

Balcombe Parish Council

Balcombe Safety & Parking Study

Village Centre Road Safety & Newlands Parking Study Proposals

December 2009

Notice

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Contents

Section	Page
1. Introduction	3
1.1 Background to the Study	3
1.2 Study Purpose	3
2. Site Observations	3
2.1 Half Moon Inn Junction	3
2.2 Newlands	5
3. Safety Problems	6
3.1 Half Moon Inn Junction	6
3.2 Newlands	7
4. Treatment Options	8
4.1 Half Moon Inn Junction	8
4.2 Newlands	11
5. Initial Cost Estimates	13
6. Conclusion	13

List of Tables

Table 5.1 – Initial cost estimates	13
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List of Figures

Figure 2.1 – Half Moon Inn Junction	4
Figure 2.2 – Newlands	5

Appendices

Appendix A - Initial Cost Estimates	14
A.1 Half Moon Inn Junction Do-Minimum Option	14
A.2 Half Moon Inn Junction Do-Something Option 1	14
A.3 Half Moon Inn Junction Do-Something Option 2	14
A.4 Newlands Do-Minimum Option	14
A.5 Newlands Do-Something Option	14
Appendix B - Illustrative Drawings of Treatment Options	15
B.1 Drawing No.: 5088922/TP/FS/001 – Half Moon Inn Junction Do-Minimum Option	15
B.2 Drawing No.: 5088922/TP/FS/002 – Half Moon Inn Junction Do-Something Option 1	15
B.3 Drawing No.: 5088922/TP/FS/003 – Half Moon Inn Junction Do-Something Option 2	15
B.4 Drawing No.: 5088922/TP/FS/004 – Newlands Do-Minimum Option	15
B.5 Drawing No.: 5088922/TP/FS/005 – Newlands Do-Something Option	15

1. Introduction

1.1 Background to the Study

This report results from the safety review study carried out at the Balcombe Village Centre i.e. Half Moon Inn junction (Haywards Heath Road junction with Bramble Hill Road) and the parking review study carried out on Newlands in Balcombe, West Sussex for Balcombe Parish Council.

A site visit was conducted on Friday 30th October 2009, in both daylight and darkness conditions. The weather was overcast for most part of the day, and the road surface condition was generally dry throughout. The observation periods during the site visit commenced at 0730 hours in the morning and ended at 1800 hours in the evening. The lighting conditions changed from daylight to darkness at around 1700 hours in the afternoon.

There was no accident data, traffic volume and traffic speed data provided for this study. It should be noted that speed measurements as well as traffic volume counts were not carried out during the site visit.

1.2 Study Purpose

The purpose of this study was to prepare recommendations to Balcombe Parish Council on measures that could be taken, and which the local authorities would be likely to approve in relation to:

- Improving safety in the vicinity of the road junction at the village centre of Balcombe (adjacent to the Half Moon) i.e. Half Moon Inn Junction. The primary concern is the safety of pedestrians crossing the roads, but the risk of vehicle collisions should also be considered; and
- Reducing the amount of on-street parking on Newlands to facilitate the free flow of traffic on this road.

The likely cost of implementation of the recommended measures to address the above issues has been included.

2. Site Observations

2.1 Half Moon Inn Junction

General Site Description

The Half Moon Inn junction (see Figure 2.1) is a four arm priority junction located at the centre of Balcombe Village. It comprises the junction of Haywards Heath Road running from the northwest to the southeast with Bramble Hill on the southwest side and a local access road serving the Half Moon Inn, Balcombe Stores and adjacent properties on the northeast side.

The Haywards Heath Road approach arms to the junction are controlled by 'Give Way' road markings to TSRGD¹ diagrams 1003 and 1023. 'SLOW' road markings to TSRGD diagram 1024 are provided on the Haywards Heath Road northwest approach to the junction. 'Give Way' signs to TSRGD diagram 602 are provided on both Haywards Heath Road approaches. The Bramble Hill approach to the junction has no control and hence it is considered as the priority arm through the junction.

¹ Traffic Signs Regulations and General Directions 2002

TSRGD diagram 1010 road markings (edge of the carriageway at a road junction, exit from a private drive onto a public road) are provided at the northern end of the junction across the Half Moon Inn car park access. TSRGD diagram 1012.1 (edge of the carriageway available for through traffic other than at a road junction) road markings are provided on the Haywards Heath Road arms of the junction.



Figure 2.1 – Half Moon Inn Junction

Parking was observed outside the shops (THREADS shop) and local post office and on the western side Bramble Hill from the junction. There is only one parking bay outside the local post office.

There is a formal uncontrolled pedestrian crossing point via a refuge island on the northwest arm of Haywards Heath Road, provided with buff tactile paving. The refuge island has internally illuminated bollards provided with 'Keep Left' signs to TSRGD diagram 610 and hatching road markings to TSRGD diagram 1040 provided on either side of the approaches to the island.

Road hump ahead warning sign to TSRGD diagram 557.1 with sub plate to TSRGD diagram 557.2 are provided on the exit side of the Haywards Heath northwest arm of the junction, on its south-western footway.

Maximum headroom (15'-0") available at hazard warning signage to TSRGD diagram 530 with sub plate to TSRGD diagram 572 (21/2 miles) are provided on the exit side of the Haywards Heath southeast arm of the junction, on its north-eastern footway.

Bramble Hill has lighting provided on its western side from the junction but the existing lighting on the Haywards Heath northwest arm of the junction stops at the existing bus stop location. The Haywards Heath southeast arm of the junction is not illuminated.

