

## TRANSPORT & INFRASTRUCTURE PLANNING

Chearsley Parish Council

Road Junction Improvement Options Study,  
Chearsley, Buckinghamshire

Options Study

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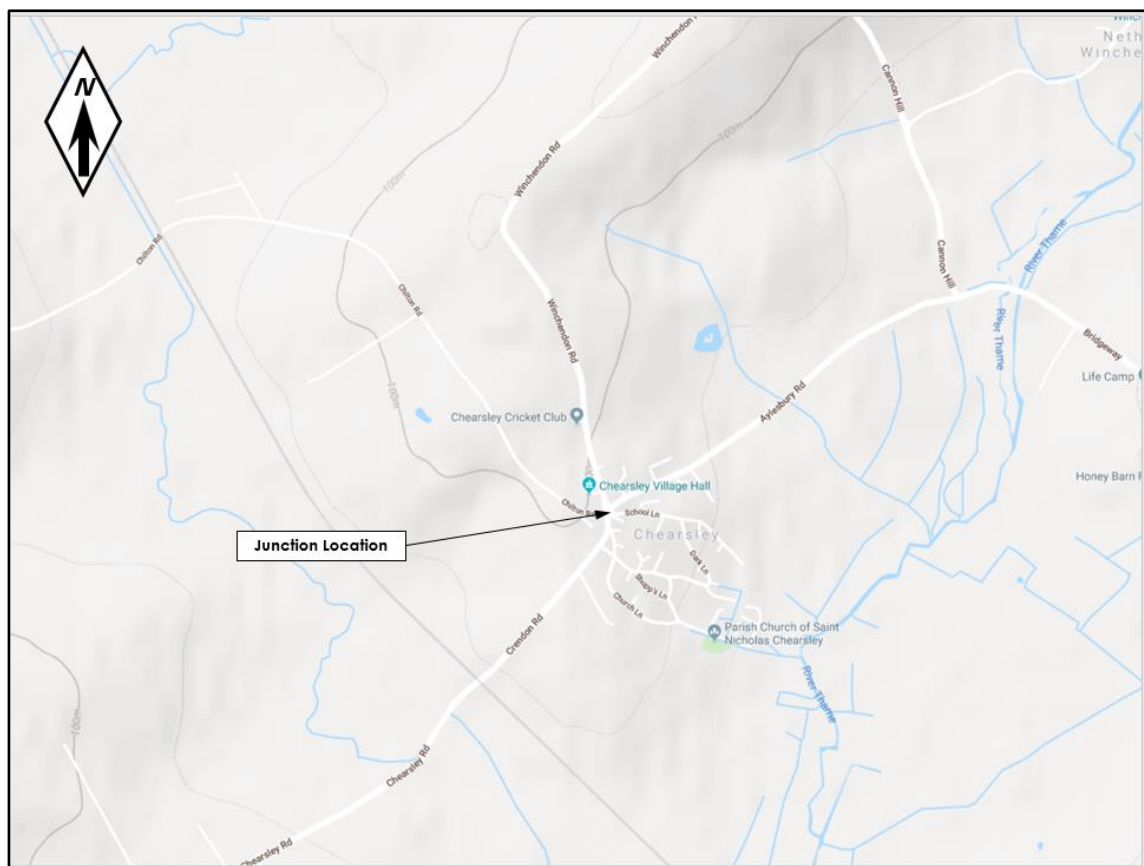
## REFERENCES

TfB Autumn/Winter Conference 'HGV Strategy' Feedback from Working Group - November 2016
Chearsley Village HGV Surveys 2016 Summary Report - December 2016
Buckinghamshire County Council - Feasibility Study Report- CHEAR.PC.TCM/FEA/DOC/01 - August 2017 - Ringway Jacobs Ltd

## 1. INTRODUCTION

### Appointment

- 1.1 BWB Consulting Ltd have been commissioned by Chearsley Parish Council to provide highways advice in support of a study into options for improving a junction in the centre of the village of Chearsley.
- 1.2 The requirement for this study arises from concerns that the existing junction layout has inherent safety issues, encourages speeding through the village and results in damage to verges and street furniture. This study forms part of a wider project which seeks to address traffic issues through the village.
- 1.3 Chearsley village is located to the west of Aylesbury, between the villages of Cuddington and Long Crendon. The site location is shown on **Figure 1**.



**Figure 1: General Site Location**

- 1.4 The junction in question is located directly in the centre of Chearsley, where Winchendon Road, Aylesbury Road, Crendon Road and Chilton Road all meet along with access roads School Lane and The Green. This results in a confusing junction layout, which has numerous safety concerns as a result.

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## **Report Purpose**

- 1.5 The purpose of this report is to carry out a study, which reviews the improvement options identified by Chearsley Parish Council for the junction, identifies additional potential options, provides an estimation of cost and seeks to conclude which measures should be taken forward.

## **Report Structure**

- 1.6 This Options Study is set out in the following sections:
- Section 2 details the background information;
  - Section 3 reviews the options identified by Chearsley Parish Council;
  - Section 4 outlines the options identified by BWB;
  - Section 5 examines reduced measures at the junction;
  - Section 6 concludes the report with recommendations.

## 2. BACKGROUND INFORMATION

- 2.1 Previous work has been undertaken to identify and mitigate the safety concerns at the junction by both Chearsley Parish Council and Transport for Buckinghamshire. A working group report, HGV surveys and summary report were undertaken in November and December 2016 respectively.
- 2.2 As detailed in Section 1 the study of this junction is part of a wider project which seeks to address traffic issues through the village, part of this wider study included Transport for Buckinghamshire undertaking a traffic calming feasibility study report in August 2017 examining various options for traffic calming through the village and the pros and cons of each option. The conclusion of this report was to add a gateway feature on the approach to the village, improve signage and remove the centreline from the main road.
- 2.3 Chearsley Parish Council provided details of what was required from this study in the document 'Road Junction Improvement Options Study', which identified the problems at the junction and analysed some of the improvement options proposed so far that may mitigate those problems. This document is included in **Appendix 1**.
- 2.4 An extract from the Chearsley Parish Council document showing the junction and labelling the arms and features is presented in **Figure 2**;



**Figure 2: Problem Junction in Chearsley**

2.5 The junction is set out as follows;

- 1 – Winchendon Road
- 2 – Aylesbury Road
- 3 – Crendon Road
- 4 – Chilton Road
- 5 – Local Access Road (one-way in only)
- 6 – School Lane

A, B, C – triangular island known as Horse Chestnut Tree Island (HCI) after the old tree that stands in the centre of the island.

2.6 The problems that have been identified in the previous work at the junction is split in to three categories, Safety, Speeding and Damage, as follows;

Safety

- Drivers travelling from 1 to 3 do not always stop at the give-way line, travelling straight into the path of vehicles travelling from 2 to 3 or the opposite direction. This has led to at least one serious accident.
- Drivers travelling from 1 to 3 have to look back over their shoulder when giving way to traffic approaching from 2. At the same time, they are having to look for traffic approaching from 3, often travelling too quickly from around the bend.
- When queues occur from 1 at corner C, it's known for some to route quickly via corner B to then turn right and cut in front of the queue emerging from C. This results in vehicles racing to and from Winchendon Road to both junctions with Aylesbury Road regardless of which way they are heading.

Speeding

- Drivers travelling from 1 to 3 also fail to give-way to drivers emerging from 4.
- The main route is from 1 to 3 and vice versa. Although this is not the priority at the junction, the straight through nature of this movement encourages traffic to speed through the junction, especially movement 3 to 1, which has no traffic to give-way to.
- Traffic from 2 to 3 appears to speed up once it has entered the junction past 5 and 6.



## Damage

- There have been several instances of heavy traffic coming from 2 and waiting to turn right towards 1 attempting to use the junction at corner C rather than corner B. This has caused damage to the verge and road signs.
- Damage has also been caused at corner A, by traffic from B attempting to turn towards C.

2.7 In addition to the desktop study work, a site visit and meeting was held with Chearsley Parish Council on 9 May 2019 during which the following points were discussed in relation to improvements at the junction it was determined that:

- Options that failed to address concerns of speeding where not favourable
- Options should be in keeping with the village environment and should not create an urban feel to the junction.

2.8 To inform this study a topographical survey was carried out and the output is included at **Appendix 2**.

### 3. CHEARSLEY PARISH COUNCIL OPTIONS

- 3.1 Mitigation measures have been identified and examined by Chearsley Parish Council and are described and summarised below, as appropriate BWB have also provided comment on the effectiveness of these options;

#### **CPC Option 1**

- 3.2 Build up the kerb at the southwest corner of the HCI to discourage the right turn at this part of the junction. Whilst this would solve one issue with damage to the verge at HCI, it would not improve anything else at the junction.

#### **CPC Option 2**

- 3.3 Build up the kerb at the northern corner of the HCI to discourage the U-turn at this part of the junction. Whilst this would solve one issue with damage to the verge at HCI, it would not improve anything else at the junction.

#### **CPC Option 3**

- 3.4 Repaint the road markings at both Winchendon Road arms of the junction. This has already been undertaken as part of a smaller remedial scheme.

#### **CPC Option 4**

- 3.5 Change give-way lines and signs to STOP lines and signs at both Winchendon Road arms of the junction. It is unlikely that this will change driver behaviour unless enforced by the local police.

#### **CPC Option 5**

- 3.6 Realign the approach from Winchendon Road that currently aligns straight through the junction to add some deviation to the through traffic. Likely to help but moves the carriageway closer to the tree. Has been examined in more detail in BWB Option 2.

#### **CPC Option 6**

- 3.7 Introduce one-way on each of the arms at Winchendon Road, the western side of the HCI being northbound traffic and the eastern side of the HCI being for southbound traffic. This could be viable option but may need carriageway widening. This has been explored further in BWB Option 1.

#### **CPC Option 7**

- 3.8 Close the road spur on Winchendon Road that goes to the west of the HCI allowing all traffic to route along the eastern side and use the more perpendicular junction. This would be beneficial as it removes a potential conflict point and removes the straight through feel of the junction but may require widening into HCI. This is examined further in BWB Option 4.

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### **CPC Option 8**

- 3.9 Redesign the junction totally. This Option would probably be too expensive to be viable. However, BWB Option 6 has reviewed this in more detail.

### **CPC Option 9**

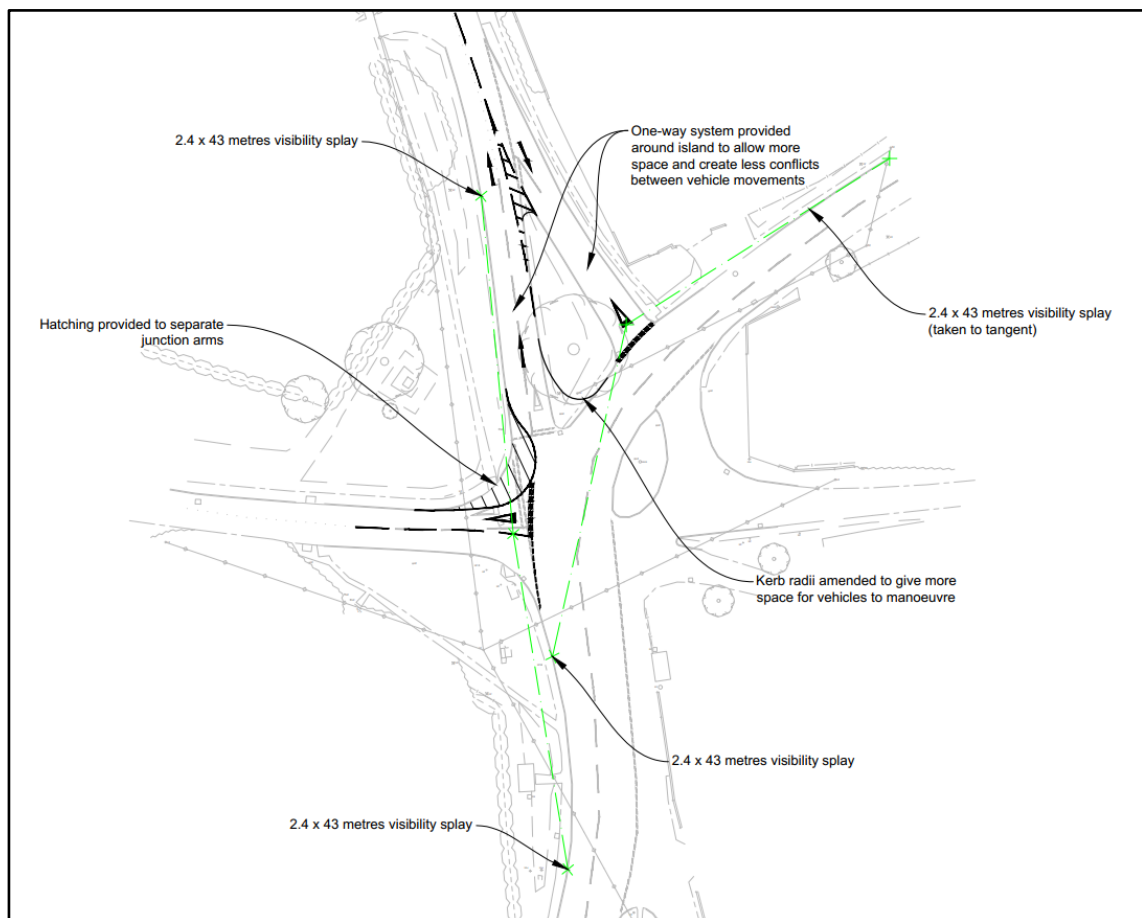
- 3.10 Rumble strips. This may not actually calm traffic and may also increase traffic noise which would be unwelcomed in the village.

### **CPC Option 10**

- 3.11 Redirect heavy traffic away from the junction via other routes. This would help reduce the HGV movements at the junction, but only if the signs were adhered to. Would not solve any issues with excessive speed or use of the existing junction.

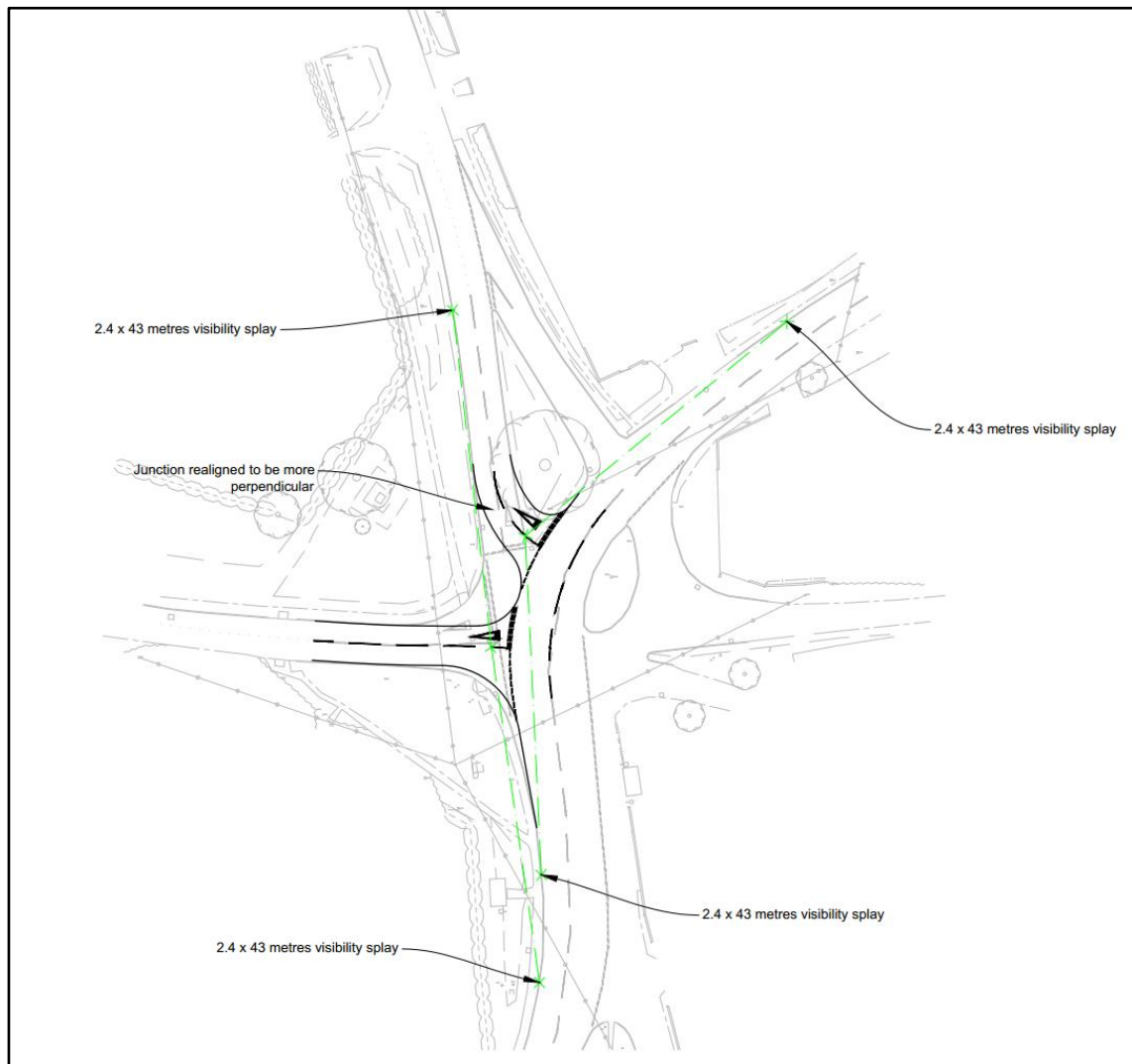
## 4. ADDITIONAL BWB OPTIONS

- 4.1 As detailed in Section 2, as part of the works, BWB have also considered options to improve the junction. These range from minor kerb and marking amendments to full junction redesigns. Whilst the below options may not conform strictly to standards for new roads because of existing constraints and layout, they would improve safety and/or turning movements over the layout currently provided and should therefore be acceptable to Buckinghamshire County Council. The options have been presented in figures below and cost estimates\* are also provided for each option. Full size drawings are also provided at the back of the report in a larger scale.



