DMMason

Engineering Consultants Ltd

ELMSBROOK TRAFFIC & PARKING GROUP

LAND AT ELMSBROOK, BICESTER:

PROPOSED RESIDENTIAL DEVELOPMENT

Evidence of Eur Ing D M Mason MBA BSc(Hons) CEng MICE DipEM

Planning Inspectorate Ref.No. APP/C3105/W/23/3315849

Cherwell District Council Application No. 21/01630/OUT

Cherwell District Council Appeal No. 23/00062/NON

D M MASON
Engineering Consultants Ltd
161 Marlborough Road
Old Town
SWINDON
SN3 1NJ

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D M MASON
Engineering Consultants Ltd
161 Marlborough Road
Old Town
SWINDON
SN3 1NJ
Telephone (01793) 611712
Facsimile (01793) 422327

Reference: DMM/AJB/E.019

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1.0 INTRODUCTION

1.1 My name is David Miles Mason. I hold an honours degree of Bachelor of Science in Civil Engineering. I am a Chartered Engineer registered with the Engineering Council and I am a Corporate Member of The Institution of Civil Engineers. I am a European Engineer registered with the European Federation of National Engineering Associations. I hold a Masters in Business Administration and the Diploma in Engineering Management.

1.2 I am a Director of D M Mason Engineering Consultants Ltd, a firm of Consulting Engineers specialising in engineering matters associated with residential and commercial development schemes. I have been actively engaged in the construction industry and in the development sector in this country for more than forty years. In addition to providing advice on planning matters, my company is involved on a daily basis in all aspects of development and is instructed by land owners, commercial and retail developers and oil companies in addition to private companies and individuals.

1.3 D M Mason Engineering Consultants Ltd is instructed by Elmsbrook Traffic and Parking Group to prepare Evidence in support of the refusal of planning permission for the development of land at Elmsbrook, Bicester for residential purposes.

1.4 At their meeting on 9 March, 2023, the Planning Committee of Cherwell District Council resolved that, had they been deciding the planning application at that meeting, they would have refused permission for the following reasons:-

1. The development, when set against the viability of the scheme, would not go far enough in trying to achieve the True Zero Carbon requirements for NW Bicester, as set out by Policy Bicester 1 of the Cherwell Local Plan Part 1 2011-2031. This would undermine the Council's strategy for achieving an Exemplary Eco Town development at NW Bicester which sets this site apart from others and where the Council has declared a Climate Emergency. The development would therefore conflict with Policy Bicester 1 and Policies ESD1-5 of the Cherwell Local Plan Part 1 2011-2031 and the North West Bicester SPD 2016.

Note to Appellant: This reason for refusal is capable of being addressed

2. The access arrangements to the site would be unsatisfactory as there would be an inability to provide for suitable pedestrian and cycle facilities along Charlotte Avenue. Any localised proposals to the road have not been proven to be possible, and are likely to raise safety concerns relating to users of the highway within proximity to Gagle Brook School, and would result in the loss of street trees and would impact on the character of the existing Eco Town. The proposal would not meet the requirements of LTN1/20 and would conflict with Oxfordshire County Council's 'Local Transport and Connectivity Plan' Policies 1, 2b, 8, 9, 11, 35, 45 and 46b, Oxfordshire County Council's 'Tree Policy for Oxfordshire' Policies 11, 18, 19 and 20, Policies SLE4

and Bicester 1 of the Cherwell Local Plan Part 1 2011-2031 and the North West Bicester SPD 2016.

3. The proposed development would result in congestion at the junction of Charlotte Avenue with the B4100, particularly during the peak period. This would result in a severe transport impact and the development would therefore conflict with Government guidance contained within the National Planning Policy Framework and Policies SLE4 and Bicester 1 of the Cherwell Local Plan Part 1 2011-2031.

4. The proposed development, when set against the financial viability of the scheme, would fail to provide an adequate level of affordable housing provision. The proposal is therefore contrary to Policy BSC3 and Policy Bicester 1 of the Cherwell Local Plan Part 1 2011-2031, the North West Bicester SPD 2016, CDC's Developer Contributions SPD 2018 and Government guidance contained within the National Planning Policy Framework.
Note to Appellant: This reason for refusal is capable of being addressed.

5. In the absence of a satisfactory unilateral undertaking or other form of S106 legal agreement, the Local Planning Authority is not satisfied that the proposed development provides for appropriate infrastructure contributions required as a result of the development and necessary to make the impacts of the development acceptable in planning terms. This would be to the detriment of both existing and proposed residents and would be contrary to Policies INF1, BSC3, BSC7, BSC8, BSC10, BSC11, BSC12 and Policy Bicester 1 of the Cherwell Local Plan Part 1 2011-2031, the North West Bicester SPD 2016, CDC's Developer

Contributions SPD 2018 and Government guidance contained within the National Planning Policy Framework.

Note to Appellant: This reason for refusal is capable of being addressed.

1.5 This Evidence will support reasons for refusal 2 and 3.

1.6 This Evidence concludes that the proposed development is unacceptable in highway terms.

2.0 THE APPLICATION AND APPEAL

2.1 A planning application was made by Firethorn Development Ltd (Firethorn) in May 2021 to Cherwell District Council (CDC) for:-

> 'Outline planning application for residential development (within Use Class C3), open space provision, access, drainage and all associated works and operations including but not limited to demolition, earthworks, and engineering operations, with the details of appearance, landscaping, layout and scale reserved for later determination.'

2.2 The Cherwell District Council application is reference no. 21/01630/OUT.

2.3 The application included an Environmental Statement. A Transport Assessment prepared by Velocity Transport Planning Ltd (VTP) supported the application. Following the application, comments were made by various parties including CDC, Oxfordshire County Council as Highway Authority (OCC), the Elmsbrook Traffic & Parking Group (ETPG). The comments lead to the preparation by VTP of a number of Technical Notes.

2.4 The Appeal made by Stantec on behalf of Firethorn is for non-determination of the application.

2.5 The Cherwell District Council reference for the Appeal is 23/00062/NON. The Planning Inspectorate reference is APP/C3105/W/23/3315849.

2.6 The Transport Assessment and the Technical Notes by VTP accompanying the planning application will be referred to in detail in this Evidence. Other documents will be referenced as necessary.

3.0 DESCRIPTION OF THE APPEAL SITE AND THE ADJACENT HIGHWAY NETWORK

The Appeal Site

3.1 The site lies on and to the west of the B4100 Banbury Road, Bicester. The site lies on the west and east of land known as the Exemplar Scheme, that is land presently served by Charlotte Avenue and Braeburn Avenue. The site lies to the east and west Braeburn Avenue. The western part of the site forms part of the North West Bicester development. A Location Plan, drawing E.019/1, an extract from the 1:25,000 scale Ordnance Survey mapping is given in Appendix 1

3.2 Access to the Appeal site is to be from Braeburn Avenue and Charlotte Avenue. Two construction accesses are proposed from the B4100 Banbury Road.

3.3 Braeburn Avenue and Charlotte Avenue both have priority junctions with the B4100 Banbury Road. Both junctions have right turn lanes protected by traffic islands. There are splitter islands on each of the minor roads.

3.4 Braeburn Avenue is a residential frontage road which generally has a 6.1 metre carriageway with a variable width footway on its east side and a verge with footway behind on part of its west side. It has a carriageway narrowing adjacent to the play area with a carriageway width of 3.6 metres. It has an 83 metre long bus gate at its southern end leading to Charlotte Avenue. The bus gate has a carriageway width of 4.1 metres with a 1.8 metre footway on its east side and a 2.2 metre verge on its west side.

3.5 Charlotte Avenue is a residential frontage road. It generally has a 6.1 metre carriageway. It generally has variable width footways of at least 1.8 metre width, some footways having intermittent tree planting. It has a shared footway/cycleway on its south side from Orchard Walk to the Eco Business Centre. The available width is reduced due to on-street planting. It has raised table junctions with residential side streets from the B4100 to the Eco Business Centre.

3.6 Charlotte Avenue has local carriageway narrowings (build-outs) of 4.1 metres at each end of the two bridges over Gagle Brook. The build-outs provide pedestrian crossing tactile paving and dropped kerbs. Between the build-outs the bridges have a carriageway of 6.1 metres with 1.8 metre footways on both sides. The bridges have 1.05 metre parapets. Charlotte Avenue has a longer narrowing 4.1 metres wide north of Gagle Brook School. It has a bus gate at its north end leading to Braeburn Avenue as described above.

3.7 Gagle Brook Primary School is on Cranberry Avenue off Charlotte Avenue. There is parking for up to four cars fronting the Primary School.

The Adjacent Highway Network

3.8 The B4100 locally runs between the A4095 Southwold Lane junction to the south and the A43 Baynards Green and M40 motorway to the north. Adjacent to the site it is a single carriageway road with a speed limit of 40 miles per hour. It has a shared footway/cycleway on both sides of the road from the A4095 junction north to a signal controlled crossing and thence on the west side only. The footway stops at a bus lay-by north of Charlotte Avenue.

3.9 The A4095 Southwold Lane/B4100 Banbury Road junction is presently a roundabout. Various controlled and uncontrolled crossings are available at the roundabout for cyclist and pedestrians to meet shared cycle/pedestrian routes serving the Bicester urban area.

3.10 The A4095 Southwold Lane/B4100 Banbury Road junction is proposed to be reconfigured as a traffic signal controlled junction. The Highway Authority, Oxfordshire County Council, has stated that development of the site will attract a proportionate contribution toward this project, given as £278,330 at a December, 2020 price base and subject to indexation.

3.11 I understand that a 'value engineering' exercise has been undertaken on the initial design of the traffic signal control. I understand that at that time, features assisting pedestrian and cycle crossing of the junction were reduced or removed. Clearly unless crossing the A4095 Southwold Lane/B4100 Banbury Road junction is attractive to users, the wish to encourage pedestrian and cycle movements from the Appeal development will be frustrated. Such frustration must have an impact on Travel Plan targets.

3.12 It will be noted that these works may require the receipt of all contributions from developers in north west Bicester. If that is so, then the works will not be implemented until much of the development in north west Bicester is underway. As the Appeal development is close to this junction, it will be disproportionately impacted by late delivery of the A4095/B4100 junction improvements.

3.13 A survey by the Elmsbrook Traffic and Parking Group on Tuesday 14 March, 2023 found that traffic at the junction queued northward across the B4100 Banbury Road/Charlotte Avenue junction between 08.16 and 08.48.

4.0 TRIP GENERATION

The Transport Assessment

4.1 The Transport Assessment prepared by Velocity Transport Planning (VTP) dated April 2021 and accompanying the planning application gives details of the person trip generation for 550 dwellings at Table 7-2. A design number of 550 dwellings has been chosen to provide a robust analysis. The table is reproduced below:-

Table 7-2: Residential Person Trip Generation (550 dwellings)

UP TO 550 DWELLINGS	AM PEAK HOUR			PM PEAK HOUR			12-HOUR PERIOD		
	In	Out	Total	In	Out	Total	In	Out	Total
Total Privately Owned Houses (385)	148	407	555	300	199	499	1,865	2,287	4,151
Affordable Houses (165)	50	140	190	103	68	171	639	784	1,423
Total (550)	**198**	**547**	**745**	**403**	**267**	**670**	**2,504**	**3,070**	**5,574**

4.2 The trip rates used in the above table are derived from the 'Interim Access & Travel Strategy' document agreed with Oxfordshire County Council (OCC) for developments across the North West Bicester Eco Town.

4.3 The Transport Assessment then goes on to discuss the various trip generation details by mode and journey purpose.

4.4 At paragraph 7.4.13 it states:-

'7.4.13 The containment of trips within North West Bicester and Bicester town is a key principle of the SPD and paragraph 4.119 states that "Planning applications should include Travel Plans which demonstrate how the design will enable 50% of trips originating on the development to be made by non-car means with the potential to increase to 60% by 2020." As this outline application is being submitted in 2021, and it is acknowledged that there is a strong level of connectivity from the Application Site to the surrounding area within the North West Bicester Masterplan, car drivers are assumed to make up 40% of the total person trips originating within the Application Site. The remaining 60% are expected to be person trips made by sustainable means of transport, including by foot, cycle, and public transport to be consistent with the aspirations of the SPD. Table 7-13 presents the total number of vehicle trips predicted to be associated with the Application Site.'

4.5 Table 7-13 is reproduced below:-

Table 7-13: Total Vehicular Trips – 40% of Total Person Trips

Mode	**AM (08:00-09:00)**			**PM (17:00-18:00)**		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	79	219	298	161	107	268

4.6 It is therefore noted that the vehicle trip generation for the site used in the Transport Assessment is 40% of the person trip generation.

