

Hither Way, Lacock

Pedestrian Crossing Assessment

HIGHWAYS, TRAFFIC & NETWORK MANAGEMENT



Document Control Sheet

Project Title: Hither Way, Lacock Pedestrian Assessment

Report Title: Hither Way, Lacock Pedestrian Assessment

Revision: Version 1

Status: Issue

Date: 23/09/2016

Record of issue

Issue	Status	Author	Date	Check	Date	Authorised	Date
1	Issue	KAW	23/09/16	GTR	27/09/16	DMT	29/09/16
2							

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2.0 Introduction and background

This report has been produced following an investigation into the requirement for pedestrian improvements on Hither Way, Lacock.

A request for improved pedestrian facilities on Hither Way, Lacock has been received by Wiltshire Council through the Area Board issue system, advising of difficulty crossing Hither Way after exiting the National Trust car park. The request highlighted concerns regarding the speed and volume of traffic on Hither Way as a result of closing off High Street to traffic. Concerns were also expressed relating to members of the public experiencing difficulty crossing the road from the car park exit to the footpath leading towards the centre of Lacock. The issue was discussed by members of the Corsham Community Area Transport Group (CATG) at its meeting on the 14th April 2016, and a request was made for Highway Engineers to undertake further investigation into the existing pedestrian facilities and whether improvements could be made.

Hither Way was constructed in the 1970's and serves as the alternative route to Lacock High Street for traffic heading in the direction of Bowden Hillis following the introduction of restrictions outside of The Abbey. The road is subject to a 40mph speed limit, and records a consistent level of traffic as well as periods with a large number of pedestrians crossing throughout the day. The access/egress to the main National Trust car park is situated along this length of road, resulting in cars regularly manoeuvring in and out of the car park in conjunction with pedestrians crossing the road to follow the dedicated route into the centre of the village. Presently, there is a dropped kerb crossing point at the exit of the National Trust car park which links to the footpath leading to the centre of the village.

With regards to significant local factors which are likely to affect traffic patterns, either pedestrian or vehicle, it is noted there is a National Trust car park, an informal pedestrian crossing point leading out of the car park, a No Entry junction and existing waiting restrictions within the study area. This is predominately a tourism area with no residential housing in the immediate vicinity.

2.0 Data Collection

Pedestrian numbers

A pedestrian count survey took place on Wednesday 18th May 2016 to establish the numbers and locations of pedestrians currently crossing the road at the identified sites. The survey was carried out between 7.00 am to 7.00 pm. Pedestrian numbers were recorded in each zone for the 12 hour period and the busiest crossing point identified in zone B. A plan showing the extents of the zones and the busiest crossing point can be found at **Appendix A**.

A summary of the results are shown below:

Hither Way

	NORTH BOUND		SOUTH BOUND		ZONE TOTAL
	AM (07.00-13.00)	PM (13.00-19.00)	AM (07.00-13.00)	PM (13.00-19.00)	
Zone A	2	0	0	0	2
Zone B	432	502	125	741	1800

Collision data

An investigation of the Police collision database shows there have been no recorded injury collisions in the 36 months preceding the production of this report.

Traffic data.

3 traffic counters were placed on Hither Way between May – August 2016 in the vicinity of the National Trust car park in order to record volumetric flow and speeds. The averages are summarised below:

	EAST BOUND (Towards Bowden Hill)	WEST BOUND (Towards A350)
Av. Speed (mph)	28	26
85thile (mph)	32	31
Traffic Volume (vehicles per day)	2,218	2,143

Other site observations

- No existing footways along Hither Way only grass verges with surrounding trees.
- No existing street lighting along Hither Way.
- No parking observed during site visit as Hither Way has existing waiting restrictions along the entire length
- Dropped kerb crossing point located at National Trust car park linking with footpath leading to village centre.
- Informal crossing point located in Zone B and is the busiest crossing point in this area.