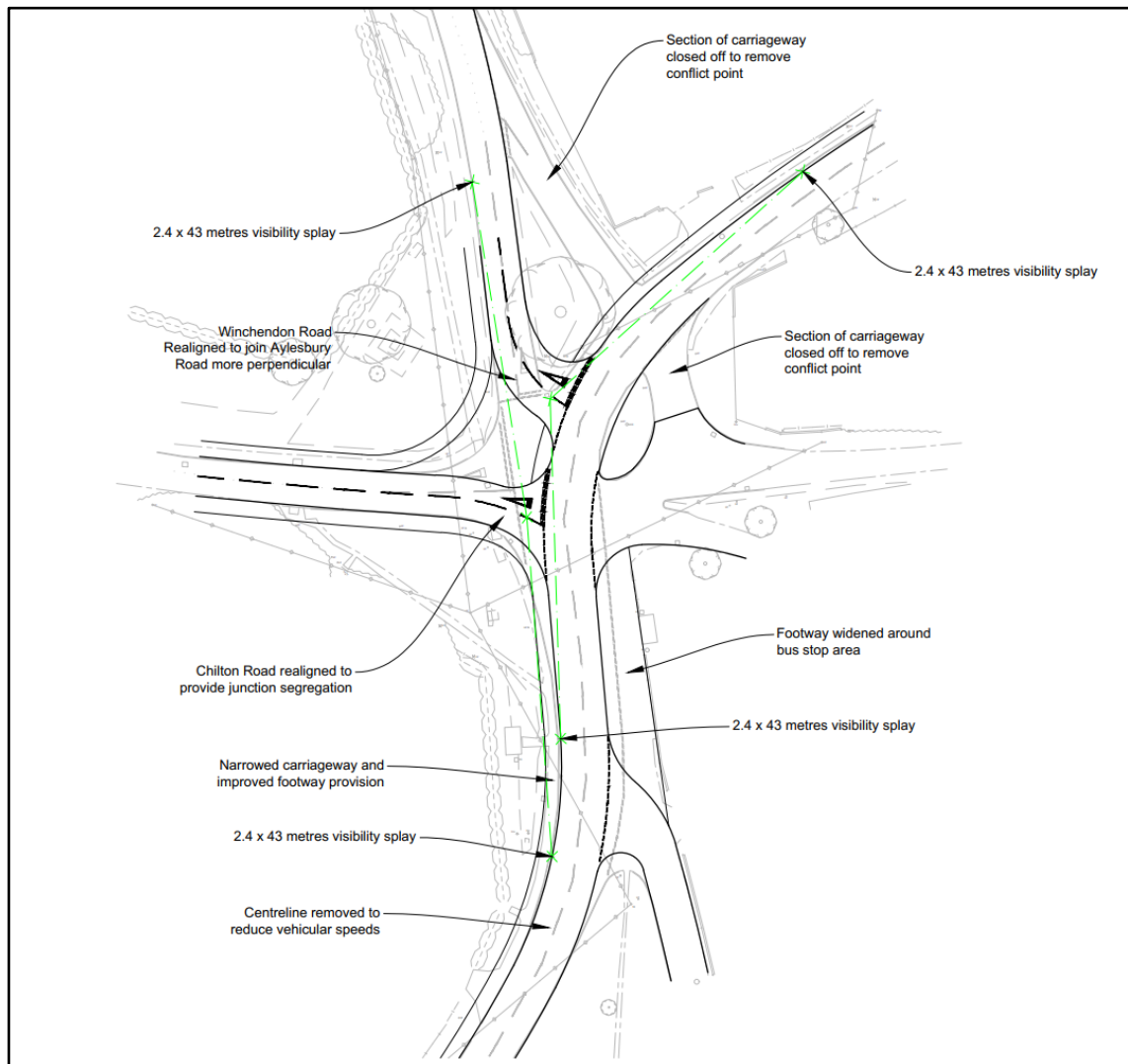
**Figure 3: BWB Option 1**

- 4.2 One-way either side of the HCI, northbound to the west of the HCI and southbound to the east of the HCI. Presented in **Figure 3**, the drawing shows that this option would include amendments to the kerb line at the southwest corner of the HCI to aid the right turn movement and realignment of Chilton Road. This would segregate the movements to and from Winchendon Road and remove the “straight through” movement through the junction.
- 4.3 Mainly road markings with some minor kerb tweaks, resulting in a relatively cheap solution to some of the issues at the junction. Minimal additional signage would be required, and it is unlikely that BCC would require the junction to be lit as a result of the improvements. Approximate cost of scheme £15,000\*.



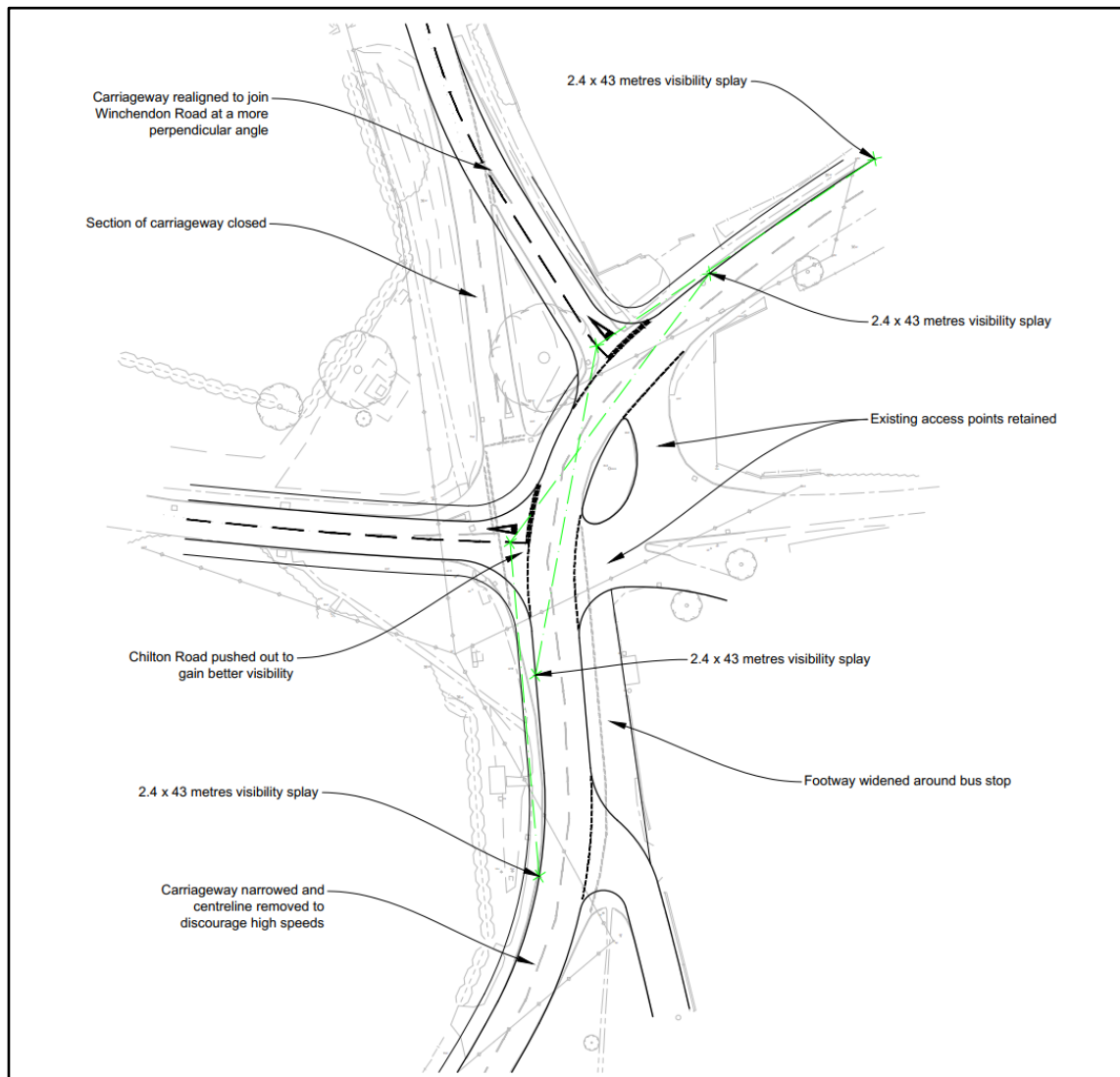
**Figure 4: BWB Option 2**

- 4.4 Realignment of Winchendon Road to bring the carriageway in more perpendicular to the main road, creating deflection for southbound drivers at the junction. Presented in **Figure 4**, the drawing shows that this option is more likely to get drivers to give-way at the junction as it removes the “straight through” movement and alignment of the junction.
- 4.5 This option would require more kerblines amendments and realignment of the Chilton Road arm of the junction to create adequate separation. Minimal additional signage would be required, and it is unlikely that BCC would require the junction to be lit as a result of the improvements. Approximate cost of scheme £30,000\*.



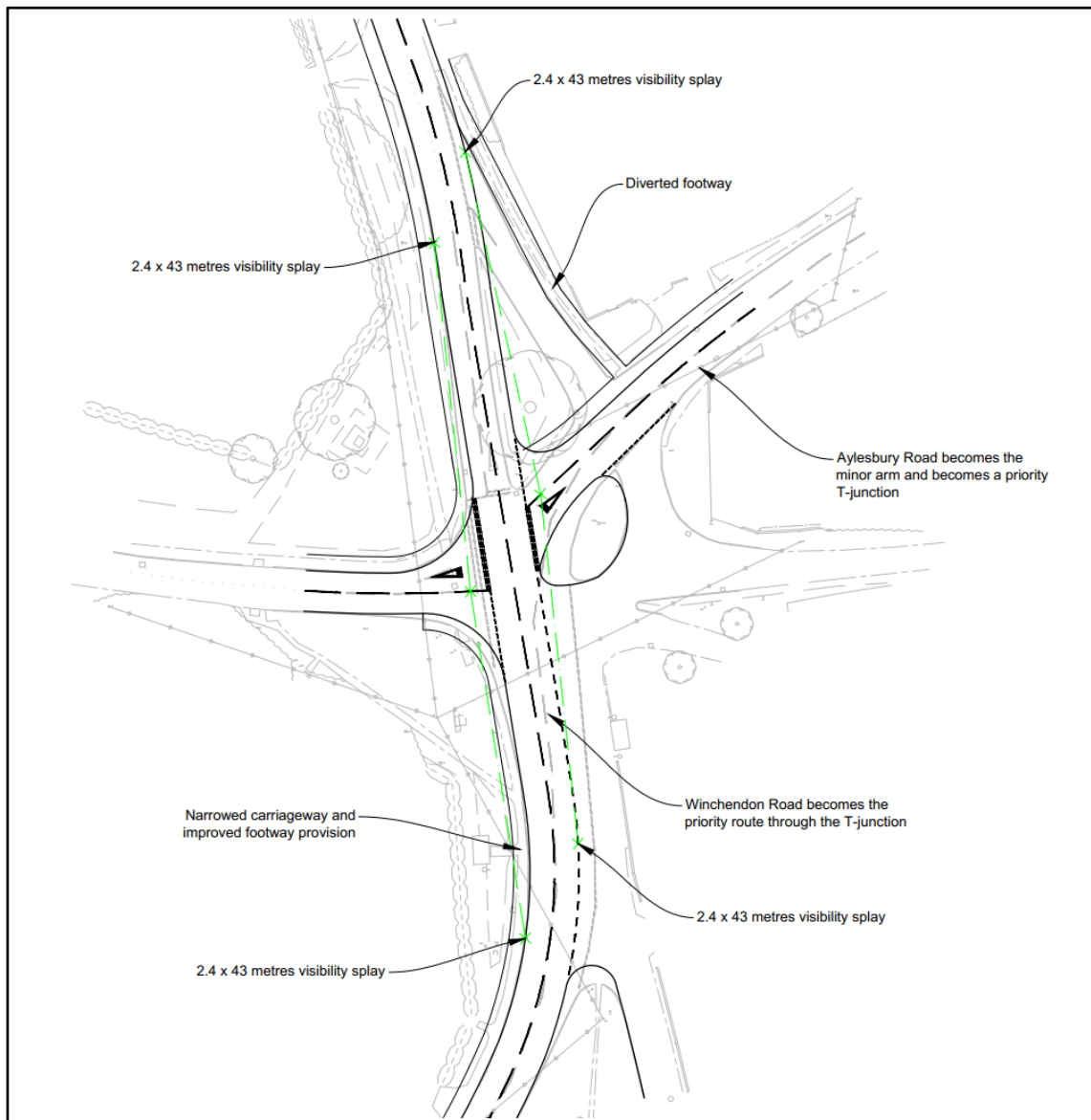
**Figure 5: BWB Option 3**

- 4.6 Presented in **Figure 5**, the drawing shows that Option 3 maintains the same principle as Option 2 with the realignment of Winchendon Road to bring the carriageway in more perpendicular to the main road, creating deflection for southbound drivers at the junction. It also includes the realignment of Chilton Road to increase junction separation. This option also closes the carriageway link to the east of the HCI. In addition to the above, the access points located to the east of the junction have also been consolidated to one access with the entry point to the north closed off to reduce the number of potential conflict points. The main carriageway has also been narrowed through the priority movement to reduce speeds. The footways have been widened either side of the carriageway as a result.
- 4.7 This option would require more kerbline amendments over a bigger distance to narrow the carriageway and increase the footway widths. The existing link east of the HCI would be kerbed off, as well as realigning Chilton Road and re-kerbing the access points to the east of the junction to close off the existing carriageway. Minimal additional signage would be required, and it is unlikely that BCC would require the junction to be lit as a result of the improvements. Approximate cost of scheme £200,000\*.



**Figure 6: BWB Option 4**

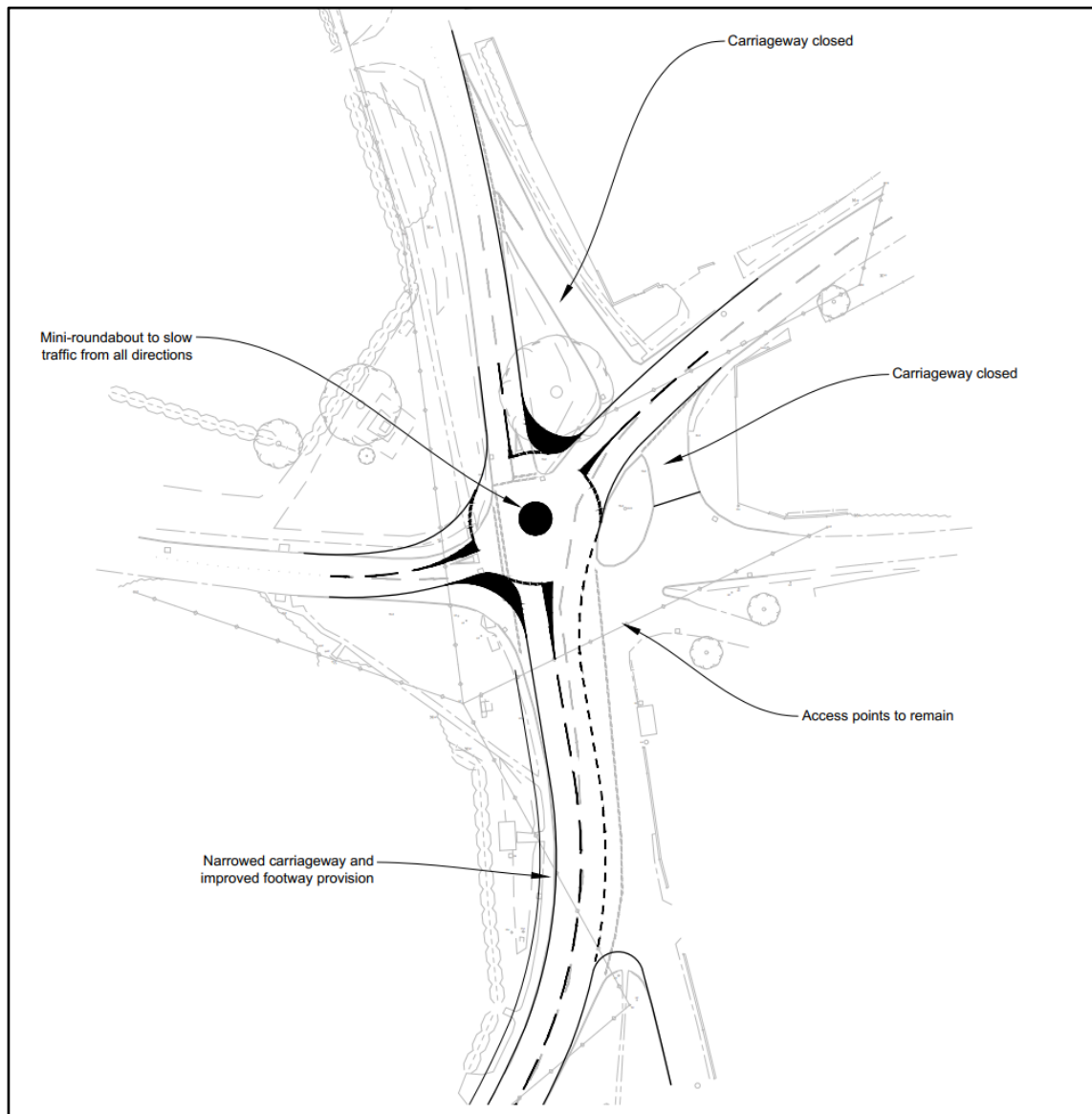
- 4.8 Presented in **Figure 6**, the drawing shows that Option 4 maintains the same principle as Options 2 and 3 with the realignment of Winchendon Road to bring the carriageway in more perpendicular to the main road, creating deflection for southbound drivers at the junction. This option closes the carriageway link to the west of the HCI. Further increasing the spacing between junctions. In addition to the above, the main carriageway has also been narrowed through the priority movement to reduce speeds. The footways have been widened either side of the carriageway as a result.
- 4.9 This option would require more kerbline amendments over a bigger distance to narrow the carriageway and increase the footway widths. The existing link west of the HCI would be kerbed off and the link on the eastern side widened, as well as realigning Chilton Road and re-kerbing the access points to the east of the junction to close of the existing carriageway. Minimal additional signage would be required, and it is unlikely that BCC would require the junction to be lit as a result of the improvements. Approximate cost of scheme £200,000\*.



