



Title: Proposed Transport Model Scope – Hawkwell Village, Bicester

Date: May 2022

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1.0 Introduction

1.1 Jubb have been commissioned by Hallam Land Management to provide transport and highways advice in support of a proposed residential-led mixed-use development on land to the northeast of the Marleybone-Birmingham railway line. The land, forms part of the strategic allocation of North West Bicester identified in Policy Bicester 1 of the Cherwell Local Plan 2011-2031, adopted in 2015. The location of Hawkwell Village in the context of the North West Bicester allocation and Bicester town is shown in **Figure 1.1**. A planning application (Planning Reference: 21/04275/OUT) was submitted in December 2021 for a mixed-use development comprising 3,100 residential units.

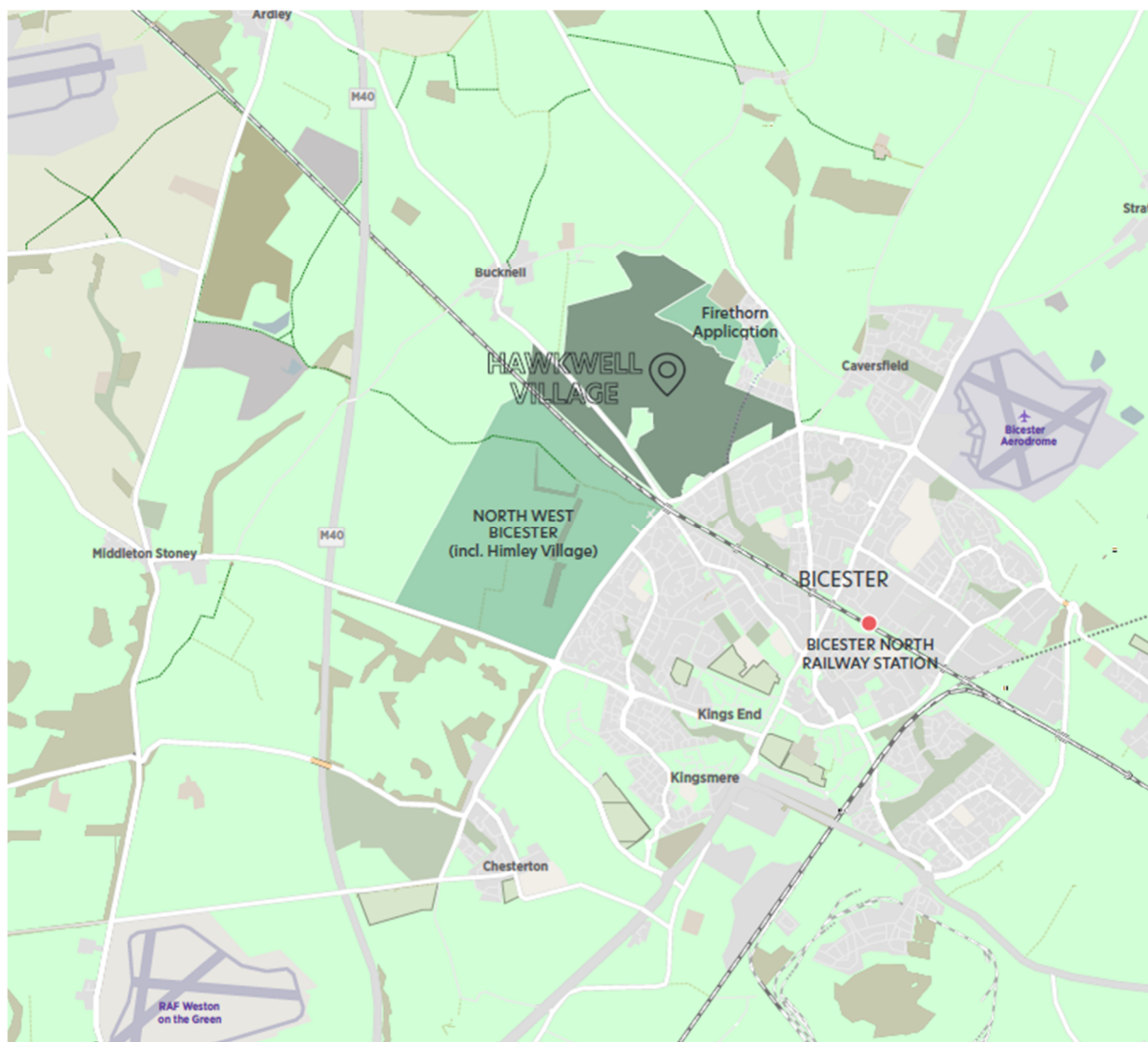


Figure 1.1 – Location of Hawkwell Village Development

- 1.2 The site has the benefit of a resolution to grant permission for a mixed-use development comprising 2,600 dwellings (Planning Reference: 14/01384/OUT); however, no section 106 has been agreed and therefore the application remains undetermined.
- 1.3 The main thrust of the submitted Transport Assessment to support the new application is that whilst permission is being sought for 500 dwellings more than in 2014, trip generation would be similar, due to a lowering of trip generation per dwelling between 2014 and 2019, the effect of the Covid-19 pandemic on working practices, the internalisation of trips due to the provision of other land uses, the marketing of a robust Travel Plan and the provision of a mobility hub, public transport contribution and off-site active travel route improvements.
- 1.4 Oxfordshire County Council (OCC) has requested the use of the Bicester Transport Model (BTM), managed by Tetra Tech on behalf of OCC, to inform the traffic assessment of the Hawkwell Village (HV) development. This Technical Note (TN) provides details of the proposed scope of the BTM model analysis for agreement with OCC and to accordingly allow appropriate model runs and subsequent output to be provided by Tetra Tech.
- 1.5 The scope of the TN is as follows:
- **Section 2:** Provides further details in relation to Hawkwell Village and associated infrastructure;
 - **Section 3:** Includes details of vehicle trip generation and zone allocation;
 - **Section 4:** Outlines specific offsite highway infrastructure which will need to be considered;
 - **Section 5:** Sets out required traffic scenario runs; and
 - **Section 6:** Outlines the scope of traffic output.

2.0 Hawkwell Village

- 2.1 As discussed above the North West Bicester allocation is set out in the CDC Local Plan. This allocation includes for 6,000 dwellings, 10ha of employment land and community infrastructure. Overtime, the number of dwellings seeking to be permitted has risen above the original allocation number.
- 2.2 The masterplan for Hawkwell Village is shown in **Figure 2.1** and the vehicular movement strategy shown in **Figure 2.2**.

