SLATOR BROS FARMS

PROPOSED RETROSPECTIVE CHANGE OF USE OF AGRICULTURAL UNITS AT BEACON FARM, WISEMANS GATE, WESTON, NR SPALDING, LINCOLNSHIRE TO BUSINESS AND COMMERCIAL USE

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PROPOSED RETROSPECTIVE CHANGE OF USE OF AGRICULTURAL UNITS AT BEACON FARM, WISEMANS GATE, WESTON, NR SPALDING, LINCOLNSHIRE

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1 INTRODUCTION

1.1 Introduction

1.1.1 This report considers the transport implications arising from a retrospective planning application for the change of use of agricultural buildings at Beacon Farm, Wisemans Gate, Weston, near Spalding Lincolnshire to business and commercial use. The site is located off Wisemans Gate, north of the village of Weston and approximately 5km east of Spalding, as shown in figure 1.

1.1.2 The application site extends to some 0.425 hectares and contains three main buildings used originally for agricultural storage, which since 2007 have been used for light industrial, general industrial and storage/distribution purposes[1] as they were no longer required for use in connection with Beacon Farm. The three main buildings shown as buildings A, B and C on the location plan included as figure 2, have been subdivided to provide 7 smaller units with a total floorspace of 1538sqm (GFA).

1.1.3 The units at Beacon Farm are used by a range of small businesses. The site is currently fully occupied with a schedule indicating the size of each unit, current use, number employed and an indication of typical daily traffic generation provided by the occupiers in table 1.1 below. The table indicates that 5 people are currently employed on site with current use generating only a small volume of traffic; a total of 29 vehicle movements per day (the sum of arrivals and departures). It is notable that almost all generated vehicle movements are by cars and light vans with current occupiers attracting only 1 heavy goods vehicle on most days.

1.1.4 The units within the application site are numbered 4 to 11, however it should be noted that the unit 7, which adjoins the application site is not included in the current application. Unit 7 remains in agricultural use, being used as a grain store by Lincolnshire Field Products, who farm nearby. The unit numbering system is a throwback to the pre-2007 agricultural use of the site, with units numbered 1 to 3 being remote from the site and also not included in the current application.

[1] Within Town and Country Planning Use Classes E(g.iii), B2 and B8.

Building	Unit number	Unit Size (sqm)	Occupier	Nature of Business	Number Employed On Site	Average Weekday Vehicle Movements	Traffic Movements	Hours of work
A	4	334	Llorett Display Systems Ltd	Exhibition Displays and storage	2	4	2 cars daily plus 5 deliveries per week and 5 outward pickups each week Total – 20 vehicle movements per week	0800-1800 and weekends
	5	334						
	6	167	Icaris Ltd	Personal storage.	0	0.8	2 cars per week	Evenings and weekends
C	8	334	Garn Transport	Food packaging storage.	0	2	1 flatbed lorry daily (HGV)	0800-1800 and weekends
	9	223	GT4 Car repairs	Car repairs	2	16	2 employees cars, plus 2 spares deliveries and 4 customer cars each day	0800-1800 and weekends
B	10	72	M C Electrical	Electrician, spares storage and personal storage	1	4	2 vans daily	Emergency call out service, all hours.
	11	72	Personal storage	Personal storage	0	2	1 car daily	Evening and weekends
Total		**1538**	**-**	**-**	**5**	**29**	**-**	**-**

Table 1.1 Beacon Farm Units - Existing Occupiers and Traffic Generation

NB. In addition to 2 people based at Beacon Farm Llorett Display Systems employ sub-contract staff based at off-site exhibitions and displays.

The average weekday vehicle movements indicated is the sum of arrivals and departures.

1.1.5 Access to the application site is available at two points on Wisemans Gate. A concrete surfaced road is available within the site connecting the two access points with separate hard surfaced areas adjacent to the units providing at least 24 car parking spaces, consistent with the Council's parking standards (which are set out in Appendix 6 of the Adopted Local Plan). Provision of 8 cycle stands is also proposed consist with these standards. A Parking Layout Plan is included as figure 3.

1.1.6 The access route to the site for vehicular traffic is from the A151 Weston Bypass via a 320 metre section of Wisemans Gate, which is a single-track road. Whilst Wisemans Gate is lightly trafficked and has operated safely over many years, provision of a passing place is proposed on the access route to improve operation. This improvement is proposed in response to the refusal of planning permission in 2005 for the change of use of buildings at Beacon Farm from agricultural to B1/B8 industrial use (H22-0422-05). The 2005 Decision Notice, which is included as Appendix A indicates reasons for refusal relating to access and planning policy. Matters relating to access are considered in more detail in section 4 of this report, with planning policy issues considered in a separate report.

1.1.7 The former dwelling house to the south of the application site at Beacon House Farm is in use as a 'residential children's home for four young persons', in accordance with planning consent granted in October 2001 (Ref: H22/1011/01). The use is low key in terms of traffic generation; the application form indicating that staff would work on a rota system with a maximum of 4 staff present on site at any one time. Off-street car parking for use in connection with the children's home is available on the Wisemans Gate frontage to the building.

1.2 Scope of this Report

1.2.1 Subsequent sections of this report consider the following matters:

- Section Two – deals with transport related policy considerations
- Section Three - considers existing traffic conditions in the vicinity of the site
- Section Four - considers the traffic implications of the development
- Section Five - provides a summary and conclusion to the report

2 TRANSPORT RELATED POLICY CONSIDERATIONS

2.1 Introduction

2.1.1 This section of the report considers transport policy issues relevant to the development.

2.2 National Planning Policy Framework

2.2.1 The National Planning Policy Framework (NPPF) updated by Government in February 2019 establishes a presumption in favour of sustainable development (paragraph 10), advising (in paragraph 11) that for decision-taking this means:

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

2.2.2 With regard to transport related matters paragraph 108 of the Framework indicates that when assessing sites that may be allocated for development in Plans, or specific applications for development, it should be ensured that safe and suitable access to the site can be achieved and that any significant impacts arising from the development can be cost effectively mitigated to an acceptable degree. Paragraph 109 continues indicating:

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

2.2.3 The site is located in a rural area east of Spalding. It is considered that the proposals for the site are supported by guidance provided in paragraphs 83 and 84 of the Framework (detailed below), which advocate a 'prosperous rural economy'. Paragraph 83 of the Framework (notably clauses 'a' and 'b') provides for the growth and expansion of rural businesses, 'through conversion of existing buildings' and the development and diversification of agricultural and other land-based rural businesses'.

2.2.4 The buildings within the site are no longer required for agricultural use. Rental to other business occupiers thereby enables diversification of the business interests of Slator Bros Farms whilst also providing accommodation and opportunities for the small businesses occupying the premises.

> ***NPPF Paragraph 83****: Planning policies and decisions should enable:*
>
> *a) the sustainable growth and expansion of all types of business in rural areas, both through conversion of existing buildings and well-designed new buildings;*
>
> *b) the development and diversification of agricultural and other land-based rural businesses;*
>
> *c) sustainable rural tourism and leisure developments which respect the character of the countryside; and*
>
> *d) the retention and development of accessible local services and community facilities, such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship.*

2.2.5 Paragraph 84 of the Framework recognises that in rural areas, sites for local businesses may need to be found beyond existing settlements and in locations that are not well served by public transport. Whilst the site at Beacon Farm is not well served by public transport, subsequent sections of this report demonstrate that use of the site for business purposes generates only a modest level of trip making that is safely and adequately accommodated on the local highway network.

> ***Paragraph 84:*** *Planning policies and decisions should recognise that sites to meet local business and community needs in rural areas may have to be found adjacent to or beyond existing settlements, and in locations that are not well served by public transport. In these circumstances it will be important to ensure that development is sensitive to its surroundings, does not have an unacceptable impact on local roads and exploits any opportunities to make a location more sustainable (for example by improving the scope for access on foot, by cycling or by public transport). The use of previously developed land, and sites that are physically well-related to existing settlements, should be encouraged where suitable opportunities exist.*

2.2.6 With regard to transport related matters more generally, paragraph 109 of the Framework indicates:

- *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.*

The analysis provided in section 4 of this report demonstrates that significant impacts on highway safety or operation of the road network are not anticipated, such that the refusal of planning permission for the change of use would not be justified.

2.3 South East Lincolnshire Local Plan

2.3.1 The South East Lincolnshire Local Plan was formally adopted in March 2019 and provides a policy framework for decisions on land use and development in the South Holland and Boston local authority areas for the period to 2036. The Local Plan envisages most new development taking place in the sub-regional centres of Spalding and Boston and other main service centres, designating the site location as part of a countryside area east of Spalding.

2.3.2 Support for the change of use at Beacon Farm is however provided by Policy 7 of the adopted Local Plan. The Policy recognises the potential for employment land uses outside allocated sites where the conversion or re-use of redundant buildings is involved, subject to specified criteria including there being 'no significant adverse impact on the local highway network'. The analysis provided in section 4 of this report demonstrates that the change of use at Beacon Farm satisfies this criterion.

2.4 Summary

2.4.1 Qualified support for the change of use at Beacon Farm is provided by National and Local Policy guidance which recognises the potential for employment land uses, in rural locations where the conversion or re-use of redundant buildings is involved. Support is subject to caveats including there being 'no significant adverse impact on the local highway network'. Subsequent sections of this report demonstrate that the local highway network operates in a generally satisfactory manner with provision of a passing place on Wisemans Gate proposed to improve operation, thereby satisfying the criteria set out in Policy guidance.

3 EXISTING CONDITIONS

3.1 Introduction

3.1.1 This section of the report considers existing traffic conditions in the vicinity of the site.

3.2 The Local Highway Network

3.2.1 Access to the application site is available from the A151 Weston Bypass via Wisemans Gate. The A151 provides a road link between Spalding and the A16 to the west and Holbeach and the A17 to the east. The Weston village bypass is a two-lane single carriageway road, constructed to modern standards. The junction of Wisemans Gate with the bypass is laid out as a priority junction with a central ghost-island turning lane. A 3.5 metre lane for eastbound and westbound non-turning traffic is available with a 3.0 metre lane for turning traffic, with a wide grass verge to each side of the carriageway.

3.2.2 In the vicinity of the junction with Wisemans Gate, the A151 is straight and flat. The road is unlit with traffic movement subject only to the national speed limit of 60mph. Drivers emerging from Wisemans Gate have a good perception of approaching traffic on the A151 bypass with a visibility splay of around 2.4 x 400 metres available to left and right. The junction layout incorporates 15.0 metre turning radii to assist left turning movements to and from the major road.

3.2.3 Proceeding from the junction with the A151, the initial section of Wisemans Gate provides a carriageway of around 9.0 metres in width that road sweeps around to the left towards the Lincolnshire Field Products site (LFP). The highway providing access to the LFP site is named ‘Runway’ and is a private road laid out as a single track road with passing places.

3.2.4 Wisemans Gate continues from a simple priority junction centred approximately 25 metres from the bypass in a northerly direction towards the application site. The priority route at this junction is via the initial length of Wisemans Gate and Runway, with the section of Wisemans Gate providing access to the application site forming the minor road at this junction. The access route to the application site from the bypass therefore involves a right turn at this priority junction (and a left turn when returning to the bypass).

3.2.5 The width of the initial section of Wisemans Gate is such that a car or light van proceeding from the bypass and turning right towards the application site would be able to stand clear of traffic heading to or from the LFP site. Drivers proceeding from the application site on Wisemans Gate and turning left towards the bypass also have clear vision of traffic on Runway and vehicles turning off the bypass.

3.2.6 The application site is located off Wisemans Gate, some 320 metres north of the junction with Runway. This length of Wisemans Gate is very lightly trafficked; in addition to the application site serving only two dwellings situated 235 metres from the junction with Runway, the Beacon House Farm children's home and the Unit 7 grain store. Beyond the application site, Wisemans Gate continues in a northerly direction before sweeping round to the east and returning via an indirect route to the A151 bypass.

3.2.7 The section of Wisemans Gate between Runway and the application site provides a single track road, generally 3.0 metres in width. Wisemans Gate is an adopted highway, maintainable at public expense. The road is bounded to the east by a grass verge of around 1.5 metres. On the western side of Wisemans Gate, there is a drainage ditch and verge over an initial length of 75 metres, apart from a 9.0 metre long field access centred 25 metres from the junction with Runway where the drainage ditch is piped. A verge of around 1.5 metres is available on the western side of Wisemans Gate from the end of the drainage ditch to the application site.

3.2.8 The section of Wisemans Gate between Runway and the application site is flat with slight bends. Apart from two dwellings 235 metres from the junction with Runway, frontages on Wisemans Gate are undeveloped with fields to each side of the road used for arable farming. Drivers using the section of Wisemans Gate between Runway and the application therefore have clear vision of approaching traffic, with the exception of sections adjoining the dwellings referred to above. Forward visibility on this short section of Wisemans Gate has however recently been improved to around 70 metres by the removal of tall hedges adjacent to the dwellings.

3.2.9 As demonstrated in section 3.3 below, Wisemans Gate is very lightly trafficked such that a vehicle heading from the junction with Runway to the application site is unlikely to meet an oncoming vehicle. Observations on site indicate that traffic speeds are generally low, typically not greater 30mph, constrained by width and alignment. Informal passing opportunities are however available for cars and light vans at the field access described in 3.2.7 above and using the hardstanding area to the front of the dwellings referred to in paragraph 3.2.8. The provision of a formal passing place to improve operation is considered further in section 4 of this report.

3.3 Existing Traffic Flows

3.3.1 Existing traffic flows have been established by a classified traffic count undertaken at the junction of Wisemans Gate and the A151 Weston Bypass on Monday 19 October 2020. The survey covered the morning and evening peak periods from 07:00-09:00 and from 16:00-18:00. Traffic flows on Wisemans Gate were also recorded in an off-peak hour from 11:30-12:30. The surveys took place prior to the school half-term period and the November coronavirus lockdown, with traffic flows on the survey day considered representative and reliable. Results of the survey are summarised in figures 4 and 5 and in table 3.1 below, with survey results presented in full in Appendix B.

3.3.2 The morning and evening peak hours were found to be from 07:30-08:30 and from 16:30-17:30 hours respectively. The surveys confirm the section of Wisemans Gate providing access to the application site as being lightly trafficked, with 3 vehicle movements recorded in the morning peak hour, 10 vehicle movements in the evening peak hour and 4 vehicle movements in the off-peak hour. Vehicles using Wisemans Gate comprised entirely cars and light vans, with the exception of 1 goods vehicle within the OGV1 class heading towards the application site in the morning peak hour. With traffic flows at these low levels, drivers using the single track section of Wisemans Gate would not normally encounter an oncoming vehicle

3.3.3 Traffic generated by Lincolnshire Field Products was also at a low level with 11 vehicle movements in the morning peak hour and 29 vehicle movements in the evening peak hour. Traffic on the Weston Bypass was at a more significant level, with two-way peak flows of around 1100 vehicles per hour.

Location	Direction	Morning Peak (07:30-08:30)	Evening Peak (16:30-17:30)	Off-Peak Hour (11:30-12:30)
A151 Weston Bypass, west of Wisemans Gate	Eastbound, towards Holbeach	494	613	-
	Westbound, towards Spalding	573	558	-
A151 Weston Bypass, east of Wisemans Gate	Eastbound, towards Holbeach	494	615	-
	Westbound, towards Spalding	573	545	-
Wisemans Gate, west of application site	Towards Application Site	2	5	2
	From Application Site	1	5	2
Runway, west of Wisemans Gate	Towards Wisemans Gate	6	22	
	From Wisemans Gate	5	7	

Table 3.1 Existing Traffic

3.3.4 The traffic surveys have also been used to establish the composition of traffic flows at the junction of the A151 and Wiseman's Gate, as indicated in table 3.2 below. It can be seen that most vehicles using the local highway network were within the cars and light vans category, with heavy goods vehicles (within the OGV1 and OGV2 categories defined below) at 8.1% in the morning peak and 5.5% in the evening peak:

- **Other Goods Vehicles (OGV 1)** - All rigid vehicles over 3.5 tonnes gross vehicle weight with two or three axles. This category includes larger ambulances, tractors (without trailers) and larger vans. A two or three axle tractor unit without a trailer is also included.
- **Other Goods Vehicles (OGV 2)** - All rigid vehicles with four or more axles and all articulated vehicles. Also included are OGV1 vehicles towing a caravan or trailer.