Traffic Flows

The observed traffic flow peaks at the junction were between 0745 and 0845 hours (AM peak) and between 1630 and 1730 hours (PM peak). During both peak periods, there was free flow of traffic at the junction with short queues of about 5 vehicles formed on the Haywards Heath approaches to the junction but clearing easily. There were light flows on Bramble Hill using the junction.

It was observed during the site visit that the current volume/nature of traffic on Haywards Heath Road through the junction did not conform to the character and design of the existing road layout.

A high volume of HGV² traffic was observed to use the junction, mainly in the morning peak period, occasionally mounting onto the footways on the Haywards Heath approach arms to the junction.

Although priority at the junction is afforded to traffic from Bramble Hill, it was observed that traffic approaching from Haywards Heath approach arms often assumed right of way. This practice often resulted in sudden stopping within the junction hence creating a number of near-miss situations at the junction.

Pedestrian flows at the junction mainly comprised of elderly pedestrians from Bramble Hill heading towards the Half Moon Inn and The Balcombe Stores. Pedestrians often crossed in the middle of the junction.

There is an existing bus service (Route 272) via Bramble Hill Road and the Haywards Heath northwest arm of the junction.

Traffic Speeds

The observed speeds through the junction were perceived to be relatively high for the character of the road environment at the junction. This often resulted in sudden slowing down on the approaches to the junction mainly for traffic on Haywards Heath Road approaches. The traffic speeds on Bramble Hill were considered to be relatively low.

2.2 Newlands

General Site Description

Newlands (see Figure 2.2) extends from its junction with the B2036 London Road and turns south and then east as it climbs to its junction with Jobes Road (a cul-de-sac) and Oldlands Avenue (a private road). Parking lay-bys are provided on the southern side of the road, one opposite property numbers 41-44 and the other opposite property numbers 49-50. However, there is heavy parking along the southern side of Newlands, with passing places only afforded at places where there are existing parking lay-bys.



Figure 2.2 – Newlands

² HGV – Heavy Goods Vehicle

Lighting is provided along the southern side of Newlands. At either end of Newlands, the horizontal alignment phases into the vertical alignment.

Traffic Flows

Traffic flow on Newlands appeared to be mainly commuter traffic through the village from Haywards Heath Road via Oldlands Avenue and traffic using Newlands as a parking area for commuters accessing the railway station.

Traffic Speeds

The observed speeds during the morning commuting period appeared to be relatively high for the existing road environment on Newlands. This often resulted in sudden stopping or slowing down to allow right of way to oncoming traffic, sometimes requiring drivers to reverse uphill due to the limited number of passing places.

3. Safety Problems

3.1 Half Moon Inn Junction

Accident data for the junction was not provided for this study and hence it has not been possible to attribute any observed safety problems to particular accident patterns. However, during the site visit, safety concerns were identified by the study team that could increase the risk of accident occurrence at the junction. These include:

- Inappropriate approach speeds to and through the junction which may increase the risk of collisions;
- The footways on Haywards Heath Road junction approaches are very narrow, which HGV traffic was observed to mount on a number of occasions. This increases exposure of pedestrians to motorised traffic and hence increases the risk of injury. A similar problem occurs at the footway on the Haywards Heath Road southeast exit from the junction;
- The existing formal uncontrolled pedestrian crossing point on the Haywards Heath northwest arm of the junction is not in the observed pedestrian desire line. In addition, there are no pedestrian crossing provisions on other junction arms. The resulting injudicious pedestrian crossing movements within the junction would therefore expose pedestrians to an increased risk of injury. This problem is exacerbated by the relatively high peak traffic volumes, involving HGV traffic, through the junction;
- The pedestrian crossing point on the south-western side of the Haywards Heath Road northwest arm of the junction has a steep slope. This may increase the risk of injury to elderly pedestrians, wheel chair users and push chair users at the crossing point;
- There are existing manhole or statutory service covers with slippery surfaces in the carriageway within the junction that create a hazard to motorcyclists;
- The existing road markings at the junction are partially worn. This may reduce the conspicuosity of the junction and hence increase risk of collision occurrence;
- Pedestrians crossing and traffic approaching on the Haywards Heath southeast arm of the junction have limited visibility to the left. The observed high traffic flows, driver approach behaviour and pedestrian crossing movements on this arm may increase the risk of collision occurrence. Visibility is further reduced by parking in front of the shops (THREADS shop). Reduced visibility may increase the risk of collision occurrence at the junction;

- There is limited visibility to the right for south-eastbound traffic through the junction from Bramble Hill Road. Visibility is further reduced by parking in front of the shops (THREADS shop). Reduced visibility may increase the risk of collision occurrence at the junction;
- The junction is poorly lit for the current level of service. Inadequate lighting provision may increase risk of related darkness collisions at the junction. In addition, there is no lighting on the Haywards Heath southeast arm of the junction, which coupled with narrow footway widths, may increase the risk of injury to pedestrians in darkness conditions as well as increase the risk of collisions for motorised traffic on this junction arm;
- The 'Keep Left' sign to TSRGD diagram 610 provided on the illuminated bollard 4H at the pedestrian refuge island on the Haywards Heath northwest arm of the junction is wrongly orientated;
- Road hump ahead warning sign to TSRGD diagram 557.1 with sub plate to TSRGD diagram 557.2, provided on the exit side of the Haywards Heath northwest arm of the junction, on its south-western footway is not illuminated;
- The 'Give Way' sign to TSRGD diagram 602 provided on the approach side of the Haywards Heath northwest arm of the junction, on its north-eastern footway is not illuminated; and
- Maximum headroom available at hazard warning signage to TSRGD diagram 530 with sub plate to TSRGD diagram 572 provided on the exit side of the Haywards Heath southeast arm of the junction, on its north-eastern footway is not illuminated.