3.0 Analysis

Crossing types

The assessment table below sets out the crossing options available. Further details relating to the types of crossing is given in **Appendix C**

Factor	Do nothing	Uncontrolled crossing	Refuge island	Zebra	Signalled crossing
Difficulty of crossing, average wait in seconds	0 – 30 seconds	0 – 30 seconds	5 – 30 seconds	1 to 5 seconds	1 to 3 seconds after end of minimum green period
Vehicle delay in peak periods	None	None	None	3 stops per minute of 10 to 11 seconds	2 stops per minute of 13 to 14 seconds
Road capacity	Not reduced	Not reduced	Not reduced	Will be reduced	Will be reduced
Crossing type appropriate for anticipated pedestrian numbers	N/A	Yes	Yes	Yes	Yes.
Physical constraints	N/A	N/A	A minimum of 8.5m required. Not viable option at this location.	Presence of large trees & utility apparatus in close proximity of potential crossing point.	Presence of large trees & utility apparatus in close proximity of potential crossing point.
Typical construction costs	£0	£3,000	N/A	£20,000	£80,000
Does solution meet 85%ile speed criteria	N/A	N/A	N/A	Yes	Yes
Possible solution?	Yes	Yes	No	Yes	Yes
Appropriate solution?	No	No	No.	Yes. Data collected and vehicle speeds make this the best option.	No. Signal crossings are used where vehicle speeds are high and crossing difficulty high.

Formal crossing justification

Current Wiltshire Council practise requires a minimum level of pedestrian flow before a formal crossing is considered. A minimum average level of 50 pedestrians per hour (counting vulnerable pedestrians as 2 i.e. those under 16 years old and those over the age of 65) over the four peak hours is required. The following table outlines the combined busiest four hour periods and whether consideration can be given to the introduction of a formal pedestrian facility.

Summary of peak crossing movement:

Zone A	1200 – 1300	1300 – 1400	1400 – 1500	1500 - 1600	Average	Justification
	2	0	0	0	0.5	No
Zone B	1300 – 1400	1400 – 1500	1500 – 1600	1600 - 1700	Average	Justification
	289	197	376	233	273.75	Yes

Crossing locations

Zone A.

No significant crossing movements are recorded within this location. There are no substantial attractors to suggest a significant latent demand.

Zone B.

This site recorded a significant number of crossing movements. Crossing movements are recorded throughout the count period with substantial peaks between 13.00 and 14.00 and also 15.00 and 16.00. The busiest crossing point has been recorded as slightly east of the entrance into the National Trust car park at the existing informal crossing point. When assessed against the Wiltshire Council Practice Guide for Pedestrian Crossings, the pedestrian demand in this zone does meet the level considered sufficient to provide a formal pedestrian facility. It has also been noted that the substantial levels of vehicular traffic during the peak periods of pedestrian demand results in pedestrians being unable to establish suitable gaps in traffic to cross. A Plan outlining the preliminary design for this zone can be found at **Appendix D**.

4.0 Recommendation

The fundamental and overriding consideration when introducing any new pedestrian crossing is the safety of pedestrians. The justification for any pedestrian facility must be to make crossing the road safer for users. Pedestrian crossings do not automatically make crossing the road safer; moreover badly sited, underused or misused crossings can detract from road safety, as can an inappropriate choice of facility.

Taking into consideration the data collected by the pedestrian counts, the crossing options available, and the adopted Wiltshire Council practise for pedestrian crossings it is recommended that:

Zone A: No further action

Zone B: Formal pedestrian crossing facility

An important factor to take into account with this study is the location of the National Trust car park and the existing informal crossing point along Hither Way, Lacock. It is recognised that the existing pedestrian desired line is to leave the car park and cross at the existing crossing point. This assessment has identified this as the busiest crossing point and the most effective location to install a formal pedestrian crossing facility, however there are a number of trees which will require removal as well as extensive pruning to ensure the required visibility is established and to maximise safety.