4.7 The North West Bicester Supplementary Planning Document (SPD) dated February 2016 states:-

> '4.117 The masterplan will facilitate the overall modal share by non-car modes. This varies by the length of trip. The aim is to achieve an overall modal share of not more than 50% by car. The targets suggest an overall increase in walking trips from 22% at present to 30% for North West Bicester; increasing cycling trips from 4% to 10% and bus trips from 5% to 10%. Walking, cycling and bus trips also include journeys to the railway stations as part of longer journeys by public transport.'

and

> '4.119 Planning applications should include Travel Plans which demonstrate how the design will enable at least 50% of trips originating in the development to be made by non-car means with the potential to increase to 60% by 2020.'

4.8 Paragraph 4.117 states that the overall modal share should be not more than 50% by car. To provide a robust analysis it would be appropriate to assume a modal share of 50% by car.

4.9 Paragraph 4.119 then goes on to state that Travel Plans should demonstrate how the scheme design will meet at least 50% of trips by non-car modes. That clearly implies that up to 50% of trips will be by car. It then gives an aspiration of an increase to 60% by non-car modes.

4.10 Clearly any scheme design is intended to meet a mode share of up to 50% by car. Subsequently, any Travel Plan should seek to shift that to 40% by car. The Travel Plan shift to 40% is an aspiration not a requirement. It is anticipated that the shift to 40% take place over the first years of a scheme. Therefore, to prepare a robust design for the opening years of a scheme and meet the requirements of the SPD, a scheme design with 50% car mode should be prepared. The scheme design in the Transport Assessment fails to meet that test of robustness.

4.11 The Transport Assessment analysis is therefore designing for only 80% of the trip generation from the site which is envisaged in the SPD. Such a design cannot be considered robust. Such a design could lead to severe unexpected delays and queuing for road users from the site and from the existing occupied Exemplar Scheme.

Exemplar Site Travel Plan

4.12 The Exemplar Site Travel Plan targets are given in the Transport Assessment prepared by Hyder dated November, 2010. It states, inter alia, in Section 7 page 53:-

> '• T1: By 2026, 50% of all trips originating from the Exemplar Site will be by non-car modes;'

4.13 However, in Table 8.4 page 56 it gives a residential vehicle mode share of 55% for 2026. These are carried through to Table 4.2 page 18 of the Draft Travel Plan dated April, 2011 as a 2026 target.

4.14 It is therefore very difficult to believe that the proposed Appeal development will have a 40% car mode share on opening when the Travel Plan measures for that site will have had no time to be implemented or to work.

4.15 A design for the proposed development with a 40% car mode share is likely to underestimate flows from the site on opening and lead to unacceptable queues and delays for existing and proposed residents for some possibly considerable time after opening.

Road User Count Data

4.16 The Elmsbrook Traffic and Parking Group undertook road user counts for the B4100/Charlotte Avenue junction in the morning peak period (08.00 to 09.00) on Tuesday 14 March, 2023. The survey gave the following results:-

Road User	From B4100	To B4100	Total	Percentage
Car/van	121	124	245	85.4
Pedestrian	19	15	34	11.8
Cycle	3	4	7	2.4
Bus **	0	1	1	0.3

** The bus count was by vehicle. The number of passengers was not recorded. The percentages given will therefore be slightly higher than actual person movements.

4.17 The Exemplar Site has not yet reduced to a 40% car mode travel share despite the site being occupied for some time and it being three years after 2020. A modelled 40% car mode share at the opening of the Appeal site is wholly unrealistic.

5.0 JUNCTION MODELLING

5.1 Velocity Transport Planners (VTP) have agreed with Oxfordshire County Council (OCC) that the Bicester Traffic Model (BTM) is the most appropriate tool to forecast future years traffic growth. It has further been agreed that the future year for testing should be 2031. The BTM does not include traffic from the Appeal site. It does include flows from the Exemplar Scheme and traffic from land to the south of the Exemplar Scheme parcel 1, that is south of development off Charlotte Avenue served by Cranberry Avenue.

5.2 Statistician George Box stated in a paper in the Journal of the American Statistical Association that 'all models are wrong'. He wrote:-

> **'2.3 Parsimony**
> Since all models are wrong the scientist cannot obtain a "correct" one by excessive elaboration. On the contrary following William Occam he should seek an economical description of natural phenomena. Just as the ability to devise simple but evocative models is the signature of the great scientist so over-elaboration and overparameterization is often the mark of mediocrity.
> **2.4. Worrying Selectively**
> Since all models are wrong the scientist must be alert to what is importantly wrong. It is inappropriate to be concerned about mice when there are tigers abroad.'

5.3 If all models are wrong, then when using a model, users should seek to understand where the model may be wrong. If better data are available for any part of the model being used, then to provide a robust analysis, those data should be used. This is particularly the case for traffic models if the available data show that the model is showing fewer trips/movements. Using the highest data provides a robust analysis.

5.4 The Section 106 Agreement for the Exemplar Scheme requires the annual collection of counts in line with the Post Occupancy Modelling Schedule of the Eco Town Standards Monitoring Scheme. These counts have been undertaken.

The Transport Assessment Traffic Modelling

5.5 The Transport Assessment prepared by VTP gives traffic flow details in Appendix F. Diagrams 1 and 2 give the 2016 Base Traffic Flows. Diagrams 6 and 7 give 2031 Base Traffic Flows for the AM and PM peaks respectively. These diagrams are reproduced at Appendix 2.

5.6 Diagrams 1 and 2 show negative flows into the development land south of Cranberry Avenue. Clearly negative traffic flows, even from undeveloped land, are not possible. If these negative flows are carried forward into future years flows, then these future years flows must be incorrect and should be higher. Particularly, the traffic flows at the B4100 Banbury Road/Charlotte Avenue junction will be higher than the 2016 and 2031 modelling suggests.

5.7 It is also notable that the model shows flows of 82 vehicles northbound and 243 vehicles southbound on Cranberry Avenue in the 2031 AM peak and 67 northbound and 119 southbound in the PM peak. Additionally, there are 325 vehicles turning left into Charlotte Avenue in the AM Peak. The development south of Cranberry Avenue is shown as residential on the NW Bicester Masterplan Framework.

5.8 These flows might be anticipated if the uses south of Charlotte Avenue served by Cranberry Avenue were employment uses. As noted above, they are not. The model appears to give highly unexpected traffic flows.

The Transport Assessment Junction Modelling

5.9 The Transport Assessment prepared by VTP gives traffic flow details in Appendix F. Diagrams 8 and 9 give 2031 Base + Proposed Development Traffic Flows for the AM and PM peaks respectively. The diagrams are reproduced at Appendix 3. It is noted that these traffic flows reflect the 40% trip generation by car modelling discussed in Section 4 above.

5.10 Using these flows, the VTP Transport Assessment gives details of the junction modelling output for the B4100 junctions with Charlotte Avenue and Braeburn Avenue in Tables 9-1 and 9-2 page 62. The Transport Assessment does not provide copies of the PICADY modelling, so these details cannot be checked. RFC is the ratio of flow to capacity. These Tables are reproduced below:-

Table 9-1: B4100 Banbury Road/Charlotte Avenue – Do Something PICADY

ARM	AM PEAK HOUR			PM PEAK HOUR		
	RFC	Queue (RFC)	Delay (S)	RFC	Queue (PCU)	Delay (S)
B4100 (N)	-	-	-	-	-	-
Charlotte Avenue	0.87	5.2	79.67	0.77	3.1	56.10
B4100 (S)	0.09	0.1	7.61	0.01	0.0	7.89

Table 9-1: B4100 Banbury Road/Braeburn Avenue – Do Something PICADY

ARM	AM PEAK HOUR			PM PEAK HOUR		
	RFC	Queue (RFC)	Delay (S)	RFC	Queue (PCU)	Delay (S)
B4100 (N)	-	-	-	-	-	-
Braeburn Avenue	0.48	0.9	22.78	0.35	0.5	21.98
B4100 (S)	0.18	0.2	6.99	0.15	0.2	7.71

5.11 The maximum RFC noted above is 0.87. It is noted that above an RFC of 0.85, queues and delays can grow very quickly to very high levels. Junctions with an RFC over 0.85 are therefore sensitive to the quality of the input data.

5.12 In the consultation responses dated 14 July, 2021 and 5 January, 2022 OCC noted:-

> 'The TA has assessed the proportionate impact of the development on nearby junctions. The three junctions where the development has the most significant impact are the A4095/B4100 junction, where a scheme of improvements is being developed by OCC taking the traffic from the development into account, the junction of Braeburn Ave/B4100, and the junction of Charlotte Ave/B4100. The latter two have been assessed in detail using standard junction modelling software. However, the model

output reports have not been provided. According to the summary, the Braeburn Ave junction has good capacity to accommodate the traffic from the development, while the Charlotte Avenue junction is pushed over the acceptable capacity threshold in 2031.'

and

'• The note proposes a limit of 70 dwellings using vehicle access B, which leads to Charlotte Ave south of the bus gate. The assessment of the impact on the junction of Charlotte Ave/B4100 shows that there is insufficient capacity in the current junction arrangement, and the limit should be less.'

5.13 Note that OCC believe that the RFC of 0.87 means that the B4100/Charlotte Avenue junction has insufficient capacity and is over the acceptable capacity.

5.14 The appellant has agreed to provide funding for the installation of traffic signals at the B4100 Banbury Road/Charlotte Avenue junction. The results of modelling of traffic signals is given in Table 9-3 page 63. The Transport Assessment does not provide copies of the Linsig output so the results cannot be checked. DOS is the degree of saturation. Table 9-3 is reproduced below:-

Table 9-3: B4100 Banbury Road/Charlotte Avenue – Do Something Linsig

	AM PEAK HOUR		PM PEAK HOUR	
ARM	DOS	Mean Max Queue (PCU)	RFC	Mean Max Queue (PCU)
B4100 (N)	86.9	25.9	66.2	13.1
Charlotte Avenue	82.5	7.9	78.6	6.5
B4100 (S)	68.9	15.0	78.0	19.8

5.15 When the degree of saturation reaches 85% to 90%, the junction is beginning to be congested and queues and delays can grow quickly to very high levels. Junctions with an DOS over 85% are therefore sensitive to the quality of the input data.

Other Traffic Data

5.16 As noted in paragraph 5.4 above, other count data are available for the Exemplar Scheme. Counts have been undertaken as part of the Travel Plan requirements for the Exemplar Scheme.

5.17 Additionally, counts have been undertaken by the Elmsbrook Traffic and Parking Group (ETPG). Road user counts for the morning peak period on 14 March, 2023 have been studied for this evidence. The counts record the B4100 flows into and from Charlotte Avenue between 08.00 and 09.00. It will be noted that these flows do not reflect the completed Exemplar Scheme development.

5.18 The vehicle counts for the junction are given in paragraph 4.16 and are partially reproduced below for ease:-

Road User	From B4100	To B4100	Total
Car/van	121	124	245

5.19 Summing these counts on Charlotte Avenue with the flows on VTP diagrams 8 and 9 give arrival and departure flows for the peak hours at the B4100 Banbury Road/Charlotte Avenue junction. The modelled flows are given for comparison These are tabulated below:-

	From B4100	To B4100	Total
AM Peak			
Count	121	124	245
Access A	20	55	75
Access B	10	27	37
Cranberry Av	243	82	325
Total	**394**	**288**	**682**
VTP Modelled Flows	**395**	**242**	**637**

5.20 It is noted that the VTP traffic flows reflect the 40% trip generation modelling discussed in Section 4 above. The traffic flows on Access A and Access B will be higher with modelling using a higher trip generation percentage.

5.21 It can be seen that the junction flows tested in the VTP Transport Assessment are less than the actual flows expected on the junction. The junction analysis in the Transport Assessment is inadequate. Queues and delays at the junction will be greater than those modelled.

5.22 As the junction modelling is shown to be at/above capacity, the junction queues and delays could be substantial.

The Traffic Flow Diagrams

5.23 Paragraph 4.5 above gives details of the predicted trip generation from the Appeal proposal provided in the Transport Assessment by VTP. It is reproduced below for ease of reference:-

Table 7-13: Total Vehicular Trips – 40% of Total Person Trips)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	79	219	298	161	107	268

5.24 Paragraph 5.8 above gives details of the 2031 Base + Proposed Development Traffic Flows for the AM and PM peaks in the Transport Assessment prepared by VTP. Appendix F Diagrams 8 and 9 are reproduced at Appendix 3. It is noted that these traffic flows reflect the 40% trip generation modelling discussed in Section 4 above. The total of trips through the various accesses to the site as:-

Access	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Access A	20	55	40	27
Access B	10	27	20	13
Access C	10	27	20	13
Access D	0	109	0	53
Total	**40**	**218**	**80**	**106**

5.25 Comparing Table 7-13 in paragraph 5.22 and the total access movements in paragraph 5.23 it will be noticed that they differ. It is assumed that this is due to typographical errors. It is not possible therefore to understand if the junction modelling for the B4100/Braeburn Avenue and the B4100/Charlotte Avenue junctions is correct.

