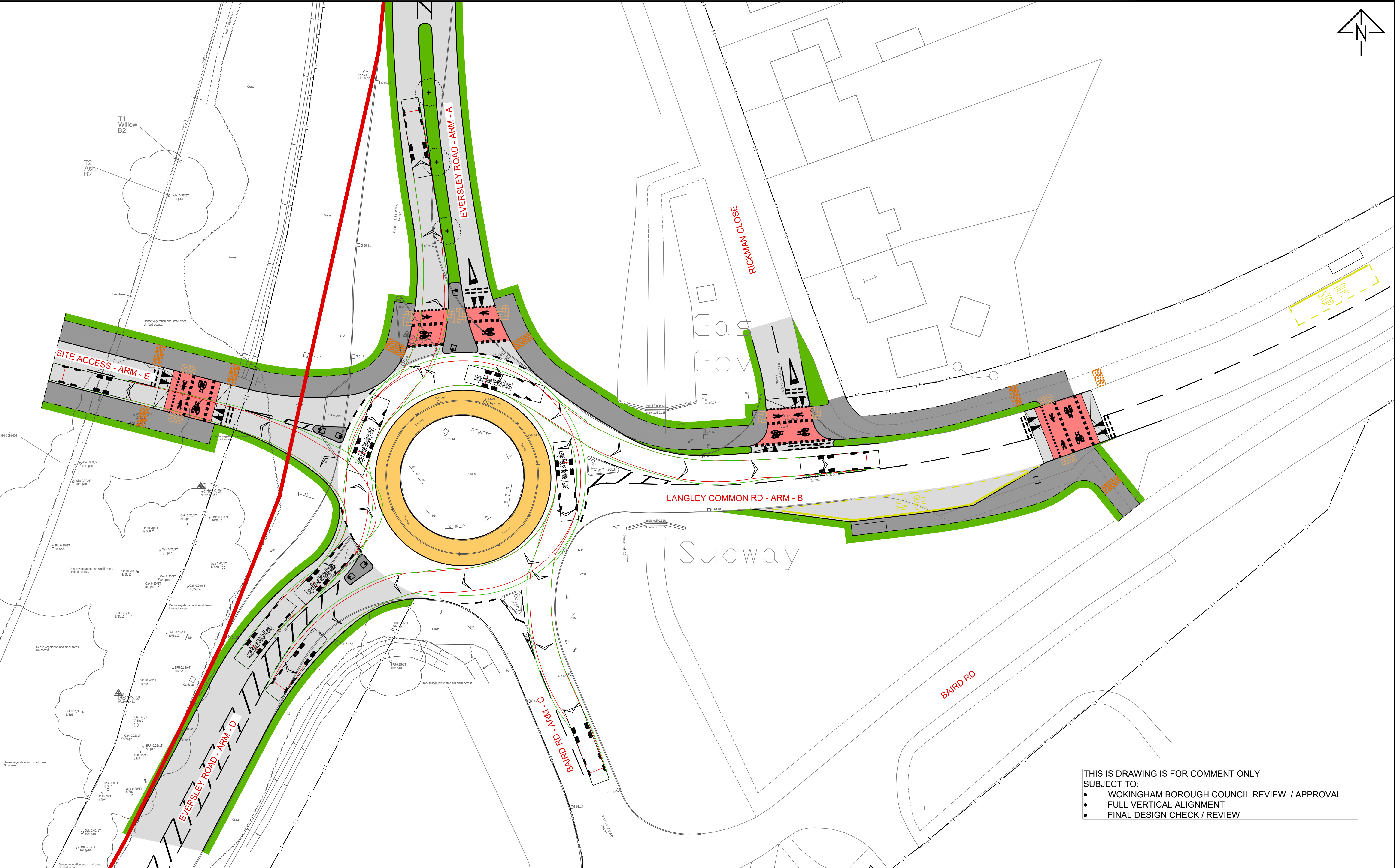
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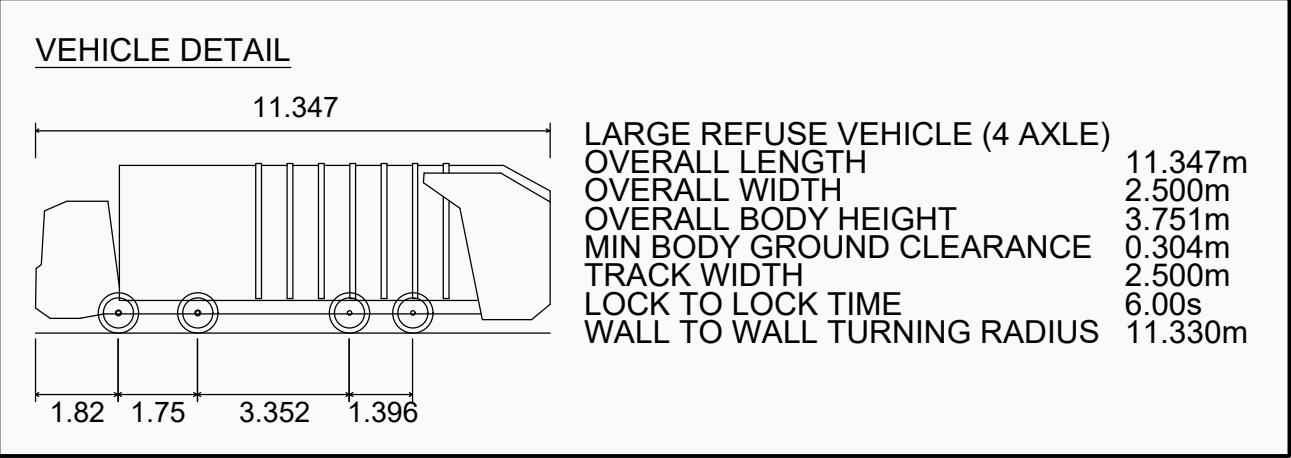
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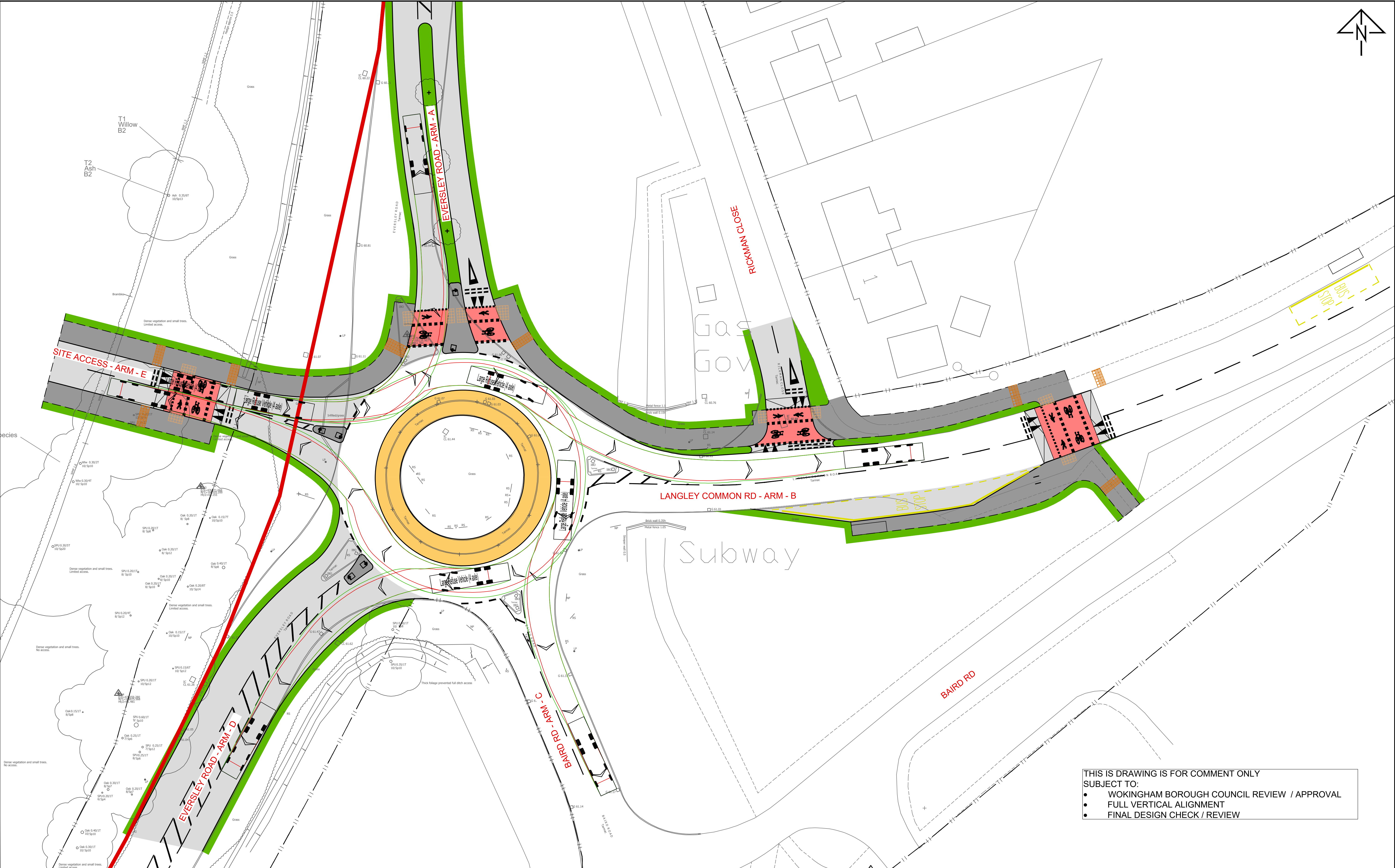
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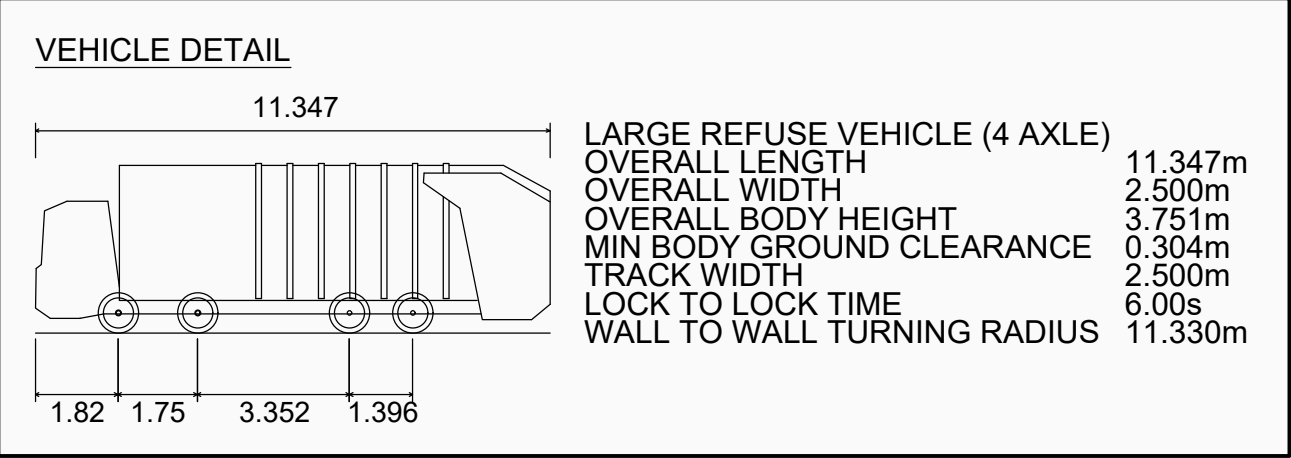
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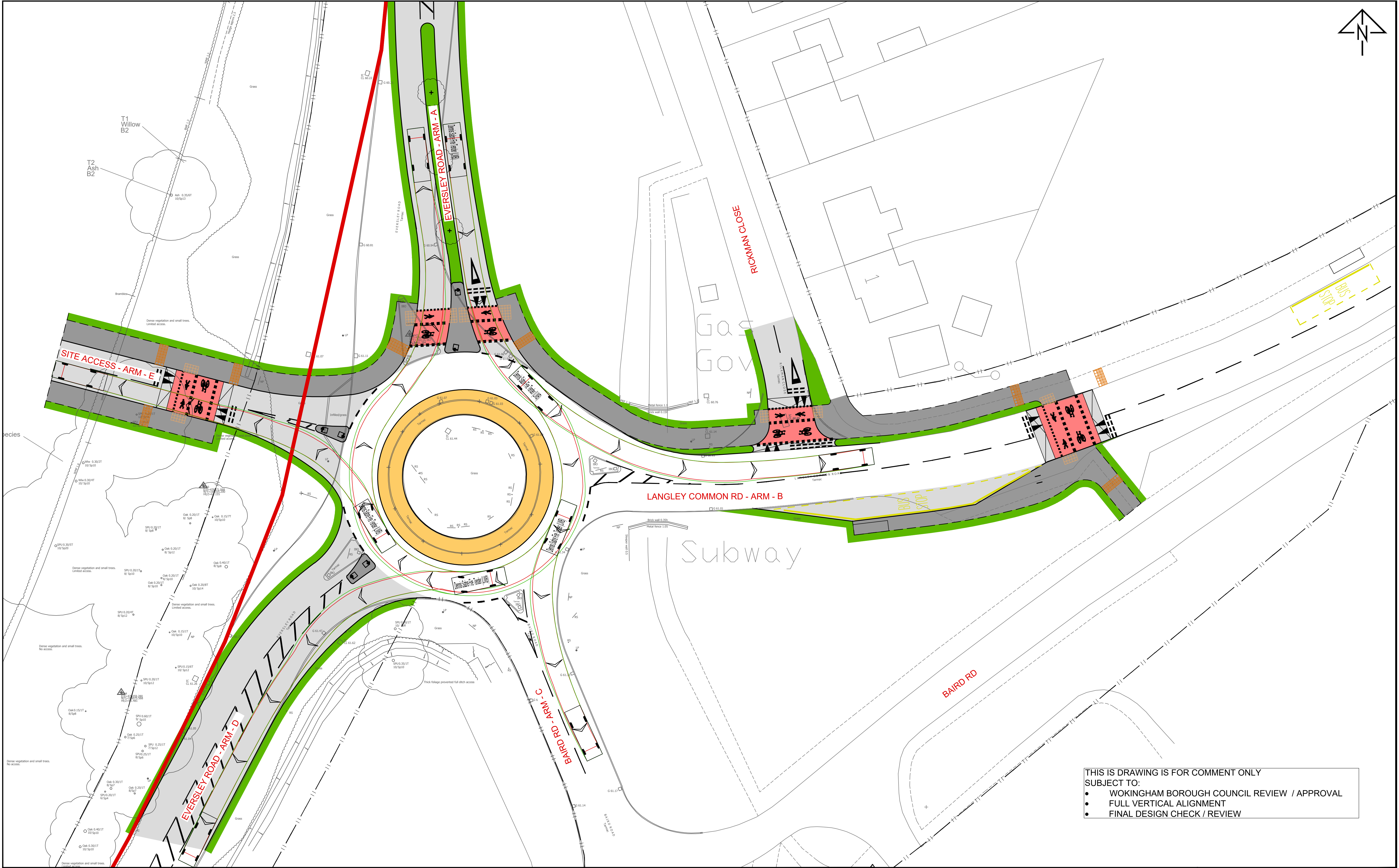
INFORMATION ONLY

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(INTERPRETED FROM WOKINGHAM
BOROUGH COUNCIL RECORDS)



PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
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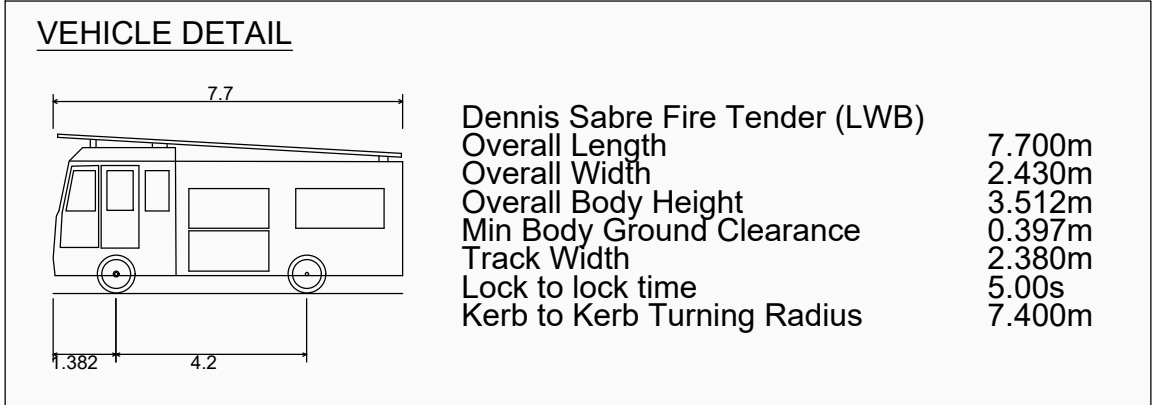
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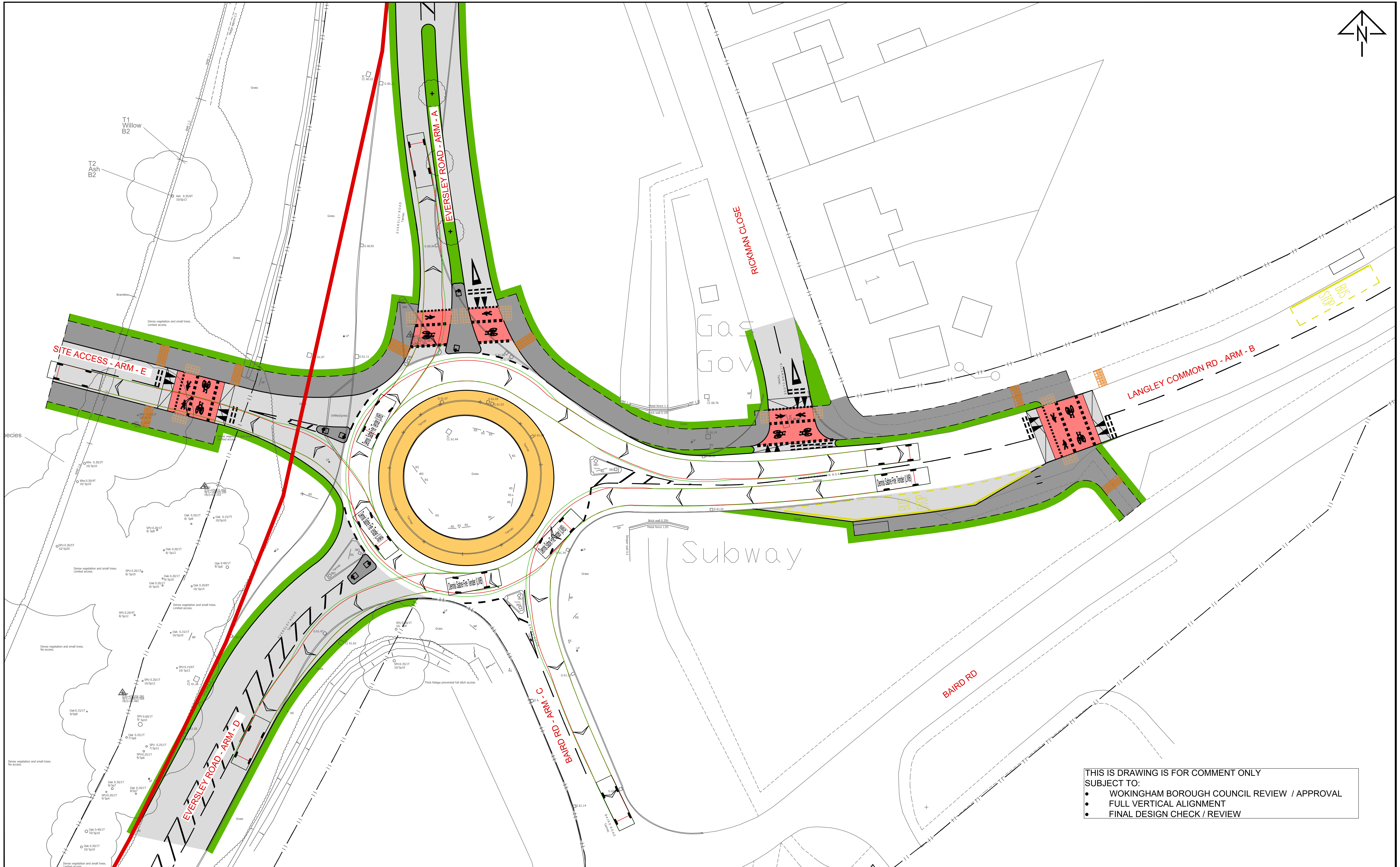
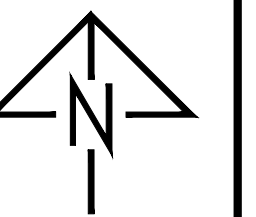
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STATUS: INFORMATION ONLY				

KEY
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HIGHWAY BOUNDARY
(INTERPRETED FROM WOKINGHAM
BOROUGH COUNCIL RECORDS)



PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
DRAWING TITLE: EVERSLEY ROAD - ARM - A SWEPT PATH ANALYSIS - FIRE TENDER				vectos. PART OF SLR 3rd Floor, Brew House, Jacob Street , Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectors.co.uk	
DRAWN: SCJ	CHECKED: JB	DATE: 26/06/23	SCALES: 1:250 @ A1	DRAWING NUMBER: 184395-PD04-AT03.1	REVISION: A