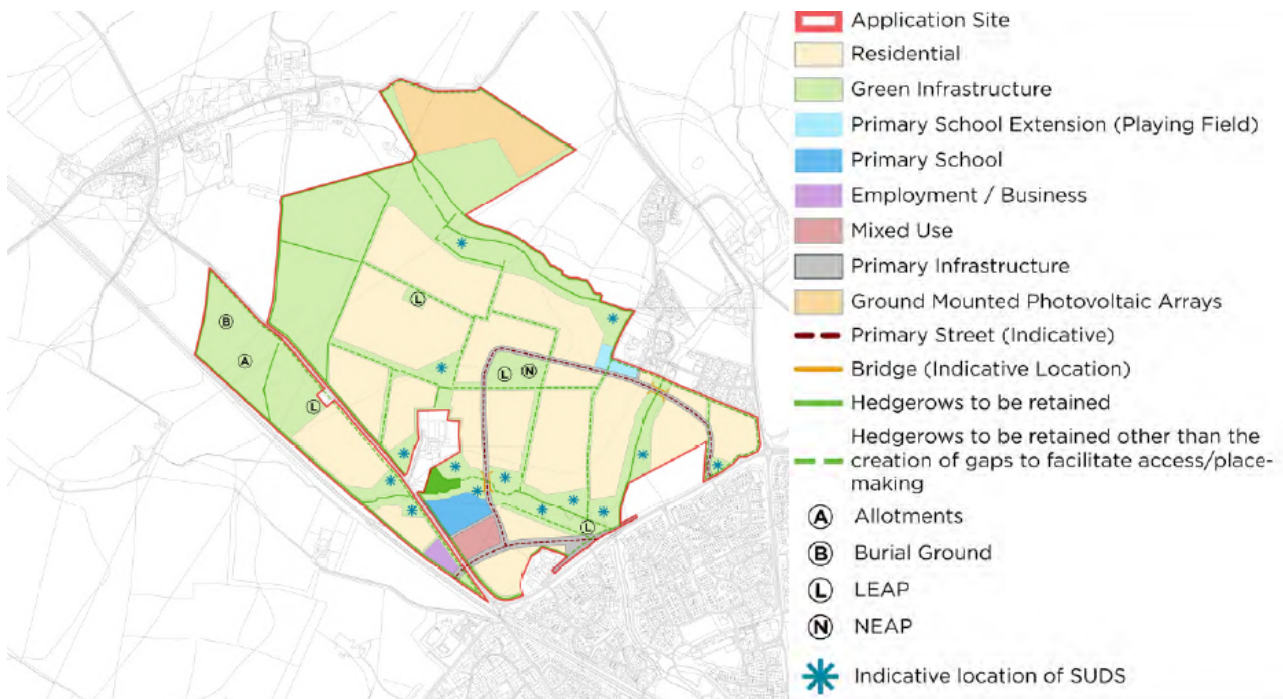


Figure 2.1 – Hawkwell Village Masterplan

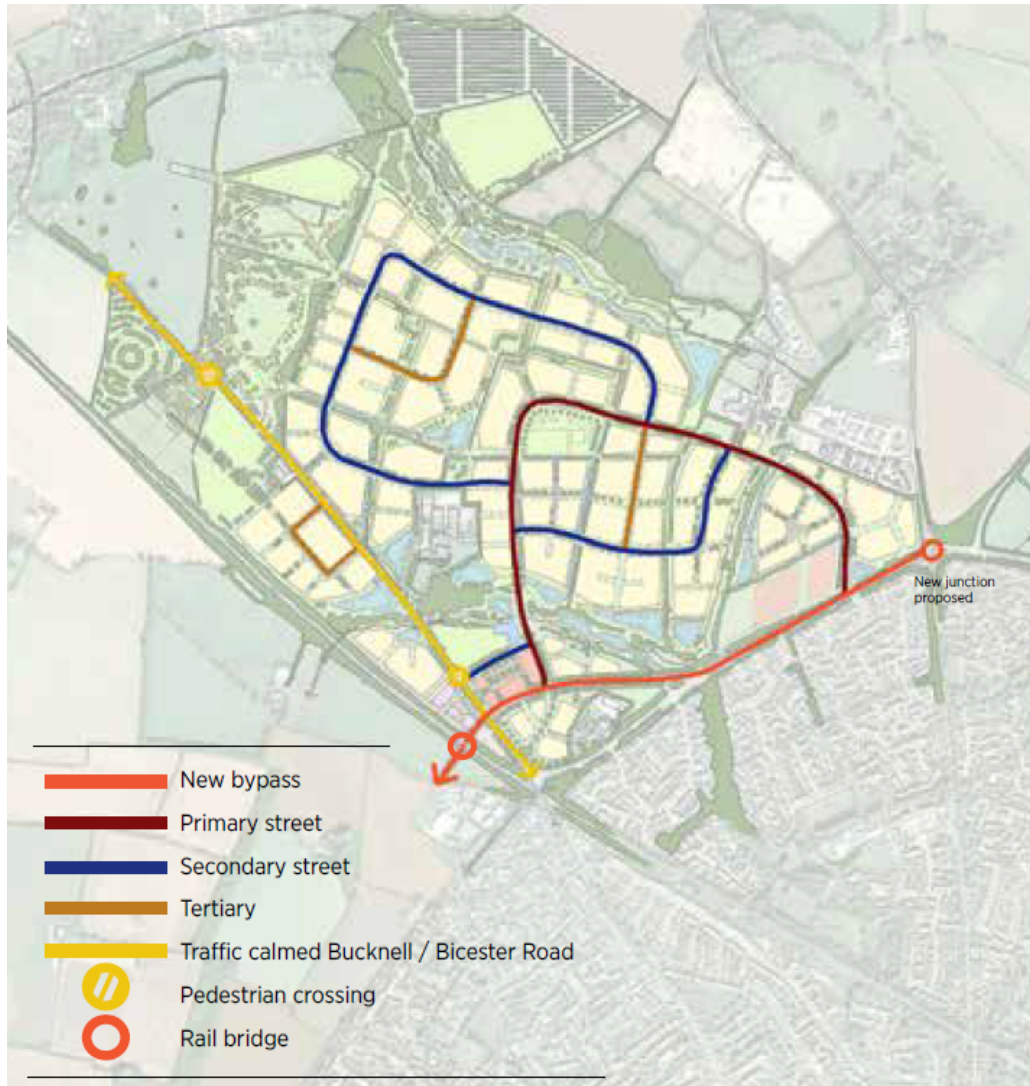


Figure 2.2 – Hawkwell Village Vehicle Access Strategy Plan

- 2.3 As shown in **Figure 2.2** Hawkwell Village will be served by two main accesses; the eastern access will take the form of a 4-arm signalised junction onto the existing Lords Lane at the junction with Germander Way (see drawing attached at **Appendix A**) with the western access being formed as a 4-arm signalised junction onto the proposed realignment of the A4095 (see drawing attached at **Appendix B**). In addition, there will be three simple priority T-junctions formed on Bucknell Road to serve two housing and one employment areas and two simple priority junctions on the secondary street to serve the school and local centre.
- 2.4 A 30mph speed limit is proposed on Bucknell Road supported by a traffic calming scheme which will also include additional traffic calming measures within the village of Bucknell. Drawings of the proposed scheme are attached at **Appendix C**.
- 2.5 The proposed primary street will serve as a public transport route as indicated in **Figure 2.3** with the link between the site and the existing Exemplar site proposed as a bus only link.