5.26 Until the junction modelling issue is resolved, it is not appropriate to grant planning consent for the Appeal development as the present modelling of the B4100 Banbury Road/Charlotte Avenue junction is sensitive to input data.

6.0 THE CHARLOTTE AVENUE NARROWINGS

Technical Note 003

6.1 Velocity Transport Planning (VTP) prepared Technical Note 003 (TN003) in response to consultation responses by a number of parties including the Elmsbrook Community Organisation (ECO). The replies to the ECO responses are discussed below. Reference will be made to responses to other parties as necessary.

6.2 In many responses, VTP state that their client does not presently own the Exemplar Scheme roads. It acknowledges that Firethorn cannot undertake works on the Exemplar Scheme roads until they are adopted. Any planning consent for the Appeal application must therefore include a condition preventing occupation until the Exemplar Scheme roads are adopted.

6.3 At paragraph 3.1.8 (sic) p 18 (not p7) Table 3-3 of TN003 we are told that:-

> 'Superseded DMRB TA 77/99 has been extrapolated to determine that carriageway widths of 5.5m and 4.1m can accommodate two-way hourly flows in the order of 1,091 and 804 hourly vehicles'

6.4 The methodology for the calculation of these assumed carriageway flow capacities is not provided. The base flows for TA 77/99 are Greater London. I know of no reference which suggests extrapolating from TA 79/99 is appropriate. The basis for the subsequent analyses presented in Attachment 7 of TN003 is therefore unsound.

6.5 VTP prepared Technical Note 004 (TN004) as Attachment 7 of TN003. TN004 presents an analysis of pedestrian, cycle and vehicle flows on Charlotte Avenue. This analysis assumes the modal splits discussed in Section 4 above. It will be assumed for the purposes of this Section that the analysis is correct.

6.6 TN004 Section 3 provides a detailed analysis of trip generation for pedestrian, cyclist and vehicles on Charlotte Avenue. It particularly addresses this analysis to the bridge carrying Charlotte Avenue to the west of the Eco Business Centre as this section of road is the narrowest part of Charlotte Avenue with the highest flows of all users.

6.7 The analysis suggest at paragraph 3.3.4 that there will be an AM peak flow of 426 pedestrian per hour split between north and south footways and at paragraph 3.3.5 a flow of 210 cycles. Vehicle flows are assessed as 6,115 annual average daily traffic (AADT) at Table 3-6. It will be noted that AADT is all vehicles over a year divided by 365. Weekday traffic flows are generally higher than AADT and weekend flows lower than AADT.

6.8 Reference is then made in Section 4 to Department for Transport Local Transport Note 1/20 (LTN 1/20). It notes that a 3.0 metre shared cycleway/footway is adequate to carry up to 300 cyclist per hour and up to 300 pedestrians per hour. However, it omits to note that LTN 1/20 paragraph 10.8.10 seeks a further width of 0.5 metres adjacent to bridge parapets.

6.9 To accommodate the flows in the analysis requires a shared footway/cycleway of 3.5 metres.

6.10 The analysis then suggests that a footway of 1.5 metres is adequate to carry the pedestrian traffic on the other footway. Manual for Streets states at paragraph 6.3.22 that:-

> '6.3.22 There is no maximum width for footways. In lightly used streets (such as those with a purely residential function), the minimum unobstructed width for pedestrians should generally be 2 m. Additional width should be considered between the footway and a heavily used carriageway, or adjacent to gathering places, such as schools and shops. Further guidance on minimum footway widths is given in *Inclusive Mobility*.'

6.11 As the bridge is close to Gagle Brook Primary School, it will carry a substantial number of carer and child movements in both directions simultaneously. A footway of 2.0 metres should therefore be the minimum.

6.12 Finally, TN004 suggests that the Charlotte Avenue bridge could accommodate a 3.0 metre footway/cycleway, a 5.5 metre carriageway and a 1.5 metre footway within a total width of 10.0 metres.

6.13 Unfortunately, the bridge has a total width between parapets of 9.7 metres comprising a 6.1 metre carriageway and two 1.8 metre footways. I have shown above that a 3.5 metre footway/cycleway and a 2.0 metre footway are necessary. That would leave a carriageway width of 4.2 metres.

6.14 Manual for Streets Figure 7.1 reproduced in Technical Note 009 at paragraph 2.1.9 shows that a 4.1 metre carriageway can accommodate two cars passing. However, Charlotte Avenue is a bus route and a 4.1 metre carriageway is inadequate to carry the vehicles expected on the road.

6.15 The mitigation suggested in TN004 is not adequate for the needs of the varied users of the highway. The impact of removing the existing build-outs on the safe crossing of Charlotte Avenue by pedestrians is not addressed in TN004. Until the impact of the carriageway narrowings is resolved, planning consent to the Appeal development should not be granted.

Technical Note 009

6.16 VTP prepared Technical Note 009 (TN009) in response to a consultation response by Oxfordshire County Council (OCC) dated 16 May, 2022. The reply to the OCC response in TN009 is discussed below.

6.17 The OCC response states inter alia:-

> '2. The number of dwellings proposed to access onto Charlotte Avenue is too high, given the narrow width of this road in places at its northern end. Without mitigation, there is a risk of footways being overrun as vehicles attempt to pass one another, with consequent risk to the safety of pedestrians, and deterioration of attractiveness for sustainable transport.'

6.18 TN009 proposes the widening of the carriageway on Charlotte Avenue between the Gagle Brook Primary School and the existing bus gate. It proposes widening the carriageway by reducing the width of the footway on the east side of Charlotte Avenue from 3.7 metres to 3.0 metres thereby increasing the carriageway width to 4.8 metres. A carriageway width of 4.8 metres is adequate to allow a car to pass a bus as shown in Manual for Streets and reproduced in TN009 at paragraph 2.1.9.

6.19 TN009 acknowledges that there are existing trees planted immediately adjacent to the proposed carriageway widening. It is for others to judge the impact of widening the carriageway/narrowing the footway on the existing trees on the east side of Charlotte Avenue.

6.20 TN009 notes that the existing footway on the west side of Charlotte Avenue adjacent to these proposed works is 3.5 metres which includes three existing trees.

6.21 TN004 notes:-

> '3.1.12 As a robust assessment, it is assumed that all pedestrian and cycle trips that are associated with the proposed Firethorn development, including those that are linked with other sustainable modes of transport, will connect with the Spine Road at a point generally located to the south of the existing bus gate between Braeburn Avenue and Charlotte Avenue. As such, 100% of these combined trips are considered to cross the existing bridge on Charlotte Avenue located to the west of the Eco Business Centre, identified as being the critical constraint along the Spine Road and a sensible location to undertake our analysis.'

6.22 It is therefore expected that all the cycle and pedestrian movements from the proposed development will travel on Charlotte Avenue from south of the bus gate. It is this section which is addressed in TN009.

6.23 However, TN009 does not undertake an analysis of these movements in relation to the width of available cycle and pedestrian facilities and the traffic flows on the proposed widened Charlotte Avenue. It cannot therefore be confirmed that the proposed footway narrowing and the carriageway widening will not have an impact on pedestrian and cycle movements over the study length of Charlotte Avenue. Clearly such an analysis is important as this forms the route on foot and by bicycle to the primary school from the Exemplar Scheme parcels 3 and 4 and all of the Appeal development. It also forms the cycle route toward Bicester.

6.24 Clearly TN009 fails adequately to address the impact of the proposed carriageway widening on other than motorised modes. Until the impact of carriageway widening is resolved, planning consent to the Appeal development should not be granted.

7.0 PARKING AND WAITING

7.1 Surveys were undertaken by the Elmsbrook Traffic and Parking Group (ETPG) of vehicles from and to the Gagle Brook Primary School from the B4100 Banbury Road. The surveys were undertaken on Friday 30 September and Thursday 5 December, 2019 at 5 minute intervals. At that time the school had about 50 pupils. The surveys found the following car movements:-

Table 2.1: Raw observation counts per 5 minute time window, 8-9am, Friday 20 September 2019

TIME past 08:00	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	
CARS													*Total*
B4100 to School	2	1	2	1	1	7	3	4	6	0	0	4	31
School to B4100	2	0	1	1	1	0	0	5	2	9	4	0	25

Table 2.2: Raw observation counts per 5 minute time window, 8-9am, Thursday 5 December 2019

TIME past 08:00	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	
CARS													*Total*
B4100 to School	1	1	0	1	3	4	5	5	2	1	0	1	24
School to B4100	0	0	0	2	0	0	0	6	7	7	1	0	23

7.2 It will be seen that the maximum vehicle trip rate is 9 in a 5 minute segment. The arrival time indicates that these trips are associated with parents/carers rather than staff. If it is assumed that a car will wait at least 5 minutes to drop-off a pupil, then the maximum parking demand for the survey periods is at least 9 spaces.

7.3 The school has a maximum capacity of 230 pupils. Taking a simple pro rata parking requirement gives a parking need of 41 cars when the school is full.

7.4 This analysis does not take account of various factors. These might include:-

- The needs of pupils at the extended special needs facility at the school and their particular travel requirements.
- Pupils from outside the immediate catchment presently attending the school. Out of catchment pupils could reduce as the school fills and residents of the Exemplar Scheme and the Appeal scheme take places at the school. However, there may be spaces at the school if residents of the Exemplar Scheme and the Appeal development send pupils to other schools.
- The attraction of a One Planet Principles school to parents outside the walking/cycling to school journey distance.
- Parents/carers from the Exemplar Scheme and the Appeal development may choose to drive to the school as part of a journey to work rather than walking a pupil to school and then returning to start the journey to work by car from home.
- Parents leaving pupils with carers outside the Exemplar Scheme and the Appeal development with the pupils being then brought to school by car.

7.5 However, ETPG have provided local councillors, Cherwell District Council (CDC) and Oxfordshire County Council (OCC) with details of parking counts in the Autumn term of 2022. The counts showed 28 to 30 parked cars. At that time the school had been open for 5 years with approximately 115 pupils. When the school is full with 230 pupils, the survey data would suggest a parking requirement of 56 to 60 cars.

7.6 The Draft Travel Plan by Hyder dated April 2011 has a target of below 20% of pupil trips to the school by car in 2026 at paragraph 4.2.2. For 230 students, that suggests up to 46 trips to the school by car.

7.7 The parking space requirement for 46 cars, assuming the usual 6 metre bay for cars parked nose-to-tail, indicates a parked length of 276 metres.

7.8 The above analysis indicates that there is a need for up to 46 parking spaces to accommodate trips to school by parents/carers. There are four visitor parking spaces available for the school. Parents/carers park on Charlotte Avenue when attending the school. If it is assumed that the Charlotte Avenue frontage has a 50% parking availability due to junctions and accesses to parking courts, then 46 parking spaces will extend over a length of 550 metres. That is about the distance from the Cranberry Avenue junction to the B4100 Banbury Road/Charlotte Avenue junction.

7.9 Charlotte Avenue is 6.1 metres wide to the east of the school, except at the bridge build-outs, and 4.1 metres wide north of the school. Parking along either of these stretches of road would reduce the carriageway to one-way working over the parked length. Parking north of the school would block bus movements.

7.10 This parking introduces a number of extended one-way working sections of road. This has not been modelled in the VTP documents. The ETPG has urged OCC to seek clarification of the impact of this parking on vehicle movements, including any impact on the operation of the B4100 Banbury Road/Charlotte Avenue junction. OCC have declined to press VTP to prepare such modelling. Such modelling has not been undertaken.

7.11 It is clear that OCC have concerns about narrow parts of Charlotte Avenue and have asked VTP to prepare modelling of the impact of these narrow sections. It is therefore perverse that OCC has not sought modelling of the impact of parking on Charlotte Avenue of parents/carers accessing Gagle Brook School when that parking will be during the morning peak period when trips on Charlotte Avenue are at their maximum.

7.12 The impact of parking caused by Gagle Brook School has not been tested. The impact of this parking could be severe. Until such time as testing and resolution of any problems is made, planning consent should not be granted for the Appeal development due to the severe impact of the parking.

8.0 THE OFFICERS REPORT TO COMMITTEE

8.1 Section 9 of the Officers Report to Committee (the report) gives an appraisal of the key issues for consideration in the application. Paragraphs 9.60 to 9.101 discuss 'Access and Relationship to Other Sites'.