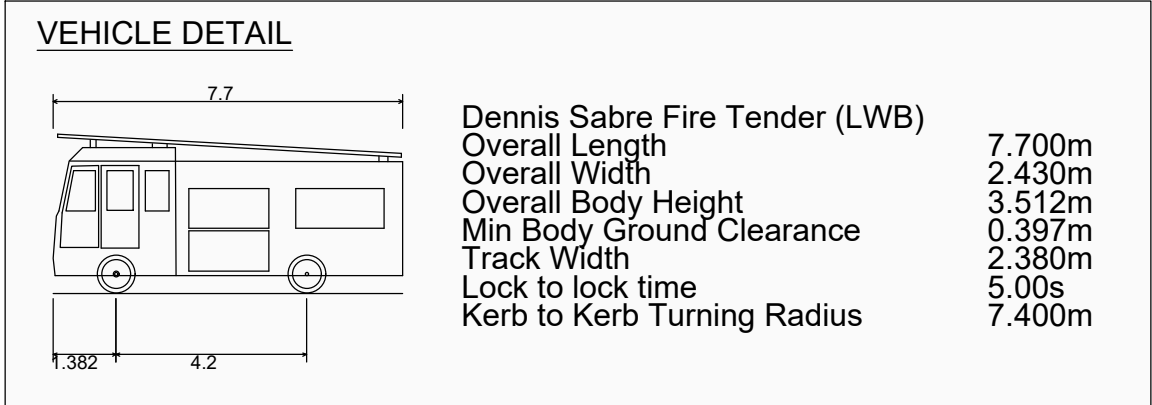
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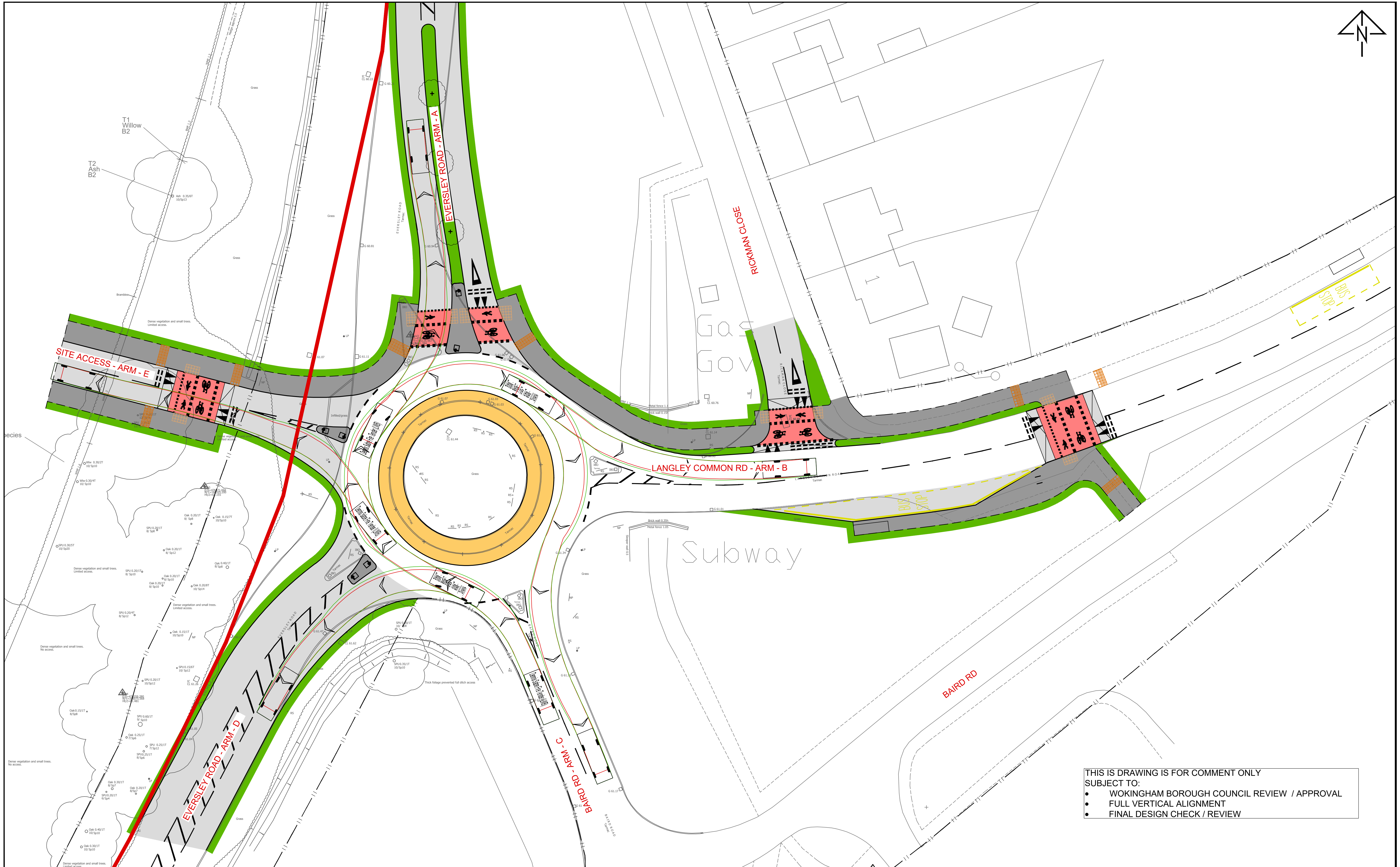
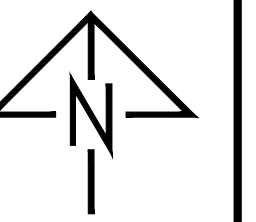
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A	EVERSLEY ROAD - ARM - A CENTRAL ISLAND LANDSCAPED	SCJ	JB	02/08/23
STATUS: INFORMATION ONLY				

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PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
DRAWING TITLE: EVERSLEY ROAD - ARM - B SWEPT PATH ANALYSIS - FIRE TENDER				vectos. PART OF SLR 3rd Floor, Brew House, Jacob Street , Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectors.co.uk	
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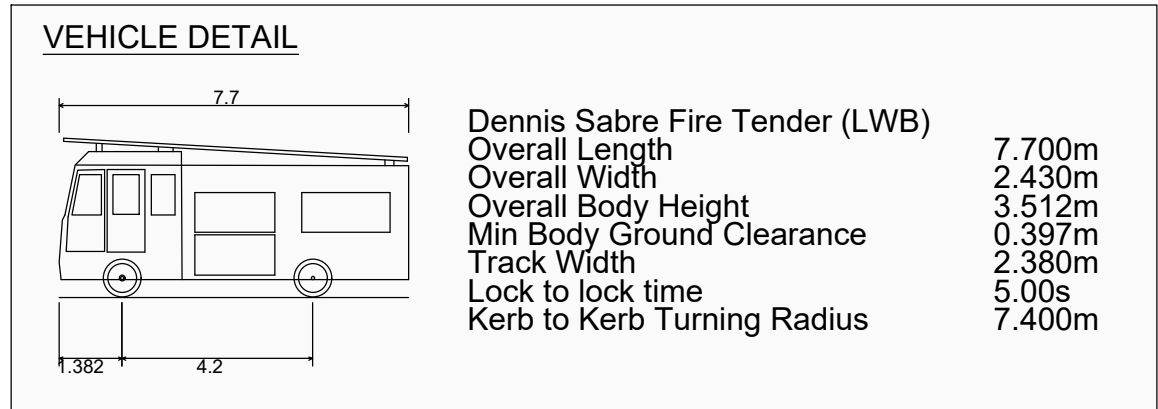
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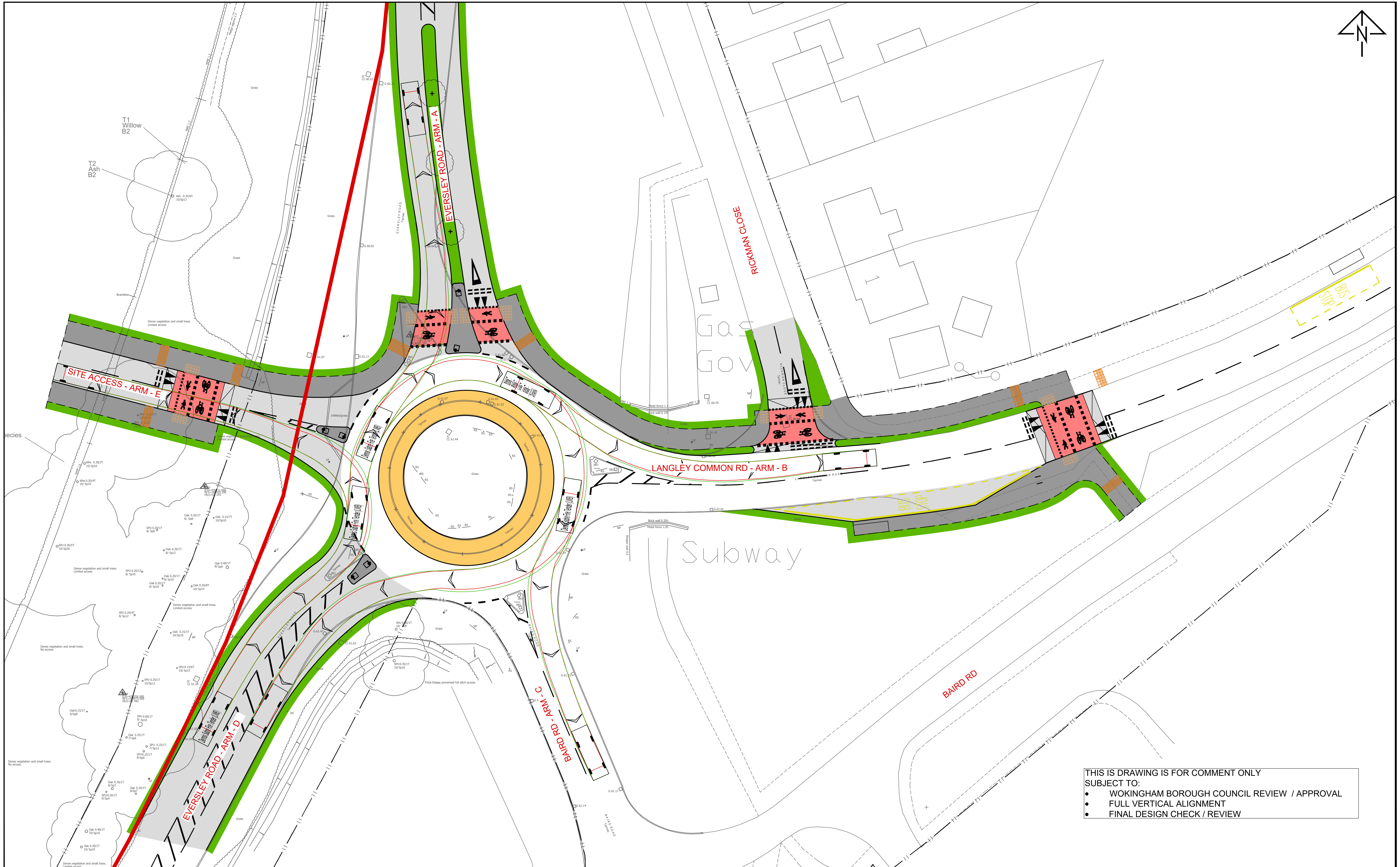
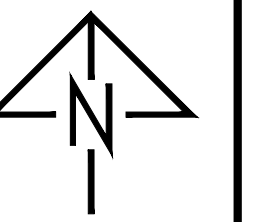
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PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
DRAWING TITLE: EVERSLEY ROAD - ARM - C SWEEP PATH ANALYSIS - FIRE TENDER				vectos. PART OF SLR 3rd Floor, Brew House, Jacob Street , Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectors.co.uk	
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STATUS: INFORMATION ONLY				

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HIGHWAY BOUNDARY
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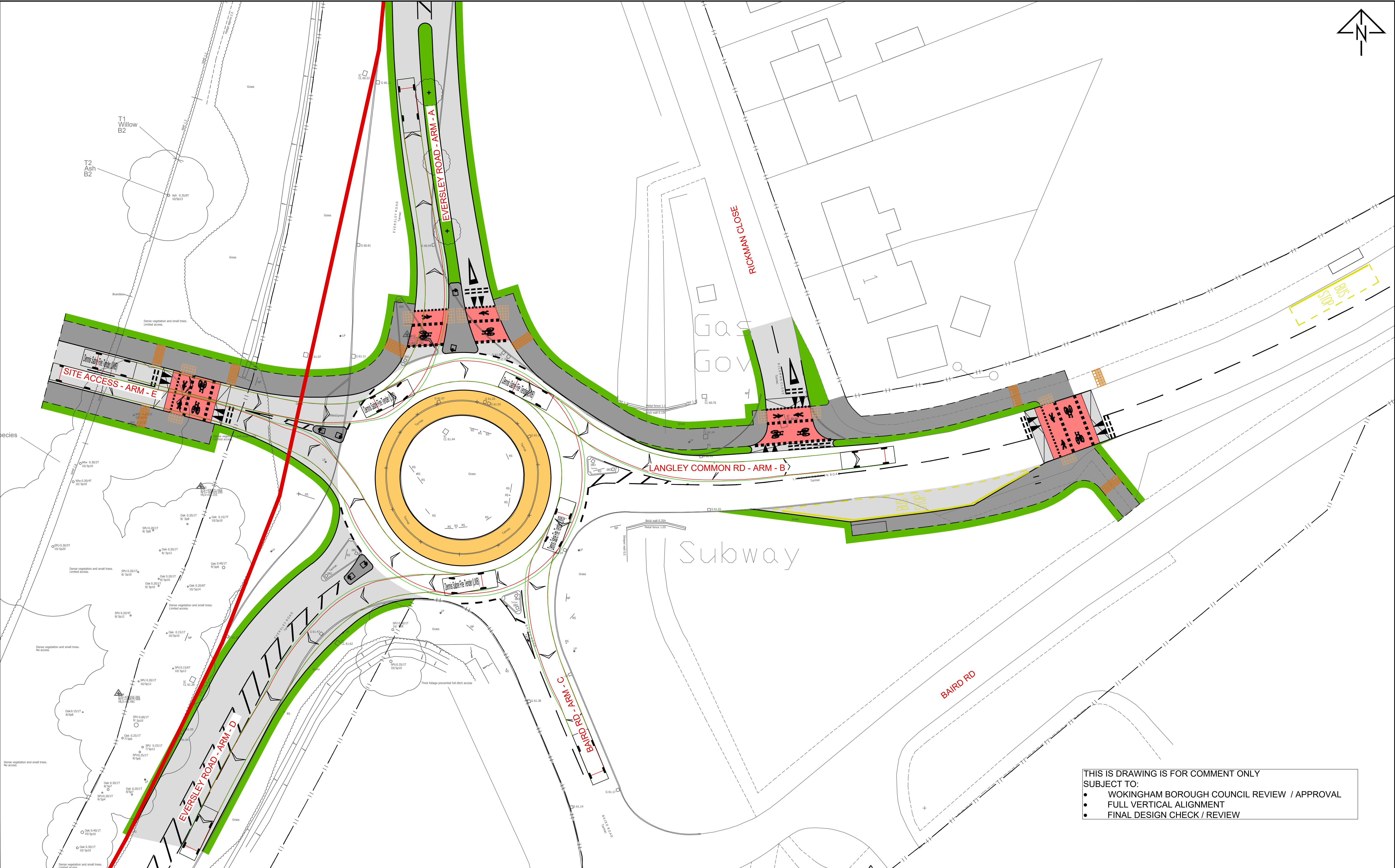
VEHICLE DETAIL

Dennis Sabre Fire Tender (LWB)

Overall Length	7.700m
Overall Width	2.430m
Overall Body Height	3.512m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
DRAWING TITLE: EVERSLEY ROAD - ARM - D SWEEP PATH ANALYSIS - FIRE TENDER				vectos. PART OF SLR 3rd Floor, Brew House, Jacob Street , Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectos.co.uk	
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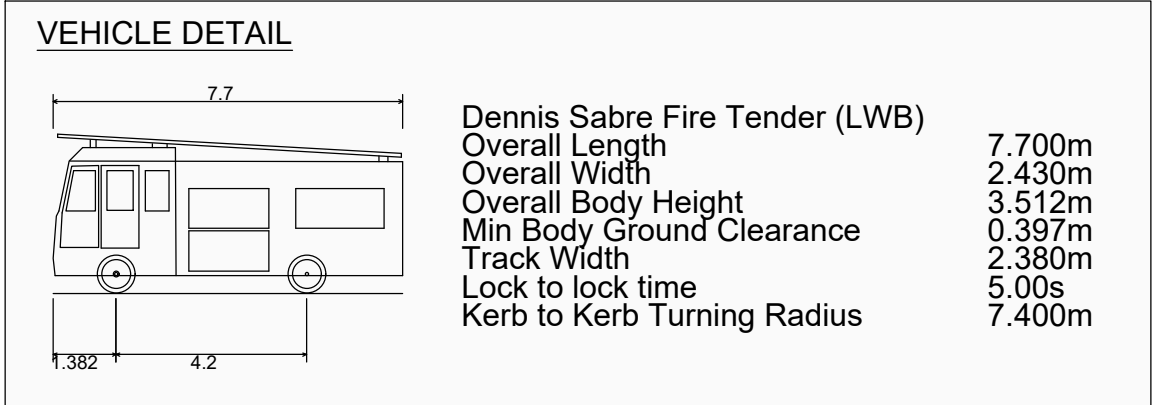
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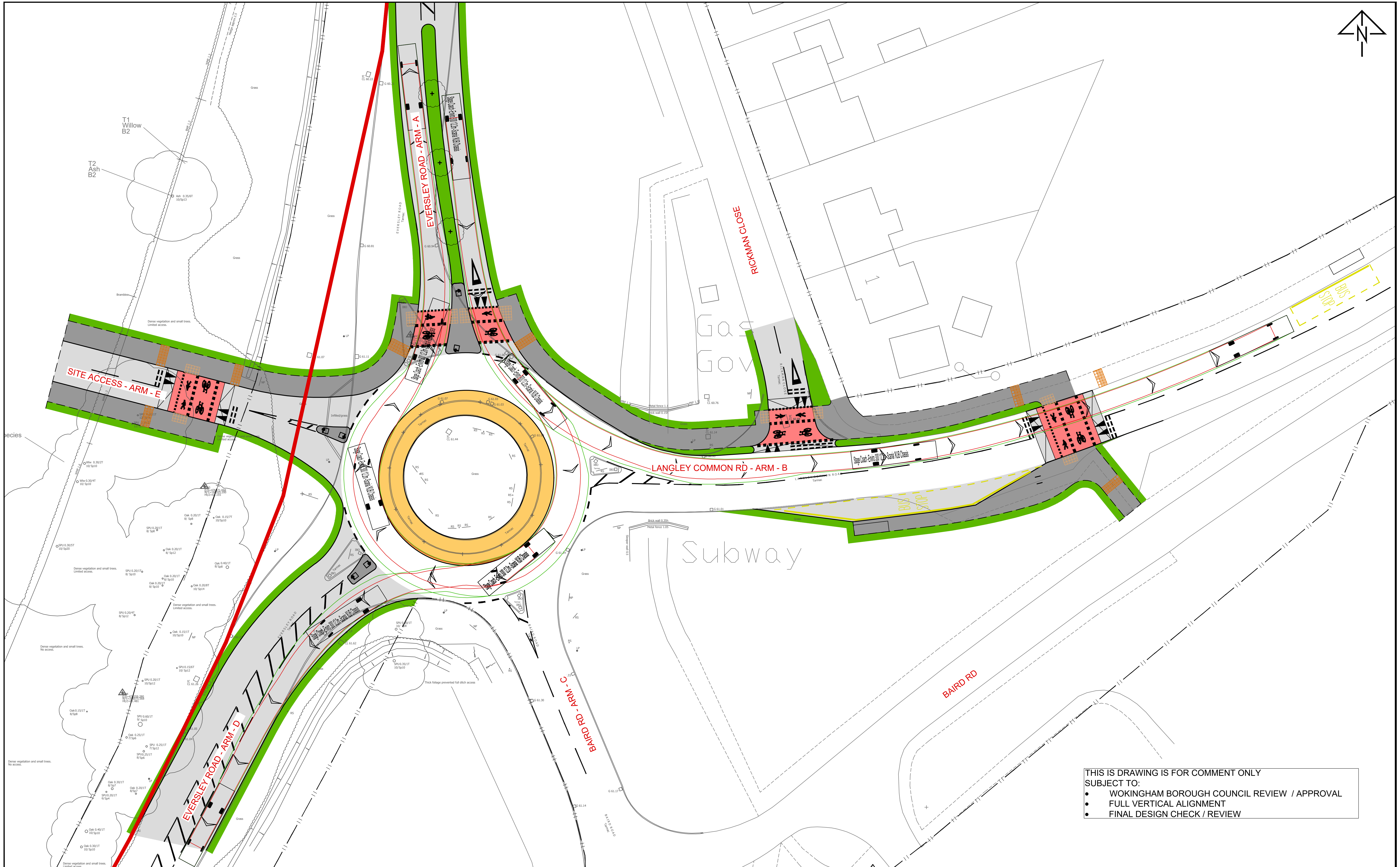
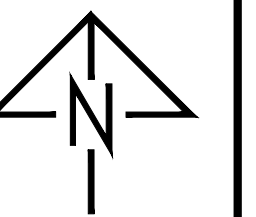
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(INTERPRETED FROM WOKINGHAM
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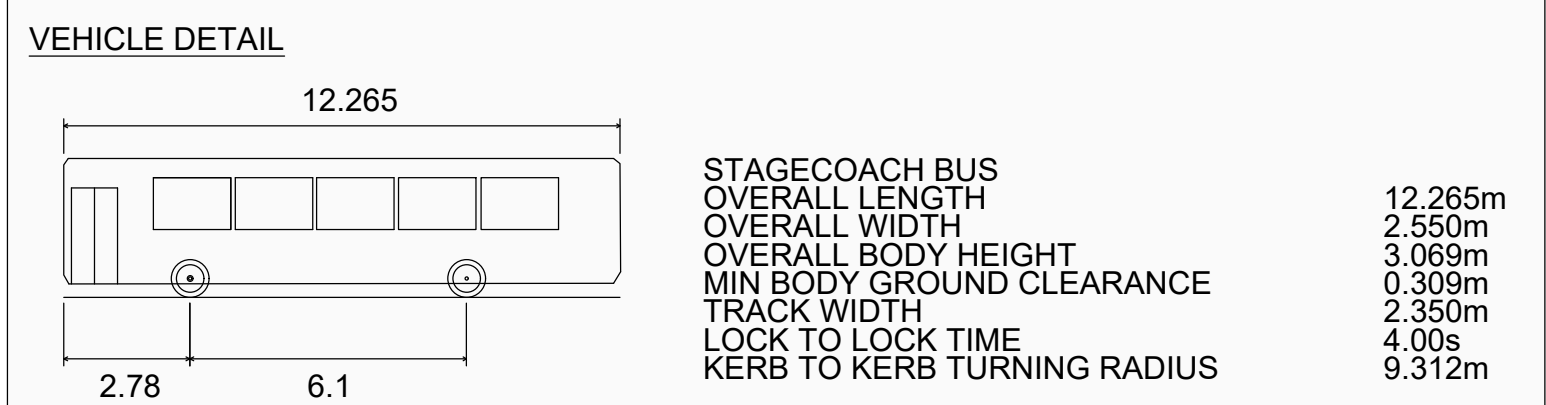
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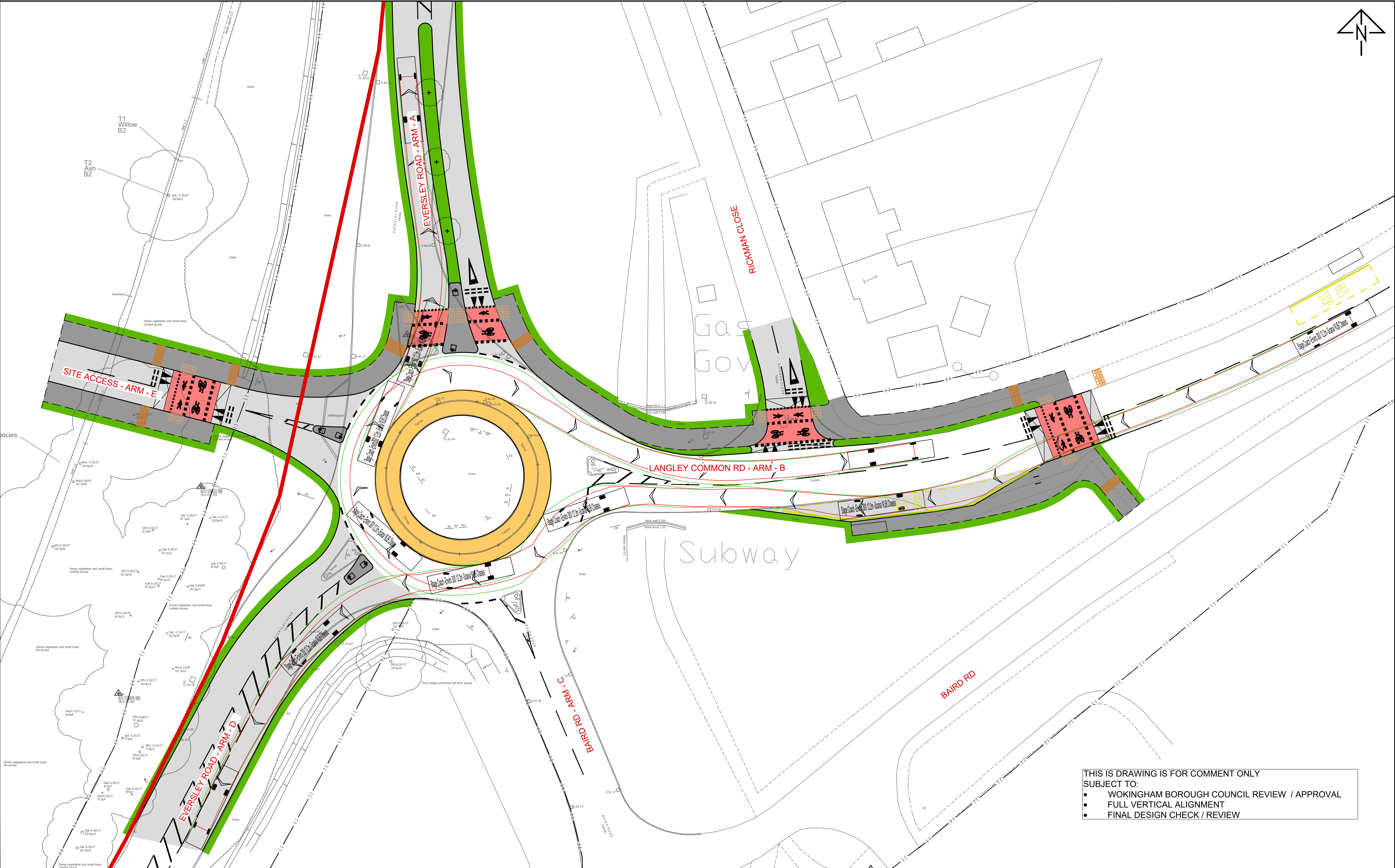
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STATUS: INFORMATION ONLY				