3.2 Newlands

Accident data for Newlands was not provided for this study and hence it has not been possible to attribute any observed parking issues to particular accident patterns. However, during the site visit, safety concerns were identified by the study team that could increase the risk of accident occurrence on Newlands. These are mainly alignment constraints and other road environment elements whose influence on safety and operational performance of Newlands may be exacerbated by the existing parking practice. They include:

- Inappropriate speeds through Newlands Road for the character of road which may increase the risk of collisions;
- Reduced forward visibility over vertical crests (opposite property numbers 1 and 24) and around a bend (opposite property numbers 41 – 47). This is exacerbated by the phasing of the bends into the vertical crests at these locations which provides a misleading visual perception of the road environment for vehicles passing parked vehicles and hence may increase the risk of collisions;
- Lack of adequate passing widths due to the heavy parking on the road which may increase the risk of related collisions;
- Inadequate lighting provision, for the resulting level of service induced by traffic cutting through from Haywards Heath Road via Oldlands Avenue. There are only five lighting columns on this stretch of road; these are inadequately spaced providing lighting of low luminance falling to even light the entire road highway environment including the footpath on its northern side. This results in a number of dark sections of road that coupled with increased through traffic, may increase the risk of collisions on this road;
- Between property numbers 51 and 57 (or 1 and 3), vehicles parked on the road reduce the turning radius for vehicles accessing the drive ways. This may increase the risk of damage only collisions at this location. This is exacerbated by the existing steep drive way gradients; and

- There is insufficient provision for pedestrians exiting the parking lay-by between property numbers 41 and 44 which may result in exposure of pedestrians to motorised traffic.

4. Treatment Options

4.1 Half Moon Inn Junction

The observed pedestrian and traffic flow movements at the junction would by character define the junction as a mixed traffic route. However, in relation to the function, design standards recommend that mixed traffic routes should only be provided where there is less than 15% expected HGV traffic on the route and: speeds would be less than 20mph at forecast traffic flows less than 8000 AADT³; or speeds would be between 40 – 50mph at forecast traffic flows of less than 1000 AADT. However, on-carriageway non-motorised user facilities could be provided if there is less than 15% expected HGV traffic on the route and: speeds would be between 20-40mph at forecast traffic flows of less than 6000 AADT; or speeds would be less than 20mph at forecast traffic flows greater than 8000 AADT. It should be noted that traffic flow data has not been provided for this study.

The observed flows and HGV traffic through the junction imply the function of the route through the junction has been changed even though the character is yet to be changed. The suggested treatment options in this section would reduce the risk of accident occurrence at the junction and also improve on its operational performance taking into consideration the traffic mix evident at the junction.

The measures proposed in the following options would require associated Traffic Regulation Orders and/or change use orders to be prepared, as appropriate. Where parking is proposed to be restricted, customers could park at the existing parking area outside the Balcombe stores or at the Community Hall car park accessible via the unadopted Stockcroft Road.

Do-Minimum Option

The measures proposed as a Do-Minimum option at the Half Moon Inn junction are to:

- Provide wider footways of at least 1.5m at the junction through kerb realignment on both Haywards Heath Road approaches;
- Provide a 20mph posted speed limit through the junction to cover an appropriate length along the junction arms;
- Provide double yellow line road markings to TSRGD diagram 1018.1 at the junction and along both sides of Bramble Hill Road up to its junction with the unadopted Stockcroft Road to prevent parking outside the shops (THREADS shop) and on Bramble Hill outside the post office;
- Build out the footway into the access to 'The Balcombe Stores' up to the building line of the Half Moon Inn;
- Provide uncontrolled pedestrian crossing points (with buff coloured tactile paving as appropriate) at all the junction arms. The proposed pedestrian crossing on the Haywards Heath northwest arm would need to be provided with a refuge island offset approximately 3m from the junction. This would require the removal of the existing crossing point on the Haywards Heath northwest arm but the existing illuminated bollards (3H & 4H) with 'Keep Left' signs to TSRGD diagram 610 would have to be relocated to the proposed crossing refuge island, and appropriately orientated;

³ AADT – Annual Average Daily Traffic

- Provide pedestrian guardrailling between the proposed uncontrolled crossing points on the north-western side of the junction as appropriate;
- Provide adequate lighting at the junction and its arms and in particular the southeast arm of the junction;
- Provide manhole or statutory service covers with the same skid resistance as the surrounding carriageway surface;
- Relocate the road hump ahead warning sign to TSRGD diagram 557.1 with sub plate to TSRGD diagram 557.2 and 'Give Way' sign to TSRGD diagram 602 on the Haywards Heath Road northwest arm of the junction, as appropriate;
- Renew the existing road markings at the junction to suit the revised alignment, as appropriate; and
- Remove the existing island, with bollards on the eastern footway of the Haywards Heath south-eastern exit from the junction.

In addition to the above measures, consideration may be given to:

- Applying restrictions (width and weight limits) to HGV traffic through the use of signs to TSRGD diagram 818.4 appropriately located in advance of the village centre to advise alternative routes; and
- Restricting Bramble Hill traffic through the junction by prohibiting the Bramble Hill south eastbound traffic movement and allowing only the north westbound movement. This would require the provision of signs to TSRGD diagram 609 positioned appropriately.

Drawing Number 5088922/TP/FS/001 in Appendix B illustrates some of the proposed measures under this option.

