

TRANSPORT ASSESSMENT

# Tritax Symmetry Ardley Ltd

Symmetry Park, Ardley

April 2022

Cherwell District Council

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Transport Assessment

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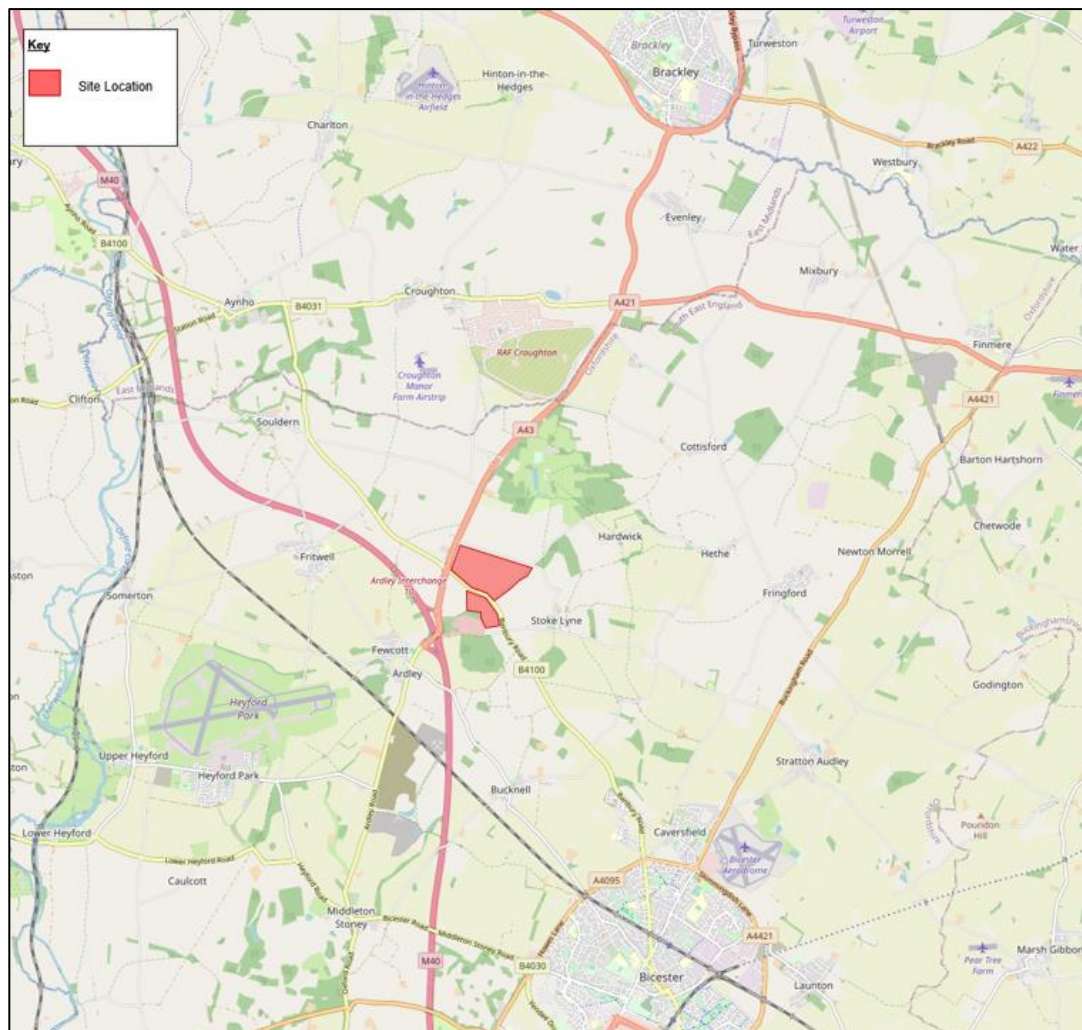
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# 1 Introduction

- 1.1 Vectos has been appointed by Tritax Symmetry Ardley Ltd (the ‘Applicant’) to provide highways and transport advice in relation to the proposed logistics development referred to as Symmetry Park, Ardley, hereby named the ‘Site’. The Site is located within the administrative boundaries of Cherwell District Council (CDC) and Oxfordshire County Council (OCC).
- 1.2 The Site is located adjacent to the A43 and M40 at Junction 10. The M40 provides access to Bicester and then to London to the south-east and Birmingham to the north-west. The Site is located in an area which is dominated by agricultural land, with sparsely located residential and commercial development. The nearest settlement is Stoke Lyne, approximately 800 m east of the site(s). Ardley/Fewcott is located about 1.2km south-west and Fritwell is located circa 2km to the west, both of which are beyond the M40.
- 1.3 The location of the Site is shown in **Figure 1.1**.

**Figure 1.1 - Site Location**



- 1.4 The Site comprises two parcels of land currently used for agricultural purposes. These are located either side of the B4100, a single carriageway road. The B4100 connects to the A43 at a roundabout adjacent to the south eastern corner of the northern parcel's site boundary.
- 1.5 The proposals seek outline planning permission (all matters reserved) for the erection of buildings comprising logistics (Use Class B8) and ancillary office (Use Class E(g)(i)) floorspace. The proposed development will provide up to 300,000sqm (GEA) total floorspace. The parameter plan is provided at **Appendix A**.
- 1.6 It is noted that a number of planning applications (planning refs. 21/03266/F, 21/03267/OUT and 21/03268/OUT) in close proximity to the Site were submitted in September 2021 by an applicant named Albion Land. The development, referred to as '*Strategic Employment Site (SES) – Land at Junction 10 M40*' will comprise circa 280,000sqm of logistics developments and ancillary uses.
- 1.7 The proposals comprise a western and eastern development on land to the east and west of the A43 respectively. The eastern parcel of the SES borders the southern parcel of the proposed Symmetry Park Ardley Site, whilst the western parcel is located immediately west of the A43, to the north of Junction 10 of the M40.
- 1.8 A summary of the planning applications including the development description and quantum of development for the SES Land at Junction 10 M40 is provided below.

21/03267/OUT – Land at Junction 10, M40 (Eastern Parcel)

*'Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary office (Use Class E(g)(i)) floorspace and associated infrastructure; construction of new site access from the B4100; creation of internal roads and access routes; and hard and soft landscaping'*

21/03268/OUT – Land at Junction 10, M40 (Western Parcel)

*'Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary office (Use Class E(g)(i)) floorspace; construction of new site access from the B4100; creation of internal roads and access routes; hard and soft landscaping including noise attenuation measures; and other associated infrastructure'*

21/03266/F – Land at Junction 10, M40 (Enabling Works at the Western site)

*'Site clearance, construction of new site access from the B4100, permanent and temporary internal roads, an internal roundabout and a foul drainage station, diversion of an existing overhead power cable and public rights of way, and soft landscaping'*

- 1.9 The proposed development will therefore be considered within the context of the Albion Land development. However, it is important to note that all three planning applications are currently under consultation with a target decision date in April 2022.

- 1.10 This Transport Assessment (TA) has been produced to assess the transport and highway implications of the application, including the suitability of the proposed site access arrangements in safety and highway capacity terms.
- 1.11 In light of the COVID-19 pandemic, the Applicant considered the most appropriate manner in which to engage with the local community, the public engagement strategy therefore included a virtual exhibition. The consultation material was uploaded onto Frampton Town Planning's website to allow online access for the community.
- 1.12 A Statement of Community Involvement is submitted as part of the planning application this summarises responses received to the consultation and the Applicant's response to the comments raised. In summary, the comments raised related to:
- Traffic impact;
  - Impacts on noise and air quality;
  - The need for the development;
  - Design and Scale of Development (including visual impact);
  - Loss of Agricultural Land;
  - Loss of Wildlife Habitats;
  - Flood Risk; and
  - Water and Electricity Supply and Sewage Capacity.
- 1.13 In addition, there has been some informal discussions with OCC Highways in relation to the scheme and consideration has been made to the transport comments provided in respect to the applications 21/03266/F, 21/03267/OUT and 21/03268/OUT.
- 1.14 Following this introduction, the report is set out as follows:
- **Section 2: Baseline Conditions** – describes the existing conditions at the proposed development Site, and the surrounding transport network;
  - **Section 3: Planning Policy** – outlines the relevant local and national transport planning policies
  - **Section 4: Development Proposals** – describes the proposed development, access arrangements and parking;
  - **Section 5: Trip Attraction, Traffic Distribution and Committed Developments** – assessment of the number of trips that are likely to be generated by the proposed development, and the impact;
  - **Section 6: Highway Impact Assessment** – assesses the highway impact of the proposed development on the local network;
  - **Section 7: Mitigation Measures** – provides ways in which the impact of the proposed development will be kept to a minimum during construction and operational phases; and
  - **Section 8: Summary and Conclusions** – summary of the findings of the transport assessment.



## 2 Baseline Conditions

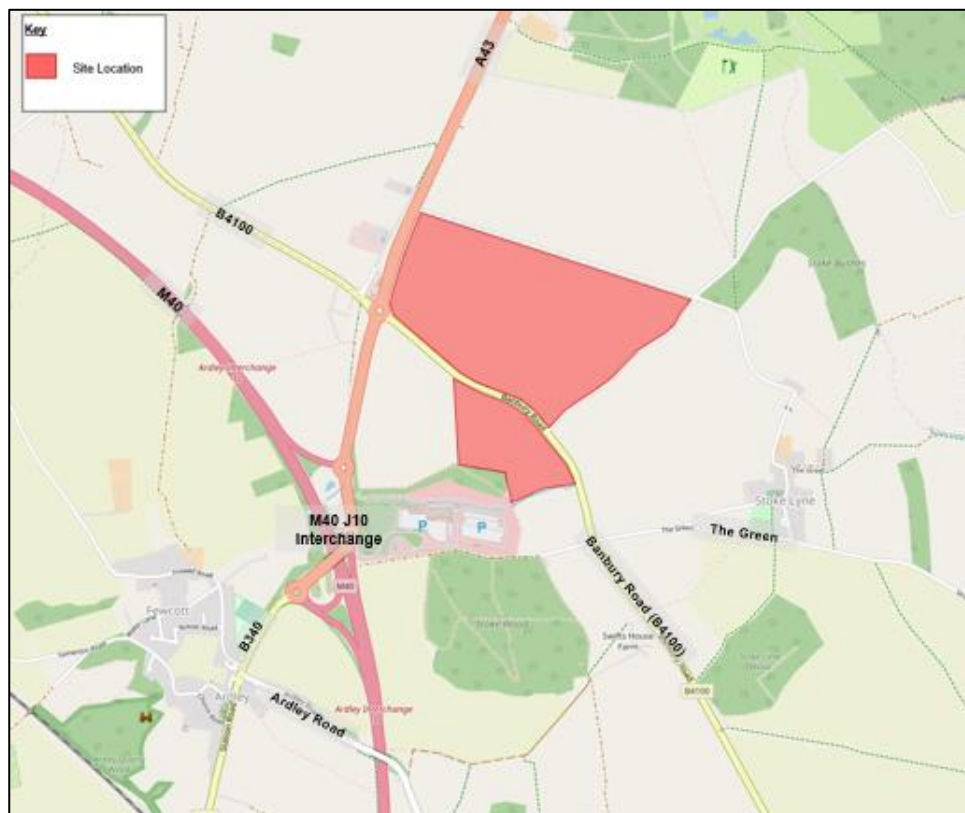
### Overview

- 2.1 This section of the Transport Assessment sets out the Site location in terms of the surrounding area, and the accessibility of the Site by different modes of transport.

### Existing Site

- 2.2 The Site is located in an area which is dominated by agricultural land, with sparsely located residential and commercial development. The nearest settlement is Stoke Lyne, approximately 800m east of the site(s). Ardley/Fewcott is located about 1.2km south-west and Fritwell is located circa 2km to the west, both of which are beyond the M40.
- 2.3 The Site consists of two parcels of land, a larger one to the north of the B4100 and a smaller one to the south. Both Sites can be accessed directly from the B4100. The northern parcel of land is located east of the A43 and north of the B4100. The Site is bounded to the north and east by a bridleway and small country lane. The southern parcel of land borders the B4100 and remaining agricultural land to the south and west.
- 2.4 The Moto Cherwell Valley service station is also located within 100m of the southern boundary of the site, and an Esso service station (Baynards Green Service Station) is located approximately 50m west of the northern sites' western boundary on the A43/B4100 roundabout junction. The location of the Site is shown below.

**Figure 2.1 – Local Site Location**



## Planning Context

- 2.5 There is no relevant planning history for the sites. The sites are currently and historically have been in agricultural use. No previous development or other uses are known to have occurred on the sites.
- 2.6 However, it is worthy to note that several large scale developments are expected to come forward in the coming months or planning applications have recently been submitted nearby to the site, which are summarised below:
- **Albion Land Schemes:** Three planning applications have been submitted by Albion Land. These sites are immediately adjacent to the application site (to the south of the northern parcel and to the west of the southern parcel). The applications have not yet been determined. The applications comprise:
    - Site clearance, construction of new site access from the B4100, permanent and temporary internal roads, an internal roundabout and a foul drainage station, diversion of an existing overhead power cable and public right of way, and soft landscaping (application ref. 21/03266/F).
    - Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace and associated infrastructure; construction of new site access from the B4100; creation of internal roads and access routes; and hard and soft landscaping (application ref: 21/02267/OUT (Eastern Parcel)).
    - Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8 and ancillary Office (Use Class E(g)(i)) floorspace; construction of new site access from the B4100; creation of internal roads and access routes; hard and soft landscaping including noise attenuation measures; and other associated infrastructure (application ref: 21/03268/OUT (Western Parcel)).
  - **Heyford Park.** A hybrid planning application for the mixed-use development of the 'Heyford Park' site was approved subject to the completion of a Section 106 Agreement in November 2020. The approved development comprises the construction of up to 1,175 new residential dwellings and a range of other uses. Off-site mitigation to be secured as part of the Section 106 Agreement include 'M40 Junction 10 improvements' (which also has the benefit of HIF funding) as well as improvements to the A43 Baynards roundabout (which will include the amendments and extension of the existing roundabout to the west, upgrade of the A43 in both directions and minor capacity improvements for local approaches) (application ref. 18/00825/HYBRID).
  - **Land to the east of M40 and south of A4095, Chesterton, Bicester (Great Wolf).** Planning permission (LPA reference 19/02550/F) was granted at appeal in May 2021 for the *"redevelopment of part of golf course to provide new leisure resort (sui generis) incorporating waterpark, family entertainment centre, hotel, conferencing facilities and restaurants with associated access, parking and landscaping"*.
  - **Axis J9 Phase 1.** Planning permission (LPA reference 20/03199/OUT) was granted planning permission in May 2021 for the erection of up to 53,000 sqm of floor space to be

for B8 and B2 ancillary B1 (uses classes) employment provision within two employment zones; a new access off the Middleton Stoney Road (B4030); temporary access of Howes Lane pending the delivery of the realigned Howes Lane; 4.5ha of residential land; internal roads, paths and cycleways; landscaping including strategic green infrastructure (G1); provision of sustainable urban systems (suds) incorporating landscaped areas with balancing ponds and swales. Associated utilities and infrastructure.