Direction	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOTAL
Morning Peak Hour	91.0%	5.5%	2.6%	0.7%	0.3%	0.0%	91.0%
Evening Peak Hour	93.8%	4.1%	1.4%	0.3%	0.3%	0.2%	100.0%

Table 3.2 Composition of Traffic at the Junction of A151 and Wisemans Gate

3.4 Road Safety

3.4.1 Details of road traffic accidents involving injury, recorded in the 5 year period from 1 January 2015 have been obtained, During this period there have been no recorded injury accidents at the junction of A151 Weston Bypass and Wisemans Gate or on the sections of Wisemans Gate used for site access.

3.4.2 An injury accident was however recorded on Weston Bypass, approximately 150 metres east of the junction with Wisemans Gate, with details provided in Appendix C. The incident occurred during daylight hours in August 2018 during wet weather when 5 cars were in collision and one of the car drivers was received 'slight' injuries. It is considered therefore that there are no factors relating to the safety record of the local highway network that would justify withholding planning permission for the change of use.

3.5 Operational Analysis

3.5.1 Weekday peak hour operation of the junction of the A151 Weston Bypass and Wisemans Gate has been analysed using the Transport Research Laboratory computer program PICADY (Priority Intersection Capacity and Delay). The results of the analysis are summarised in the table below and presented in full in Appendix D. The analysis demonstrates that, consistent with observations on site, existing peak hour traffic flows are well within capacity, with no discernible traffic queues.

Traffic Movement	MORNING PEAK HOUR (08:30-09:30)		EVENING PEAK HOUR (1630-1730)	
	Ratio of Flow to Capacity	Maximum Queue (veh)	Ratio of Flow to Capacity	Maximum Queue (veh)
Wisemans Gate	0.019	0.0	0.087	0.1
Weston Bypass right turn to Wisemans Gate	0.008	0.0	0.016	0.0

Table 3.3 Operational Assessment – Junction of A151 Weston Bypass and Wisemans Gate (2020)

NB. The ratio of flow to capacity is the ratio of existing traffic flows to the maximum that can be accommodated, with a ratio of 1.0 indicating traffic at capacity.

3.6 Summary

3.6.1 The units at Beacon Farm have been used for business and commercial purposes since 2007, with the means of access to the site having operated in a generally satisfactory manner during this period. The 320 metre section of Wisemans Gate that provides access is a lightly trafficked single track road, with traffic flows of 10 vehicles per hour, or less. With traffic flows at these low levels, drivers using the single track section of Wisemans Gate would not normally encounter an oncoming vehicle. Traffic speeds on Wisemans Gate are typically at a low level around 30mph. Wisemans Gate has a satisfactory safety record with no road traffic accidents recorded in the last 5 years.

4 TRAFFIC IMPLICATIONS OF DEVELOPMENT

4.1 Introduction

4.1.1 This section of the report considers the traffic implications of the development.

4.2 Traffic Generation

4.2.1 Traffic generated by current occupiers of the site for business and commercial purposes are indicated in table 1.1, with existing traffic flows on Wisemans Gate indicated in table 3.1. The paragraphs below assess the volume of traffic typically generated by the existing units, by reference to the TRICS database (Trip Rate Information Computer System).

4.2.2 Trip rates have been obtained by reference to the 'Employment – Industrial Estate' section of the TRICS database (version 7.7.3), using established sites in UK mainland locations, excluding sites in Greater London and in town centre and edge of town centre locations for comparison. 'Industrial estate' is considered the appropriate category for comparison. The main land use within this category is B2 (General Industry), with some elements of B8 (Storage/Distribution) and E.giii (Light Industry). Land uses within the industrial estate category of TRICS are therefore comparable with those at Beacon Farm[2].

4.2.3 Levels of traffic generated by a development of 1538sqm GFA indicated by reference to trip rates from the TRICS database are indicated in the table 4.1 below, with output from TRICS contained in Appendix E. It can be seen the analysis confirms low levels of traffic generation with 4 vehicle movements indicated in each weekday peak hour and a total of 49 vehicle movements spread over a typical 16-hour weekday (from 05:00-21:00).

Time Range	ARRIVALS		DEPARTURES	
	Trip Rate (veh/100sqm)	Vehicles	Trip Rate (veh/100sqm)	Vehicles
Morning Peak Hour	0.207	3	0.065	1
Evening Peak Hour	0.077	1	0.194	3
Full Weekday	1.594	25	1.553	24

Table 4.1 Weekday Traffic Generation (Based on TRICS - 1538sqm GFA)

[2] *TRICS does not include a separate category for B1c light industry. It is however normal practice to use trip rates for B2 general industry to asses trip making for light industrial uses. As B8 (Storage or Distribution) uses normally generate a lower level of trip making than B2 general industry, trip rates for 'industrial estate' are considered robust in relation to Poplar Farm.*

4.2.4 The assessment of traffic generation based on the TRICS database confirms the results of the traffic surveys and the occupiers estimates of traffic generation, that traffic generated by business and commercial use of the site is at a low level:

- The TRICS analysis indicates 4 vehicle movements (sum of arrivals and departures) in the morning and evening peak hours and a total of 49 vehicle movements over a 16-hour weekday period, equivalent to an average of 3 vehicle movements per hour
- On-site surveys indicate 3 vehicle movements on Wisemans Gate in the morning peak hour and 10 vehicle movements in the evening peak hour, with current occupiers estimating 29 vehicle movements over a full weekday.

4.2.5 It is clear from the analysis above that traffic movements generated by business and commercial uses at Beacon Farm are below the established 'materiality threshold' of 30 vehicle movements per hour set out in Guidance on Transport Assessment' published by Government in March 2007 (paragraph 2.11). Whilst this guidance was withdrawn in 2014, the criteria provided remain in use by most professionals and has not been superseded.

4.2.6 It is considered that the volume of traffic generated by business and commercial use of the site is likely to be broadly similar to the traffic generating potential of agricultural use. If used for as a base for farming, Beacon House could be a place of work for a significant number of people, with journeys to and from work by car or light van at the beginning and end of the day. A farming use of the site would also likely result in regular use of Wisemans Gate by goods vehicles and farm machinery. Use of the application site for business and commercial purposes is therefore unlikely to result in a material intensification of use of Wisemans Gate either in terms of the overall number of vehicle movements or in relation to use by larger vehicles.

4.3 Proposed Passing Place

4.3.1 Previous sections of this report demonstrate that the single track section of Wisemans Gate is lightly trafficked, with traffic volumes of 10 vehicle movements per hour (sum of arrivals and departures) or less, throughout the day. Traffic generated by the business and commercial use of the site is also broadly similar to the traffic generating potential of agricultural use. Traffic speeds on the 320 metre single track section used for site access are typically low around 30mph, with good forward visibility, although limited to 70 metres over a short section. Wisemans Gate also has a satisfactory safety record with no accidents or operational problems recorded in the last 5 years.

4.3.2 Notwithstanding the above, provision of a passing place is proposed on the single track section Wisemans Gate between the application site and the junction with Runway. The passing place is proposed 210 metres from the junction with Runway, as shown in figure 6. The provision of a passing place seeks to ensure that oncoming vehicles do not meet on the single track section, with the driver waiting at the passing place to pass an oncoming vehicle should the need arise.

4.3.3 A vehicle travelling at 30mph (13.4 metres/second) would cover the 210 metres between the proposed passing place and the junction with Runway in some 15 seconds, so waiting time at the passing place would be short. A vehicle travelling at the same speed would cover the 110 metre distance between the passing place and the application site in 7.5 seconds; a minimal waiting time in this scenario. It should be noted that land to each side of Wisemans Gate is in the same ownership as the application site and could be made available for passing place provision, if considered necessary.

4.3.4 Dimensions for the proposed passing place have been from design criteria used in the HS2 project for the design of highway diversions[3]. For single track roads where the route is likely to be used by buses or heavy goods vehicles the standards of geometry indicated below is recommended. Whilst HGV traffic on Wisemans Gate is at a low level the design criteria used in the HS2 project have been used in this instance:

- *The combined width of single-track road plus passing bay shall be 5.5 metres over a length of 5 metres (or 15 metres where likely to be used by buses or heavy goods vehicles). Tapers 5 metres long shall be provided at each end.*

4.3.5 Various studies have been undertaken to consider the capacity of single track roads with passing places, indicating capacity for up to around 280 to 300 vehicle movements per hour. A report by the Transport Research Laboratory (LR71[4]) concluded that a capacity of 280 vehicles per hour was appropriate, on a road with good alignment and visibility. Appendix 4 of 'Residential Roads and Footpaths' published by Government in 1977, concluded similarly indicating that flow levels of up to 300 vehicles per hour could be accommodated on single track sections before delays were significantly increased. With current traffic volumes of around 10 vehicle movements per hour, there can be no doubt that a single track road with passing places would provide sufficient capacity for anticipated demand.

[3] *HS2 Rural Road Design Criteria (HS2_Rural_Road_Design_Criteria.pdf (publishing.service.gov.uk)*
[4] 'Single Track Roads in the Scottish Highlands' published by the Transport Research Laboratory in 1967 (http://trl.co.uk/)

4.4 Parking and Servicing

4.4.1 Access to the application site is available at two points on Wisemans Gate, with a concrete surfaced road connecting the two access points and hard surfaced areas adjacent to the units available for parking. Parking standards for development are set out in Appendix 6 of the South East Lincolnshire Local Plan adopted in March 2019. Provision based on the Council's standard of 1 car parking space per 65sqm and 1 cycle stand per 200sqm for general industry is considered appropriate. With 1538sqm of floorpsace available, the Council's parking standards equate to provision of 24 car parking spaces (each 2.5 x 5.0 metres) and 8 cycle stands. A Parking Layout Plan indicating provision in accordance with the Council's standards is included as figure 3.

4.4.2 Previous sections of this report demonstrate that the business and commercial units at Beacon Farm generate only a small number of heavy goods vehicles, with most deliveries being by smaller vans. Analysis undertaken using Autotrack however demonstrates that the site layout can suitably accommodate larger vehicles, should the need arise. This contingency is illustrated in figures 7-10:

- Figure 7 shows a 10.0 metre 2-axle rigid vehicle entering the site at the access point nearest Weston Bypass, driving through the site and exiting at the second access point (Plot A).
- Figure 8 shows the same vehicle entering the site at the second access point, turning in front of Unit 7 and reversing past Building B, before exiting the site in forward gear (Plot B).
- Figure 9 shows a 16.5 metre articulated vehicle running through the site as in Plot A above
- Figure 10 shows the same articulated vehicle entering the site at the second access point, turning in front of Unit 7 and exiting the site in forward gear.

4.5 Future Traffic Flows

4.5.1 Consistent with recommended practice, the traffic effects of the change of use have been considered in a 2025 assessment year, 5 years after the date of planning submission. Traffic flows in the 2025 assessment year have been derived by applying a growth factor from TEMPRO (version 7.2), with local adjustment for South Holland (dataset AF15) to existing traffic. 2020-2025 growth factors of 8.11% for the morning peak period and 8.02% for the evening peak have been obtained in this way. Weekday peak hour traffic flows at the junction of the A151 Bypass with Wisemans Gate factored to a 2025 level are shown in figures 11 and 12.

4.6 Operational Analysis

4.6.1 Weekday peak hour operation of the junction of the A151 Weston Bypass and Wisemans Gate in the 2025 assessment year has been analysed using the Transport Research Laboratory computer program PICADY. The results of the analysis are summarised in the table below and presented in full in Appendix F. The analysis demonstrates that traffic flows at the junction will remain well within capacity, with no discernible traffic queues.

Traffic Movement	MORNING PEAK HOUR (08:30-09:30)		EVENING PEAK HOUR (1630-1730)	
	Ratio of Flow to Capacity	Maximum Queue (veh)	Ratio of Flow to Capacity	Maximum Queue (veh)
Wisemans Gate	0.020	0.0	0.104	0.1
Weston Bypass right turn to Wisemans Gate	0.008	0.0	0.018	0.0

Table 4.2 Operational Assessment – Junction of A151 Weston Bypass and Wisemans Gate (2025)

NB. The ratio of flow to capacity is the ratio of existing traffic flows to the maximum that can be accommodated, with a ratio of 1.0 indicating traffic at capacity.

4.7 Summary

4.7.1 Reference to the TRICS database confirms that business and commercial use of the premises at Beacon Farm would generate only a small volume of traffic. Traffic generation would be below the established 'materiality threshold' of 30 vehicle movements per hour and comparable with the traffic generating potential of agricultural use. Use of the application site for business and commercial purposes is therefore unlikely to result in a material intensification of use of Wisemans Gate either in terms of the overall number of vehicle movements or in relation to use by larger vehicles.

4.7.2 Notwithstanding the above, provision of a passing place is proposed on the single track section of Wisemans Gate, between the application site and the junction with Runway. The provision of a passing place seeks to ensure that vehicles do not meet on the single track section of Wisemans Gate, with the driver waiting at the passing place to pass an oncoming vehicle should the need arise. It should be noted that land to each side of Wisemans Gate is in the same ownership as the application site and could be made available for passing place provision, if considered necessary.

4.7.3 Suitable parking is available within the site with at least 24 parking spaces available, consistent with Council standards. Provision of 8 cycle stands is also proposed, consist with these standards. Whilst the business and commercial units at Beacon Farm generate only a small number of heavy goods vehicles, with most deliveries being by smaller vans, analysis undertaken using Autotrack demonstrates that the site layout can suitably accommodate larger vehicles, should the need arise.

5 SUMMARY AND CONCLUSION

5.1 Introduction

5.1.1 This report considers the transport implications arising from a retrospective planning application for the change of use of agricultural buildings at Beacon Farm, Wisemans Gate, Weston, near Spalding Lincolnshire to business and commercial use. The application site extends to some 0.425 hectares and contains three main buildings used originally for agricultural storage which have been subdivided to provide 7 smaller units with a total floorspace of 1538sqm (GFA).

5.1.2 The site at Beacon Farm is currently fully occupied by a range of small businesses, with access currently available at two points on Wisemans Gate. 5 people are currently employed on site with current uses generating only a small volume of traffic; a total of 29 vehicle movements per day. It is notable that almost all generated vehicle movements are by cars and light vans with current occupiers attracting only 1 heavy goods vehicle on most days.

5.2 Transport Related Policy Considerations

5.2.1 Qualified support for the change of use at Beacon Farm is provided by National and Local Policy guidance which recognises the potential for employment land uses, in rural locations where the conversion or re-use of redundant buildings is involved. Support is subject to caveats including there being 'no significant adverse impact on the local highway network'. This report demonstrate that the local highway network operates in a generally satisfactory manner with provision of a passing place on Wisemans Gate is proposed to improve operation, thereby satisfying the criteria set out in Policy guidance.

5.3 Existing Conditions

5.3.1 The units at Beacon Farm have been used for business and commercial purposes since 2007, with the means of access to the site having operated in a generally satisfactory manner during this period. The 320 metre section of Wisemans Gate that provides access is a lightly trafficked single track road, with traffic flows of 10 vehicles per hour, or less. With traffic flows at these low levels, drivers using the single track section of Wisemans Gate would not normally encounter an oncoming vehicle. Traffic speeds on Wisemans Gate are typically at a low level around 30mph. Wisemans Gate has a satisfactory safety record with no road traffic accidents recorded in the last 5 years.