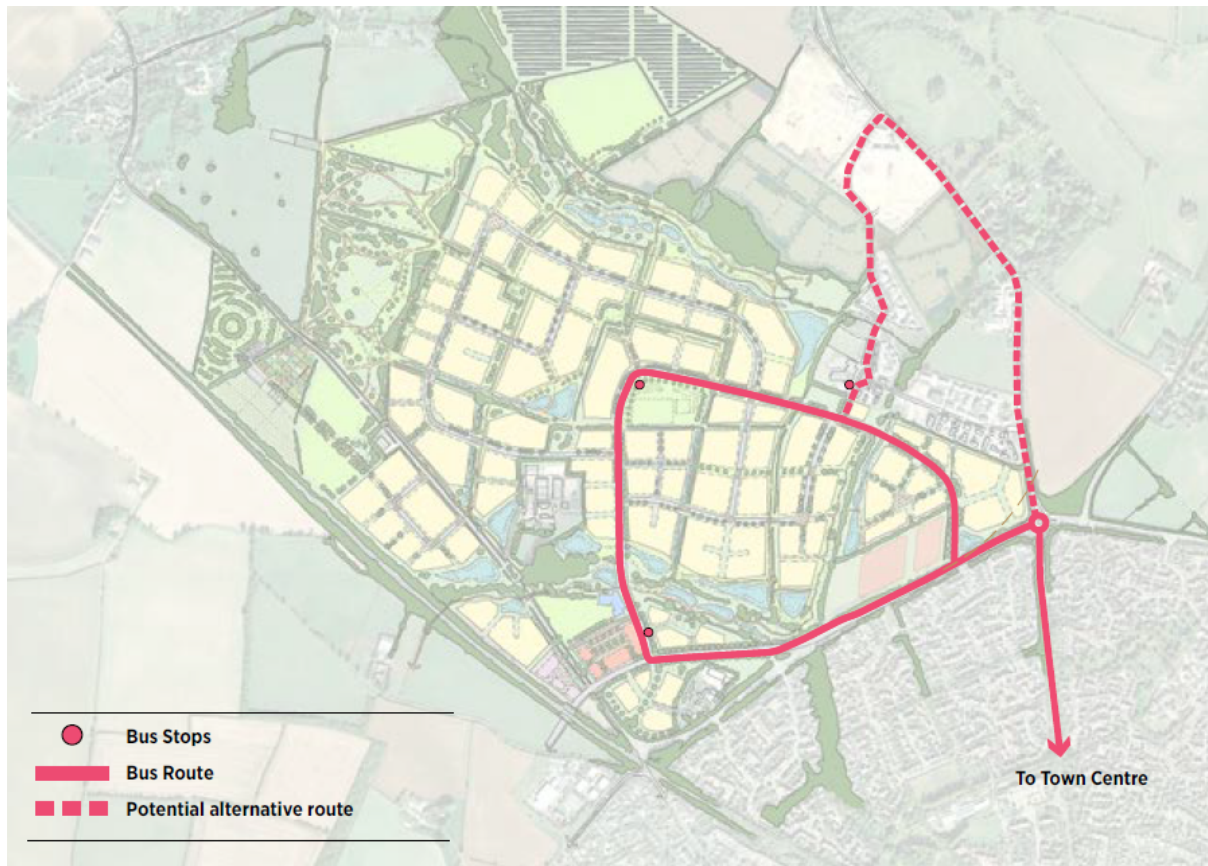


Figure 2.3 – Hawkwell Village Public Transport Strategy Plan

3.0 Hawkwell Village Vehicle Trip Generation and Zone Allocation

3.1 It is proposed that Hawkwell Village be split into seven separate model zones comprising:

- Zone A - Land West of Bucknell Road Northern Residential Area - 285 dwellings;
- Zone B - Land West of Bucknell Road Southern Residential Area - 85 dwellings;
- Zone C – Land north of Realigned A4095/Lords Lane – 2,600 dwellings;
- Zone D - Land south of Realigned A4095/Lords Lane – 130 dwellings;
- Zone E – Employment land – 3,750sqm B2 and B8 Use Class;
- Zone F – Education land – 2FE primary school; and
- Zone G – Local Centre land – up to 1,000 sqm convenience store.

3.2 The modelling zones and their loading point onto the highway network is shown in **Figure 3.1**.

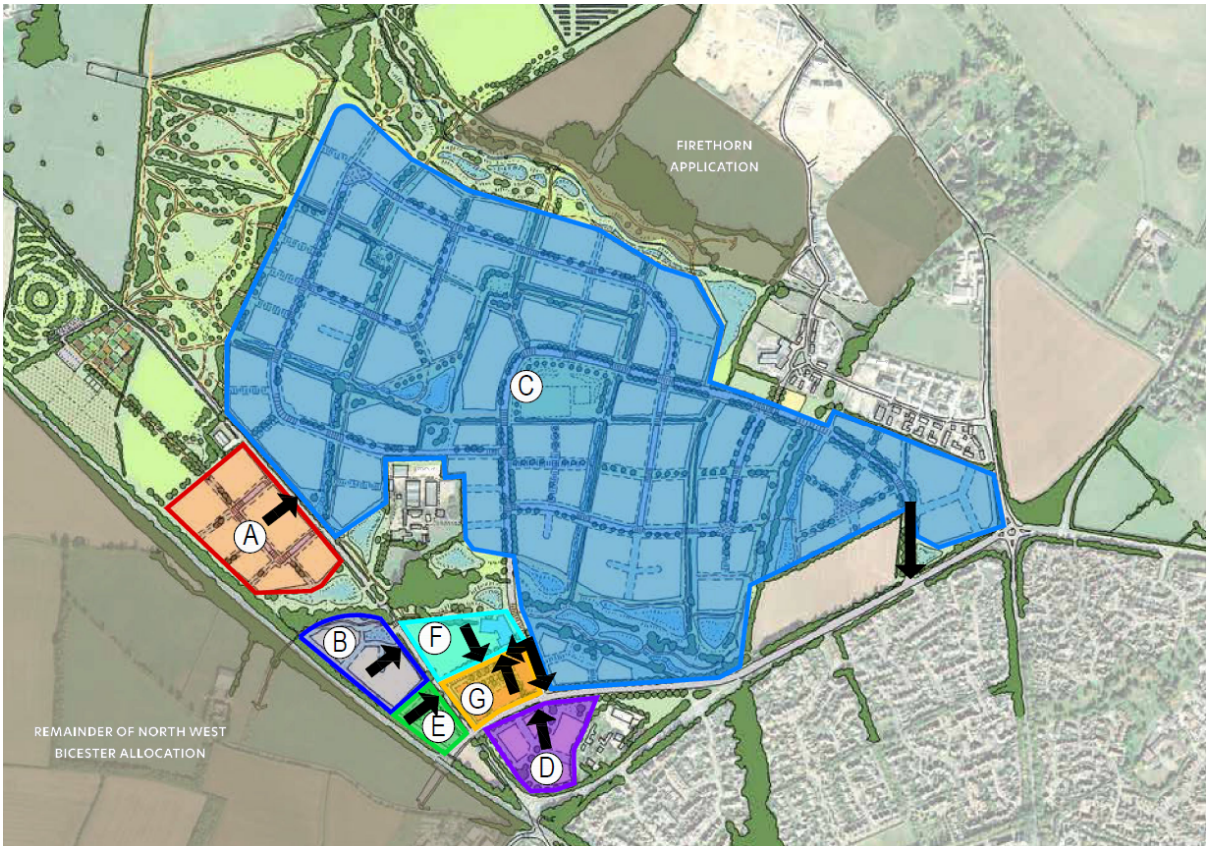


Figure 3.1 – Hawkwell Village Model Zones and Loading Points

3.3 It is understood that the BTM calculates variable vehicle trip generation based on the proximity and frequency of existing bus services. Discussions are ongoing with OCC in respect of the Hawkwell Village vehicle trip generation and a completed version of **Table 3.1** will be provided when the trip generation has been agreed.