- 2.7 In addition to the above committed schemes, it is understood that a Scoping Opinion has been sought with respect to a Strategic Rail Freight Interchange near to the Upper Heyford Former Airfield site referenced above. This scheme is summarised below as follows:
- **Oxfordshire Strategic Rail Freight Interchange Development Consent Order.** A request for a Scoping Opinion for the Oxfordshire Strategic Rail Freight Interchange Development Consent Order was submitted in June 2021. The Proposed Development comprises a Strategic Rail Freight Interchange (SRFI) together with associated development on land south of the Chiltern Railway line, and west of the B430, east of Upper Heyford Former Airfield. The rail freight facility is expected to include a new rail terminal, large warehouses (providing a maximum of 675,000 sq.m of floorspace), a management building, rail reception sidings, container storage area and associated container transfer equipment and a refuelling facility. The development will also include a range of highway works including improvements at Junction 10 of the M40. Several options for these highways improvements are currently being considered. A Scoping Opinion was formerly issued on behalf of the Secretary of State in July 2021 (case reference TR050008).
- 2.8 It should also be noted that the Strategic Rail Freight facility is at a relatively early stage of the planning process and as such there is not anything in the public domain that outlines the likely traffic implications of this emerging scheme. As such, there is not any ability to predict the cumulative effects of this scheme. In any event, should this scheme come forward it is considered highly likely that it would need to provide major highway mitigation over and above anything identified in this assessment, as is usual with Development Control Order schemes.
- 2.9 However, for completeness reference is made to another application being prepared by TSL with respect to an additional employment site adjacent to Junction 9 of the M40. This scheme is for:
- “Full planning application for the erection of a new high quality combined research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure including: formation of signal-controlled vehicular access to the A41 and repositioning of existing bus stops; ancillary workshops; staff gym and canteen; security gate house; a building for use as an energy centre (details of the energy generation reserved for future approval); loading bays; service yard; waste management area; external plant; vehicle parking; landscaping including permanent landscaped mounds; sustainable drainage details; together with the demolition of existing agricultural buildings within the red line boundary; and the realignment of an existing watercourse”.*



## **Local Highway Network**

### **B4100**

- 2.10 The B4100 is located between the two parcels of land that comprise the Site and is a two-way single lane carriageway road with a 50mph speed limit. To the south-east the B4100 connects the Site directly to Bicester (5.3km) and to the north-west it connects the Site to the A43 (0.6km) via Baynards Green roundabout.

### **A43**

- 2.11 The A43 is accessed via the Baynards Green roundabout, a large four-arm, two-lane roundabout. The A43 is a dual-carriageway that connects the B4100 to the M40 via junction 10 to the south of the Site and also continues north connecting to the M1.

### **M40**

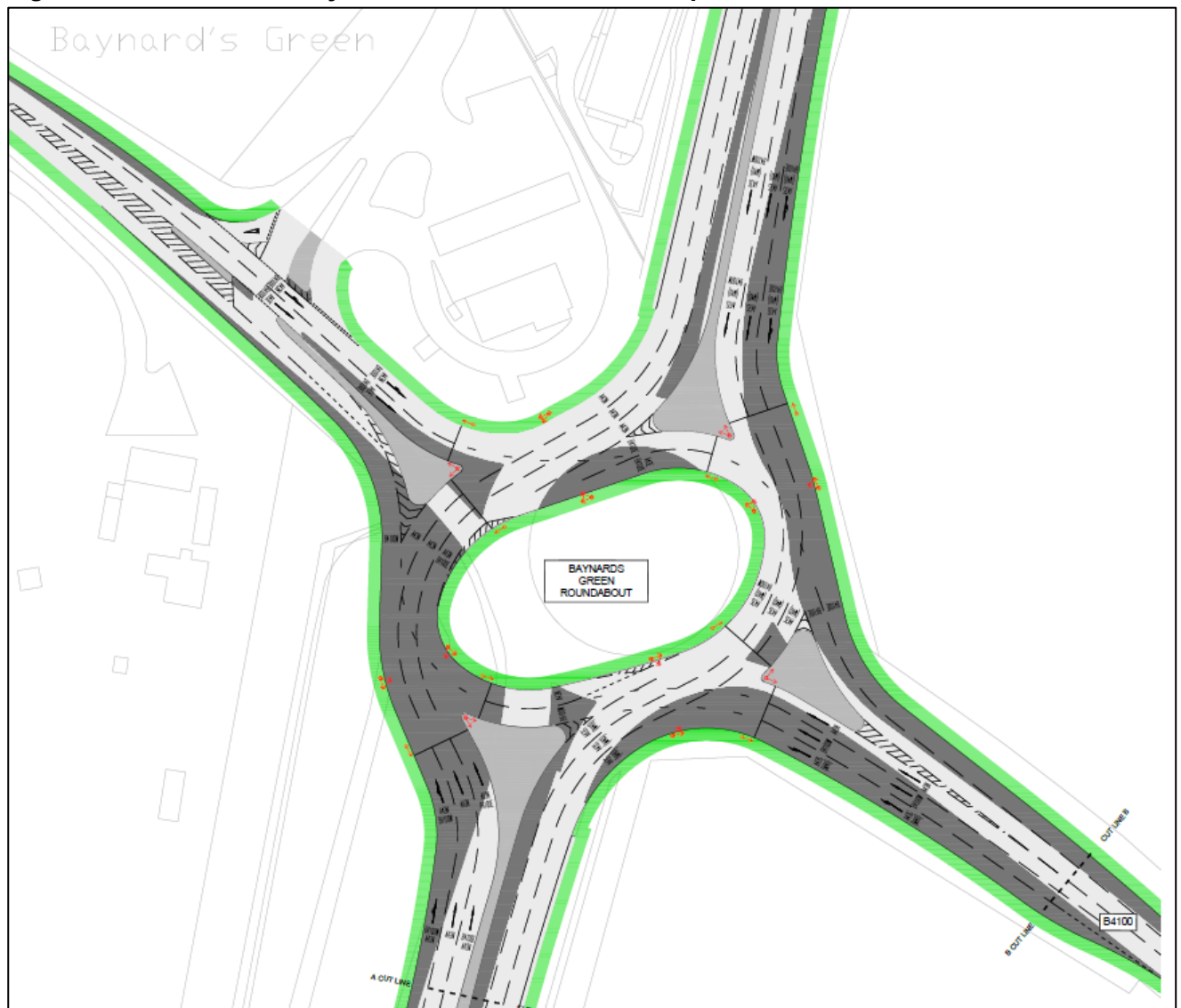
- 2.12 Junction 10 of the M40 is located approximately 1.7km to the south west of the Site. The M40 runs south towards London and north towards Birmingham and hence can connect the Site to locations across the country.

## **Highway Improvements**

### A43/B4100 Baynards Green Roundabout

- 2.13 Oxfordshire Growth Board (OGB) have allocated funding to increase the capacity of the A43 Baynards Green roundabout.
- 2.14 Developments to the Baynards Green Roundabout will be closely associated with developments at Junction 10 of the M40. These developments will aim to increase network capacity, improve road safety at junctions and reduce journey times.
- 2.15 The upgrades of the junction will involve the signalisation of the roundabout, an additional lane on the northern arms and additional road markings.
- 2.16 This will support the ongoing housing development taking place the former RAF base at the Upper Heyford site (Heyford Park).
- 2.17 National Highways are planning to complete the design by August 2022 and start construction by November 2022, with delivery in 2023. The proposed layout is shown at **Figure 2.2**.

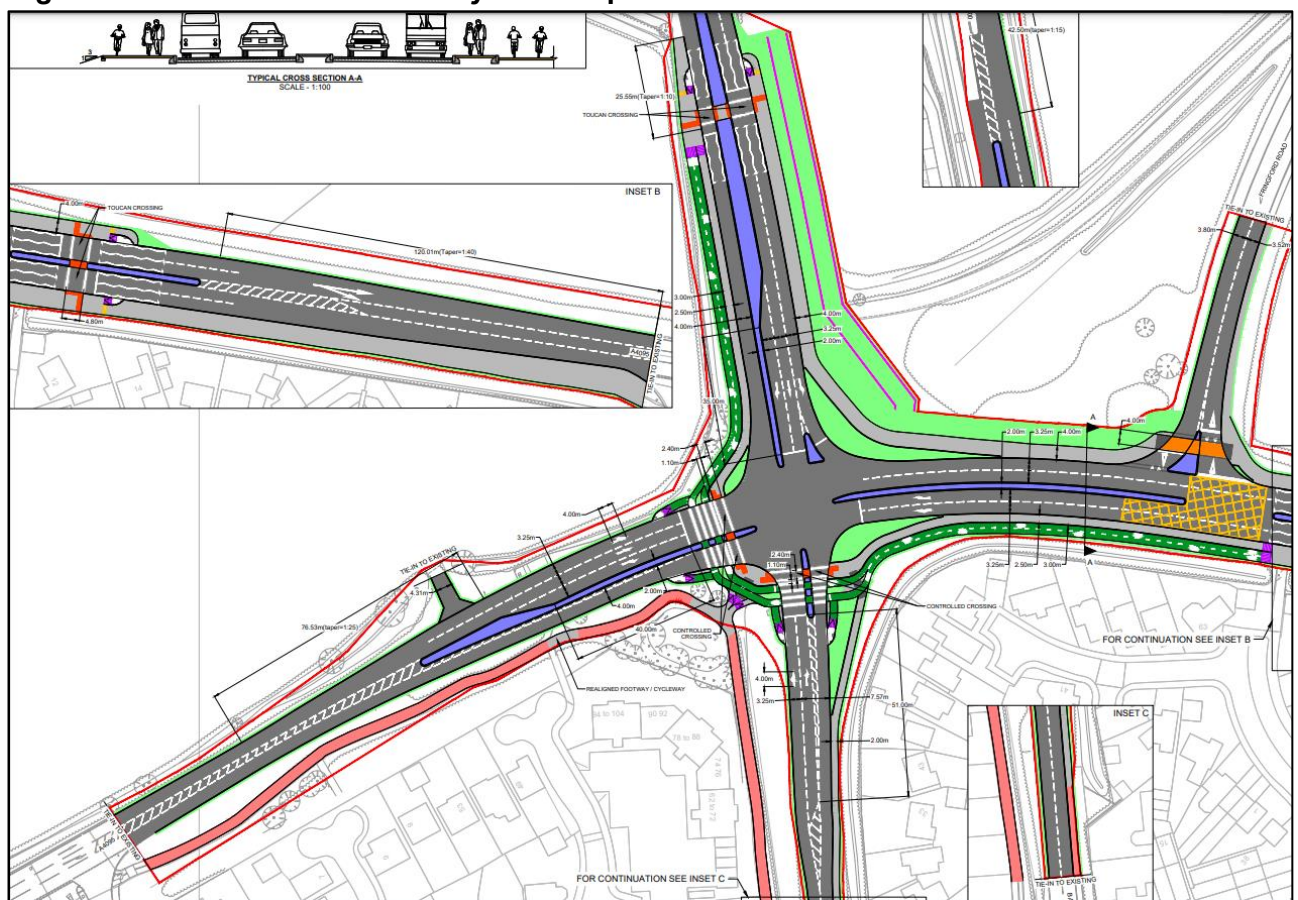
**Figure 2.2 – A43/B4100 Baynards Green Roundabout Improvement Scheme**



#### B4100/A4095 Banbury Road Roundabout

- 2.18 The revised junction will replace the existing roundabout with a new signalised four arm crossroad junction. There will be three lane entries at the B4100 northern and A4095 western approaches, and other arms would have two lane entries. The existing carriageways of both the A4095 and the B4100 would be widened.
- 2.19 The existing shared footway/cycleway would be retained with some realignment, to the west of the southern arm and to the south of the western arm. Separate footway and cycleways are proposed along the southern side of the eastern arm and western side of the northern arm. A new shared footway/cycleway is proposed on the east of the northern arm and the north of the eastern arm.
- 2.20 The proposed layout is shown in **Figure 2.3** below.

**Figure 2.3 – B4100/A4095 Banbury Road Improvement Scheme**



- 2.21 OCC are undertaking the design work for the improvements which is understood to be constructed between April 2022 and February 2023.

## Accessibility by Non-Car Modes

### Accessibility by Walking and Cycling

- 2.22 It is recognised that accessibility to the Site by walking and cycling is currently limited with no footway currently presented along the B4100. However, it is noted that as part of the SES Land at Junction 10 M40 development, Oxfordshire County Council (OCC) has sought the provision of a new shared cycleway towards Bicester.
- 2.23 With regard to cycling, it is considered that this mode of transport is an option for trips up to around 5km in length, which equates to a 20-minute journey time in an urban environment. The 5km distance in this location would mean that employees could access by bicycle to local villages such as Stoke Lyne, Ardley and Bucknell. The nearest bus station, Braeburn Avenue, Elmsbrook is also within this 5km boundary (4.1km).
- 2.24 As detailed above, it is noted that as part of the SES Land at Junction 10 M40 development (refs. 21/03266/F, 21/03267/OUT and 21/03268/OUT). OCC has sought the provision of a new shared footway/cycleway towards Bicester. The B4100 cycleway will be 3m wide with a margin between the path and the edge of the carriageway.

- 2.25 It is understood that the final form of this link will be confirmed following the outcome of further detailed discussions with OCC that will take into account the usual technical and viability assessments associated with any new piece of significant infrastructure. However, an extract of the indicative design that has been submitted in support of the SES Land applications is provided at **Figure 2.4**.

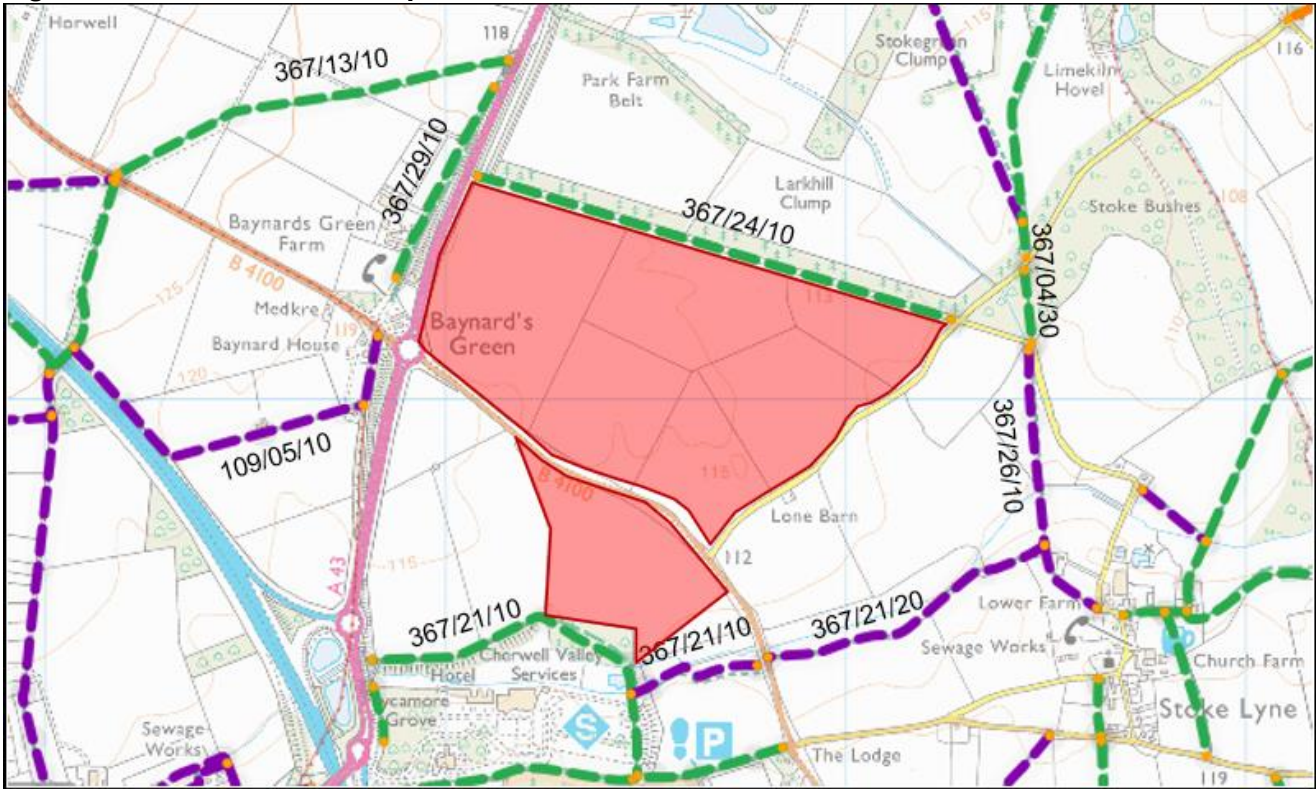
**Figure 2.4 – Proposed cycleway along the B4100 Map Extract**



- 2.26 The B4100 cycleway will be 3m wide with a margin between the path and the edge of the carriageway and will provide connections towards National Cycle Network (NCN) Route 51 within Bicester. NCN Route 51 is a long-distance cycling route which begins in Oxford, passing Milton Keynes, Bury St Edmunds and Ipswich before reaching the coast at Felixstowe.
- 2.27 It is also recognised that the Bicester Local Cycling and Walking Infrastructure Plan (LCWIP) (adopted in September 2020) sets out a vision and plan to increase cycling and walking for the town of Bicester. With regard to cycling, the plan states that there is a target to increase cycle journeys in Bicester by 200%. As such, it is anticipated that cycling will become a more accessible mode of transport in the future as development is built out in Bicester.
- 2.28 To the west of the Site travel on foot or by bicycle will also be supported through improvements committed through a National Highways scheme at Baynards Green Roundabout. Such development will include signals to allow for effective travel flow. There is also the opportunity for signals to be associated with toucan crossings that would allow pedestrians and cyclists to navigate the roundabout safely and access the nearby service stations.
- 2.29 In addition to the above, it is noted that a number of public rights of ways (PROWs) are located in the vicinity of the site as shown in **Figure 2.5** below.