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PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
DRAWING TITLE: EVERSLEY ROAD - ARM - A SWEPT PATH ANALYSIS - STAGECOACH BUS				vectos. PART OF SLR 3rd Floor, Brew House, Jacob Street, Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectors.co.uk	
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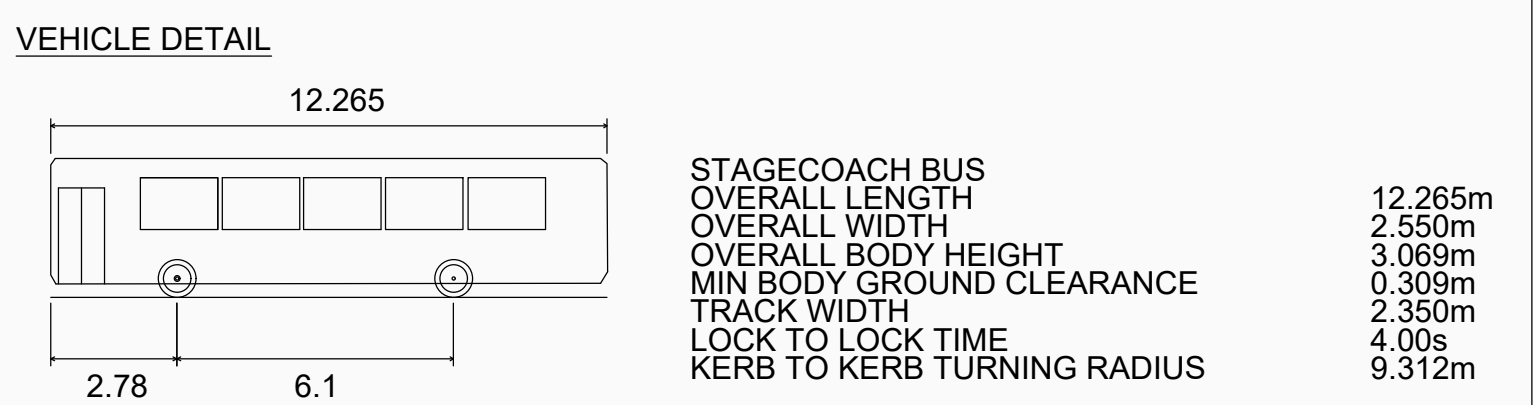
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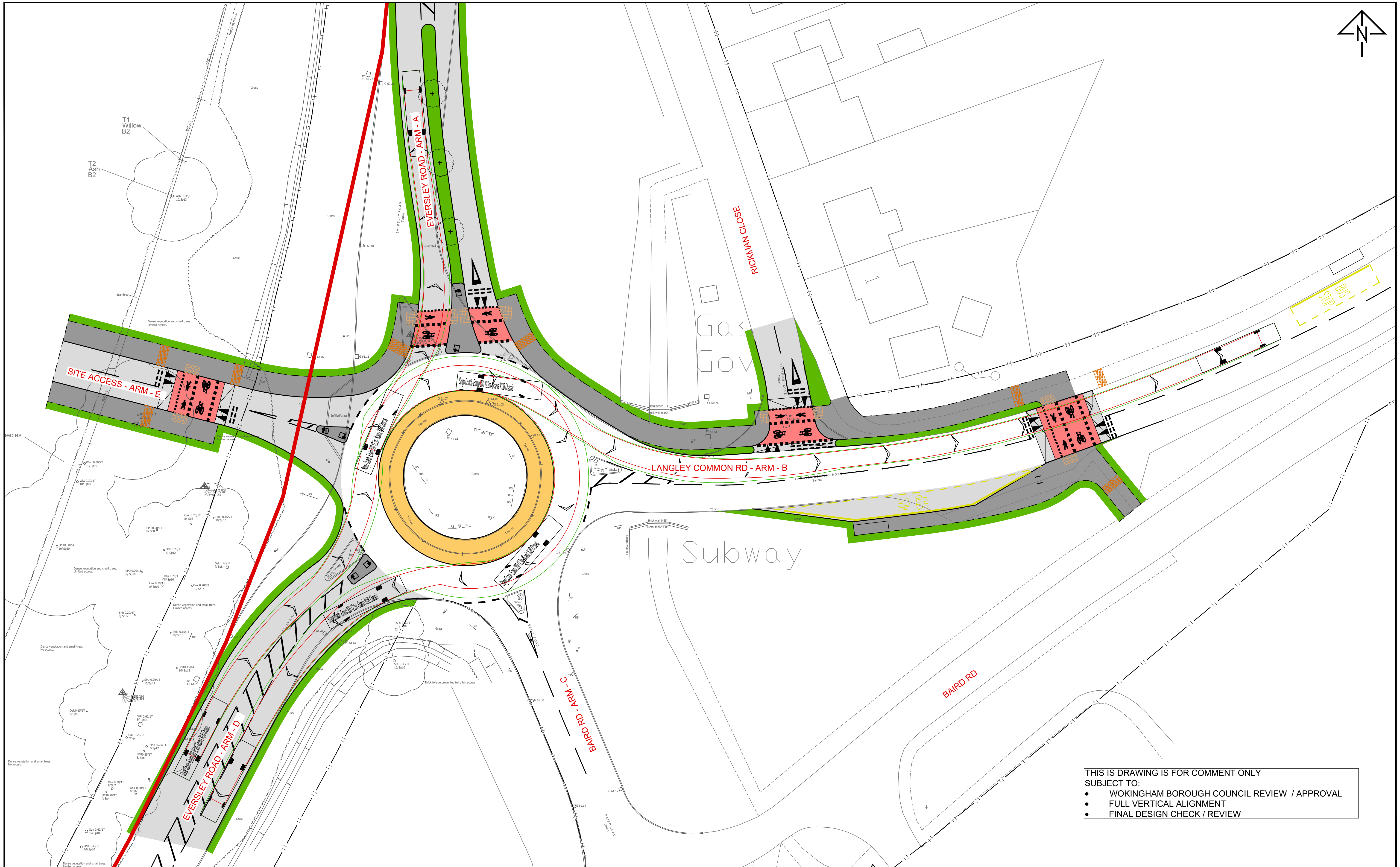
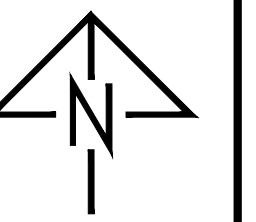
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DRAWING TITLE: EVERSLEY ROAD - ARM - B SWEPT PATH ANALYSIS - STAGECOACH BUS				vectos. PART OF SLR 3rd Floor, Brew House, Jacob Street , Bristol, BS2 0EQ t: 0117 203 5240 e: enquiries@vectos.co.uk	
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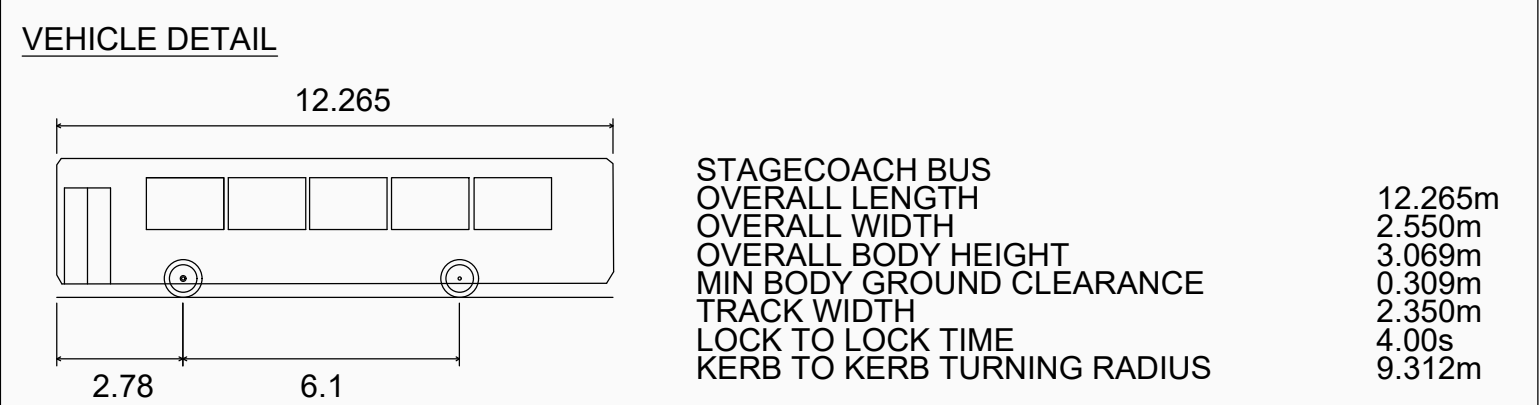
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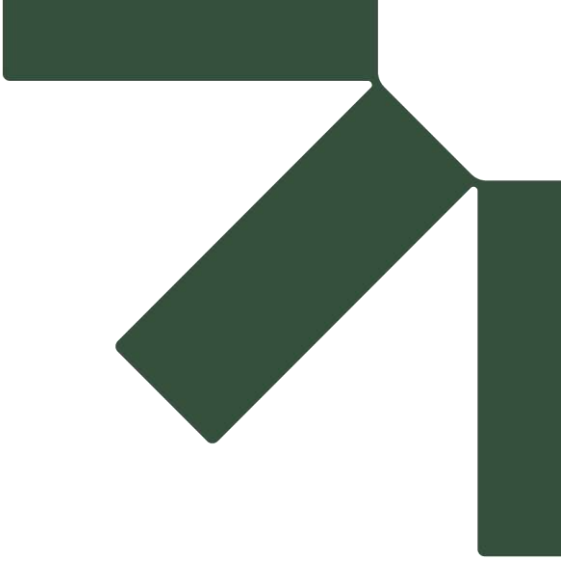
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REV	DETAILS	DRAWN	CHECKED	DATE
A	EVERSLEY ROAD - ARM - A CENTRAL ISLAND LANDSCAPED	SCJ	JB	02/08/23
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KEY
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HIGHWAY BOUNDARY
(INTERPRETED FROM WOKINGHAM
BOROUGH COUNCIL RECORDS)



PROJECT: Ducks Nest Farm, Arborfield				CLIENT: David Wilson Homes (Southern)	
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DRAWING NUMBER: 184395-PD04-AT04.2				REVISION: A	



Appendix G Trip Rate Comparison

Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

27 November 2024

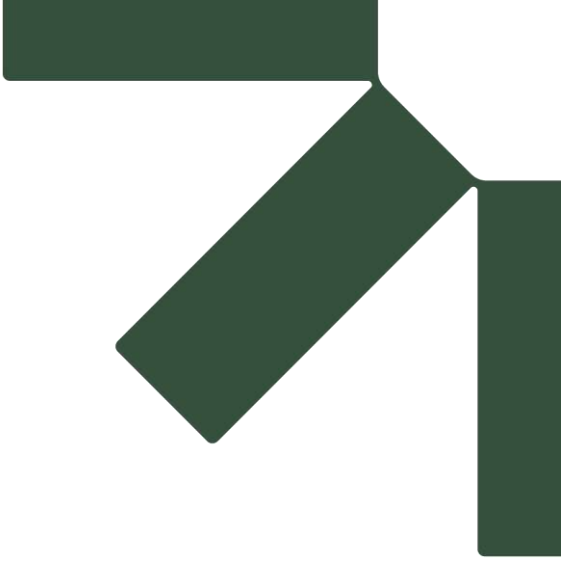
Land at Ducks Nest, Arborfield

Trip Rate Comparison

Dwellings	135
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WSTM Trip Rate Assessment	AM Peak			PM Peak		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Vehicle Trip Rate	0.170	0.410	0.580	0.360	0.160	0.520
Vehicle Trip Generation	23	55	78	49	22	70

TRICS Trip Rate Assessment	AM Peak			PM Peak		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Vehicle Trip Rate	0.137	341	0.478	0.301	0.142	0.443
Vehicle Trip Generation	18	46035	65	41	19	60



Appendix H Distribution Calculations

Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

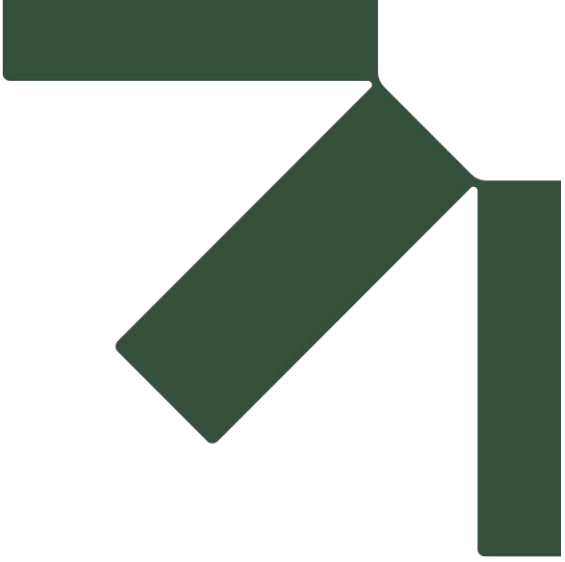
27 November 2024

Place of Work	Number	Proportion	Choice 1	Choice 2	Choice 3
E02003439 : Wokingham 001	15	0.75%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
E02003440 : Wokingham 002	4	0.20%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
E02003441 : Wokingham 003	10	0.50%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
E02003442 : Wokingham 004	6	0.30%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
E02003443 : Wokingham 005	15	0.75%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
E02003444 : Wokingham 006	59	2.95%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
E02003445 : Wokingham 007	5	0.25%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
E02003446 : Wokingham 008	18	0.90%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
E02003447 : Wokingham 009	58	2.90%	Eversley Road (north)	Sindlesham Road (north)	King Street Lane
E02003448 : Wokingham 010	54	2.70%	Eversley Road (north)	Sindlesham Road (north)	King Street Lane
E02003449 : Wokingham 011	8	0.40%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
E02003450 : Wokingham 012	23	1.15%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
E02003451 : Wokingham 013	104	5.21%	Langley Common Road (north)	Barkham Road (north)	Network Exit
E02003452 : Wokingham 014	9	0.45%	Langley Common Road (north)	Barkham Road (north)	Network Exit
E02003453 : Wokingham 015	15	0.75%	Langley Common Road (north)	Barkham Road (north)	Network Exit
E02003454 : Wokingham 016	108	5.41%	Langley Common Road (north)	Barkham Road (north)	Network Exit
E02003455 : Wokingham 017	31	1.55%	Observer Way (north)	A327 (west)	B3349 (south)
E02003456 : Wokingham 018	141	2.35%	Eversley Road (north)	Baird Road (south)	Network Exit
		2.35%	Eversley Road (north)	Eversley Road (north)	Network Exit
		2.35%	Observer Way (north)	Reading Road (east)	Network Exit
		1.25%	Eversley Road (south)	A327 (south)	B3348 (east)
E02003457 : Wokingham 019	25	1.25%	Eversley Road (south)	A327 (south)	B3348 (east)
E02003458 : Wokingham 020	29	1.45%	Eversley Road (south)	A327 (south)	B3348 (east)
Aylesbury Vale	4	0.20%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Basingstoke and Deane	45	1.13%	Observer Way (north)	Swallowfield Road (west)	Church Road (west)
		0.56%	Eversley Road (south)	A327 (south)	A30 (west)
		0.56%	Eversley Road (south)	A327 (south)	Bramshill Road (west)
Bracknell Forest	231	11.56%	Eversley Road (north)	Sindlesham Road (north)	50/50 Mill Lane / King Street
Cherwell	2	0.10%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Chiltern	2	0.10%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Crawley	1	0.05%	Eversley Road (south)	A327 (south)	A30 (east)
East Hampshire	4	0.20%	Eversley Road (south)	A327 (south)	A30 (west)
Eastleigh	1	0.03%	Eversley Road (south)	A327 (south)	A30 (west)
		0.03%	Eversley Road (south)	A327 (south)	Bramshill Road (west)
Elmbridge	9	0.23%	Eversley Road (south)	A327 (south)	A30 (east)
		0.23%	Langley Common Road (north)	Barkham Ride (north)	Barkham Ride (south)
Epsom and Ewell	1	0.05%	Eversley Road (south)	A327 (south)	A30 (east)
Fareham	1	0.05%	Eversley Road (south)	A327 (south)	A30 (west)
Guildford	19	0.95%	Eversley Road (south)	A327 (south)	A30 (east)
Hart	94	2.35%	Eversley Road (south)	A327 (south)	A30 (west)
		2.35%	Eversley Road (south)	A327 (south)	Bramshill Road (west)
Mid Sussex	1	0.05%	Eversley Road (south)	A327 (south)	A30 (east)
Milton Keynes	1	0.05%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Mole Valley	4	0.10%	Eversley Road (south)	A327 (south)	A30 (east)
		0.10%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Oxford	1	0.05%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
Reading	251	12.56%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
Reigate and Banstead	1	0.05%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
Runnymede	22	0.55%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
		0.55%	Eversley Road (south)	A327 (south)	A30 (east)
Rushmoor	41	1.03%	Eversley Road (south)	A327 (south)	A30 (east)
		1.03%	Eversley Road (south)	A327 (south)	Blackbushes Road (south)
Sevenoaks	1	0.05%	Eversley Road (south)	A327 (south)	A30 (east)
Slough	55	1.38%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
		1.38%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
South Bucks	10	0.50%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
South Oxfordshire	17	0.43%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
		0.43%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Spelthorne	7	0.35%	Langley Common Road (north)	Barkham Road (north)	Barkham Ride (south)
Surrey Heath	39	1.95%	Eversley Road (south)	A327 (south)	A30 (east)
Test Valley	5	0.13%	Eversley Road (south)	A327 (south)	A30 (west)
		0.13%	Eversley Road (south)	A327 (south)	Bramshill Road (west)
Vale of White Horse	12	0.60%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
Waverley	9	0.45%	Eversley Road (south)	A327 (south)	A30 (east)
Wealden	1	0.05%	Eversley Road (south)	A327 (south)	A30 (east)
West Berkshire	88	4.40%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
West Oxfordshire	1	0.05%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
Winchester	1	0.03%	Eversley Road (south)	A327 (south)	A30 (west)
		0.03%	Eversley Road (south)	A327 (south)	Bramshill Road (west)
Windsor and Maidenhead	86	4.30%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Woking	3	0.15%	Eversley Road (south)	A327 (south)	A30 (east)
Wycombe	34	1.70%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
North West	1	0.05%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
Yorkshire and The Humber	8	0.40%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
East Midlands	3	0.15%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
West Midlands	5	0.25%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
East	14	0.70%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
London	104	5.21%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
South West	19	0.95%	Observer Way (north)	A327 (west)	Eastern Relief Road (north)
Scotland	2	0.10%	Eversley Road (north)	Sindlesham Road (north)	Mill Lane
TOTAL	1,998	100.00%			

Choice 1	Proportion
Observer Way (north)	32%
Eversley Road (north)	40%
Langley Common Road (north)	12%
Eversley Road (south)	16%

Choice 2	Proportion
A327 (west)	28%
Sindlesham Road (north)	35%
A327 (south)	16%
Barkham Road (north)	12%
Baird Road (south)	2%
Swallowfield Road (west)	1%
Eversley Road (north)	2%
Reading Road (east)	2%

Choice 3	Proportion
Eastern Relief Road (north)	27%
B3349 (south)	2%
Church Road (west)	1%
Barkham Ride (south)	1%
A30 (east)	6%
A30 (west)	3%
B3348 (east)	3%
Bramshill Road (west)	3%
Blackbushes Road (south)	1%
Mill Lane	24%
King Street Lane	11%