Do-Something Options

Option 1

The measures proposed as a Do-Something option 1, at the Half Moon Inn junction, are to:

- Provide wider footways of at least 1.5m at the junction through kerb realignment on both Haywards Heath Road approaches;
- Signalise the junction and provide associated street furniture (i.e. poles, signs and signals) as appropriate. This would result in a controlled pedestrian crossing environment at the junction. The operation of the signals could be varied to afford different priorities during the peak and off-peak traffic conditions;
- Provide signage to TSRGD diagram 543 (Traffic signals ahead) on the junction approaches;
- Provide double yellow line road markings to TSRGD diagram 1018.1 at the junction and along both sides of Bramble Hill Road up to its junction with the unadopted Stockcroft Road to prevent parking outside the shops (THREADS shop) and on Bramble Hill outside the post office;
- Build out the footway into the access to 'The Balcombe Stores' up to the building line of the Half Moon Inn;
- Provide controlled pedestrian crossing points (with red tactile paving as appropriate) at all the junction arms. This would require the removal of the existing crossing point on the Haywards Heath northwest arm;
- Provide pedestrian guardrailling between the proposed controlled crossing points on the north-western side of the junction as appropriate;

- Provide adequate lighting at the junction and its arms and in particular the southeast arm of the junction;
- Provide manhole or statutory service covers with the same skid resistance as the surrounding carriageway surface;
- Provide antiskid surfacing on the junction approaches;
- Reposition and/or remove the existing road markings and signs at the junction and its approaches to suit the revised alignment, as appropriate; and
- Remove the existing island, with bollards on the eastern footway of the Haywards Heath south-eastern exit from the junction.

In addition to the above measures, consideration may be given to:

- Applying restrictions (width and weight limits) to HGV traffic through the use of signs to TSRGD diagram 818.4 appropriately located in advance of the village centre to advise alternative routes; and
- Restricting Bramble Hill traffic through the junction by prohibiting the Bramble Hill south eastbound traffic movement and allowing only the north westbound movement. This would require the provision of signs to TSRGD diagram 609 positioned appropriately.

Drawing Number 5088922/TP/FS/002 in Appendix B illustrates some of the proposed measures under this option.

Option 2

The measures proposed as a Do-Something option 2, at the Half Moon Inn junction, are aimed at converting the centre of the village into a shared street highway environment. The measures are to:

- Build out the shared area into the access to 'The Balcombe Stores' up to the building line of the Half Moon Inn and to appropriate lengths on the junction arms, with ramps provided to suitable gradients;
- Raise the shared street area to a height of 75mm;
- Permit shared use by both non-motorised and motorised road users by providing the footway and carriageway surfaces at the same level. This would require the conversion of the area into a 20mph zone and consideration given to the application of restrictions (width and weight limits) to HGV traffic through the use of signs to TSRGD diagram 818.4 appropriately located in advance of the village centre to advise alternative routes;
- Apply a change in priority at junction transferring priority from Bramble Hill traffic to Haywards Heath Road traffic through the use of contrasting paving to highlight the main and minor route at the junction;
- Provide double yellow line road markings on the shared surface to TSRGD diagram 1018.1 at the junction and along both sides of Bramble Hill Road up to its junction with the unadopted Stockcroft Road to prevent parking outside the shops (THREADS shop) and on Bramble Hill outside the post office;
- Provide adequate lighting at the junction and its arms and in particular the southeast arm of the junction;
- Provide manhole or statutory service covers with the same skid resistance as the surrounding carriageway surface;
- Reposition and/or remove the existing road markings and signs at the junction to suit the revised alignment, as appropriate;

- Remove the existing island, with bollards on the eastern footway of the Haywards Heath south-eastern exit from the junction; and
- Remove the existing uncontrolled crossing point on the Haywards Heath Road northwest arm of the junction.

In addition to the above measures, consideration may be given to restricting Bramble Hill traffic through the junction by prohibiting the Bramble Hill south eastbound traffic movement and allowing only the north westbound movement. This would require the provision of signs to TSRGD diagram 609 positioned appropriately.

Drawing Number 5088922/TP/FS/003 in Appendix B illustrates some of the proposed measures under this option.

4.2 Newlands

The suggested treatment options in this section would reduce the risk of accident occurrence on Newlands due to the existing parking practice and also improve on its operational performance. The measures are intended to prevent parking on sections with reduced forward visibility (i.e. over vertical crests and bends) and provide adequate passing widths along the road with adequate sight distances. It should however be noted that commuter parking may migrate to nearby residential roads such as Jobes and Bramble Hill as a result of the proposed parking restrictions on Newlands.

The signing proposed on Newlands would require an associated Traffic Regulation Order to be prepared.

In both options, improvements in the existing lighting provision should be considered.

Do Minimum Option

The measures proposed as a Do-Minimum option for Newlands are to provide:

- Double yellow line road markings to TSRGD diagram 1018.1 along:
 - the entire length of the northern side of Newlands between its junctions with the B2036 London Road and Oldlands Avenue;
 - 15m on the eastern side B2036 London Road junction with Newlands;
 - 15m on both sides of Jobes Road junction with Newlands;
 - the southern side of Newlands from its junction with the B2036 London Road up to the eastern end of the building line to property number 3;
 - 5m from lighting column number 34 to the start of the parking lay-by opposite property number 50 on the southern side of Newlands;
 - 10m measured from the parking lay-by opposite property number 49, across the footpath access to the railway station opposite property number 44;
 - the southern side of Newlands between the property boundary to the west of property number 8 and the start of the parking lay-by opposite property number 43; and
 - the southern side of Newlands from the parking lay-by opposite property number 43 to the start of Oldlands Avenue
- 20mph posted speed limit signage (terminal and repeater signs) in accordance with Traffic Signs Manual Chapter 3 guidelines

The Do-Minimum option may create a situation where commuter parking competes with the limited resident parking along Newlands.