Figure 2.5 – PRow Routes Map Extract



- 2.30 Public Right of Way (PRow) Route 367/24/10 runs along the northern boundary of the Site providing a secondary access to a farm and a potential recreational route. The bridleway measures 1.2km in length and could be used to provide an additional access to the Site to those on foot or bicycle.
- 2.31 Bridleway 367/21/10 is located to the south of the southern parcel of the Site, routing to Cherwell Valley Service Area and also connects to the Footpath 367/21/20, which routes to the nearby settlement of Stoke Lyne.

Accessibility by Bus

- 2.32 An existing bus service routes along the B4100 between the northern and southern parcels of the Site. The service is the 505, operated by Stagecoach. This route travels between Brackley to Bicester including a section along the B4100. The service also serves Bicester Village railway station (providing connections to Oxford and London) and the northern urban extension at Radstone Fields in Brackley. Currently no stops are present by the Site.
- 2.33 **Table 2.1** shows the service frequency of the 505 service.

Table 2.1 - Existing Bus Services

Service	Route	Approximate frequency in both directions	
		Monday - Saturday	Sunday
505	Brackley - Bicester	Hourly service from 06:47 -17:32.	No Service



- 2.34 It is noted that the 505 bus service has been introduced during the Covid-19 pandemic, and therefore at a difficult time to develop new patronage. OCC expressed their concerns within the SES Land at Junction 10 M40 consultation response regarding the economic viability of the service. However, with the SES Land at Junction 10 M40 and the upcoming development proposals at the Site, this presents an opportunity for the uptake of the service with a need for sustainable travel options to both Sites.
- 2.35 Furthermore, as part of the development proposals, a new bus stop/layby will be provided to improve accessibility by public transport for future employees and visitors of the Site. Further details are provided within Section 4 of the report.

### Accessibility by Rail

- 2.36 The closest railway station to the Site is Bicester North located 6.8km to the south-east of the Site. This station is managed by Chiltern Railways. The station provides 673 car parking spaces and 65 cycle parking spaces that are sheltered and monitored by CCTV.
- 2.37 This station has bus services, including the 505 Stagecoach service that would allow employees to potentially travel towards the Site to Charlotte Avenue bus stop, Elmsbrook (this is the closest bus stop to the Site that is also on the 505 route). The station also has step free access. **Table 2.2** shows the frequency of services available at Bicester North railway station.

**Table 2.2 - Existing Rail Services**

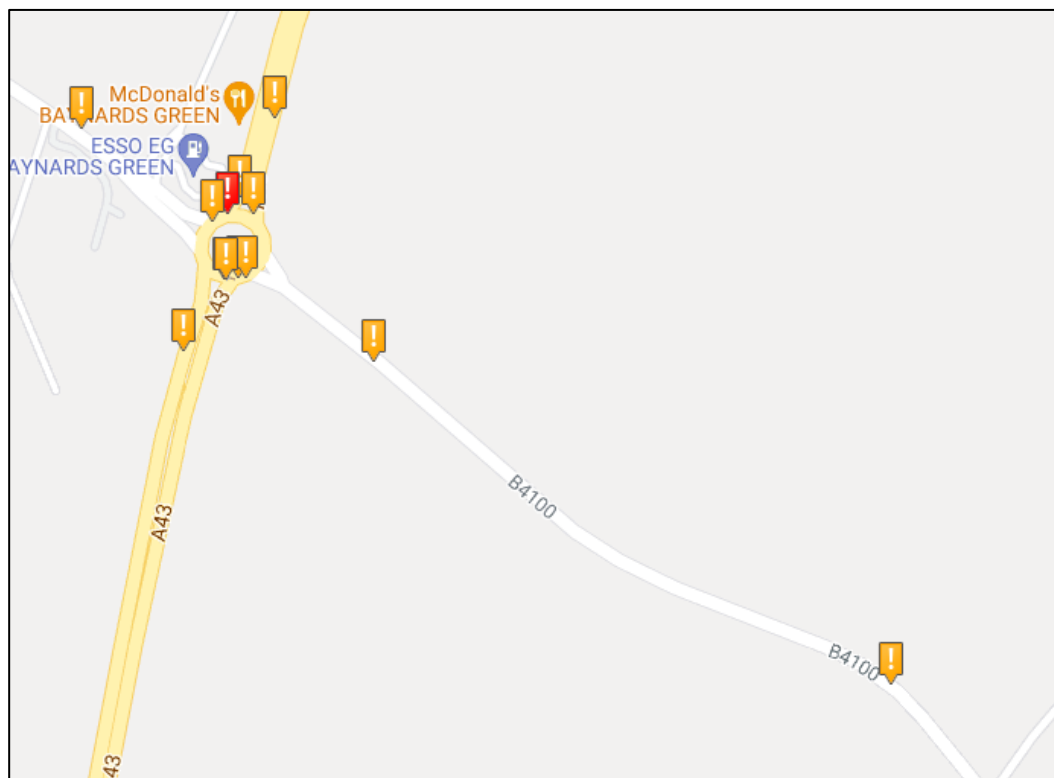
Service	Route	Approximate frequency in both directions		
		Monday - Friday	Saturday	Sunday
<b>Chiltern Railways</b>	Bicester North – London Marylebone	2 per hour	1 per hour	1 per hour
<b>Chiltern Railways</b>	Bicester North - Banbury	2 per hour	1 per hour	1 per hour
<b>Chiltern Railways</b>	Bicester North – Birmingham Snow Hill	2 per hour	1 per hour	1 per hour

- 2.38 As shown in **Table 2.2**, Bicester North is well connected to a number of locations including London and Birmingham. Smaller local towns such as Banbury can also be accessed by train via Bicester North station. These services run Monday through to Sunday at a frequency of one or two trains per hour.

### Personal Injury Collisions

- 2.39 Personal Injury Collision (PIC) data has been obtained for the latest 5-year period (2016-2020) from Crash Map. The study area obtained comprised the B4100 and the A43 including the Baynards Green Roundabout. An extract of the study area is shown within **Figure 2.6** below.

**Figure 2.6 – Crash Map Study Area Map Extract**



- 2.40 At the nearby Baynards Green Roundabout located approximately 400m to the west of the Site, there was an average of two reported incidents per year between 2015 and 2020, with most incidents determined as 'slight' in severity.
- 2.41 There are a cluster of incidents at both the A43 exit arms.
- 2.42 In regards to the cluster at the A43 exit arm to the north, three incidents occurred from 2016-2019, with one identified as serious and two identified as slight in severity. It is noted that for the southernmost slight incident that road conditions were damp/wet therefore resulting in a slippery surface. A review of the collisions did not determine a trend in causes of collision.
- 2.43 In regards to the A43 exit arm to the south, four incidents took place between the years of 2017-2019. These were all identified as slight in severity. A review of the collisions did not determine a trend in causes of collision.
- 2.44 There are two reported incidents on the B4100 in proximity to the Site access, both determined as slight in severity.
- 2.45 Overall, given the relatively low number of incidents, this would not suggest a design flaw or existing road safety issues which could be exacerbated by the proposed development.

## Local Amenities

- 2.46 The number of local amenities within 500m of the site are limited, but facilities are present. The Moto Cherwell Valley service is located to the south of the site. Here there are a number of food outlets

including M&S food, Costa and Pret. To the west Baynards Green services include a McDonalds and ESSO fuel garage.

## **Summary**

- 2.47 It is recognised that accessibility to the Site by walking and cycling is currently limited with no footway currently presented along the B4100. However, it is noted that as part of the SES Land at Junction 10 M40 development, Oxfordshire County Council (OCC) has sought the provision of a new shared cycleway towards Bicester. The final form of this link will be confirmed following the outcome of further detailed discussions with OCC that will take into account the usual technical and viability assessments associated with any new piece of significant infrastructure.
- 2.48 With regard to bus travel, service 505 currently routes past the site, which currently provides a half hourly service. Whilst there are currently no bus stops in the vicinity of the site, the proposed development will seek to provide new bus stop and layby facilities to facilitate travel by bus to and from the site.
- 2.49 Finally, it has been shown through reference to recent accident statistics that the study area is not subject to any inherent design issues that results in clusters of accidents. Indeed, the causation factors for all of the accidents recorded in the last five years can be classified as being driver error.

### 3 Planning Policy

3.1 There are a number of documents that contain planning policies relevant to transport. The key policy documents which set the context for the development proposals are as follows:

- National Planning Policy Framework – July 2021;
- Planning Practice Guidance – March 2014;
- OCC Street Design Guide (2021)
- Saved policies of the Adopted Cherwell Local Plan 1996 – November 1996; and,
- Adopted Cherwell Local Plan 2011-2031 Part 1 – July 2015 (re-adopted December 2016).

#### National Policy

##### National Planning Policy Framework (July 2021)

- 3.1 The National Planning Policy Framework (NPPF) was published by the Ministry of Housing, Communities and Local Government in July 2021. This replaces all previous versions of the NPPF.
- 3.2 The NPPF sets out the Government’s planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced.
- 3.3 The three overarching objectives to achieve sustainable development outlined within the NPPF include:
- i. **an economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
  - ii. **a social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being; and
  - iii. **an environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
- 3.4 Chapter 9 covers the promotion of ‘Sustainable Transport’ and Paragraph 104 states:

*“Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*

- a) the potential impacts of development on transport networks can be addressed;*
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;*
- d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.”*

3.5 Paragraph 105 goes onto state:

*“The planning system should actively manage patterns of growth in support of these objectives. 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.”*

3.6 Paragraph 107 states in relation to parking standards:

*“If setting local parking standards for residential and non-residential development, policies should take into account:*

- a) the accessibility of the development;*
- b) the type, mix and use of development;*
- c) the availability of and opportunities for public transport;*
- d) local car ownership levels; and*
- e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.*

#### Considering Development Proposals

3.7 NPPF states that in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that (Paragraph 110):

*“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.”*

- 3.8 Guidance is provided on the consideration of proposals. It is mentioned in Paragraph 111 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”*.
- 3.9 Within the above context it is stated that all applications for developments should (Paragraph 112):
- “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.”*

### **Planning Practice Guidance**

- 3.10 Planning Practice Guidance (PPG), which is available from the Ministry of Housing, Communities and Local Government website, supports the overarching aims of the NPPF. Relevant transport guidance for planning applications is provided in “Travel plans, Transport Assessments and Statements” (March 2014) which identifies that the Transport Assessment of a planning application should typically consider the following (paragraph 15):
- information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport);
  - information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;

- data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;
- a qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site;
- an assessment of trips from all directly relevant committed development in the area (i.e. development that there is a reasonable degree of certainty will proceed within the next three years);
- data about current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions on the highways network;
- an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area;
- an assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);
- measures to improve the accessibility of the location (such as provision/ enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;
- a description of parking facilities in the area and the parking strategy of the development;
- ways of encouraging environmental sustainability by reducing the need to travel; and
- measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads).

### **Adopted Cherwell Local Plan (1996)**

- 3.11 'Saved' policies of the Adopted Cherwell Local Plan 1996 remain part of the statutory Development Plan to which regard must be given in the determination of planning applications.
- 3.12 Policy TR1 states that the Council will require satisfaction that highways improvements and traffic measures will be provided before permitting development.
- 3.13 In addition, Policy TR7 states that development that is likely to generate significant traffic flows will be required to have access to major through routes and principal roads.

### **Cherwell Local Plan (2011-2031)**

- 3.14 Cherwell Local Plan (2011-2031) adopted in July 2015 and subsequently updated in December 2016. This local plan sets out to provide guidance for development within the Cherwell District. Highlighting the importance of sustainable development that has a minimal impact on the environment whilst also providing new economic opportunity within the region. This local plan therefore acts as a powerful tool to help shape the Cherwell District allowing it to develop into the future.

#### Policy SLE 1: Employment Development

- 3.15 Cherwell District Council are conscious to ensure that employment opportunities within the region continue to develop into the future, in order to achieve this they aim to:

*“create new employment sites for commerce and engineering/manufacturing to meet the needs of existing and new companies. We will also actively promote those sites for inward investment.*

*promote growth we have allocated an increase in the amount of employment land in the District. This is focused more at Bicester in order to match the growth in housing and make the town more sustainable.”*

#### Policy SLE4: Improved Transport and Connections

- 3.16 The Cherwell Local Plan also considers the need to improve transport infrastructure to ensure it can accommodate economic growth in the region whilst also helping to reduce reliance on single use vehicles.

*“Over the life of the plan there will be investment in the highway network as well as contributions from development to strengthen the road infrastructure of the plan area. This will include the southwest Bicester Perimeter Road (Vendee Drive, already completed) and new highway improvements, including a potential relief road on the southeast and south of Bicester, works to the A34 south from Bicester and improvements to junctions 9 and 10 of the M40, of which Junction 9 is programmed for early delivery*

*Our strategy for managing growth across the District is to locate development in sustainable locations and identify appropriate and deliverable measures to meet the transport needs of the District.*

*Infrastructure will need to be provided which allows for more walking, cycling, the use of public transport and integration between modes. Cycling and walking in the two towns is a means to secure an effective integration between the established areas and new areas of development. Consideration will be given to the implementation of walking and cycling improvements which connect to employment areas, the town centre and key services and that link urban routes with the rights of way network.”*

#### Policy ESD 1: Mitigating and Adapting to Climate Change

- 3.17 Development is a key consideration for Cherwell District Council, however in order to ensure that developments support the sustainability goals of the area Cherwell District Council aim to deliver:

*“development that seeks to reduce the need to travel and which encourages sustainable travel options including walking, cycling and public transport to reduce dependence on private cars.”*

### Parking Standards

- 3.18 The Cherwell Local Plan highlights applicants should adhere to the policies set out by OCC, for example parking policy. The relevant Oxfordshire Parking Standards are highlighted in **Table 3.1**.
- 3.19 It is understood that the Oxfordshire Parking Standards are in draft form.
- 3.20 The Oxfordshire County Council Car Parking Strategy sets out the relevant parking standards for non-residential developments, these are summarised in **Table 3.1**.