8.2 At paragraph 9.61 it relates Policy Bicester 1 and associated guidance. It confirms that the key requirement is to achieve a modal shift to enable at least 50% of trips to be by non-car mode with the potential for this to increase to 60%. It therefore restates the 50% maximum car mode for trips with an aspiration for reduction to 40% as discussed in Section 4 above.

8.3 Paragraphs 9.65 and 9.66 of the report quote the National Planning Policy Framework (NPPF) paragraph 104, 110 and 111 which are reproduced below for assistance:-

> '104. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
> a) the potential impacts of development on transport networks can be addressed;
> b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
> c) opportunities to promote walking, cycling and public transport use are identified and pursued;
> d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and

e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.'

'110. In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:
a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
b) safe and suitable access to the site can be achieved for all users;
c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 46; and
d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.'

'111. 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.'

8.4 Paragraph 9.69 of the report gives extracts from an Appeal decision to assist members in understanding the meaning of 'severe' in paragraph 111 of the NPPF.

8.5 Paragraph 9.94 of the report states:-

'9.94. With respect to other transport factors, discussions have been held with regard to the suitability of Charlotte Avenue for the level of development proposed. North of the school, the width reduces through a narrowing to 4.1m which OCC advise would be a high risk for vehicles in overrunning the footway when passing one another. The applicant has proposed a scheme of widening within this area. However, this would, in

all likelihood, result in the loss of street trees along Charlotte Avenue. The applicant has offered a contribution to allow OCC to carry out the widening works. As it stands however, the road is not yet adopted. The loss of the trees could potentially be mitigated for on the site itself, which could offset some of this impact.'

8.6 It continues at paragraph 9.95:-

'9.95. The proposal seeks to provide cycle and pedestrian links onto the infrastructure that exists within Elmsbrook. These are generally at the same locations as the vehicular access points as well as some other locations where they can be achieved taking into account future adoption standards (or permission granted by the adjoining landowner) and future development proposals. This includes the proposal for a bridge leading over the watercourse from the site towards the south. *Whilst there have been some concerns raised with respect to how segregated cycle facilities might be provided for, it has been accepted that this would not be required on Braeburn Avenue or Charlotte Avenue north of the school due to the traffic volumes.* Construction access is planned to be taken from the B4100 and the layby to avoid construction traffic being taken through Elmsbrook. (*My emphasis*)

8.7 As noted in this evidence at paragraphs 6.16 to 6.24, no analysis has been undertaken of the impact of narrowing the footways on Charlotte Avenue north of the school. It is therefore not possible for the report to allege that narrowing of the footways has been accepted.

8.8 Paragraph 9.97 of the report states:-

'9.97. The issue of car parking has been raised by residents due to issues on Elmsbrook. This is a matter that would be negotiated at the reserved matters stage using most recent parking standards but noting the issues already experienced, particularly with respect to visitor parking.'

8.9 The report does not provide details of how the issue of car parking can be addressed adequately at reserved matters stage. As this evidence shows in Section 7, parking for parents/carers bringing children to the school could have a considerable impact on the available carriageway width of Charlotte Avenue, creating an extended one-way length of road. The parking could extent to the B4100 Banbury Road/Charlotte Avenue junction, impeding free movement through the junction and reducing its traffic capacity.

8.10 Parking meeting the Exemplar Scheme Travel Plan targets for the school has a serious impact on the available carriageway width of Charlotte Avenue. This parking may impact on the capacity of Charlotte Avenue to carry the traffic anticipated in the Appeal development. No analysis is undertaken of the impact of this parking. It is wholly unacceptable to permit development without reference to how severe problems might be addressed in the design.

8.11 As noted in this evidence, there are a substantial number of issues relating to access. These have not been resolved in the Transport Assessment nor in the multiple Technical Notes provided by the Appellant's highways consultant. Until such issues are resolved, planning consent to the Appeal development should not be granted.

8.12 The Appellant, the Planning Authority and the Highway Authority have not shown that the impact of the multiple issues raised in this Evidence have been resolved. The impact of any one of these issues could be severe. Together, the impact of these issues as they are at the date of the committee report is very probably severe.

8.13 Members were right to have grave concerns about the proposals. Members acted appropriately in not determining the application at the 12 January, 2023 committee and subsequently resolving to refuse permission at the 9 March, 2023 committee.

9.0 MITIGATION

9.1 The Elmsbrook Traffic and Parking Group (ETPG) is not against development of the Appeal site. Indeed it is keen to see the development progress as reported in the officers report to committee paragraph 7.31. However, it does not wish to see development cause severe problems for the existing residents of the Exemplar Scheme.

9.2 The Transport Assessment prepared by Velocity Transport Planners (VTP) fails to provide a robust test of the traffic flows from the existing and proposed developments. Without a robust test, there may be problems on the roads leading to the proposed development, especially in the first years of the proposed scheme. It is unacceptable to impose traffic problems on an existing scheme in designing a proposed scheme. Until the robust testing is undertaken, planning consent to the Appeal development should not be granted.

9.3 Until the junction modelling issue is resolved, it is not appropriate to grant planning consent for the Appeal development.

9.4 Clearly Technical Note 009 fails to adequately address the impact of the proposed carriageway widening on other than motorised modes. Until the impact of carriageway widening is resolved, planning consent to the Appeal development should not be granted.

9.5 The impact of parking caused by Gagle Brook School has not been tested. The impact of this parking could be severe. Until such time as testing and resolution of any problems is made, planning consent should not be granted for the Appeal development.

Mitigation: Access E

9.6 The ETPG has suggested to VTP and Oxfordshire County Council (OCC) that there may be a solution to the problems described in this evidence. That possible solution is to make the proposed construction access E into a permanent access to the two sites.

9.7 It is not a requirement of the ETPG to undertake the modelling of such an access. It is for the appellant to show that their proposed development will not cause undue problems to existing and future residents. It is clear that the existing proposals, even amended by the multiple Technical Notes provided, does not address the numerous problems identified by OCC and ETPG.

9.8 I discuss visibility splays below. To assist, Figure 7.18 from Manual for Streets in Appendix 4 shows 'X' and 'Y' dimensions.

9.9 I have considered the proposed construction access E drawing 46600-1100-T-011 rev F by VTP reproduced in Appendix 5. I note that the visibility 'Y' distance shown for the visibility splays looking right (looking to the east) is 90 metres. The drawing notes that the speed limit adjacent to the proposed access is 40 miles per hour. Highway England (HE) standard CD109 states at Table 2.5 that the design speed for a 40 mile per hour urban road is 70 kilometres per hour. It then states in Table 2.10 that the desirable minimum stopping sight distance for that design speed is 120 metres. HE standard CD123 then states at Figure 3.4 that the visibility 'Y' distance at a priority junction should be the desirable minimum stopping sight distance.

9.10 It is clear that the visibility splay looking right from the proposed construction access does not meet the HE standard.

9.11 Similarly the visibility splay looking left (looking to the west) has a substandard visibility 'Y' distance. Additionally, this splay is shown to 2 metres into the nearside carriageway when the standard seeks a splay to the nearside carriageway edge.

9.12 I note in the consultation response from OCC dated 14 July, 2021 they state:-

> 'Permission is also sought for a construction access into the eastern parcel directly off the B4100 in the approximate position of an existing field access. The construction of this access will require a S278 agreement. I have no objection to this access in principle, provided adequate visibility can be provided. However, I note that the necessary visibility splay to the north crosses a ditch that is not within the highway boundary. The applicant would need to obtain title to this land for the purposes of the

S278 agreement and it can't be assumed this is possible. The visibility splay does not appear to be within the red line.
Reason for objection'

9.13 I have shown that the visibility splays at the proposed construction access E do not meet standards. I am uncertain how the splays shown can be considered to be adequate.

9.14 It is for the Highway Authority OCC to determine if they are content with substandard visibility splays onto the B4100 Banbury Road. It is my view that the junction design is unsafe.

Mitigation: Access E Amendments

9.15 It may be possible to amend Access E to provide a junction meeting standards. Acquisition of land adjacent to the proposed Access E may allow the provision of visibility splays meeting standards, that it splays with a 'Y' distance of 120 metres and splays to the nearside carriageway edge. It is for the Appellant to study this possibility.

9.16 Alternatively, the speed limit adjacent to Access E could be reduced to allow for a 90 metre visibility 'Y' distance. It is my view that vehicles approaching Access E would not be slowed adequately simply by imposing a lower speed limit. It is my view that this alternative is unacceptable and dangerous.

Mitigation: Other Access Positions

9.17 Drawing OP4/a by Roger N Cross Services reproduced in Appendix 6 shows the existing access into the Home Farm site. This access was granted under planning permission 01/01836/LB.

9.18 This Home Farm access provides visibility splays with a 'Y' distance of 210 metres. This is substantially more than the 120 metres required for the speed limit of 40 miles per hour on the B4100 Banbury Road. The access shown on the drawing has adequate visibility splays.

9.19 This access is within the red line of the Appeal application. It is suitable to form a permanent access to the eastern parcel of the Appeal site. Such an access can then join to the proposed Site Access A. This has the advantage of allowing vehicles from Site Access B to reach the B4100 Banbury Road without passing along Charlotte Avenue or through the B4100 Banbury Road/Charlotte Avenue junction. The access could also serve dwellings north of Gagle Brook School.

9.20 It is for the Appellant to pursue this possible permanent access alternative. Until there is adequate resolution of the problems at proposed Access E, planning consent should not be granted for the Appeal development.

10.0 SUMMARY

10.1 My name is David Miles Mason. I am a Director of D M Mason Engineering Consultants Ltd. D M Mason Engineering Consultants Ltd is instructed by Elmsbrook Traffic and Parking Group. This Evidence supports reasons for refusal 2 and 3 of the planning application made by Firethorn Development Ltd (Firethorn) to Cherwell District Council (CDC) for Outline planning application for residential development on land adjacent to the Exemplar Scheme, NW Bicester Ecotown.

10.2 The A4095 Southwold Lane/B4100 Banbury Road junction is proposed to be reconfigured as a traffic signal controlled junction. If these works will not be implemented until much of the development in north west Bicester is underway, this will disproportionately impact the Elmsbrook development.

10.3 In the Transport Assessment accompanying the planning application, the vehicle trip generation for the site used is 40% of the person trip generation. The North West Bicester Supplementary Planning Document states that the aim is to achieve an overall modal share of not more than 50% by car. To provide a robust analysis it would be appropriate to assume a modal share of 50% by car. The Transport Assessment analysis is therefore designing for only 80% of the trip generation from the site which is envisaged in the SPD. Such a design cannot be considered robust.

10.4 The Elmsbrook Traffic and Parking Group (ETPG) has undertaken road user counts for the B4100/Charlotte Avenue junction. The Exemplar Site has not yet reduced to a 40% car mode travel share despite the site being occupied for some time. A modelled 40% car mode share at the opening of the Appeal site is wholly unrealistic.

10.5 The Transport Assessment uses the Bicester Traffic Model to forecast future years of traffic growth. This shows negative flows into the development land south of Cranberry Avenue. If these negative flows are carried forward into future years flows, then these future years flows must be incorrect and should be higher.

10.6 The model shows high vehicle flows southbound on Cranberry Avenue in the AM peak and PM peaks. These flows would not be anticipated for the residential uses served by Cranberry Avenue. The model appears to give highly unexpected traffic flows.

10.7 The Transport Assessment gives details of the junction modelling output for the B4100 junction with Charlotte Avenue reflecting the 40% trip generation by car modelling. The maximum RFC is 0.87. The Highway Authority noted that the Charlotte Avenue junction is pushed over the acceptable capacity threshold.

10.8 The appellant has agreed to provide funding for the installation of traffic signals at the B4100 Banbury Road/Charlotte Avenue junction. The maximum DOS is 86.9%. When the DOS reaches 85% to 90%, queues and delays can grow quickly to very high levels.

10.9 Counts have been undertaken by ETPG for a morning peak period. These counts give higher total flows at the B4100/Charlotte Avenue junction than modelled in the Transport Assessment. The junction flows tested in the Transport Assessment are less than the actual flows expected on the junction. The junction analysis in the Transport Assessment is inadequate.

10.10 Until the vehicle flow and junction modelling issues are resolved, it is not appropriate to grant planning consent for the Appeal development as the present modelling of the B4100 Banbury Road/Charlotte Avenue junction is sensitive to even small increases the input data.

10.11 In many responses, VTP state that their client does not presently own the Exemplar Scheme roads. It acknowledges that Firethorn cannot undertake works on the Exemplar Scheme roads until they are adopted. Any planning consent for the Appeal application must therefore include a condition preventing occupation until the Exemplar Scheme roads are adopted.