Drawing Number 5088922/TP/FS/004 in Appendix B illustrates some of the proposed measures under this option.

Do Something Option

The Do Something option would provide additional accessible resident parking and restrict parking on Newlands to residents only within a controlled parking zone (hours of operation to be determined in discussion with the local highway authority). The measures proposed as a Do Something option for Newlands are to provide:

- Double yellow line road markings to TSRGD diagram 1018.1 along:
 - the entire length of the northern side of Newlands between its junctions with the B2036 London Road and Oldlands Avenue;
 - 15m on the eastern side B2036 London Road junction with Newlands;
 - 15m on both sides of Jobs Road junction with Newlands;
 - the southern side of Newlands from its junction with the B2036 London Road up to the eastern end of the building line to property number 3;
 - 5m from lighting column number 34 to the start of the parking lay-by opposite property number 50 on the southern side of Newlands;
 - 10m measured from the parking lay-by opposite property number 49, across the footpath access to the railway station opposite property number 44 to the building line to property numbers 4 & 5;
 - the southern side of Newlands between the property boundary to the west of property number 8 and 5m to the east of lighting column number 33 opposite property number 45; and
 - the southern side of Newlands from the parking lay-by opposite property number 43 to the start of Oldlands Avenue
- 20mph posted speed limit signage (terminal and repeater signs) in accordance with Traffic Signs Manual Chapter 3 guidelines
- Resident permit holders only parking bays along the southern side of Newlands with associated signage to TSRGD diagram 660.3 as follows:
 - 3 parking bays (2m wide by 6m long) provided with markings to TSRGD diagram 1032 between the end of the building line to property number 3 and lighting column number 34; and
 - 5 parking bays (2m wide by 5.5m long) provided with markings to TSRGD diagram 1032 between the building line to property numbers 4 & 5 and the property boundary to the west of property number 8
- Resident permit holders only signage to TSRGD diagram 660.3 at the two existing parking lay-bys on the southern side of Newlands
- Amend the layout of the parking lay-by opposite property number 49 by making the eastern entry (parking bay for the disabled) perpendicular to the carriageway and providing it with a width of 3.6m. In addition, refresh the exiting parking bay markings at the lay-by
- Additional resident parking at the lay-by opposite property number 43 by extending it approximately 20m to the west (to a point in line with the building line to property number 10) and approximately 18m to the east (to a point in line with the building line between property numbers 41 & 42). This would provide the lay-by with 24 parking bays (22, 2.2m wide parking bays and 2, 3.6m wide disabled parking bays). In addition, remove the existing lay-by markings and provide parking lay-by markings to TSRGD diagram 1033; and

- A 1m wide footpath at the southern side of the parking lay-by, to cover the width of the parking lay-by, opposite property number 43 to connect to the footpath opposite property number 21.

Drawing Number 5088922/TP/FS/005 in Appendix B illustrates some of the proposed measures under this option.

5. Initial Cost Estimates

Table 5.1 shows the initial cost estimates derived for the suggested treatment options, details of which are included in Appendix A. It should be noted that these cost estimates are subject to change depending on detailed topographical surveys being carried out and local construction contractor rates. They should therefore be used only as indicators of the likely scheme cost of the options and as a comparative between the various suggested treatment options.

Table 5.1 – Initial cost estimates

Location	Option	Cost Estimate (£)
Half Moon Inn Junction	Do-Minimum	39,355.55
	Do-Something: Option 1	143,258.05
	Do-Something: Option 2	165,064.19
Newlands	Do-Minimum	3,450.00
	Do-Something	17,513.98

6. Conclusion

Implementation of any of the suggested options would improve the current safety and operational performance at both the Half Moon Inn junction and Newlands.

Appendix A - Initial Cost Estimates

- A.1 Half Moon Inn Junction Do-Minimum Option
- A.2 Half Moon Inn Junction Do-Something Option 1
- A.3 Half Moon Inn Junction Do-Something Option 2
- A.4 Newlands Do-Minimum Option
- A.5 Newlands Do-Something Option

Appendix B - Illustrative Drawings of Treatment Options

- B.1 Drawing No.: 5088922/TP/FS/001 – Half Moon Inn Junction Do-Minimum Option
- B.2 Drawing No.: 5088922/TP/FS/002 – Half Moon Inn Junction Do-Something Option 1
- B.3 Drawing No.: 5088922/TP/FS/003 – Half Moon Inn Junction Do-Something Option 2
- B.4 Drawing No.: 5088922/TP/FS/004 – Newlands Do-Minimum Option
- B.5 Drawing No.: 5088922/TP/FS/005 – Newlands Do-Something Option

A1: Balcombe Safety & Parking Study - Half Moon Inn Do Minimum option

COST ESTIMATE

Series		Unit	Quantity	Rate	Cost
100	Traffic Management				
	Site traffic management	no.	1.00	£ 5,000.00	£ 5,000.00
200	Site Clearance				
	General site clearance	no	1.00	£ 2,000.00	£ 2,000.00
400	Road Restrain Systems				
	Pedestrian guardrail	m	19.00	£ 50.00	£ 950.00
500	Drainage and service ducts				
	Drainage pipes	m	80.00	£ 83.78	£ 6,702.40
	Carriageway gully	no	7.00	£ 276.96	£ 1,938.72
600	Earthworks				
	Excavation and disposal of material (including excavation in hard material)	cu m	51.07	£ 55.00	£ 2,808.85
700	New Highway Construction				
	Sub Base Type 1 (150mm)	cu m	7.28	£ 40.00	£ 291.20
	Road Base 200mm DBM	sq m	48.50	£ 14.00	£ 679.00
	Binder Course 60mm DBM	sq m	48.50	£ 10.00	£ 485.00
	Surface Course 40mm SMA	sq m	48.50	£ 10.00	£ 485.00
1100	New Footway Construction				
	Footway inc sub-base (235mm)	m2	107.90	£ 26.02	£ 2,807.56
	Pre Cast Concrete Kerb	m	151.40	£ 30.00	£ 4,542.00
	Tactile paving inc sub-base (245mm)	m2	15.84	£ 67.47	£ 1,068.72
TOTAL					£29,758.45
1200	Signs and Road Markings				
	Percentage of total (5%)		5%		£1,487.92
1300	Road Lighting (Columns)				
	Percentage of total (10%)		10%		£2,975.85
CIVILS TOTAL					£34,222.22
	Contingency		15%		£5,133.33
OVERALL TOTAL					£39,355.55