Appendix I Traffic Flow Diagrams

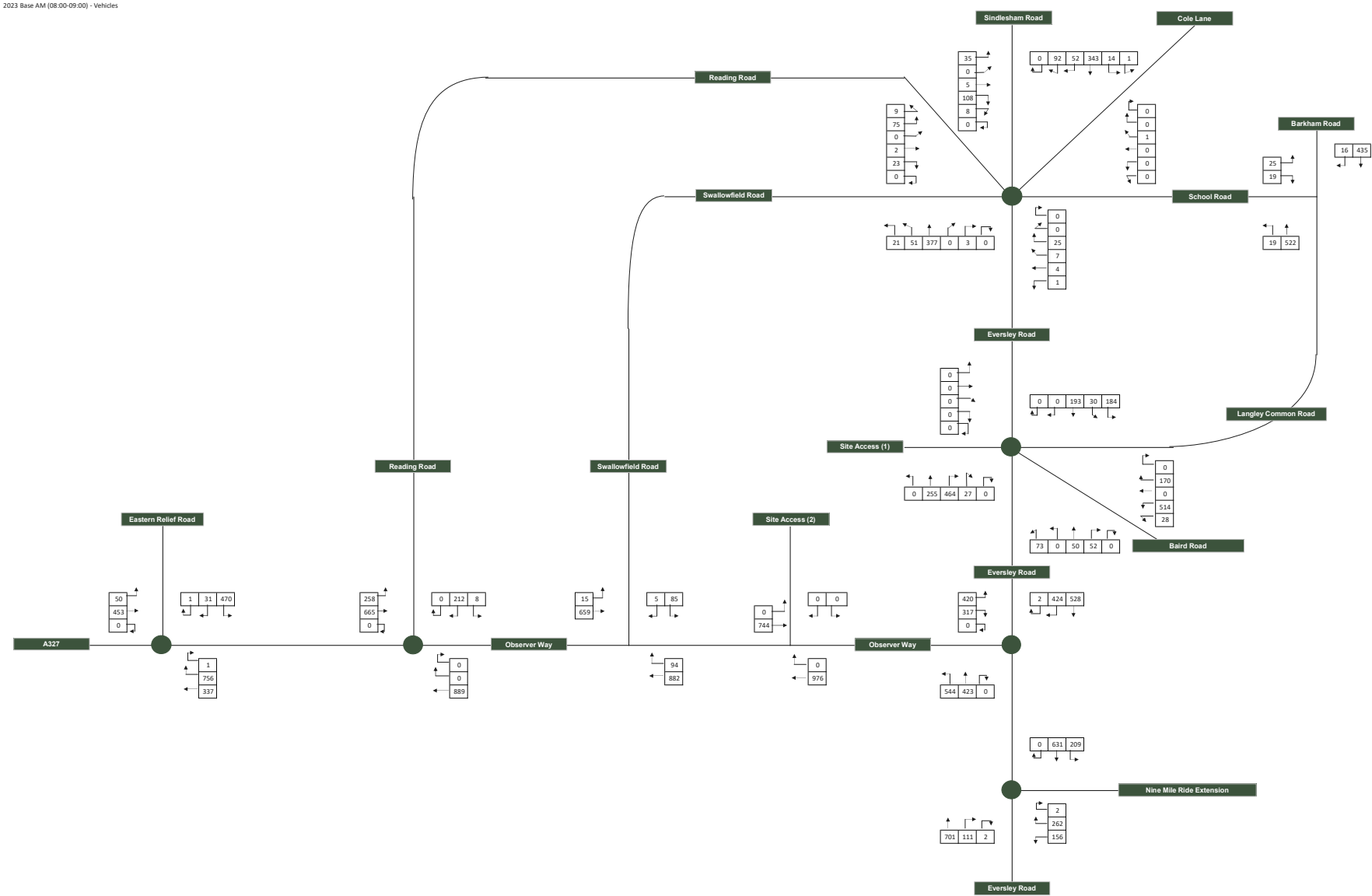
Transport Assessment

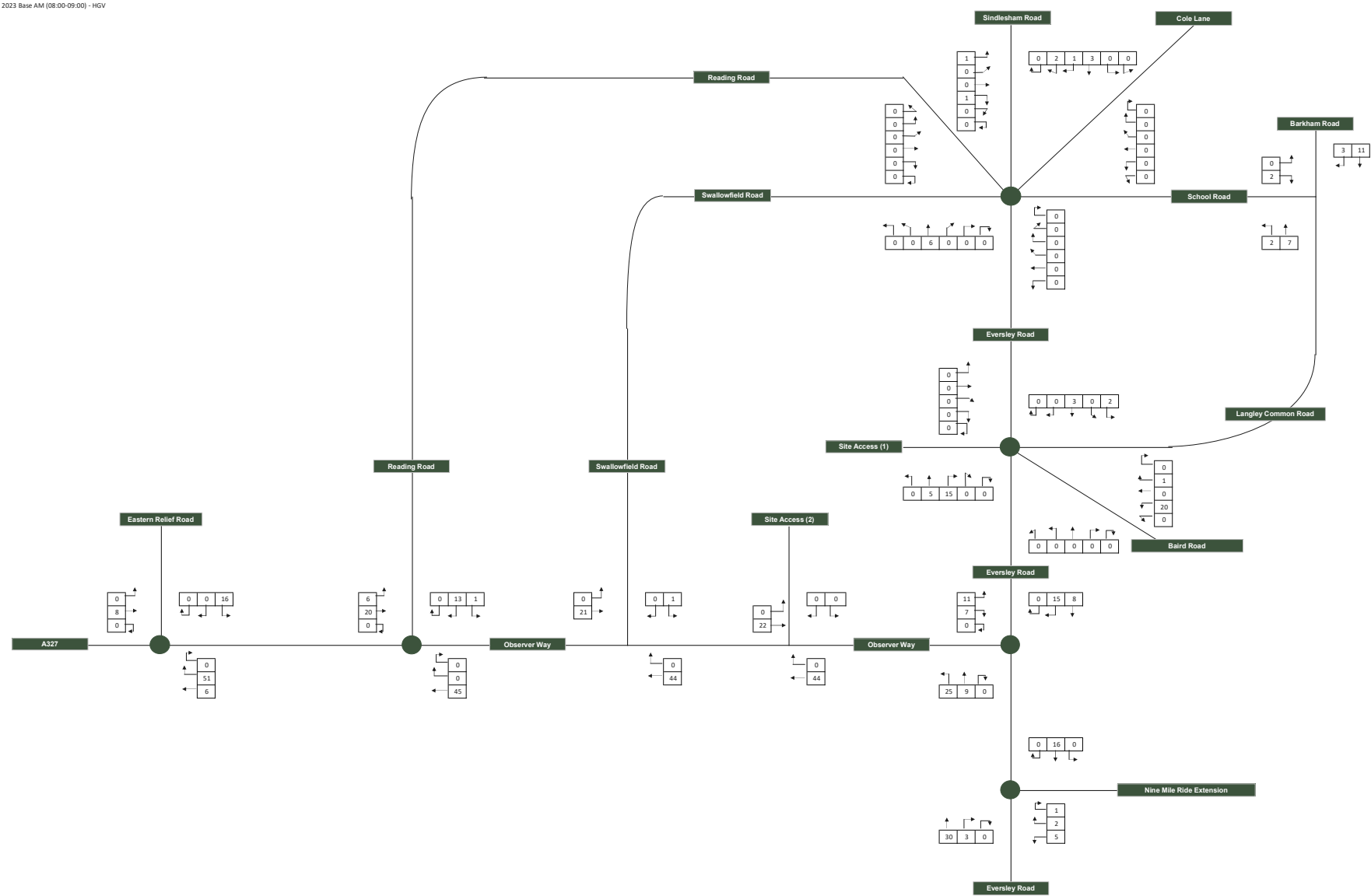
Land at Ducks Nest, Arborfield

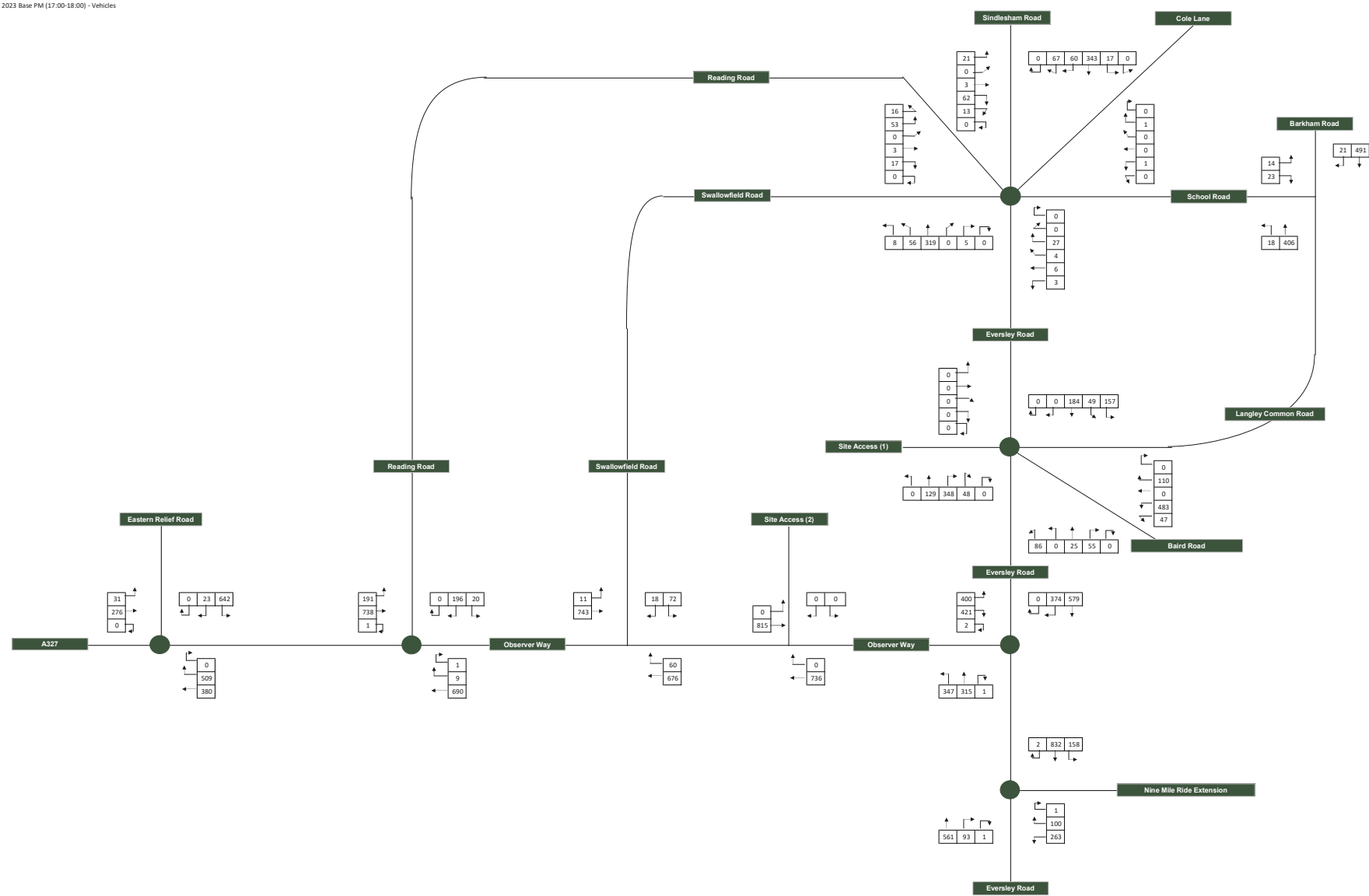
David Wilson Homes (Southern)