**Figure 7: BWB Option 5**

- 4.10 Presented in **Figure 7**, the drawing shows that the priority of the junction in this option is switched. This is because this movement is the main movement through the junction. As a result, Aylesbury Road will become a give way arm and Winchendon Road/Crendon Road would become the priority through movement. Whilst this option would remove the risk of motorists failing to give way, the proposal is likely to result in vehicle speeds increasing through the junction, as the straight-ahead movement would then have priority in both directions.
- 4.11 This option would require more kerbline amendments and additional signage through the whole junction. It is also likely that BCC would require the junction to be lit due to the completely new layout and change to priority. As a result of the additional signage and lighting, may create too much of an urban feel to the village centre. Approximate cost of scheme £150,000\*.





**Figure 8: BWB Option 6**

- 4.12 Presented in **Figure 8**, this option redesigns the full junction and provides a mini roundabout. This would result in the closure of the link currently provided to the east of the HCI. The mini roundabout would result in all movements slowing down and giving way. Reducing traffic speeds drastically through the junction. The likelihood is that noise would also increase with vehicles stopping and starting from all directions, especially HGVs.

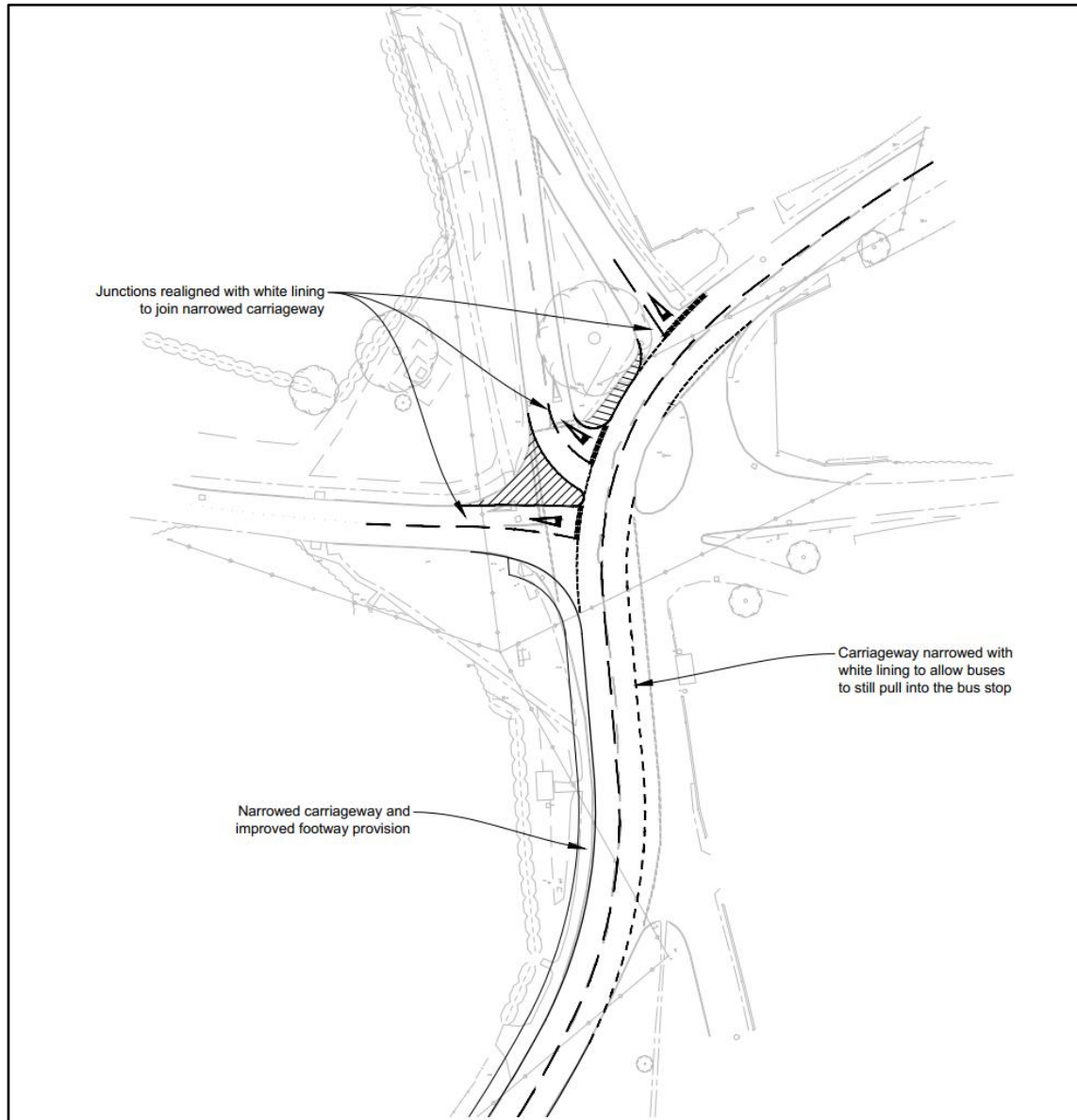
This option would require a number of kerbline amendments through the whole junction. It should be noted that the overrunable strips which have been provided to accommodate swept paths may not be favoured by BCC due to potential safety concerns relating to them. The roundabout would also require additional signage, and BCC may potentially request street lighting to be provided due to the new layout of the junction. However, this would be the most expensive option, and as a result of the additional signage and lighting, may create too much of an urban feel to the village centre. Approximate cost of scheme £250,000\*.

## BWB Option Summary

- 4.13 These options were originally presented to Chearsley Parish Council for initial comments in an email dated 24 May 2019, following on from the site visit and meeting. Several emails were exchanged between BWB and Chearsley Parish Council, to discuss the initial six options (1-6) for improvements at the junction and it was concluded that:
- Option 4 appears the most effective in addressing the speeding and visibility concerns, followed closely by Option 3 then 2 and 1.
  - Narrowing of the main road, both past the junctions and past The Green, combined with extra footway past the bus-stop, is very attractive. This also overlaps with options Chearsley Parish Council are already pursuing as part of current discussions with Buckinghamshire County Council and as such would likely be incorporated into any final scheme. Provision for school buses to pull off the road needs to be provided.
  - In relation to the traffic re-routing options (Options 1, 3 & 4), it was concluded that despite its benefit from a junction segregation point of view, Option 4 was the least favourable. Option 3 was the preferred option, although it was requested that consideration be given to maintaining the ability to close a section of road for use on occasion (i.e. Remembrance Day).
  - Closing off the minor village roadside entry onto the main road (as per Option 3) was considered attractive as a reduced measure.
  - Option 5 was considered unfavourable as it fails to address the main problem of speeding and may exacerbate the issue by giving the straight-line movement the priority.
  - Option 6 whilst addressing all concerns, gives an unacceptable urban feel to the junction, out of keeping with the village environment.
  - In summary, Option 3 was considered to be the preferred option with regards to addressing the concerns raised by Chearsley Parish Council.
- 4.14 Further to the comments received from Chearsley Parish Council, of the six options examined in detail above, Option 5 would not reduce the speeds through the village and has therefore been excluded from further examination. Option 6 would reduce speeds but would result in the village centre having a more urban feel which would not be favoured by the residents of Chearsley and as a result had been excluded from further examination. This leaves Options 1 – 4 as potential options to consider in further detail.
- 4.15 However, as referred to in the comments from Chearsley Parish Council above, some of the options have features which are attractive to Chearsley Parish Council and may achieve improvement, both traffic calming and safety wise if provided individually. These reduced measures have also been examined as requested by Chearsley Parish Council in Section 5.

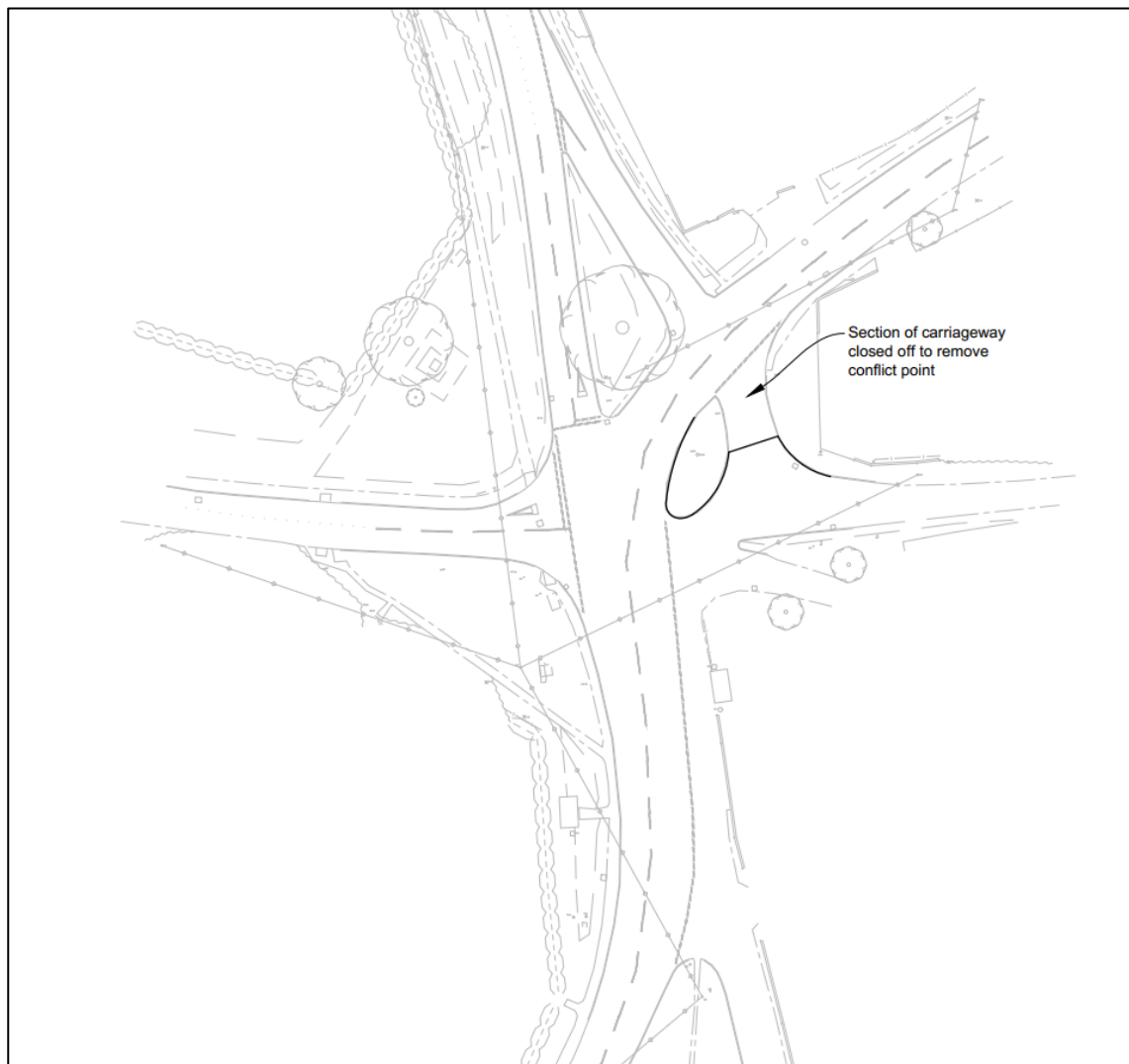
## 5. REDUCED MEASURES

- 5.1 As described above, some of the proposed options include features which may actually be beneficial if provided individually. As a result, this section breaks down some of the options to reduced measures and presents costing of each reduced measure, to allow Chearsley Parish Council to understand where the money could be best spent.



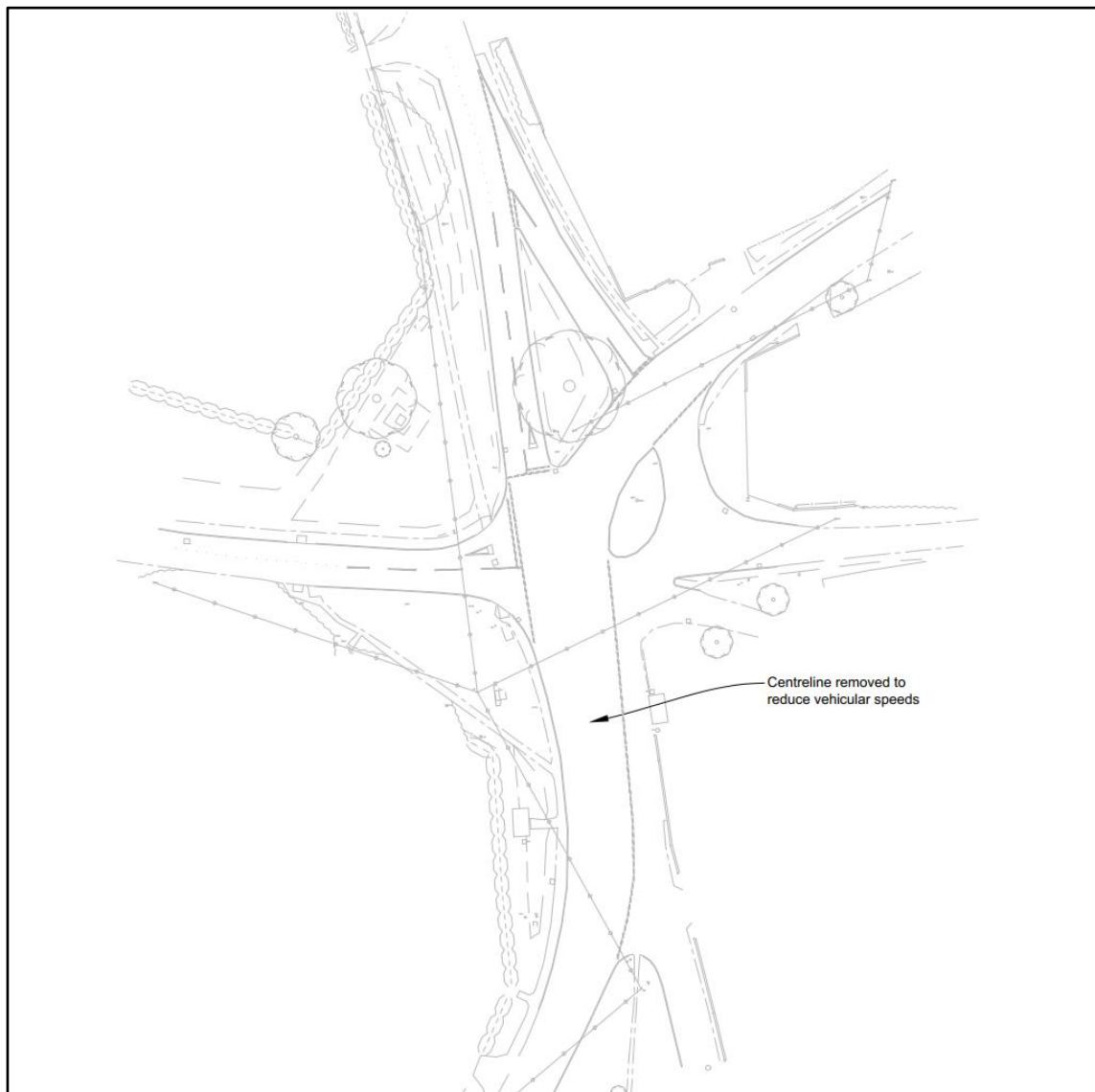
**Figure 9: BWB Option 7 (Carriageway Narrowing)**

- 5.2 The narrowing of the carriageway through the village and widening of the footway, would help reduce traffic speeds without undertaking any improvements or realignment of other junctions. A number of the options, included for this, but just narrowing the carriageway alone had not been examined in any of the options. **Figure 9** presents how the carriageway could be narrowed without further junction improvements. The approximate cost of which would be £75,000\*.