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arrival	Departure	Total	Arrival	Departure	Total
Trip Rate						
Zone A						
Zone B						
Zone C						
Zone D						
Zone E						
Zone F						
Zone G						

Table 3.1 – Vehicle Trip Generation

3.4 The provision of separate zones for each of these land parcels will allow sufficient flexibility for the impact of potential phases to be modelled separately as detailed below.

4.0 Hawkwell Village Coding Information

- 4.1 The two signalised site access designs forming junctions with the realigned A4095 and Lords Lane are attached in Appendix A and Appendix B.
- 4.2 The primary street will be 6.3 metres wide with a design speed of 20mph and provide an internal bus route. Secondary streets will be 5.5 metres wide with a design speed of 20mph.
- 4.3 The junction of Bucknell Road and the secondary street serving the school and local centre will provide priority to west to north and north to east vehicle movements.
- 4.4 Simple priority junctions will serve the residential and employment zones on Bucknell Road and the school and local centre on the secondary street.
- 4.5 Vehicle movements between the site and the existing Exemplar site will be bus only.

5.0 Offsite Highway Considerations

- 5.1 It is understood that the realignment of the A4095 scheme will only be considered in the 2031 scenarios.
- 5.2 OCC advice will need to be taken for the expected completion date of the signalisation scheme at the A4095 / Banbury Road junction.
- 5.3 It is noted that OCC has allocated £18.8 million of its Oxfordshire Housing and Growth Deal for improvements of M40 Junction 10. OCC advice will need to be taken for the expected completion date of the scheme and the scheme design.
- 5.4 As detailed above, the proposal would not see a general all vehicle link between the site and the existing Exemplar site and traffic calming would be introduced on Bucknell Road and through Bucknell village to reduce the speed limit to 30mph.

6.0 Required Traffic Scenarios

- 6.1 It is proposed that the modelling needs to consider partial buildout of the development in 2026 without the realigned A4095 scheme and full buildout of the scheme in 2031 with the realigned A4095 scheme. The modelling should also be undertaken with the BTM vehicle traffic generation and the agreed Hawkwell Village vehicle traffic generation (i.e. two model runs for scenarios 4, 5 and 8).
- 6.2 Thus, it is proposed that the following traffic flow scenarios would need to be run using the BTM to allow the impact of the proposals to be considered:
 1. 2026 Base;
 2. 2026 Base + committed traffic (Exemplar 396 dwellings and Himley Village 500 dwellings);
 3. 2026 Base + committed traffic + Hawkwell Village (675 vehicles from Zone C loading at the eastern proposed junction);
 4. 2026 Base + committed traffic + Hawkwell Village (1250 vehicles from Zone C loading at the eastern proposed junction)
 5. 2031 Base;
 6. 2031 Base + committed traffic (Exemplar 396 dwellings and Himley Village 500 dwellings); and
 7. 2031 Base + committed traffic + Hawkwell Village full development.

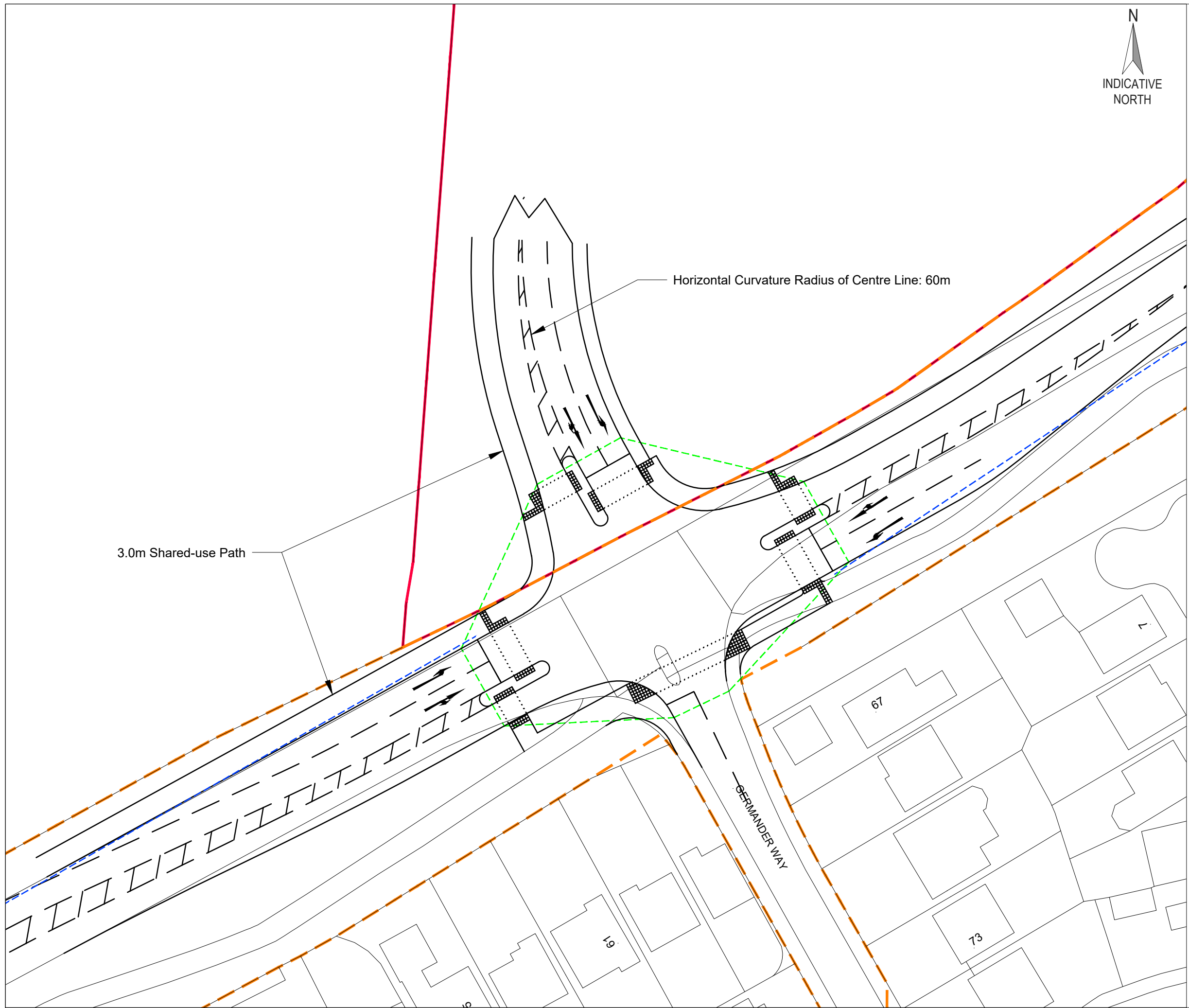
7.0 Required Scope BTM Model Output

- 7.1 It is proposed that the output should include all turning movements for junctions, including vehicle classification if available, within the network as set out in **Table 6.1** and link flows as shown on the network diagram attached at **Appendix D**.