5.4 Traffic Implications of Development

5.4.1 Reference to the TRICS database confirms that business and commercial use of the premises at Beacon Farm would generate only a small volume of traffic. Traffic generation would be below the established 'materiality threshold' of 30 vehicle movements per hour and comparable with the traffic generating potential of agricultural use. Use of the application site for business and commercial purposes is therefore unlikely to result in a material intensification of use of Wisemans Gate either in terms of the overall number of vehicle movements or in relation to use by larger vehicles.

5.4.2 Notwithstanding the above, provision of a passing place is proposed on the single track section of Wisemans Gate, between the application site and the junction with Runway. The provision of a passing place seeks to ensure that vehicles do not meet on the single track section of Wisemans Gate, with the driver waiting at the passing place to pass an oncoming vehicle should the need arise. It should be noted that land to each side of Wisemans Gate is in the same ownership as the application site and could be made available for passing place provision, if considered necessary.

5.4.3 Suitable parking is available within the site with at least 24 parking spaces available, consistent with Council standards. Provision of 8 cycle stands is also proposed, consist with these standards. Whilst the business and commercial units at Beacon Farm generate only a small number of heavy goods vehicles, with most deliveries being by smaller vans, analysis undertaken using Autotrack demonstrates that the site layout can suitably accommodate larger vehicles, should the need arise.

5.5 Overall Conclusion

Having regard to the above, it is considered that the change of use of agricultural buildings at Beacon Farm, Wisemans Gate, Weston, near Spalding, Lincolnshire to business and commercial use is acceptable from a transport viewpoint.

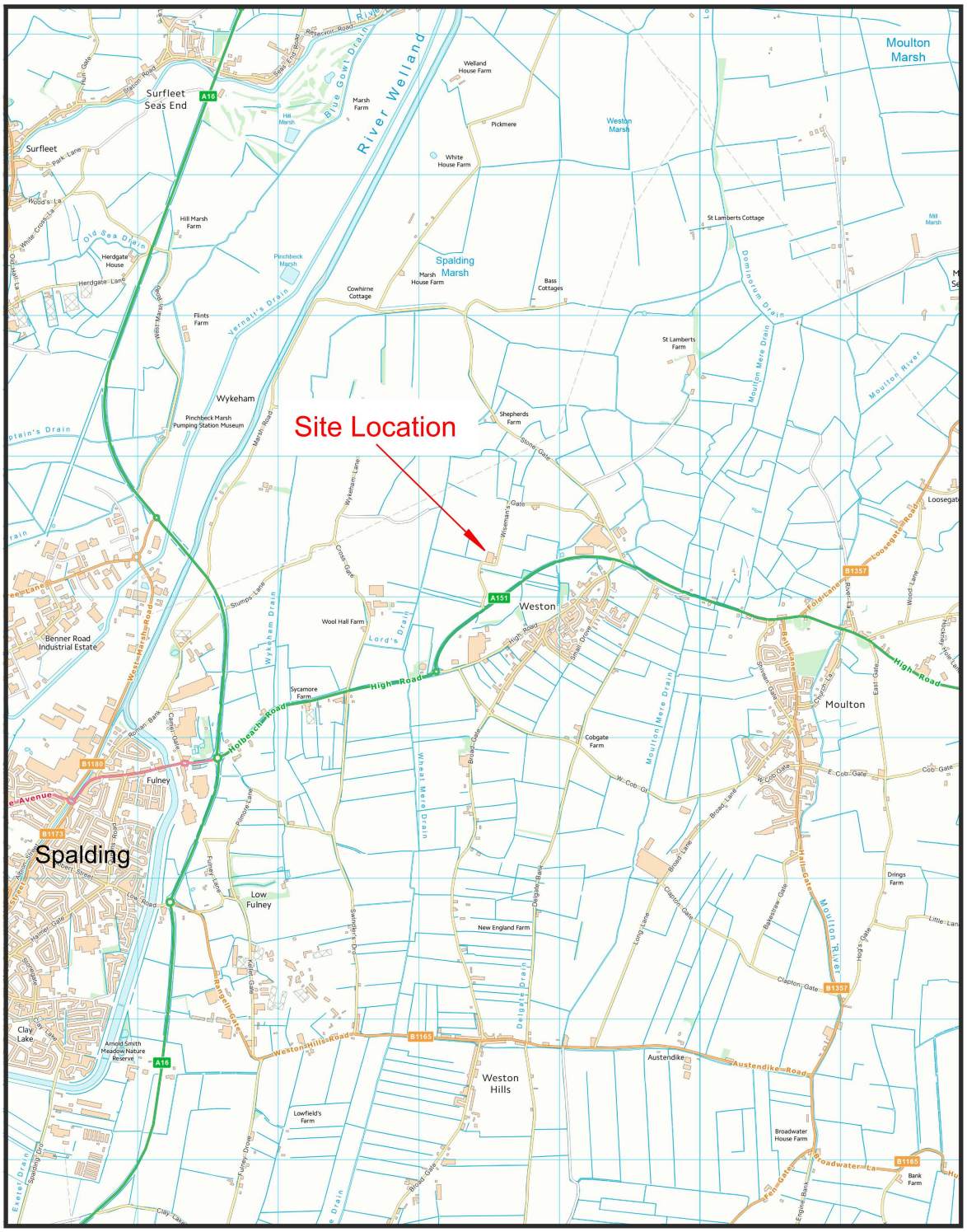


Figure 1
Site Location

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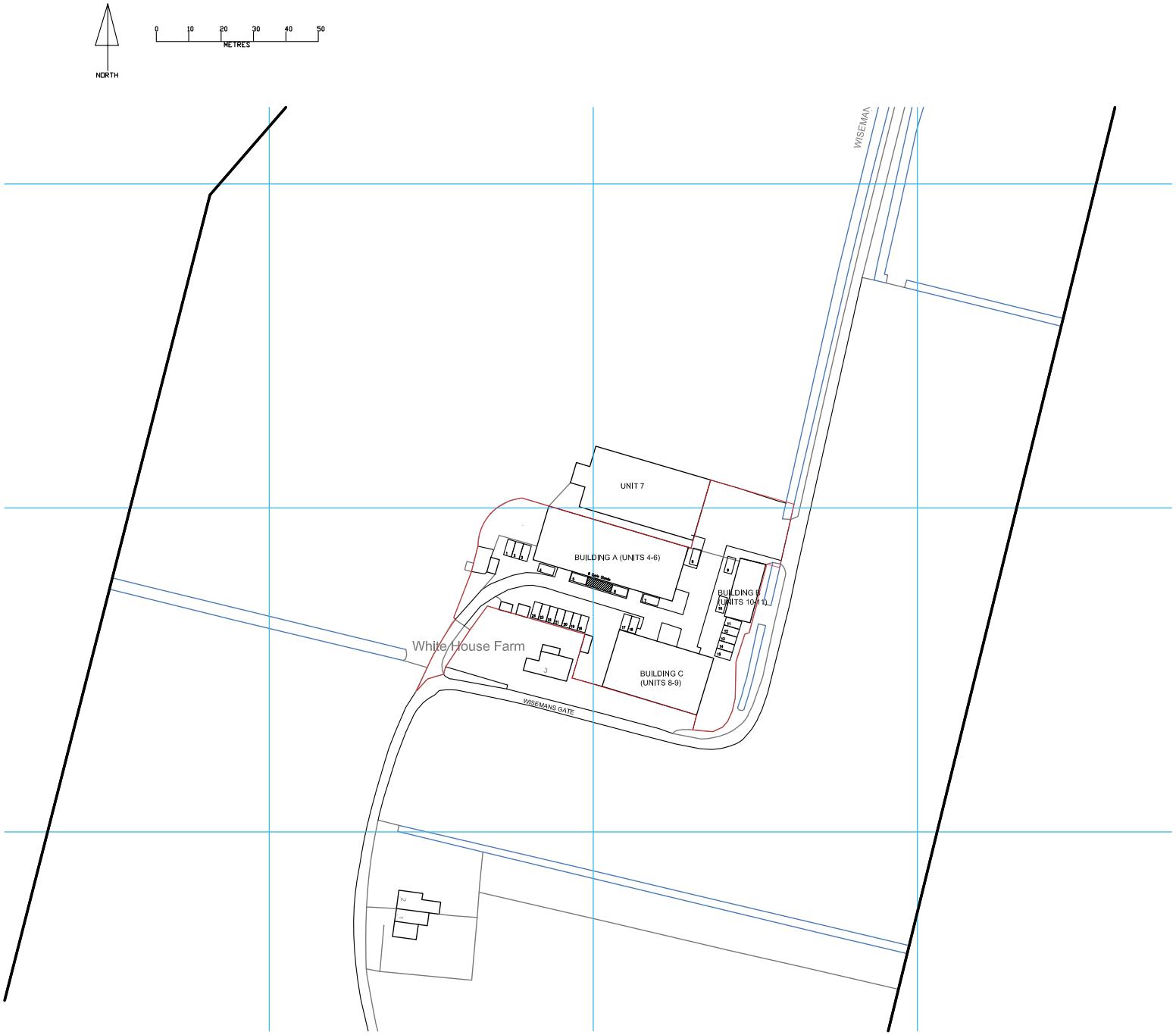


Figure 2

Rev	Date	Detail
B	27/11/20	PARKING ADDED
A	17/11/20	BOUNDARY AMENDED

i-JD DESIGN
INTERIOR DESIGN | ARCHITECTURE | PROJECT MANAGEMENT
8 SUTCLIFFE ROAD, WITTERING,
PETERBOROUGH, PE8 6AY
Tel: 07588 441751 info@i-jd.co.uk
www.i-jd.co.uk

Client: BEACON FARM

Job Title: CHANGE OF USE

BEACON FARM
WISEMANS GATE
WESTON
PE12 6JD

Scale: 1-1250 @ A3 Date: 06/11/20

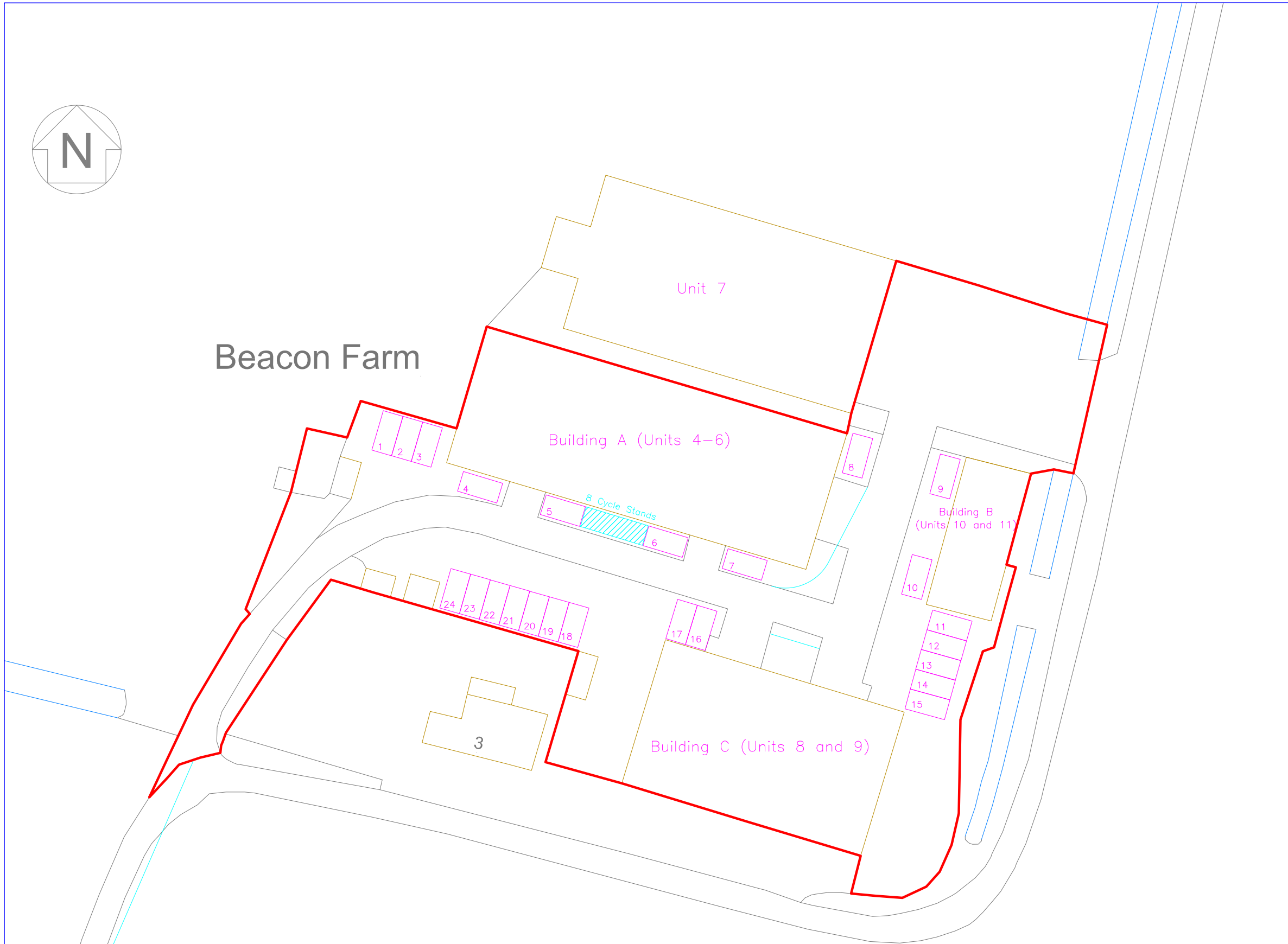
Drawing Title

SITE LOCATION PLAN

Drawing No.