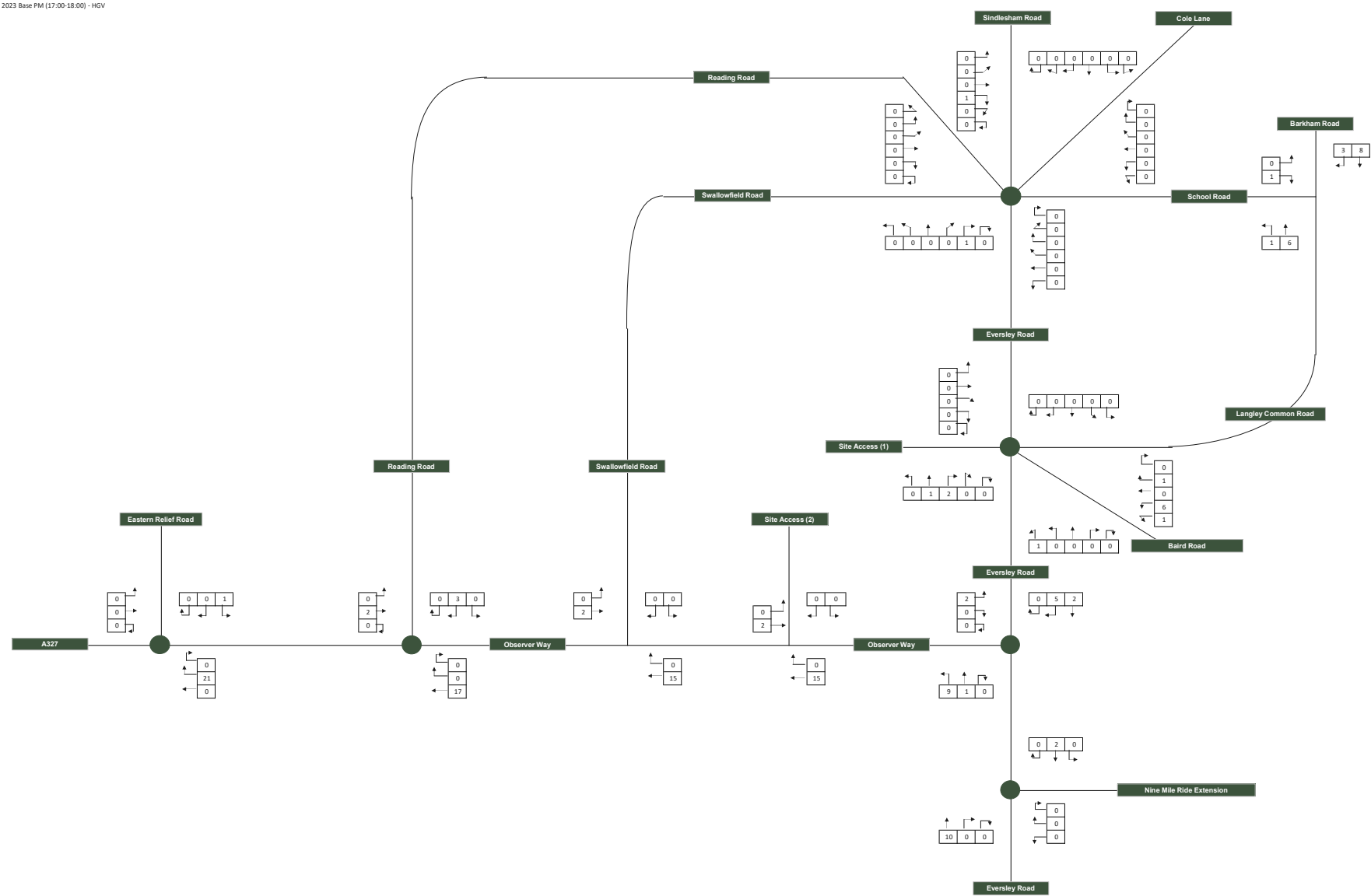
SLR Project No.: 184395

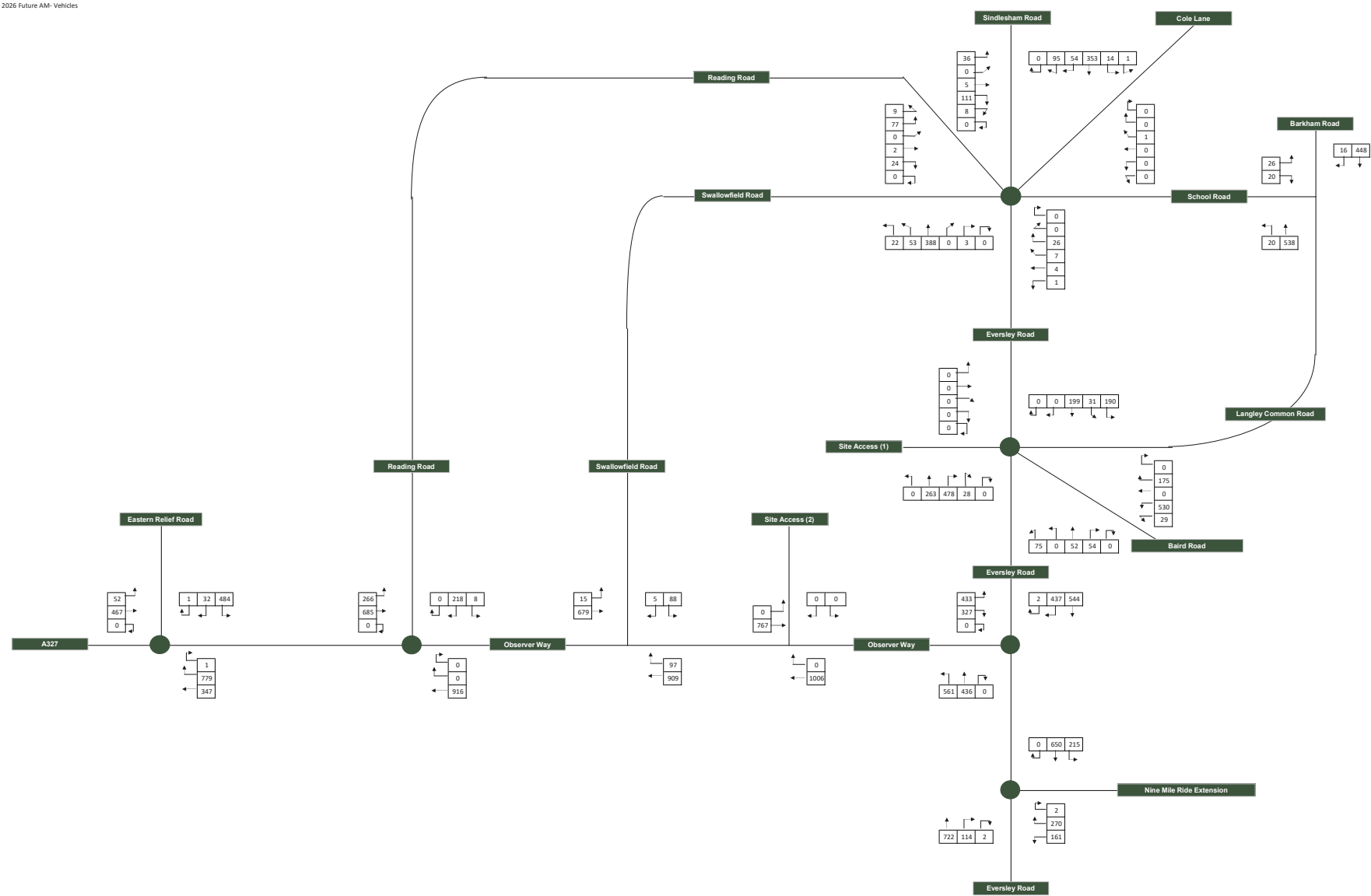
27 November 2024

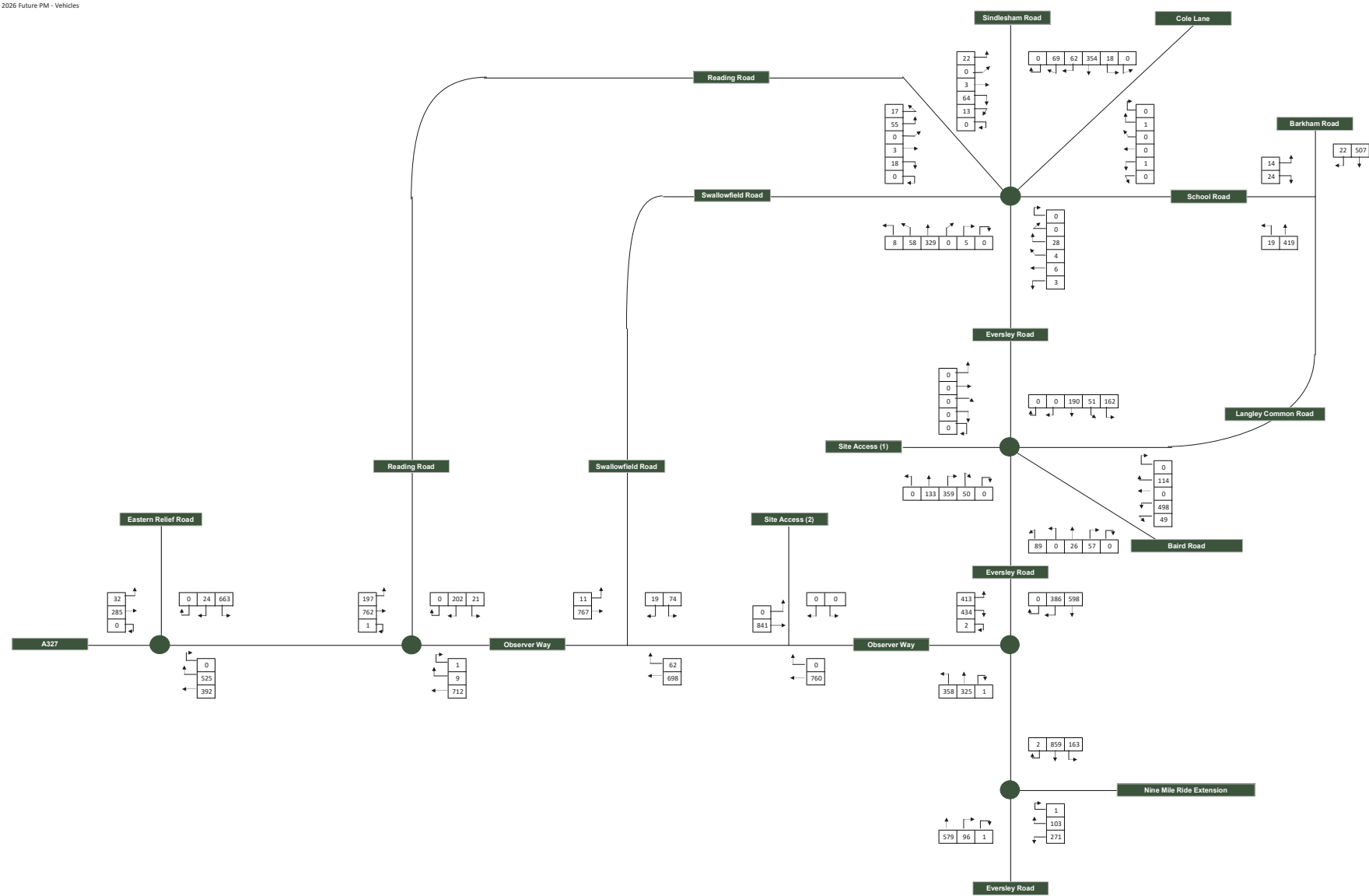


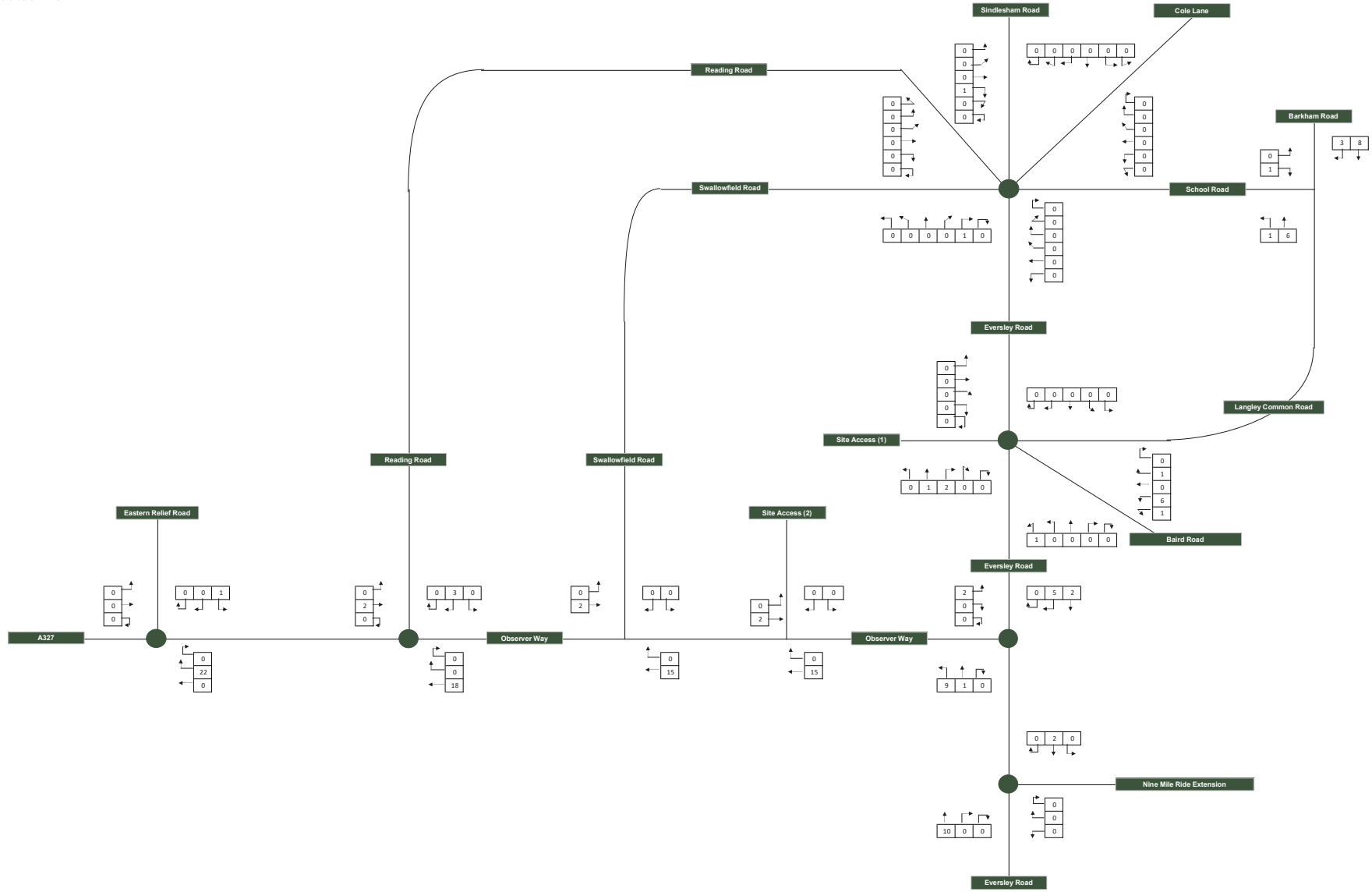


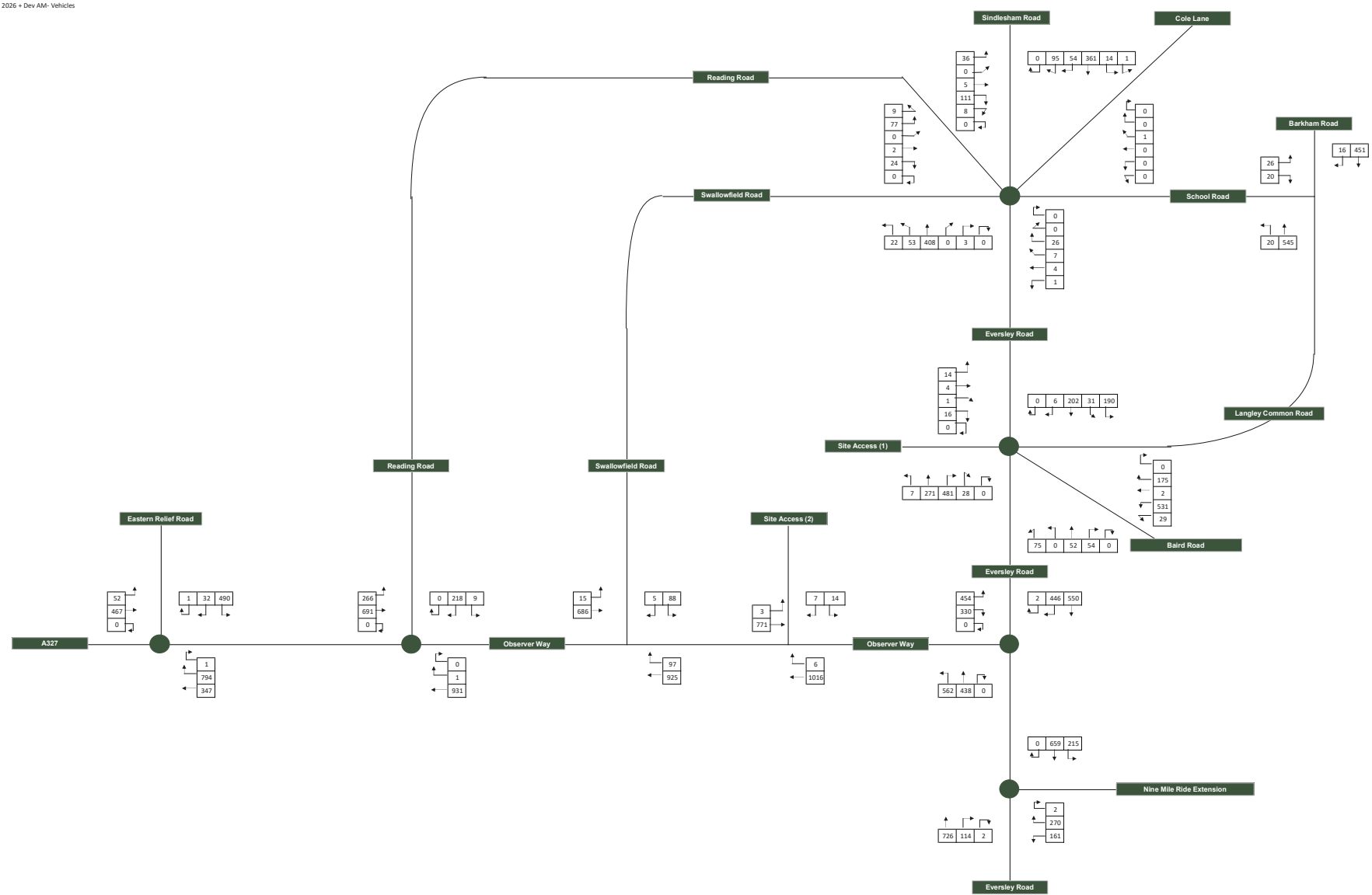


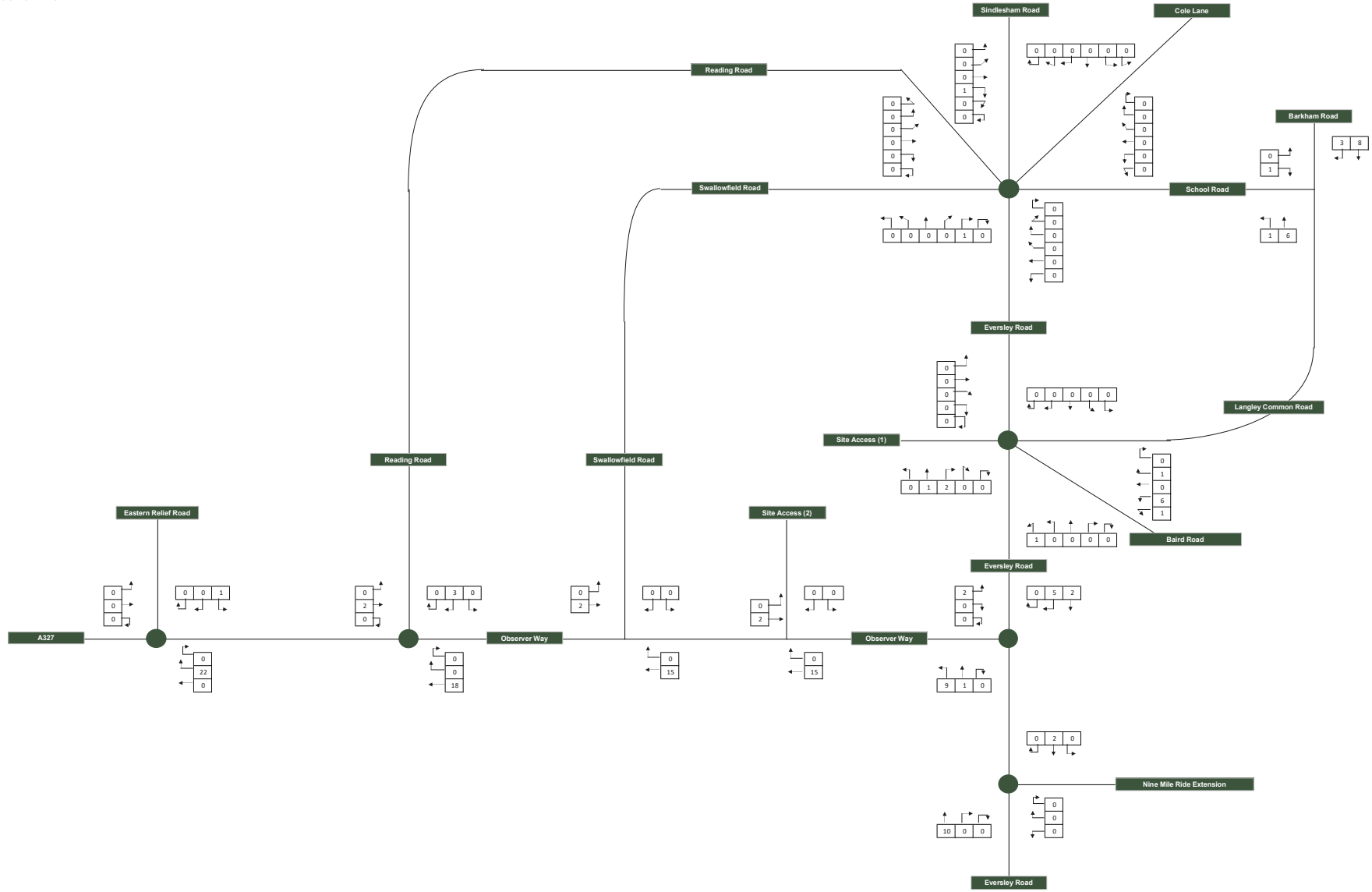


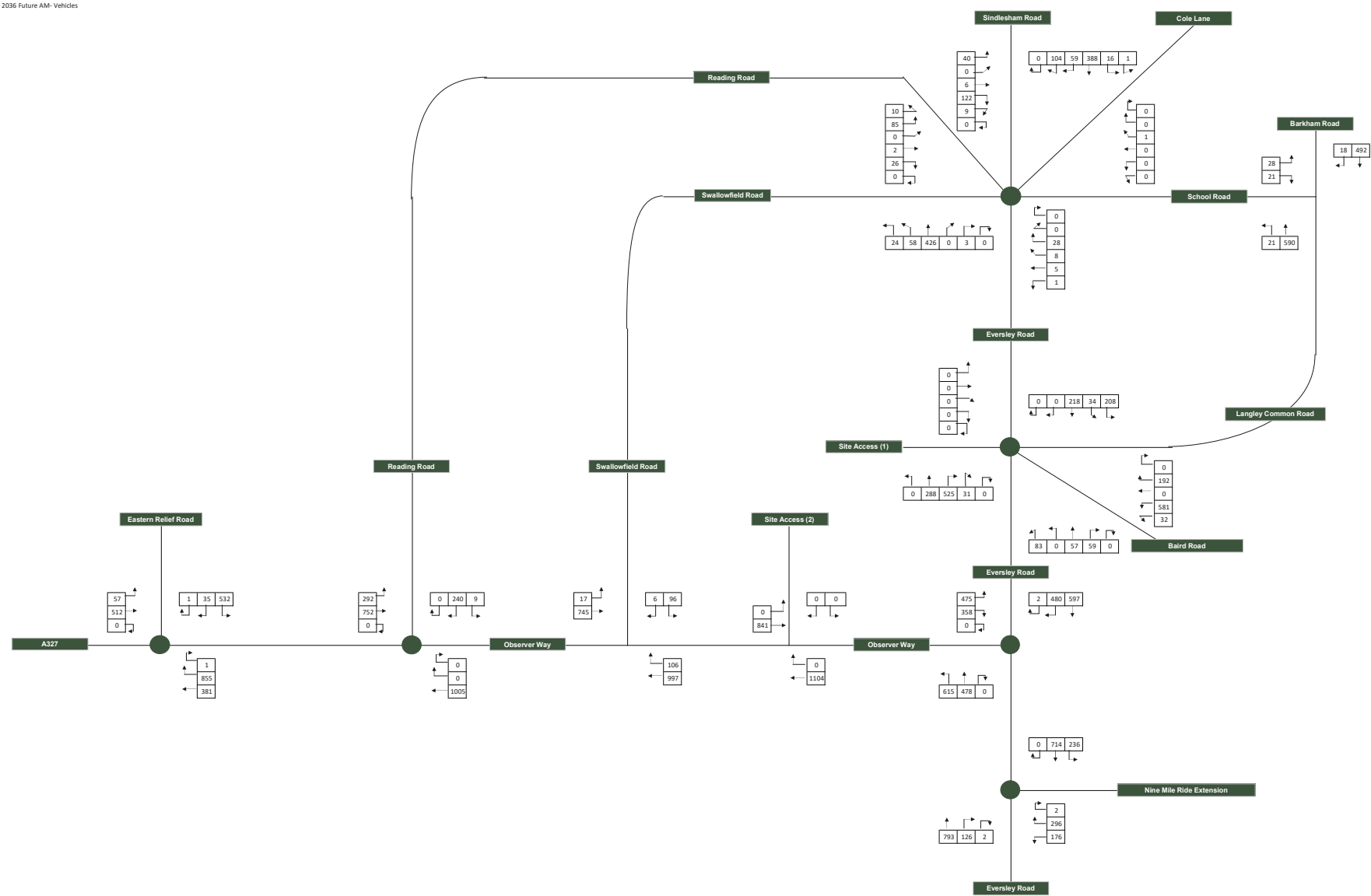


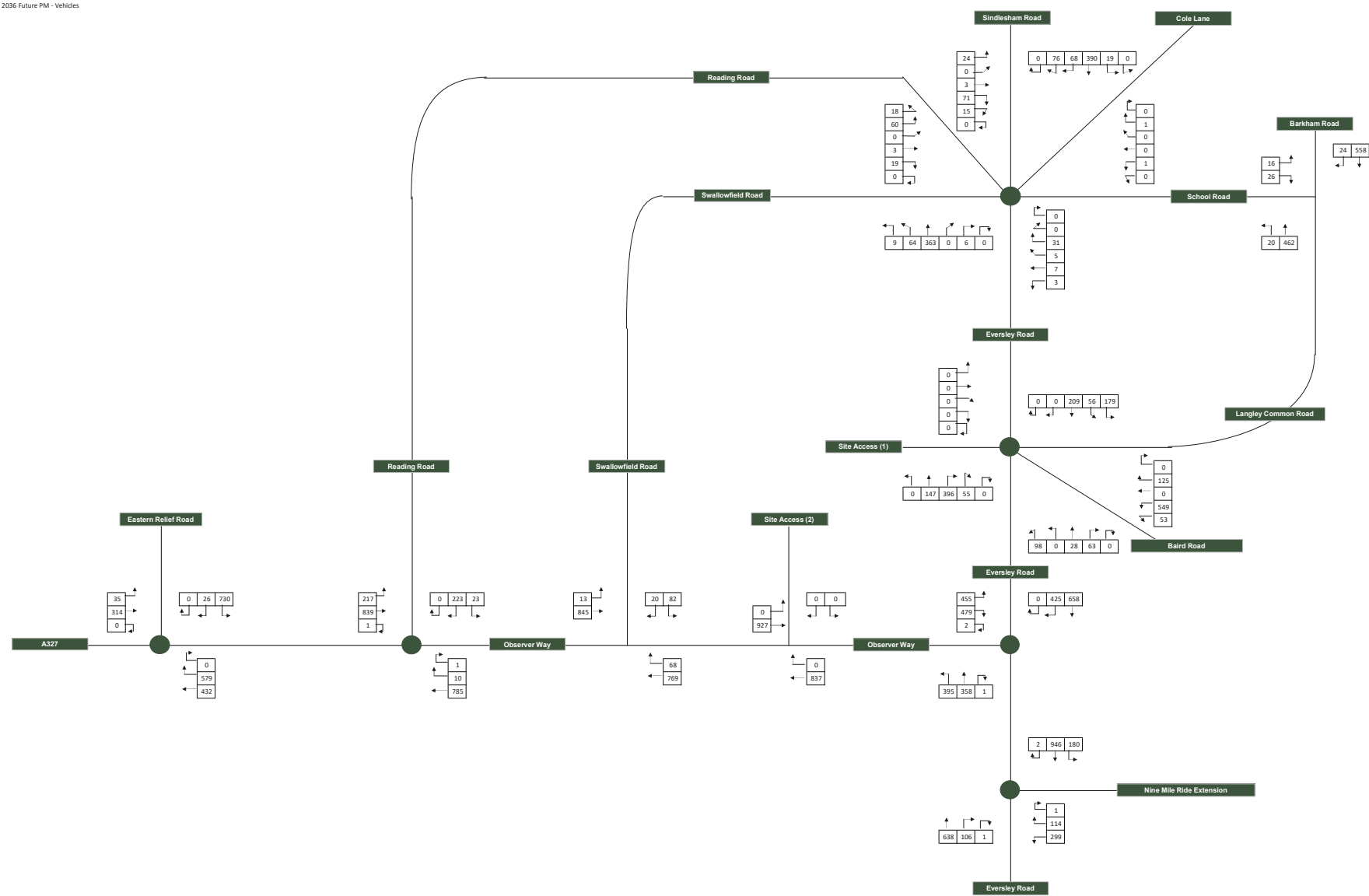


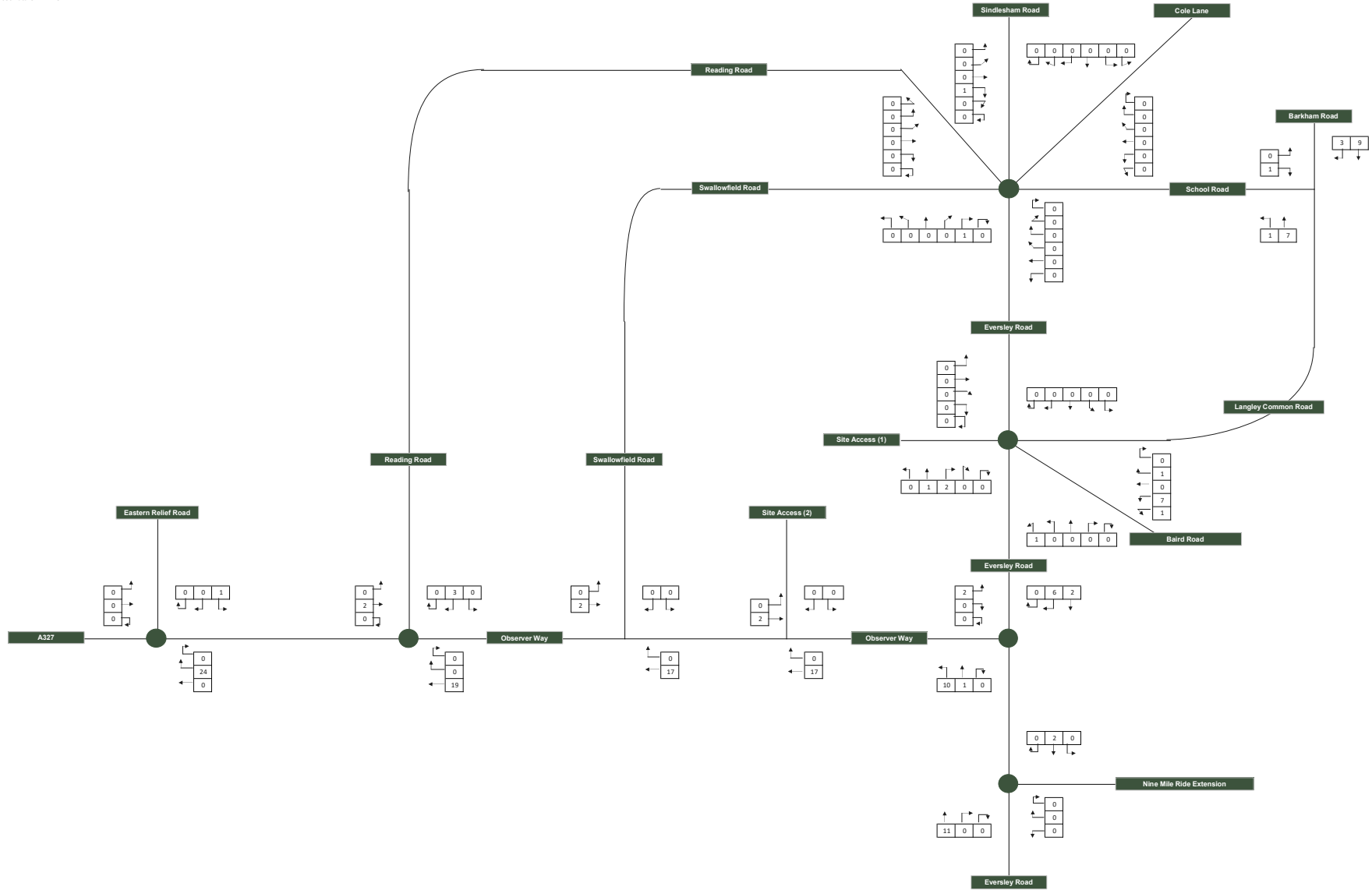


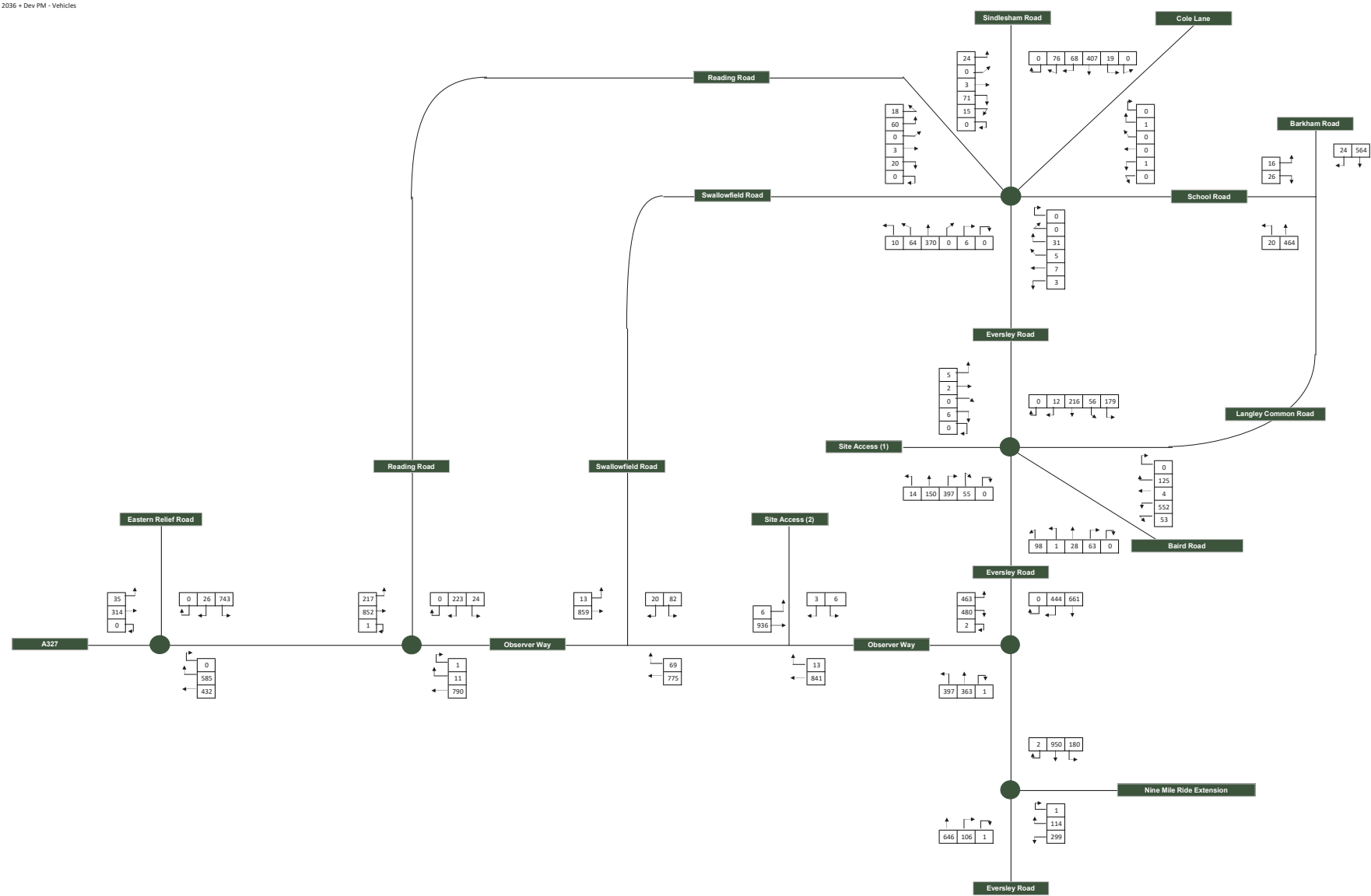


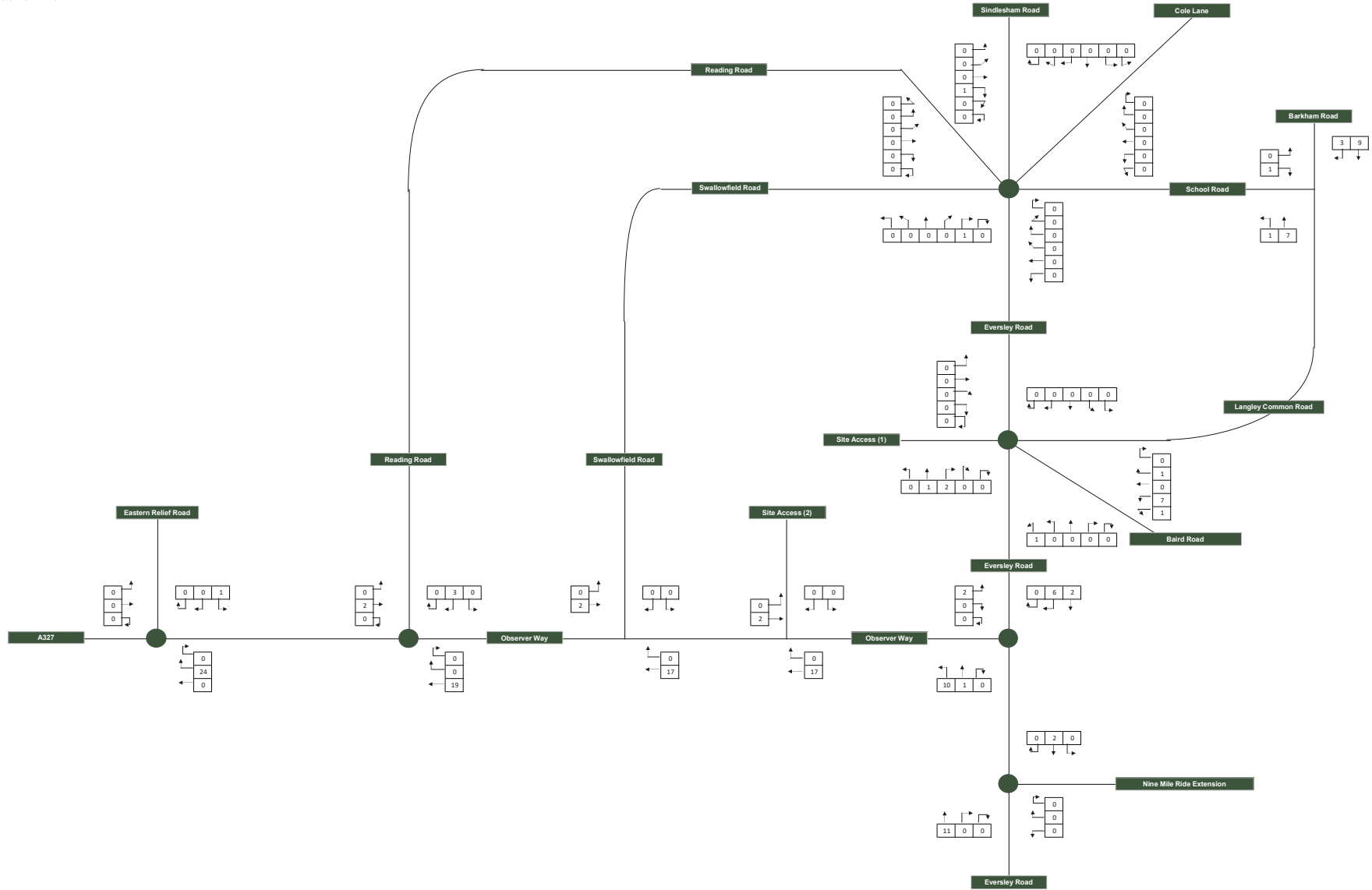


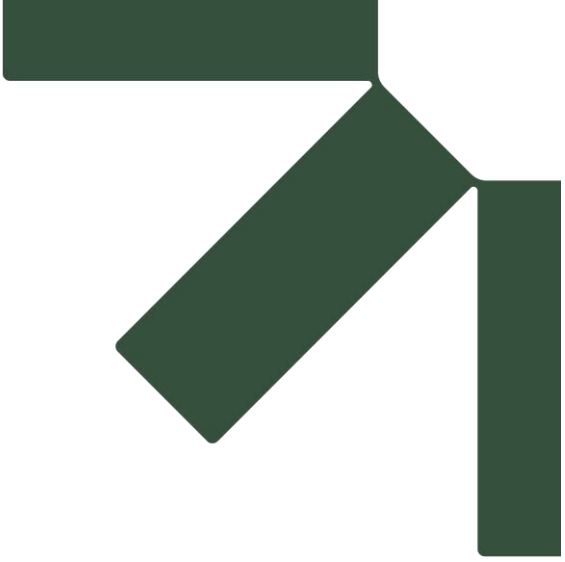












Appendix J WSTM Modelling Outputs

Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