A2: Balcombe Safety & Parking Study - Half Moon Inn Do Something option 1

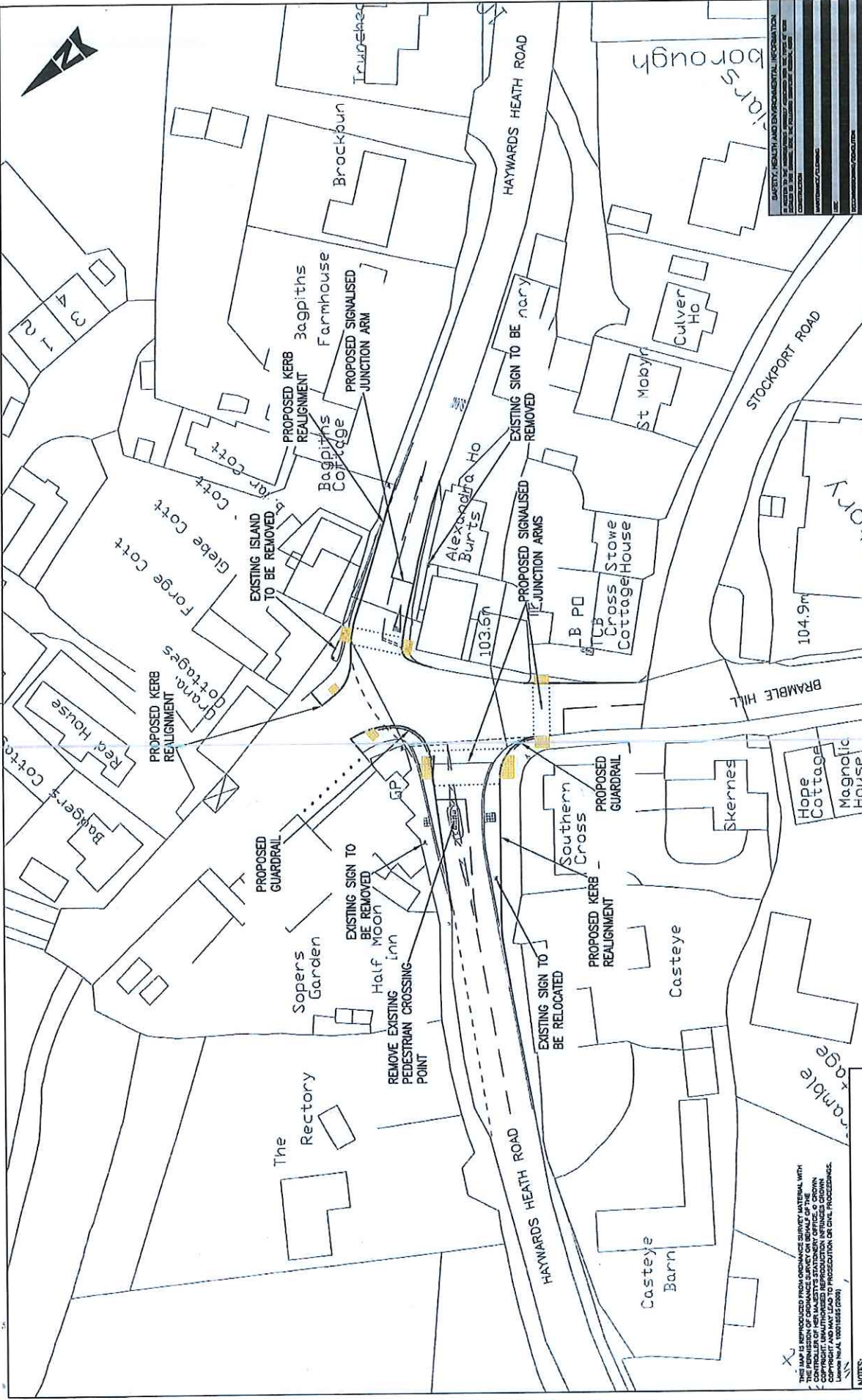
COST ESTIMATE

Series		Unit	Quantity	Rate	Cost
100	Traffic Management				
	Site traffic management	no.	1.00	£ 5,000.00	£ 5,000.00
200	Site Clearance				
	General site clearance	no	1.00	£ 2,000.00	£ 2,000.00
400	Road Restrain Systems				
	Pedestrian guardrail	m	19.00	£ 50.00	£ 950.00
500	Drainage and service ducts				
	Drainage pipes	m	80.00	£ 83.78	£ 6,702.40
	Carriageway gully	no	7.00	£ 276.96	£ 1,938.72
600	Earthworks				
	Excavation and disposal of material (including excavation in hard material)	cu m	51.07	£ 55.00	£ 2,808.85
700	New Highway Construction				
	Sub Base Type 1 (150mm)	cu m	7.28	£ 40.00	£ 291.20
	Road Base 200mm DBM	sq m	48.50	£ 14.00	£ 679.00
	Binder Course 60mm DBM	sq m	48.50	£ 10.00	£ 485.00
	Surface Course 40mm SMA	sq m	48.50	£ 10.00	£ 485.00
	Anti Skid Surfacing	sq m	450.00	£ 20.00	£ 9,000.00
1100	New Footway Construction				
	Footway inc sub-base (235mm)	m2	107.90	£ 26.02	£ 2,807.56
	Pre Cast Concrete Kerb	m	151.40	£ 30.00	£ 4,542.00
	Tactile paving inc sub-base (245mm)	m2	15.84	£ 67.47	£ 1,068.72
TOTAL					£38,758.45
1200	Signs and Road Markings				
	Percentage of total (5%)		5.0%		£1,937.92
1300	Road Lighting (Columns)				
	Percentage of total (10%)		10%		£3,875.85
	Traffic Signals				£80,000.00
CIVILS TOTAL					£124,572.22
	Contingency		15%		£18,685.83
OVERALL TOTAL					£143,258.05

A5: Balcombe Safety & Parking Study - Newlands Do Something option

COST ESTIMATE

Series		Unit	Quantity	Rate	Cost
100	Traffic Management				
	Site traffic management	no.	1.00	£ 2,000.00	£ 2,000.00
200	Site Clearance				
	General site clearance	no	1.00	£ 1,000.00	£ 1,000.00
600	Earthworks				
	Excavation and disposal of material (including excavation in hard material)	cu m	58.37	£ 55.00	£ 3,210.35
700	New Highway Construction				
	Sub Base Type 1 (150mm)	cu m	19.46	£ 40.00	£ 778.40