389SK03 Revision B

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Notes

FIGURE 3

Rev	Date	Lines amended	Drawn	Chkd

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Client

SLATOR BROS FARMS

Project

LAND AT BEACON FARM, WISEMANS GATE, NR. SPALDING

Title

PARKING LAYOUT PLAN

Scale	Sheet	Drawn	Chkd
1:500	A3	AK	JV

Drawing No. NTP20021–02

Rev A

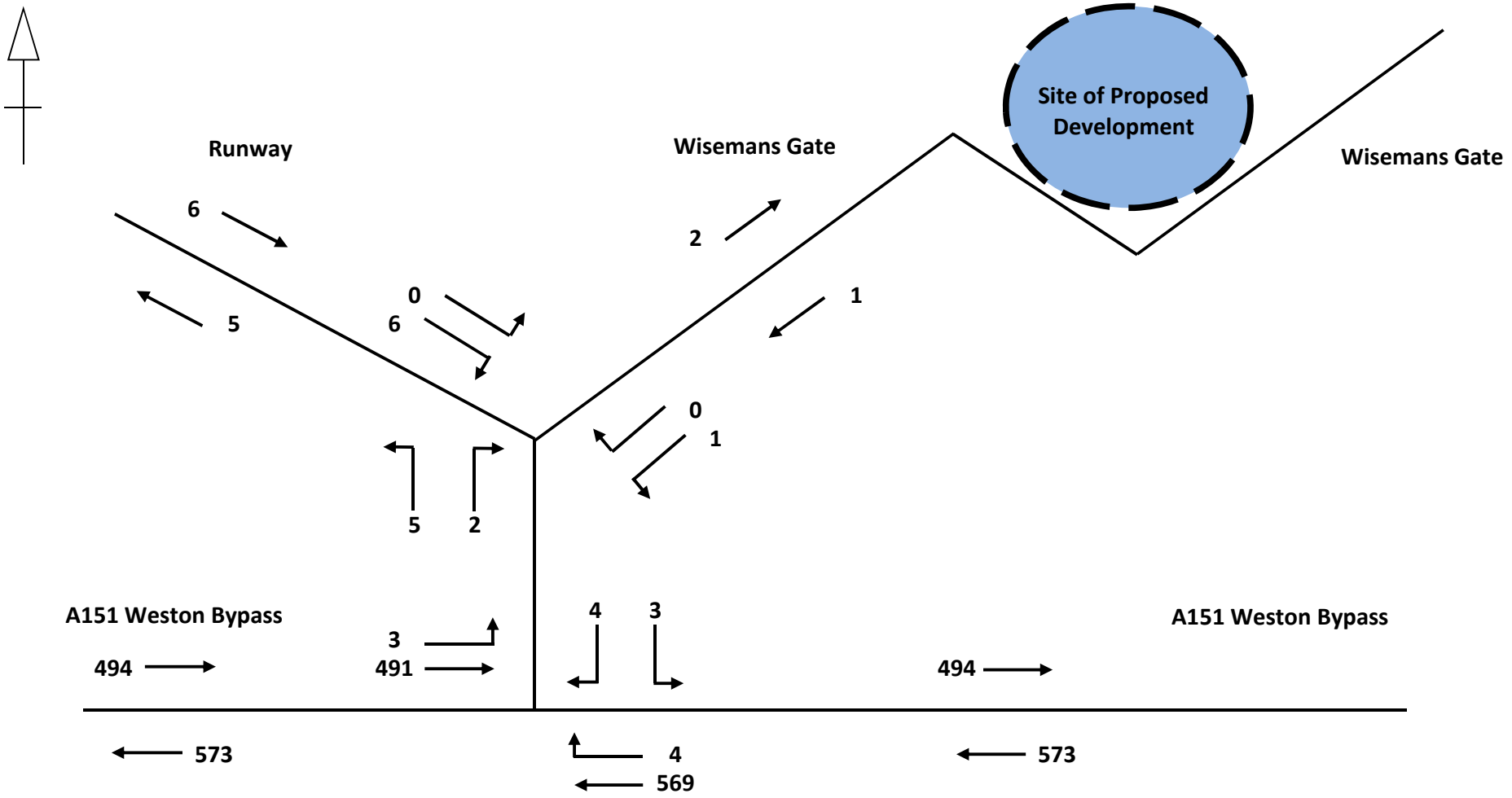


Figure 4
Existing Weekday Morning Peak Hour Traffic
(07:30-08:30)

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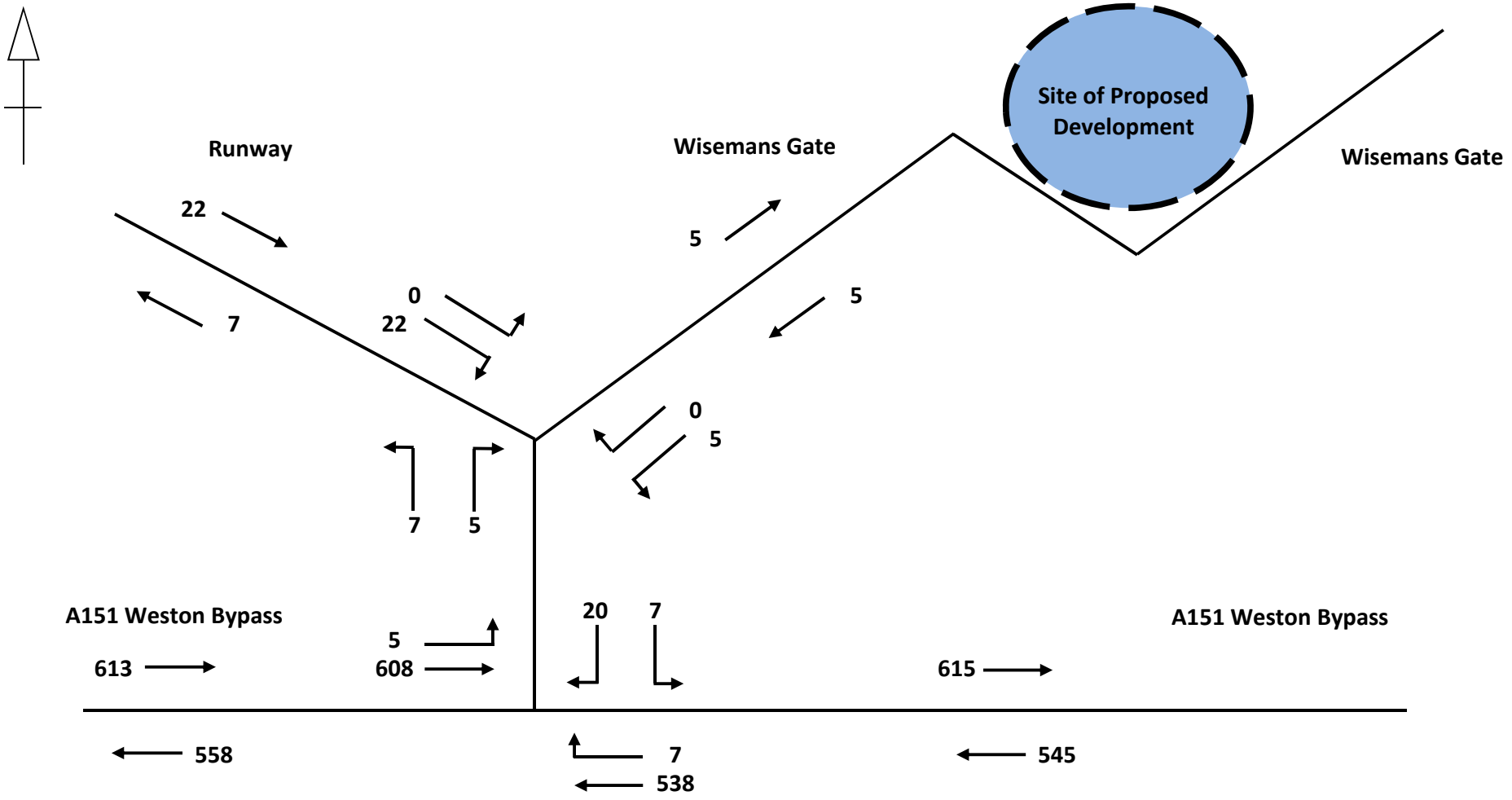


Figure 5
Existing Weekday Evening Peak Hour Traffic
(16:30-17:30)

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Proposed Passing Place

1. Wisemans Gate widened to provide a 5.5 metre carriageway over a 15 metre length, with a 5.0 metre taper at each end of the passing place.
2. The proposed passing place to be centred 210 metres from the junction with Runway, or as otherwise agreed with LCC.



Notes

FIGURE 6

APPLICATION SITE

Rev	Date	Lines amended	Drawn	Chkd

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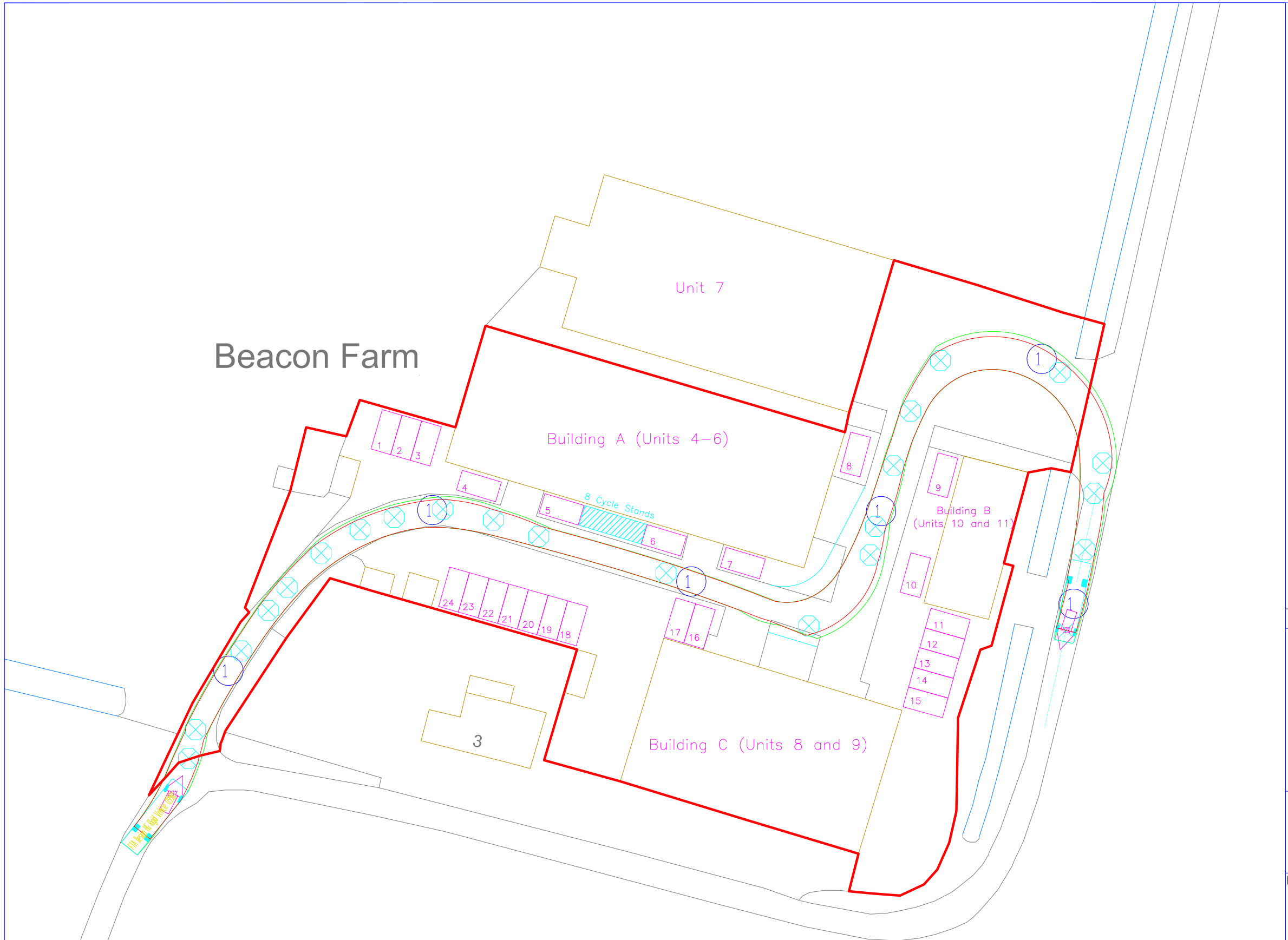
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PROPOSED PASSING PLACE ON WISEMANS GATE

Scale	Sheet	Drawn	Chkd
1:2500	A3	AK	JV

Drawing No. NTP20021–03

Rev A



Notes

FIGURE 7

Rev	Date	Lines amended	Drawn	Chkd

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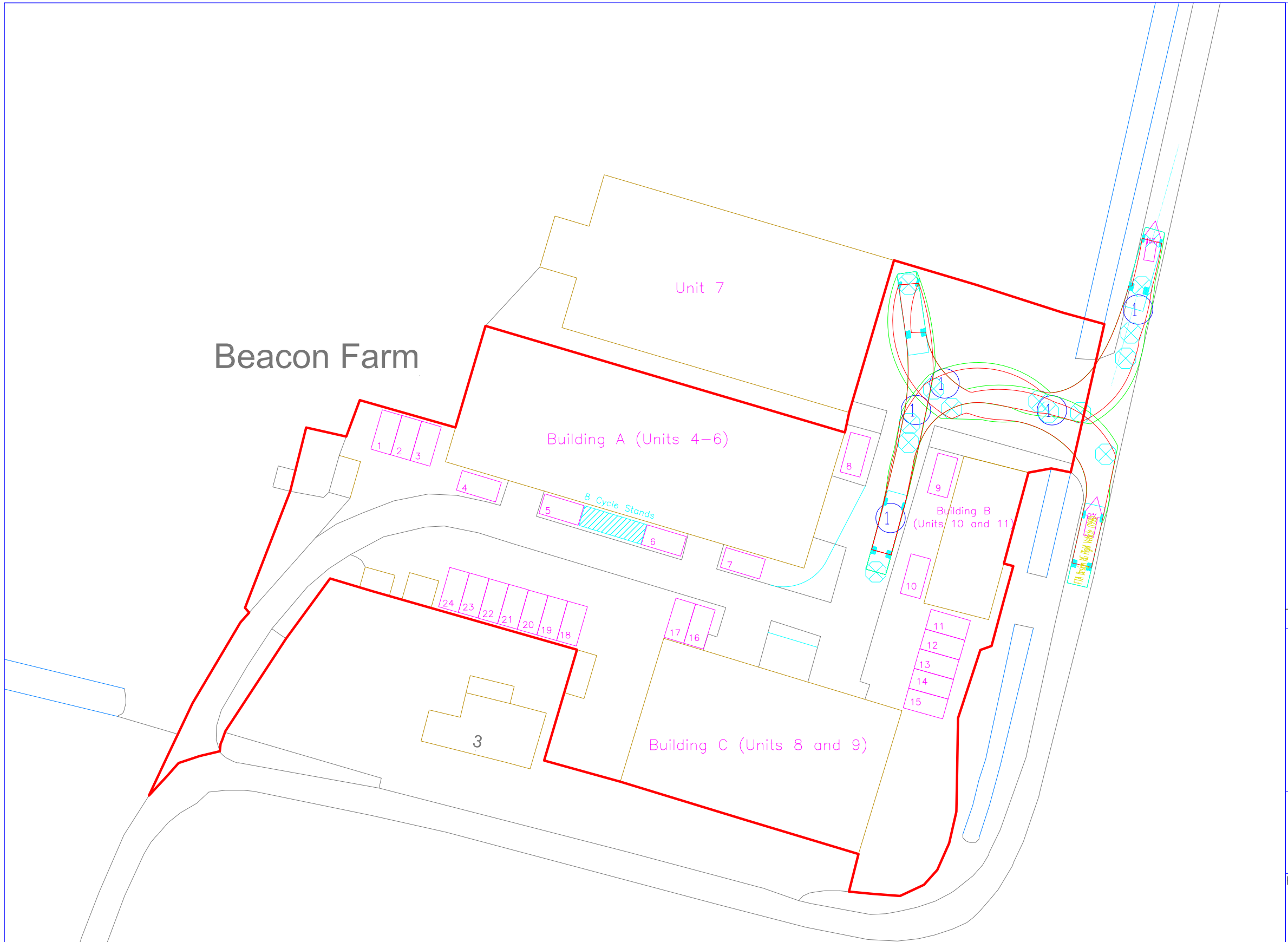
Title

USE OF THE SITE BY A 2–AXLE, 10 METRE RIGID VEHICLE (PLOT A)