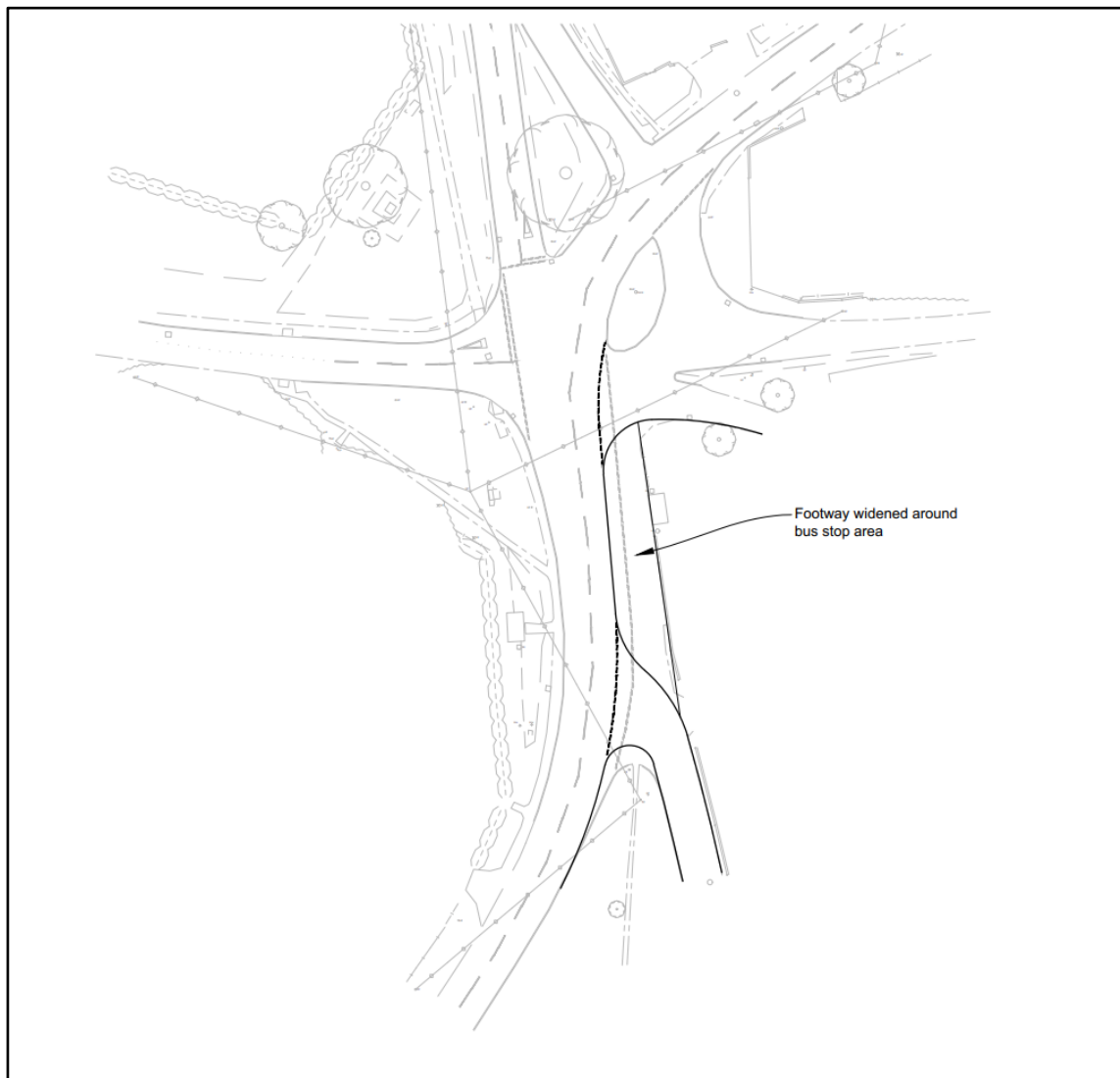
**Figure 10: BWB Option 8 (Closure of access road)**

- 5.3 The access roads to the east of the junction, including School Lane emerge at a number of points onto the main carriageway. In Option 3 the northern most access, which is currently signed as Entry only, would be closed off and the access points consolidated to one access point. This proposal in its own right, would be beneficial as it would remove a conflict point from the junction. **Figure 10** presents how the carriageway could be amended to provide a turning head and be closed off from the main carriageway. The approximate cost of which would be £15,000\*.



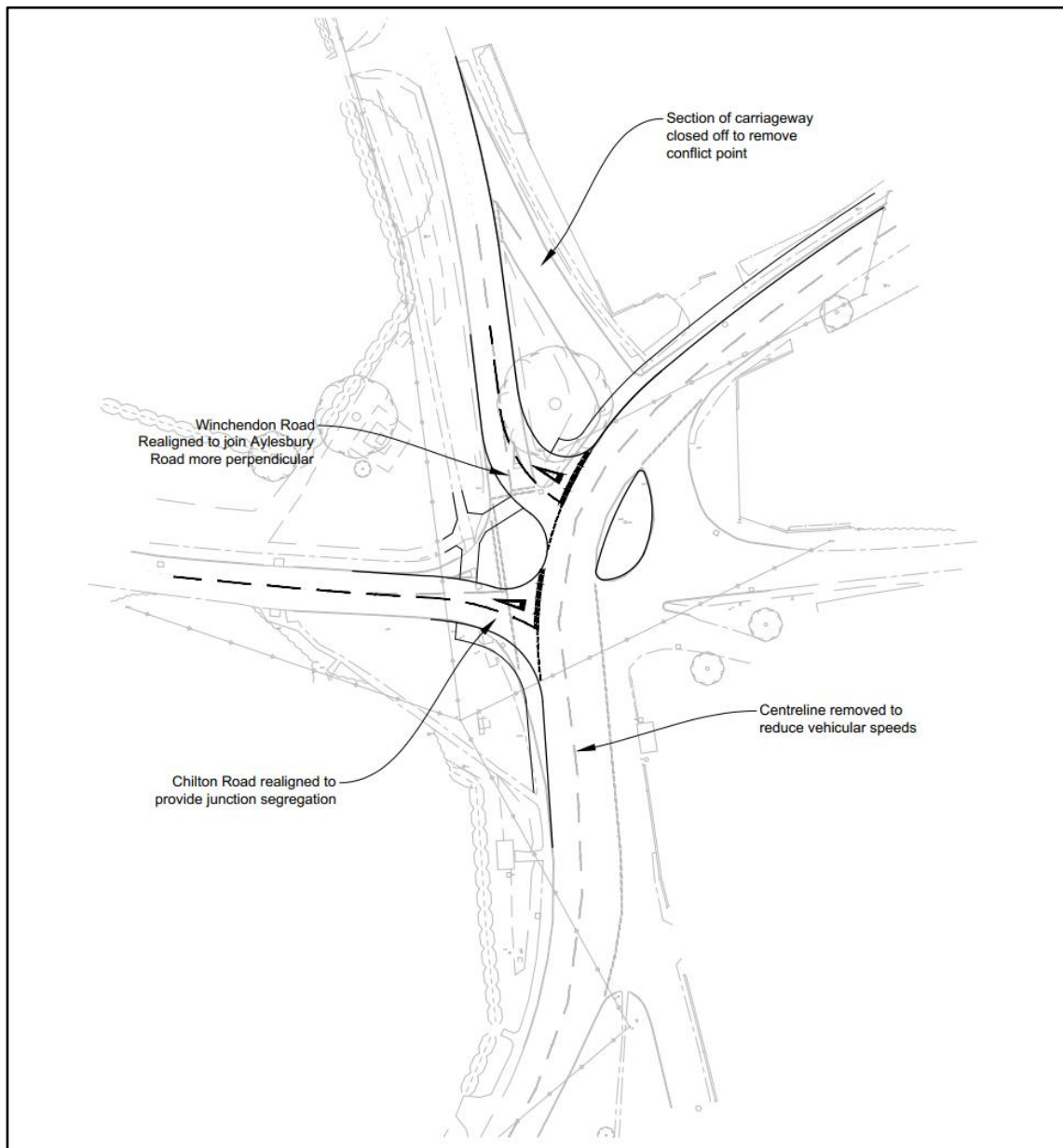
**Figure 11: BWB Option 9 (Removal of centreline)**

- 5.4 The priority route through the junction runs from southwest to northeast and vice versa from Crendon Road to Aylesbury Road. The priority is wide with a dashed centreline. In Option 9 the centreline would be removed which should result in the carriageway appearing less wide and should lead to vehicles travelling through the junction more slowly. **Figure 11** presents the proposed layout. The approximate cost of which would be £3,000\*.



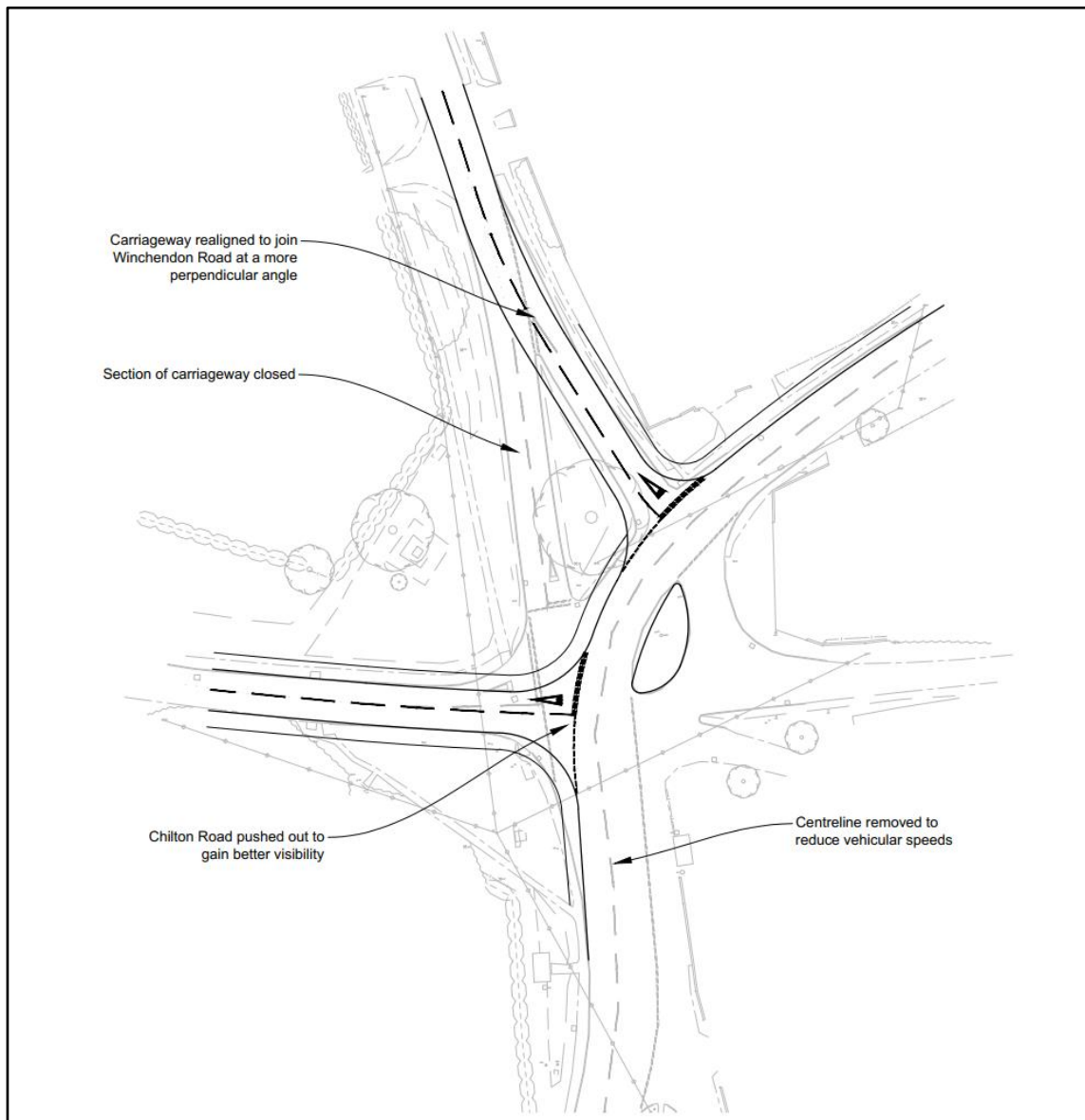
**Figure 12: BWB Option 10 (Improvement of footway around bus stop)**

- 5.5 One of the points raised by Chearsley Parish Council was concerns regarding the safety of pedestrians (especially school children) waiting for the bus because the footway was not a formal footway, more an area of carriageway marked as a parking area. In Option 3 the footway around the bus stop was formalised and widened, with the access points either side being formalised too. This mitigation on its own, would provide a large safe for pedestrians to wait for the bus. **Figure 12** presents how the carriageway could be amended to provide a formal footway only. The approximate cost of which would be £15,000\*.



**Figure 13: BWB Option 11 (Realignment of junction - Layout A)**

- 5.6 At the point where Winchendon Road and Chilton Road join the priority carriageway, the junctions have an unorthodox layout which causes confusion between the movements due to the lack of deflection for the southbound movement and the proximity of the two junctions. In Option 3 these two junctions were realigned to increase the stagger and the deflection for the non-priority movements, this also included the closure of the section of carriageway to the east of the triangular island. This would remove a conflict point and improve safety of two others. **Figure 13** presents how the carriageway could be amended to improve the layout. The approximate cost of which would be £200,000\*.



**Figure 14: BWB Option 12 (Realignment of junction - Layout B)**

- 5.7 Similar to the above, Option 4 also separated out the two junctions and closed another. The carriageway that was closed in Option 3 was widened in Option 4 and the carriageway to the west of the triangular island would be closed off as an alternative, giving more separation between the two junctions. **Figure 14** presents this alternative layout, the approximate cost of which would be £200,000\*.

\*Approximate costs have been calculated purely as construction costs. There has been no allowance for drainage amendments, utilities diversions, legal fees, etc.



## 6. CONCLUSIONS AND RECOMMENDATIONS

6.1 BWB Consulting have reviewed the existing options and also provided additional options which could also improve safety and lower speeds at the junction. These range from small kerb adjustments to a full redesign on the junction. The options all have pros and cons which have been looked at along with the cost of each potential improvement scheme to compare costs vs improvements.

6.2 There are some improvement schemes that include features that may be beneficial if provided individually, such as narrowing the carriageway, removing centre lines and closing access points. As a result, these have also been optioned and costed to inform Chearsley how much these features would be to implement on their own as potential improvement schemes. The additional measures could also be used to implement the improvement schemes in phases if required.

6.3 **Table 1** below summarises each of the options against each of the concerns raised by Chearsley Parish Council. The table also highlights total number of concerns addressed, along with the cost and any additional benefits or disadvantages of each option.

	Safety			Speeding			Damage		Total	Additional advantages or disadvantages of providing this option	Cost
	Fail to give-way from northern 'straight through' movement	Drivers looking over shoulder to see oncoming traffic	Racing between junctions at the HCI in a southbound direction	Fail to give-way at speed in a southbound direction	Speeding through the junction south to north	Speeding up through the junction after side roads past the green	Damage to road signs and verges at southern corner of HCI	Damage to road signs and verges at northern corner of HCI			
Option 1	✓	✓	✓	✓			✓	✓	6	Much clearer junction operation and wider carriageways.	15,000
Option 2	✓	✓		✓	✓		✓		5	More space around memorial for remembrance day service	30,000
Option 3	✓	✓	✓	✓	✓	✓	✓	✓	8	Closed access points result in less conflict points	200,000
Option 4	✓	✓	✓	✓	✓	✓	✓	✓	8	Improved bus stop facility and larger green areas	200,000
Option 5	✓	✓	✓	✓				✓	5	Prioritising the straight through movement may increase speeds	150,000
Option 6	✓	✓	✓	✓	✓	✓	✓	✓	8	Major works required, urbanisation of village centre	250,000
Option 7	✓	✓		✓		✓			4	Slows traffic through the junction	75,000
Option 8									0	Removes a point of conflict at the junction	15,000
Option 9						✓			1	Slows traffic through the junction	3,000
Option 10						✓			1	Improved bus stop facility	15,000
Option 11	✓	✓	✓	✓	✓		✓	✓	7	Larger green area	200,000
Option 12	✓	✓	✓	✓	✓		✓	✓	7	Larger green area	200,000

**Table 1: Options Summary Table**

6.4 Table 1 presents that Options 3, 4 and 6 would address all of the concerns raised by Chearsley Parish Council but would be the most expensive options to construct. Option 6 was already excluded due to the urbanisation of the village created by the proposal. Options 3 and 4 are identical with regards to costs and benefit, with the only difference being preference to which side of HCI the newly aligned carriageway would run. Option 4 would provide additional benefit by increasing the size of the green space in front of the memorial.

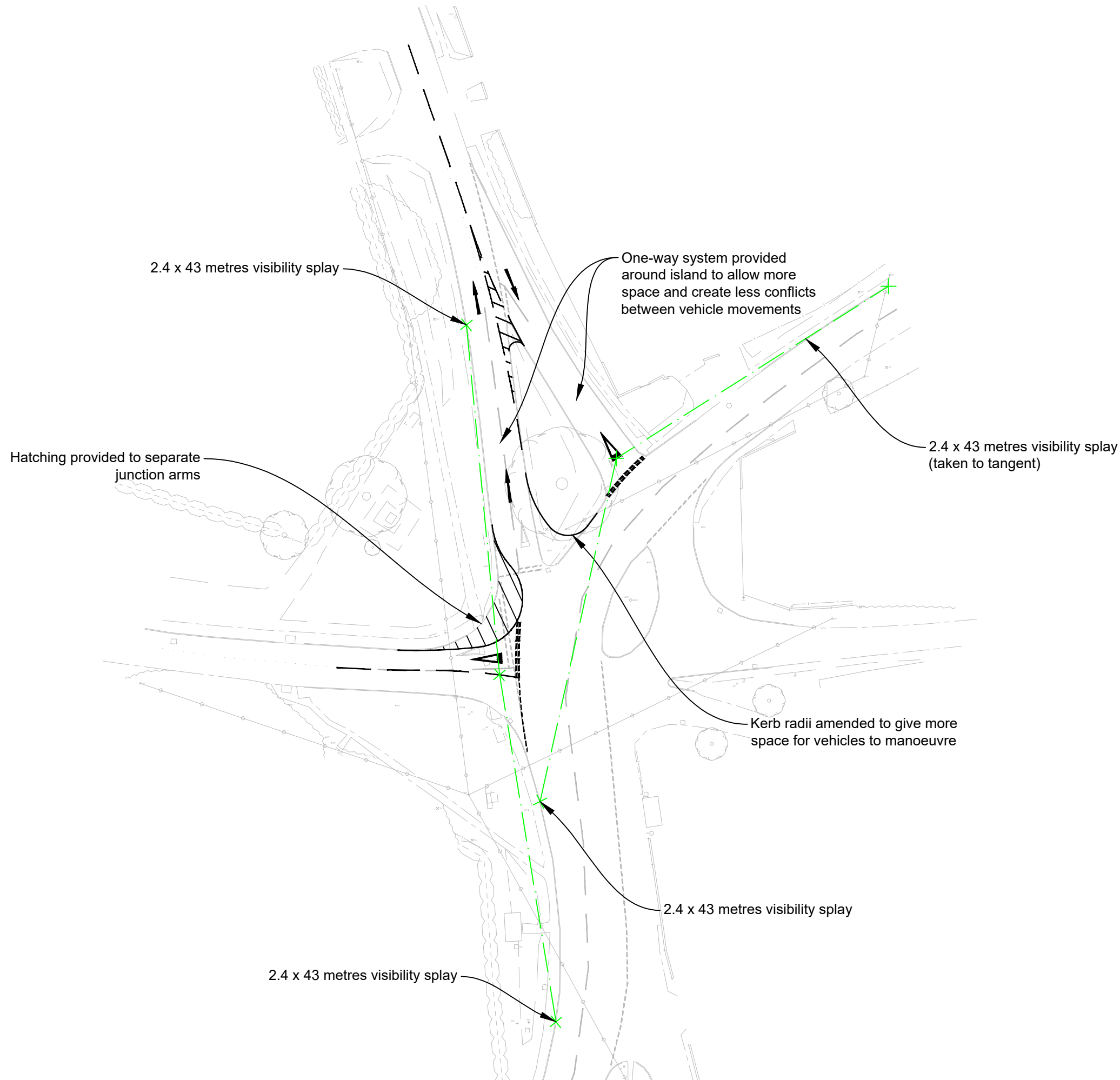
6.5 Option 5 was already dismissed earlier in the report due to the potential of actually increasing speeds through the junction. Option 2 would only address 5 of the 8 concerns raised and would cost twice the amount of Option 1 which is a more beneficial option.