	Road Base 200mm DBM	sq m	129.70	£ 14.00	£ 1,815.80
	Blinder Course 60mm DBM	sq m	129.70	£ 10.00	£ 1,297.00
	Surface Course 40mm SMA	sq m	129.70	£ 10.00	£ 1,297.00
1100	New Footway Construction				
	Pre Cast Concrete Kerb	m	77.70	£ 30.00	£ 2,331.00
1200	Signs and Road Markings				£1,500.00
CIVILS TOTAL					£15,229.55
	Contingency		15%		£2,284.43
OVERALL TOTAL					£17,513.98



<p>SAFETY HEALTH AND ENVIRONMENTAL INFORMATION</p> <p>THIS DRAWING IS THE PROPERTY OF ATKINS LIMITED AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF ATKINS LIMITED.</p> <p>ATKINS LIMITED 100, GERRARD ROAD, BUCKINGHAM, MK18 2JQ TEL: 01295 262000 FAX: 01295 262001 WWW.ATKINS.CO.UK</p>		<p>HALF MOON INN JUNCTION SAFETY REVIEW DO SOMETHING - OPTION 1</p>	
<p>Scale: 1:1000</p>	<p>Drawn: 11.08</p>	<p>Checked: 11.08</p>	<p>Date: 11.08</p>
<p>Sheet: A3</p>	<p>Scale: 1:1000</p>	<p>Drawn: 11.08</p>	<p>Date: 11.08</p>
<p>Project: BALCOMBE PARISH COUNCIL</p>	<p>Project: BALCOMBE SAFETY AND PARKING STUDY</p>	<p>Client: BALCOMBE PARISH COUNCIL</p>	<p>Project: BALCOMBE SAFETY AND PARKING STUDY</p>
<p>Atkins Limited Consulting Engineers, Newcastle Green, Ashley Road, Epsom, Surrey, England, TW20 2JQ Tel: (01372) 726149 Fax: (01372) 746325 Email: info@atkins.co.uk</p>	<p>By: [Signature]</p>	<p>Date: 11.08</p>	<p>Date: 11.08</p>
<p>Final Programme of works</p>	<p>Final Programme of works</p>	<p>Final Programme of works</p>	<p>Final Programme of works</p>

NOTES:

1. SIGNALISE JUNCTION AND PROVIDE ASSOCIATED FURNITURE AND ROAD MARKINGS/SIGNS. LINES TO TRACED DIAGRAM 1018.1.
2. PROPOSED LIGHTING TO BE PROVIDED AT JUNCTION.
3. PROPOSED SIGNAGE TO BE PROVIDED AT APPROACH.
4. CONSIDER RESTRICTING BRAMBLE HILL TRAFFIC AT JUNCTION.
5. CONSIDER RESTRICTING BRAMBLE HILL TRAFFIC AT JUNCTION.
6. CONTROLLED PEDESTRIAN CROSSING POINTS ON HAYWARDS HEATH ROAD & BRAMBLE HILL.
7. UNCONTROLLED PEDESTRIAN CROSSING POINT AND SIGNALISED LOCAL ACCESS VIA BALCOMBE STORES