Description
M40 Junction 9
A41 / Vendee Drive
A41 Oxford Road / A41
A41 Oxford Road / Pingle Drive
Middle Stoney Road / Kings End
Field Street / Bucknell Road
Queens Avenue / St John Street
Banbury Road / Field Street
A41 / A4421 / B4100
A4421 / Peregrine Way
Charbridge Lane / Gavray Drive
A4421 / Bicester Road
A4421 Launton Road
Skimmingdish Lane / Buckingham Road
B4100 Banbury Road / A4095 Lords Lane
B4100 / Caversfield
Lords Lane / Bucknell Road
Howes Lane / Bucknell Road
Howes Lane / Middleton Stoney Road / Vendee Drive
M40 Junction 10
Middleton Road / Bainton Road
Site Access (Western)
Site Access (Eastern)

Table 6.1 – Junctions for Vehicle Turning Movements

Appendix A – Lords Lane Site Access



KEY

- Site Boundary
- Intervisibility
- Forward Visibility
- Extent of Adopted Highway

Rev	Date	Description	By	Apvd
P3	18.11.21	Annotation Amendment	JF	MG
P2	12.04.21	Kerbline Amendment	JF	TB
P1	17.02.21	Preliminary Issue	JF	TB

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
PROPOSED SIGNALISED JUNCTION

CLIENT:
HALLAM LAND MANAGEMENT

SCALE@A3:
1:500

PROJECT REF:
20300

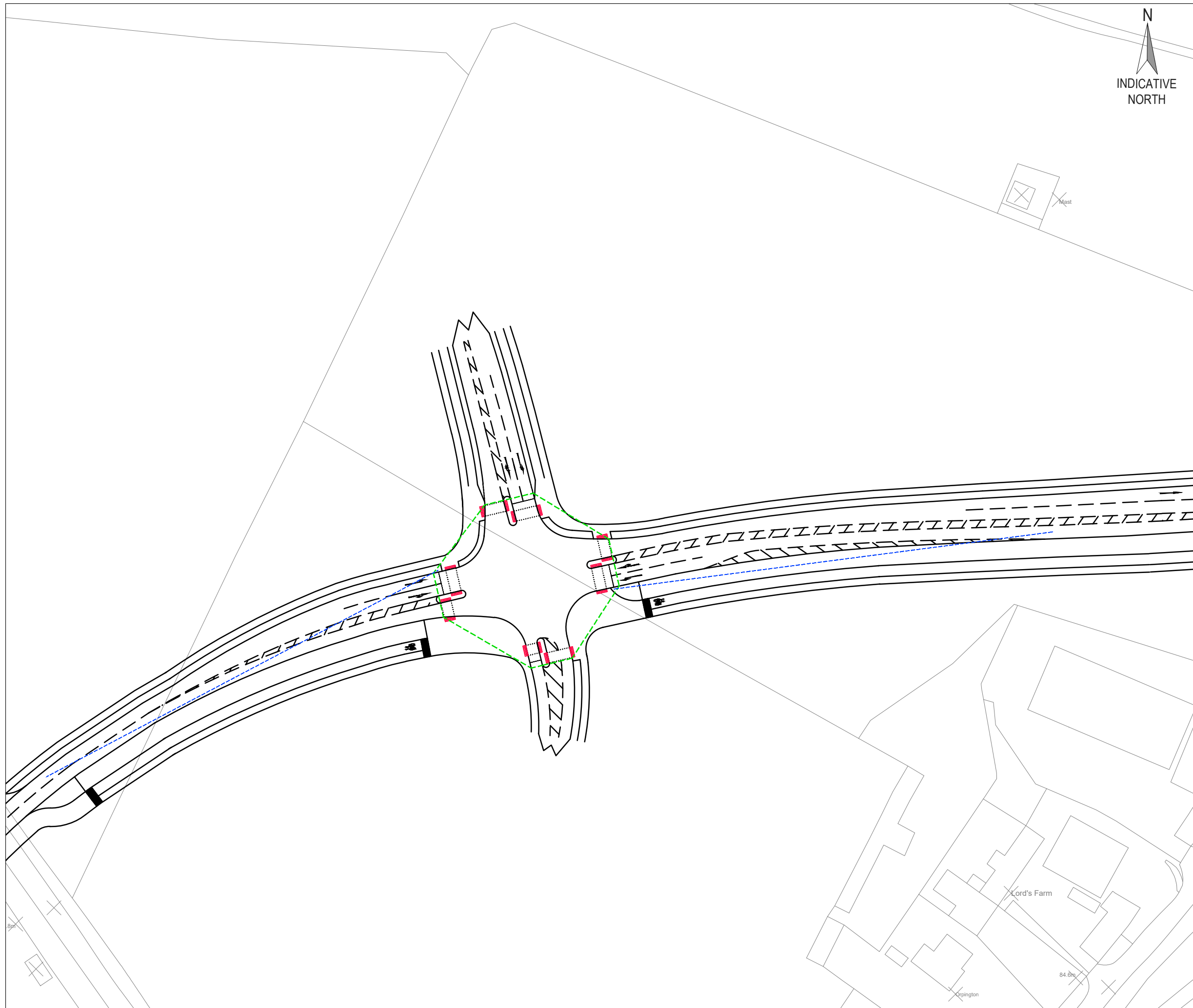
DRAWING No:
001

REV:
P3

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction



Appendix B – Realigned A4095 Site Access



KEY

- Intervisibility
- Forward Visibility

P3	18.11.21	Footway Amendment	JF	MG
P2	02.11.21	Viewport Amendment	JF	MG
P1	01.11.21	Preliminary Issue	JF	MG

Rev Date Description By Apvd

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
PROPOSED SIGNALISED JUNCTION 31