A plan outlining the preliminary design can be found at **Appendix D** and estimated costs for the proposals at **Appendix E**

Appendix A – Plan of zone extents & busiest crossing

Appendix B

Site Assessment Record Sheets

**Based on survey results Zone C and Zone D have been investigated
for this pedestrian assessment**

Public Transport stopping points

At prospective site? No

Within 50m of site? No

If yes provide details of approx locations etc:

Nearby Junctions

Distance to significant traffic junction Direction 1 east – 50m

Direction 2 west – n/a

Other Crossings

Distance to next crossing: No crossings on Hither Way

Direction 1 Type

Direction 2 Type

School Crossing Patrol No

Distance if less than 100 m N/A

Carriageway Skid Risk

Does surface meet skid resistance requirements Yes

Surroundings (entrances within 100m)

Hospital/Sheltered Housing etc No

School No

Post Office No

Railway/Bus Station No

Pedestrian leisure/shopping area No

Sports stadium/entertainment venue No

Junction with cycle route No

Equestrian centre/junction with bridle path No

Others – car park Yes

CROSSING TRAFFIC INFORMATION – See zone A pedestrian survey results

Flow and Composition

Pedestrian Count

Prams/Pushchairs

Elderly

Accompanied young children

Disabled

Crossing cyclist

Equestrians

Others

Time to cross road

Able pedestrians 5 seconds

Elderly or disabled 10 seconds

Difficulty of crossing

Able pedestrians Low Average High

Elderly/Disabled Low Average High

Latent Crossing Demand

Estimate Not likely

VEHICULAR TRAFFIC INFORMATION - See traffic data in main report.

Flow and Composition

Vehicle count per hour (average over 24hrs)

Cyclist

Heavy Goods Vehicles

Public Service

Vehicle Speed 85th percentile =

Speed Limit=

ROAD ACCIDENTS – See collision data in main report.

Mean Personal Injury Accident Frequency

Number per year at identified site (over 5 year period) 0

Extract from LTN 1/95 - The Assessment of Pedestrian crossings

SITE ASSESSMENT RECORD

SITE CHARACTERISTICS

Site Location: Zone B – Hither Way at existing informal crossing point

Carriageway Type: Double - Two Way No. of Lanes 2

Carriageway Width: 6.7m

Verge Width: Side one (North) over 2.0m Side two (South) over 2.0m

*Tree roots on both sides and utility cover on north side

Refuge Island: No

Road Lighting Standard – BS5489 classification

Is lighting below/above standard? No lighting present

Full assessment needed? Yes

Are amendments to lighting needed? N/A

Minimum visibility

Pedestrian to vehicle: **North side**

Direction 1 east - 80m

Direction 2 west - 40m

South Side

Direction1 east - 40m

Direction 2 west greater than 80m

Vehicle to crossing: **North Side**

Direction 1 east - 40m

Direction 2 west – 40m

South Side

Direction1 east - 40m

Direction 2 west greater than 80m

Others – car park

Yes

CROSSING TRAFFIC INFORMATION – See zone B pedestrian survey results.

Flow and Composition

Pedestrian Count

Prams/Pushchairs

Elderly

Accompanied young children

Disabled

Crossing cyclist

Equestrians

Others

Time to cross road

Able pedestrians 5 seconds

Elderly or disabled 10 seconds

Difficulty of crossing

Able pedestrians Low Average High

Elderly/Disabled Low Average High

Latent Crossing Demand

Estimate Not likely

VEHICULAR TRAFFIC INFORMATION – See traffic data in main report.

Flow and Composition

Vehicle count per hour (average over 24hrs)

Cyclist

Heavy Goods Vehicles

Public Service

Appendix C - Types of crossing

Further detail on crossing types, the advantages and disadvantages of each type, and other details can be found in the Wiltshire Practise for Pedestrian Crossings. Below is a summary of the crossing types.

Dropped kerb crossing

Dropped Kerb crossings consist of a localised lowering of the footway to carriageway level on either side of the road to provide a defined location for pedestrians to cross. Tactile paving can be provided to assist blind and partially sighted people to align themselves to the crossing direction. Where possible consideration should be given to combining dropped kerb crossings with footway build-outs to minimise the crossing width for pedestrians.