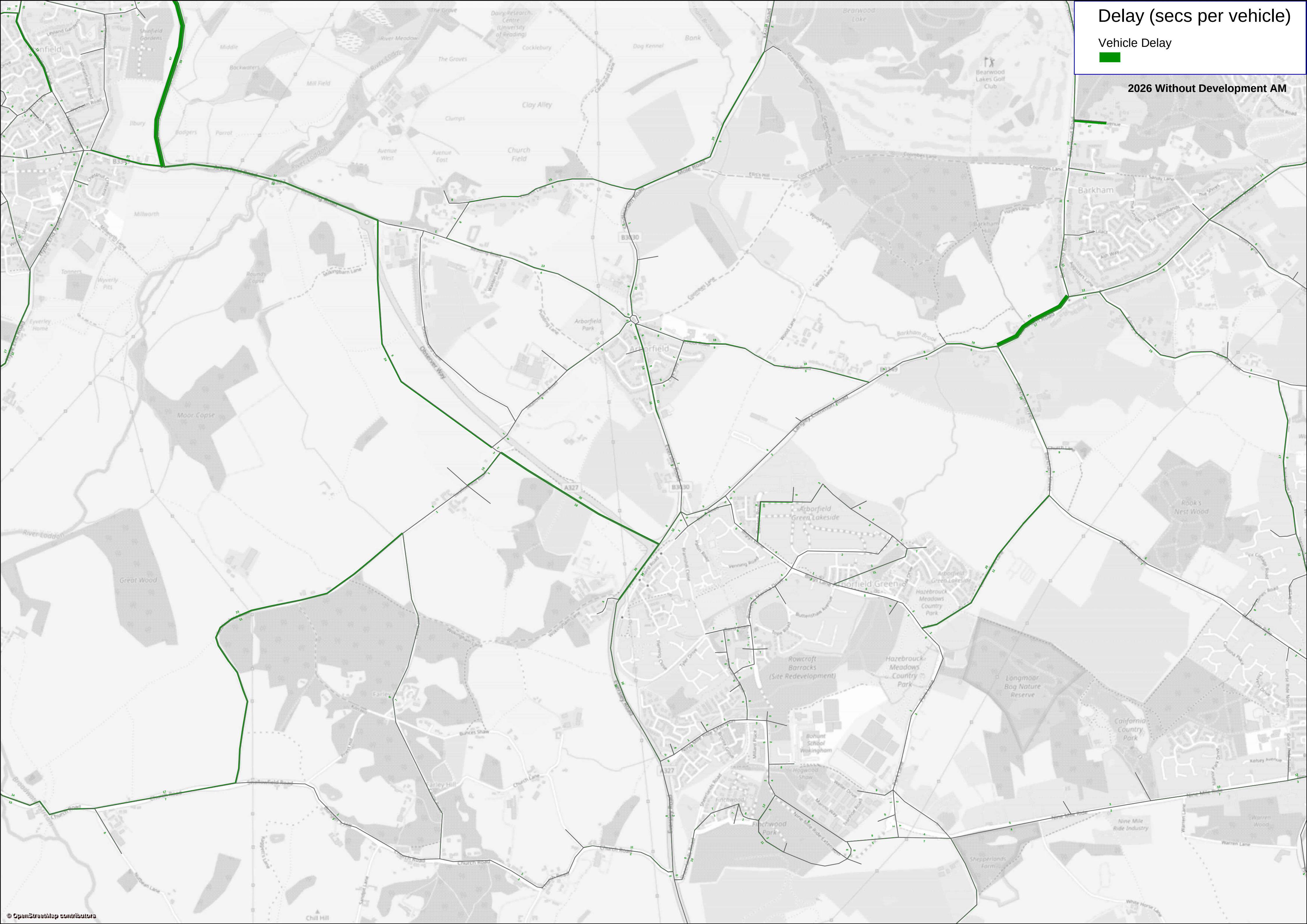
27 November 2024

Delay (secs per vehicle)

Vehicle Delay



2026 Without Development AM

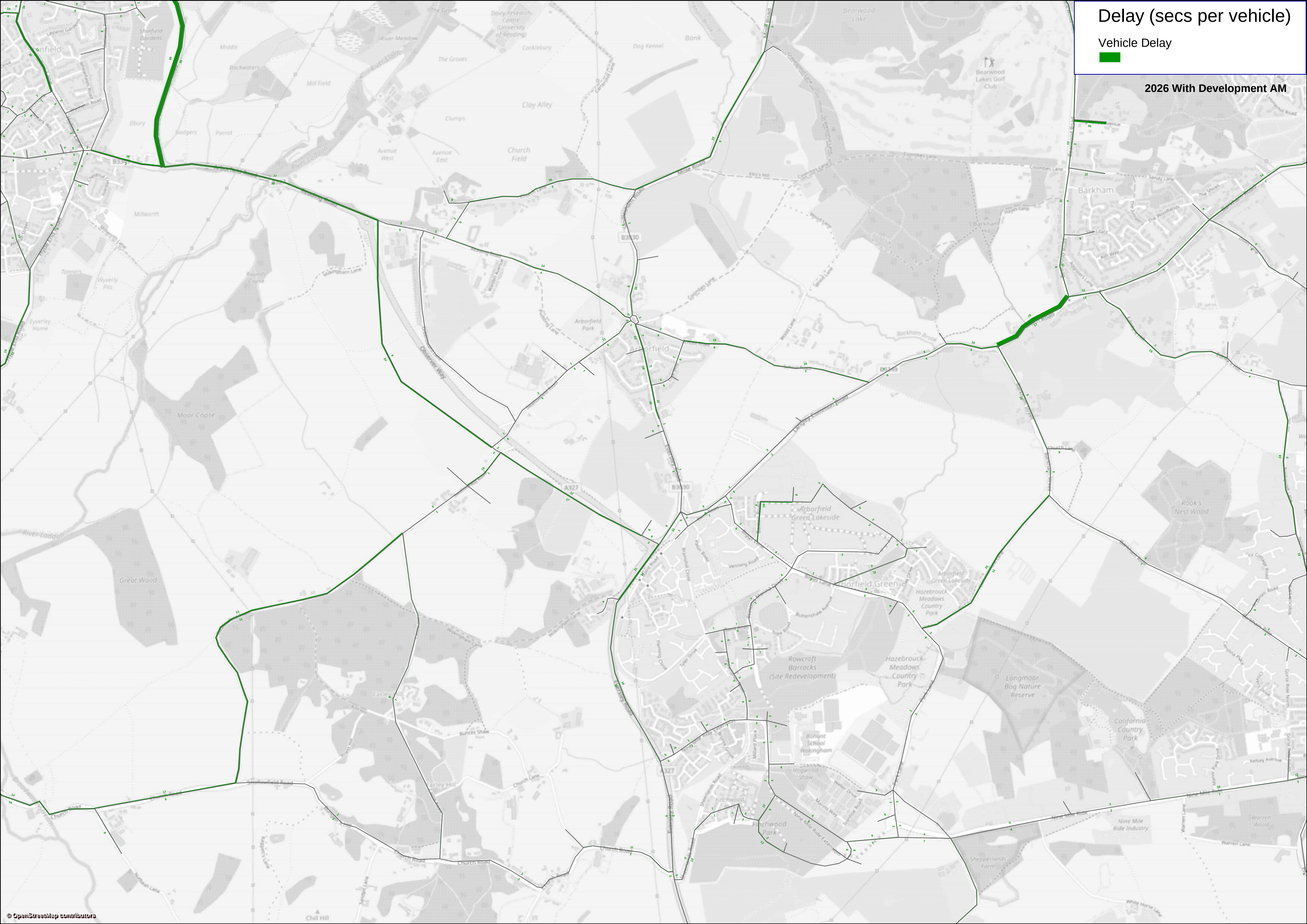


Delay (secs per vehicle)

Vehicle Delay



2026 With Development AM

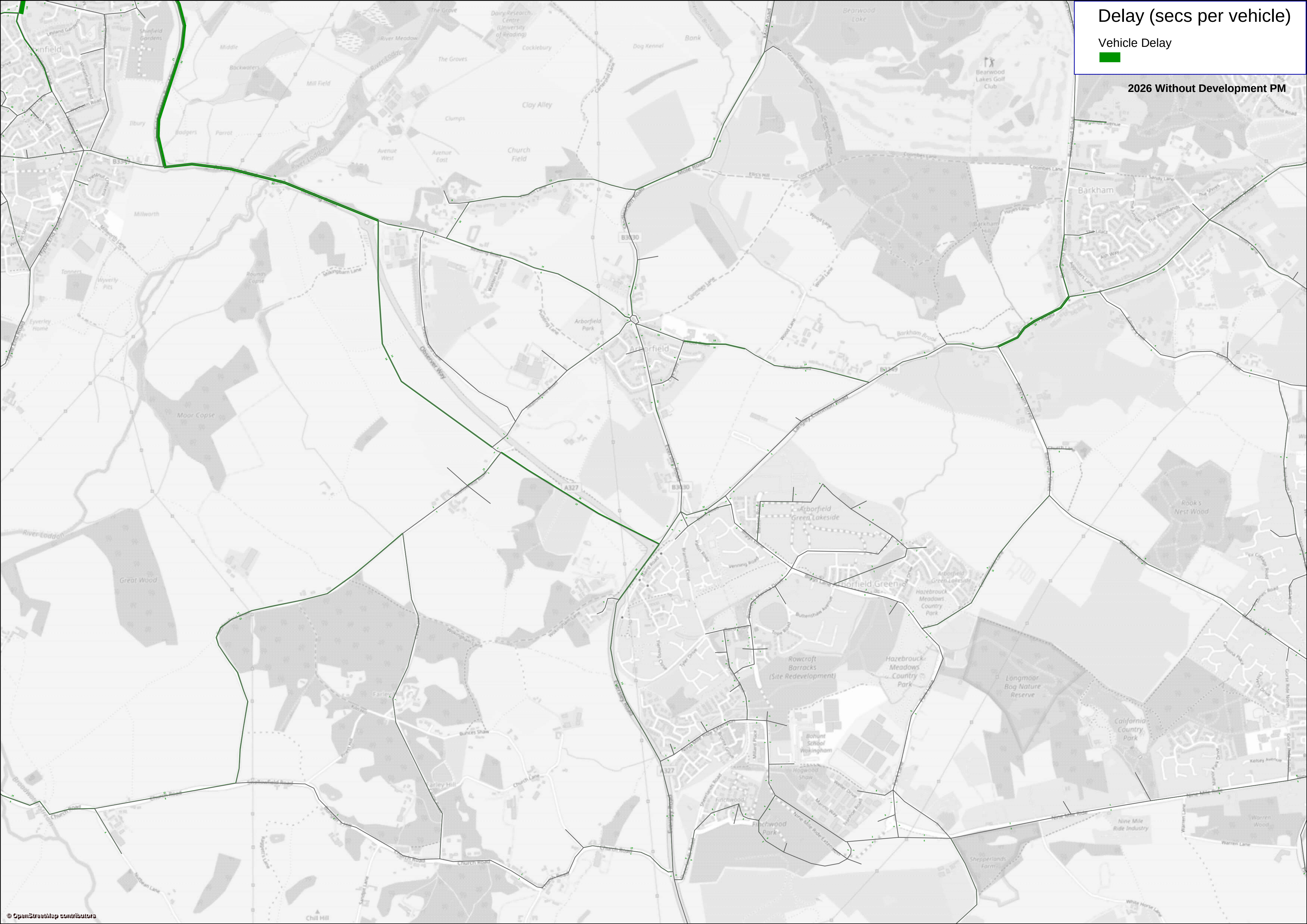


Delay (secs per vehicle)

Vehicle Delay



2026 Without Development PM

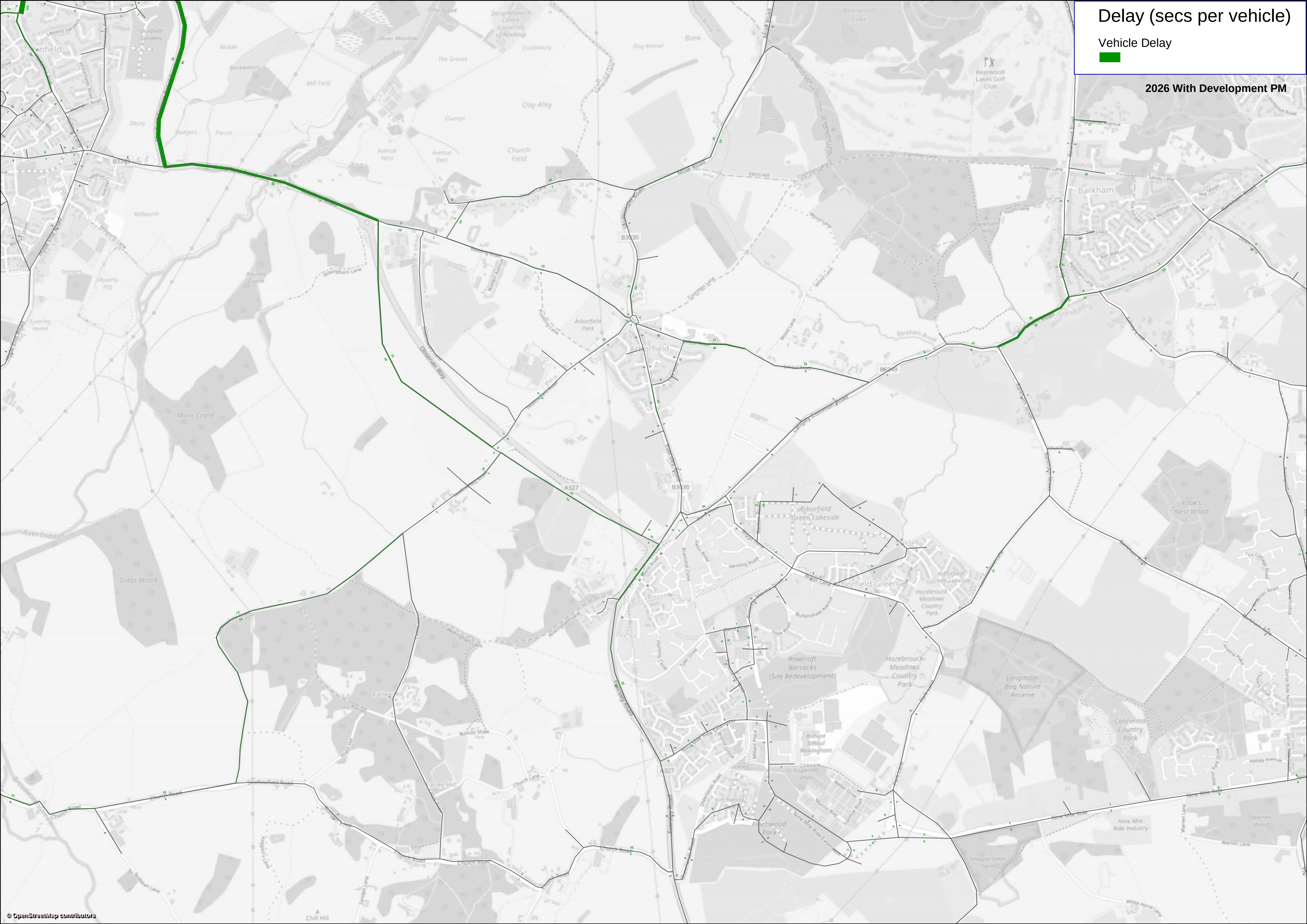


Delay (secs per vehicle)

Vehicle Delay



2026 With Development PM

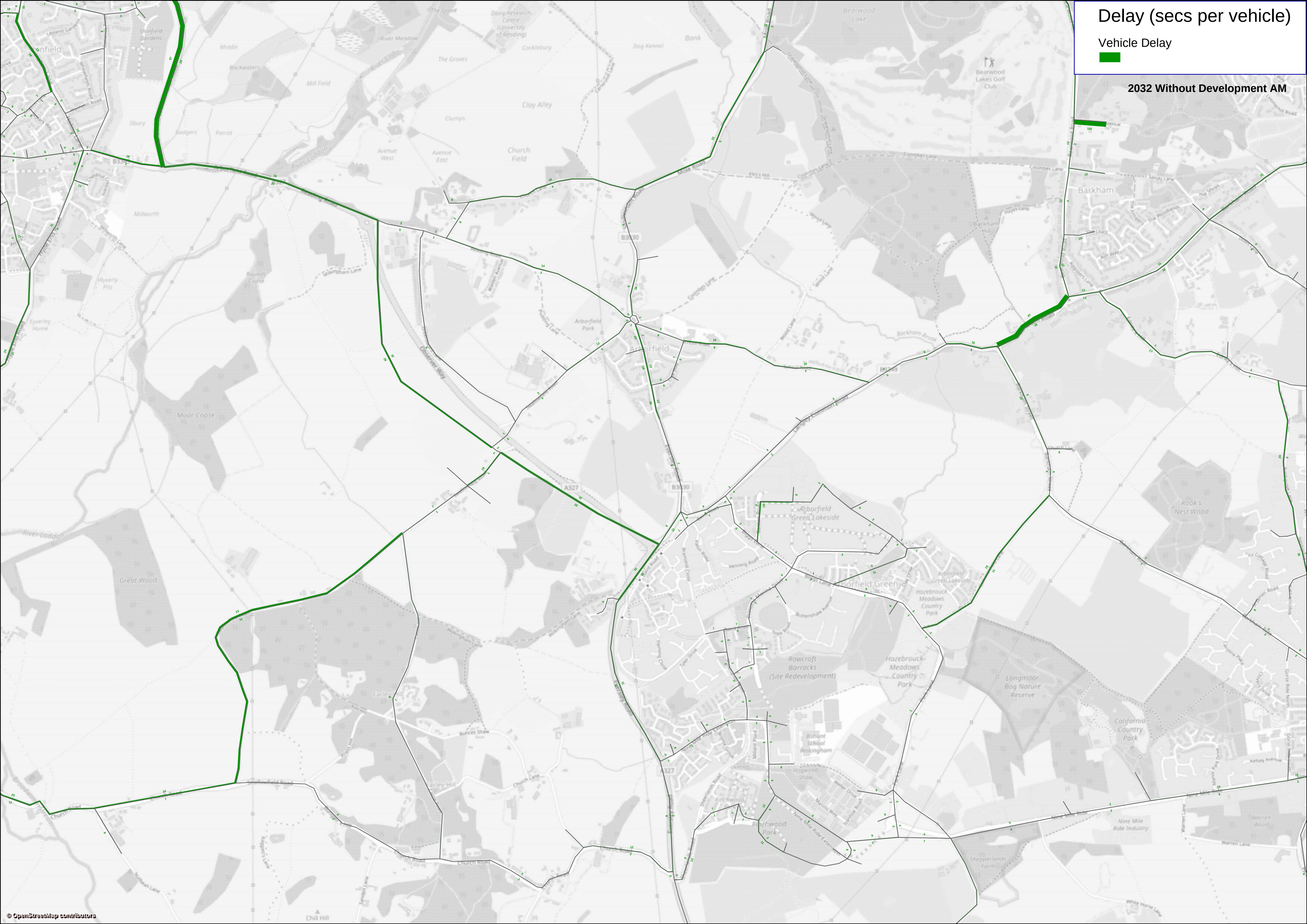


Delay (secs per vehicle)

Vehicle Delay



2032 Without Development AM

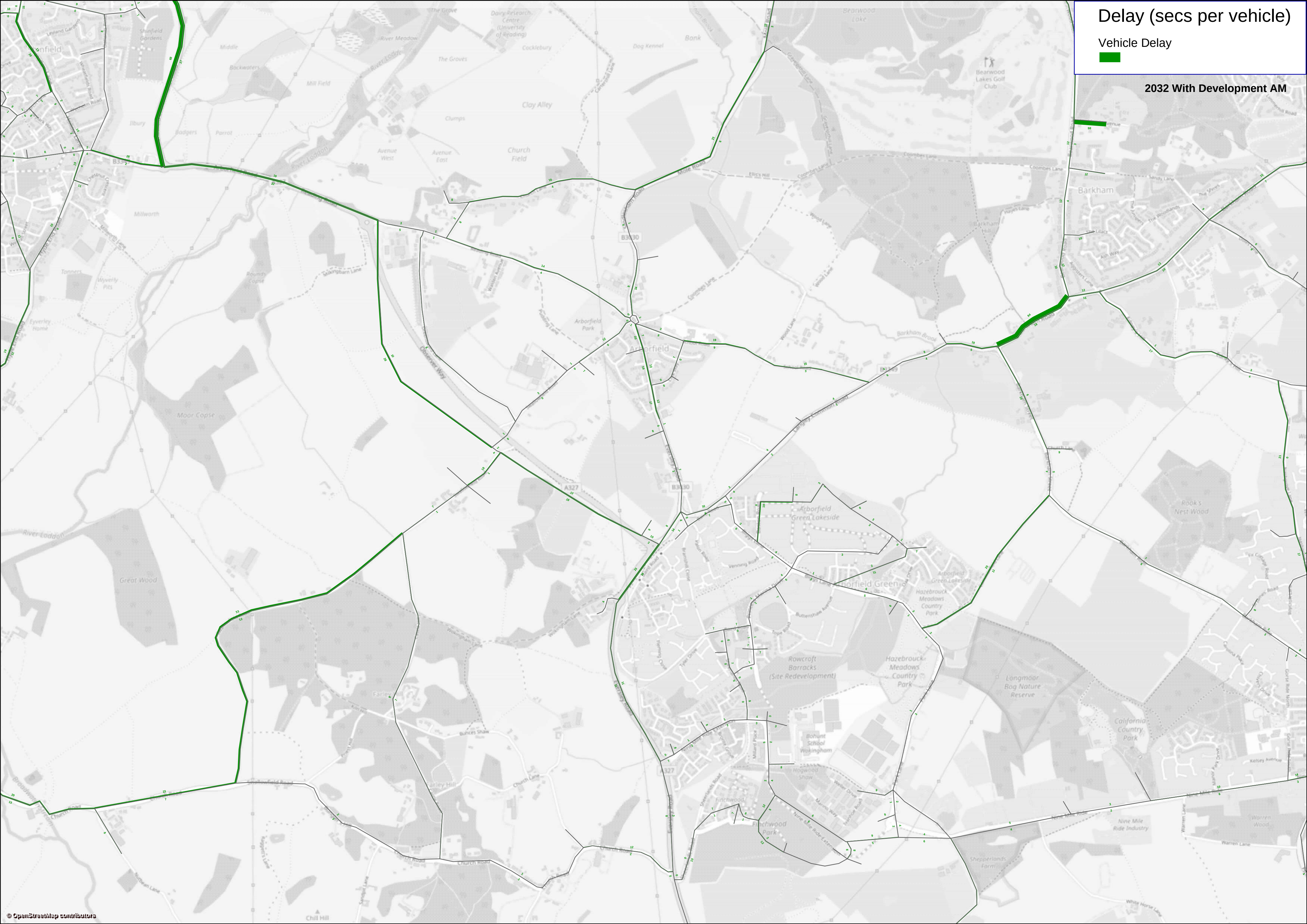


Delay (secs per vehicle)