**Table 3.1: Oxfordshire Car and Bicycle Parking Standards**

Land Use	Car Parking (Maximum)	Cycle Parking Standard (Minimum)
B8– Warehousing	1 space per 200 sqm	Long Stay: 1 stand per 500 sqm
		Short Stay: 1 stand per 1000 sqm

*\*1 stand = 2 spaces*

- 3.21 In terms of disabled parking, blue badge provision will also be provided in line with the standard provision outlined in the DfT’s Inclusive Mobility Publication.
- 3.22 With regards to electric vehicle charging the ‘Oxfordshire Electric Vehicle Infrastructure Strategy’ has recently been adopted. Within this document, Policy EVI 8 states *‘planning permission will only be granted for non-residential development that includes parking spaces if a minimum of 25% of the spaces are provided with electric charging points’*.

### **OCC Design Guide (2021)**

- 3.23 OCC has recently published a new guide that seeks to help developers building new developments in Oxfordshire to do so at the same time improve the quality of life of residents. The document is the update to the previous residential design guide and as such mainly focuses on residential development, however there are some key themes and objectives that are also relatable to commercial development.
- 3.24 One of the key street design objectives is to prioritise sustainable and active travel to help reduce congestion, which means creating streets that are linked, well connected, safe and attractive for walking and cycling.
- 3.25 With regard to cycle parking, the design guide states that reference is made to OCC’s ‘Cycling Design Standards’. Reference to OCC standards are set out in **Table 3.1** and incorporated into the design of the scheme.
- 3.26 The guide also makes reference to EV charging spaces, which should be provided at a minimum of 25%. This again is referenced above and will be incorporated into the design of the scheme.

## 4 Development Proposals

## Overview

- 4.1 The development proposals relate to the provision of B8 employment units with ancillary offices with a combined Gross External Area (GEA) floor area of circa 300,000 square metres (including ancillary office floor space).
- 4.2 A parameter plan is provided in **Appendix A** to demonstrate how the proposed parameters could potentially come forward. **Figure 4.1** below also provides an extract of the masterplan for reference.

### Figure 4.1 – Parameter Plan



- 4.3 It is noted that the layout allows for the provision of an energy centre as part of the on Site infrastructure, to provide power and heat to businesses on the park. This delivers resilient, scalable and low carbon power, meeting future occupiers needs now and in the future.

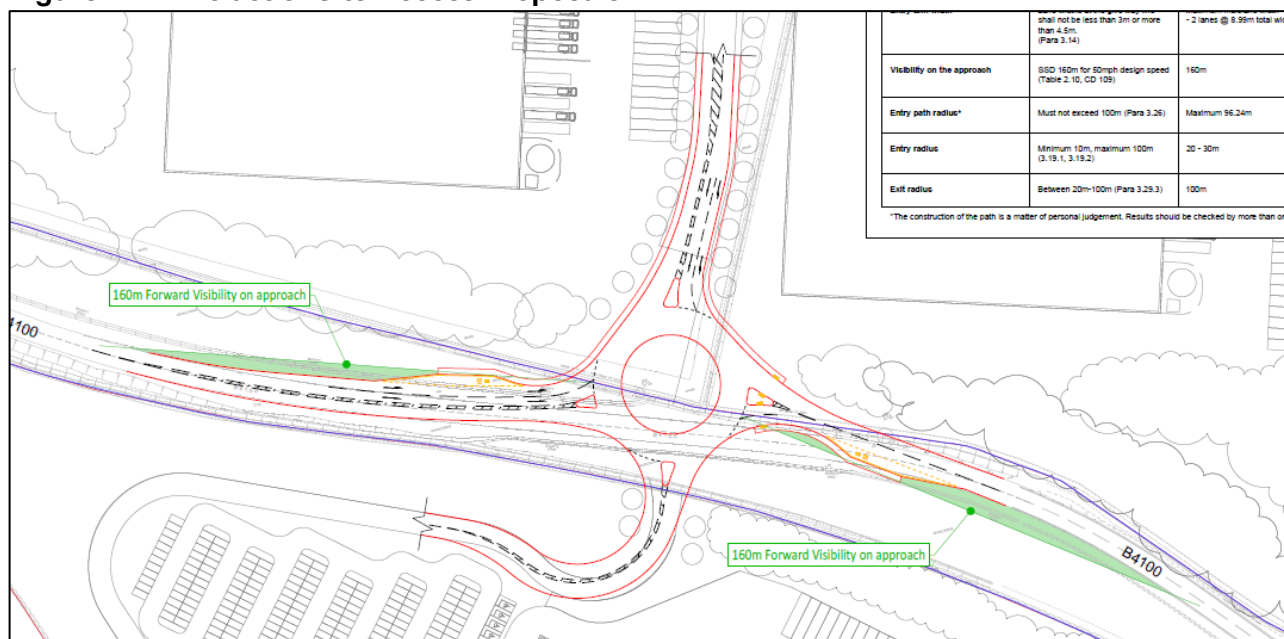
## Access Strategy

- 4.4 Access is proposed to be taken via a proposed four-arm roundabout adjoining the B4100, providing access to the northern units and southern units.



- 4.5 From the proposed estate roads, servicing yards and car parks, which serve each unit can be accessed. Access to the service yards and car parks are suitable for the proposed use and will appropriately serve the development proposals.
- 4.6 Plans showing the proposed access junction, including visibility splays, are included at **Appendix B** with an extract also provided below at **Figure 4.2**.

**Figure 4.2 - Extract of Site Access Proposals**



- 4.7 When considering the proposed access, it is important to note that it has been designed with reference to current best practice guidance. In this regard, it benefits from suitable visibility splays and radii that accommodate the largest vehicles that are anticipated to access the development on a regular basis. A summary of the swept path analyses that have been undertaken when designing the site access are provided below.
- 4.8 A Stage One Road Safety Audit of the proposed access junction and shared pedestrian/cycleway has been undertaken by Gateway TSP. This assessment, which is included at **Appendix C**, made only relatively minor observations about the design of the site access that have either been addressed now or that can be addressed at the detailed design stage.

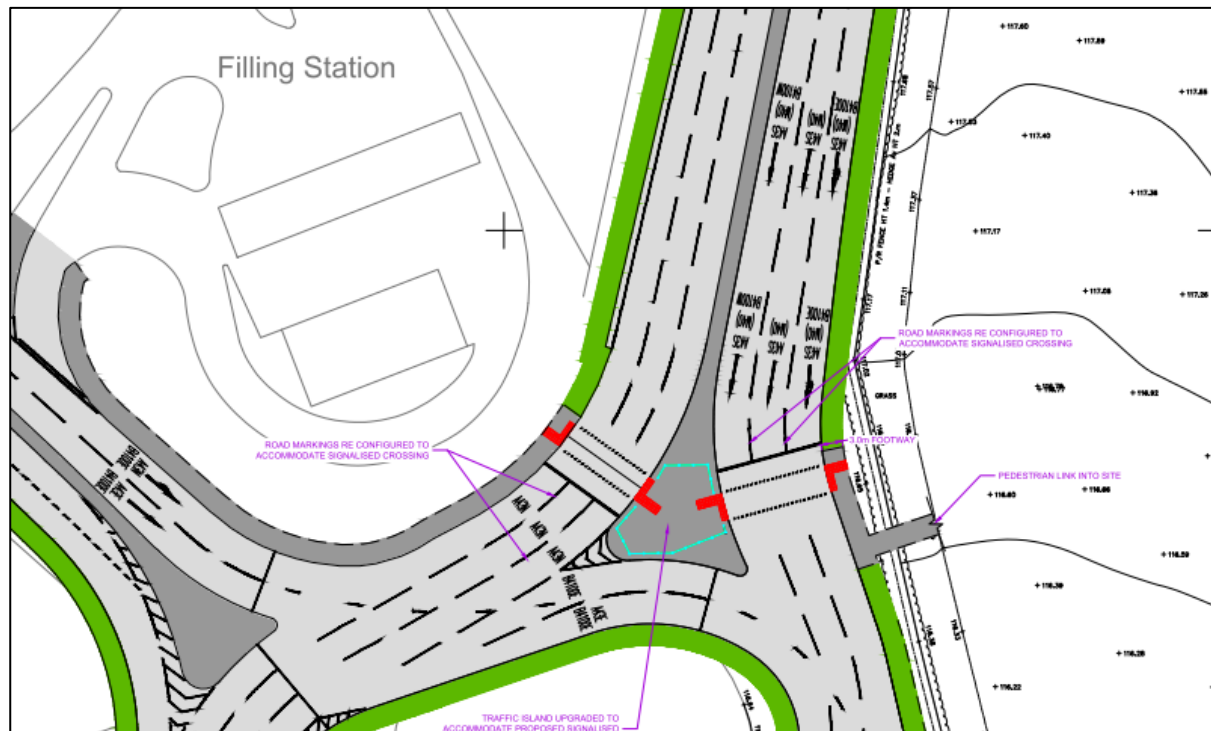
## Sustainable Transport Access

- 4.9 In accordance with national and local transport planning policies, the Applicant is committed to encouraging the use of more sustainable modes of transport. In this regard, it is intended that the following sustainable transportation measures will be adopted:
  - The inclusion of pedestrian routes within the Site that will connect the with the offsite infrastructure including:

- Subject to the outcome of further detailed discussions with OCC, a proportionate contribution towards the delivery of the segregated cycleway that will be provided adjacent to the B4100 as part of the SES Land at Junction 10 M40 site.
- Dedicated bus stops on the B4100.
- The inclusion of dedicated pedestrian/cycle crossing points on the Site access junction, which will provide effective links to the bus stops and cycle line proposed by the SES application(s).
- Cycle parking in line with OCC/CDC standards.
- The provision of electric car charging car parking spaces to encourage the use of electric cars which are recognised in Annex 2 of the NPPF as being a sustainable transport mode.
- Safe crossing points, lamp posts, direct routes, landscaping and tactile pavements will be provided to allow for the safe movement of pedestrians and cyclists throughout the Site.
- Operating a Travel Plan that will encourage employees to make use of more sustainable modes of transport when travelling to/from the Site.
- The proposed development will be fully accessible internally and externally for all users, with varying levels and types of disability. To be accessible for users with visual impairment, there will be step free access to the Site and/or tactile paving and dropped kerbs within the vicinity of the site.
- As part of the proposed access strategy, the Applicant will provide two new dedicated bus stops and bus laybys on the B4100 with lighting, shelters and real time passenger information (RTPI) provided and as a result of the proposed Site access junction. The bus stops are shown at **Figure 4.1** above.

4.10 In addition to this, the access strategy incorporates the provision of a pedestrian crossing on the A43 that is designed to cater for incidental pedestrian trips to and from the food outlets that are provided at the Baynards Green service area. For the purposes of this application, it has been assumed that the Baynards Green upgrade will be in place by the time the Proposed Development is operational. The location of the crossing is shown below.

### Figure 4.3 – Proposed Crossing at A43/B4100 Roundabout



- 4.11 As with the vehicular access point, the Stage One Road Safety Audit provided at **Appendix C**, made only relatively minor observations about the above design. These have either been addressed now or can be addressed at the detailed design stage, following the outcome of the micro-simulation modelling that is in the process of being undertaken and will be submitted in a Transport Assessment Addendum in due course.

## Parking

## Car and Lorry Parking

- 4.12 At the Reserved Matters stage, the level of parking will be confirmed having regard to individual operator requirements and the adopted parking standards. However, it is important to note that the illustrative layout provides sufficient space to meet the emerging parking standards that Oxfordshire County Council are currently referring to for commercial schemes such as this. In this regard, it is clear that parking can be provided at a level that ensures vehicles can all be accommodated safely on-site in designated areas.
- 4.13 It should also be noted that appropriate provision for blue badge, EV charging and motorcycle spaces will be made. In addition, lorry parking will be provided across the site within the service yards associated with each unit. Lorry parking will be provided at a level to meet the operational requirements of the proposals.

## Cycle Parking

- 4.14 Cycle parking will be provided in line with OCC standards. These spaces will split across the units and are located in convenient locations for staff as well as being secure and covered.

## Servicing

- 4.15 Service/delivery bays will be provided for the operational requirements of each of the units contained within the development Site. Each unit on Site, and the Energy Centre, will have a service yard large enough to accommodate the largest likely vehicle to serve the Site.
- 4.16 The yard entrances and yards themselves provide sufficient space to allow occupiers to avoid overspill onto the estate roads. The yards are also provided with marked HGV spaces to facilitate HGV parking on Site.
- 4.17 A review of the proposed site access roundabout has been undertaken through the use of AutoTRACK. The results of the AutoTRACK assessment are provided within **Appendix D**.
- 4.18 This assessment confirms that the site accesses have been designed to enable delivery and service vehicles, that are likely to enter and exit the Site on a regular basis, to 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.

## 5 Trip Attraction and Distribution

### Overview

- 5.1 This section sets out the approach to the trip generation assessment for the proposed B8 warehousing units.

### Proposed Use

- 5.2 The trip rates presented as part of the strategic employment development application sites associated with the SES Land Adjacent to M40 Junction 10 applications (Ref: 21/03266/F) have been used to form the basis of the trip generation assessment for the proposed development to ensure consistency.
- 5.3 These trip rates have been applied to the maximum floor area at the site of 300,000 sqm (GEA) and the resulting trip generation for the Site is presented in **Table 5.1**.

**Table 5.1: Vehicle Trip Generation for 300,00,square metres of Warehousing**

Time Period	Trip Rate (per 100sqm)			Trip Generation (300,000 sqm B8 Use)		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
<b>Total Vehicles</b>						
AM Peak	0.111	0.046	0.157	333	138	471
PM Peak	0.041	0.114	0.155	123	342	465
<b>HGVs</b>						
AM Peak	0.019	0.019	0.038	57	57	114
PM Peak	0.016	0.015	0.031	48	45	93

- 5.4 It is anticipated that the proposed development for circa 300,000sqm of floor space has the potential to generate in the order of 460 to 470 two-way vehicular trips in the peak travel periods. Of the total vehicle trips, the development is expected to generate in the order of 90 to 115 HGV movements.

### Vehicular Trip Distribution

- 5.5 Details of future business occupants and their employee catchments are not known at this stage. Therefore, the 2011 Census data in addition to data presented within the nearby application site associated with the SES Land Adjacent to M40 Junction 10 application (Ref: 21/03266/F) has been interrogated in order to estimate the anticipated trip distribution for the proposed development. The resulting distribution for vehicles and HGVs is set out in the figures below.