10.12 A Technical Note addresses the removal of carriageway narrowings on Charlotte Avenue. The methodology for the calculation of the assumed vehicle flow on Charlotte Avenue is unsound. The proposed cycle facility and footway widths are incorrect. The proposed solution to the removal of carriageway narrowings is incorrect for the needs of all road users. Until the impact of the carriageway narrowings is resolved, planning consent to the Appeal development should not be granted.

10.13 A Technical Note suggests carriageway widening north of Gagle Brook School. There is no analysis of the impact on all road users of this carriageway widening. Until the impact of carriageway widening is resolved, planning consent to the Appeal development should not be granted.

10.14 A parking survey undertaken adjacent to Gagle Brook School indicates a need for between 41 and 60 car parking spaces for school purposes. The Draft Travel Plan for the school assumes a similar figure. These cars would stretch from the school to the Banbury Road/Charlotte Avenue junction. This would cause a long carriageway narrowing. The impact of this narrowing has not been tested. Until the impact of carriageway narrowing is resolved, planning consent to the Appeal development should not be granted.

10.15 The Appellant, the Planning Authority and the Highway Authority have not shown that the impact of the multiple issues raised in this Evidence have been resolved. The impact of any one of these issues could be severe. Together, the impact of these issues as they are at the date of the committee report is very probably severe. Members were right to have grave concerns about the proposals. Members acted appropriately in not determining the application at the 12 January, 2023 committee and subsequently resolving to refuse permission at the 9 March, 2023 committee.

10.16 The ETPG is keen to see the development progress. However, it is unacceptable to impose traffic problems on an existing residents in designing a proposed scheme. Until robust testing is undertaken, planning consent to the Appeal development should not be granted.

10.17 The ETPG has suggested to VTP and Oxfordshire County Council (OCC) that there may be a solution to the problems described in this evidence. That possible solution is to make the proposed construction Access E into a permanent access to the two sites. However, the currently proposed construction access has visibility splays which do not meet standards. It is not a requirement of the ETPG to undertake the modelling of such an access.

10.18 The existing Home Farm access provides adequate visibility splays with a 'Y' distance of 210 metres. This access is within the red line of the Appeal application. It is suitable to form a permanent access to the eastern parcel of the Appeal site. It is for the Appellant to pursue this possible permanent access alternative. Until there is adequate resolution of the problems at proposed Access E, planning consent should not be granted for the Appeal development.

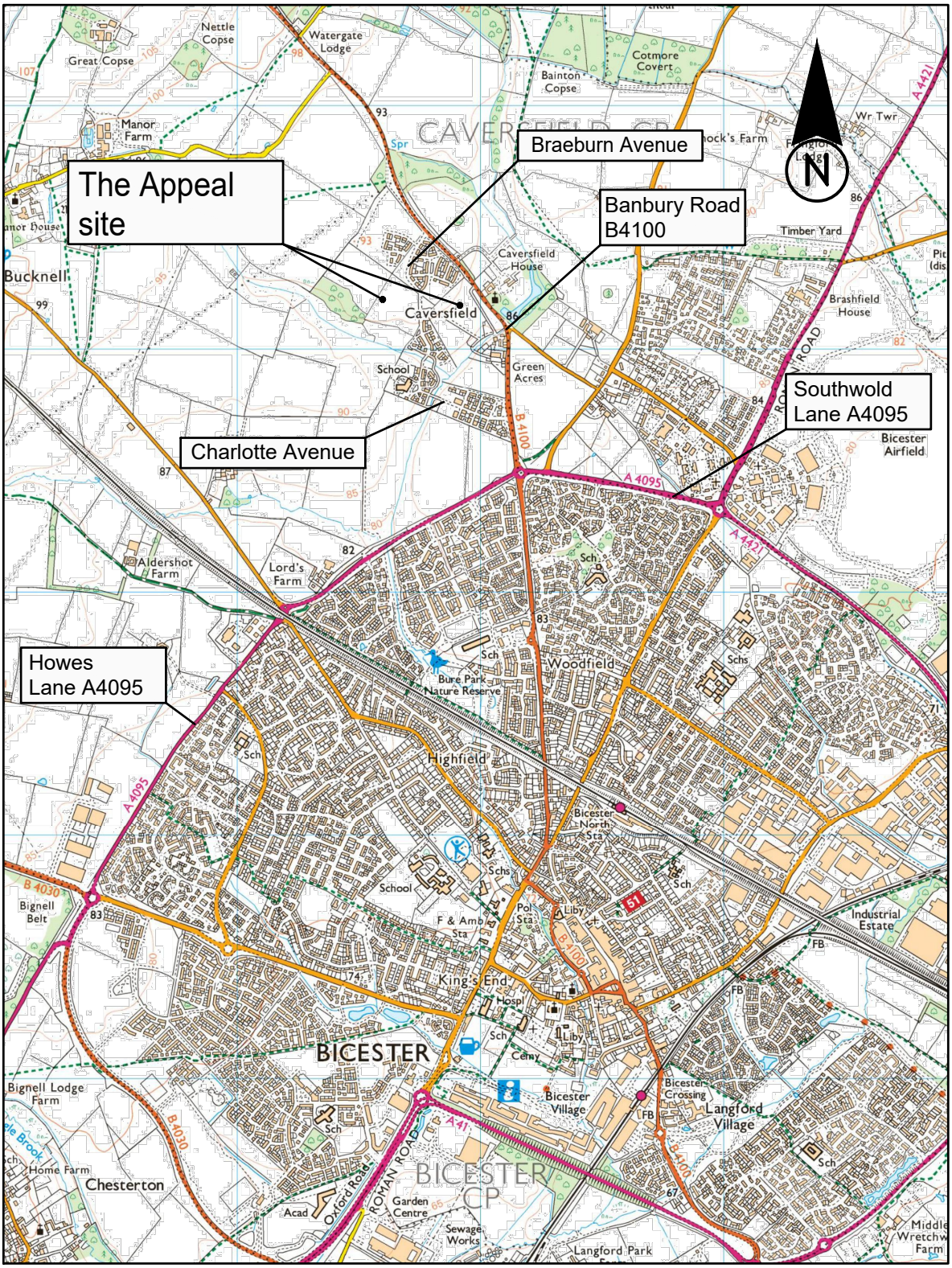
10.19 The development access proposals presently envisaged fail on a substantial number of counts. The impact of these failures will be severe for present and future occupants of the Exemplar scheme and the proposal scheme.

10.20 Until such time as these failures are resolved, the Inspector is respectfully requested to not grant planning consent for the Appeal development.

Appendix 1

Drawing E.019/1, Location Plan, Extract

from the 1:25,000 Scale Ordnance Survey Map.



Original drawing size A4

Rev	Date	Revision

DMMason

Engineering Consultants

161 Marlborough Road
Old Town, SWINDON
SN3 1NJ

Tel. 01793 611712

Project

Elmsbrook, Bicester

Drawing Title

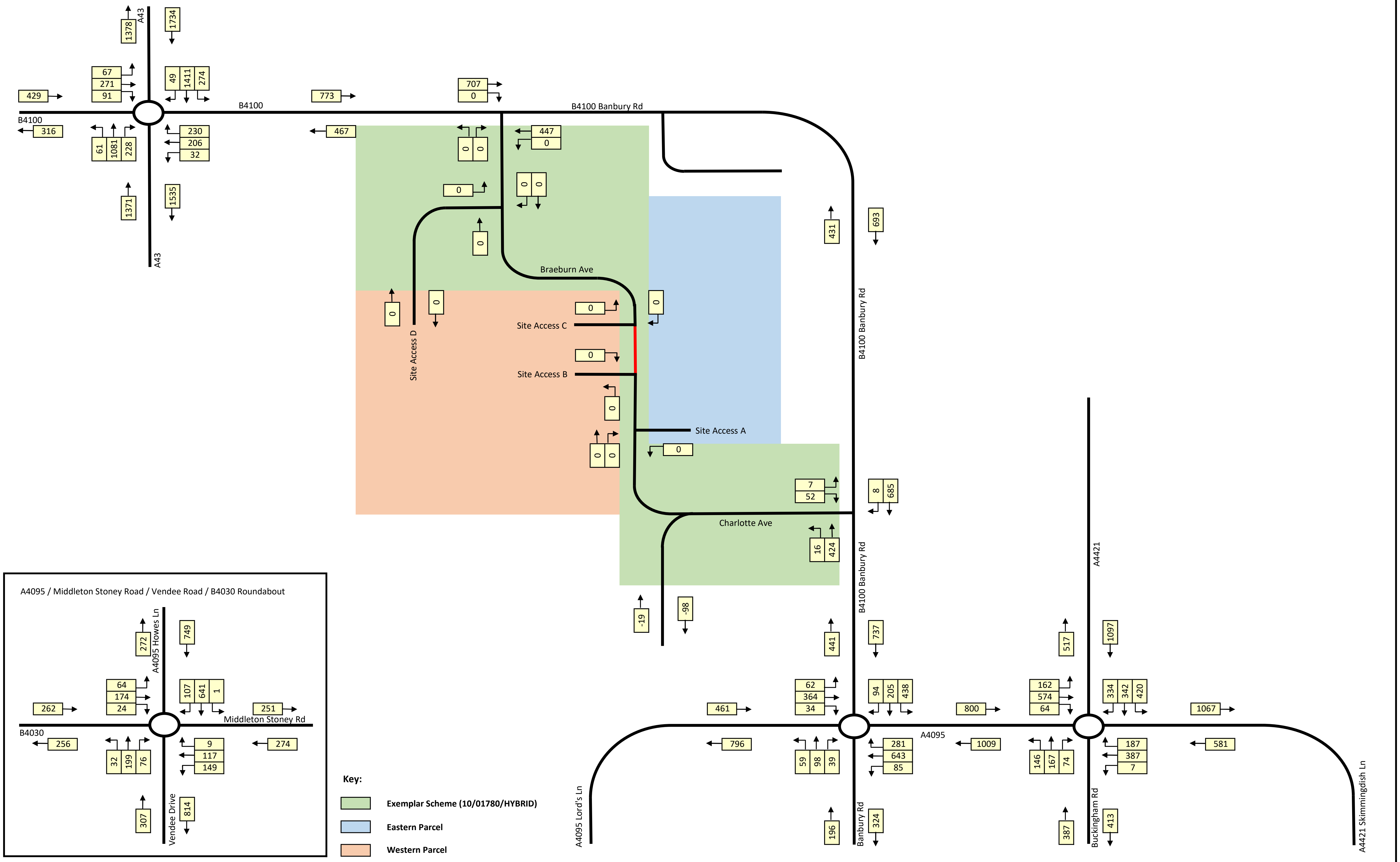
Location Plan

Date	Scale	Drawing No.
Mar' 2023	1:25,000	E.019/1

Appendix 2

Appendix F Diagrams 1, 2, 6 and 7 from Transport Assessment by VTP,

2016 and 2031 Base Traffic Flows for the AM and PM Peaks.