Vehicle Delay



2032 With Development AM

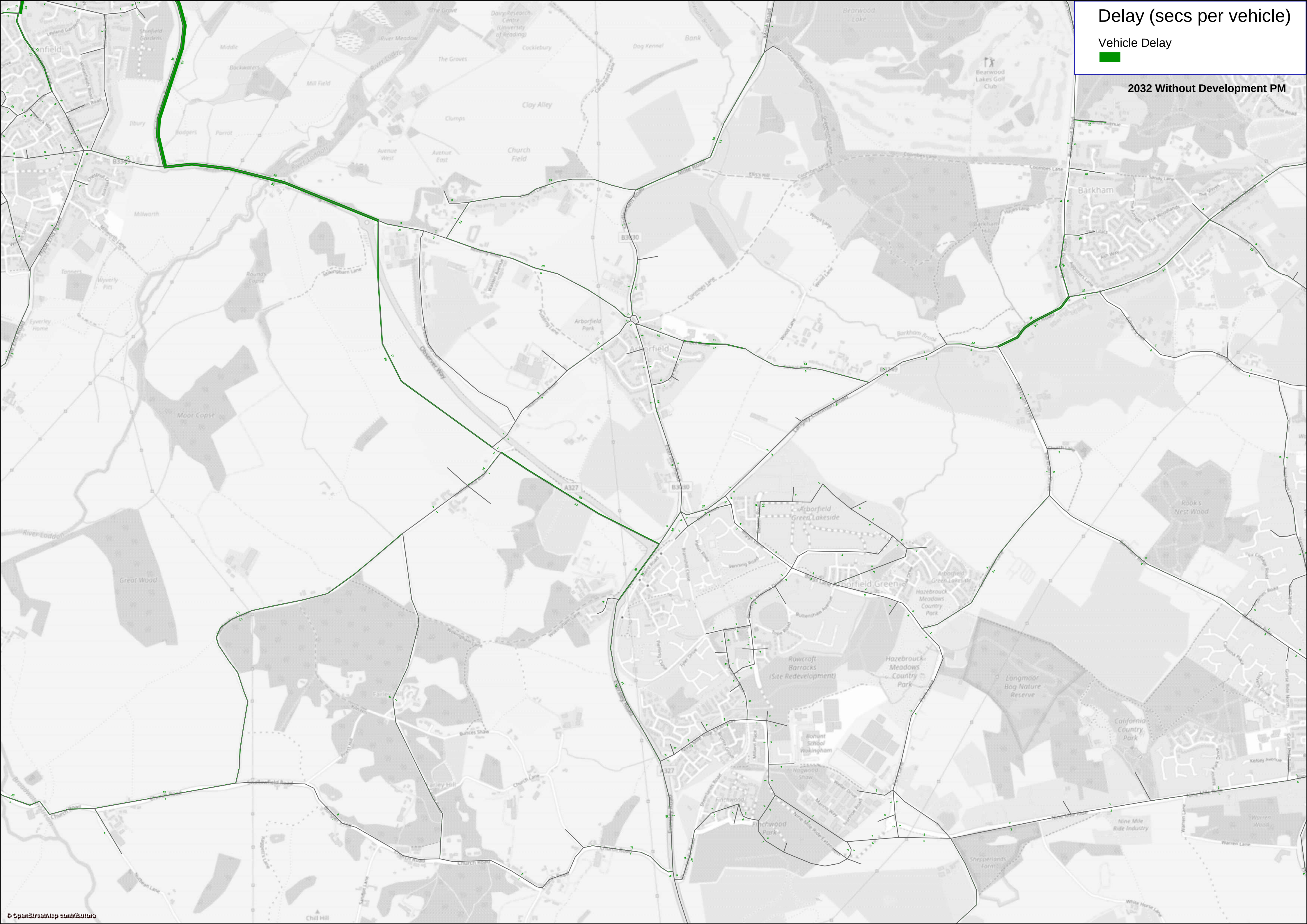


Delay (secs per vehicle)

Vehicle Delay



2032 Without Development PM

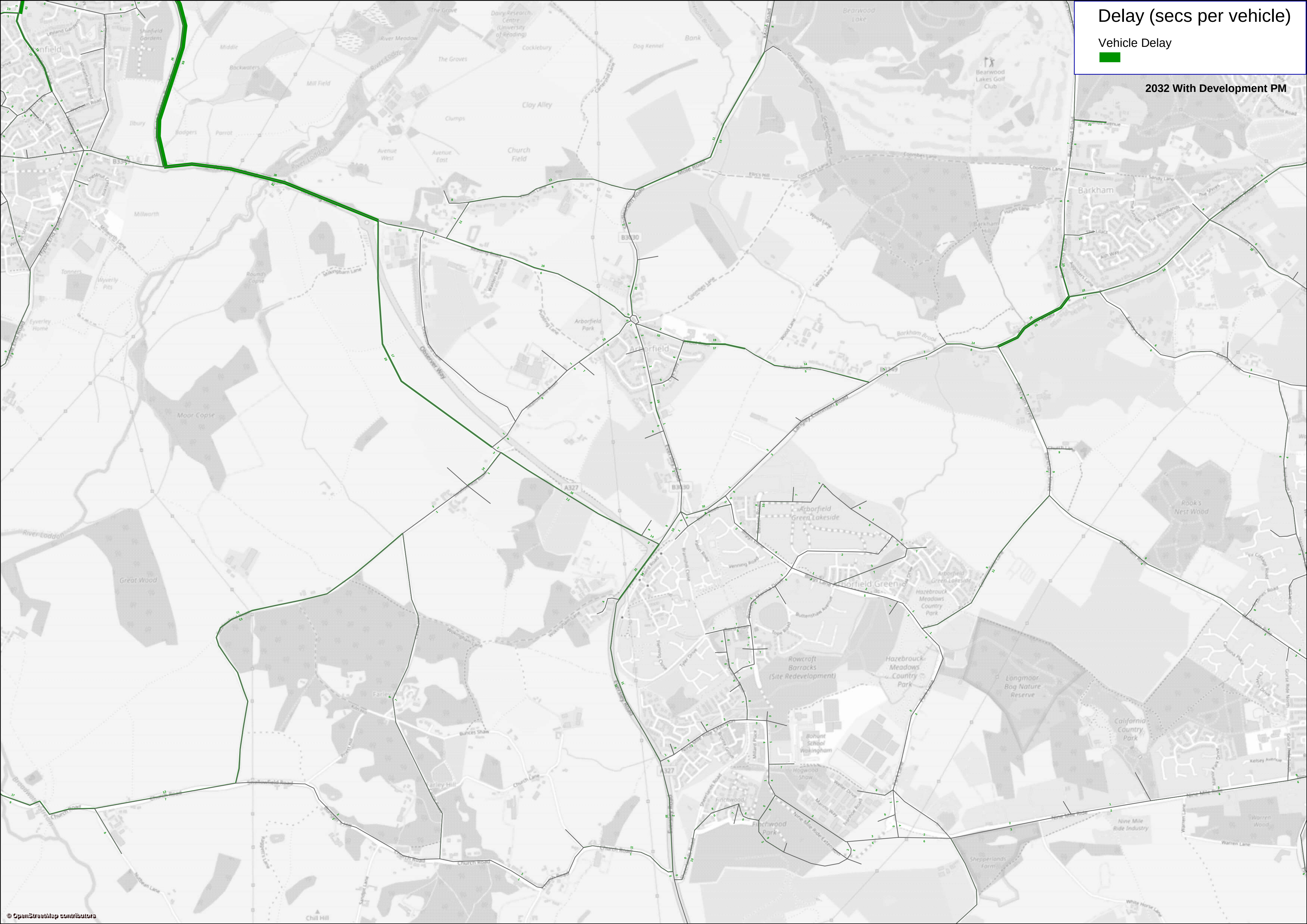


Delay (secs per vehicle)

Vehicle Delay



2032 With Development PM

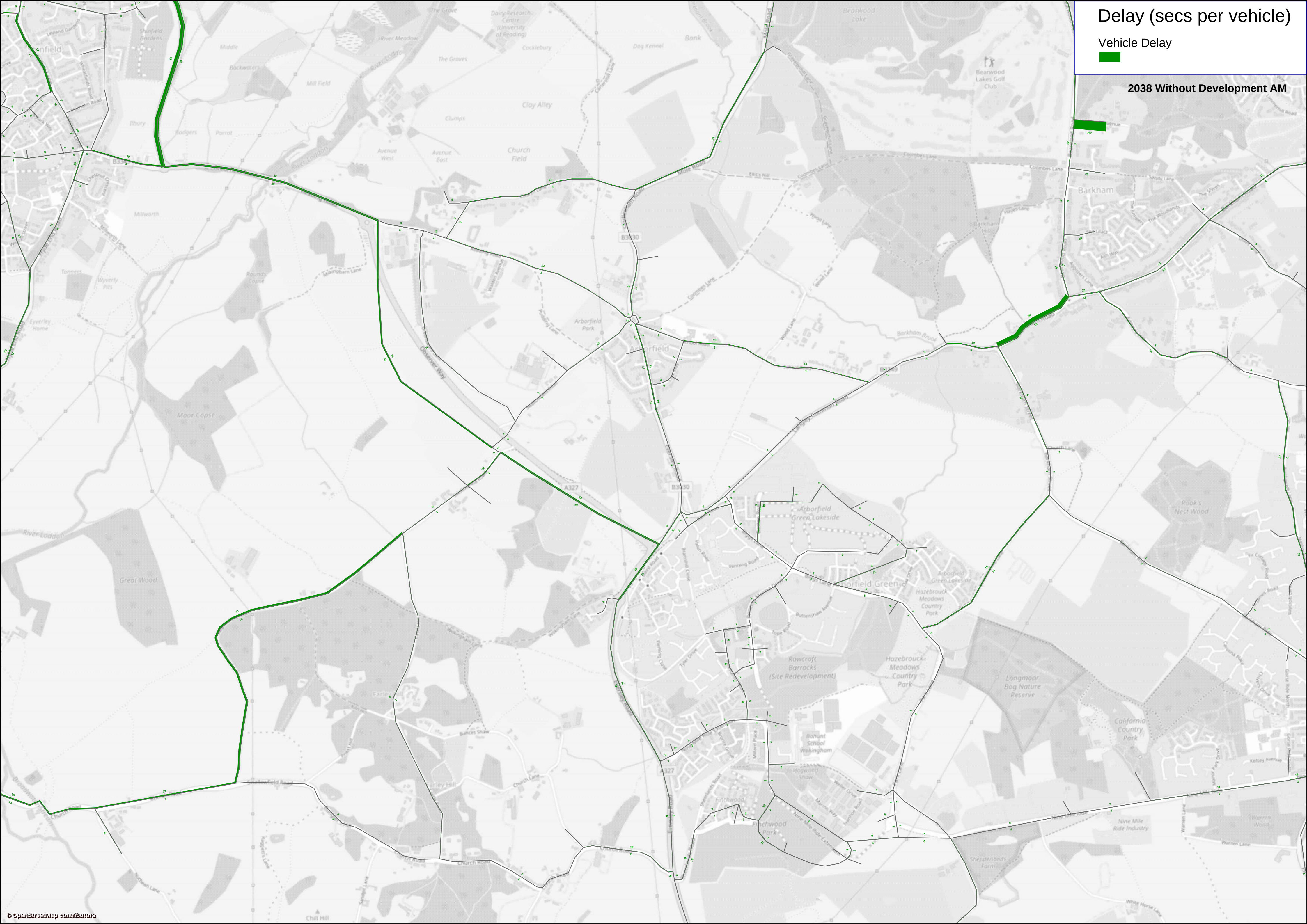


Delay (secs per vehicle)

Vehicle Delay



2038 Without Development AM

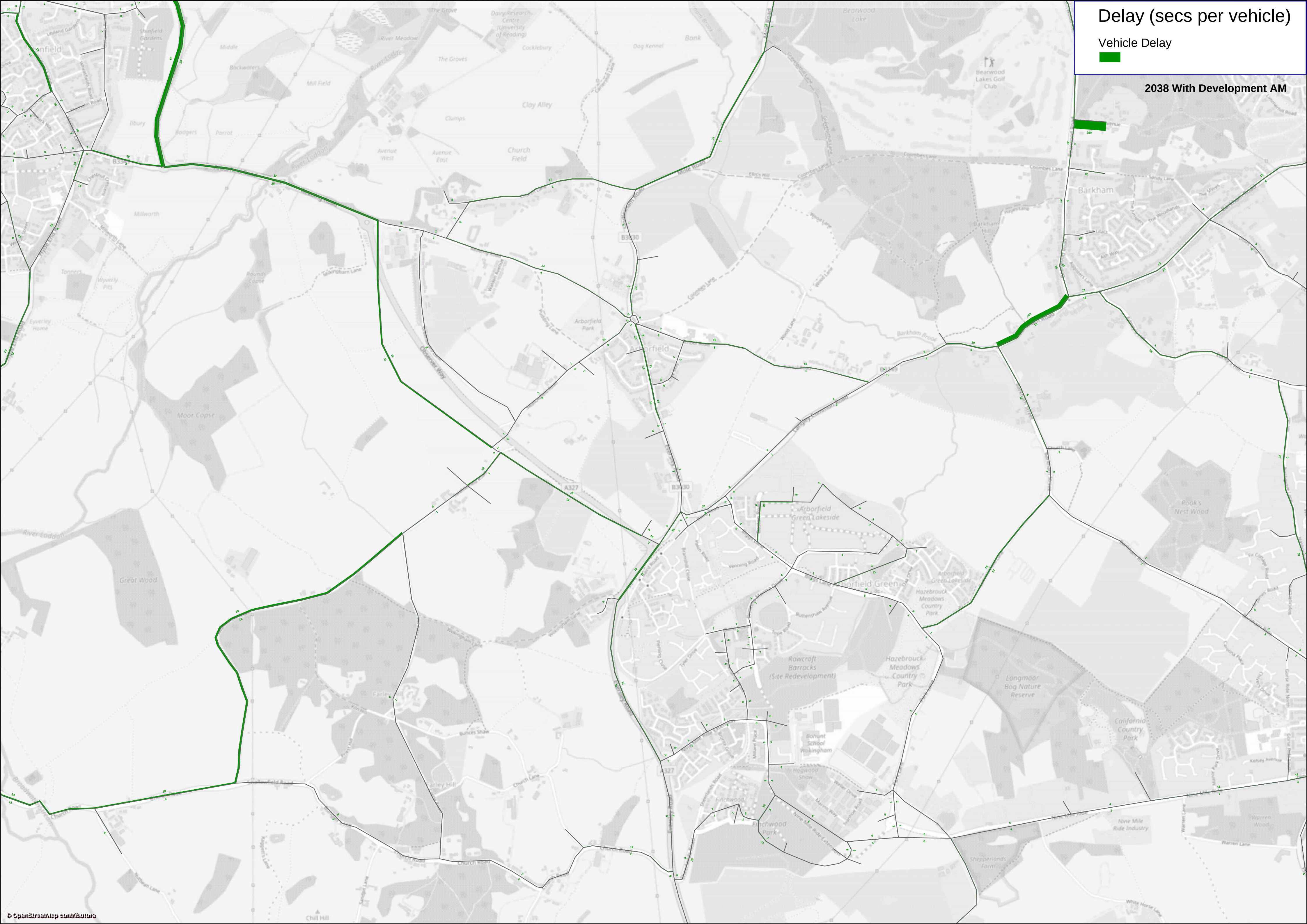


Delay (secs per vehicle)

Vehicle Delay



2038 With Development AM

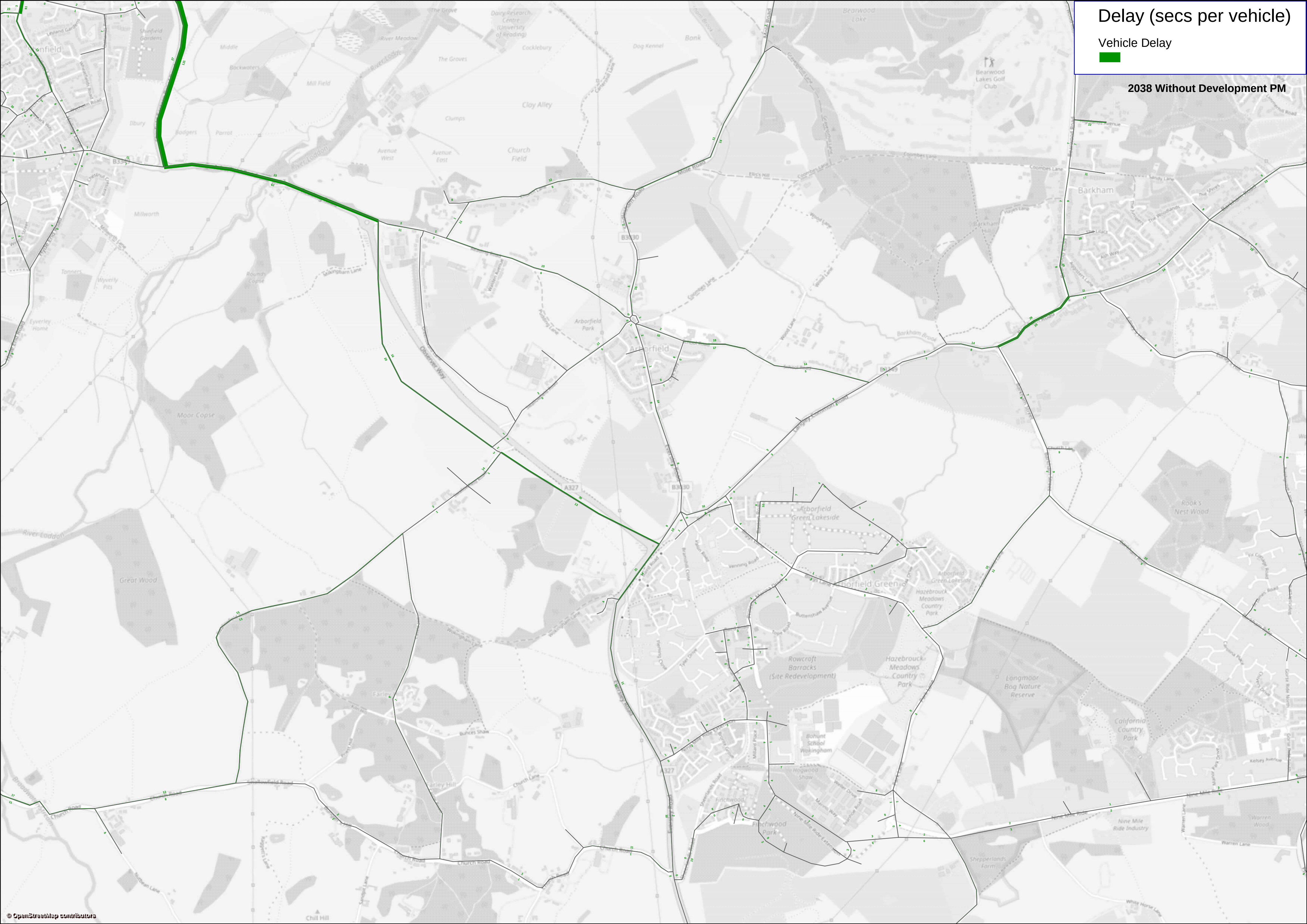


Delay (secs per vehicle)

Vehicle Delay



2038 Without Development PM

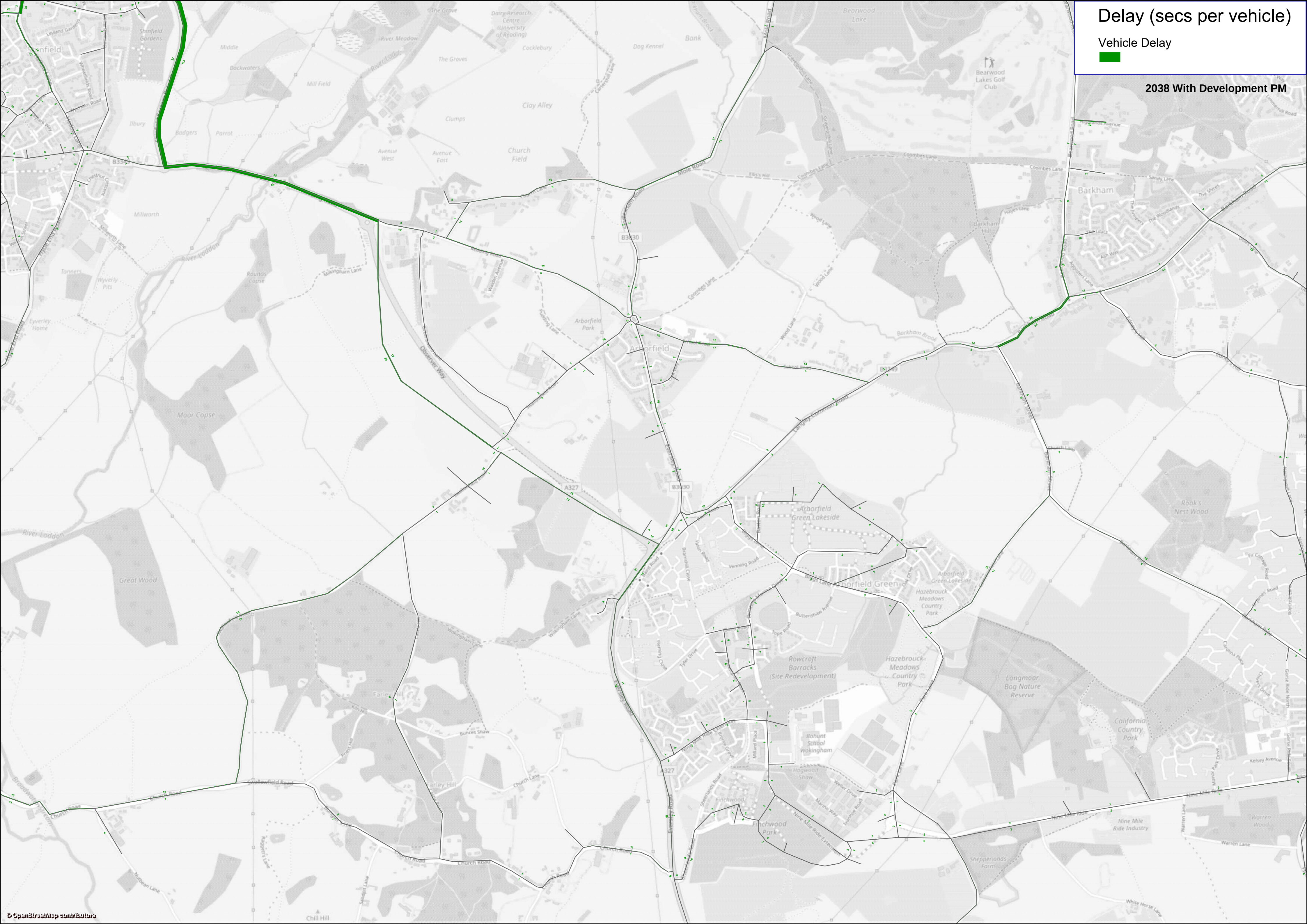


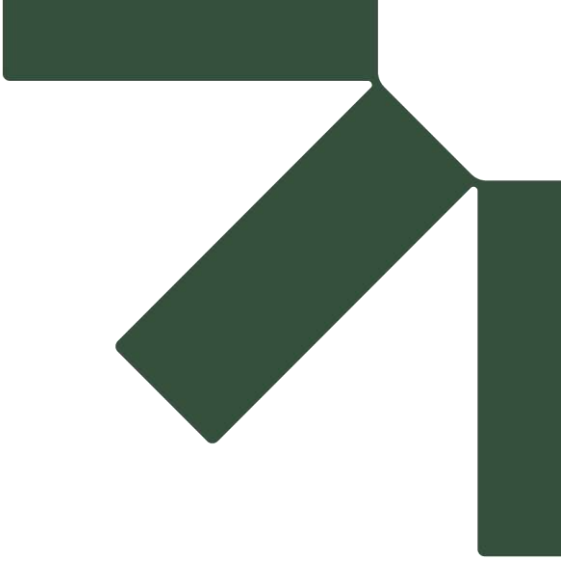
Delay (secs per vehicle)

Vehicle Delay



2038 With Development PM





Appendix K Detailed Junction Modelling

Transport Assessment

Land at Ducks Nest, Arborfield

David Wilson Homes (Southern)

SLR Project No.: 184395

27 November 2024

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.1.0.1820		
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+44 (0)1344 379777 software@trl.co.uk trlsoftware.com		
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution		

Filename: J4-Eversley Road Site Access-V1.j10

Path: O:\Exeter\Vectos\Exeter\Projects\180000\184395 - Ducks Nest Wokingham\184395B - Revised

Submission\Modelling\Arcady

Report generation date: 23/09/2024 09:58:49

»2026 + Dev, AM

»2026 + Dev, PM

»2036 + Dev, AM

»2036 + Dev, PM

Summary of junction performance

	AM					PM				
	Q (Veh)	Delay (s)	RFC	LOS	Junction LOS	Q (Veh)	Delay (s)	RFC	LOS	Junction LOS
	2026 + Dev									
1 - Langley Common Road	2.3	11.10	0.69	B	A	1.6	8.76	0.62	A	A
2 - Balred Road	0.4	7.61	0.28	A		0.3	6.53	0.24	A	
3 - A327 Everlsey Road (SW)	2.4	11.20	0.71	B		0.9	5.74	0.47	A	
4 - Site Access	0.1	6.14	0.06	A		0.0	4.43	0.02	A	
5 - A327 Eversley Road (N)	0.7	6.05	0.42	A		0.6	5.15	0.38	A	
	2036 + Dev									
1 - Langley Common Road	3.3	15.06	0.77	C	B	2.2	10.95	0.69	B	A
2 - Balred Road	0.5	8.95	0.33	A		0.4	7.39	0.28	A	
3 - A327 Everlsey Road (SW)	3.7	15.54	0.79	C		1.1	6.42	0.52	A	
4 - Site Access	0.1	6.86	0.06	A		0.0	4.69	0.02	A	
5 - A327 Eversley Road (N)	0.9	6.92	0.47	A		0.7	5.73	0.42	A	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted Av.s.