CLIENT:
HALLAM LAND MANAGEMENT

SCALE@A3:
1:1000

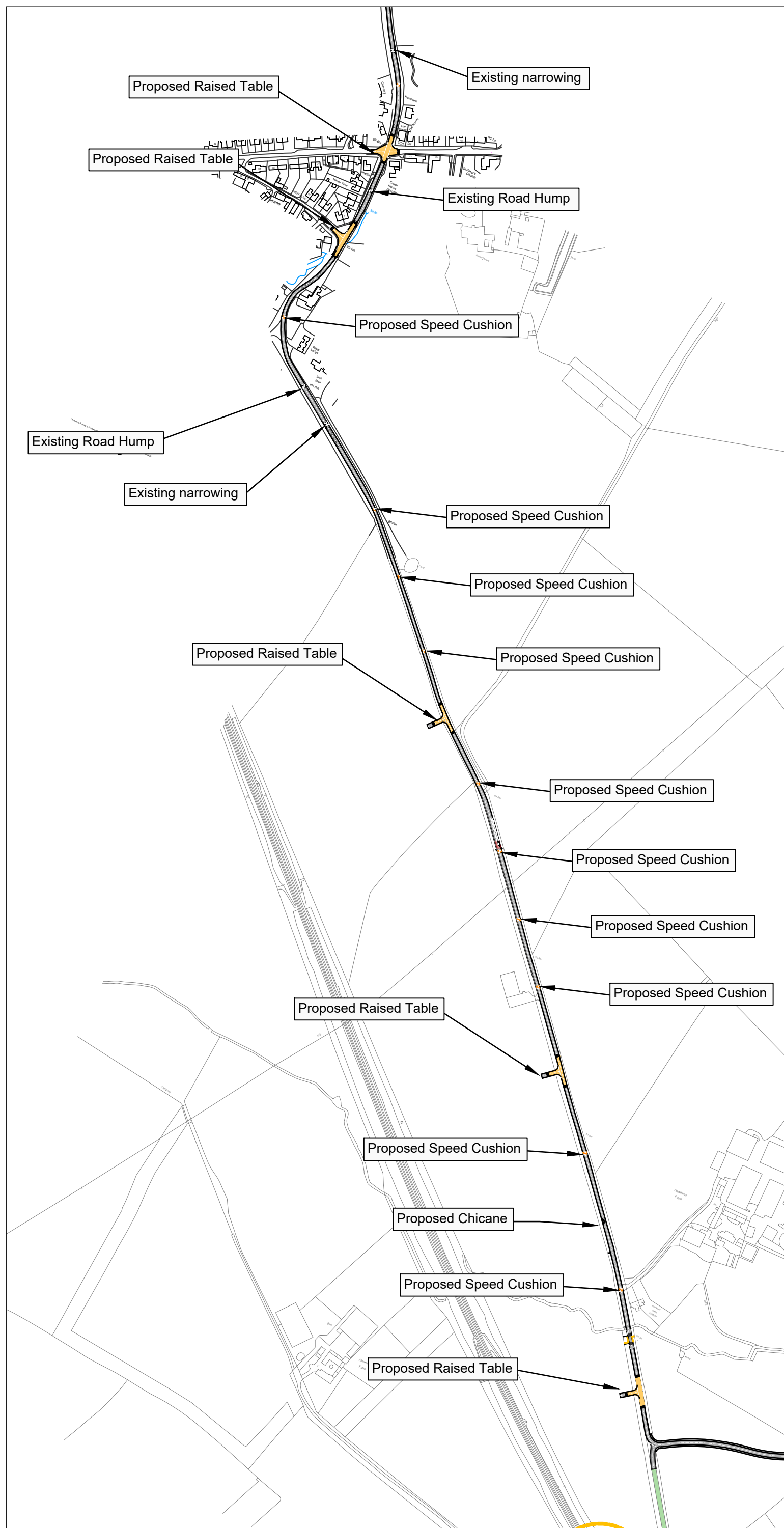
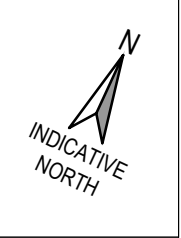
PROJECT REF:
20300

DRAWING No: 007 **REV:** P3

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction



Appendix C – Bucknell Road / Bucknell Village Traffic Calming



P2	25.02.22	Preliminary Issue	NP	AW
P1	09.02.22	Preliminary Issue	NP	AW
<i>Rev</i>	<i>Date</i>	<i>Description</i>	<i>By</i>	<i>Apvd</i>

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
OVERVIEW OF TRAFFIC CALMING MEASURES ON APPROACH TO BUCKNELL

CLIENT:
HALLAM LAND MANAGEMENT

SCALE@A3:
1:5000

PROJECT REF:
20300
DRAWING No:
012
REV:
P2

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction



Village gateway on entry to Bucknell as shown in Plate 1

Plate 1



Existing narrowing to be resurfaced and white marking to be repainted.

Traffic Calming Measure, Speed Cushions: Speed Cushions to be laid at 60-90m away from other traffic calming measure; this is in line with guidance provided by DfT 1/07 Local Transport Note.

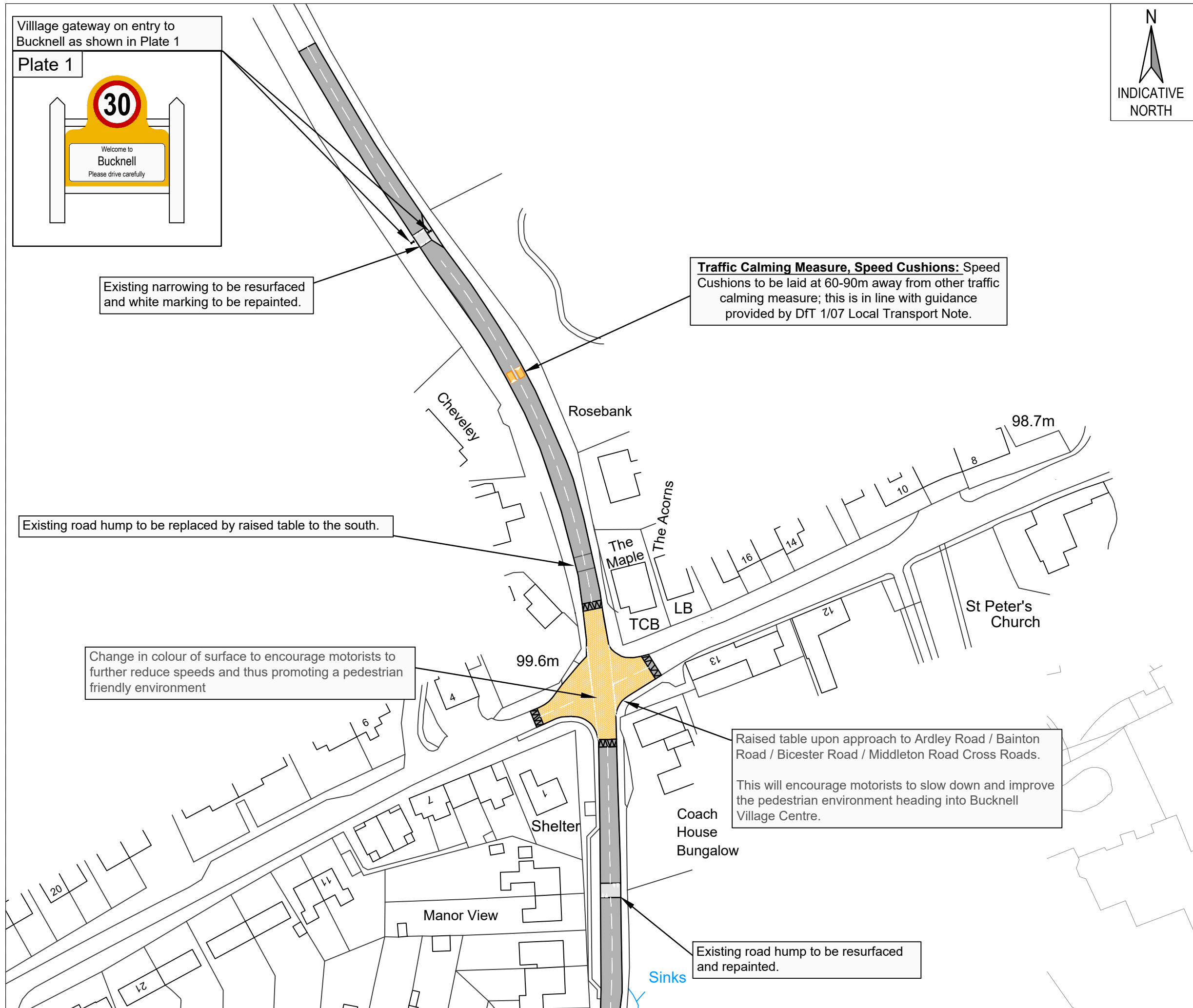
Existing road hump to be replaced by raised table to the south.