Figure 5.1 – Car Assignment

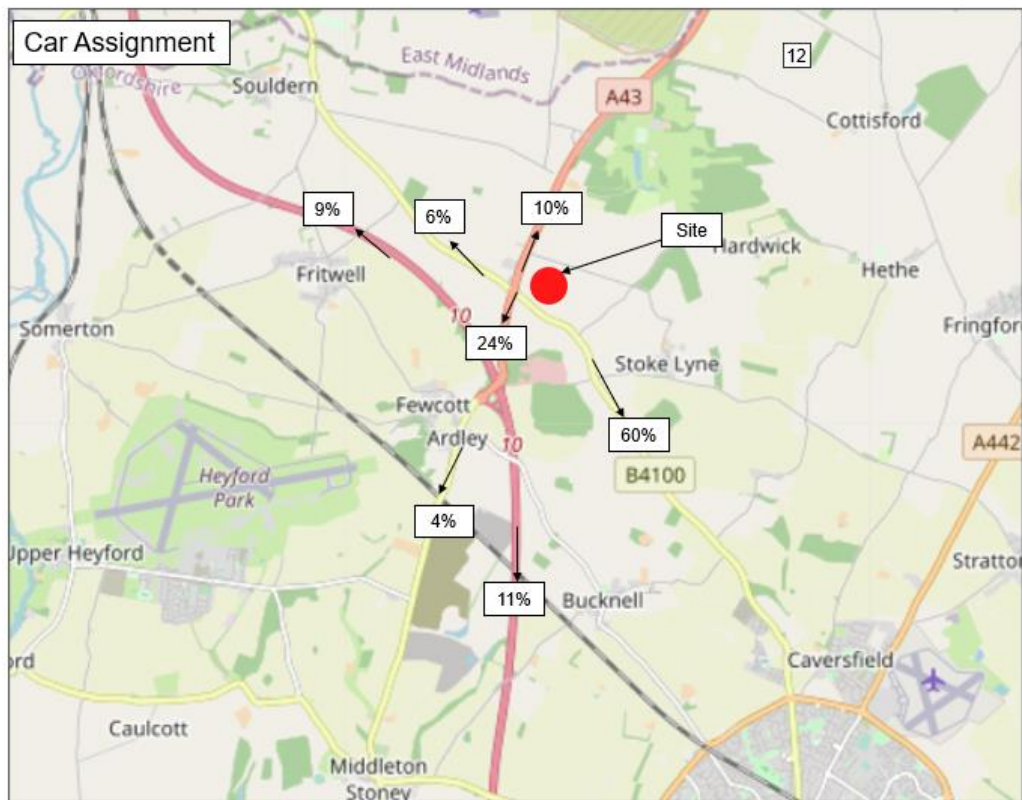
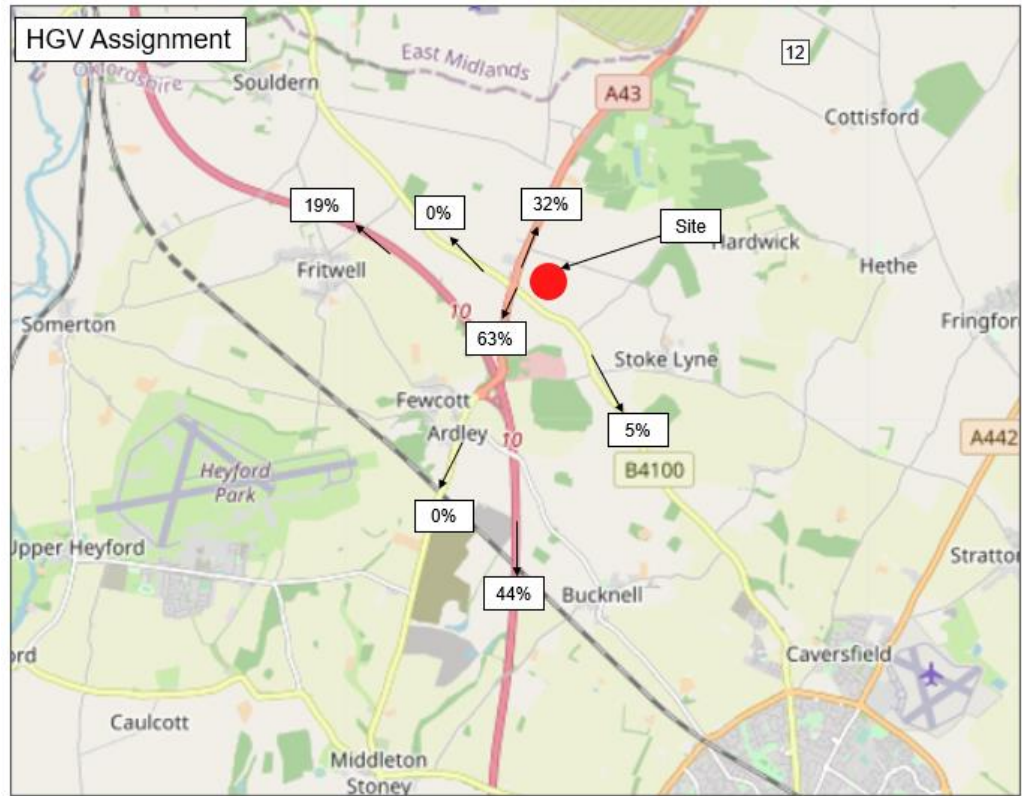


Figure 5.2 – HGV Assignment



## **6 Highway Impact Assessment**

6.1 This section outlines the proposed approach to identifying the impact of the proposed development.

### **Baseline Traffic Flows**

6.2 When assessing the impacts of storage and distribution land uses such as that proposed, it is generally accepted that the critical periods in terms of traffic impact are the weekday morning and evening peak hours. It is during these periods that traffic flows on the adjacent highway network are likely to be at their greatest. In this regard, it is considered that the focus of the traffic impact assessment associated with the proposed development should be during the weekday AM and PM network peak hour periods.

6.3 This methodology is also in line with the previous assessment associated with the Strategic Employment Site Land at Junction 10 M40 applications (Ref: 21/03266/F), with baseline traffic data extracted from the Transport Assessment.

6.4 The surveys were undertaken in 2019 during the morning and evening network peak hours (08:00-09:00 and 17:00-18:00 hours).

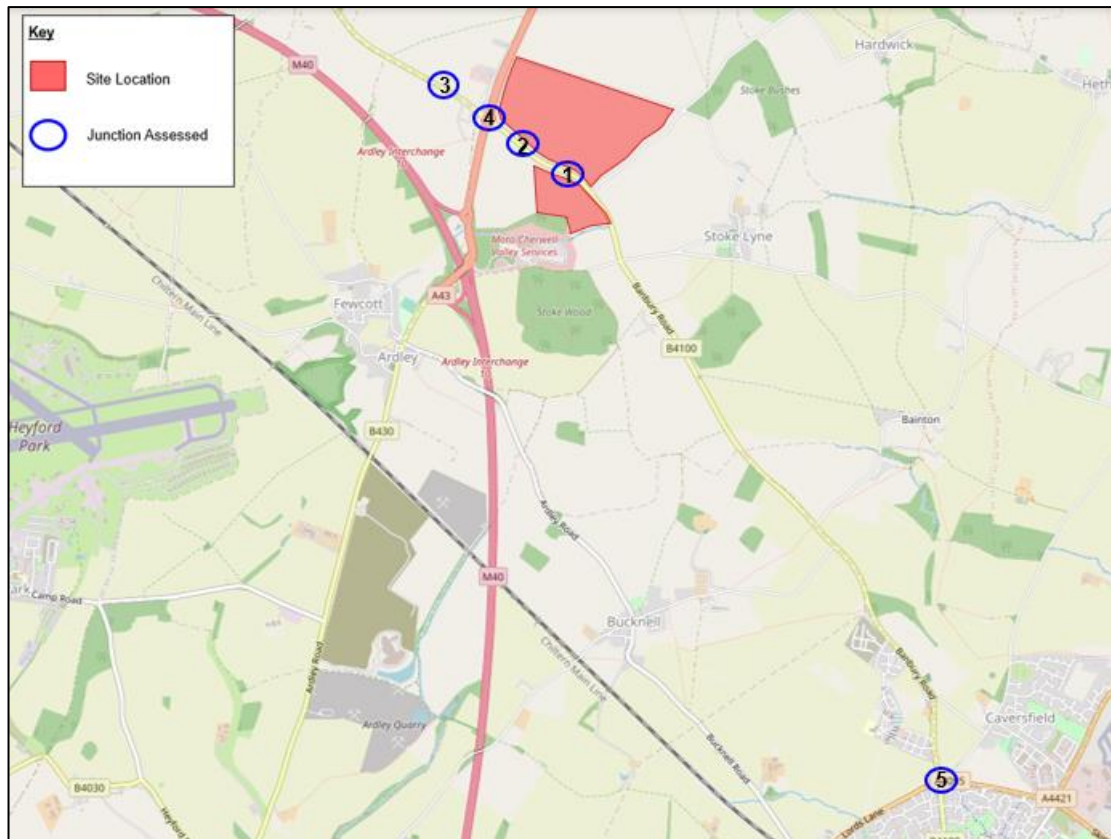
### **Scope of Assessment**

6.5 Given the distribution of development traffic onto the surrounding highway network, the following junctions have been assessed:

- Junction 1: Site Access;
- Junction 2: Albion Land Eastern Access;
- Junction 3: Albion Land Western Access;
- Junction 4: A43/B4100 Roundabout;
- Junction 5: B4100/A4095 Banbury Road Roundabout (Reference Case 2026 Only)

6.6 For context, the assessed junctions are shown on the figure below.

**Figure 6.1 – Location of Assessed Junctions**



6.7 The assessment presented below uses the geometric parameters presented in the Junctions 9 ARCADY reports attached within the TA undertaken by DTA (associated with planning application 21/03266/F). Separate measurements have been undertaken for in relation to the proposed site access.

### Assessment Scenarios

6.8 The following weekday AM and PM network peak hour scenarios have been assessed when determining the potential impact of the proposed development on the surrounding highway network:

- 2019 Baseline;
- 2025 Future Year Baseline (without development, plus committed development);
- 2025 Future Year Baseline + Development;
- 2025 Future Year Baseline + Development + SES M40 Junction 10;
- 2031 Future Year Baseline (without development, plus committed development);
- 2031 Future Year Baseline + Development; and,
- 2031 Future Year Baseline + Development + Strategic Employment M40 Junction 10.

6.9 The traffic flows associated with the scenarios above are included at **Appendix E** for reference.

- 6.10 With regard to Junction 5 (B4100/A4095/Banbury Road), this junction has been modelled using modelling software Junctions 9 under a 2026 Only, using Bicester Traffic Model traffic forecasts, as per the DTA methodology. The traffic flows are derived from the Bicester SATURN model which has recently been updated to consider the increased growth proposals considered for the Local Plan.

### Traffic Growth

- 6.11 The TEMPRO growth factors used to establish the '2025 Future Year Baseline' and '2031 Future Year Baseline' assessment scenarios. These have been extracted from the Land Adjacent to M40 Junction 10 applications (Ref: 21/03266/F, Ref: 21/02367/OUT, Ref: 21/03268/OUT) applications and are provided below for completeness.

**Table 6.1 - TEMPRO Growth Factors**

Years	Assessment Period	Road Type	TEMPRO Growth Rate
2019-2025	Morning Peak	Principal	1.071
		Trunk	1.093
		Motorway	1.098
	Evening Peak	Principal	1.076
		Trunk	1.098
		Motorway	1.103
2019-2031	Morning Peak	Principal	1.112
		Trunk	1.141
		Motorway	1.163
	Evening Peak	Principal	1.120
		Trunk	1.149
		Motorway	1.170

- 6.12 When establishing the future 'without development' and 'with development' traffic flow scenarios, growth rate factors extracted from the TEMPRO database have been applied to the 2019 base flows.

### Committed Development Flows

- 6.13 The '2025 Future Year Baseline' and '2031 Future Year Baseline' scenarios subsequently consider the impact of additional traffic generated by surrounding developments, listed in **Table 6.2** below.

**Table 6.2 - Committed Developments**

Development Reference	Description
Great Wolf Leisure Resort (ref: 19/02550/F)	Leisure resort incorporating a waterpark, a family entertainment centre, a hotel, conferencing facilities, restaurants, access, parking and landscaping
Axis J9 Phase 1 (ref: 20/03199/OUT)	Erection of up to 53,000 sqm of floor space to be for B8 and B2 ancillary B1 (uses classes) employment provision within two employment zones; a new access off the Middleton Stoney Road (B4030); temporary access of Howes Lane pending the delivery of the realigned Howes Lane; 4.5ha of residential land; internal roads, paths and cycleways; landscaping including strategic green infrastructure (G1); provision of sustainable urban systems (suds) incorporating landscaped areas with balancing ponds and swales. Associated utilities and infrastructure.
Heyford Park (ref: 18/00825/Hybrid)	Hybrid planning application for development on land at the Former RAF Upper Heyford air base and adjacent land north and south of Camp Road. Mixed use application for up to: 1,175 dwellings, 60 close care dwellings, retail employment and community use spaces, school, energy facility and open spaced.
Albion Land Developments at J10 M40 (refs: 21/03267/OUT & 21/03268/OUT)	Buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E (g) (i)) floorspaces and associated infrastructure; access from B4100.
Symmetry Park Oxford North	Public Consultation has been undertaken for a full planning application for research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure including formation of signal-controlled vehicular access to the A41.

- 6.14 It is noteworthy that the consideration of both committed development and undiscounted TEMPORAL growth (set out in **Table 6.1**) result in a robust assessment, whereby there is likely to be an element of double counting. It should also be noted that the cumulative effects of applications 21/032267/OUT and 21/03268/OUT have been considered, where in effect they are separate applications and there is thus the prospect that one (or both) of these are not brought forward in line with the expected opening year of the proposed development.
- 6.15 The traffic flows associated with the committed developments listed above are illustrated in **Appendix E**.

### Junction Modelling

- 6.16 When considering the below assessment, it is worthy to note that Junctions 9 expresses the relationship between traffic flow and the capacity of a priority-controlled junction as a ratio, referred



to as the Ratio of Flow to Capacity (RFC). Based upon these results it also predicts the anticipated queue lengths and associated periods of delay.

- 6.17 It should be noted that guidelines prepared by the IHT indicates that RFC values of 0.85 to 0.90 have historically been considered to reflect uncongested design thresholds, whilst an RFC of 1 indicates that a junction is operating at capacity.
- 6.18 This is further exemplified by the Level of Service (LoS) values that have been predicted by Junctions 9 as they are all consistent with free flow conditions (i.e. 'A' and 'B'). For reference, the following summarises the definitions that are provided within Highway Traffic Analysis and Design (Salter & Hounsell, 1996) for the various LoS bandings that are predicted by Junctions 9:
- *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 a 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*
- 6.19 In a similar vein to Junctions 9, LinSig shows the Practical Reserve Capacity (PRC) of the junction as a percentage, which indicates the amount of residual capacity that a junction has. LinSig assumes that a degree of saturation of 100% on a link indicates traffic flows are equal to its capacity. Notwithstanding this, it is generally accepted a negative PRC is considered to be representative of a junction operating over its practical capacity and may be subject to periods of congestion/delay.
- 6.20 A summary of the modelling results is summarised in the tables below.

### **Proposed Site Access**

- 6.21 The results of this assessment for the assumed 2025 opening year and 2031 future year for the proposed site access roundabout are presented in **Table 6.1**. The full junction modelling reports are attached at **Appendix F**.
- 6.22 As the proposed site access will only be operational in the with development scenario, no without development scenario comparison is shown in the tables below.

**Table 6.1 – Proposed Site Access Roundabout Modelling Summary (2025 and 2031 Scenarios)**

Junction	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Delay	LoS	RFC	Delay	LoS
<b>2025 Future Year Baseline + Development</b>						
Site Access (East)	0.02	2.53	A	0.05	2.03	A
B4100 (South)	0.13	2.89	A	0.17	2.97	A
Site Access (West)	0.01	3.67	A	0.01	3.15	A
B4100 (North)	0.14	2.00	A	0.09	1.85	A
<b>2025 Future Year Baseline + Development + SES M40 Junction 10</b>						
Site Access (East)	0.02	2.55	A	0.05	2.08	A
B4100 (South)	0.16	3.04	A	0.20	3.10	A
Site Access (West)	0.01	3.74	A	0.01	3.22	A
B4100 (North)	0.15	2.04	A	0.12	1.91	A
<b>2031 Future Year Baseline + Development</b>						
Site Access (East)	0.02	2.54	A	0.05	2.03	A
B4100 (South)	0.13	2.90	A	0.17	2.98	A
Site Access (West)	0.01	3.77	A	0.01	3.16	A
B4100 (North)	0.14	1.96	A	0.09	1.85	A
<b>2031 Future Year Baseline + Development + SES M40 Junction 10</b>						
Site Access (East)	0.02	2.56	A	0.05	2.09	A
B4100 (South)	0.16	3.05	A	0.20	3.12	A
Site Access (West)	0.01	3.94	A	0.01	3.23	A
B4100 (North)	0.15	2.00	A	0.12	1.91	A

- 6.23 As set out above, it is recognised that an RFC of below 0.90 represents uncongested conditions and as such the results of the modelling assessment in both the 2024 and 2031 scenarios show that the junction will operate within capacity. The level of delays expected to be experienced are low and the LoS of the junction is representative of free flow conditions. As such, it is therefore evident that the site access junction is capable of safely accommodating the levels of traffic associated with the Proposed Development in both isolation and in conjunction with the Albion Land scheme.

