

**PROPOSED ERECTION OF 3 HOUSES AT LAND TO THE SOUTH OF WESTER BONHARD,  
BO'NESS EH51 9RR**

**ENERGY STATEMENT**

Planning Reference P/16/0074/FUL refers to the above development and it is intended that the proposed houses will be Gold Val-U-Therm closed panel kit houses specially constructed by Scotframe (or equivalent).

The new houses shall incorporate Val-U-Therm and Low and Zero Carbon Generating Technologies (LZCGT), including photovoltaic (pv) panels, working with an inverter to deliver a reduction in CO<sub>2</sub> emissions of at least 10% and to achieve an energy efficiency standard of not less than Bronze Active Level. The pv panels will be located on the SW facing portion of the roof above the garages, and on the SE and NW facing portions of the roof above the master bedrooms, all of which are to the rear of the proposed properties – see attached sketch.

It is considered that there are no sensitive receptors such as listed buildings or ecologically sensitive sites on or around the development site that will be affected by the use of roof mounted photovoltaic panels.

Compliance with policy D04 shall be demonstrated by submitting to the Planning Authority a copy of the Sustainability Label and a Statement of Conformity which confirms that at least 10% of the required CO<sub>2</sub> emissions reduction is achieved through the installation of LZCGT.

The requirements of Policy D04 tie in with Building Standards legislation and guidance, including in particular Section 6 of the Domestic Technical Handbook, and comprehensive submissions including the Standard Assessment Procedure (SAP) rating for dwellings; Target Emissions Rate (TER) and Actual Emissions Rate (DER); and Energy Performance Certification shall be undertaken using approved software programmes.

Certification of the Energy Design of the houses shall be undertaken by an Approved Certifier selected from the Certification of Design (Section 6 – Energy) for Domestic Buildings Scheme - and from the Scottish Government Building Standards Division Certification Register.

The orientation, design and layout of the development has been taken into account so as to optimise the effectiveness of the photovoltaic panels. Existing and additional planting including hedging and landscaping will afford shelter as well as enhancing privacy and the general setting of the development.

11/7/2016 MH/DH Version 1.1.