Enhanced dropped kerb crossing

Enhanced dropped kerb crossings are as the standard dropped kerb crossing but in addition are provided with either or both bollards in the footways and coloured surfacing on the carriageway. The additional features help to define the crossing location to both pedestrians and motorists and highlight its presence. Bollard type and size is site specific to the location. In rural environments timber bollards are the preferred option whilst in urban area bollards can be timber, cast or composite. It is possible for signs to be fixed to the bollards giving road safety advice to pedestrians. The use of footway buildouts should be considered.

Pedestrian Refuge Island

Pedestrian refuge islands consist of kerbing, bollards and signs in the middle of the road to enable pedestrians to cross more easily in two stages. Pedestrian refuges can provide a series of crossing points along a road where it would be impractical to install Zebras or signal controlled crossings at individual locations. As with all uncontrolled facilities, pedestrians do not have priority and the onus is on them to establish a safe gap in the traffic before crossing.

The desired width for refuge islands to accommodate pushchairs, wheelchairs shall be 2.0m with a desirable minimum of 1.5m where the carriageway width is limited. On lightly trafficked routes where HGV's make up less than 5% of total traffic composition, an absolute minimum width of 1.2m may be permitted, however this can only be considered after a full risk assessment has been undertaken. Where refuges are located on cycle routes the desirable minimum width shall be 2.4m.

Zebra Crossing

Zebra crossings are indicated by black and white bands painted on the road surface and by flashing orange "Belisha" beacons. Zigzag markings are provided on both approaches to alert drivers to the crossing and prevent parking. Drivers are required, under the Highway Code, to stop for pedestrians on Zebra crossings. Legally, pedestrians have to establish precedence by setting foot on the crossing.

Zebra crossings are considered inappropriate on high speed roads or roads with high volumes of traffic. They can also be inappropriate where heavy flows of pedestrians such as children leaving school would cause unacceptable delays to drivers. However, in town centres where the desire might be to discourage through traffic, Zebras are preferred especially as they are considered to be less visually intrusive than signal controlled crossings. Zebra crossings result in reduced delay to pedestrians when compared to signal controlled crossings and are therefore considered to be more pedestrian friendly.

Signal controlled crossings

Signal controlled crossings are particularly useful at locations where it is necessary to interrupt heavy and/or fast traffic flows to allow pedestrians to cross or where the pedestrian flow is so heavy that breaks are needed to allow vehicles to proceed.

Two types of stand-alone signal controlled crossing are used in the UK. The older type is the Pelican crossing but this is gradually being superseded by the Puffin crossing. All new installations in Wiltshire are of the Puffin type.