Scale	Sheet	Drawn	Chkd
1:500	A3	AK	JV

Drawing No. NTP20021–04

Rev A



Notes

FIGURE 8

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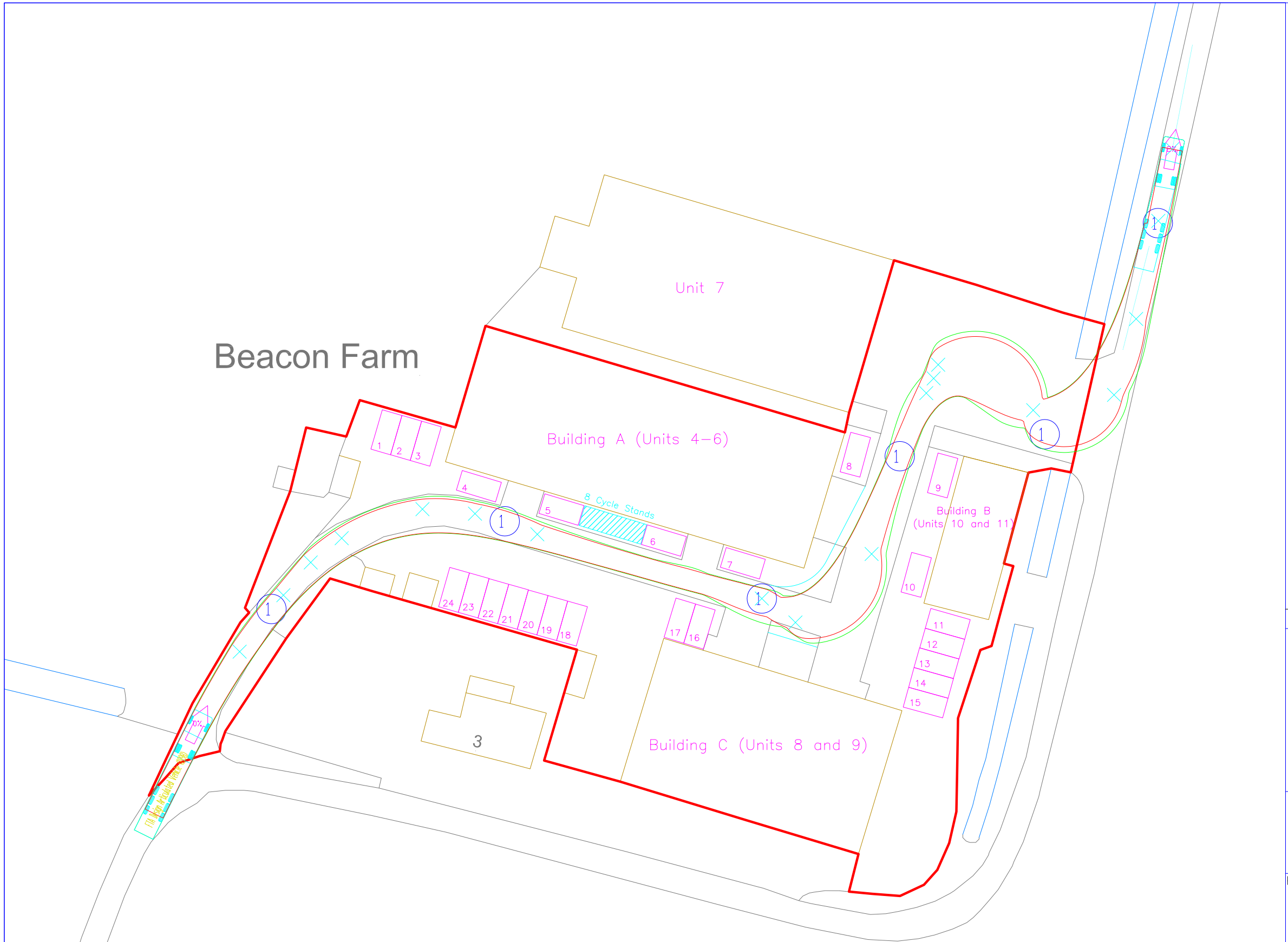
Title

USE OF THE SITE BY A 2–AXLE, 10 METRE RIGID VEHICLE (PLOT B)

Scale	Sheet	Drawn	Chkd
1:500	A3	AK	JV

Drawing No. NTP20021–05

Rev A



Notes

FIGURE 9

Rev	Date	Lines amended	Drawn	Chkd

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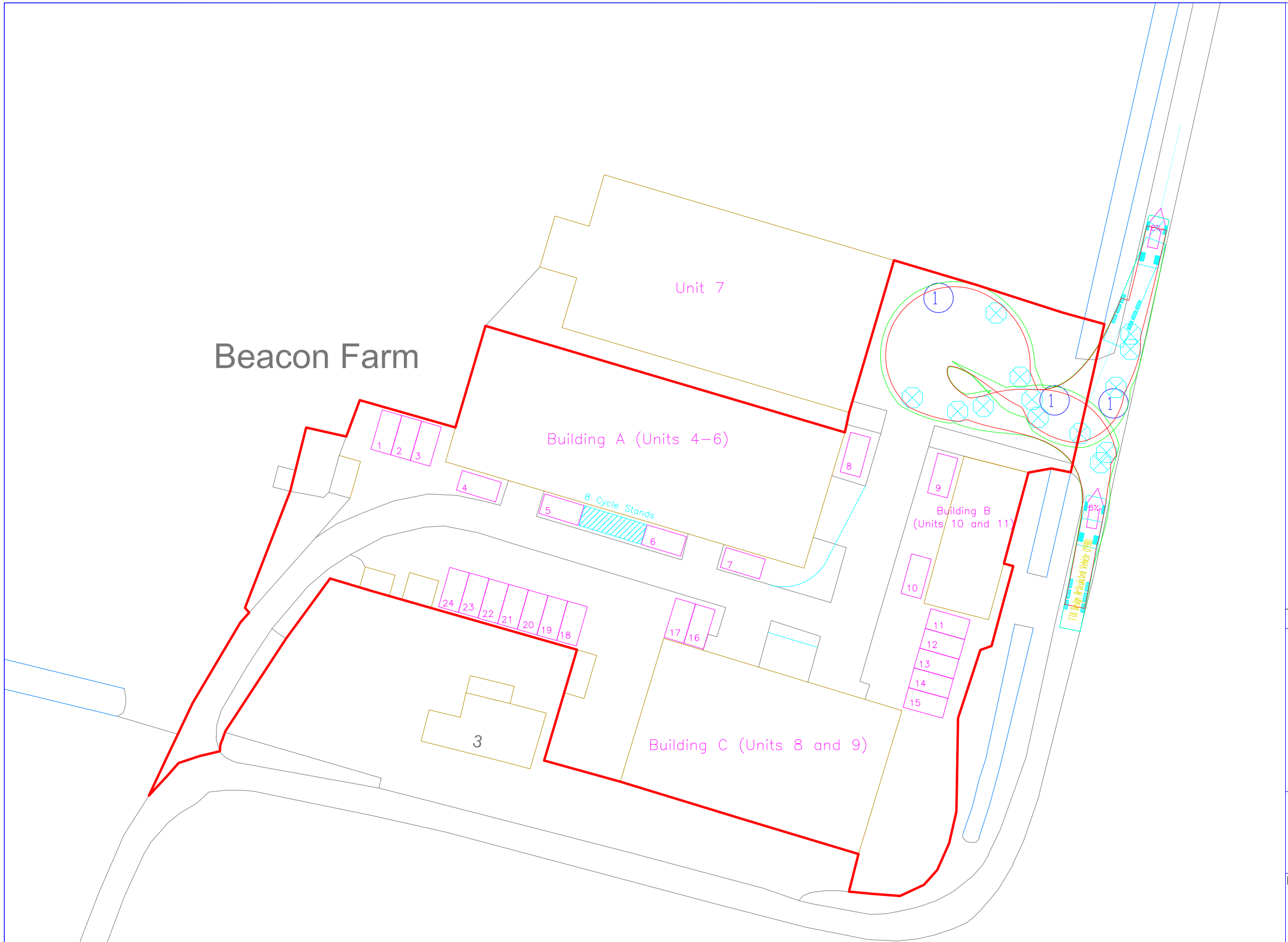
Title

USE OF THE SITE BY A 16.5 METRE ARTICULATED VEHICLE (PLOT C)

Scale	Sheet	Drawn	Chkd
1:500	A3	AK	JV

Drawing No. NTP20021–06

Rev A



Notes

FIGURE 10

Rev	Date	Lines amended	Drawn	Chkd

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LAND AT BEACON FARM, WISEMANS GATE, NR. SPALDING

Title

USE OF THE SITE BY A 16.5 METRE ARTICULATED VEHICLE (PLOT D)

Scale	Sheet	Drawn	Chkd
1:500	A3	AK	JV

Drawing No. NTP20021–07

Rev A

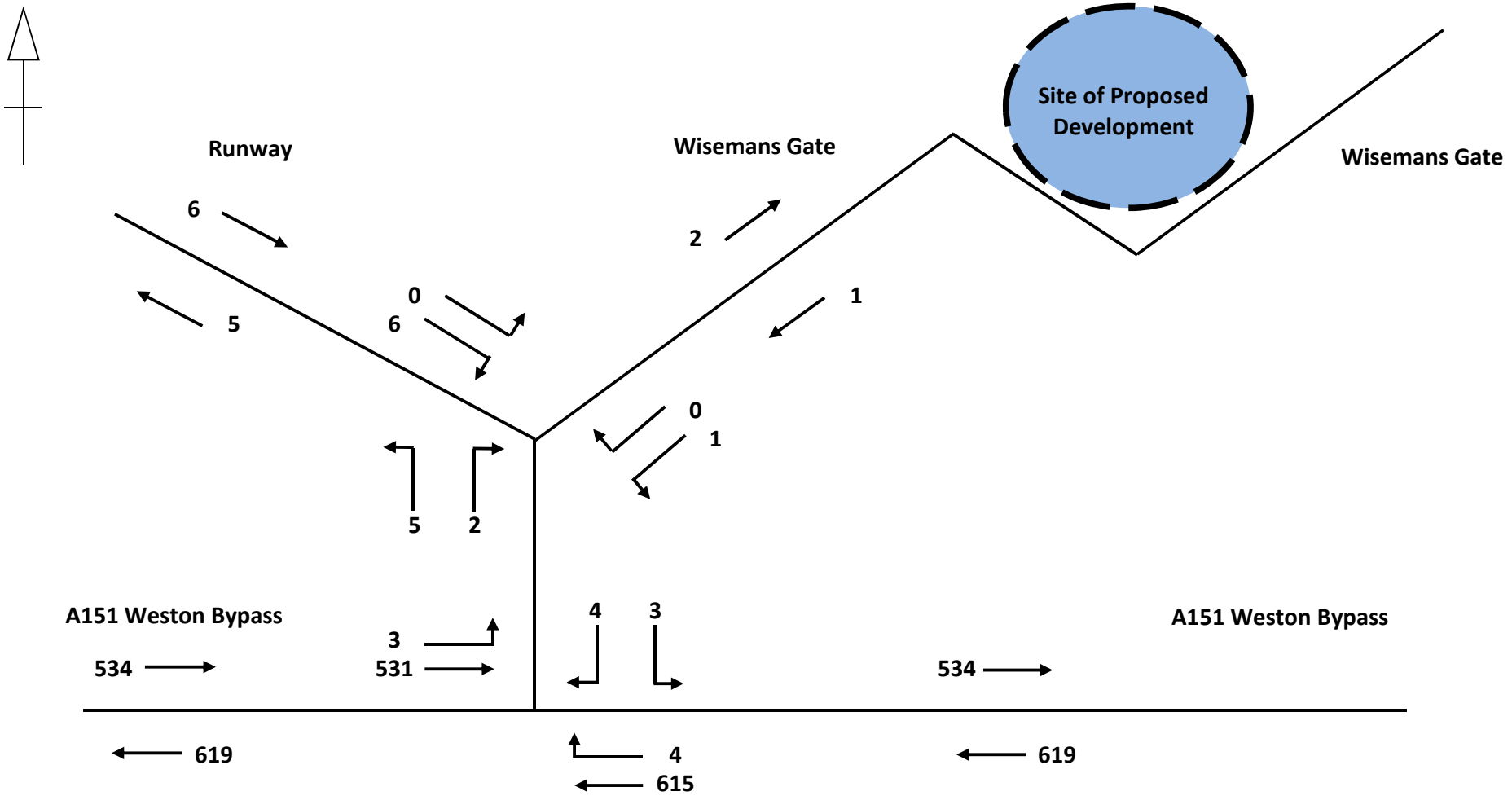


Figure 11
2025 Weekday Morning Peak Hour Traffic
(07:30-08:30)

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E mail@ntpconsultants.co.uk

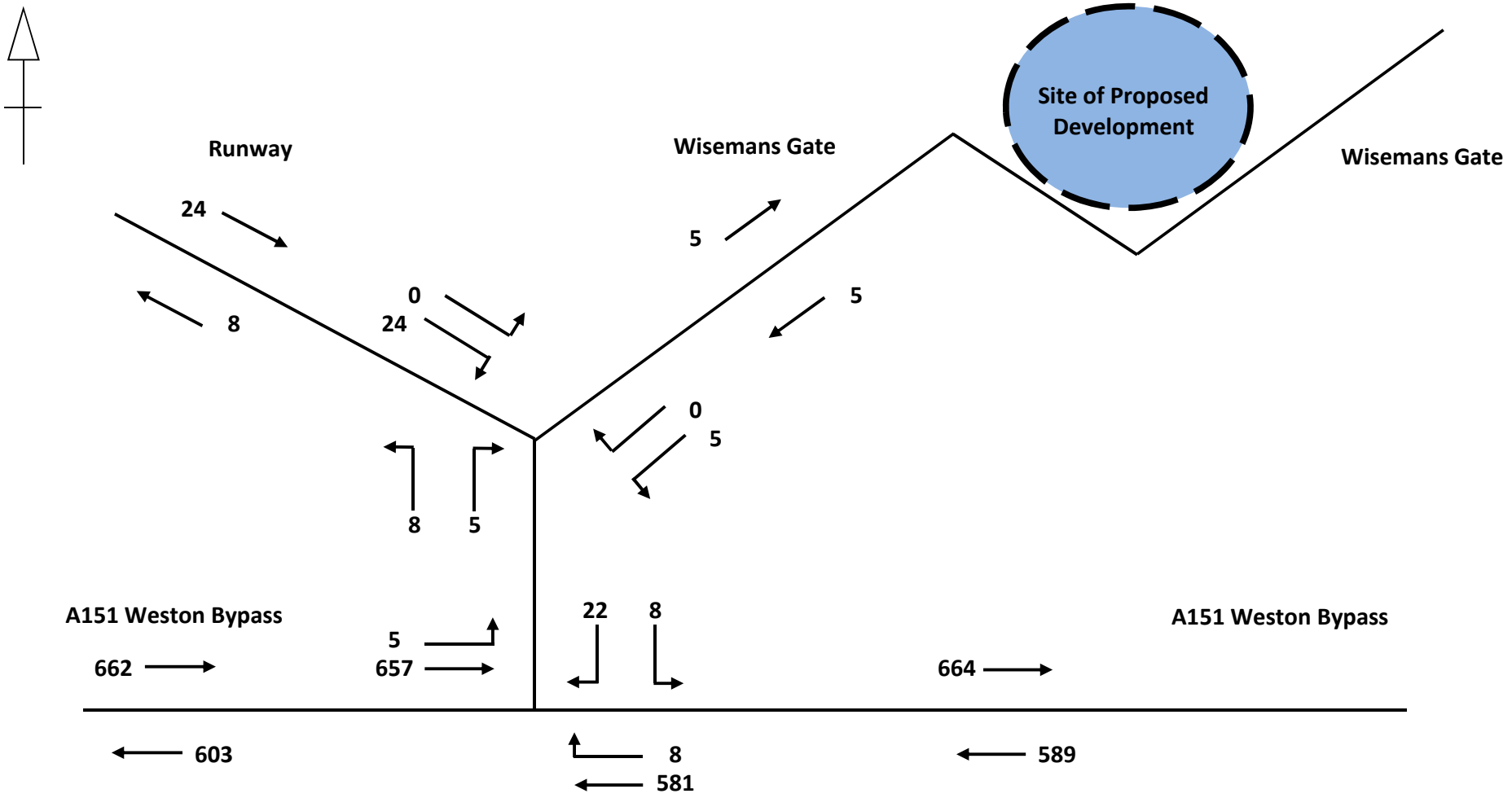


Figure 12
2025 Weekday Evening Peak Hour Traffic
(16:30-17:30)

Northern Transport Planning Ltd
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Appendix A

SOUTH HOLLAND DISTRICT COUNCIL

Council Offices
Priory Road
Spalding
Lincolnshire
PE11 2XE

tel: 01775 761161
fax: 01775 710772
web: www.sholland.gov.uk

Town and Country Planning Act 1990

Refusal of Planning Permission

Reference: H22-0422-05 Received: 30-MAR-05 Type: FULL

Name: Slator Bros (Farms) Ltd
Beacon Farm
Wisemans Gate
Weston
Spalding Lincs

Agent: Slator Bros (Farms) Ltd
Beacon Farm
Wisemans Gate
Weston
Spalding Lincs

Description: Change of use from agricultural to B1/B8 industrial use

Location : Beacon Farm Wisemans Gate Weston

South Holland District Council hereby give notice that PERMISSION HAS BEEN REFUSED for the development for the following reason(s):

1 Wisemans Gate is unsuitable, in terms of its width and construction, to accommodate the commercial traffic that would be likely to be generated by the proposed use. The carriageway is generally single track only, with little opportunity for vehicles to pass one another. The intensification in vehicle movements on Wisemans Gate between the site and the A151, resulting from the proposed use, would increase unacceptably the incidence of vehicles meeting on the road. It would require those vehicles to either reverse or over-run the carriageway edges and highway verges in order to pass, to the detriment of highway safety. The proposal is therefore contrary to South Holland District Local Plan Policy E1. This indicates that new development should be acceptable in terms of traffic generation and road safety in the surrounding area.