front elevation



side elevation



rear elevation



side elevation



section AA



section BB



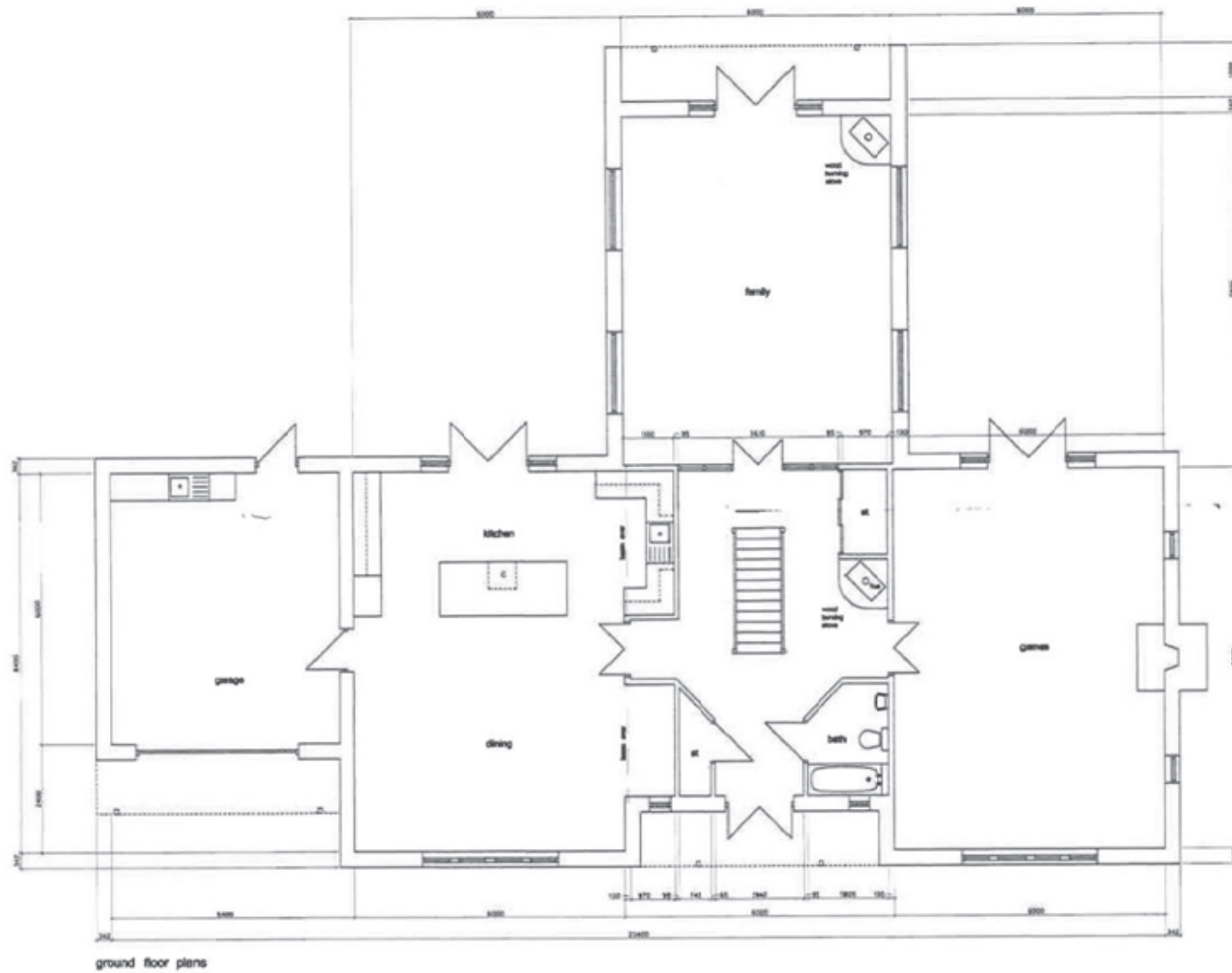
section CC

*July 2016*  
*PV PANEL POSITIONS*  
*ADDED.*

REVISION
JOB TITLE
PROPOSED ELEVATIONS AND SECTIONS PROPOSED DWELLING HOUSES AT BONHARD HOUSE BOTNESS FALKIRK
Scale 1:50 28th February 2016 Drawing Number 220422/04/2016
John Watson Architectural Consultants Ltd. 11 Maple Street Musselburgh East Lothian EH13 9PL Phone 01508 880328 E-mail john.watson@jwac.watson.co.uk