## Albion Land Site Accesses

### Eastern access

- 6.24 The SES M40 Junction 10 (Albion Land) eastern site access junction has been modelled under the parameters set out within the Transport Assessment submitted for the respective applications that are pursuant to that wider proposal. Summary results for the Albion eastern site access junction are presented in **Table 6.2**. The full junction modelling reports are attached at **Appendix F**.

**Table 6.2 – Albion Eastern Access Roundabout Modelling Summary (2025 and 2031 Scenarios)**

Junction	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Delay	LoS	RFC	Delay	LoS
2025 Future Year Baseline + Development						
B4100 (West)	0.52	3.53	A	0.30	2.43	A
B4100 (East)	0.35	2.94	A	0.51	3.73	A
Site Access Arm 3	0.00	0.00	A	0.00	0.00	A
Site Access Arm 4	0.00	0.00	A	0.00	0.00	A
2025 Future Year Baseline + Development + SES M40 Junction 10						
B4100 (West)	0.55	3.53	A	0.38	2.79	A
B4100 (East)	0.43	2.94	A	0.60	4.56	A
Site Access Arm 3	0.02	0.00	A	0.05	5.91	A
Site Access Arm 4	0.04	0.00	A	0.08	5.45	A
2031 Future Year Baseline + Development						
B4100 (West)	0.54	3.65	A	0.31	2.47	A
B4100 (East)	0.36	3.00	A	0.67	7.11	A
Site Access Arm 3	0.00	0.00	A	0.00	0.00	A
Site Access Arm 4	0.00	0.00	A	0.00	0.00	A
2031 Future Year Baseline + Development + SES M40 Junction 10						
B4100 (West)	0.57	3.96	A	0.39	2.84	A
B4100 (East)	0.44	3.46	A	0.61	4.69	A
Site Access Arm 3	0.02	0.02	A	0.05	6.01	A
Site Access Arm 4	0.04	0.04	A	0.08	5.54	A

- 6.25 The results of the junction capacity assessment demonstrate that the junctions that Albion eastern site access junction will operate within capacity in both the AM and PM peak hours, under all

assessed scenarios. It has therefore been shown at the Albion eastern site access junction will operate within accepted design thresholds in combination with the proposed development.

- 6.26 Indeed, the level of delays expected to be experienced are low and the LoS of the junction is representative of free flow conditions. As such, it is therefore evident that this proposed junction is theoretically capable of safely accommodating the levels of traffic associated with the Proposed Development in both isolation and in conjunction with the Albion Land scheme.

#### Western access

- 6.27 The SES M40 Junction 10 (Albion Land) western site access junction has been modelled under the parameters set out within the Transport Assessment submitted for the respective applications that are pursuant to that wider proposal. Summary results for the Albion western site access junction are presented in **Table 6.3**. The full junction modelling reports are attached at **Appendix F**.

**Table 6.3 – Albion Western Access Roundabout Modelling Summary (2025 and 2031 Scenarios)**

Junction	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Delay	LoS	RFC	Delay	LoS
<b>2025 Future Year Baseline + Development</b>						
<b>B4100 (West)</b>	0.32	4.34	A	0.24	3.83	A
<b>B4100 (East)</b>	0.24	3.85	A	0.34	4.34	A
<b>Site Access</b>	0.00	0.00	A	0.00	0.00	A
<b>2025 Future Year Baseline + Development + SES M40 Junction 10</b>						
<b>B4100 (West)</b>	0.35	4.78	A	0.26	4.20	A
<b>B4100 (East)</b>	0.36	4.87	A	0.41	5.09	A
<b>Site Access</b>	0.11	4.61	A	0.16	4.54	A
<b>2031 Future Year Baseline + Development</b>						
<b>B4100 (West)</b>	0.34	4.46	A	0.25	3.84	A
<b>B4100 (East)</b>	0.25	3.90	A	0.36	4.86	A
<b>Site Access</b>	0.00	0.00	A	0.00	0.00	A
<b>2031 Future Year Baseline + Development + SES M40 Junction 10</b>						
<b>B4100 (West)</b>	0.37	4.93	A	0.27	4.27	A
<b>B4100 (East)</b>	0.37	4.93	A	0.43	5.67	A
<b>Site Access</b>	0.11	0.11	A	0.17	4.62	A

- 6.28 The results of the junction capacity assessment demonstrate that the junctions that Albion western site access junction will operate within capacity in both the AM and PM peak hours, under all

assessed scenarios. It has therefore been shown at the Albion western site access junction will operate within accepted design thresholds in combination with the proposed development.

- 6.29 Indeed, the level of delays expected to be experienced are low and the LoS of the junction is representative of free flow conditions. As such, it is therefore evident that this proposed junction is theoretically capable of safely accommodating the levels of traffic associated with the Proposed Development in both isolation and in conjunction with the Albion Land scheme.

#### A43/B4100 Baynards Green Roundabout

- 6.30 National Highways is currently undertaking the design work for a Growth Fund improvement of the A43/B4100 Baynards Green Roundabout which has a firm commitment for its delivery by 2024.
- 6.31 The upgrade of the junction will involve the signalisation of the roundabout, an additional lane on the northern arms and additional road markings.
- 6.32 The A43/B4100 signalised roundabout has therefore been modelled based on the proposed layout under the 2025 and 2031 Scenarios. A high level summary of results for the A43/B4100 Baynards Green Roundabout are presented in **Table 6.4** and **6.5**. The full junction modelling reports are attached at **Appendix F** together with a detailed summary tables of the junction on an arm-by-arm basis.

**Table 6.4 – A43/B4100 Baynards Green Roundabout Modelling Summary (2025)**

Result	AM Peak			PM Peak		
	2025 Base	2025 Base + D'ment	2025 Base + D'ment + SES	2025 Base	2025 Base + D'ment	2025 Base + D'ment + SES
PRC (%)	+7.8	+1.5	+2.2	+13.6	+10.8	+5.3
Total Overall Delay (PCU/Hr)	30.84	38.21	47.14	25.56	28.42	+32.76
Cycle Time	40 seconds	40 seconds	56 seconds	40 seconds	40 seconds	40 seconds

**Table 6.5 – A43/B4100 Baynards Green Roundabout Modelling Summary (2031)**

Result	AM Peak			PM Peak		
	2031 Base	2031 Base + D'ment	2031 Base + D'ment + SES	2031 Base	2031 Base + D'ment	2031 Base + D'ment + SES
PRC (%)	-4.7	-9.3	-18.7	+0.1	+0.6	-1.8
Total Overall Delay (PCU/Hr)	46.54	70.15	144.77	34.65	39.88	49.82
Cycle Time	44 seconds	52 seconds	56 seconds	40 seconds	44 seconds	52 seconds

- 6.33 The results presented at **Table 6.4** and **Table 6.5** demonstrate the National Highways scheme is expected to operate with residual capacity in the 2025 baseline assessments. It also shows that:



- With the addition of development traffic this junction will continue to operate with residual capacity and that there will be relatively modest increases in total delay when compared to the baseline position.
- There is also sufficient capacity to accommodate the cumulative increases in traffic associated with the proposed SES development.

- 6.34 Notwithstanding this, it is recognised that the detailed summary tables provided at **Appendix F** indicate that there are likely to be excess queues on two of the circulatory approaches in the morning peak assessment of the cumulative assessment (i.e. base + development + SES). However, these queues are not expected to result in any safety issues due to the way the signals will operate. The queues develop at the end of the green period but dissipate before the traffic from the next stage can join the queue.
- 6.35 It is therefore evident that the proposed development will not have a severe residual cumulative impact on the operation of the proposed A43/B4100 Baynards Green Roundabout in the opening year. This is a key consideration given that Circular 02/2013 is predicated on the impact of proposed developments being considered at the year of opening.
- 6.36 The results presented at **Table 6.5** indicate that the proposed The A43/B4100 signalised roundabout is expected to be operating at or over capacity in 2031 prior to any development traffic being introduced. Once further traffic is introduced to the network this situation becomes worse with delays increasing, with delays increasing as a result. In this regard, it is considered that future development plans will be required to consider how the performance of this junction could be improved, taking into account prevailing traffic conditions and any changes in committed developments.

#### **B4100/A4095 Banbury Road Roundabout**

- 6.37 As with the Albion Land application, the B4100/A4095 Banbury Road Roundabout has been modelling under a 2026 Reference Case Scenario, using BTM traffic forecasts and based on the existing geometry measured from OS mapping.
- 6.38 Summary results for the B4100/A4095 Roundabout is presented in **Table 6.6**. The full junction modelling reports are attached at **Appendix F**.

**Table 6.6 – B4100/A4095 Banbury Road Roundabout Modelling Summary (2026 Reference Case Scenarios)**

Junction	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Delay	LoS	RFC	Delay	LoS
<b>2026 Reference Case</b>						
<b>B4100</b>	0.86	17.00	C	0.81	15.02	C
<b>A4095 (East)</b>	0.82	11.82	B	0.83	11.78	B
<b>Banbury Road</b>	0.54	9.40	A	0.68	14.56	B
<b>A4095 (W)</b>	0.49	6.91	A	0.89	33.57	D
<b>2026 Reference Case + Development</b>						
<b>B4100</b>	0.92	26.82	D	0.94	38.53	E
<b>A4095 (East)</b>	0.89	19.09	C	0.88	17.03	C
<b>Banbury Road</b>	0.62	12.30	B	0.75	20.18	C
<b>A4095 (W)</b>	0.58	9.15	A	0.95	54.49	F
<b>2026 Future Year Baseline + Development + SES M40 Junction 10</b>						
<b>B4100</b>	1.14	217.05	F	1.08	133.54	F
<b>A4095 (East)</b>	0.97	45.81	E	0.92	22.35	E
<b>Banbury Road</b>	0.69	15.79	C	0.83	26.16	E
<b>A4095 (W)</b>	0.68	12.89	B	0.98	74.64	F

- 6.39 The results of the junction capacity assessment demonstrate that under the existing layout, the B4100/A4095 Roundabout is forecast to operate within capacity under the 2026 Reference Case scenario and the proposed development traffic scenario. The impacts of the proposed development from a delay perspective are modest and would not exceed the severe impact referred to in the NPPF.
- 6.40 Once additional traffic is introduced onto the highway network as a result of the SES scheme, this junction is expected to approach and exceed capacity. However, there are expected to be significant capacity improvements realised following the conversion of this junction to traffic signals as per the scheme presented in Section 3. In this regard, the results presented above reflect a worst case scenario and it is considered that once the effects of the proposed strategic intervention at this location is taken into account the cumulative impact will also be less than severe.

#### **M40 J10 Assessment**

- 6.41 The analyses submitted in support of the SES M40 Junction 10 (Albion Land) applications includes the outcome of a merge and diverge assessment of Junction 10 in accordance with DMRB Guidance CD122. On the basis of the results presented within the supporting Transport Assessment, it has been concluded that:

- The design of the current north and southbound merge lanes will be suitable to meet the needs of the SES scheme.
- The design of the southbound diverge lane will be suitable to meet the needs of the SES scheme
- There may be a need to change the layout the northbound diverge lane once development traffic associated with the SES scheme is taken into account.

6.42 Having reviewed the analyses presented there is nothing to suggest that these conclusions are unreasonable. Moreover, the increases in traffic associated with the Proposed Development are such that they will not materially change this situation.

### **Summary**

6.43 The analyses presented above confirm in the opening year:

- The proposed site access has been designed to safely accommodate traffic associated with the proposed development and proposed SES scheme.
- The proposed SES site accesses are of a sufficient size to safely accommodate traffic associated with the proposed development and proposed SES scheme.
- Traffic associated with the proposed development and SES scheme can be satisfactorily accommodated at the proposed B4100/A43 signalised roundabout in the opening year of 2025.
- Traffic associated with the proposed development and SES scheme will result in relatively modest impacts at the B4100/A4095 Banbury Road Roundabout; and,
- The cumulative impacts of the proposed development and SES scheme will not be unacceptable upon the M40 J10 slip roads, albeit is acknowledged that subject to a further detailed review the layout of the northbound diverge lane may need to be revised.

6.44 In this regard, it is considered that the proposed development will not have a severe cumulative residual impact on either the local or strategic highway network in the year of opening. Accordingly, there is not a need to identify any mitigation over the strategic interventions that will be delivered by others at the B4100/A43 and B4100/A4095 Banbury Road roundabouts (see Section 3).

6.45 In the 2031 assessment years it has been shown that the proposed site access and those attributed to the SES scheme will continue to operate within capacity. It has also been shown that the relative impact of the proposed development and the SES scheme upon the proposed B4100/A43 signalised roundabout will be relatively modest, accepting the fact that this junction is expected to operate at or over capacity with current commitments taken into account. In the context of Circular 02/2013 it is considered that there will therefore be a need for this junction to be subject to a further detailed review as the emerging Local Plan for Cherwell evolves.

6.46 Notwithstanding this, and whilst it has been shown that the cumulative impacts of the proposed development and SES scheme are not severe in the year of opening, it is recognised that OCC and

National Highways have indicated in their respective consultation responses to date that the Albion Land applications will need to be supported by more detailed modelling. The Applicant welcomes the ability to work together with all parties to establish a single approach to modelling so that the effects of the two schemes can be assessed on an equal basis. The outcome of the additional modelling will be presented in the Transport Assessment Addendum referred to in Section 4.

## 7 Mitigation Measures

### Overview

- 7.1 Whilst it has been shown at Section 6 that the Proposed Development will not lead to a severe impact on the local and strategic highway network, the Applicant recognises that there is a need to ensure measures are in place to reduce car demands. A summary of the Workplace Travel Plan that will be operated is provided below.
- 7.2 Similarly, there is also a need to make sure that there are measures in place to minimise any disruption during the construction period and ensure it is kept to a minimum. The following text sets out how this will be achieved through a Construction Traffic Management Plan.
- 7.3 The following text also outlines the heads of terms of a Delivery and Servicing Plan (DSP) that will be adopted during the operational phases to minimise any impact to the local transport networks.

### Workplace Travel Plan

- 7.4 The NPPF indicates that developments generating significant traffic movements should provide a travel plan. Travel Plans are intended to be used to encourage a change in travel patterns.
- 7.5 The main objective of a Travel Plan is to provide a reduction in private car mileage in favour of the more sustainable modes of travel, thus reflecting current Government policy in respect of transport and as such they contain details of a range of initiatives to encourage the use of sustainable travel modes.
- 7.6 In this regard, a Travel Plan (TP) has been prepared to inform the content of potential measures at the Site. This is provided at **Appendix G**. This includes reference to a range of measures that could be adopted to reduce car trips by 10% at peak times.

### Construction Traffic Management Plan

- 7.7 It is anticipated that works associated with the construction phase of the Proposed Development will commence in 2022 and conclude in 2025. To ensure that the impacts associated with the construction phase, such as increases in traffic, noise and dust, are minimised, a Construction Management Plan (CMP) will be operated.
- 7.8 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.
- 7.9 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.

### **Delivery and Servicing Management Plan**

- 7.10 A Delivery and Servicing Plan (DSP) is expected to be secured via a planning condition. The DSP will provide a framework for ensuring servicing freight activity is as effective and efficient as possible. It should be noted that the DSP is focused on matters that the Applicant can control, such as the routes that vehicles will be encouraged to follow when travelling to/from the site.
- 7.11 A Framework DSP is provided at **Appendix H**. This document is intended to inform the final DSP which we expect will be subject to a suitably worded planning condition.