Project:	Client:	Title:	Date:
Land at North West Bicester	Firethorn TRUST	**2016 Base Traffic Flows (Total Vehicle)**	**28/03/2021**
		AM Peak Hour	Diagram: **1**

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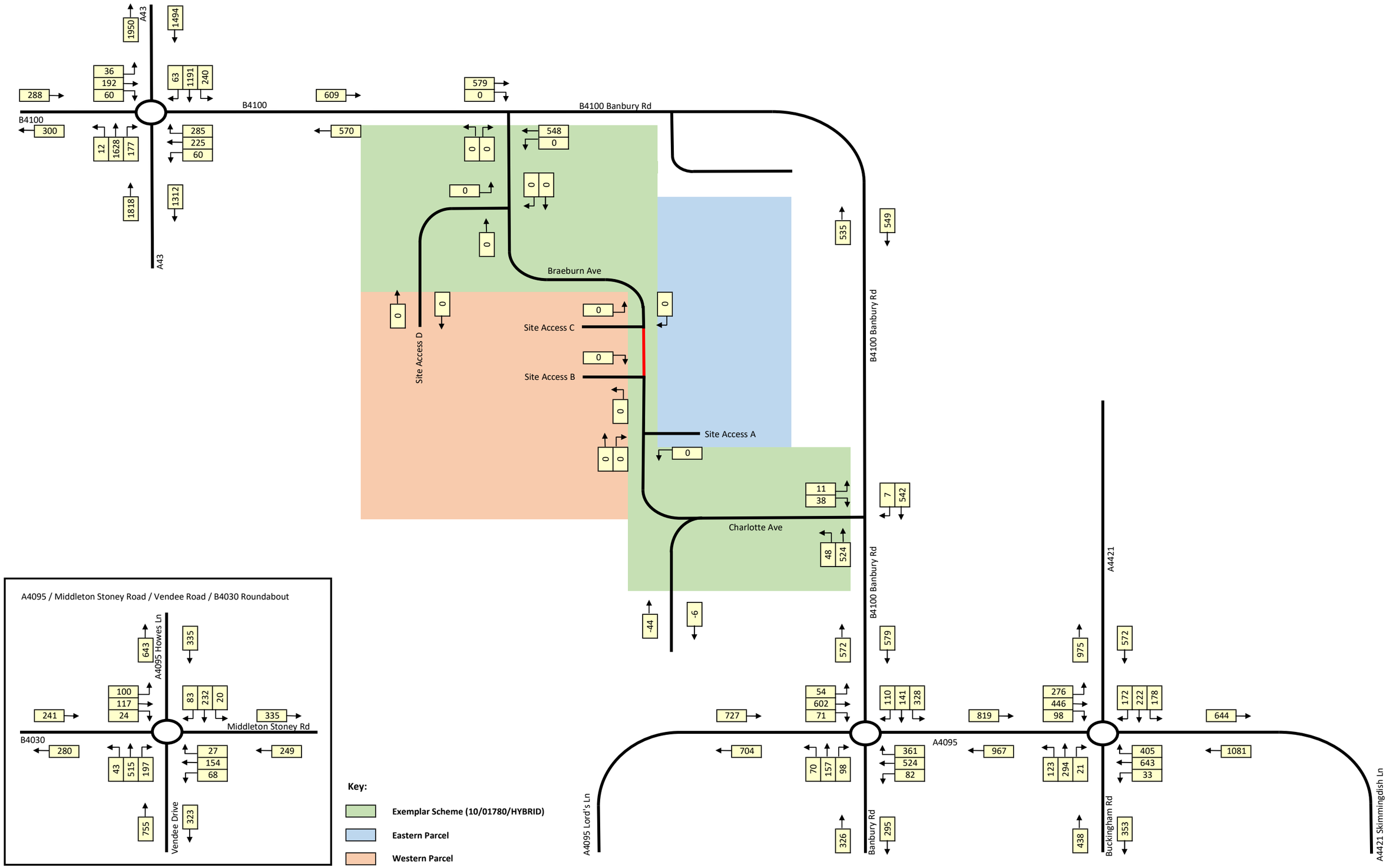
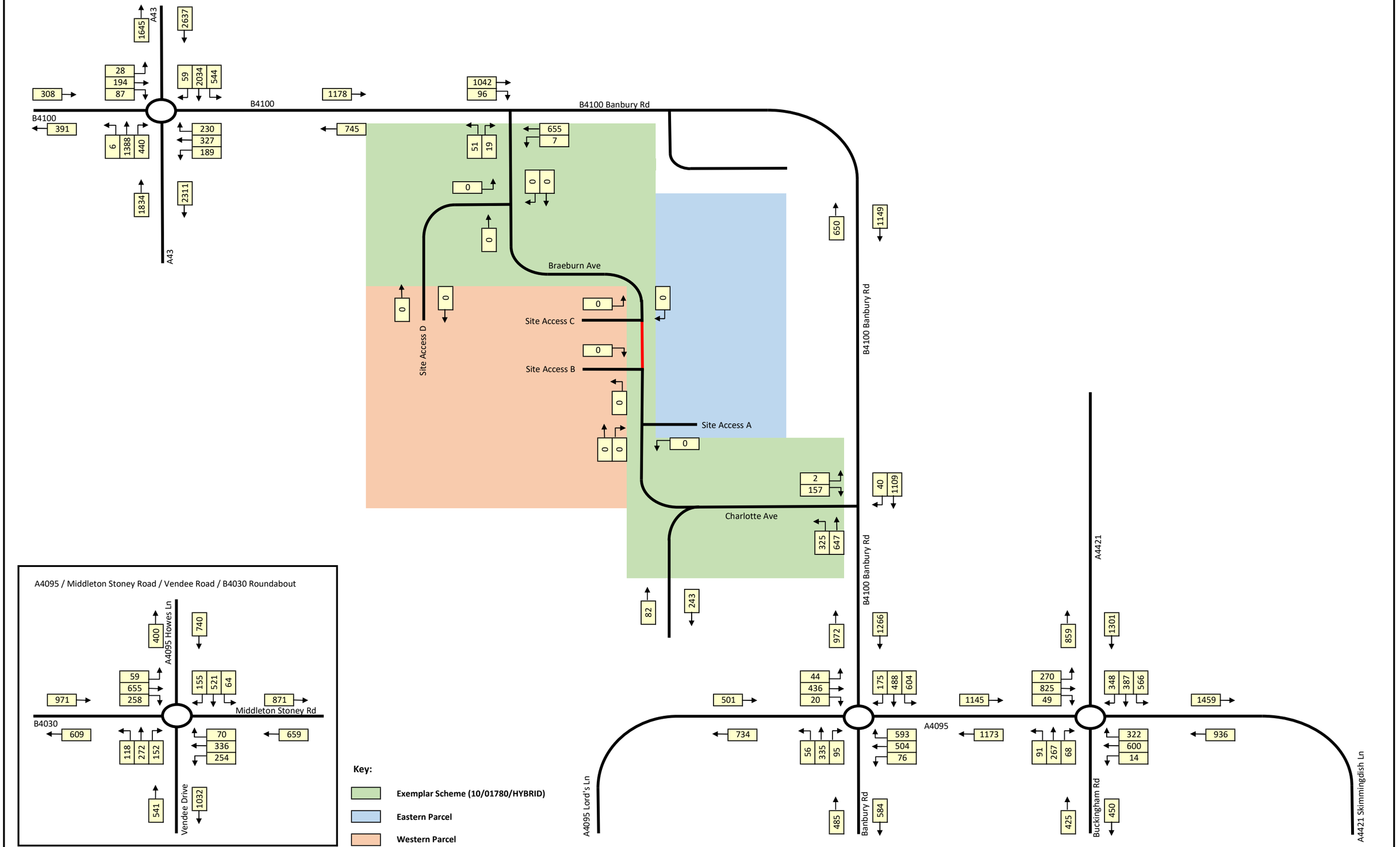
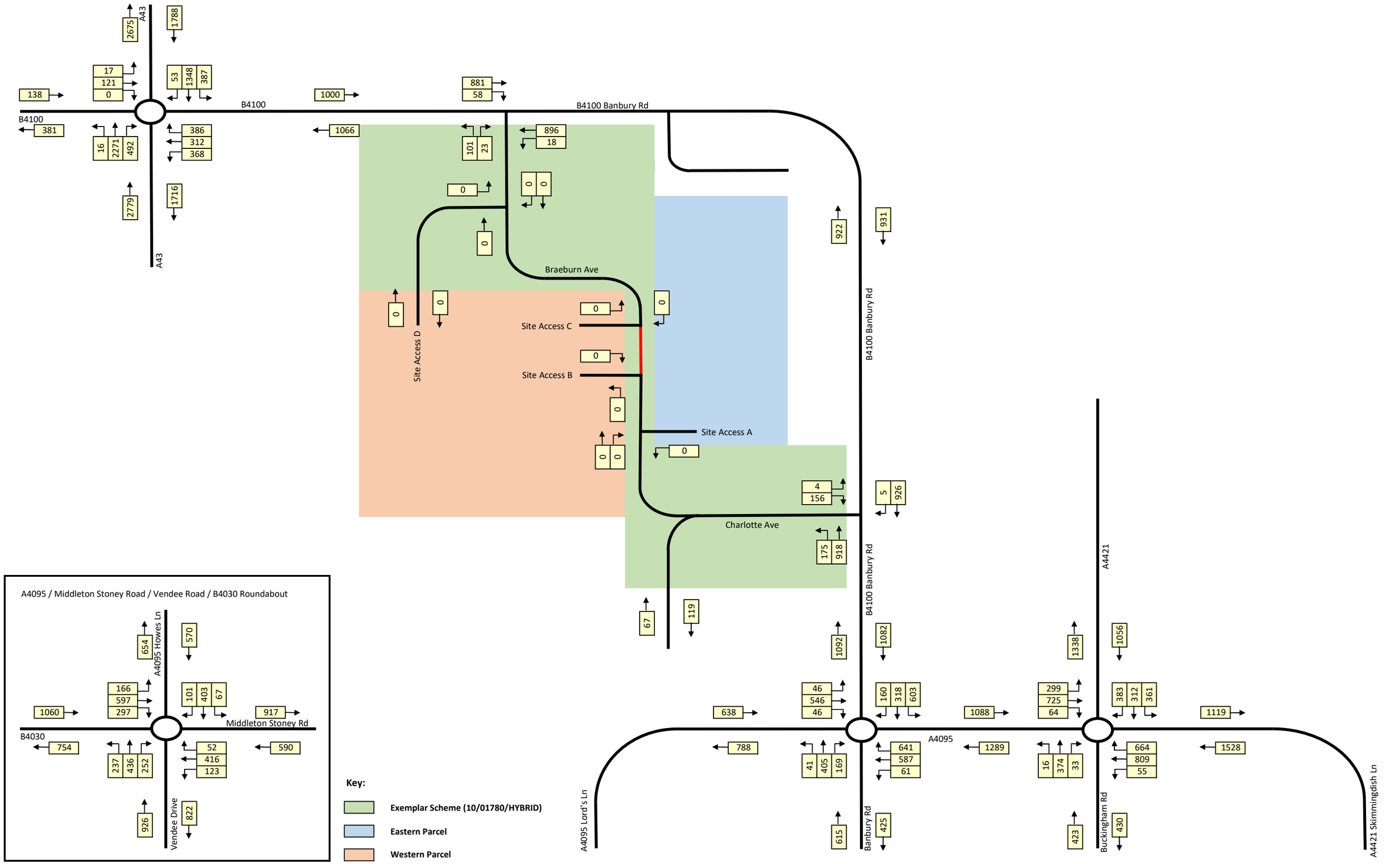


Project:	Client:	Title:	Date:	
Land at North West Bicester	Firethorn TRUST	**2016 Base Traffic Flows (Total Vehicle)** **PM Peak Hour**	**28/03/2021** Diagram: **2**	VELOCITY Transport Planning www.velocity-tp.com



Project:	Client:	Title:	Date:	
Land at North West Bicester	Firethorn TRUST	**2031 Base Traffic Flows (Total Vehicle)** **AM Peak Hour**	**28/03/2021** Diagram: **6**	VELOCITY Transport Planning www.velocity-tp.com

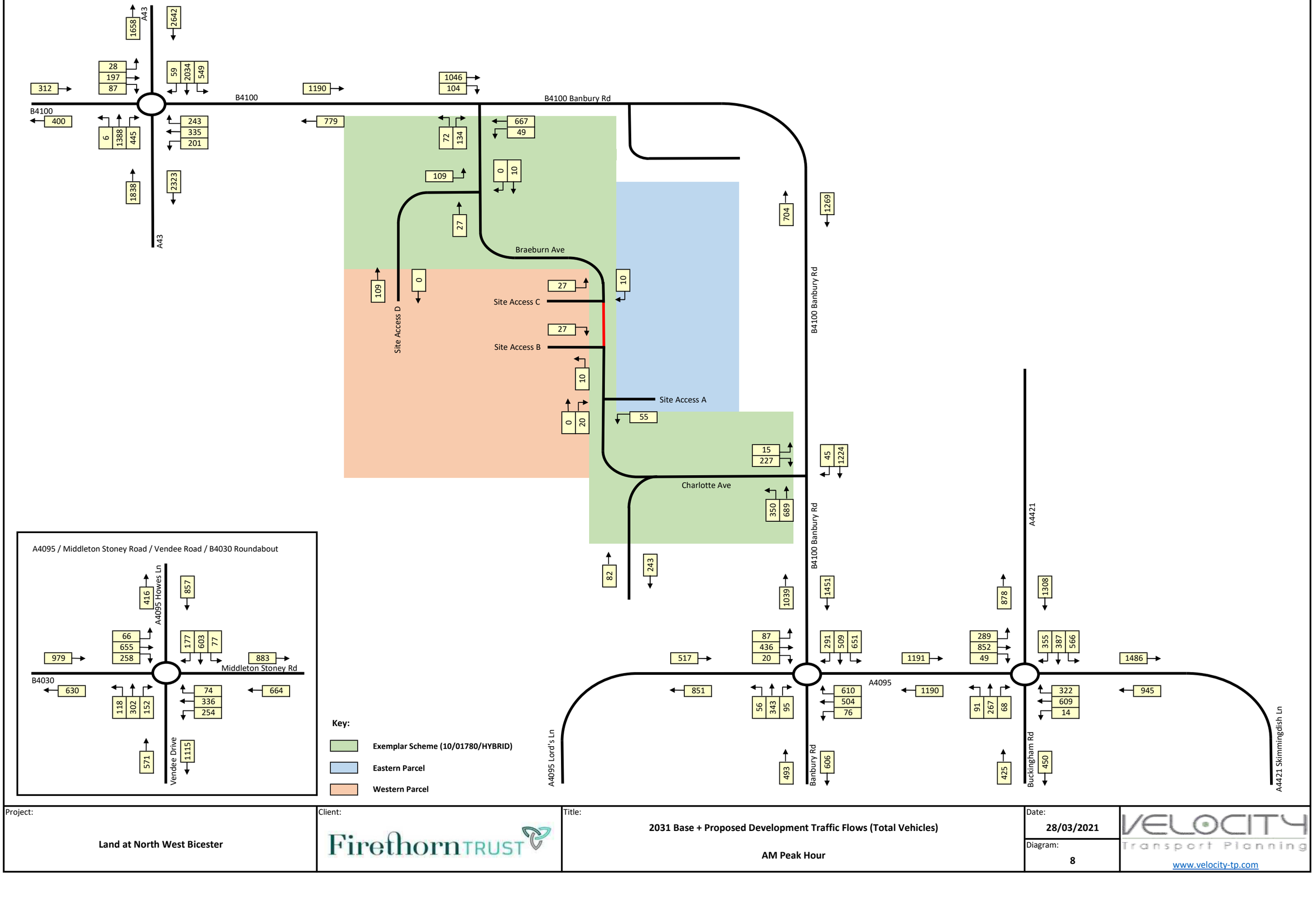


Project:	Client:	Title:	Date:	
Land at North West Bicester	Firethorn TRUST	**2031 Base Traffic Flows (Total Vehicle)** **PM Peak Hour**	**28/03/2021** Diagram: **7**	VELOCITY Transport Planning www.velocity-tp.com