2 The site is outside the confines of a settlement in an area of open countryside where it is the policy of the Local Planning Authority to permit new development only in exceptional cases where it is satisfied that there is a special need, particularly in connection with agriculture. In the opinion of the Local Planning Authority the circumstances of this case are not sufficient to justify permission, which would be contrary to Policy E12 of the Adopted South Holland District Local Plan 1998, and Policies SG2 and SG4 of the South Holland Local Plan Re-Deposit 2005. These policies are in accordance with National Planning Policies set out in Planning Policy Statement 7 (Sustainable Development in Rural Areas) and are aimed at the preservation of the character of the countryside and ensuring that new development is in a sustainable location.

In the opinion of the Local Planning Authority the granting of permission for the development as

SOUTH HOLLAND DISTRICT COUNCIL

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Lincolnshire
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proposed would be harmful to the purpose of these policies because as well as its individual effect on these issues, it would encourage further applications of a similar nature, which would then be difficult to resist.

Note(s):

The determined plans are:
1:1250 site location plan received 30 March 2005.

Head of Planning & Development
25 MAY 2005 H22-0422-05

This decision refers only to that required for the purposes of the Town and Country Planning Acts and not for Building Regulations or any other legislation.

Appendix B

Junction of A151 and Wisemans Gate
Monday 19 October 2020

0700-0715 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	83	4	4	0	0	0	91
A151 left to Wisemans Gate	1	0	0	0	0	0	1
Wisemans Gate left to A151	1	0	0	0	0	0	1
Wisemans Gate right to A151	1	0	0	0	0	0	1
A151 right to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	98	5	3	0	0	0	106
Wisemans Gate right towards Site	1	0	0	0	0	0	1
Wisemans Gate ahead to Runway	0	0	0	0	0	0	0
Wisemans Gate left towards A151	1	0	0	0	0	0	1
Runway ahead towards A151	1	0	0	0	0	0	1

0715-0730 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	94	5	4	0	0	0	103
A151 left to Wisemans Gate	0	0	3	0	0	0	3
Wisemans Gate left to A151	1	0	0	0	0	0	1
Wisemans Gate right to A151	0	0	0	0	0	0	0
A151 right to Wisemans Gate	1	0	0	0	0	0	1
A151 ahead towards Spalding	109	2	3	1	0	0	115
Wisemans Gate right towards Site	1	0	0	0	0	0	1
Wisemans Gate ahead to Runway	0	0	0	0	0	0	0
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	1	0	0	0	0	0	1

0730-0745 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	117	9	2	0	0	0	128
A151 left to Wisemans Gate	1	1	0	0	0	0	2
Wisemans Gate left to A151	0	1	0	0	0	0	1
Wisemans Gate right to A151	0	0	1	0	0	0	1
A151 right to Wisemans Gate	1	0	0	0	0	0	1
A151 ahead towards Spalding	111	7	4	0	1	0	123
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	2	1	0	0	0	0	3
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	1	1	0	0	0	0	2

0745-0800 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	125	6	1	0	0	0	132
A151 left to Wisemans Gate	0	0	0	0	0	0	0
Wisemans Gate left to A151	0	0	1	0	0	0	1
Wisemans Gate right to A151	0	0	0	0	0	0	0
A151 right to Wisemans Gate	0	0	1	0	0	0	1
A151 ahead towards Spalding	137	8	4	1	1	0	151
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	0	0	1	0	0	0	1
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	0	0	1	0	0	0	1

Junction of A151 and Wisemans Gate
Monday 19 October 2020

0800-0815 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	99	5	5	0	0	0	109
A151 left to Wisemans Gate	0	0	0	0	0	0	0
Wisemans Gate left to A151	1	0	0	0	0	0	1
Wisemans Gate right to A151	0	1	0	0	0	0	1
A151 right to Wisemans Gate	1	0	1	0	0	0	2
A151 ahead towards Spalding	145	0	1	0	1	0	147
Wisemans Gate right towards Site	1	0	1	0	0	0	2
Wisemans Gate ahead to Runway	0	0	0	0	0	0	0
Wisemans Gate left towards A151	1	0	0	0	0	0	1
Runway ahead towards A151	0	1	0	0	0	0	1

0815-0830 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	107	11	4	0	0	0	122
A151 left to Wisemans Gate	0	1	0	0	0	0	1
Wisemans Gate left to A151	0	0	0	0	0	0	0
Wisemans Gate right to A151	1	1	0	0	0	0	2
A151 right to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	131	8	3	6	0	0	148
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	0	1	0	0	0	0	1
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	1	1	0	0	0	0	2

0830-0845 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	71	12	1	0	0	0	84
A151 left to Wisemans Gate	1	1	1	0	0	0	3
Wisemans Gate left to A151	2	0	0	0	0	0	2
Wisemans Gate right to A151	0	1	1	0	0	0	2
A151 right to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	127	9	2	1	0	0	139
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	1	1	1	0	0	0	3
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	2	1	1	0	0	0	4

0845-0900 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	106	9	6	3	1	0	125
A151 left to Wisemans Gate	4	0	2	0	0	0	6
Wisemans Gate left to A151	1	0	1	0	0	0	2
Wisemans Gate right to A151	0	0	0	0	0	0	0
A151 right to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	125	5	3	0	0	0	133
Wisemans Gate right towards Site	4	0	0	0	0	0	4
Wisemans Gate ahead to Runway	0	0	2	0	0	0	2
Wisemans Gate left towards A151	1	0	0	0	0	0	1
Runway ahead towards A151	0	0	1	0	0	0	1

Peak Hour 0730-0830 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	448	31	12	0	0	0	491
A151 left to Wisemans Gate	1	2	0	0	0	0	3
Wisemans Gate left to A151	1	1	1	0	0	0	3
Wisemans Gate right to A151	1	2	1	0	0	0	4
A151 right to Wisemans Gate	2	0	2	0	0	0	4
A151 ahead towards Spalding	524	23	12	7	3	0	569
Wisemans Gate right towards Site	1	0	1	0	0	0	2
Wisemans Gate ahead to Runway	2	2	1	0	0	0	5
Wisemans Gate left towards A151	1	0	0	0	0	0	1
Runway ahead towards A151	2	3	1	0	0	0	6

0730-0830 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
Total Peak Hour Vehicles	977	59	28	7	3	0	1074
	91.0%	5.5%	2.6%	0.7%	0.3%	0.0%	100.0%

Junction of A151 and Wisemans Gate
Monday 19 October 2020

1600-1615 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	141	9	2	3	0	0	155
A151 right to Wisemans Gate	0	1	3	0	0	0	4
Wisemans Gate left to A151	4	0	0	0	0	0	4
Wisemans Gate right to A151	3	0	2	0	0	0	5
A151 left to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	86	6	1	1	1	0	95
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	0	0	0	0	0	0	0
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	7	0	2	0	0	0	9

1615-1630 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	131	12	1	1	3	0	148
A151 right to Wisemans Gate	7	0	0	0	0	0	7
Wisemans Gate left to A151	6	1	0	0	0	0	7
Wisemans Gate right to A151	6	0	2	0	0	0	8
A151 left to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	60	9	0	0	0	0	69
Wisemans Gate right towards Site	3	0	0	0	0	0	3
Wisemans Gate ahead to Runway	4	0	0	0	0	0	4
Wisemans Gate left towards A151	3	0	0	0	0	0	3
Runway ahead towards A151	9	1	2	0	0	0	12

1630-1645 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	141	7	2	1	0	0	151
A151 right to Wisemans Gate	1	0	0	0	0	0	1
Wisemans Gate left to A151	0	0	0	1	0	0	1
Wisemans Gate right to A151	6	0	0	0	0	0	6
A151 left to Wisemans Gate	3	0	1	0	0	0	4
A151 ahead towards Spalding	124	6	2	1	0	0	133
Wisemans Gate right towards Site	2	0	0	0	0	0	2
Wisemans Gate ahead to Runway	2	0	1	0	0	0	3
Wisemans Gate left towards A151	2	0	0	0	0	0	2
Runway ahead towards A151	4	0	0	1	0	0	5

1645-1700 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	129	5	2	0	1	0	137
A151 right to Wisemans Gate	2	0	0	0	0	0	2
Wisemans Gate left to A151	4	0	0	0	0	0	4
Wisemans Gate right to A151	8	0	2	0	0	0	10
A151 left to Wisemans Gate	2	0	0	0	0	0	2
A151 ahead towards Spalding	145	5	0	0	0	0	150
Wisemans Gate right towards Site	2	0	0	0	0	0	2
Wisemans Gate ahead to Runway	2	0	0	0	0	0	2
Wisemans Gate left towards A151	1	0	0	0	0	0	1
Runway ahead towards A151	11	0	2	0	0	0	13

Junction of A151 and Wisemans Gate
Monday 19 October 2020

1700-1715 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	162	6	2	0	0	0	170
A151 right to Wisemans Gate	1	0	0	0	0	0	1
Wisemans Gate left to A151	2	0	0	0	0	0	2
Wisemans Gate right to A151	4	0	0	0	0	0	4
A151 left to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	137	7	3	0	2	2	151
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	1	0	0	0	0	0	1
Wisemans Gate left towards A151	2	0	0	0	0	0	2
Runway ahead towards A151	4	0	0	0	0	0	4

1715-1730 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	140	8	1	0	1	0	150
A151 right to Wisemans Gate	1	0	0	0	0	0	1
Wisemans Gate left to A151	0	0	0	0	0	0	0
Wisemans Gate right to A151	0	0	0	0	0	0	0
A151 left to Wisemans Gate	1	0	0	0	0	0	1
A151 ahead towards Spalding	99	4	1	0	0	0	104
Wisemans Gate right towards Site	1	0	0	0	0	0	1
Wisemans Gate ahead to Runway	1	0	0	0	0	0	1
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	0	0	0	0	0	0	0

1730-1745 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	137	4	1	1	0	0	143
A151 right to Wisemans Gate	1	0	1	0	0	0	2
Wisemans Gate left to A151	0	0	0	0	0	0	0
Wisemans Gate right to A151	1	0	0	0	0	0	1
A151 left to Wisemans Gate	0	0	0	0	0	0	0
A151 ahead towards Spalding	102	0	0	0	0	0	102
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	0	0	0	0	0	0	0
Wisemans Gate left towards A151	1	0	0	0	0	0	1
Runway ahead towards A151	1	0	0	0	0	0	1

1745-1800 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	129	3	2	0	0	0	134
A151 right to Wisemans Gate	1	0	0	0	0	0	1
Wisemans Gate left to A151	0	0	0	0	0	0	0
Wisemans Gate right to A151	0	0	0	0	0	0	0
A151 left to Wisemans Gate	1	0	0	0	0	0	1
A151 ahead towards Spalding	94	0	0	0	0	0	94
Wisemans Gate right towards Site	0	0	0	0	0	0	0
Wisemans Gate ahead to Runway	1	0	0	0	0	0	1
Wisemans Gate left towards A151	0	0	0	0	0	0	0
Runway ahead towards A151	1	0	0	0	0	0	1

Peak Hour 1630-1730 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
A151 ahead Eastbound	572	26	7	1	2	0	608
A151 right to Wisemans Gate	5	0	0	0	0	0	5
Wisemans Gate left to A151	6	0	0	1	0	0	7
Wisemans Gate right to A151	18	0	2	0	0	0	20
A151 left to Wisemans Gate	6	0	1	0	0	0	7
A151 ahead towards Spalding	505	22	6	1	2	2	538
Wisemans Gate right towards Site	5	0	0	0	0	0	5
Wisemans Gate ahead to Runway	6	0	1	0	0	0	7
Wisemans Gate left towards A151	5	0	0	0	0	0	5
Runway ahead towards A151	19	0	2	1	0	0	22

1630-1730 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
Total Peak Hour Vehicles	1112	48	16	3	4	2	1185
	93.8%	4.1%	1.4%	0.3%	0.3%	0.2%	100.0%

Junction of A151 and Wisemans Gate
Monday 19 October 2020

1130-1145 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
Wisemans Gate towards application site	0	0	0	0	0	0	0
Wisemans Gate from application site	0	0	0	0	0	0	0

1145-1200 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
Wisemans Gate towards application site	1	0	0	0	0	0	1
Wisemans Gate from application site	1	0	0	0	0	0	1

1200-1215 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
Wisemans Gate towards application site	1	0	0	0	0	0	1
Wisemans Gate from application site	0	0	0	0	0	0	0

1215-1230 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
Wisemans Gate towards application site	0	0	0	0	0	0	0
Wisemans Gate from application site	1	0	0	0	0	0	1

1130-1230 hours	Cars and Light Vans	OGV2	OGV1	PSV	MC	PC	TOT
Wisemans Gate towards application site	2	0	0	0	0	0	2
Wisemans Gate from application site	2	0	0	0	0	0	2

Appendix C

crashmap.co.uk

No

Crash Date:	Thursday, August 09, 2018	**Time of Crash:**	12:51:00 PM	**Crash Reference:**	**2018320377460**

Highest Injury Severity:	Slight	**Road Number:**	A151	**Number of Casualties:**	1
Highway Authority:	Lincolnshire			**Number of Vehicles:**	5
Local Authority:	South Holland District			**OS Grid Reference:**	528592 325011
Weather Description:	Raining without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	60				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

powered by agilysis

No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	1	Female	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Car (excluding private hire)	-1	Male	56 - 65	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
3	Car (excluding private hire)	9	Female	16 - 20	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Other	None	None
4	Car (excluding private hire)	15	Female	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Back	Other	None	None
5	Car (excluding private hire)	1	Male	66 - 75	Vehicle proceeding normally along the carriageway, not on a bend	Back	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
4	1	Slight	Vehicle or pillion passenger	Female	66 - 75	Unknown or other	Unknown or other

No

Appendix D

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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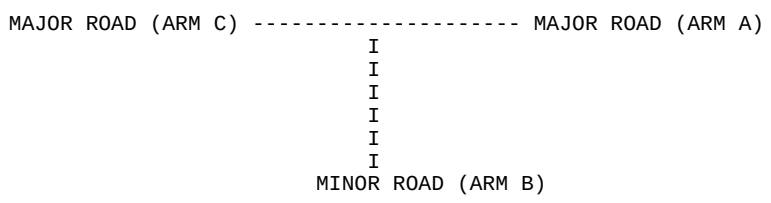
Run with file:- "c:\Program Files (x86)\Junction\PICADY4\wisemans bypass exam.vpi" at 13:11:35 on Saturday, 21 November 202