## 8 Summary and Conclusion

- 8.1 This Transport Assessment has been prepared on behalf of Tritax Symmetry Ardley Ltd to provide transportation advice in relation to the proposed logistics development referred to as Symmetry Park, Ardley.
- 8.2 The Site comprises two parcels of land currently used for agricultural purposes. These are located either side of the B4100, a single carriageway road. The B4100 connects to the A43 at a roundabout adjacent to the south eastern corner of the northern parcel's site boundary.
- 8.3 It has been shown that accessibility to the Site via sustainable modes is at present limited. There are a network of PRow routes surrounding the Site, however access on foot is difficult at present due to the lack of infrastructure in the immediate vicinity of the Site. This is also the case with access to public transport including bus services. Cyclists are also required to cycle on road. However, it is noted that as part of the SES Land at Junction 10 M40 a cycleway is proposed, routing along the frontage of the site on the B4100 to Bicester, connecting to the existing NCN Route 51 in Bicester.
- 8.4 It is noted that several planning applications in close proximity to the Site have recently been submitted by an applicant named Albion Land. The SES Land at Junction 10 M40 will comprise circa 280,000sqm of logistics developments and ancillary uses. This Transport Assessment has therefore been prepared with consideration to the nearby live planning applications.
- 8.5 The proposals seek outline planning permission (all matters reserved) for the erection of buildings comprising logistics (Use Class B8) and ancillary office (Use Class E(g)(i)) floorspace. The proposed development will provide up to 300,000sqm (GEA) total floorspace. The parameter plan is provided at **Appendix A**.
- 8.6 The Proposed Development will deliver a new roundabout on the B4100, which will not only facilitate access to the site, but also improve connections for existing residents and future staff to the wider area. This delivers a considerable betterment to the existing arrangement in terms of accessibility and safety.
- 8.7 In addition to the proposals at the SES Land at Junction 10 M40, the development will incorporate measures that reduce reliance upon the private car in accordance with the aspirations of the NPPF. For example, the proposed access strategy includes connections to the proposed cycle infrastructure. The Site will also provide dedicated bus stops and bus laybys at the site access junction. This will enable future employees and visitors to access the existing 505 bus service. Further discussions are welcomed on this matter with OCC.
- 8.8 It has also been shown that the quantum of development that is being applied for is unlikely to have a material impact upon the local transport networks. Indeed, the results of our various analyses indicate the proposed development will not have a severe impact from a highway capacity perspective in isolation or cumulatively with the committed developments.
- 8.9 In summary, the report demonstrates the following:
  - The location of the site accords with the relevant national and local transport planning policies;

- The Site benefits from access to a sustainable transport network that provides alternatives to the private car;
- An analysis of personal injury accident data records has identified no significant issues associated with the local highway network that are detrimental to road safety levels
- Appropriate provision can be made for access, parking and servicing; and,
- The proposed development will not have a severe impact on the operation of the local transport networks.

8.10 In this regard, it is clear that the proposals accord with the guiding principles of the National Planning Policy Framework. For example:

- Opportunities to promote sustainable transport have been identified and can be incorporated at this location (NPPF, para 102).
- The site is located in an area that is already sustainable, but can also be enhanced (NPPF, para. 103).
- Safe and suitable access can be achieved for all users (NPPF, para. 108).
- There will not be any significant capacity and/or road safety impacts that would need to be mitigated NPPF, para. 108).

8.11 On this basis, it is concluded that the respective proposals represent sustainable developments from a transportation perspective. As such, they are entirely acceptable from a highways and transportation perspective.

# Appendix A

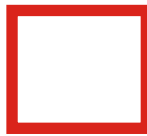





Rev Date By Description


### AREA SUMMARY

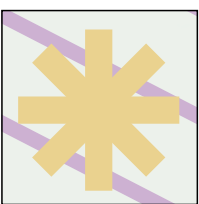
**Redline Area:**  
83.279Ha/205.786Ac  
**Total Developable Area:**  
66.04Ha/163.18Ac  
**Proposed Use:**  
B8 with ancillary E(g)(i) and Energy Centre  
**Maximum Floorspace**  
300,000sq.m (3,229,173sq.ft) GEA  
(Excluding Energy Centre/s)  
**Proposed Maximum finished Unit Height**  
Zone A - Max. Building Height up to 139.3m AOD  
(refer to legend below)  
Zone B - Max. Building Height up to 135.85m AOD

 Planning Boundary

 Developable Area

 Zone A1 - Building Height:  
Max Building Height up to  
139.300m AOD

 Zone A2 - Building Height:  
Max Building Height up to  
137.500m AOD

 Indicative location for potential  
lorry park

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Symmetry Park, Ardley  
M40 Junction 10

Drawing Name:  
PARAMETERS PLAN

Drawing Stage: PLANNING

Suitability: S4 - Stage Approval

SGP File Ref: 14-019-SGP-XX-XX-DR-A-131003 P1.dwg

14-019 11/2021 MMS MMS 1:2500 @ A1 P1

SGP Project No: Date: Drawn: Team: Scale: Rev:

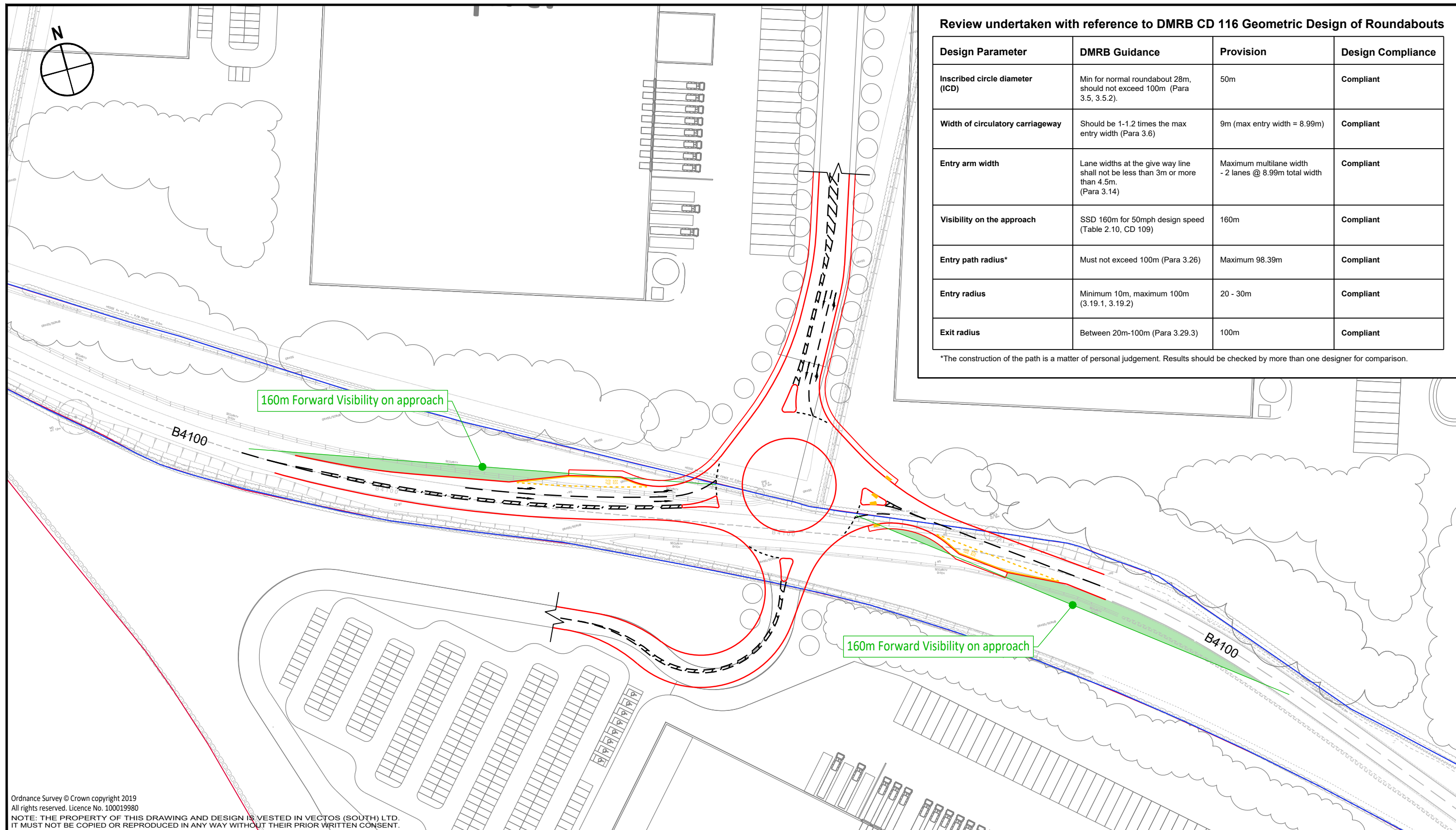
Drawing Number:

14-019 -SGP-XX-XX-DR-A- 131003

Project Code Originator Volume Level Type Role Number



## Appendix B



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REV.	DETAILS	DRAWN	CHECKED	DATE
A	Hatching added between opposing flows western & northern arms. Southern arm to Unit 07 shown.	JM	JB	14.12.2021
B	Minor widening of western arm entry to accommodate 2 articulated HGV's side by side.	JM	JB	14.12.2021

<b>Notes:</b> 1. This is not a construction drawing and is intended for illustrative purposes only. 2. White lining is indicative only. 3. Site Plan is 14-019-SGP-XX-XX-DR-A-001004 by SGP.	
<b>Key</b> <div><div></div>Extent of Public Highway</div> <div><div></div>Site Boundary</div> <div><div></div>Visibility: Area to be kept free of obstructions between 0.26 &amp; 2m high</div>	

<b>Symmetry Park</b>	
<b>Proposed 50m ICD Site Access Roundabout B4100</b>	
DRAWN: JM	CHECKED: JB
DATE: 08.12.2021	SCALES: 1:1250 at A3

<b>Tritrax Symmetry</b>	
<b>vectos.</b> Network Building, 97 Tottenham Court Road, London W1T 4TP t: 020 7580 7373 e: enquiries@vectos.co.uk	
DRAWING NUMBER: 216285/PD01	REVISION: B

## Appendix C

SYMMETRY PARK, OXFORD NORTH AND ARDLEY

Proposed Baynards Green Access and Improvements

Stage 1 Road Safety Audit  
Requested by Vectos

April 2022



*Road Safety Engineering*

Project: Symmetry Park, Oxford North and Ardley  
Proposed Baynards Green Access and Improvements

Client: Vectos

Project Sponsor: Oxfordshire County Council

Document: Stage 1 Road Safety Audit

Gateway TSP ref: SG/WP/2110057 RSA1 v2.1

Issue date: 14/04/2022

Status: Issued as Version 2.1

Authorised by: SG

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## Appendices

Appendix A:	Location Plans
Appendix B:	Designer's Response

## 1 INTRODUCTION

- 1.1** This report describes a Stage 1 Road Safety Audit (RSA) of a proposed roundabout on the B4100, east of the A43 Baynards Green Roundabout in Oxfordshire. It also considers a proposed amendment to an approved (but not yet implemented) improvement at the Baynards Green Roundabout itself. The works are associated with a proposed development providing 325,000 sqm of B8 employment buildings on both sides of the B4100.
- 1.2** The access works will comprise a new four-arm roundabout with a 50m ICD (inscribed circle diameter), approximately 500 metres east of the Baynards Green Roundabout. Two entry lanes will be provided on the north, west and east approaches, with a single lane entry on the south arm. Footways are proposed between the northern access road and bus stops on the B4100 arms, with pedestrian crossing facilities on the east arm (for access to the westbound bus stop).
- 1.3** This section of the B4100 is rural single carriageway subject to a 50mph speed limit. It has no footways or street lighting (except at the Baynards Green Roundabout) but benefits from wide grass verges.
- 1.4** The A43 is an unlit (except at the roundabout) rural 4-lane dual carriageway, carrying strategic traffic to and from Northampton and the M1. It is subject to the national speed limit of 70mph to the north and a 50mph speed limit to the south (link to the M40).
- 1.5** The Design Organisation advises that Oxfordshire Growth Board (OGB) has allocated funding to increase the capacity of the A43 Baynards Green roundabout, in connection with developments at Junction 10 of the M40. The upgrade involves signalisation of the roundabout, an additional lane on the northern arms and additional road markings. This Audit considers additional works to provide signal-controlled pedestrian crossings on the northern arm of the improved junction, intended to cater for incidental pedestrian movements between the development site and the facilities at the Baynards Green service station. The Audit Team has not considered the wider junction improvement, in effect assuming that it has already been built and is therefore outside the scope of this audit.

- 1.6** This Road Safety Audit was carried out by Steve Giles and Wendy Palmer and consisted of a desktop study and a site visit, which was carried out on Wednesday 13<sup>th</sup> April 2022, between the hours of 10.30 and 11.30, when the weather was overcast and the road surface dry. Traffic flows were steady, and no pedestrians or cyclists were observed.
- 1.7** 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.
- 1.8** 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.
- 1.9** 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.

## 2 ITEMS CONSIDERED BY THIS ROAD SAFETY AUDIT

Document ref.	Rev.	Originator	Title
216285/PD01	B	Vectos	Proposed 50m ICD Site Access Roundabout B4100
216285/PD01/AT01	-	Vectos	Swept Path Analysis Site. Access Roundabout. 16.5m Articulated Vehicle
2052553/PD06	-	Vectos	Proposed Signalised Crossing and Pedestrian Link. Baynards Green Roundabout

### Additional/background information provided to the Audit Team

- Drawing 14-019-SGP-XX-XX-DR-A-001007 - Illustrative Masterplan Option 2 (SGP Architects)
- Transport Assessment - December 2021 (Vectos)

### 3 PREVIOUS ROAD SAFETY AUDIT

- 3.1 The audit team is not aware of any previous road safety audit on the proposed scheme or on the proposed Baynards Green Roundabout improvement. However, we have been provided with the report resulting from a Stage 1 RSA on what was known as the Eastern Site Access, a four-arm roundabout serving the development plot immediately west of Unit 07 shown in the Illustrative Masterplan provided as background information for this audit. That roundabout would be approximately 200 metres from the existing Baynards Green roundabout, i.e. some 300 metres west of the proposed roundabout subject to this audit.



## 4 COLLISION DATA

- 4.1** Personal Injury Collision (PIC) information was obtained from the online Crashmap database ([www.crashmap.co.uk](http://www.crashmap.co.uk)) for the latest available 5-year period.
- 4.2** A single collision occurred in the vicinity of the proposed site access roundabout in December 2019, in daylight and dry weather conditions. It involved a front/rear ('shunt') impact between two cars, in which the driver of the front vehicle sustained slight injuries. It is not known whether the collision occurred at the end of a traffic queue for the roundabout.
- 4.3** Five other collisions occurred on the circulatory carriageway of the Baynards Green Roundabout, with a further two on the approaches (one north and one south). However, these are not considered informative in the context of this audit due to the proposed roundabout alterations.

## 5 PROBLEMS IDENTIFIED BY THIS ROAD SAFETY AUDIT

### General Matters

- 5.1 The Audit Team raises no concerns at this Stage 1 RSA in respect of general matters.

### Local Alignment

- 5.2 The Audit Team raises no concerns at this Stage 1 RSA in respect of local alignment.

### Junctions

#### 5.3 Problem

Potential for vehicles to collide with items of street furniture

*Location: Traffic islands at roundabout entries*

The traffic islands may not be of adequate size to accommodate signage appropriate to traffic speeds. Inadequate clearance may lead to vehicles striking signs, resulting in loss of control type collisions.

#### Recommendation

Ensure that roundabout entry arm traffic islands are of adequate size to accommodate signage appropriate to traffic speeds.

#### 5.4 Problem

Vehicle side-impact collisions due to parallel circulating

*Location: Circulatory carriageway of proposed roundabout*

The proposed roundabout design incorporates two entry lanes on three arms. Vehicle swept path analysis has been provided but not for side-by-side parallel circulation by all vehicle types. Insufficient circulating carriageway width could lead to side impact collisions. It is noted that arrows are shown on the swept path drawing, but not on the main scheme drawing,

### Recommendation

Carry out vehicle swept path analysis for all side-by-side parallel circulating movements at the proposed roundabout and, where appropriate, provide arrow markings within each lane on the approaches to limit any conflicting parallel movements.