Change in colour of surface to encourage motorists to further reduce speeds and thus promoting a pedestrian friendly environment

Raised table upon approach to Ardley Road / Bainton Road / Bicester Road / Middleton Road Cross Roads.

This will encourage motorists to slow down and improve the pedestrian environment heading into Bucknell Village Centre.

Existing road hump to be resurfaced and repainted.



Rev	Date	Description	By	Apvd
P1	09.02.22	Preliminary Issue	NP	AW

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
TRAFFIC CALMING MEASURES:
BUCKNELL VILLAGE CENTRE

CLIENT:
HALLAM LAND MANAGEMENT

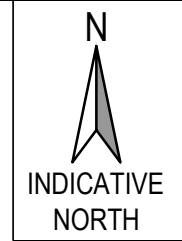
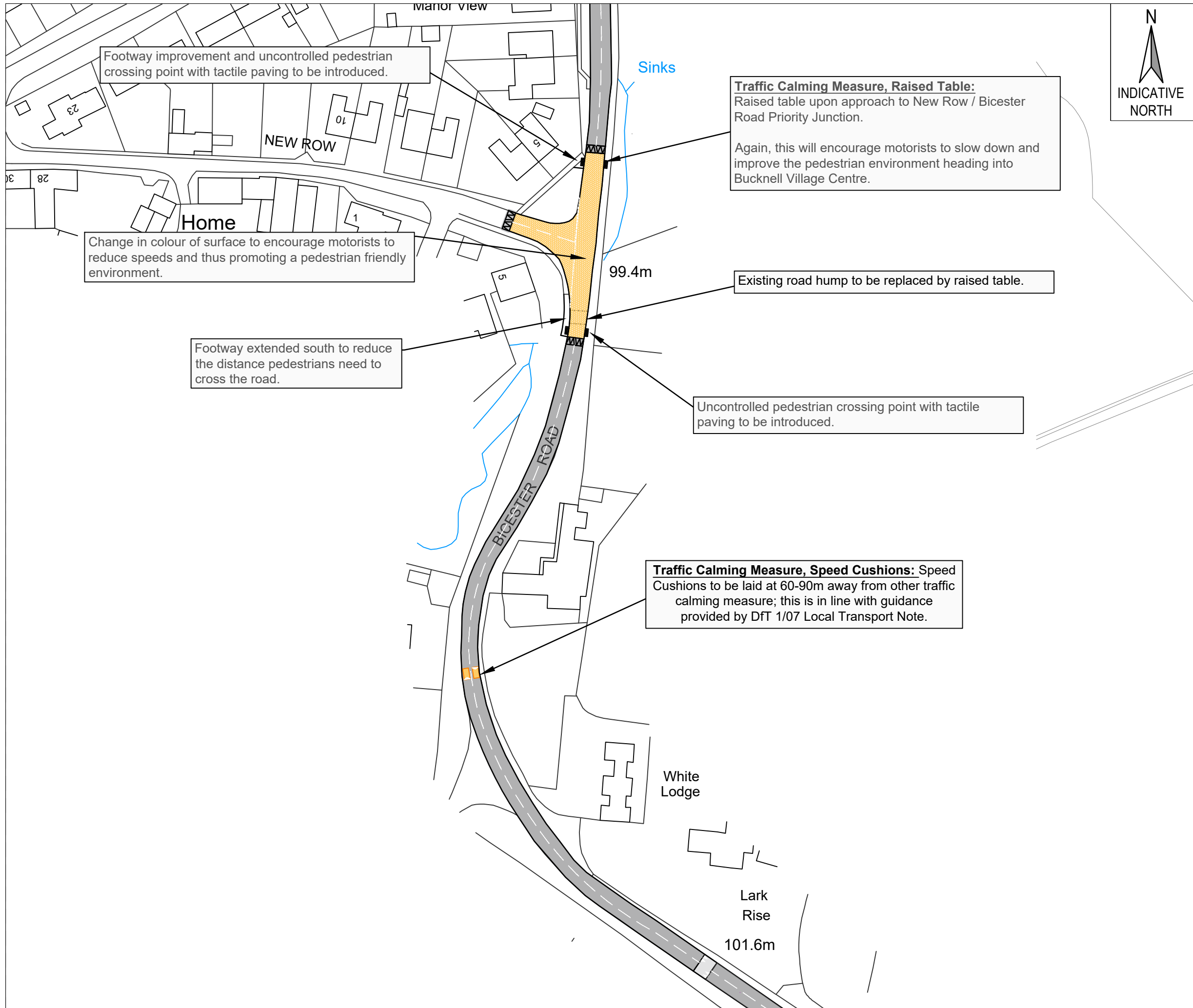
SCALE@A3:
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PROJECT REF:
20300