RUN TITLE

Wisemans Gate/Weston Bypass - Existing AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Bypass West
ARM B IS Wisemans Gate
ARM C IS Bypass East

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.00 M.
- VISIBILITY	(VC-B) 200.0 M.
- BLOCKS TRAFFIC	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 200.0 M.
- VISIBILITY TO RIGHT	(VB-A) 200.0 M.
- LANE 1 WIDTH	(WB-C) 3.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.15 AND ENDS 08.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.18	9.26	6.18
ARM B	15.00	45.00	75.00	0.09	0.13	0.09
ARM C	15.00	45.00	75.00	7.16	10.74	7.16

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.15 - 08.45	ARM A	0.000	0.006	0.994
		0.0	3.0	491.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.571	0.000	0.429
		4.0	0.0	3.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.993	0.007	0.000
		569.0	4.0	0.0
		(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
07.15-07.30								
B-AC	0.09	8.16	0.011		0.0	0.0	0.2	
C-A	7.11							
C-B	0.05	9.65	0.005		0.0	0.0	0.1	
A-B	0.04							
A-C	6.14							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
07.30-07.45								
B-AC	0.10	7.59	0.014		0.0	0.0	0.2	
C-A	8.49							
C-B	0.06	9.31	0.006		0.0	0.0	0.1	
A-B	0.04							
A-C	7.33							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00								
B-AC	0.13	6.78	0.019		0.0	0.0	0.3	
C-A	10.40							
C-B	0.07	8.85	0.008		0.0	0.0	0.1	
A-B	0.05							
A-C	8.98							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.13	6.78	0.019		0.0	0.0	0.3	
C-A	10.40							
C-B	0.07	8.85	0.008		0.0	0.0	0.1	
A-B	0.05							
A-C	8.98							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-AC	0.10	7.59	0.014		0.0	0.0	0.2	
C-A	8.49							
C-B	0.06	9.31	0.006		0.0	0.0	0.1	
A-B	0.04							
A-C	7.33							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
B-AC	0.09	8.16	0.011		0.0	0.0	0.2	
C-A	7.11							
C-B	0.05	9.65	0.005		0.0	0.0	0.1	
A-B	0.04							
A-C	6.14							

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.30	0.0
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.30	0.0
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	9.6	6.4	1.3	0.14	1.3	0.14
C-A	780.2	520.1				
C-B	5.5	3.7	0.6	0.11	0.6	0.11
A-B	4.1	2.7				
A-C	673.3	448.8				
ALL	1472.7	981.8	1.9	0.00	1.9	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 13:12:35 on 21/11/2020]

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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Run with file:- "c:\Program Files (x86)\Junction\PICADY4\wisemans bypass expm.vpi" at 13:14:39 on Saturday, 21 November 202

RUN TITLE
****
Wisemans Gate/Weston Bypass - Existing PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Bypass West
ARM B IS Wisemans Gate
ARM C IS Bypass East

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.00 M.
- VISIBILITY	(VC-B) 200.0 M.
- BLOCKS TRAFFIC	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 200.0 M.
- VISIBILITY TO RIGHT	(VB-A) 200.0 M.
- LANE 1 WIDTH	(WB-C) 3.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.66	11.49	7.66
ARM B	15.00	45.00	75.00	0.34	0.51	0.34
ARM C	15.00	45.00	75.00	6.81	10.22	6.81

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 17.45	ARM A	0.000	0.008	0.992
		0.0	5.0	608.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.741	0.000	0.259
		20.0	0.0	7.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.987	0.013	0.000
		538.0	7.0	0.0
		(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
16.15-16.30								
B-AC	0.34	7.32	0.046		0.0	0.0	0.7	
C-A	6.72							
C-B	0.09	9.23	0.009		0.0	0.0	0.1	
A-B	0.06							
A-C	7.60							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
16.30-16.45								
B-AC	0.40	6.64	0.061		0.0	0.1	0.9	
C-A	8.03							
C-B	0.10	8.82	0.012		0.0	0.0	0.2	
A-B	0.07							
A-C	9.08							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00								
B-AC	0.49	5.69	0.087		0.1	0.1	1.4	
C-A	9.84							
C-B	0.13	8.25	0.016		0.0	0.0	0.2	
A-B	0.09							
A-C	11.11							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15								
B-AC	0.49	5.69	0.087		0.1	0.1	1.4	
C-A	9.84							
C-B	0.13	8.25	0.016		0.0	0.0	0.2	
A-B	0.09							
A-C	11.11							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30								
B-AC	0.40	6.64	0.061		0.1	0.1	1.0	
C-A	8.03							
C-B	0.10	8.82	0.012		0.0	0.0	0.2	
A-B	0.07							
A-C	9.08							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45								
B-AC	0.34	7.32	0.046		0.1	0.0	0.8	
C-A	6.72							
C-B	0.09	9.23	0.009		0.0	0.0	0.1	
A-B	0.06							
A-C	7.60							

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.0

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	37.0	24.7	6.2	0.17	6.2	0.17
C-A	737.7	491.8				
C-B	9.6	6.4	1.1	0.12	1.1	0.12
A-B	6.9	4.6				
A-C	833.7	555.8				
ALL	1624.9	1083.3	7.3	0.00	7.3	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 13:15:02 on 21/11/2020]

Appendix E

Table E1. Traffic Generation (Total Vehicles)

TRICS 7.7.3

Trip Rate Parameter:

Gross floor area

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

Calculation Factor: 100 sqm

Count Type: TOTAL VEHICLES

	ARRIVALS		DEPARTURES	
Time Range	Trip Rate	1538sqm (veh)	Trip Rate	1538sqm (veh)
05:00-05:30	0.009	0	0.000	0
05:30-06:00	0.046	1	0.009	0
06:00-06:30	0.034	1	0.010	0
06:30-07:00	0.092	1	0.019	0
07:00-07:30	0.050	1	0.018	0
07:30-08:00	0.101	2	0.026	0
08:00-08:30	0.106	2	0.039	1
08:30-09:00	0.085	1	0.040	1
09:00-09:30	0.075	1	0.046	1
09:30-10:00	0.062	1	0.046	1
10:00-10:30	0.059	1	0.052	1
10:30-11:00	0.053	1	0.044	1
11:00-11:30	0.054	1	0.050	1
11:30-12:00	0.056	1	0.056	1
12:00-12:30	0.052	1	0.063	1
12:30-13:00	0.059	1	0.061	1
13:00-13:30	0.061	1	0.059	1
13:30-14:00	0.067	1	0.055	1
14:00-14:30	0.053	1	0.068	1
14:30-15:00	0.047	1	0.057	1
15:00-15:30	0.043	1	0.065	1
15:30-16:00	0.045	1	0.062	1
16:00-16:30	0.044	1	0.078	1
16:30-17:00	0.048	1	0.082	1
17:00-17:30	0.029	0	0.112	2
17:30-18:00	0.027	0	0.071	1
18:00-18:30	0.016	0	0.044	1
18:30-19:00	0.019	0	0.026	0
19:00-19:30	0.049	1	0.058	1
19:30-20:00	0.039	1	0.074	1
20:00-20:30	0.007	0	0.045	1
20:30-21:00	0.007	0	0.018	0
Daily Trip Rates:	1.594	25	1.553	24

Calculation Reference: AUDIT-640801-201122-1129

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	2 days
	EX	ESSEX	3 days
	KC	KENT	1 days
	WG	WOKINGHAM	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	2 days
	DC	DORSET	1 days
	DV	DEVON	2 days
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LN	LINCOLNSHIRE	2 days
	NR	NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS		
	HE	HEREFORDSHIRE	1 days
	WK	WARWICKSHIRE	4 days
	WM	WEST MIDLANDS	2 days
	WO	WORCESTERSHIRE	3 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
	WY	WEST YORKSHIRE	6 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	3 days
09	NORTH		
	NB	NORTHUMBERLAND	1 days
	TW	TYNE & WEAR	2 days
10	WALES		
	SW	SWANSEA	2 days
	VG	VALE OF GLAMORGAN	1 days
11	SCOTLAND		
	AG	ANGUS	1 days
	FA	FALKIRK	1 days
	FI	FIFE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Gross floor area
Actual Range:	1138 to 974258 (units: sqm)
Range Selected by User:	552 to 974258 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 10/10/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	8 days
Tuesday	13 days
Wednesday	8 days
Thursday	10 days
Friday	11 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	50 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	14
Edge of Town	32
Neighbourhood Centre (PPS6 Local Centre)	1
Free Standing (PPS6 Out of Town)	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	23
Commercial Zone	1
Development Zone	2
Residential Zone	11
Village	1
Out of Town	5
No Sub Category	7

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

n/a	4 days
Not Known	4 days
B1	14 days
B2	21 days
B8	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Use Class Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	3 days
1,001 to 5,000	2 days
5,001 to 10,000	9 days
10,001 to 15,000	10 days
15,001 to 20,000	6 days
20,001 to 25,000	7 days
25,001 to 50,000	12 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	5 days
50,001 to 75,000	3 days
75,001 to 100,000	5 days
100,001 to 125,000	3 days
125,001 to 250,000	22 days
250,001 to 500,000	8 days
500,001 or More	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	20 days
1.1 to 1.5	27 days
1.6 to 2.0	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	50 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	50 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 AG-02-D-02 INDUSTRIAL ESTATE ANGUS
A933 WESTWAY
ARBROATH
HOSPITALFIELD
Edge of Town
No Sub Category
Total Gross floor area: 78500 sqm
Survey date: TUESDAY 25/04/17 Survey Type: MANUAL

2 BR-02-D-04 INDUSTRIAL ESTATE BRISTOL CITY
CROFTS END ROAD
BRISTOL
SPEEDWELL
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 18018 sqm
Survey date: FRIDAY 29/11/13 Survey Type: MANUAL

3 BR-02-D-05 INDUSTRIAL ESTATE BRISTOL CITY
NOVERS HILL
BRISTOL
BEDMINSTER
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 18128 sqm
Survey date: FRIDAY 29/11/13 Survey Type: MANUAL

4 CA-02-D-04 INDUSTRIAL ESTATE CAMBRIDGESHIRE
LINCOLN ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 4133 sqm
Survey date: TUESDAY 02/12/14 Survey Type: MANUAL

5 DC-02-D-20 INDUSTRIAL ESTATE DORSET
OLD BARN FARM ROAD
NEAR BOURNEMOUTH
THREE LEGGED CROSS
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 70000 sqm
Survey date: MONDAY 24/03/14 Survey Type: MANUAL

6 DS-02-D-02 INDUSTRIAL ESTATE DERBYSHIRE
SHAFTESBURY STREET
DERBY
ROSE HILL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 5686 sqm
Survey date: WEDNESDAY 25/09/19 Survey Type: MANUAL

7 DV-02-D-06 INDUSTRIAL ESTATE DEVON
ST MODWEN ROAD
PLYMOUTH

Edge of Town
Industrial Zone
Total Gross floor area: 1775 sqm
Survey date: TUESDAY 17/07/12 Survey Type: MANUAL

8 DV-02-D-07 INDUSTRIAL ESTATE DEVON
BITTERN ROAD
EXETER
SOWTON IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 3600 sqm
Survey date: MONDAY 03/07/17 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 ES-02-D-06 INDUSTRIAL ESTATE EAST SUSSEX
COURTLANDS ROAD
EASTBOURNE

Edge of Town
Residential Zone
Total Gross floor area: 7525 sqm
Survey date: MONDAY *21/10/13* *Survey Type: MANUAL*

10 ES-02-D-07 INDUSTRIAL ESTATE EAST SUSSEX
HUGHES ROAD
BRIGHTON

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 6625 sqm
Survey date: THURSDAY *16/10/14* *Survey Type: MANUAL*

11 EX-02-D-03 INDUSTRIAL ESTATE ESSEX
WYNCOLLS ROAD
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 4876 sqm
Survey date: FRIDAY *18/05/18* *Survey Type: MANUAL*

12 EX-02-D-04 INDUSTRIAL ESTATE ESSEX
PASTURE ROAD
WITHAM

Edge of Town
Industrial Zone
Total Gross floor area: 37130 sqm
Survey date: THURSDAY *10/05/18* *Survey Type: MANUAL*

13 EX-02-D-05 INDUSTRIAL ESTATE ESSEX
HECKWORTH CLOSE
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 7280 sqm
Survey date: FRIDAY *18/05/18* *Survey Type: MANUAL*

14 FA-02-D-02 INDUSTRIAL ESTATE FALKIRK
MAIN STREET
FALKIRK
GRAHAMSTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 21250 sqm
Survey date: THURSDAY *30/05/13* *Survey Type: MANUAL*

15 FI-02-D-01 INDUSTRIAL ESTATE FIFE
DICKSON STREET
DUNFERMLINE

Edge of Town
Residential Zone
Total Gross floor area: 7850 sqm
Survey date: THURSDAY *21/05/15* *Survey Type: MANUAL*

16 GM-02-D-07 BUSINESS PARK GREATER MANCHESTER
VULCAN STREET
OLDHAM

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 4400 sqm
Survey date: THURSDAY *22/10/15* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

17 HE-02-D-02 BUSINESS PARK HEREFORDSHIRE
BURCOTT ROAD
HEREFORD

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 5214 sqm
Survey date: TUESDAY 22/10/13 Survey Type: MANUAL

18 KC-02-D-02 INDUSTRIAL ESTATE KENT
SOUTHWELL ROAD
DEAL

Edge of Town
Residential Zone
Total Gross floor area: 10715 sqm
Survey date: WEDNESDAY 28/11/12 Survey Type: MANUAL

19 LC-02-D-06 INDUSTRIAL ESTATE LANCASHIRE
SMALLSHAW LANE
BURNLEY

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 7383 sqm
Survey date: THURSDAY 29/09/16 Survey Type: MANUAL

20 LC-02-D-07 INDUSTRIAL ESTATE LANCASHIRE
CHAIN CAUL WAY
PRESTON
ASHTON-ON-RIBBLE
Edge of Town
Industrial Zone
Total Gross floor area: 4700 sqm
Survey date: FRIDAY 17/11/17 Survey Type: MANUAL

21 LC-02-D-08 INDUSTRIAL ESTATE LANCASHIRE
NOOK LANE
BAMBER BRIDGE

Edge of Town
Industrial Zone
Total Gross floor area: 4000 sqm
Survey date: TUESDAY 06/11/18 Survey Type: MANUAL

22 LN-02-D-02 INDUSTRIAL ESTATE LINCOLNSHIRE
STATION ROAD
NEAR BOSTON
SWINESHEAD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Gross floor area: 4600 sqm
Survey date: TUESDAY 11/12/12 Survey Type: MANUAL

23 LN-02-D-03 INDUSTRIAL ESTATE LINCOLNSHIRE
DEACON ROAD
LINCOLN

Edge of Town
Industrial Zone
Total Gross floor area: 11265 sqm
Survey date: FRIDAY 28/06/19 Survey Type: MANUAL

24 NB-02-D-02 INDUSTRIAL ESTATE NORTHUMBERLAND
OLDSTONE ROAD
NEAR CRAMLINGTON
EAST CRAMLINGTON
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 5500 sqm
Survey date: FRIDAY 16/11/12 Survey Type: MANUAL

25 NF-02-D-03 INDUSTRIAL ESTATE NORFOLK
BIDEWELL CLOSE
NORWICH

Edge of Town
Residential Zone
Total Gross floor area: 6000 sqm
Survey date: MONDAY 08/10/12 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