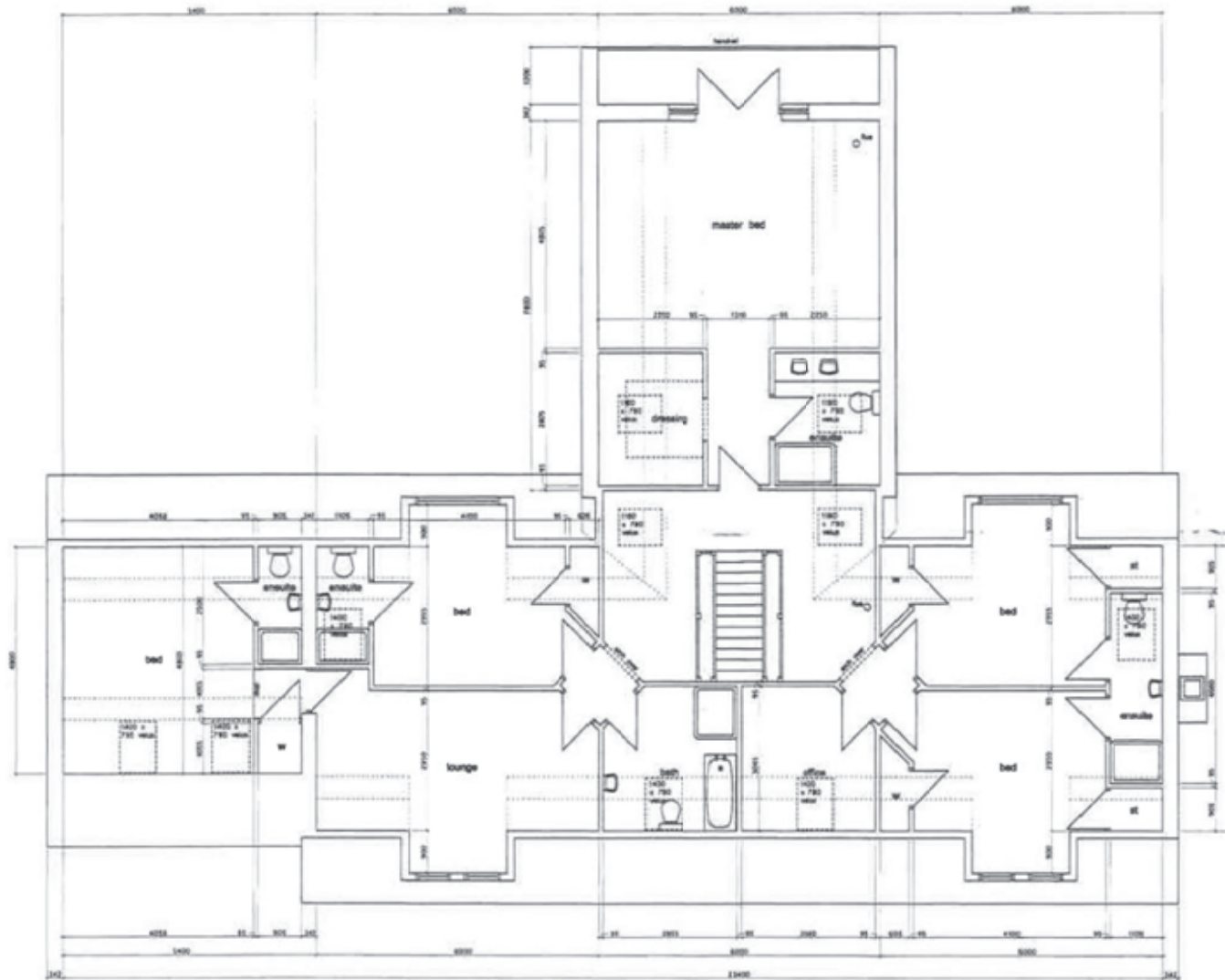
REVISIONS

PROPOSED  
GROUND FLOOR PLANS  
PROPOSED DWELLING HOUSES AT  
BONNARD HOUSE  
BONNARD  
FALGORE

Scale 1/50 8th February 2018  
Drawing Number JAWAC 00/7/2018

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first floor plans

REVISIONS

JOB NO.

PROPOSED  
FIRST FLOOR PLANSPROPOSED DWELLING HOUSES AT  
BONNARD HOUSE  
BONNARD  
FALKIRKScale 1:50 9th February 2016  
Drawing Number JWA/02/0016

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**NOW HOLDINGS LIMITED**

**PROPOSED 3 DWELLING HOUSES  
AT  
BONHARD HOUSE,  
Nr BO'NESS**

**TRANSPORTATION STATEMENT**

**JULY 2016**

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## CONTENTS

Executive Summary	
1. Introduction .....	Page 4
2. Site Description & Surrounding Road Network.....	Page 6
3. Road Design Standards .....	Page 7
4. Development Impact .....	Page 16
5. Conclusions .....	Page 18

## APPENDICES

Traffic Count Data .....	Appendix A
Drawing G120/SK01 .....	Appendix B
TRICS Trip Generation Data.....	Appendix C

## EXECUTIVE SUMMARY

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The purpose of this Transportation Statement is to assist decision makers to understand and evaluate the proposal for three dwelling houses at Bonhard House, near Bo'ness, in terms of its impact on the transport network in this area. Decision makers, in this context, means not only the appropriate technical officials in the Roads Authority, but also those people who live or work near the proposed development, and who may therefore have an interest in the proposals.

This report first summarises the nature of the proposed development, and examines the road and transport network in the vicinity of the site.

Section 3 examines junction design standards, in terms of the available visibility splays, and concludes that these are adequate for the speed of traffic passing the site. The road accident record demonstrates that there appears to be no inherent road safety difficulties.

The traffic impact has been examined using approved methodology. First, surveys were carried out to establish existing traffic flows over the course of a week. Traffic associated with the development has then been calculated and compared with those existing flows on the road network.

This examination shows that the development will have little impact on the operation of the surrounding road network.



## 1. Introduction

- 1.1 Now Holdings Limited submitted an application for Planning Permission (Ref P/16/0074/FUL) to build three dwelling houses on land at Bonhard House, near Bo'ness. The location of the site is shown in Figure 1.1.