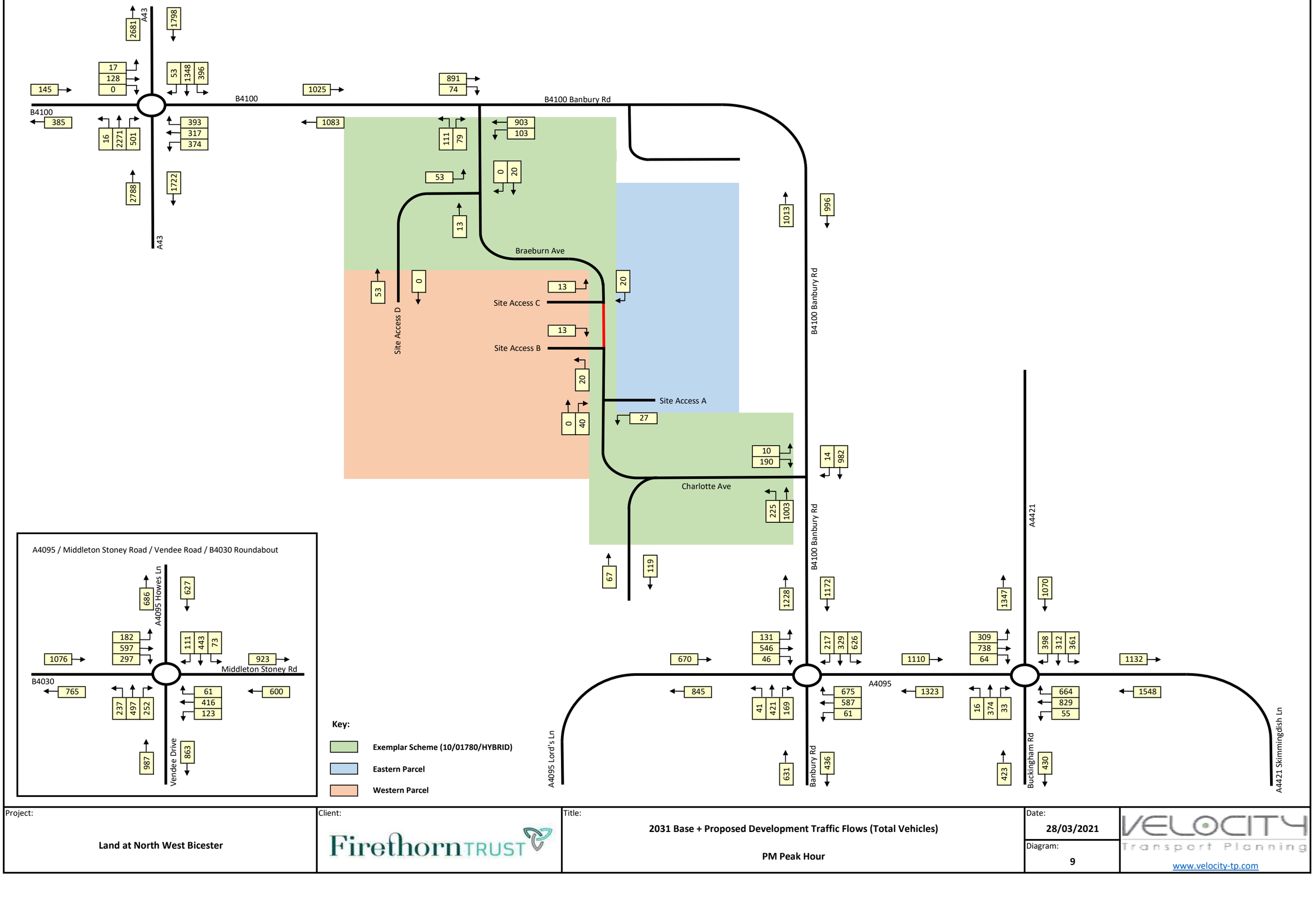
Appendix 3

Appendix F Diagrams 8 and 9 from Transport Assessment by VTP,

2031 Base + Proposed Development Traffic Flows for the AM and PM Peaks.



Project: **Land at North West Bicester**	Client: Firethorn TRUST	Title: **2031 Base + Proposed Development Traffic Flows (Total Vehicles)** **AM Peak Hour**	Date: **28/03/2021** Diagram: **8**	VELOCITY Transport Planning www.velocity-tp.com



Project:	Client:	Title:	Date:	
Land at North West Bicester	Firethorn TRUST	**2031 Base + Proposed Development Traffic Flows (Total Vehicles)** **PM Peak Hour**	**28/03/2021** Diagram: **9**	VELOCITY Transport Planning www.velocity-tp.com

Appendix 4

Figure 7.18 from Manual for Streets.

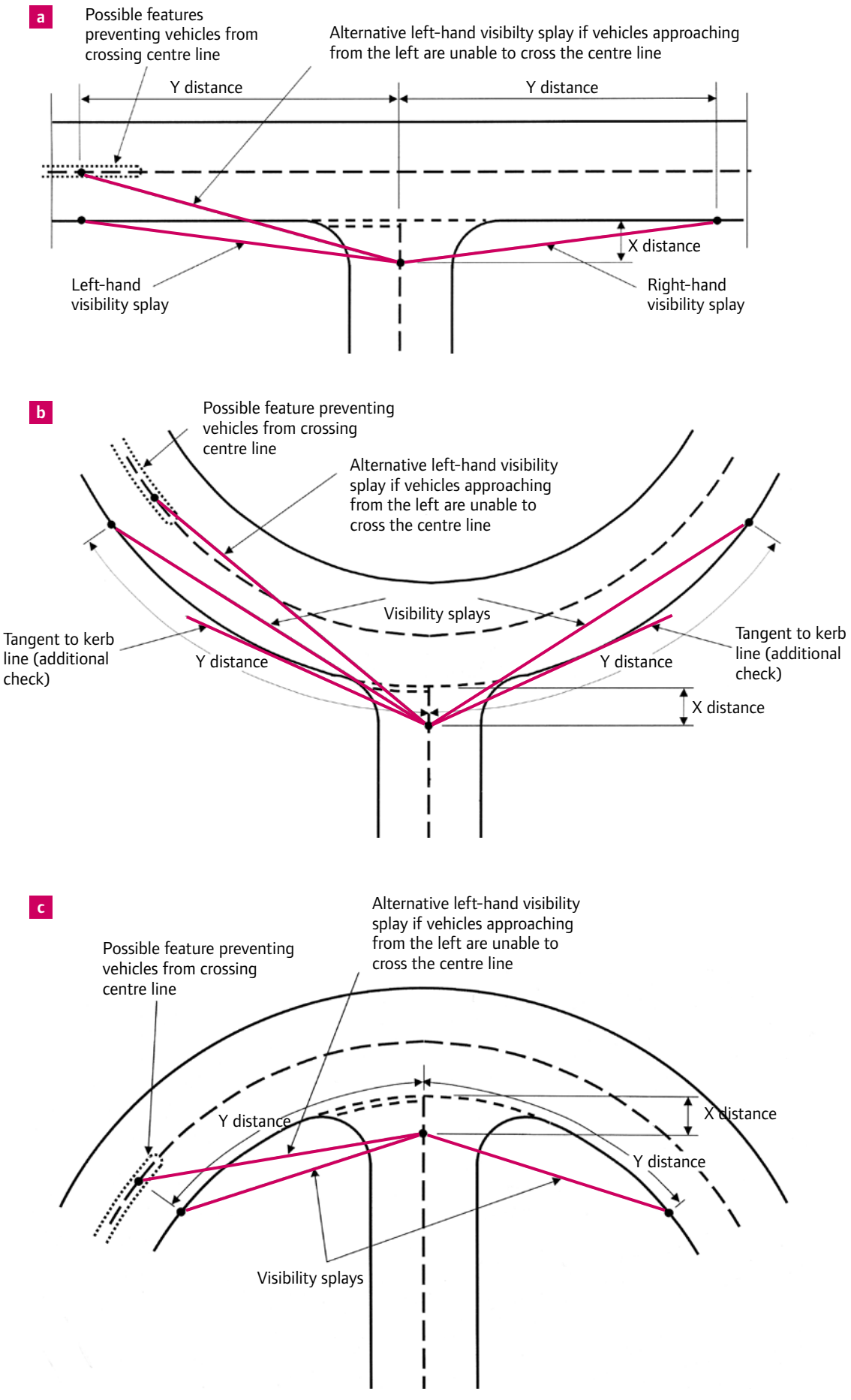


Figure 7.18 Measurement of junction visibility splays (a) on a straight road, (b) and (c) on bends.

Appendix 5

Proposed Construction Access E drawing 46600-1100-T-011 rev F by VTP.