Pelican crossing

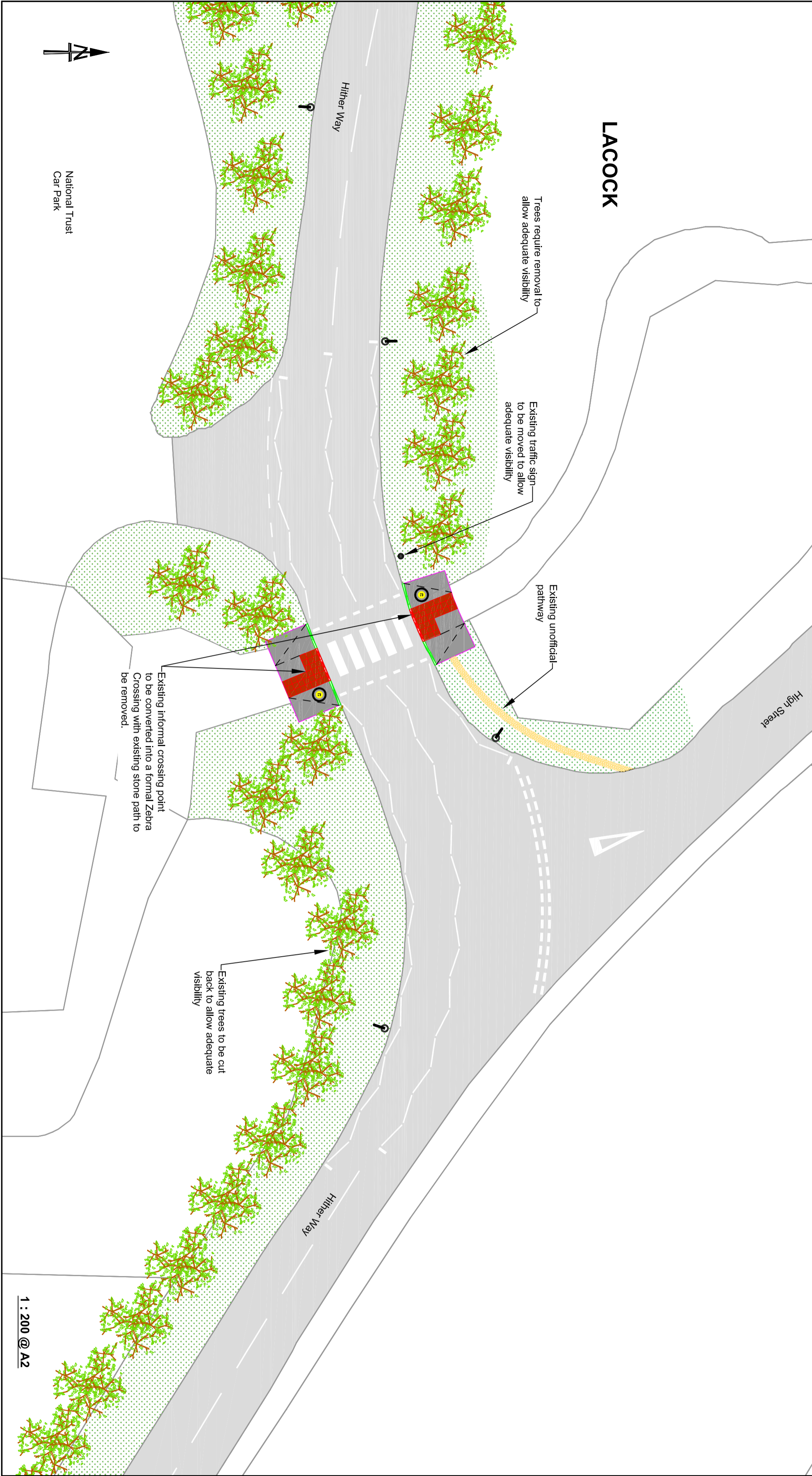
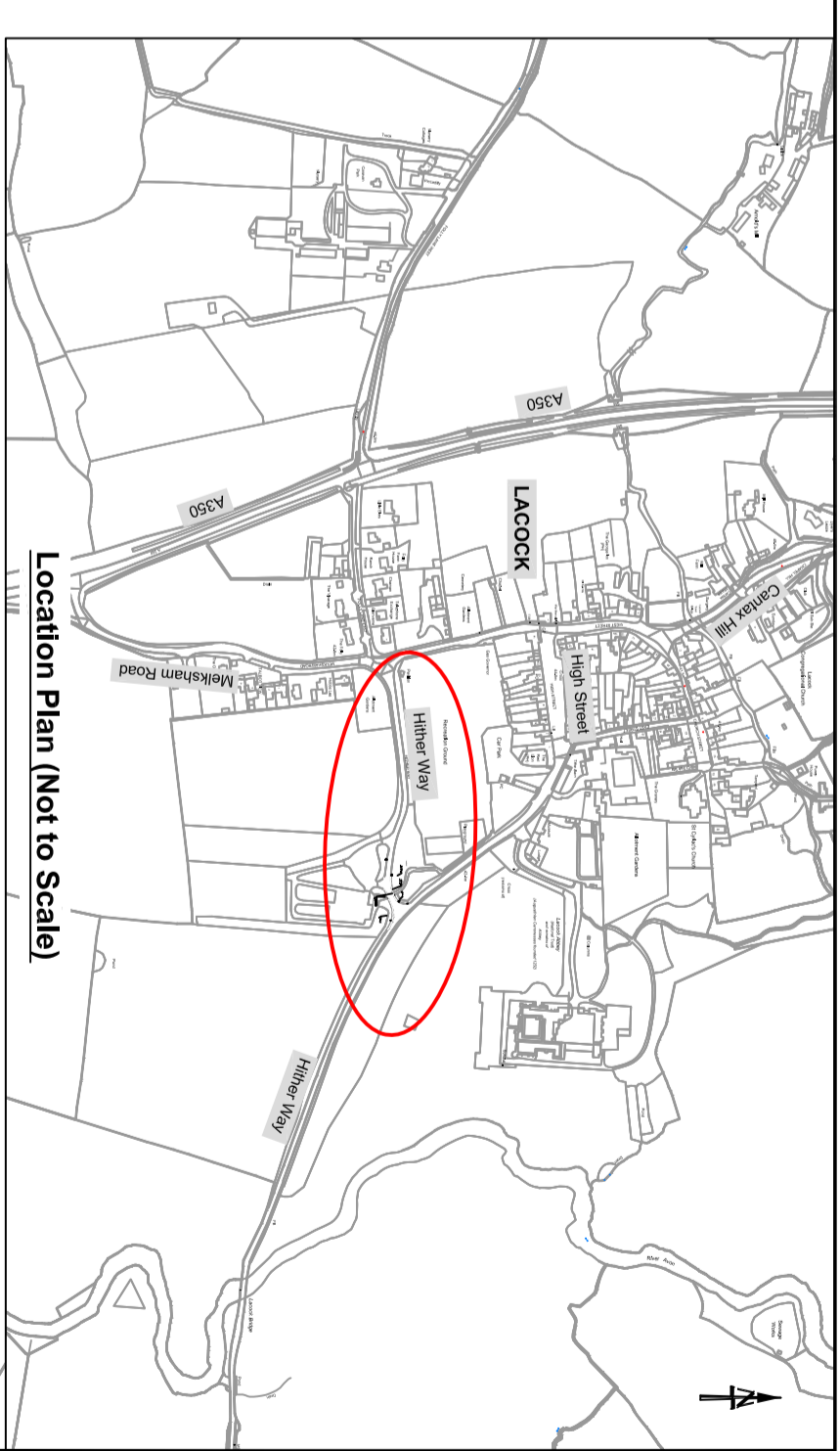
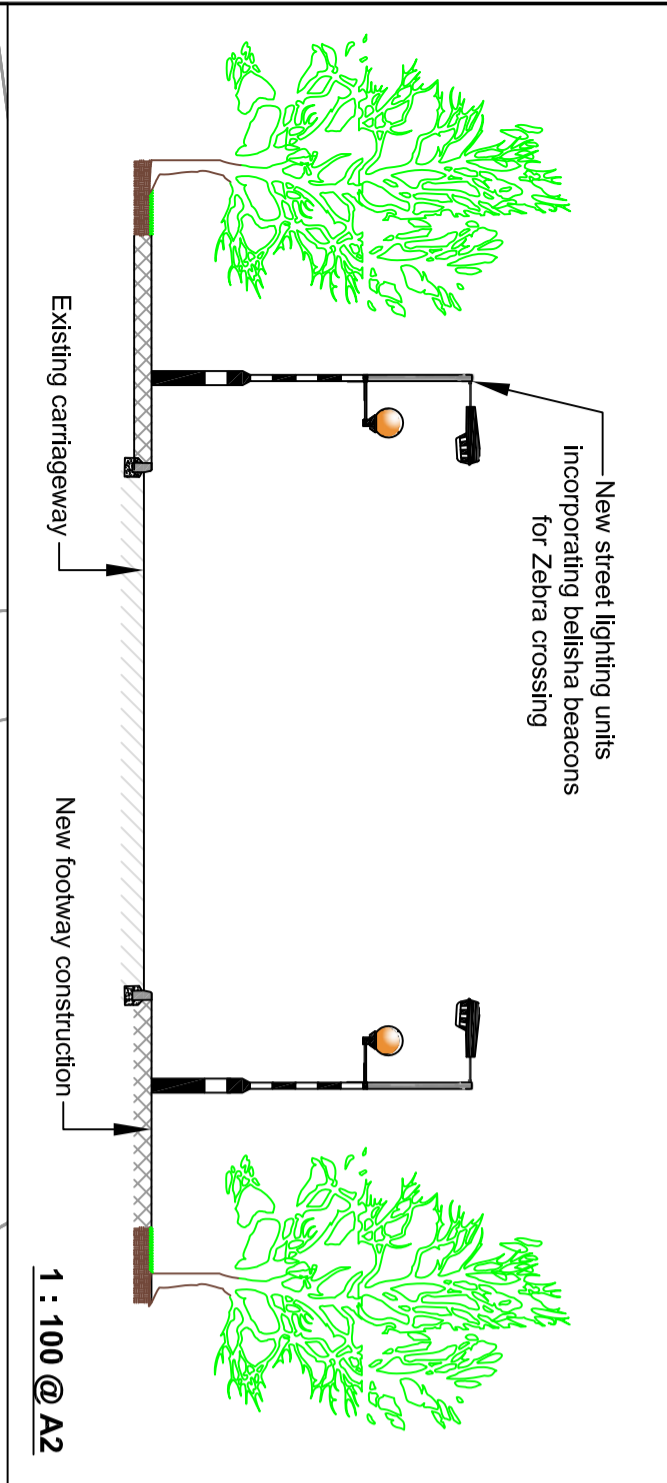
Pelican crossings are a stand-alone signal controlled crossing where pedestrians wishing to cross push a button to register a demand. The Pelican crossing has a far-side red/green man signal. Pedestrians are given a green man signal to cross the road and towards the end of this period the green man flashes. The advice in the Highway Code is that pedestrians should not begin to cross while the green man is flashing. Drivers are presented with the usual traffic light signals except for a flashing amber light that permits drivers to go if all pedestrians have cleared the crossing.