**Figure 1.1  
Location Plan**

- 1.2 The site lies to the south of an unclassified road which runs from the A904 at Walton, westwards into Bo'ness at Borrowstoun. It does not form a main connection between settlements, so serves mainly the properties along its length, and is therefore very lightly trafficked. The route is used at peak times by through traffic, but even at those times, traffic flows remain low.
- 1.3 The road does not form part of the National Cycle Route network, although NCR76 crosses further to the east of the site, and is designated as a lightly-trafficked road suitable for cycling.
- 1.4 The proposed development includes a new access to serve two of the houses, using an existing gate at Wester Bonhard. The third house would take access from the existing access to Bonhard House.
- 1.5 The Council's Roads Development Unit responded to consultation on the application, and stated that *"The proposed development sits on the south side of Borrowstoun Road, which at this location is a derestricted unlit single track road with a number of blind bends and passing places created by default."*
- "Neither the proposed new access on the bend or the existing access can meet the required visibility splays which are 2.4 x 215 metres."*
- "On the grounds of road safety, it would be inappropriate to create a new access or to increase vehicle use on the existing access."*
- 1.6 The application was refused planning permission on 17 May 2016, and the fifth Reason for Refusal is stated as *"The proposed accesses to the site do not*

*meet visibility splay requirements and as a result would not be in the best interests of road safety. The proposal is contrary to the terms of Supplementary Guidance SGO1 - Development in the Countryside."*

- 1.7 In June 2016, the Applicants appointed Andrew Carrie Traffic and Transportation (ACTT) to prepare a Transportation Statement to demonstrate the implications of taking access to the development from this location, to support an application for Review of the decision to refuse Planning Permission.
- 1.8 ACTT have considered the proposal and have also visited the site before preparing this report. Further information may be available on various aspects assessed in this report and can be made available on request.

## 2. Site Description and the Surrounding Road Network

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- 2.1 The site is located adjacent to the unclassified road between the A904 at Walton, and Bo'ness at Borrowstoun. Although this is a public road, it is very lightly trafficked, serving mainly as a local access. The carriageway is approximately 3.5 to 4.0 metres wide, with verges along both sides. Photograph 1 shows the road as it approaches the site from the east. The existing private access can be seen on the left, and the new site access would be on the bend.



**Photo 1 – Existing Site Access Junction from the East**

- 2.2 This is a historical route, constructed well before current road design standards were applicable. The road therefore has a historic horizontal and vertical alignment, with forward visibility restricted at numerous bends. This, combined with the narrow road width, means that drivers in both directions travel at relatively low speeds, so that they can stop if necessary, within the distance they can see to be clear.
- 2.3 The road is subject to a National Speed Limit, ie 60 miles per hour for cars and light goods vehicles, down to 40 miles per hour for the largest goods vehicles. In practice, however, speeds are significantly lower, because of the character of the road.
- 2.4 All of the dwellings along the road have adequate space to accommodate car parking within the curtilages. There is no evidence of on-street parking on verges.

### 3. Road Design Standards

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- 3.1 There are a number of considerations to be taken into account when considering the provision of a new access on to an existing public road. In terms of road safety, the most important of those considerations, is to ensure that adequate visibility is available between drivers emerging from the side road, and drivers on the main road.
- 3.2 In that respect, the Council's Roads Development Unit have indicated in their consultation response that they would require visibility splays of 2.4m x 215 metres."
- 3.3 As set out by the Council, junction visibility splays are normally specified in the form "x metres by y metres", where "y" is the distance to which visibility should be available in both direction along the main road, and "x" is the distance along the centre line of the side road, from which the points at "y" should be visible.
- 3.4 The "y-distance" (ie the length along the main road) should be dependent on the speed of approaching traffic, and should be sufficient to ensure both that drivers emerging from the access are able to safely assess gaps in main road traffic, and that drivers on the main road are able to recognise the presence of the junction, and be able to stop safely if the emerging driver makes an error. This distance is therefore specified as the "Stopping Sight Distance" for the main road traffic, and this in turn is directly related to the design speed of main road traffic.
- 3.5 There are two "visibility standards" which can be considered to be relevant. The first is the current Falkirk Council "Design Guidelines and Construction Standards for Roads in the Falkirk Council Area", and the second is the Design Manual for Roads and Bridges, which is the appropriate standard to be applied to trunk roads throughout Scotland, England and Wales.

#### **Falkirk Council "Design Guidelines and Construction Standards for Roads in the Falkirk Council Area"**

- 3.6 Paragraph 5.2.7 on page 31 states that *"The X and Y distances (Table 7) are determined solely by the major road type and will be applied on this basis to junctions comprising combinations of road types not specifically listed in the table"*.
- 3.7 Table 7 makes it clear, however, that it applies only to junctions in urban areas. Paragraph 5.2.14 confirms that the table only applies where there is a speed limit of 40 miles per hour or less, and adds that *"where speeds are higher, and particularly in rural areas, Strategic Services (Infrastructure) will advise on appropriate standards"*.