File summary

File Description

Title	
Location	
Site number	
Date	17/09/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR/ben.stone
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Calculate Q Percentiles	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2026 + Dev	AM	FLAT	08:00	09:00	60	15
D2	2026 + Dev	PM	FLAT	17:00	18:00	60	15
D3	2036 + Dev	AM	FLAT	08:00	09:00	60	15
D4	2036 + Dev	PM	FLAT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2026 + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A372 Eversley Road Langley Common Road	Standard Roundabout		1, 2, 3, 4, 5	9.79	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.79	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Langley Common Road		
2	Balred Road		
3	A327 Everlsey Road (SW)		
4	Site Access		
5	A327 Eversley Road (N)		

Roundabout Geometry

Arm	V (m)	E (m)	I' (m)	R (m)	D (m)	PHI (deg)	Entry only	Exit only
1 - Langley Common Road	3.70	4.50	3.4	12.0	36.0	15.5		
2 - Balred Road	3.40	4.00	2.5	25.0	36.0	12.0		
3 - A327 Everlsey Road (SW)	4.40	4.40	0.0	10.0	36.0	18.5		
4 - Site Access	3.00	4.50	6.8	40.0	36.0	15.5		
5 - A327 Eversley Road (N)	3.50	4.50	22.5	26.0	36.0	9.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Langley Common Road	0.571	1282
2 - Balred Road	0.574	1215
3 - A327 Everlsey Road (SW)	0.571	1321
4 - Site Access	0.585	1263
5 - A327 Eversley Road (N)	0.623	1437

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2026 + Dev	AM	FLAT	08:00	09:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1 - Langley Common Road		✓	737	100.000
2 - Balred Road		✓	181	100.000
3 - A327 Everlsey Road (SW)		✓	787	100.000
4 - Site Access		✓	35	100.000
5 - A327 Eversley Road (N)		✓	429	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	29	531	2	175
	2 - Balred Road	54	0	75	0	52
	3 - A327 Everlsey Road (SW)	481	28	0	7	271
	4 - Site Access	4	1	16	0	14
	5 - A327 Eversley Road (N)	190	31	202	6	0

Vehicle Mix

Heavy Vehicle %

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	0	6	0	3
	2 - Balred Road	0	0	0	0	0
	3 - A327 Everlsey Road (SW)	5	0	0	0	3
	4 - Site Access	0	0	0	0	0
	5 - A327 Eversley Road (N)	3	3	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
1 - Langley Common Road	0.69	11.10	2.3	B
2 - Balred Road	0.28	7.61	0.4	A
3 - A327 Everlsey Road (SW)	0.71	11.20	2.4	B
4 - Site Access	0.06	6.14	0.1	A
5 - A327 Eversley Road (N)	0.42	6.05	0.7	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	737	282	1062	0.694	728	2.2	10.526	B
2 - Balred Road	181	922	660	0.274	180	0.4	7.471	A
3 - A327 Everlsey Road (SW)	787	286	1110	0.709	778	2.3	10.565	B
4 - Site Access	35	1049	629	0.056	35	0.1	6.057	A
5 - A327 Eversley Road (N)	429	577	1028	0.417	426	0.7	5.956	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	737	284	1061	0.695	737	2.2	11.087	B
2 - Balred Road	181	932	654	0.277	181	0.4	7.608	A
3 - A327 Everlsey Road (SW)	787	289	1108	0.710	787	2.4	11.186	B
4 - Site Access	35	1061	621	0.056	35	0.1	6.138	A
5 - A327 Eversley Road (N)	429	584	1024	0.419	429	0.7	6.052	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	737	284	1061	0.695	737	2.2	11.098	B
2 - Balred Road	181	932	654	0.277	181	0.4	7.609	A
3 - A327 Everlsey Road (SW)	787	289	1108	0.710	787	2.4	11.200	B
4 - Site Access	35	1061	621	0.056	35	0.1	6.139	A
5 - A327 Eversley Road (N)	429	584	1024	0.419	429	0.7	6.052	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	737	284	1061	0.695	737	2.3	11.103	B
2 - Balred Road	181	932	654	0.277	181	0.4	7.610	A
3 - A327 Everlsey Road (SW)	787	289	1108	0.710	787	2.4	11.205	B
4 - Site Access	35	1061	621	0.056	35	0.1	6.140	A
5 - A327 Eversley Road (N)	429	584	1024	0.419	429	0.7	6.053	A

2026 + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A372 Eversley Road Langley Common Road	Standard Roundabout		1, 2, 3, 4, 5	6.77	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.77	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2026 + Dev	PM	FLAT	17:00	18:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1 - Langley Common Road		✓	668	100.000
2 - Balred Road		✓	173	100.000
3 - A327 Everlsey Road (SW)		✓	560	100.000
4 - Site Access		✓	13	100.000
5 - A327 Eversley Road (N)		✓	422	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	49	501	4	114
	2 - Balred Road	57	0	89	1	26
	3 - A327 Everlsey Road (SW)	360	50	0	14	136
	4 - Site Access	2	0	6	0	5
	5 - A327 Eversley Road (N)	162	51	197	12	0

Vehicle Mix

Heavy Vehicle %

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	2	2	0	2
	2 - Balred Road	0	0	1	0	0
	3 - A327 Everlsey Road (SW)	1	0	0	0	1
	4 - Site Access	0	0	0	0	0
	5 - A327 Eversley Road (N)	3	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
1 - Langley Common Road	0.62	8.76	1.6	A
2 - Balred Road	0.24	6.53	0.3	A
3 - A327 Everlsey Road (SW)	0.47	5.74	0.9	A
4 - Site Access	0.02	4.43	0.0	A
5 - A327 Eversley Road (N)	0.38	5.15	0.6	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	668	314	1080	0.619	662	1.6	8.487	A
2 - Balred Road	173	827	728	0.238	172	0.3	6.453	A
3 - A327 Everlsey Road (SW)	560	212	1188	0.471	556	0.9	5.666	A
4 - Site Access	13	738	828	0.016	13	0.0	4.418	A
5 - A327 Eversley Road (N)	422	472	1123	0.376	420	0.6	5.100	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	668	316	1079	0.619	668	1.6	8.757	A
2 - Balred Road	173	834	724	0.239	173	0.3	6.529	A
3 - A327 Everlsey Road (SW)	560	214	1187	0.472	560	0.9	5.738	A
4 - Site Access	13	743	825	0.016	13	0.0	4.434	A
5 - A327 Eversley Road (N)	422	475	1121	0.376	422	0.6	5.148	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	668	316	1079	0.619	668	1.6	8.759	A
2 - Balred Road	173	834	724	0.239	173	0.3	6.529	A
3 - A327 Everlsey Road (SW)	560	214	1187	0.472	560	0.9	5.738	A
4 - Site Access	13	743	825	0.016	13	0.0	4.434	A
5 - A327 Eversley Road (N)	422	475	1121	0.376	422	0.6	5.148	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	668	316	1079	0.619	668	1.6	8.762	A
2 - Balred Road	173	834	724	0.239	173	0.3	6.529	A
3 - A327 Everlsey Road (SW)	560	214	1187	0.472	560	0.9	5.738	A
4 - Site Access	13	743	825	0.016	13	0.0	4.434	A
5 - A327 Eversley Road (N)	422	475	1121	0.376	422	0.6	5.148	A

2036 + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A372 Eversley Road Langley Common Road	Standard Roundabout		1, 2, 3, 4, 5	13.02	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	13.02	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D3	2036 + Dev	AM	FLAT	08:00	09:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1 - Langley Common Road		✓	808	100.000
2 - Balred Road		✓	199	100.000
3 - A327 Everlsey Road (SW)		✓	862	100.000
4 - Site Access		✓	35	100.000
5 - A327 Eversley Road (N)		✓	470	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	32	582	2	192
	2 - Balred Road	59	0	83	0	57
	3 - A327 Everlsey Road (SW)	527	31	0	7	297
	4 - Site Access	4	1	16	0	14
	5 - A327 Eversley Road (N)	208	34	222	6	0

Vehicle Mix

Heavy Vehicle %

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	0	6	0	3
	2 - Balred Road	0	0	0	0	0
	3 - A327 Everlsey Road (SW)	5	0	0	0	3
	4 - Site Access	0	0	0	0	0
	5 - A327 Eversley Road (N)	3	3	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
1 - Langley Common Road	0.77	15.06	3.3	C
2 - Balred Road	0.33	8.95	0.5	A
3 - A327 Everlsey Road (SW)	0.79	15.54	3.7	C
4 - Site Access	0.06	6.86	0.1	A
5 - A327 Eversley Road (N)	0.47	6.92	0.9	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	808	307	1048	0.771	795	3.2	13.653	B
2 - Balred Road	199	1006	609	0.327	197	0.5	8.693	A
3 - A327 Everlsey Road (SW)	862	312	1095	0.787	848	3.4	13.896	B
4 - Site Access	35	1145	570	0.061	35	0.1	6.719	A
5 - A327 Eversley Road (N)	470	628	996	0.472	466	0.9	6.758	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	808	310	1046	0.772	808	3.3	14.993	B
2 - Balred Road	199	1020	601	0.331	199	0.5	8.947	A
3 - A327 Everlsey Road (SW)	862	316	1093	0.789	861	3.6	15.449	C
4 - Site Access	35	1162	560	0.063	35	0.1	6.857	A
5 - A327 Eversley Road (N)	470	638	990	0.475	470	0.9	6.922	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	808	310	1046	0.772	808	3.3	15.045	C
2 - Balred Road	199	1020	601	0.331	199	0.5	8.953	A
3 - A327 Everlsey Road (SW)	862	316	1093	0.789	862	3.6	15.521	C
4 - Site Access	35	1163	560	0.063	35	0.1	6.860	A
5 - A327 Eversley Road (N)	470	638	990	0.475	470	0.9	6.924	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	808	310	1046	0.772	808	3.3	15.063	C
2 - Balred Road	199	1020	601	0.331	199	0.5	8.954	A
3 - A327 Everlsey Road (SW)	862	316	1093	0.789	862	3.7	15.543	C
4 - Site Access	35	1163	560	0.063	35	0.1	6.861	A
5 - A327 Eversley Road (N)	470	638	990	0.475	470	0.9	6.925	A

2036 + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A372 Eversley Road Langley Common Road	Standard Roundabout		1, 2, 3, 4, 5	8.00	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.00	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D4	2036 + Dev	PM	FLAT	17:00	18:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1 - Langley Common Road		✓	734	100.000
2 - Balred Road		✓	190	100.000
3 - A327 Everlsey Road (SW)		✓	616	100.000
4 - Site Access		✓	13	100.000
5 - A327 Eversley Road (N)		✓	463	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	53	552	4	125
	2 - Balred Road	63	0	98	1	28
	3 - A327 Everlsey Road (SW)	397	55	0	14	150
	4 - Site Access	2	0	6	0	5
	5 - A327 Eversley Road (N)	179	56	216	12	0

Vehicle Mix

Heavy Vehicle %

	To					
		1 - Langley Common Road	2 - Balred Road	3 - A327 Everlsey Road (SW)	4 - Site Access	5 - A327 Eversley Road (N)
From	1 - Langley Common Road	0	2	2	0	2
	2 - Balred Road	0	0	1	0	0
	3 - A327 Everlsey Road (SW)	1	0	0	0	1
	4 - Site Access	0	0	0	0	0
	5 - A327 Eversley Road (N)	3	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
1 - Langley Common Road	0.69	10.95	2.2	B
2 - Balred Road	0.28	7.39	0.4	A
3 - A327 Everlsey Road (SW)	0.52	6.42	1.1	A
4 - Site Access	0.02	4.69	0.0	A
5 - A327 Eversley Road (N)	0.42	5.73	0.7	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	734	343	1064	0.690	725	2.1	10.397	B
2 - Balred Road	190	906	683	0.278	188	0.4	7.263	A
3 - A327 Everlsey Road (SW)	616	231	1178	0.523	612	1.1	6.313	A
4 - Site Access	13	812	784	0.017	13	0.0	4.667	A
5 - A327 Eversley Road (N)	463	519	1094	0.423	460	0.7	5.655	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	734	345	1062	0.691	734	2.2	10.939	B
2 - Balred Road	190	915	677	0.281	190	0.4	7.387	A
3 - A327 Everlsey Road (SW)	616	233	1176	0.524	616	1.1	6.423	A
4 - Site Access	13	818	781	0.017	13	0.0	4.689	A
5 - A327 Eversley Road (N)	463	523	1092	0.424	463	0.7	5.727	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	734	345	1062	0.691	734	2.2	10.950	B
2 - Balred Road	190	915	677	0.281	190	0.4	7.388	A
3 - A327 Everlsey Road (SW)	616	233	1176	0.524	616	1.1	6.423	A
4 - Site Access	13	818	781	0.017	13	0.0	4.690	A
5 - A327 Eversley Road (N)	463	523	1092	0.424	463	0.7	5.727	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Langley Common Road	734	345	1062	0.691	734	2.2	10.955	B
2 - Balred Road	190	915	677	0.281	190	0.4	7.388	A
3 - A327 Everlsey Road (SW)	616	233	1176	0.524	616	1.1	6.423	A
4 - Site Access	13	818	780	0.017	13	0.0	4.690	A
5 - A327 Eversley Road (N)	463	523	1092	0.424	463	0.7	5.727	A

Junctions 10		
PICADY 10 - Priority Intersection Module		
Version: 10.1.0.1820		
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Filename: J09-Observer Way, Site Access-V1.j10

Path: O:\Exeter\Vectos\Exeter\Projects\180000\184395 - Ducks Nest Wokingham\184395B - Revised Submission\Modelling\Picady

Report generation date: 17/09/2024 15:50:04

»2026 With Dev, AM

»2026 With Dev, PM

»2038 With Dev, AM

»2038 With Dev, PM

Summary of junction performance

	AM			PM		
	Q (Veh)	Delay (s)	RFC	Q (Veh)	Delay (s)	RFC
2026 With Dev						
Stream B-C	0.0	6.54	0.02	0.0	6.61	0.01
Stream B-A	0.0	16.83	0.03	0.0	14.39	0.01
Stream C-AB	0.0	3.05	0.03	0.1	3.66	0.05
2038 With De						
Stream B-C	0.0	6.84	0.03	0.0	6.94	0.01
Stream B-A	0.0	20.76	0.04	0.0	17.01	0.01
Stream C-AB	0.1	2.92	0.04	0.1	3.53	0.05

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	17/09/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR/ben.stone
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Calculate Q Percentiles	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D7	2026 With Dev	AM	FLAT	08:00	09:00	60	15
D8	2026 With Dev	PM	FLAT	17:00	18:00	60	15
D11	2038 With Dev	AM	FLAT	08:00	09:00	60	15
D12	2038 With Dev	PM	FLAT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2026 With Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Site Access - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Everley Road, Reading Road, Sindlesham Road, School Road	T-Junction	Two-way	Two-way	Two-way		0.17	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.17	A

Arms

Arms

Arm	Name	Description	Arm type
A	Observer Way (N)		Major
B	Site Access		Minor
C	Observer Way (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Observer Way (S)	7.00			215.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane plus flare	10.00	7.30	3.60	3.50	3.20	✓	1.00	108	166

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	640	0.113	0.285	0.179	0.407
B-C	804	0.117	0.295	-	-
C-B	698	0.259	0.259	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D7	2026 With Dev	AM	FLAT	08:00	09:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A - Observer Way (N)		✓	774	100.000
B - Site Access		✓	21	100.000
C - Observer Way (S)		✓	1022	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
From	A - Observer Way (N)	0	3	771
	B - Site Access	7	0	14
	C - Observer Way (S)	1016	6	0

Vehicle Mix

Heavy Vehicle %

	To			
		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
From	A - Observer Way (N)	0	0	3
	B - Site Access	0	0	0
	C - Observer Way (S)	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
B-C	0.02	6.54	0.0	A
B-A	0.03	16.83	0.0	C
C-AB	0.03	3.05	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	565	0.025	14	0.0	6.538	A
B-A	7	221	0.032	7	0.0	16.824	C
C-AB	36	1216	0.030	36	0.0	3.050	A
C-A	986			986			
A-B	3			3			
A-C	771			771			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	564	0.025	14	0.0	6.541	A
B-A	7	221	0.032	7	0.0	16.834	C
C-AB	37	1217	0.030	37	0.0	3.050	A
C-A	985			985			
A-B	3			3			
A-C	771			771			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	564	0.025	14	0.0	6.541	A
B-A	7	221	0.032	7	0.0	16.834	C
C-AB	37	1217	0.030	37	0.0	3.050	A
C-A	985			985			
A-B	3			3			
A-C	771			771			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	564	0.025	14	0.0	6.541	A
B-A	7	221	0.032	7	0.0	16.834	C
C-AB	37	1217	0.030	37	0.0	3.052	A
C-A	985			985			
A-B	3			3			
A-C	771			771			

2026 With Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Site Access - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Everley Road, Reading Road, Sindlesham Road, School Road	T-Junction	Two-way	Two-way	Two-way		0.16	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.16	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D8	2026 With Dev	PM	FLAT	17:00	18:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A - Observer Way (N)		✓	856	100.000
B - Site Access		✓	9	100.000
C - Observer Way (S)		✓	777	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
	A - Observer Way (N)	0	6	850
	B - Site Access	3	0	6
	C - Observer Way (S)	764	13	0

Vehicle Mix

Heavy Vehicle %

	To			
From		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
	A - Observer Way (N)	0	0	0
	B - Site Access	0	0	0
	C - Observer Way (S)	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
B-C	0.01	6.61	0.0	A
B-A	0.01	14.39	0.0	B
C-AB	0.05	3.66	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	551	0.011	6	0.0	6.610	A
B-A	3	253	0.012	3	0.0	14.392	B
C-AB	50	1034	0.048	49	0.1	3.654	A
C-A	727			727			
A-B	6			6			
A-C	850			850			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	550	0.011	6	0.0	6.611	A
B-A	3	253	0.012	3	0.0	14.388	B
C-AB	50	1035	0.048	50	0.1	3.655	A
C-A	727			727			
A-B	6			6			
A-C	850			850			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	550	0.011	6	0.0	6.611	A
B-A	3	253	0.012	3	0.0	14.388	B
C-AB	50	1035	0.048	50	0.1	3.658	A
C-A	727			727			
A-B	6			6			
A-C	850			850			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	550	0.011	6	0.0	6.612	A
B-A	3	253	0.012	3	0.0	14.388	B
C-AB	50	1035	0.048	50	0.1	3.658	A
C-A	727			727			
A-B	6			6			
A-C	850			850			

2038 With Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Site Access - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Everley Road, Reading Road, Sindlesham Road, School Road	T-Junction	Two-way	Two-way	Two-way		0.18	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.18	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D11	2038 With Dev	AM	FLAT	08:00	09:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A - Observer Way (N)		✓	849	100.000
B - Site Access		✓	21	100.000
C - Observer Way (S)		✓	1120	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
	A - Observer Way (N)	0	3	846
	B - Site Access	7	0	14
	C - Observer Way (S)	1114	6	0

Vehicle Mix

Heavy Vehicle %

	To			
From		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
	A - Observer Way (N)	0	0	3
	B - Site Access	0	0	0
	C - Observer Way (S)	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
B-C	0.03	6.84	0.0	A
B-A	0.04	20.76	0.0	C
C-AB	0.04	2.92	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	541	0.026	14	0.0	6.828	A
B-A	7	180	0.039	7	0.0	20.737	C
C-AB	46	1279	0.036	46	0.0	2.919	A
C-A	1074			1074			
A-B	3			3			
A-C	846			846			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	541	0.026	14	0.0	6.836	A
B-A	7	180	0.039	7	0.0	20.755	C
C-AB	47	1279	0.036	47	0.1	2.921	A
C-A	1073			1073			
A-B	3			3			
A-C	846			846			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	541	0.026	14	0.0	6.836	A
B-A	7	180	0.039	7	0.0	20.755	C
C-AB	47	1279	0.036	47	0.1	2.919	A
C-A	1073			1073			
A-B	3			3			
A-C	846			846			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	541	0.026	14	0.0	6.836	A
B-A	7	180	0.039	7	0.0	20.755	C
C-AB	47	1279	0.036	47	0.1	2.919	A
C-A	1073			1073			
A-B	3			3			
A-C	846			846			

2038 With Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Site Access - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Everley Road, Reading Road, Sindlesham Road, School Road	T-Junction	Two-way	Two-way	Two-way		0.17	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.17	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D12	2038 With Dev	PM	FLAT	17:00	18:00	60	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A - Observer Way (N)		✓	942	100.000
B - Site Access		✓	9	100.000
C - Observer Way (S)		✓	854	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
	A - Observer Way (N)	0	6	936
	B - Site Access	3	0	6
	C - Observer Way (S)	841	13	0

Vehicle Mix

Heavy Vehicle %

	To			
From		A - Observer Way (N)	B - Site Access	C - Observer Way (S)
	A - Observer Way (N)	0	0	0
	B - Site Access	0	0	0
	C - Observer Way (S)	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
B-C	0.01	6.94	0.0	A
B-A	0.01	17.01	0.0	C
C-AB	0.05	3.53	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	525	0.011	6	0.0	6.935	A
B-A	3	215	0.014	3	0.0	17.008	C
C-AB	59	1079	0.055	59	0.1	3.528	A
C-A	795			795			
A-B	6			6			
A-C	936			936			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	525	0.011	6	0.0	6.938	A
B-A	3	215	0.014	3	0.0	17.008	C
C-AB	59	1079	0.055	59	0.1	3.529	A
C-A	795			795			
A-B	6			6			
A-C	936			936			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	525	0.011	6	0.0	6.938	A
B-A	3	215	0.014	3	0.0	17.008	C
C-AB	59	1079	0.055	59	0.1	3.529	A
C-A	795			795			
A-B	6			6			
A-C	936			936			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	525	0.011	6	0.0	6.938	A
B-A	3	215	0.014	3	0.0	17.008	C
C-AB	59	1079	0.055	59	0.1	3.529	A
C-A	795			795			
A-B	6			6			
A-C	936			936			