6.6 It is considered by BWB that Option 1 could provide the most benefit for least cost. Option 1 addresses 6 of the 8 concerns raised and would cost approximately £15,000\* to implement. This scheme would improve safety at the junction as well as lowering speeds through the village.

- 6.7 Options 7 – 12 examine the reduced measures that could be provided individually or in stages to phase the improvements. Options 11 and 12 provide the biggest benefit (7 concerns addressed by both) but cost the most (£200,000\*). Option 9 is the lowest cost but only addresses the speeding concern and may therefore not be massively beneficial without other supporting options. Option 10 also only addresses the speeding concern through the junction but would improve pedestrian safety. Option 7 addresses 4 concerns but cost is relatively high when compared with Option 1. Option 8 does not actually address any concerns raised but does provide additional safety benefit by removing a conflict point. This option could be implemented alongside any of the other options as a further measure.

	Safety			Speeding			Damage		Total	Additional advantages or disadvantages of providing this option	Cost
	Fail to give-way from northern 'straight through' movement	Drivers looking over shoulder to see oncoming traffic	Racing between junctions at the HCI in a southbound direction	Fail to give-way at speed in a southbound direction	Speeding through the junction south to north	Speeding up through the junction after side roads past the green	Damage to road signs and verges at southern corner of HCI	Damage to road signs and verges at northern corner of HCI			
Option 1	✓	✓	✓	✓			✓	✓	6	Much clearer junction operation and wider carriageways.	15,000
Option 2	✓	✓		✓	✓		✓		5	More space around memorial for remembrance day service	30,000
Option 3	✓	✓	✓	✓	✓	✓	✓	✓	8	Closed access points result in less conflict points	200,000
Option 4	✓	✓	✓	✓	✓	✓	✓	✓	8	Improved bus stop facility and larger green areas	200,000
Option 5	✓	✓	✓	✓				✓	5	Prioritising the straight through movement may increase speeds	150,000
Option 6	✓	✓	✓	✓	✓	✓	✓	✓	8	Major works required, urbanisation of village centre	250,000
Option 7	✓	✓		✓		✓			4	Slows traffic through the junction	75,000
Option 8									0	Removes a point of conflict at the junction	15,000
Option 9						✓			1	Slows traffic through the junction	3,000
Option 10						✓			1	Improved bus stop facility	15,000
Option 11	✓	✓	✓	✓	✓		✓	✓	7	Larger green area	200,000
Option 12	✓	✓	✓	✓	✓		✓	✓	7	Larger green area	200,000

Table 1 - Options Summary Table



Notes	
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Client

**CHEARSLEY PARISH COUNCIL**

Project Title

**JUNCTION IMPROVEMENT SCHEME, CHEARSLEY, BUCKINGHAMSHIRE**

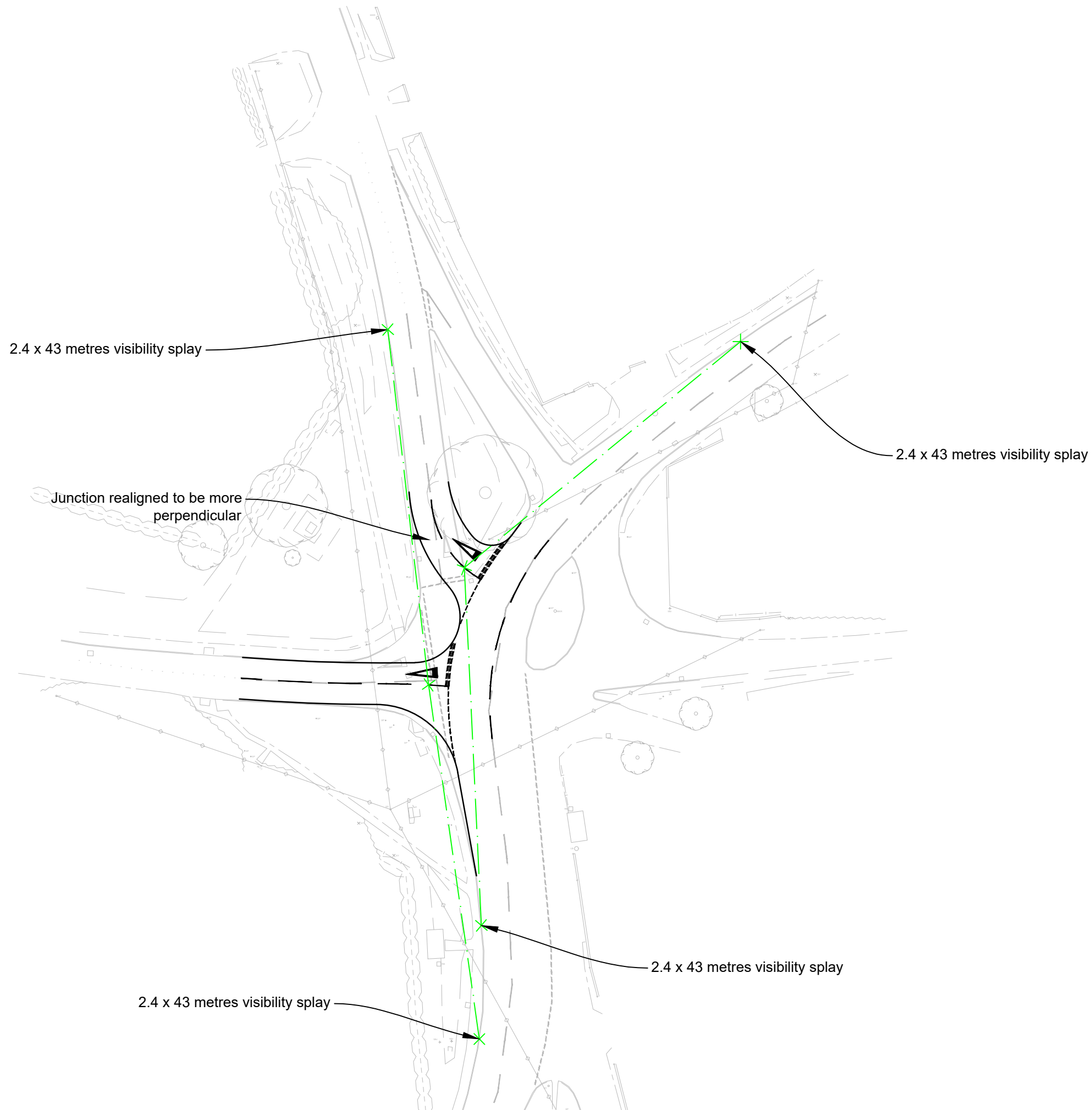
Drawing Title

**PROPOSED JUNCTION IMPROVEMENT SCHEME**

**(OPTION 1)**

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Scale@A3:	1:500		

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<b>PRELIMINARY</b>	
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<b>CHE-BWB-GEN-01-DR-TR-101</b>	<b>S2 P1</b>



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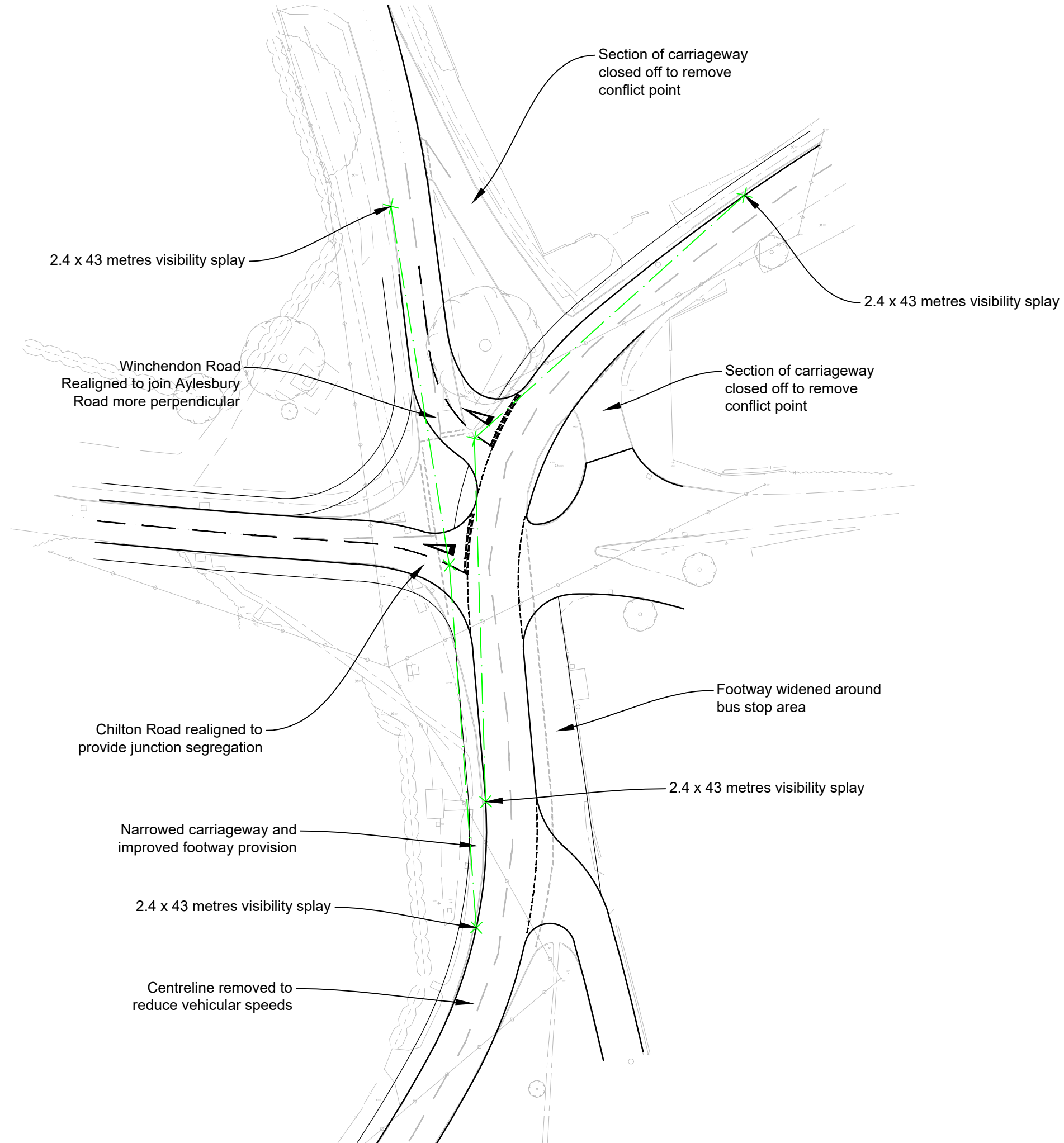
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		Scale@A3:	1:500

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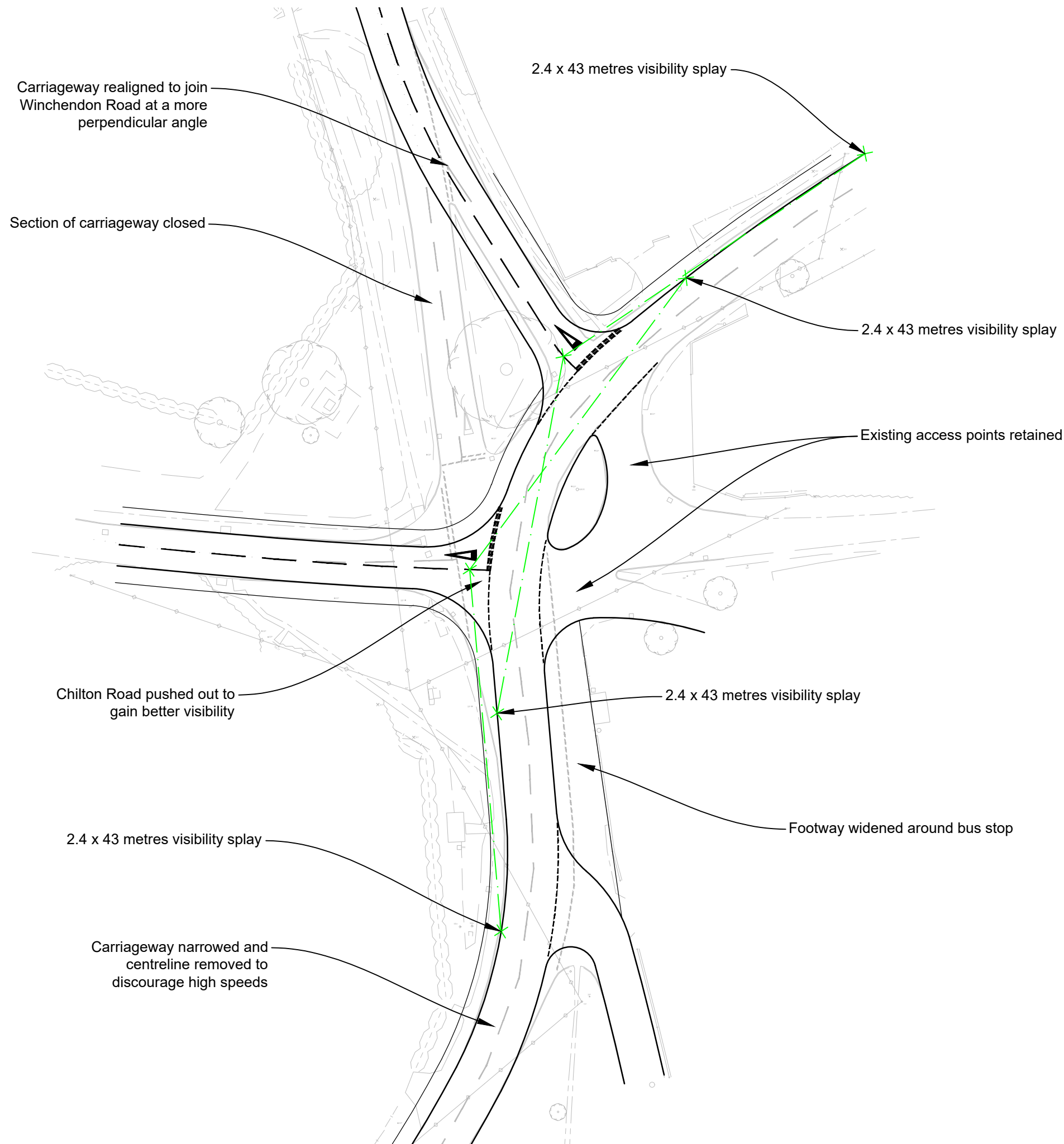
**JUNCTION IMPROVEMENT SCHEME, CHEARSLEY, BUCKINGHAMSHIRE**

Drawing Title

**PROPOSED JUNCTION IMPROVEMENT SCHEME**

**(OPTION 3)**

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Scale:	A3	1:500	
Drawing Status			
<b>PRELIMINARY</b>			
Project - Originator - Zone - Level - Type - Role - Number			
<b>CHE-BWB-GEN-01-DR-TR-103</b>			
Status	S2	Rev	P1



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Rev	Date	Details of issue / revision	Dnw	Rev

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**CHEARSLEY PARISH COUNCIL**

**Project Title**  
**JUNCTION IMPROVEMENT SCHEME, CHEARSLEY, BUCKINGHAMSHIRE**

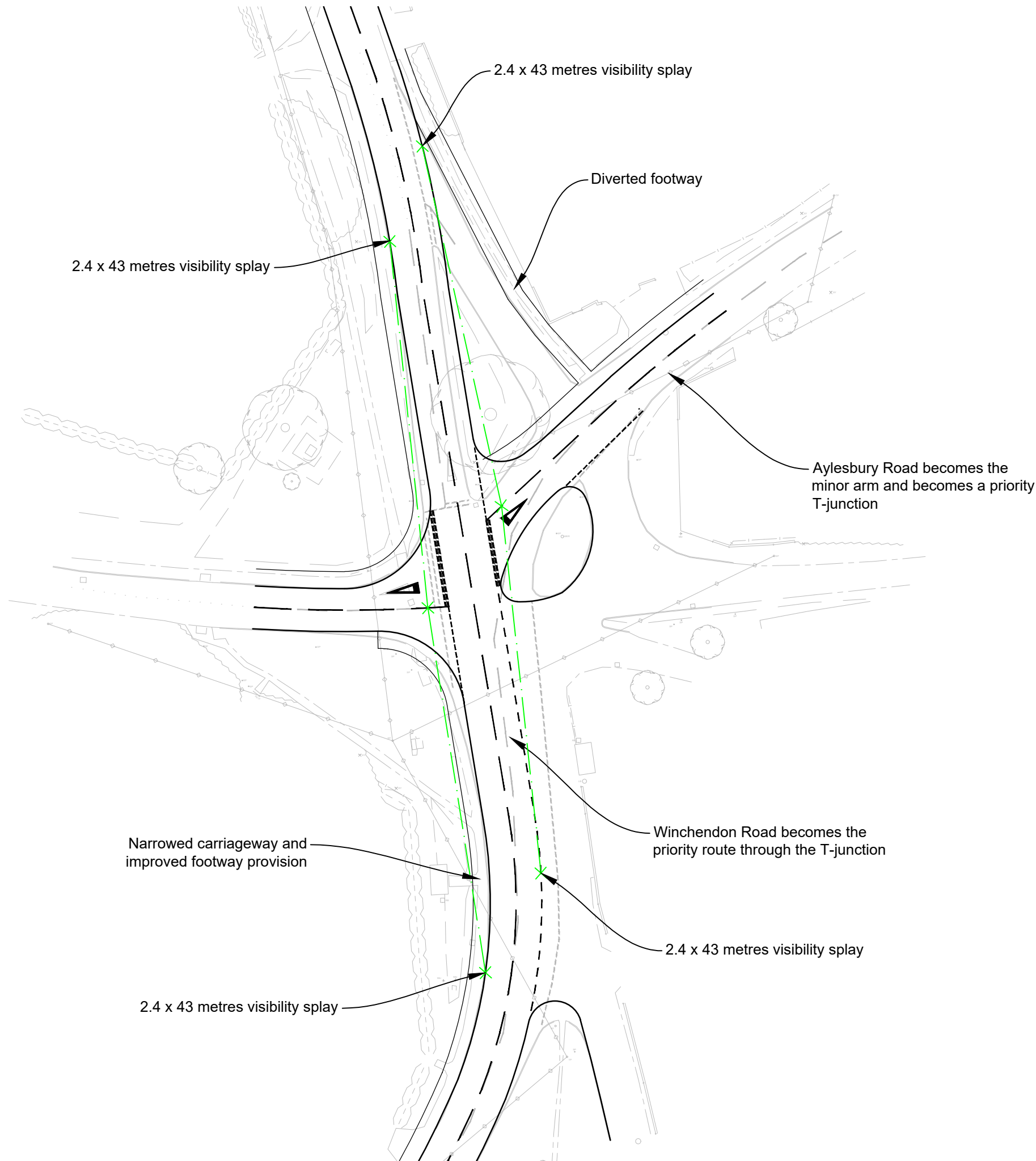
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**PROPOSED JUNCTION IMPROVEMENT SCHEME (OPTION 4)**