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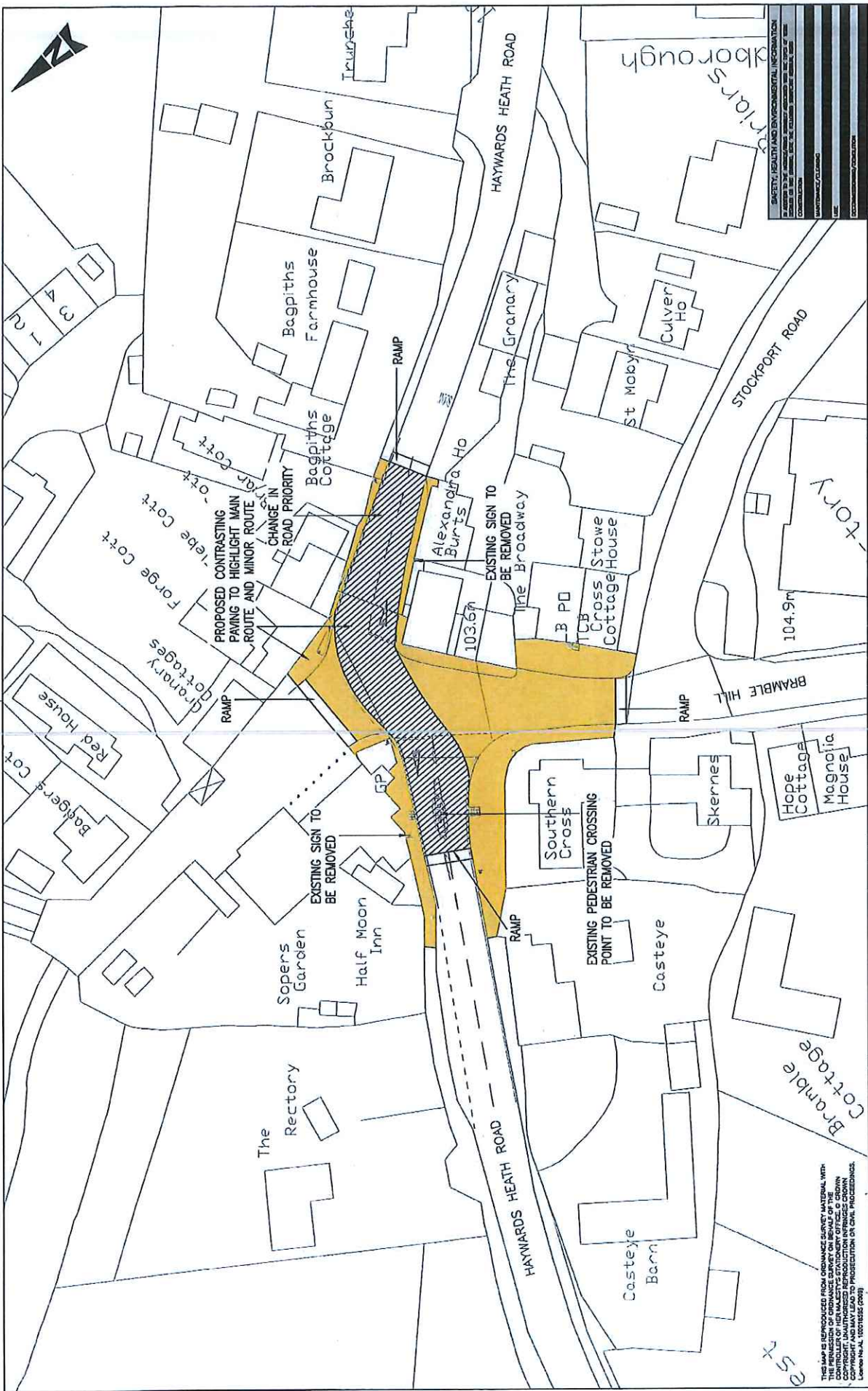
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 Drawn: 11.08
 Checked: 11.08
 Date: 11.08

Project: BALCOMBE PARISH COUNCIL
 Project: BALCOMBE SAFETY AND PARKING STUDY
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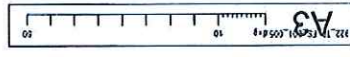
By: [Signature]
 Date: 11.08
 Date: 11.08

Final Programme of works
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 Final Programme of works



Scale Drawing Number: 50899227/P/FS/003
 Date: 04/02/2009
 Project: 50899227/P/FS/003

DO NOT SCALE



Project: 50899227/P/FS/003
 Date: 04/02/2009
 Project: 50899227/P/FS/003

NOTES:
 1. SHARED STREET AREA TO BE RAISED TO A HEIGHT OF 750mm.
 2. SHARED STREET AREA TO BE SHARED BY PEDESTRIANS AND VEHICLES.
 3. 20MPH ZONE TO BE IMPLEMENTED IN THE SHARED STREET AREA.
 4. PROPOSED FOOTWAY AND CARRIAGEWAY TO BE LAID AT SAME LEVEL.
 5. CONSIDERATION SHOULD BE GIVEN TO RESTRICTING HOV'S ALONG THIS AREA.
 6. ADEQUATE LIGHTING TO BE PROVIDED AT JUNCTION.
 7. PROVIDE WAITING / RESTRICTIONS AT THE JUNCTION.
 8. CONSIDER RESTRICTING BRAMBLE HILL TRAFFIC AT THE JUNCTION.

<p>ATKINS Atkins Limited Consulting Engineers, 1129 EP A, (OSD)AL, EDGE Date: 04/02/2009 By: [Signature]</p>		<p>BALCOMBE PARISH COUNCIL Project: BALCOMBE SAFETY AND PARKING STUDY</p>	
<p>Address: 1129 EP A, (OSD)AL, EDGE Tel: (01323) 742514 Fax: (01323) 742555 www.atkinspl.com</p>		<p>Project: BALCOMBE SAFETY AND PARKING STUDY</p>	
<p>Scale: 1:1000 Date: 11/08/08 Drawn: [Name] Checked: [Name]</p>		<p>Project: BALCOMBE SAFETY AND PARKING STUDY</p>	
<p>Scale: 1:1000 Date: 11/08/08 Drawn: [Name] Checked: [Name]</p>		<p>Project: BALCOMBE SAFETY AND PARKING STUDY</p>	
<p>Scale: 1:1000 Date: 11/08/08 Drawn: [Name] Checked: [Name]</p>		<p>Project: BALCOMBE SAFETY AND PARKING STUDY</p>	

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