Puffin crossing

Puffin crossings are the most modern type of signal controlled crossing and have been developed to overcome some of the shortcomings of the Pelican. Puffins have a near-side steady red/green man signal which can more easily be seen by pedestrians with sight difficulties. As the pedestrian signals are located on the near side and not visible to a pedestrian on the crossing, there is no confusion or anxiety caused by a flashing green man signal.

Appendix D – Recommendation Plan

Proposed Lighting Layout at Zebra Crossing



NOTES

- Existing stone path to be removed & replaced with asphalt concrete footway
- Existing natural footway
- Existing natural footway
- Tactile paving 400x400x8mm Red coloured tactile paving laid on a mix of coarse sand and cement 50mm thick (rate 65:1)
- Combined Bellisna beacon lighting column tunnel hood
- New street lighting columns

- Kebs Types**
- 125 x 255mm pre-cast concrete keeb type DR1 (DL1)
 - 125 x 150mm pre-cast concrete keeb type BN (6mm upstand)
 - Pre-cast concrete EF Edgings

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 Wiltshire Council (00049050) 2018

REV	DATE	ISSUED BY	DESCRIPTION
0		DAVID KAY	START ORIGINAL

PROPOSAL - OPTION 1

Wiltshire Council
 Where everybody matters
 Traffic & Network Management
 County Hall, Bythesea Road, Trowbridge
 Wiltshire, BA14 8AD
 T: 0300 4560100
 Website: www.wiltshire.gov.uk

PROJECT: Cotnam OVS Scheme Zebra Crossing
DRAWING TITLE: Hiltner Way, Lacock Proposal - Option 1

SCALE:	AS SHOWN	SHEET SIZE:	A2
DRAWING NO:	KAWT/LAC/OP01	REVISION:	0
FILE REF:	L1ETVAB/Conham/2015-NCA/OT/01/HiltnerWay/Op01/001		

National Trust
 Car Park



Appendix E – Cost estimate of recommended option

Typical standard zebra crossing Including drop kerbs, footway amendments, drainage tactile paving, ducting and road markings	£10,000
Street lighting, Belisha Beacons and associated electrical works	£ 18,000
Traffic Regulation Order amendments / Formal advertisement to support controlled zone for zebra crossing.	£ 2,000
Design fees including Topographical survey	£ 2,000
Contingency (20%)	£ 8,000
Grand total	£40,000