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BWB Ref:	LNT 2105	Date:	20.05.19
Scale:	A3	Scale:	1:500

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Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
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#### Key Plan

#### Legend

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Drawing Title  
**PROPOSED JUNCTION IMPROVEMENT SCHEME (OPTION 5)**

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BWB Ref: LNT 2105 Date: 20.05.19 Scale@A3: 1:500

Drawing Status  
**PRELIMINARY**

Project - Originator - Zone - Level - Type - Role - Number Status Rev  
**CHE-BWB-GEN-01-DR-TR-105 S2 P1**





Mini-roundabout to slow traffic from all directions

Carriageway closed

Carriageway closed

Access points to remain

Narrowed carriageway and improved footway provision

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P1

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Project Title

JUNCTION IMPROVEMENT  
SCHEME, CHEARSLEY,  
BUCKINGHAMSHIRE

Drawing Title

PROPOSED JUNCTION  
IMPROVEMENT SCHEME  
  
(OPTION 6)

Drawn:

AJ Oakes

Reviewed:

Sara Terrey

BWB Ref:

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Date:

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Scale@A3:

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Drawing Status

PRELIMINARY

Project - Originator - Zone - Level - Type - Role - Number

CHE-BWB-GEN-01-DR-TR-106

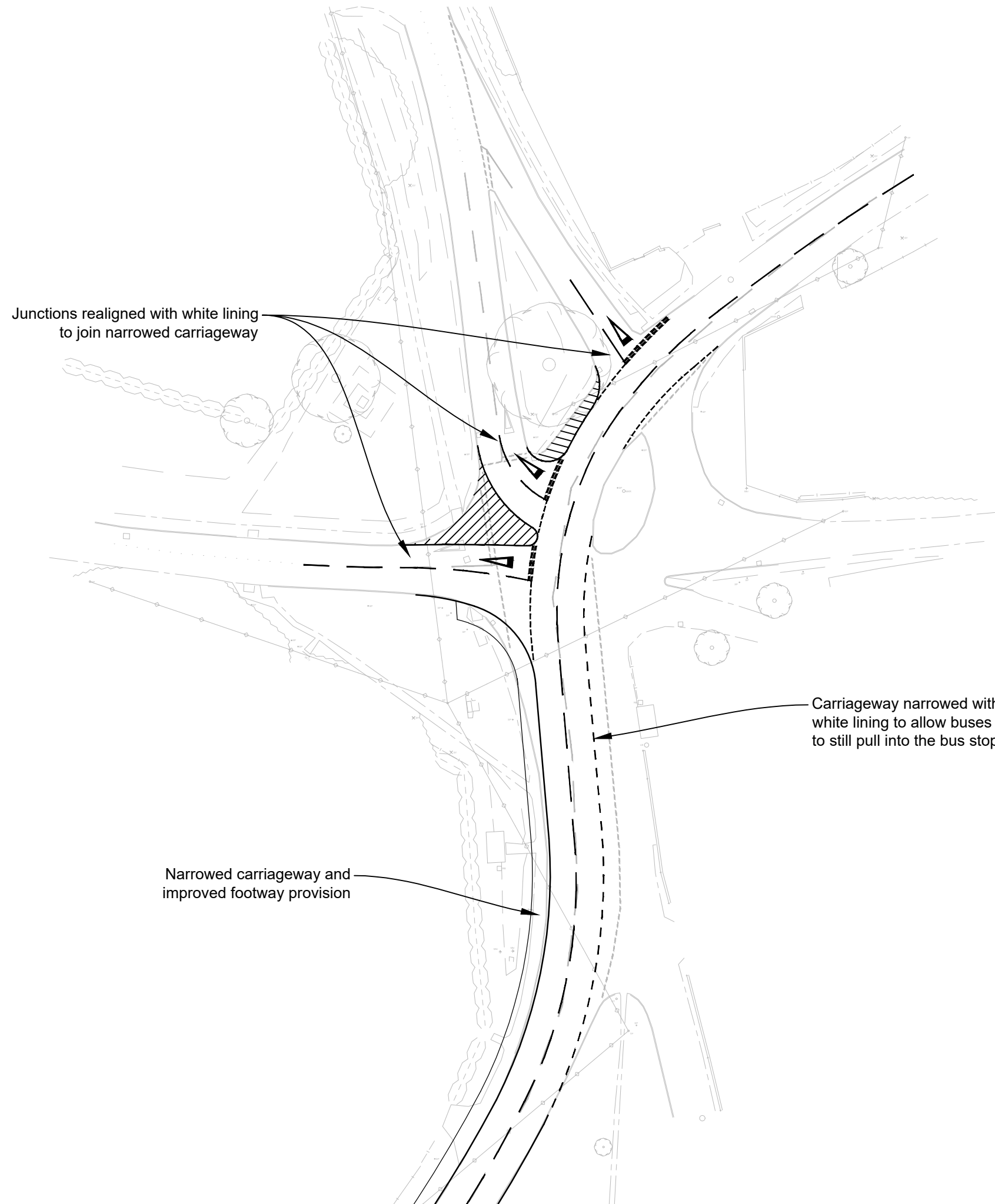
Status

S2

Rev

P1

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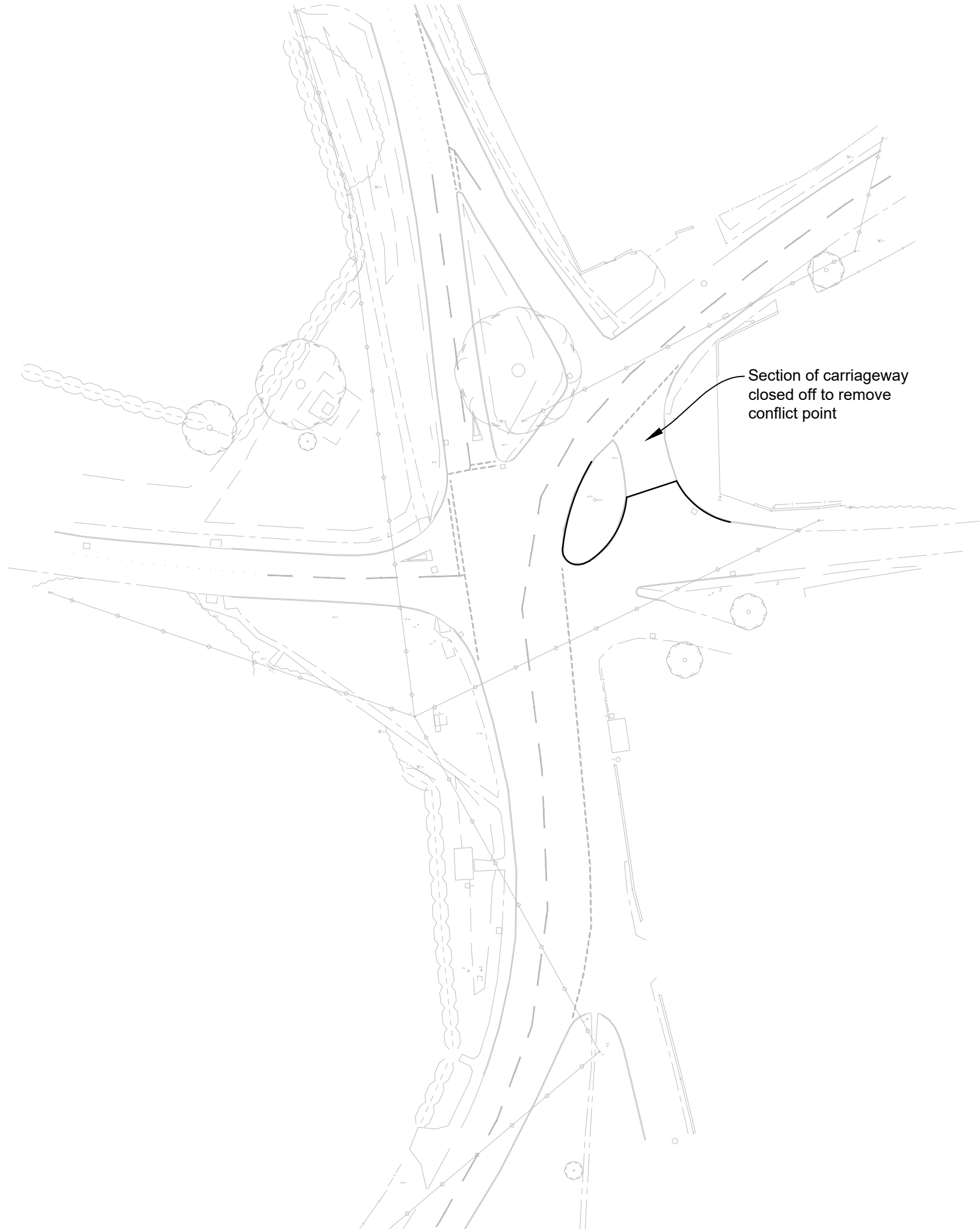
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# JUNCTION IMPROVEMENT SCHEME, CHEARSLEY, BUCKINGHAMSHIRE

# PROPOSED JUNCTION IMPROVEMENT SCHEME (OPTION 7)

Drawing Status	
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**Legend**

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Project Title

**JUNCTION IMPROVEMENT SCHEME, CHEARSLEY, BUCKINGHAMSHIRE**

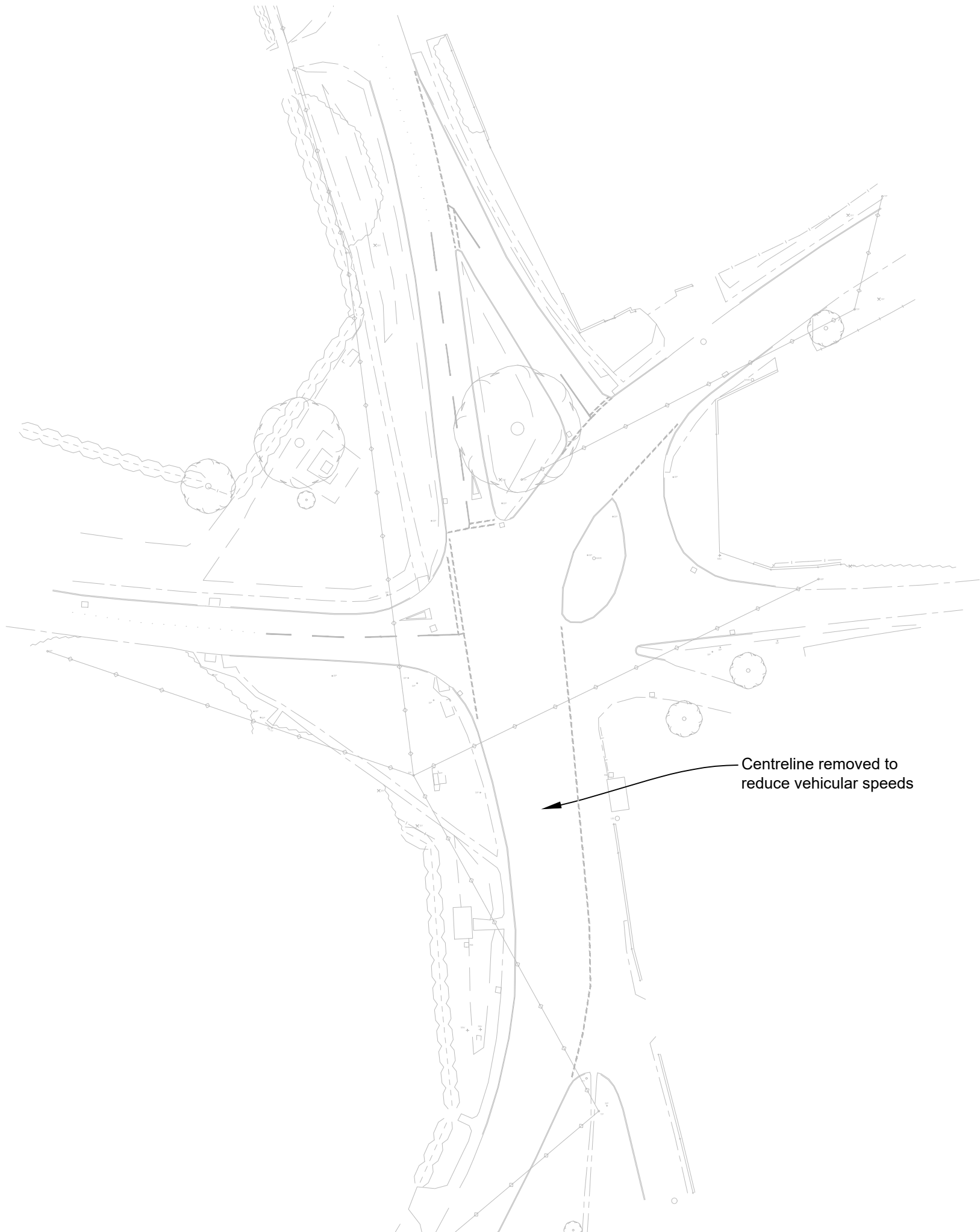
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**PROPOSED JUNCTION IMPROVEMENT SCHEME**

**(OPTION 8)**

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<b>PRELIMINARY</b>			
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<b>CHE-BWB-GEN-01-DR-TR-108</b>	<b>S2</b>	<b>P1</b>	



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**Legend**

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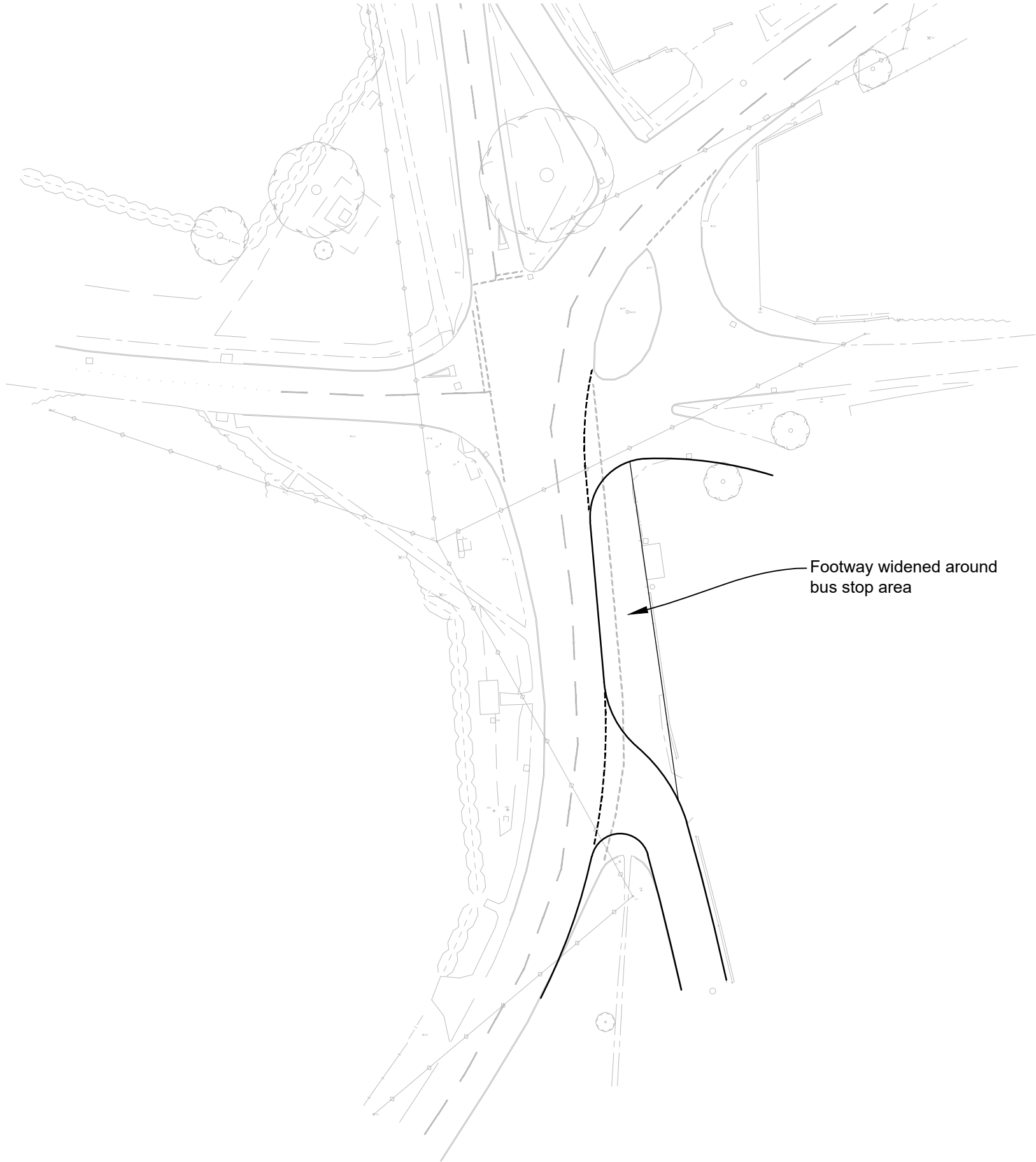
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Drawing Title  
**PROPOSED JUNCTION IMPROVEMENT SCHEME (OPTION 9)**