DRAWING No: 013 **REV:** P1

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction





Rev	Date	Description	By	Apvd
P1	10.02.22	Preliminary Issue	NP	MG

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
TRAFFIC CALMING MEASURES:
NEW ROW & BICESTER ROAD JUNCTION

CLIENT:
HALLAM LAND MANAGEMENT

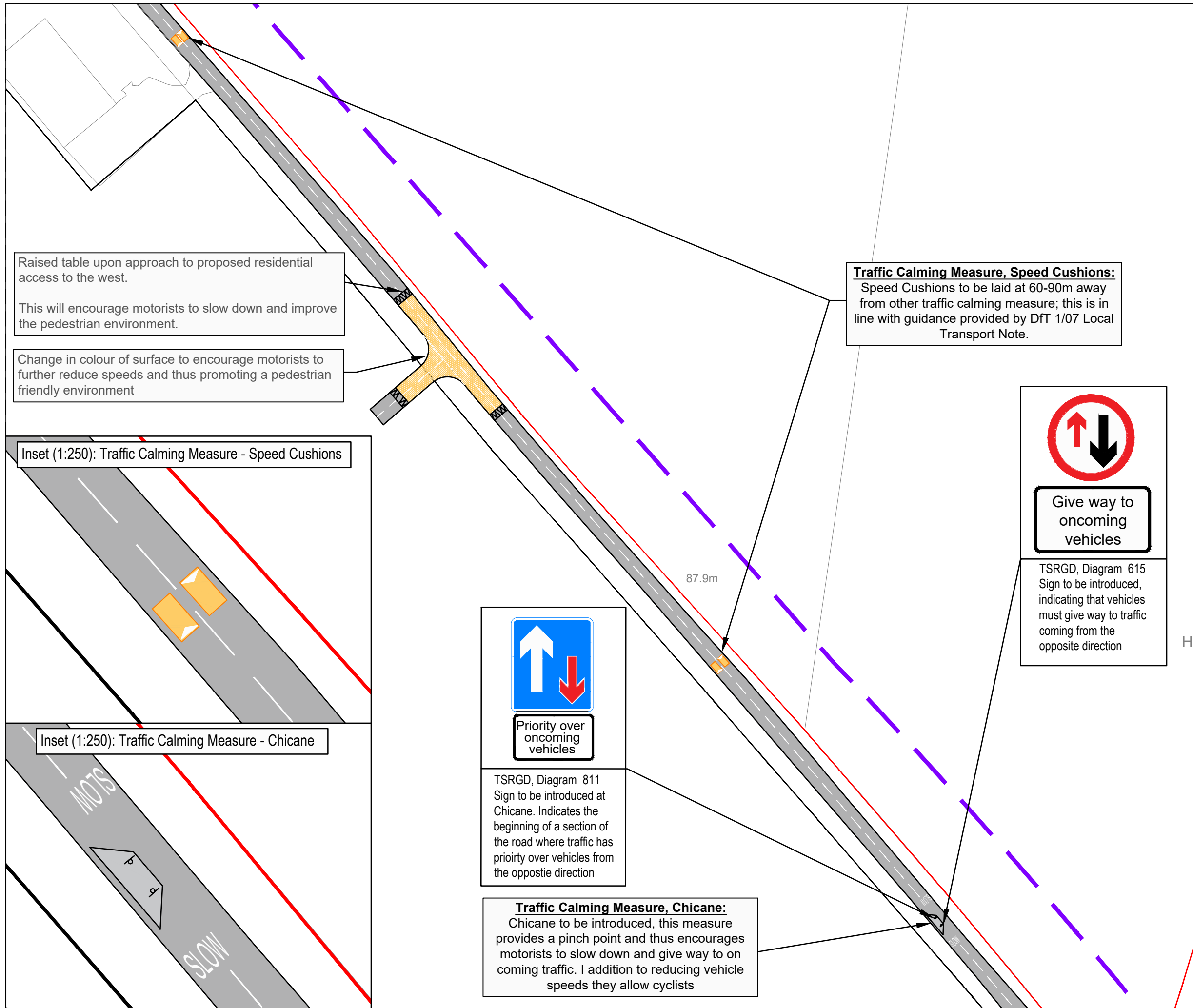
SCALE@A3:
1:1000

PROJECT REF:
20300

DRAWING No: 014 **REV:** P1

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

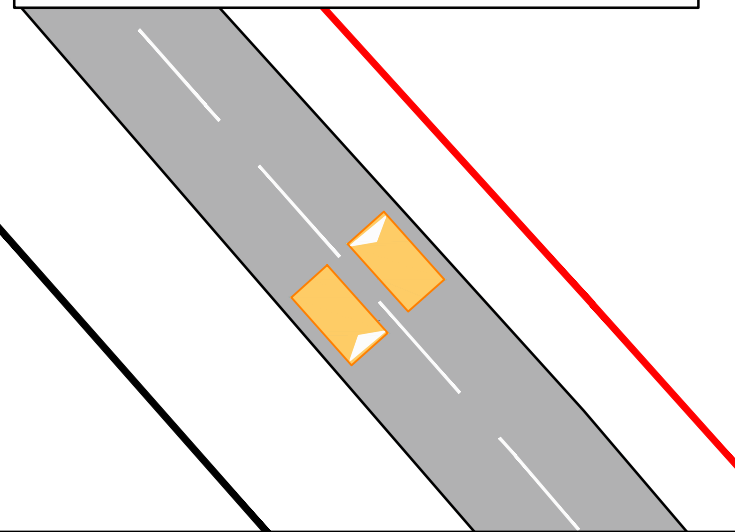




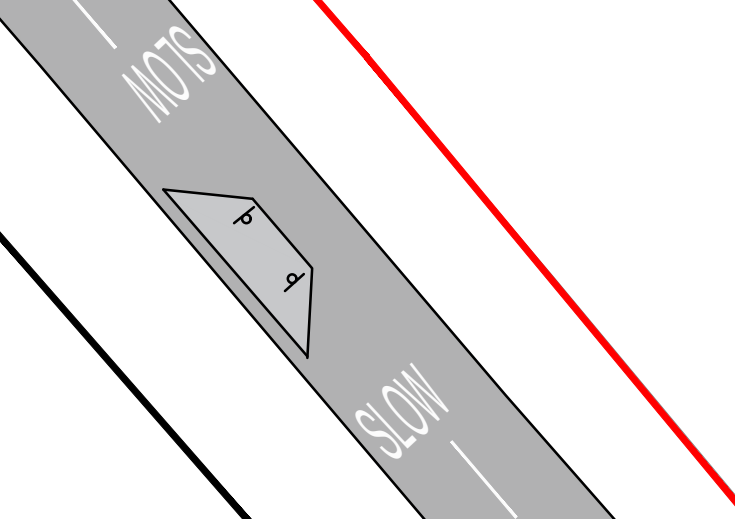
Raised table upon approach to proposed residential access to the west.
This will encourage motorists to slow down and improve the pedestrian environment.

Change in colour of surface to encourage motorists to further reduce speeds and thus promoting a pedestrian friendly environment

Inset (1:250): Traffic Calming Measure - Speed Cushions



Inset (1:250): Traffic Calming Measure - Chicane



Traffic Calming Measure, Speed Cushions:
Speed Cushions to be laid at 60-90m away from other traffic calming measure; this is in line with guidance provided by DfT 1/07 Local Transport Note.

TSRGD, Diagram 615 Sign to be introduced, indicating that vehicles must give way to traffic coming from the opposite direction

TSRGD, Diagram 811 Sign to be introduced at Chicane. Indicates the beginning of a section of the road where traffic has priority over vehicles from the opposite direction

Traffic Calming Measure, Chicane:
Chicane to be introduced, this measure provides a pinch point and thus encourages motorists to slow down and give way to oncoming traffic. In addition to reducing vehicle speeds they allow cyclists

Key

	Site Boundary (Illustrative)
	Proposed Pedestrian / Cycle Route

P1	25.02.22	Preliminary Issue	NP	AW
Rev	Date	Description	By	Apvd

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
TRAFFIC CALMING MEASURES AT RESIDENTIAL ACCESS TO THE WEST

CLIENT:
HALLAM LAND MANAGEMENT

SCALE@A3:
1:1000





PROJECT REF:
20300
DRAWING No: 019 **REV:** P1

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction



Appendix D – Traffic Link Flow Diagram

KEY

-  MASTERPLAN BOUNDARY
-  LINK FLOW LOCATION
-  PROPOSED REALIGNED HOMES LANE / LORD'S LANE
-  FUTURE YR / BASE YR

Issue	Description	Date
01	FIRST ISSUE	09 JUN 14

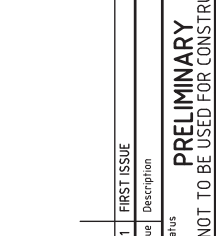

PRELIMINARY
 NOT TO BE USED FOR CONSTRUCTION

Current Issue Signatures

Author	P SHEPHARD
Checker	J HUGHES
Approver	

Original Size: 1:25 000
 Height Datum: NEWLYN
 Grid: O-S
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Filename: 130-UA005241-UP33-01-TRAFFIC-FLOW.DWG
 Client:

HYDER CONSULTING (UK) Limited
 Manning House
 22 Canisbie Place
 SWMP, U.A
 Tel: +44 (0)20 3014 9000
 Fax: +44 (0)20 7628 8628

Project: **NW BICESTER DEVELOPMENT**

Title: **TRAFFIC LINK FLOW LOCATIONS**

Drawing No: **FIG 3.8**
 Issue: **01**
 Project No: **UA005241-01**