26 NR-02-D-01 INDUSTRIAL ESTATE NORTHAMPTONSHIRE
ROBINSON WAY
KETTERING

Edge of Town
Industrial Zone
Total Gross floor area: 12900 sqm
Survey date: THURSDAY *23/10/14* *Survey Type: MANUAL*

27 NY-02-D-02 INDUSTRIAL ESTATE NORTH YORKSHIRE
RACECOURSE ROAD
RICHMOND

Edge of Town
Out of Town
Total Gross floor area: 35183 sqm
Survey date: TUESDAY *12/03/19* *Survey Type: MANUAL*

28 SM-02-D-01 INDUSTRIAL ESTATE SOMERSET
A359
YEOVIL
SPARKFORD
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 12000 sqm
Survey date: WEDNESDAY *03/04/19* *Survey Type: MANUAL*

29 SW-02-D-01 INDUSTRIAL ESTATE SWANSEA
UPPER FOREST WAY
SWANSEA
SWANSEA ENTERPRISE PK
Edge of Town
Industrial Zone
Total Gross floor area: 6822 sqm
Survey date: WEDNESDAY *09/10/19* *Survey Type: MANUAL*

30 SW-02-D-02 INDUSTRIAL ESTATE SWANSEA
CLARION COURT
SWANSEA
SWANSEA ENTERPRISE PK
Edge of Town
Industrial Zone
Total Gross floor area: 5280 sqm
Survey date: THURSDAY *10/10/19* *Survey Type: MANUAL*

31 TW-02-D-07 INDUSTRIAL ESTATE TYNE & WEAR
SWALWELL BANK
GATESHEAD
WHICKHAM
Edge of Town
Residential Zone
Total Gross floor area: 6800 sqm
Survey date: FRIDAY *04/10/13* *Survey Type: MANUAL*

32 TW-02-D-08 INDUSTRIAL ESTATE TYNE & WEAR
NORTH HYLTON ROAD
SUNDERLAND
SOUTHWICK
Suburban Area (PPS6 Out of Centre)
Development Zone
Total Gross floor area: 8310 sqm
Survey date: TUESDAY *04/04/17* *Survey Type: MANUAL*

33 VG-02-D-01 INDUSTRIAL ESTATE VALE OF GLAMORGAN
ARTHUR STREET
BARRY

Edge of Town
No Sub Category
Total Gross floor area: 13091 sqm
Survey date: MONDAY *08/05/17* *Survey Type: MANUAL*

34 WG-02-D-01 INDUSTRIAL ESTATE WOKINGHAM
FISHPONDS ROAD
WOKINGHAM

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 3800 sqm
Survey date: TUESDAY *20/11/12* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

35 WK-02-D-01 INDUSTRIAL ESTATE WARWICKSHIRE
CASTLE MOUND WAY
RUGBY

Edge of Town
Industrial Zone
Total Gross floor area: 150564 sqm
Survey date: WEDNESDAY 27/06/18 Survey Type: MANUAL

36 WK-02-D-02 INDUSTRIAL ESTATE WARWICKSHIRE
OVERVIEW WAY
RUGBY

Edge of Town
Industrial Zone
Total Gross floor area: 974258 sqm
Survey date: WEDNESDAY 27/06/18 Survey Type: MANUAL

37 WK-02-D-03 INDUSTRIAL ESTATE WARWICKSHIRE
EASTBORO WAY
NUNEATON

Edge of Town
Industrial Zone
Total Gross floor area: 20860 sqm
Survey date: THURSDAY 26/09/19 Survey Type: MANUAL

38 WK-02-D-04 INDUSTRIAL ESTATE WARWICKSHIRE
ABELES WAY
ATHERSTONE

Edge of Town
No Sub Category
Total Gross floor area: 17500 sqm
Survey date: FRIDAY 27/09/19 Survey Type: MANUAL

39 WL-02-D-02 INDUSTRIAL ESTATE WILTSHIRE
HEADLANDS GROVE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 10000 sqm
Survey date: TUESDAY 20/09/16 Survey Type: MANUAL

40 WM-02-D-02 INDUSTRIAL ESTATE WEST MIDLANDS
DUNLOP WAY
BIRMINGHAM

Edge of Town
Residential Zone
Total Gross floor area: 23480 sqm
Survey date: WEDNESDAY 07/11/12 Survey Type: MANUAL

41 WM-02-D-03 INDUSTRIAL ESTATE WEST MIDLANDS
JUNCTION ROAD
STOURBRIDGE
AUDNAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1138 sqm
Survey date: TUESDAY 28/11/17 Survey Type: MANUAL

42 WO-02-D-01 INDUSTRIAL ESTATE WORCESTERSHIRE
SANDY LANE
STOURPORT-ON-SEVERN

Edge of Town
Commercial Zone
Total Gross floor area: 2758 sqm
Survey date: FRIDAY 23/05/14 Survey Type: MANUAL

43 WO-02-D-02 INDUSTRIAL ESTATE WORCESTERSHIRE
WEIR LANE
WORCESTER

Edge of Town
Residential Zone
Total Gross floor area: 9500 sqm
Survey date: MONDAY 14/11/16 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

44 WO-02-D-03 INDUSTRIAL ESTATE WORCESTERSHIRE
MILLENNIUM WAY
EVESHAM

Edge of Town
Out of Town
Total Gross floor area: 84575 sqm
Survey date: TUESDAY 26/06/18 Survey Type: MANUAL

45 WY-02-D-03 INDUSTRIAL ESTATE WEST YORKSHIRE
ARMLEY ROAD
LEEDS

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 24980 sqm
Survey date: FRIDAY 20/09/13 Survey Type: MANUAL

46 WY-02-D-04 INDUSTRIAL ESTATE WEST YORKSHIRE
LAW STREET
CLECKHEATON

Edge of Town
Industrial Zone
Total Gross floor area: 23226 sqm
Survey date: THURSDAY 15/09/16 Survey Type: MANUAL

47 WY-02-D-05 INDUSTRIAL ESTATE WEST YORKSHIRE
CARR WOOD ROAD
CASTLEFORD

Edge of Town
Development Zone
Total Gross floor area: 1776 sqm
Survey date: MONDAY 22/05/17 Survey Type: MANUAL

48 WY-02-D-06 INDUSTRIAL ESTATE (PART) WEST YORKSHIRE
PIONEER WAY
CASTLEFORD

Edge of Town
Industrial Zone
Total Gross floor area: 4328 sqm
Survey date: TUESDAY 23/05/17 Survey Type: MANUAL

49 WY-02-D-07 INDUSTRIAL ESTATE WEST YORKSHIRE
THUNDERHEAD RIDGE RD
CASTLEFORD
GLASSHOUGHTON
Edge of Town
No Sub Category
Total Gross floor area: 3191 sqm
Survey date: MONDAY 15/05/17 Survey Type: MANUAL

50 WY-02-D-08 INDUSTRIAL ESTATE WEST YORKSHIRE
MILL LANE
HALIFAX

Edge of Town
No Sub Category
Total Gross floor area: 11305 sqm
Survey date: WEDNESDAY 17/10/18 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	5	11230	0.009	5	11230	0.000	5	11230	0.009
05:30 - 06:00	5	11230	0.046	5	11230	0.009	5	11230	0.055
06:00 - 06:30	6	11236	0.034	6	11236	0.010	6	11236	0.044
06:30 - 07:00	6	11236	0.092	6	11236	0.019	6	11236	0.111
07:00 - 07:30	50	36476	0.050	50	36476	0.018	50	36476	0.068
07:30 - 08:00	50	36476	0.101	50	36476	0.026	50	36476	0.127
08:00 - 08:30	50	36476	0.106	50	36476	0.039	50	36476	0.145
08:30 - 09:00	50	36476	0.085	50	36476	0.040	50	36476	0.125
09:00 - 09:30	50	36476	0.075	50	36476	0.046	50	36476	0.121
09:30 - 10:00	50	36476	0.062	50	36476	0.046	50	36476	0.108
10:00 - 10:30	50	36476	0.059	50	36476	0.052	50	36476	0.111
10:30 - 11:00	50	36476	0.053	50	36476	0.044	50	36476	0.097
11:00 - 11:30	50	36476	0.054	50	36476	0.050	50	36476	0.104
11:30 - 12:00	50	36476	0.056	50	36476	0.056	50	36476	0.112
12:00 - 12:30	50	36476	0.052	50	36476	0.063	50	36476	0.115
12:30 - 13:00	50	36476	0.059	50	36476	0.061	50	36476	0.120
13:00 - 13:30	50	36476	0.061	50	36476	0.059	50	36476	0.120
13:30 - 14:00	50	36476	0.067	50	36476	0.055	50	36476	0.122
14:00 - 14:30	50	36476	0.053	50	36476	0.068	50	36476	0.121
14:30 - 15:00	50	36476	0.047	50	36476	0.057	50	36476	0.104
15:00 - 15:30	50	36476	0.043	50	36476	0.065	50	36476	0.108
15:30 - 16:00	50	36476	0.045	50	36476	0.062	50	36476	0.107
16:00 - 16:30	50	36476	0.044	50	36476	0.078	50	36476	0.122
16:30 - 17:00	50	36476	0.048	50	36476	0.082	50	36476	0.130
17:00 - 17:30	50	36476	0.029	50	36476	0.112	50	36476	0.141
17:30 - 18:00	50	36476	0.027	50	36476	0.071	50	36476	0.098
18:00 - 18:30	50	36476	0.016	50	36476	0.044	50	36476	0.060
18:30 - 19:00	50	36476	0.019	50	36476	0.026	50	36476	0.045
19:00 - 19:30	6	11236	0.049	6	11236	0.058	6	11236	0.107
19:30 - 20:00	6	11236	0.039	6	11236	0.074	6	11236	0.113
20:00 - 20:30	6	11236	0.007	6	11236	0.045	6	11236	0.052
20:30 - 21:00	6	11236	0.007	6	11236	0.018	6	11236	0.025
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.594			1.553			3.147

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	1138 - 974258 (units: sqm)
Survey date date range:	01/01/12 - 10/10/19
Number of weekdays (Monday-Friday):	50
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix F

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "c:\Program Files (x86)\Junction\PICADY4\wisemans bypass 2025am.vpi" at 10:48:13 on Thursday, 26 November 2

RUN TITLE
****
Wisemans Gate/Weston Bypass - 2025 AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Bypass West
ARM B IS Wisemans Gate
ARM C IS Bypass East

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	3.00 M.
- VISIBILITY	(VC-B)	200.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	200.0 M.
- VISIBILITY TO RIGHT	(VB-A)	200.0 M.
- LANE 1 WIDTH	(WB-C)	3.50 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.15 AND ENDS 08.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.68	10.01	6.68
ARM B	15.00	45.00	75.00	0.09	0.13	0.09
ARM C	15.00	45.00	75.00	7.74	11.61	7.74

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.15 - 08.45	ARM A	0.000	0.006	0.994
		0.0	3.0	531.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.571	0.000	0.429
		4.0	0.0	3.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.994	0.006	0.000
		615.0	4.0	0.0
		(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
07.15-07.30								
B-AC	0.09	7.93	0.011		0.0	0.0	0.2	
C-A	7.69							
C-B	0.05	9.51	0.005		0.0	0.0	0.1	
A-B	0.04							
A-C	6.64							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
07.30-07.45								
B-AC	0.10	7.31	0.014		0.0	0.0	0.2	
C-A	9.18							
C-B	0.06	9.15	0.007		0.0	0.0	0.1	
A-B	0.04							
A-C	7.93							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00								
B-AC	0.13	6.42	0.020		0.0	0.0	0.3	
C-A	11.24							
C-B	0.07	8.65	0.008		0.0	0.0	0.1	
A-B	0.05							
A-C	9.71							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.13	6.42	0.020		0.0	0.0	0.3	
C-A	11.24							
C-B	0.07	8.65	0.008		0.0	0.0	0.1	
A-B	0.05							
A-C	9.71							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-AC	0.10	7.31	0.014		0.0	0.0	0.2	
C-A	9.18							
C-B	0.06	9.15	0.007		0.0	0.0	0.1	
A-B	0.04							
A-C	7.93							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
B-AC	0.09	7.93	0.011		0.0	0.0	0.2	
C-A	7.69							
C-B	0.05	9.51	0.005		0.0	0.0	0.1	
A-B	0.04							
A-C	6.64							

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.30	0.0
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.30	0.0
07.45	0.0
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	9.6	6.4	1.4	0.14	1.4	0.14
C-A	843.3	562.2				
C-B	5.5	3.7	0.6	0.11	0.6	0.11
A-B	4.1	2.7				
A-C	728.1	485.4				
ALL	1590.6	1060.4	2.0	0.00	2.0	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 10:48:59 on 26/11/2020]

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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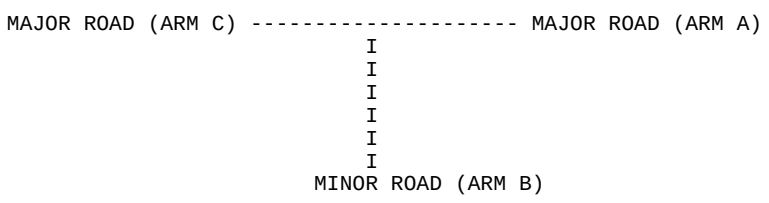
THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "c:\Program Files (x86)\Junction\PICADY4\wisemans bypass 2025pm.vpi" at 10:50:48 on Thursday, 26 November 2

RUN TITLE
****
Wisemans Gate/Weston Bypass - 2025 PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Bypass West
ARM B IS Wisemans Gate
ARM C IS Bypass East

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	3.00 M.
- VISIBILITY	(VC-B)	200.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	200.0 M.
- VISIBILITY TO RIGHT	(VB-A)	200.0 M.
- LANE 1 WIDTH	(WB-C)	3.50 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	8.27	12.41	8.27
ARM B	15.00	45.00	75.00	0.38	0.56	0.38
ARM C	15.00	45.00	75.00	7.36	11.04	7.36

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 17.45	ARM A	0.000	0.008	0.992
		0.0	5.0	657.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.733	0.000	0.267
		22.0	0.0	8.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.986	0.014	0.000
		581.0	8.0	0.0
		(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
16.15-16.30								
B-AC	0.38	7.06	0.053		0.0	0.1	0.8	
C-A	7.26							
C-B	0.10	9.06	0.011		0.0	0.0	0.2	
A-B	0.06							
A-C	8.21							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
16.30-16.45								
B-AC	0.45	6.32	0.071		0.1	0.1	1.1	
C-A	8.67							
C-B	0.12	8.62	0.014		0.0	0.0	0.2	
A-B	0.07							
A-C	9.81							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00								
B-AC	0.55	5.28	0.104		0.1	0.1	1.7	
C-A	10.62							
C-B	0.15	8.00	0.018		0.0	0.0	0.3	
A-B	0.09							
A-C	12.01							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15								
B-AC	0.55	5.28	0.104		0.1	0.1	1.7	
C-A	10.62							
C-B	0.15	8.00	0.018		0.0	0.0	0.3	
A-B	0.09							
A-C	12.01							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30								
B-AC	0.45	6.32	0.071		0.1	0.1	1.2	
C-A	8.67							
C-B	0.12	8.62	0.014		0.0	0.0	0.2	
A-B	0.07							
A-C	9.81							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45								
B-AC	0.38	7.06	0.053		0.1	0.1	0.9	
C-A	7.26							
C-B	0.10	9.06	0.011		0.0	0.0	0.2	
A-B	0.06							
A-C	8.21							

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	41.1	27.4	7.3	0.18	7.3	0.18
C-A	796.7	531.1				
C-B	11.0	7.3	1.3	0.12	1.3	0.12
A-B	6.9	4.6				
A-C	900.9	600.6				
ALL	1756.5	1171.0	8.6	0.00	8.6	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 10:51:48 on 26/11/2020]