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<b>CHE-BWB-GEN-01-DR-TR-109</b>	<b>S2</b>	<b>P1</b>



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Key Plan

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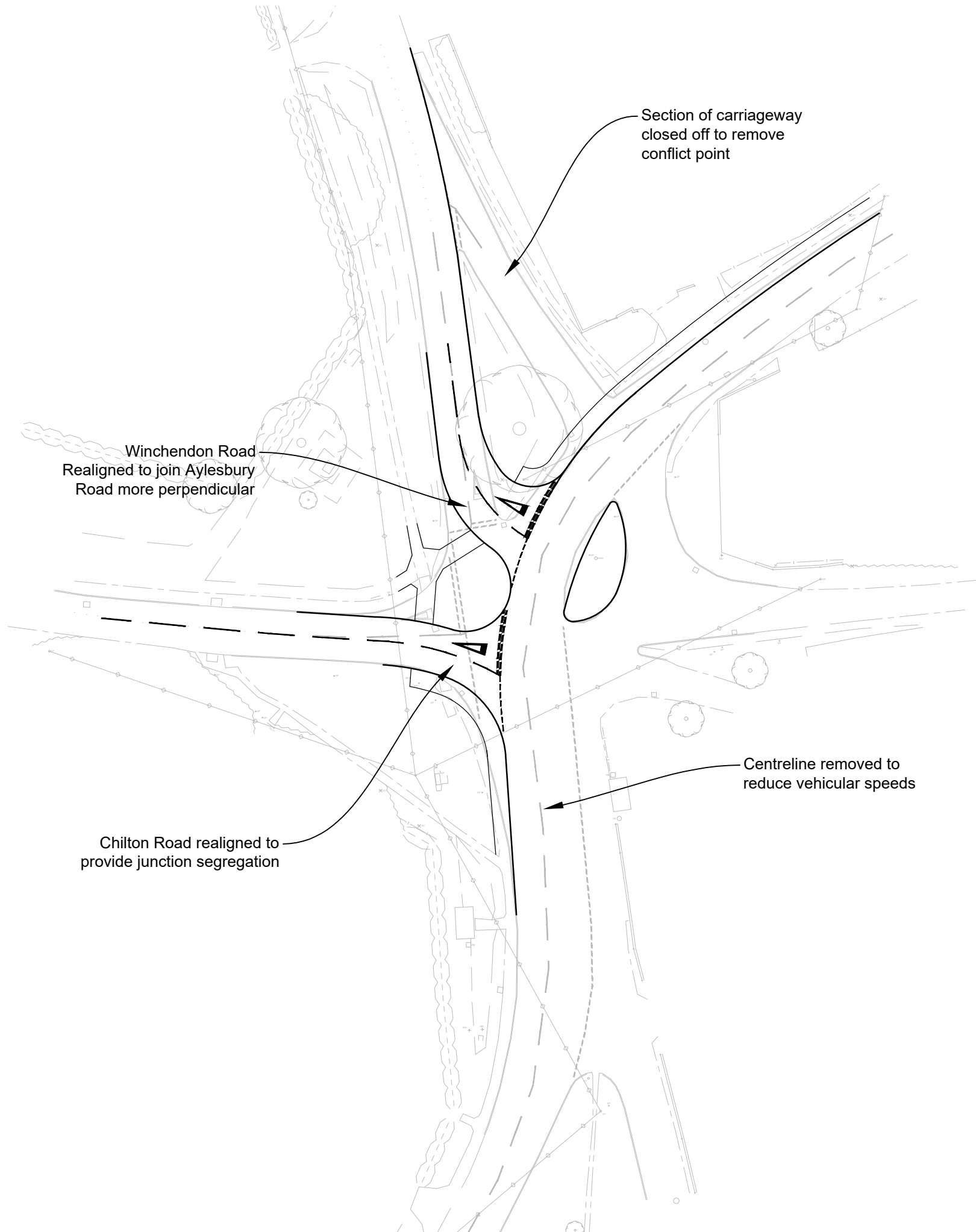
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Drawing Title

**PROPOSED JUNCTION IMPROVEMENT SCHEME**

**(OPTION 10)**

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<b>S2 P1</b>			



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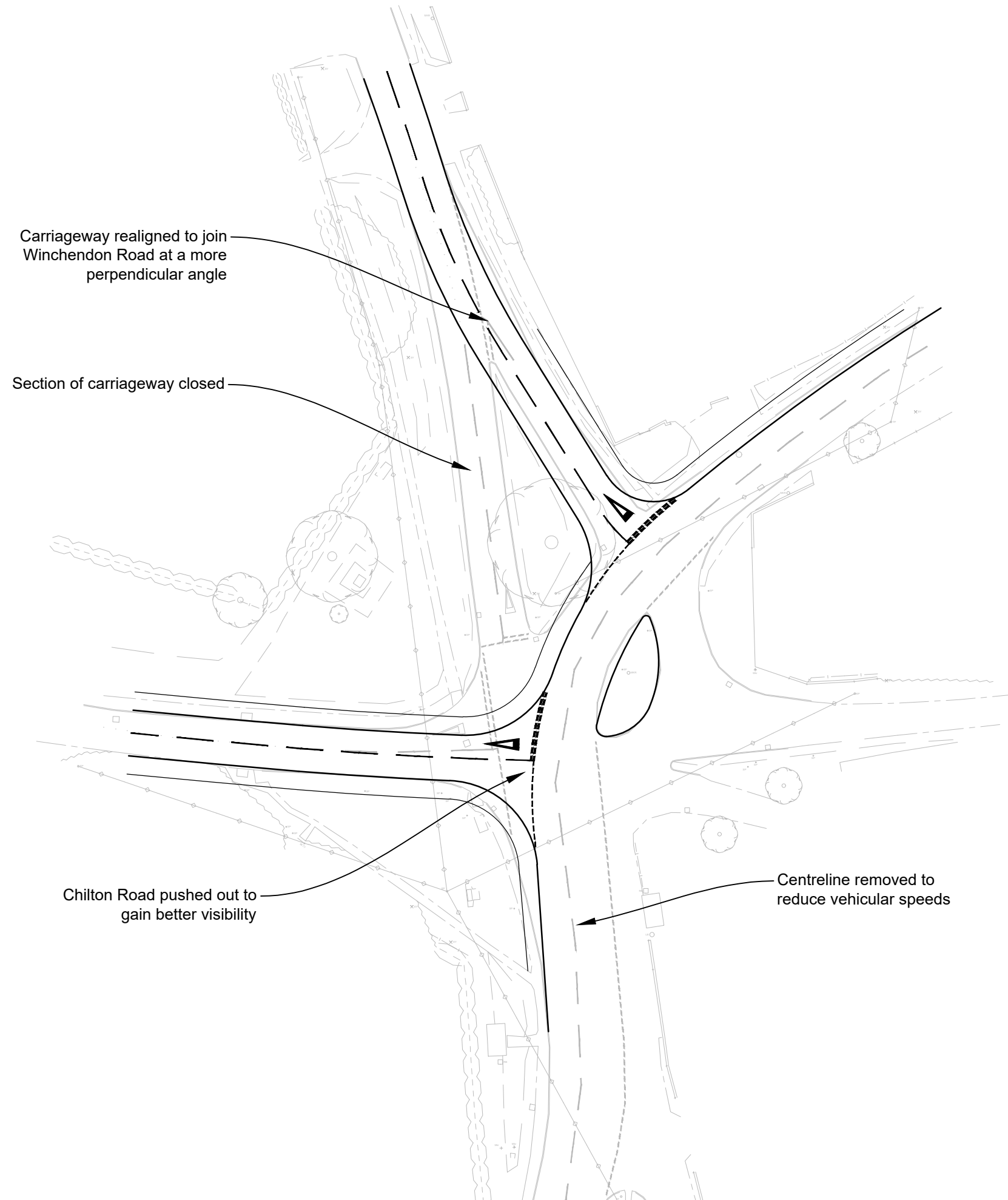
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**PROPOSED JUNCTION IMPROVEMENT SCHEME**

**(OPTION 11)**

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<b>PRELIMINARY</b>					
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<b>CHE-BWB-GEN-01-DR-TR-111</b>				<b>S2</b>	<b>P1</b>





Section of carriageway closed -

- Centreline removed to reduce vehicular speeds

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
CHE-BWB-GEN-01-DR-TR-112	S2	P1

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SCHEME, CHEARSLEY,  
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Drawing Title

**PROPOSED JUNCTION  
IMPROVEMENT SCHEME**

(OPTION 12)

Drawn:	AJ Oakes	Reviewed:	Sara Terrey
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Drawing Status <b>PRELIMINARY</b>					

## PRELIMINARY

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
CHE-BWB-GEN-01-DR-TR-112	S2	P1

## ***APPENDICES***



## ***Appendix 1: Options Study Requirement Document***



## **Road Junction Improvement Options Study**

### **Requirement**

**25 January 2019**

Parish Clerk: Helen Spurgeon  
41 Giffard Way, Long Crendon, Buckinghamshire, HP18 9DN

[helen.v.spurgeon@gmail.com](mailto:helen.v.spurgeon@gmail.com)  
01844 202107

# Road Junction Improvement Options Study

## Background

Chearsley is a small village in the Aylesbury Vale District of Buckinghamshire. Chearsley Parish Council (CPC) has a Requirement for a study to be carried out into options for improving a road junction in the centre of the village, including a topographical survey.

This Requirement arises from concerns that the existing junction layout has inherent safety issues, encourages speeding through the village and results in damage to road verges.

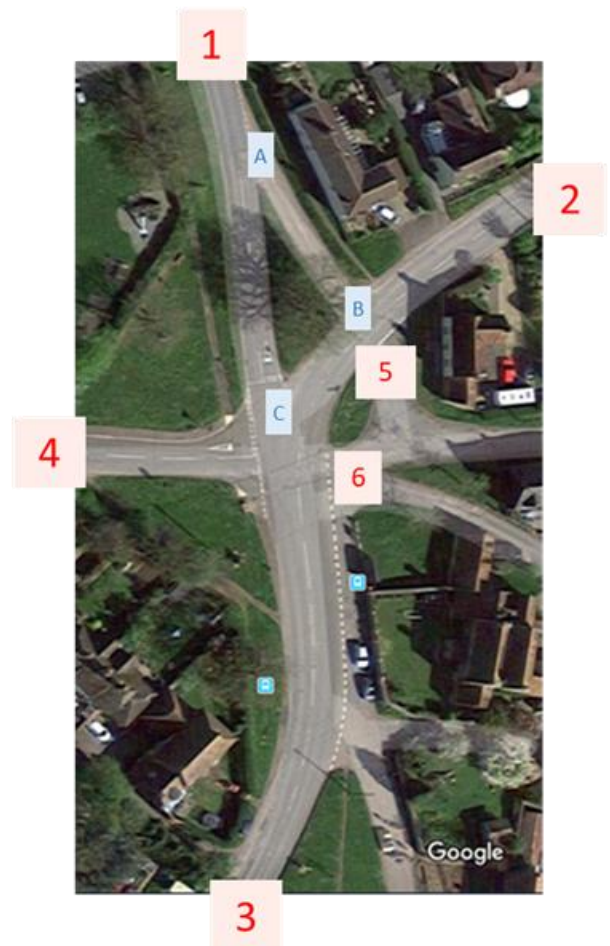
A study of this junction is part of a wider project to address traffic issues through the village. In 2016 CPC carried out three surveys of traffic movements through the village. This resulted in a Feasibility Study being commissioned with Bucks County Council (Transport for Bucks – TfB) in 2017, the result of which was a decision to enhance the entrances to the village, improve internal signage and change white line and stud arrangements. That work is still underway.

## Location

The location is in the centre of the village at 51° 47' 25.45" N, 0° 57' 41.56" W, as illustrated in the diagram.

It comprises the intersection of:

- A main through route marked 1 to 3, Winchendon Road and Crendon Road
- A main through route marked 2 to 3, Aylesbury Road and Crendon Road
- A grass island marked A, B, C known as Horse Chestnut Tree Island (HCI) after the old tree that stands on the island
- A further village entry marked 4, Chilton Road
- Two minor village roads, marked 5 and 6 that do not carry any through traffic



## Work to date

CPC has carried out initial work to identify the problems at the junction and analyse some of the improvement options that might mitigate those problems. This work has focussed specifically however on the issues around HCI and has not looked at the associated issues with junctions 5 and 6.

### Problems

The problems caused at HCI are broadly of three types.

#### 1. Safety

- a. Drivers travelling from 1 to 3 do not always stop at the junction at corner C. There have been many experiences of such traffic pulling out into the path of traffic travelling from 3 to 2, and at least one serious accident.
- b. Drivers travelling from 1 to 3, when stopping at C, have to look at a sharp angle over their left shoulder to check it is clear from direction 2, whilst at the same time being aware of traffic from direction 3 suddenly appearing (often too fast) from around the bend.
- c. When queues of traffic from 1 occur at corner C, it's been known for some to route quickly via corner B to turn right and try and get in front of traffic emerging from corner C towards 3. A 'racing' situation arises.
- d. Drivers travelling from 1 to 3 also consistently fail to give way to drivers emerging from route 4

#### 2. Speeding


- a. The main route is from 1 to 3 and vice versa. The straight road nature of the junction at corner C encourages traffic to speed through the village and across that junction with little pause.
- b. Traffic from 2 to 3 also tends to accelerate around the bend past junction 5 and 6

#### 3. Damage

- a. There have been several instances of heavy traffic coming from 2 and wanting to turn right towards 1, attempting to make the turn at corner C rather than corner B. Possibly because of an impression that this junction is a roundabout. This has caused serious damage to the verge at corner C on several occasions and knocked down the road sign there at least once.
- b. Less frequent and serious but not unknown is damage to the verge at corner A caused by traffic from B attempting to turn towards C

### Improvement Options

Options have been identified that address various of these problems.

Option		Addresses Problem	Disadvantages	Notes
1	Build up kerbing at Corner C	3a	Only deals with that one problem	
2	Build up kerbing at Corner A	3b	Only deals with that one problem	
3	Re-paint road markings at C & B (plus possibly Chilton Rd junction)	1a, 1d 2a	As markings fade over time the mitigation will reduce and they will need re-doing	Impact could be marginal
4	Change Give Way signs at C & B to Stop Signs	1a, 1d 2a	Likely to require police prosecutions to achieve significant impact. Unlikely to happen.	
5	Re-align the road at corner C to interrupt the straight-line traffic flow across that corner (as indicated approximately) in the picture)	1a partially 1b partially, by turning vehicles a little to their left at the junction 1d partially, by slowing vehicles down and putting them further away from junction 4 2a partially, by turning a straight-line junction into a slight right or left turn 3a partially – turn will still be tight	Road width may be insufficient to enable it to work and/or meet current road standards. Could result in loss of either some of HCI or the verge on the other side of the road  Moves left hand corner of junction nearer to the tree  A supporting guy line for the power pole may interfere or need moving, at extra cost	
6	Introduce one way from A to B and from C to A  Would have to be executed in conjunction with Options 1 and 3	1a, 1b, 1c and 1d completely 2a significantly 3a partly	Would require appropriate one-way & no entry signs on HCI corners These would probably have to be illuminated – hence power supply and cost Street lights may be required at the junction The turn from 2 to 1 may be considered too tight even then and/or hazardous.	

Option		Addresses Problem	Disadvantages	Notes
7	Close roadway between A & C completely and route all traffic between A and B, in both directions	1a, 1b & 1c completely  1d significantly  2a significantly  3a & 3b completely	Roadway between A and B may be too narrow, requiring sacrifice of some of HCI on that side to widen it.  However, that would be mitigated by re-claiming the highway between A and C as green land.  Reduced size puts the tree closer to the road and hence at more risk from (and perhaps to) high traffic.  Pushes all traffic closer to The Forge	This is just a small traffic re-routing so may not require street lights, but probably will need more signs.  May impact on Junction 5 across the road which may have to be closed
8	Completely re-shape the junction	All	Could result in a lot of road signs and lights depending on design – highly undesirable.  Expensive.  Would almost certainly require the tree to be removed	Tree removal would be unacceptable locally
9	Add rumble strips to some/all road approaches into the village	2a, 2b	Only deals with Speeding issues. Noise?	
10	Place a sign at the junction of Cannon Hill and Aylesbury Rd (51° 47' 44.82" N, 0° 56' 50.55" W) advising heavy traffic destined for Winchendon to turn right at that point rather than in Chearsley	3a	Only deals with that one problem  Would require complex wording – may not be allowed	

## **Study Requirement**

CPC now wishes to commission a study that will:

1. Carry out a topographical survey of the junction and immediate surrounding area. Produce appropriate mappings.
2. Review each of the HCI options identified above.
3. Identify any other potential options, both for HCI and local junctions 5 and 6
4. For each of the options identified, investigate:
  - a. Viability in terms of national and local road layout requirements
  - b. Likely success in addressing the issues identified
  - c. Potential side benefits or disadvantages beyond achieving the desired outcomes
  - d. An estimate of the implementation cost
5. Liaise with CPC during the course of the Study
6. Produce an output report containing all analysis, mapping from the topographical study, conclusions against each option and recommendations

## **Local Considerations**

In conducting the study it is important to bear in mind that Chearsley is a small village in a rural setting and within an area of Attractive Natural Landscape. The junction is contained within the Chearsley Conservation Area that covers much of the centre of the village. Whilst we would like all potential options investigated in the study, it is worth noting that any solution that involves excessive 'urbanisation', i.e. significant new road signage, road lighting etc., is less likely ultimately to prove acceptable.