VELOCITY
Transport Planning
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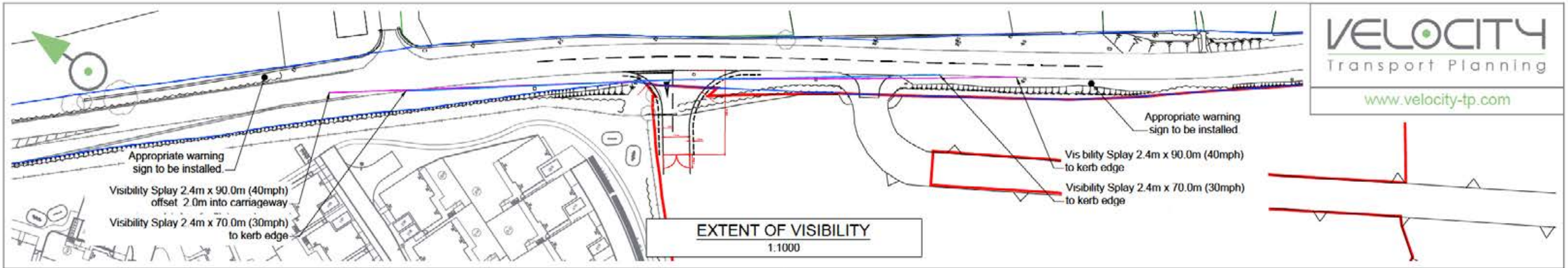
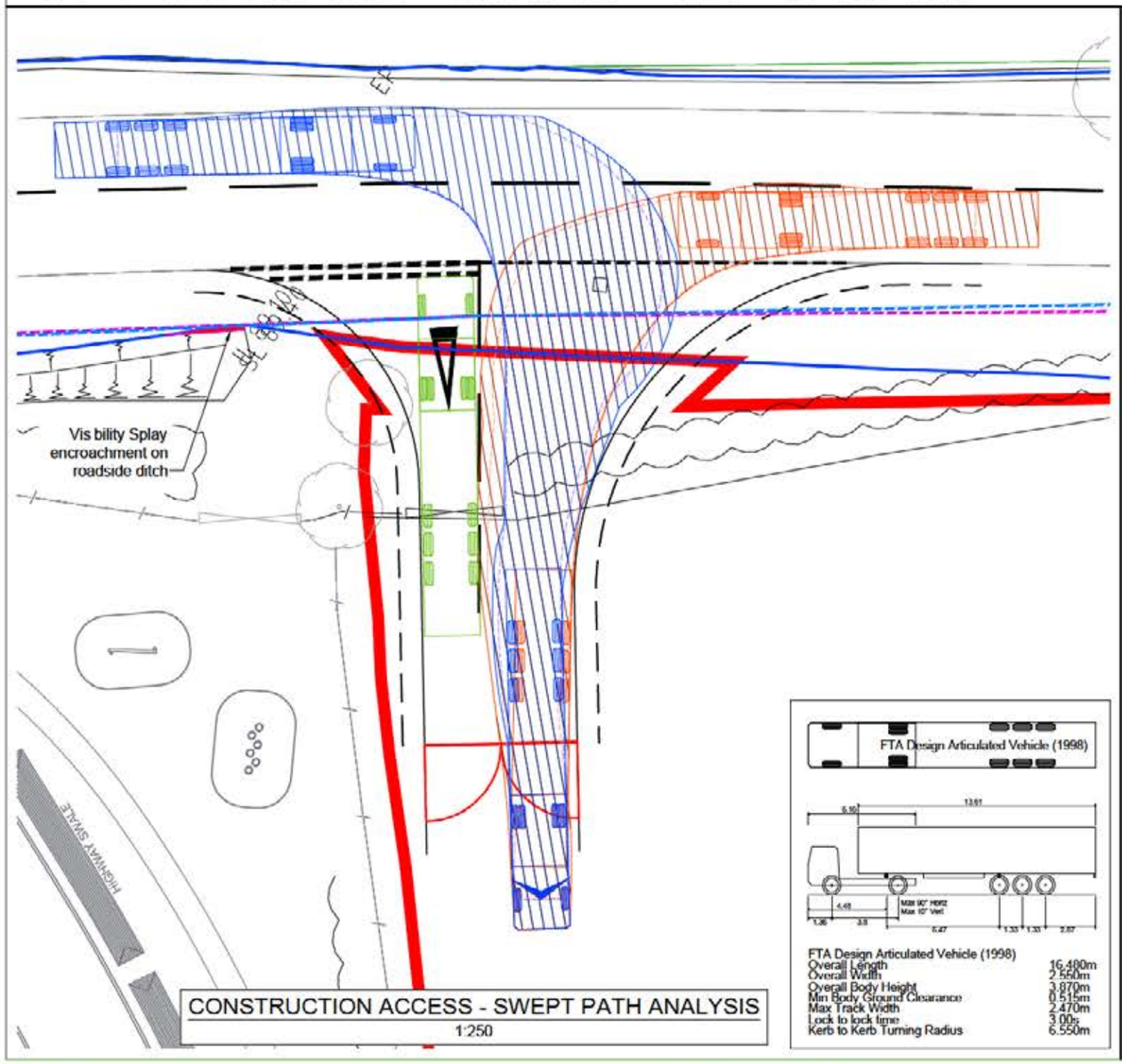


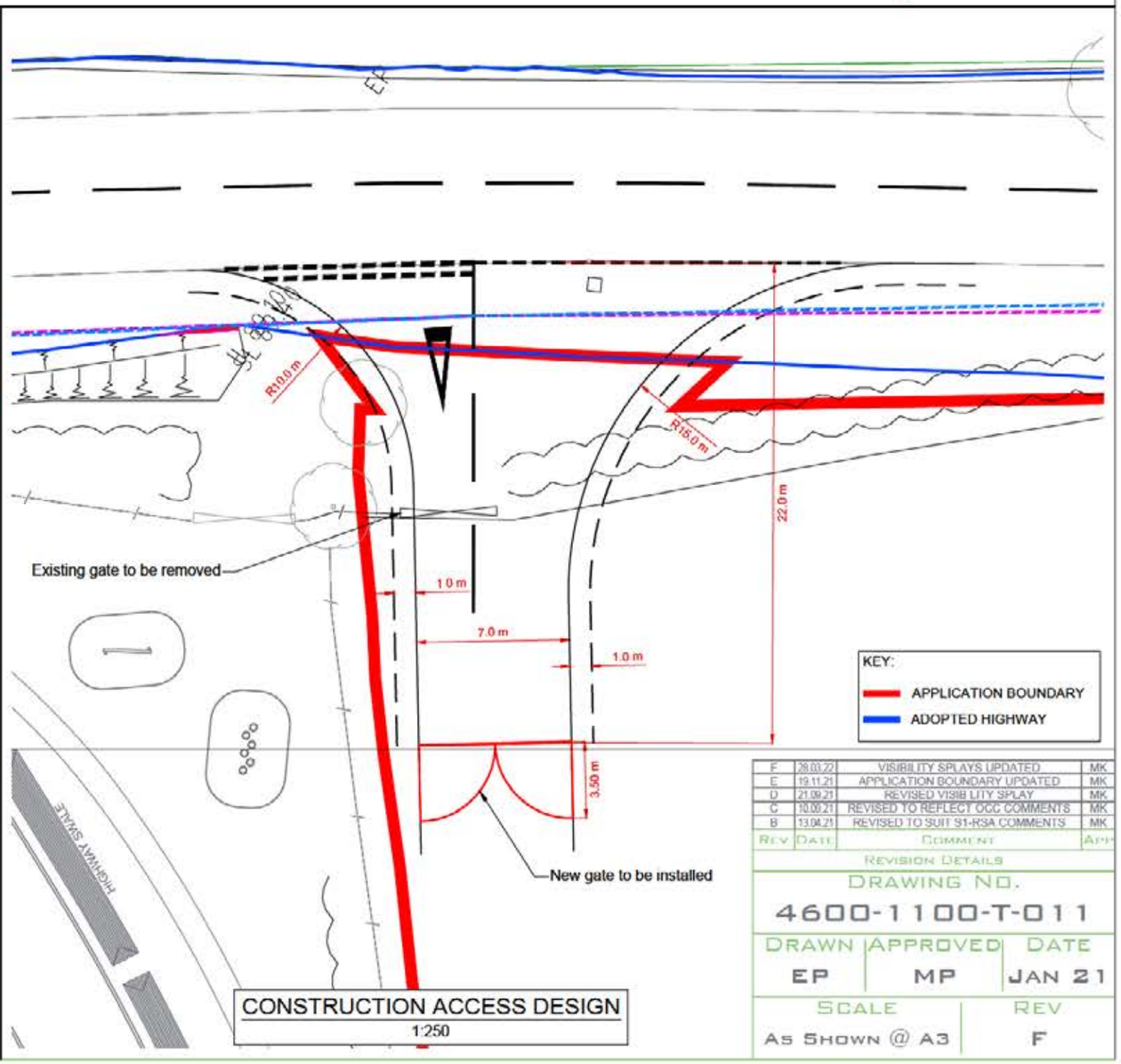
EXTENT OF VISIBILITY
1:1000



CONSTRUCTION ACCESS - SWEPT PATH ANALYSIS
1:250

FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.550m



CONSTRUCTION ACCESS DESIGN
1:250

KEY:
- APPLICATION BOUNDARY
- ADOPTED HIGHWAY

Rev	Date	Comment	App
F	28.03.22	VISIBILITY SPLAYS UPDATED	MK
E	19.11.21	APPLICATION BOUNDARY UPDATED	MK
D	21.09.21	REVISED VISIBILITY SPLAY	MK
C	10.09.21	REVISED TO REFLECT OCC COMMENTS	MK
B	13.04.21	REVISED TO SUIT S1-RSA COMMENTS	MK

Revision Details

Drawing No.
4600-1100-T-011

Drawn	Approved	Date
EP	MP	JAN 21

Scale	Rev
As Shown @ A3	F

Client
Firethorn Trust

Project
Land at North West Bicester

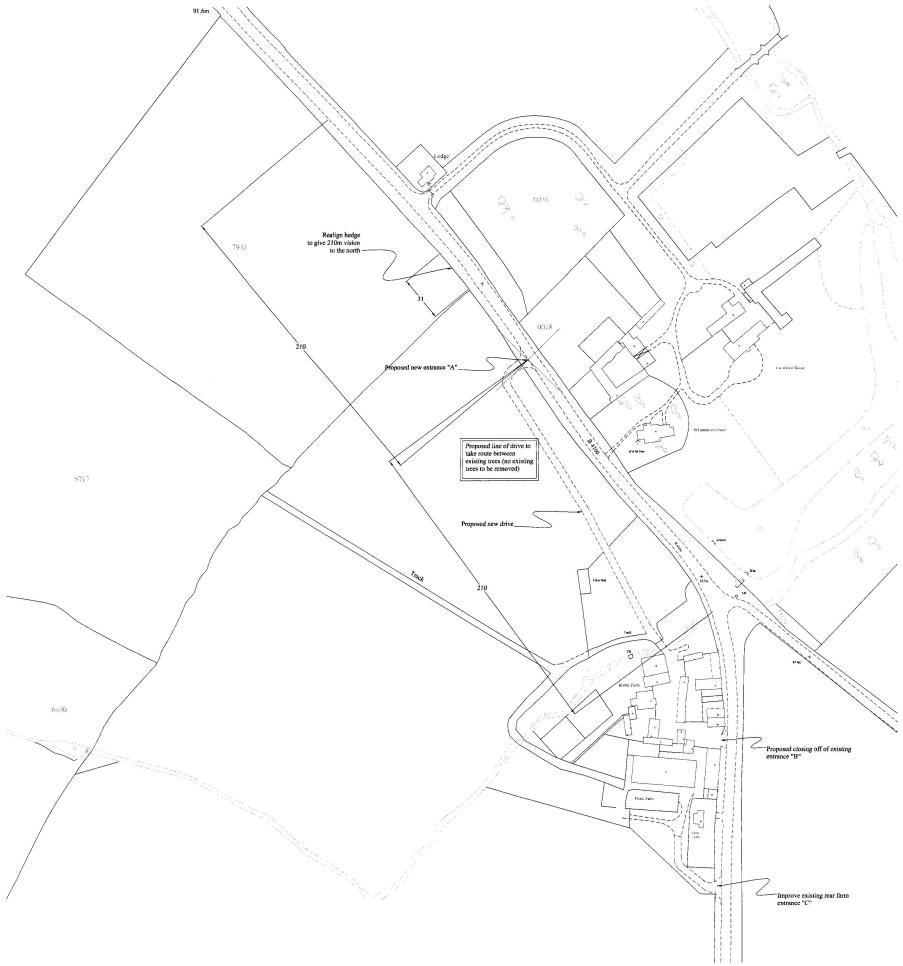
Drawing Title
Site Access E
Proposed Construction Access

Appendix 6

Drawing OP4/a by Roger N Cross Services,

Access to Home Farm, Planning Permission 01/01836/LB.

Rev No	Revision note	Date	Signature	Checked



Centre Coordinates: 457926 225189
Supplied by: Blackwell's Oxford
Serial Number: 24106529

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National Grid sheet reference at centre of this Superplan: SP5725

20 0 20 40 60 80 100
Metres

Notes:-

This drawing is a modified version of Drawing OP4, showing a reduced amount of hedge to be moved.

8/12/2001 Note added. Re: Route of drive and trees.

	Existing movements per day average over a year			Proposed movements per day average over a year	
Drive"A"	Cars	0	Drive"A"	Cars	22
	Light Vans	0		Light Vans	2
	Lorrys under 7.5 tonnes GVW	0		Lorrys under 7.5 tonnes GVW	1
	Lorrys over 7.5 tonnes GVW	0		Lorrys over 7.5 tonnes GVW	0
	Tractors and trailers	0		Tractors and trailers	0
Drive"B"	Cars	10	Drive"B"	Cars	0
	Light Vans	2		Light Vans	0
	Lorrys under 7.5 tonnes GVW	1		Lorrys under 7.5 tonnes GVW	0
	Lorrys over 7.5 tonnes GVW	1		Lorrys over 7.5 tonnes GVW	0
	Tractors and trailers	10		Tractors and trailers	0
Drive"C"	Cars	0	Drive"C"	Cars	2
	Light Vans	0		Light Vans	0
	Lorrys under 7.5 tonnes GVW	0		Lorrys under 7.5 tonnes GVW	1
	Lorrys over 7.5 tonnes GVW	0		Lorrys over 7.5 tonnes GVW	1
	Tractors and trailers	12		Tractors and trailers	21
Total		36	Total		50

Roger N. Cross services

Itemref	Quantity	Title/Name, designation, material, dimension etc	Article No./Reference
Designed by RNC	Checked by	Approved by - date	Filename OP4/a
Date 19/11/2001	Scale		

Proposed new road access from Home Farm, Caversfield, Bicester.

Road/site plan

OP4/a | Edition 1 | Sheet 1/1