## 5.5

### Problem

Vehicle collisions due to ‘see-through’

*Location: Circulatory carriageway of improved Baynards Green Roundabout*

Vehicles approaching the northbound circulating stop line, at the A43 south-eastbound node, may see a green signal at the new pedestrian crossing and jump a red light at the junction. This would lead to collisions with south-eastbound vehicles entering the circulatory carriageway with a green signal.

### Recommendation

Provide cowls on the south-facing signal heads at the pedestrian crossing, to minimise the risk of confusing drivers on the circulatory carriageway.

## 5.6

### Problem

Vehicle collisions due to obscured visibility

*Location: Minor arm entries to proposed roundabout*

Drivers approaching the roundabout on the two development arms may not have adequate visibility toward vehicles entering the junction from the B4100, due to vegetation, signage (highway or private) etc. This may lead to side-impact vehicle collisions on the circulatory carriageway.

### Recommendation

Provide suitable visibility envelopes from the two minor arms of the new roundabout to the B4100 approach lanes.

## Walking, Cycling and Horse Riding

### 5.7 Problem

Pedestrians may be struck by passing vehicles

*Location: Southern and western arms of new roundabout*

It is not clear whether the southern development site will generate pedestrian movements, to/from the northern site, or the bus stops, or facilities at Baynards Green Roundabout. If suitable crossing facilities are not provided, pedestrians, particularly those with movement or sensory impairments, may be at risk of collisions with passing vehicles.

### Recommendation

Ensure that any pedestrians likely to enter or leave the southern development site are provided with suitable footways and crossing facilities connecting with the facilities indicated on the audit drawings.

### 5.8 Problem

Pedestrian/vehicle collisions due to pedestrians entering the carriageway without warning

*Location: Baynards Green Roundabout, pedestrian site access*

The drawing shows a perpendicular footpath link from the site to the A43 (north) arm, where it meets the circulatory carriageway. Pedestrians may not gain good visibility of the carriageway until they are on the footway and consequently they might enter the carriageway inadvertently. This could lead to pedestrian/vehicle collisions.

### Recommendation

A short section of guard railing should be provided opposite the footpath connection to prevent pedestrians from entering the carriageway injudiciously.

## Traffic Signs, Carriageway Markings and Lighting

5.9 The Audit Team raises no concerns at this Stage 1 RSA in respect of traffic signs, markings and lighting.

**6**

**AUDIT TEAM STATEMENT**

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  
Director & Senior Road Safety Consultant

Signed: 

Date: 14<sup>th</sup> April 2022

**Audit Team Member(s)**

Wendy Palmer  
MCIHT, MSoRSA, HE Cert Comp  
Road Safety Engineer

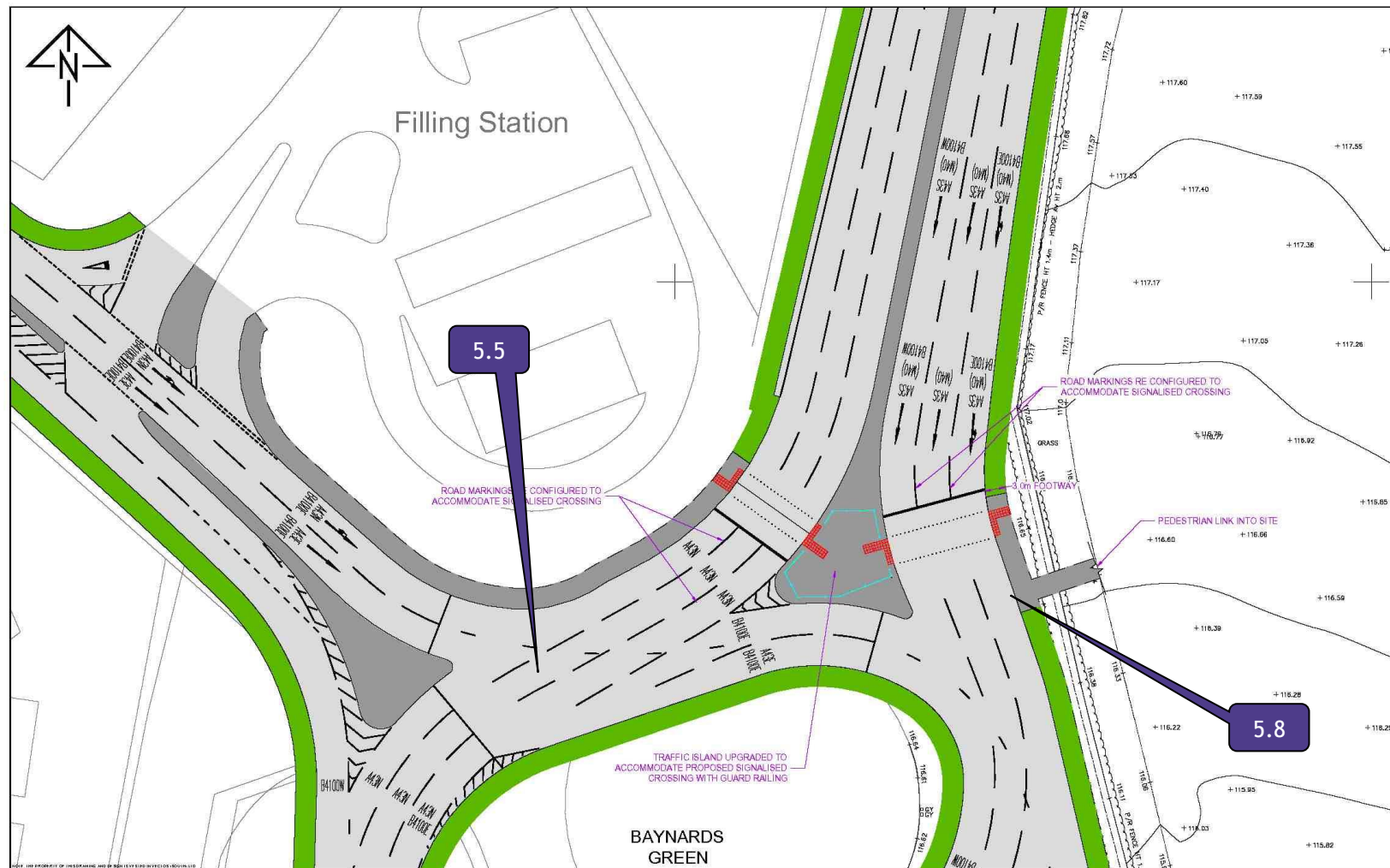
Signed: 

Date: 14<sup>th</sup> April 2022

## APPENDIX A Location Plan(s)







REV	DATE	DESCRIPTION	BY	CHECKED

THIS IS DRAWING IS FOR COMMENT ONLY  
SUBJECT TO:

- ROAD SAFETY AUDIT
- HIGHWAY AUTHORITY REVIEW / APPROVAL
- FULL VERTICAL ALIGNMENT
- FINAL DESIGN CHECK / REVIEW
- SIGNAL DESIGN
- MODELLING

Symmetry Park				Tritrax Symmetry	
PROPOSED SIGNALISED CROSSING AND PEDESTRIAN LINK BAYNARDS GREEN ROUNDABOUT				<b>vectors.</b> 6 Vintney House, Dean Clarke Gardens, Exeter, EX2 9HA t: 01392 452 135 e: enquiries@vectors.co.uk	
SCALE	DATE	BY	CHECKED	PROJECT	REVISION
1:250 @ A1	03/01/21	JB		2052553-PD06	-

INFORMATION ONLY

## APPENDIX B

### Designer's Response

Project: Symmetry Park, Oxford North and Ardley  
Proposed Baynards Green Access and Improvements  
Client: Vectos  
Document: Stage 1 Road Safety Audit  
Gateway TSP ref: SG/WP/2110057 RSA1 v2.1  
Status: Issued as Version 2.1  
Issue date: 14/04/2022

Item No.	Audit Team Recommendation	Designer's Response	Highway Authority's Comments
5.3	Ensure that roundabout entry arm traffic islands are of adequate size to accommodate signage appropriate to traffic speeds.	Noted. At the detailed design stage signage will be designed and situated on splitter islands to ensure vehicle strikes are avoided	
5.4	Carry out vehicle swept path analysis for all side-by-side parallel circulating movements at the proposed roundabout and, where appropriate, provide arrow markings within each lane on the approaches to limit any conflicting parallel movements.	Noted. At the detailed design stage the circulatory lanes will be designed to ensure that side-by-side parallel circulating movements can be accommodated. Any road markings that are required will be picked up in accordance with the usual requirements of the TSRDG.	
5.5	Provide cowls on the south-facing signal heads at the pedestrian crossing, to minimise the risk of confusing drivers on the circulatory carriageway.	Noted. At the detailed design stage appropriate traffic signal infrastructure will be identified and provided as required.	
5.6	Provide suitable visibility envelopes from the two minor arms of the new roundabout to the B4100 approach lanes.	Noted. Visibility splays will be provided at the detailed design stage and maintained thereafter to minimise the potential for side-impact vehicle collisions on the circulatory carriageway.	

Project: Symmetry Park, Oxford North and Ardley  
Proposed Baynards Green Access and Improvements  
Client: Vectos  
Document: Stage 1 Road Safety Audit  
Gateway TSP ref: SG/WP/2110057 RSA1 v2.1  
Status: Issued as Version 2.1  
Issue date: 14/04/2022

Item No.	Audit Team Recommendation	Designer's Response	Highway Authority's Comments
5.7	Ensure that any pedestrians likely to enter or leave the southern development site are provided with suitable footways and crossing facilities connecting with the facilities indicated on the audit drawings.	Noted. Appropriate Active Mode provision will be made to ensure suitable connections to the bus stops and crossing facilities provided on the B4100 approaches to the site access roundabout.	
5.8	A short section of guard railing should be provided opposite the footpath connection to prevent pedestrians from entering the carriageway injudiciously.	Noted. The location and extent of guard railing will be agreed at the detailed design stage.	

Project: Symmetry Park, Oxford North and Ardley  
Proposed Baynards Green Access and Improvements  
Client: Vectos  
Document: Stage 1 Road Safety Audit  
Gateway TSP ref: SG/WP/2110057 RSA1 v2.1  
Status: Issued as Version 2.1  
Issue date: 14/04/2022

**Designer's Statement:**

I confirm that I have considered the items that have arisen in the Stage 1 Road Safety Audit Report and my response to its recommendations are set out above.



.....  
Designer: James Bancroft

Date: 14<sup>th</sup> April 2022

**Highway Authority's Statement:**

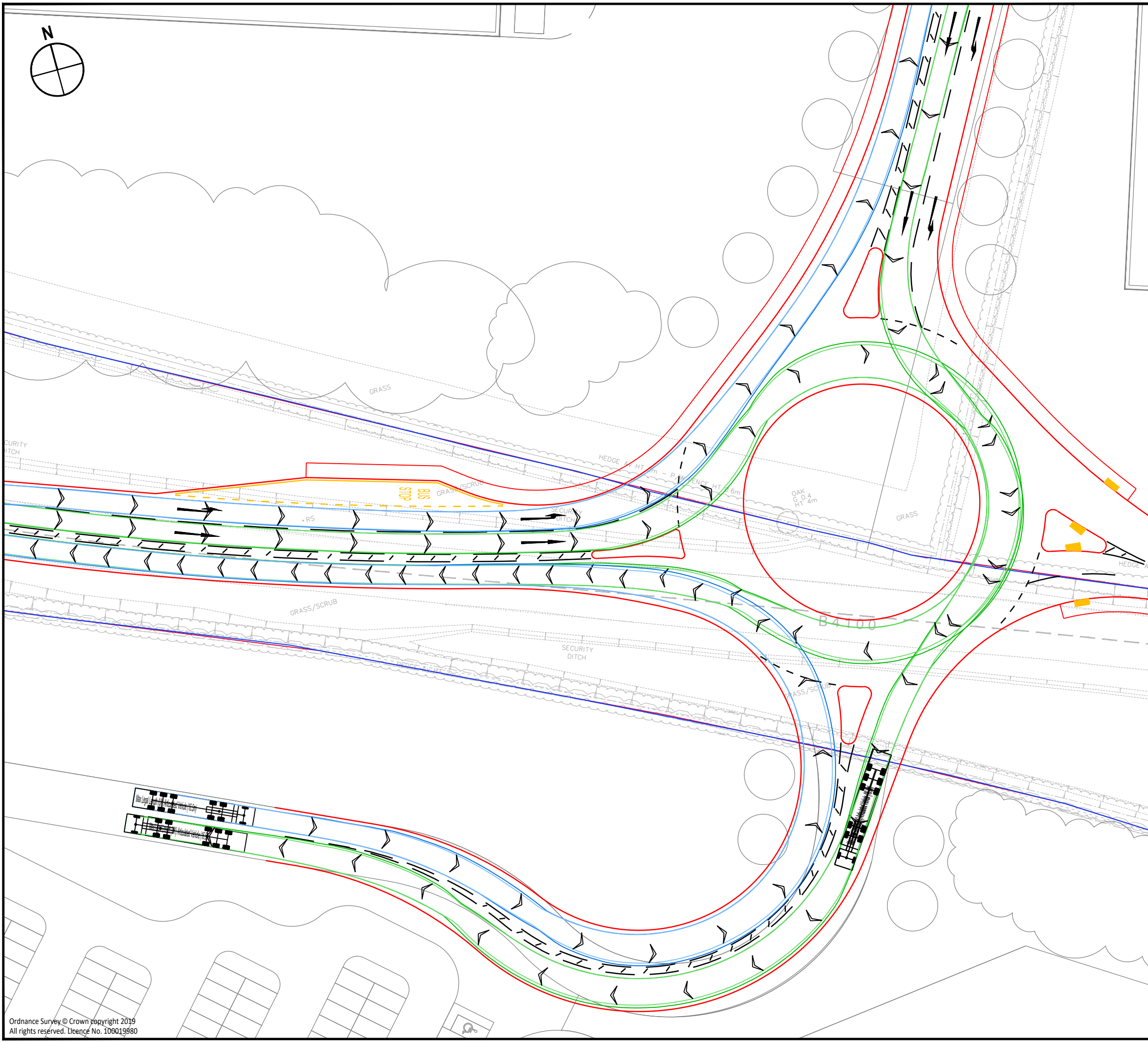
I accept/do not accept the Designer's Response (delete as appropriate)

.....  
[Name], on behalf of [Highway Authority]  
(delete as appropriate)

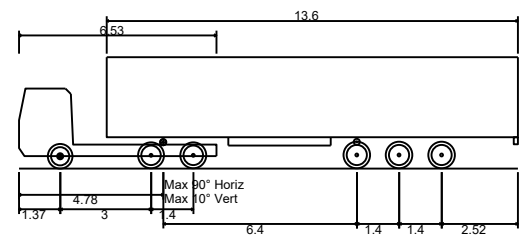
Date:

## Appendix D





- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
  - 2. White lining is indicative only.



Max Legal Length (UK) Articulated Vehicle (16.5m)	16.500m
Overall Length	2.550m
Overall Width	3.681m
Overall Body Height	0.411m
Min Body Ground Clearance	2.500m
Max Track Width	6.00s
Lock to lock time	6.530m
Kerb to Kerb Turning Radius	

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:  
**Tritrax Symmetry**

PROJECT:  
**Symmetry Park**

DRAWING TITLE:  
**Swept Path Analysis  
Site Access Roundabout  
16.5m Articulated Vehicle**

SCALES:  
**1:500 at A3**

DRAWN: JM	CHECKED: JB	DATE: 16.12.2021
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Network Building, 97 Tottenham Court Road, London W1T 4TP  
t: 020 7580 7373 e: enquiries@vectos.co.uk

DRAWING NUMBER: <b>216285/PD01/AT01</b>	REVISION: .
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