To assist with the study, CPC is providing:

- a. The 2016 CPC HGV surveys report
- b. A presentation made by CPC in 2016 to a Bucks CC Freight Strategy conference
- c. The 2017 TfB Feasibility Study Report

## **Procurement Process**

CPC is a public body with responsibility for public funds and therefore intends to meet this Requirement by means of a competitive procurement. The process involves:

- a. Issuing this Requirement to a number of companies that have indicated they have the capability and interest to carry out such a study;
- b. Inviting formal priced Proposals in response to the Requirement from those companies in terms of how the Study would be conducted, its timescales and cost;
- c. From the Proposals, selecting one company ('the Consultant') to carry out the study. This selection will be on a value for money rather than least cost basis, taking account of both price and the expected quality of the study based on information provided in the Response;
- d. Liaising with the Consultant during the course of the study to answer questions, provide further direction as required and generally to ensure that the study produces the desired results.

The factors that will be considered as part of the value for money (vfm) assessment, and which you are requested to include in your Proposal, are as follows:

Method. Indicate the general approach you will use to carrying out the work, including but not limited to:

- Site surveys and other on-site work
- Reference to and learning from previous similar studies
- Expected number and duration of meeting with members of CPC
- Approximate breakdown of overall time into on-site and in-office.

Resource. Indicate:

- Name, contact details and summary CV for the Lead Consultant
- How many people will be involved with carrying out the work, providing if possible names, qualifications and experience.

Duration. Anticipated overall elapsed time from kick-off meeting to delivery of the Draft Final report. Additionally, an indication of the number of man-days likely to be required to carry out the work.

Deliverables. To include:

- Site meetings as appropriate to your Method.
- Topographical Survey output. At sufficient detail to show features and demarcate the boundary that would affect any development works proposed at the junction. Contoured mapping at a scale of 1:20 in original (5 prints) and digital format.
- Interim reports if appropriate to your Method, to be delivered by email.
- Draft Final Report describing the Method, Options studied, Conclusions and Recommendations. To be delivered by email.
- Final report taking into account CPC observations on the Draft. To be delivered in PDF format by email, plus one signed hard copy.

Price. A VAT exclusive fixed price for carrying out the work and providing the Deliverables. Also a per person per day price for carrying out any work not included in the Proposal but related to it and agreed between the Consultant and CPC during the course of the study.

References. Include summary information on up to five examples of similar studies carried out in the last 5 years. Two of which to include details of someone we could contact to discuss your work.

Terms and Conditions. A copy of your preferred T&C. CPC reserves the right to suggest amendments.

CPC is not looking for expansive Proposals for this relatively modest study. Whilst no absolute limit is being imposed, it is anticipated that the information above, plus any other essential detail, could be contained within 6 pages (excluding T&C). Please provide any background corporate information as Annexes.



## **Follow on Work**

Subject to the outcome of the study and the affordability of any recommended solution, CPC may let a further contract for the design of the agreed solution. This further contract may be awarded as an extension to the study contract, or may be subjected to further competition, at the discretion of CPC.

It is expected that any design and implementation work will require liaison with Bucks County Council (or its successor Unitary Authority after March 2020)

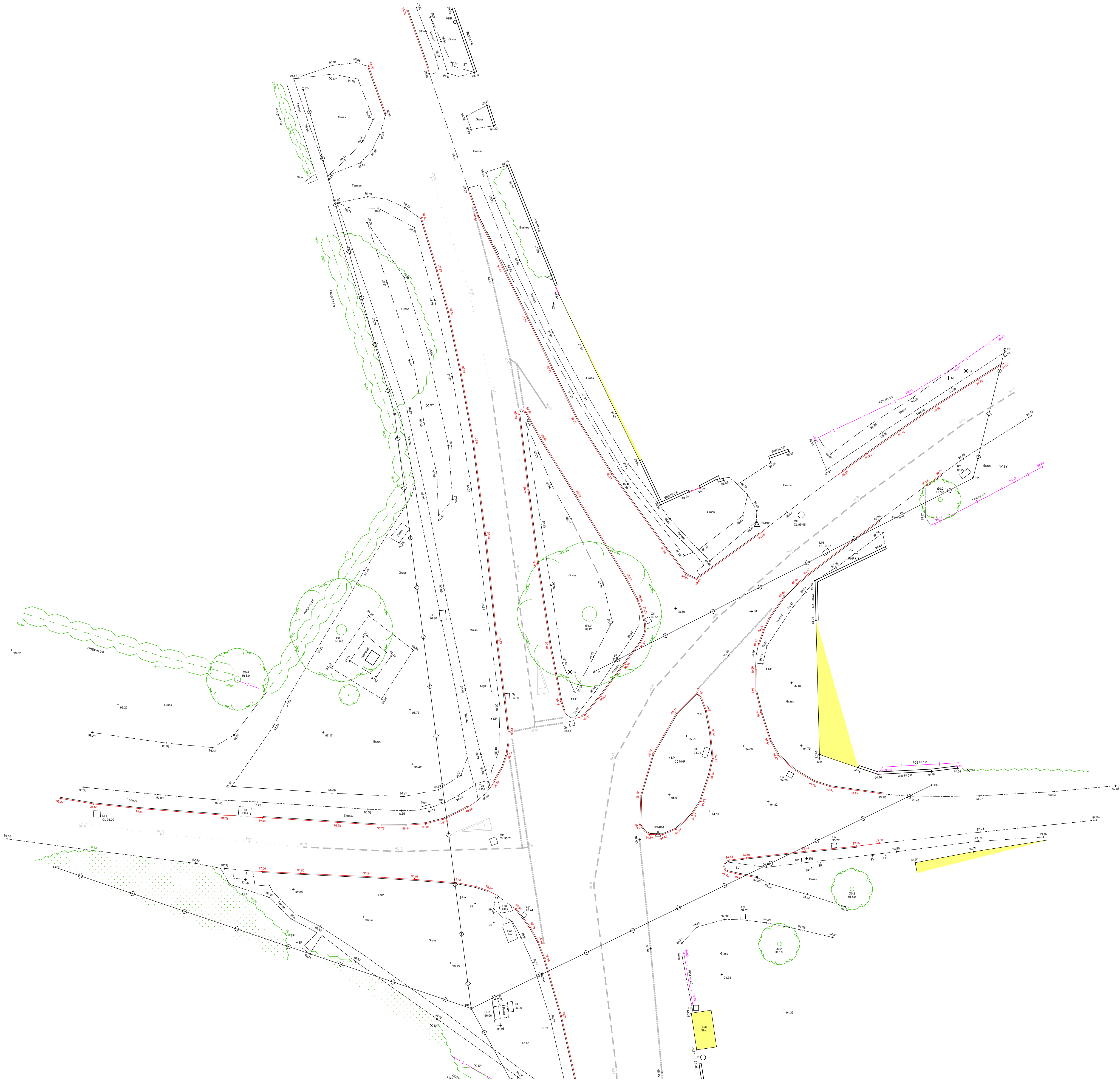
## **Timetable**

- a. Clarification questions on this Requirement – to be received in writing (email) no later than 2 weeks from the date of issue.
- b. CPC responses to clarification questions – will be provided in writing (email) no later than 1 week from the date they are received (note that clarification questions, and the answers provided, will be sent to all companies invited to respond, but without the requesting company being identified).
- c. Firm Price Proposals to be received – no later than 4 weeks from the date of issue of this Requirement.
- d. Selected Consultant advised – no later than 3 weeks from receipt of Proposals
- e. Selected Consultant to accept contract – within 2 working days from being advised
- f. Kick-off meeting to be held – within 2 weeks from contract award
- g. Draft Final Report to CPC – within time period specified in the Proposal
- h. Final report issued to CPC – within 2 weeks of receipt of CPC comments on the Draft Final report (or longer if admitted by CPC as part of its comments)
- i. Payment – to be made on successful completion and acceptance by the CPC of the Final Report

CPC reserves the right:

- To reject any Proposal not meeting the above timetable
- To deem a contract offer as being refused if not accepted within the 2 working day period
- To not award a contract to any bidder if it considers that none of the Proposals offers reasonable vfm

## ***Appendix 2: Topographical Survey***



## Notes

- Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
- This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
- All dimensions in metres unless noted otherwise. All levels in metres unless noted otherwise.
- Any discrepancies noted on site are to be reported to the engineer immediately.
- No scale factor has been applied to this survey, therefore the os coordinates are to be treated as arbitrary. Please refer to survey station information below for on site control establishment.
- All coordinates and height data relate to OSGB36(15). Control stations are coordinated by means of GPS receiving real time corrections via OS smart net.
- All manhole data is collected from ground level therefore discrepancies may occur. More accurate data is only achievable via confined space entry.
- OS license number: 100022432

## Legend

	OS Buildings		Contour Lines
	Surveyed Buildings		Inspection Chamber
	Building		Flow direction and pipe diameter
	Wall		Station and Name
	Kerb Channel Line		Monitoring Borehole
	Top of Kerb		Tree / Bush / Sapling
	Edge of Surface		Area of Vegetation/ Extent of Tree Canopy
	Bottom of Bank		Hedge
	Canopy / Overhang		Body of Water
	Line Marking		Body of Water from OS
	Centre Line		Spot Level
	Watercourse		Assumed Surface
	Centre Line		Surface Water Drainage Line
	Barrier		
	Fence		
	Gate		
	Overhead Powerline		
	Overhead Utilities		

AP	Anchor Point	FBW	Fence Barbed Wire	LB	Litter Bin
BC	Back Gully	FCB	Fence Closed Board	LP	Lamp Post
BO	Bollard	FCL	Fence Chain Link	MH	Manhole
BS	Bus Stop	FEL	Fence Electric	Mkr	Service Marker
BT	British Telecom	FMP	Fence Metal Panel	PB	Post Box
C	Crest	FMR	Fence Metal Railing	PT	Post
CL	Cover Level	FOS	Fence Open Board	RE	Rodding Eye
CMP	Cable Marker	FPW	Fence Post & Wire	SP	Sign Post
		FSP	Fence Steel Palisade	ST	Stop Tap
CCTV	Security Camera	FWM	Fence Wire Mesh	SV	Stop Valve
CTV	Cable TV	FFL	Finished Floor Level	TCB	Telephone
DC	Drainage	FP	Flagpole		
		GP	Gas	THL	Threshold Level
DK	Drop Kerb	GV	Gas Valve	TL	Traffic Light
DP	Down Pipe	GY	Gully	TP	Telegraph Post
Elec	Electric	HT	Height	TS	Traffic Signal
EP	Electricity Post	IC	Inspection Chamber	UTS	Unable to Survey
ER	Earth Rod	IFL	Internal Floor Level	WL	Water Level
FH	Fire Hydrant	IL	Invert Level	WM	Water Meter
FL	Floodlight		(as a reduced level)	WO	Wash Out

## Station Coordinates

Station Name	Eastings (m)	Northings (m)	Height (m)
BWB01	471725.386	210680.242	95.005
BWB02	471714.679	210625.852	95.324
BWB03	471734.932	210710.122	95.640

P1	04.04.19	First Issue		DS	SS
Rev	Date	Details of issue / revision		Dnw	Rev

## Issues & Revisions

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☒ London | 020 7407 3879  
☐ Manchester | 0161 233 4260  
☐ Nottingham | 0115 924 1100  
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Client

**Chearsley Parish Council**

Project Title

**Road Improvement Scheme**

Drawing Title

**Existing Site Plan  
Sheet 1 of 2**

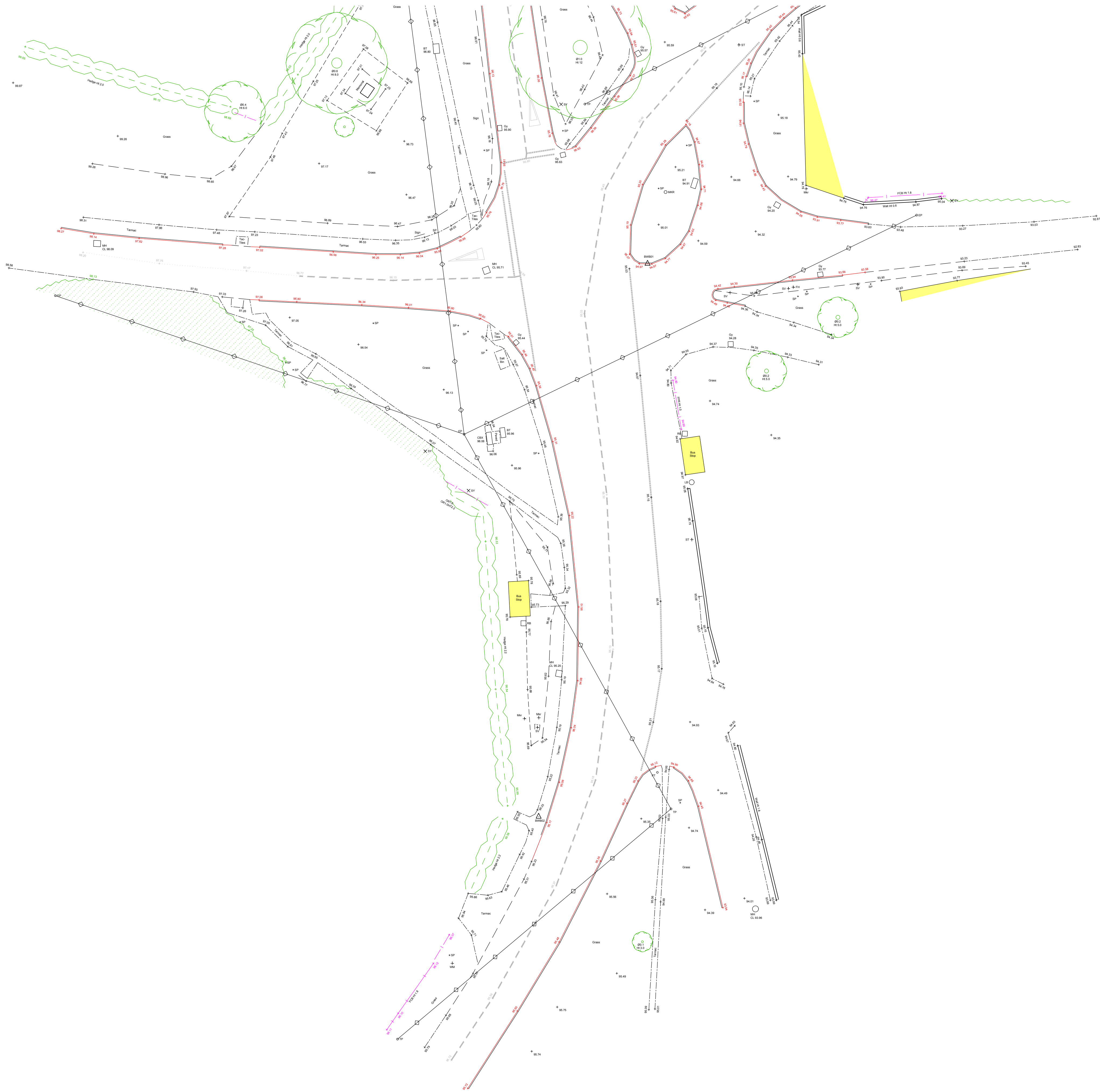
Drawn:	D.Smith	Reviewed:	S.Shreeves
BWB Ref:	LNT2105	Date:	04.04.19

Drawing Status

**Information**

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
CPC-BWB-00-01-DR-G-0001	S2	P1





## Notes

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## Legend

	OS Buildings		Contour Lines
	Surveyed Buildings		Inspection Chamber
	Building		Flow direction and pipe diameter
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	Kerb Channel Line		Station and Name
	Top of Kerb		Monitoring Borehole
	Edge of Surface		Tree / Bush / Sapling
	Top of Bank		Area of Vegetation/ Extent of Tree Canopy
	Bottom of Bank		Hedge
	Canopy / Overhang		Body of Water
	Line Marking		Body of Water from OS
	Centre Line		Spot Level
	Watercourse		Assumed Surface
	Centre Line		Water Drainage Line
	Barrier		Surface Water Drainage Line
	Fence		
	Gate		
	Overhead Powerline		
	Overhead Utilities		

AP	Anchor Point	FBW	Fence Barbed Wire	LB	Litter Bin
BO	Back Gully	FCB	Fence Closed Board	LP	Lamp Post
BO	Bollard	FCL	Fence Chain Link	MH	Manhole
BS	Bus Stop	FEL	Fence Electric	Mkr	Service Marker
BT	British Telecom	FMP	Fence Metal Panel	PB	Post Box
C	Crest	FMR	Fence Metal Railing	PT	Post
CL	Cover Level	FOS	Fence Open Board	RE	Rodding Eye
CMP	Cable Marker	FPW	Fence Post & Wire	SP	Sign Post
	Post	FSP	Fence Steel Palisade	ST	Stop Tap
CCTV	Security Camera	FWM	Fence Wire Mesh	SV	Stop Valve
CTV	Cable TV	FFL	Finished Floor Level	TCB	Telephone
DC	Drainage	FP	Flagpole	Cell Box	
	Channel	GP	Gas	THL	Threshold Level
DK	Drop Kerb	GV	Gas Valve	TL	Traffic Light
DP	Down Pipe	GY	Gully	TP	Telegraph Post
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## Issues & Revisions

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Client

**Chearsley Parish Council**

Project Title

**Road Improvement Scheme**

Drawing Title

**Existing Site Plan  
Sheet 2 of 2**

Drawn:	D.Smith	Reviewed:	S.Shreeves
BWB Ref:	LNT2105	Date:	04.04.19
Scale@A1:	1:200		

Drawing Status

**Information**

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
<b>CPC-BWB-00-02-DR-G-0001</b>	<b>S2</b>	<b>P1</b>



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