## Design Manual For Roads and Bridges

- 3.8 The Design Manual for Roads and Bridges sets out the visibility distances in two separate technical directives. Table 3 of DMRB TD9/93 "Highway Link Design" sets out appropriate "Stopping Sight Distances" for a range of design speeds. Elsewhere, Table 7/1 of TD42/95 "Geometric Design of Major-Minor Priority Junctions" contains specific advice on visibility at junctions.
- 3.9 Paragraph 7.2 states that "Geometric standards for junctions are related to the traffic speed of the major road..."
- 3.10 Table 3.1 below summarises the stopping site distances and junction visibility distances (which are the same) for a range of design speeds. In DMRB, the design speeds are quoted in kilometres per hour, so Table 3.1 includes a conversion to equivalent miles per hour.

design speed		Visibility Distance
kph	(Equivalent mph)	
50	31.1	70
60	37.3	90
70	43.5	120
85	52.8	160
100	62.1	215
120	74.6	295

**Table 3.1 – Visibility Distances from DMRB**

- 3.11 It can be seen that the visibility splays of 215 metres specified by the Council in their consultation response on the would be appropriate for a "design speed" of approximately 62 miles per hour. While that would normally be the "default" for a junction on a road subject to National Speed Limit (60 mph for cars), it is evident, in any inspection, that traffic speeds on the road in the vicinity of the proposed site access are far lower than the national speed limit of 60 miles per hour.
- 3.12 Discussions with officers of the Council's Roads Development Unit have indicated that they are applying the above visibility to the speed limit, and not to the actual speed of traffic, as specified in DMRB. This is an over-cautious approach which can restrict access opportunities where traffic speeds are lower.

## Design Speed

- 3.13 The first step in determining an appropriate junction visibility standard applicable at any new junction, is to ascertain the appropriate Design Speed for that particular location, on which those junction visibility standards etc are based. DMRB contains advice on the derivation of "design speeds", based on measured speeds at the junction. The "design speed" is recommended as the 85<sup>th</sup> percentile speed, that is to say, the speed exceeded by only 15% of the traffic on that approach.



- 3.14 ACTT have obtained data from an Automatic Traffic Counter on the route, provided by the Council. The location of the counter is shown in Figure 3.1 below.



- 3.15 These recorded vehicle data for seven days, starting on Wednesday 26 February and finishing on Thursday 6 March 2016. The ATC results are included in Appendix A.
- 3.16 The counter automatically calculates average and 85<sup>th</sup> percentile speeds for the whole survey period, and those are summarised in Table 3.2 below.

Period	Eastbound Speeds		Westbound Speeds	
	Average	85 <sup>th</sup> ile	Average	85 <sup>th</sup> ile
24-hour day	41.5	48.7	38	44.8
Peak Period	44.6	50.4	39.7	45.7

**Table 3.2 – Recorded Speeds at Falkirk Council Counter**

- 3.17 There is evidence that traffic during peak periods is likely to be travelling perhaps 1 or 1.5 mph faster than at other times.
- 3.18 In discussions, Falkirk Council officers pointed out that some vehicles were recorded travelling at speeds up to 60 mph. While that is true, DMRB is clear that junctions are not designed for the highest speed recorded: it is the overall 85<sup>th</sup> percentile speed that should be taken as the Design Speed.
- 3.19 These speeds were recorded in variable weather conditions and no adjustment has therefore been applied to estimate the wet weather speed, which is taken as the “design speed”. The Design Manual for Roads and Bridges indicates that the “wet weather speed” should be measured, or, if the road is dry, that measured speeds should be adjusted to “wet weather” by subtracting 4 kilometres per hour (equivalent to 2.5 miles per hour).
- 3.20 The counter does not record weather conditions. If the road was dry throughout the survey, then the conversion to wet weather speed would result

in an adjusted 85<sup>th</sup> percentile “design speed” of approximately 46.2 miles per hour eastbound, and 42.3 miles per hour westbound.

- 3.21 In practice, weather conditions throughout the survey period were likely to be mixed, so it is not appropriate to reduce the measured speeds by the full adjustment amount of 2.5 miles per hour, as set out above. Equally, however, it is not appropriate to leave the measured speeds without any adjustment at all, as if the road had been wet for the whole survey duration.
- 3.22 Nevertheless, it is evident that traffic speeds are significantly below the national speed limit of 60 miles per hour, and a visibility splay of 120 metres to 160 metres would be more appropriate for a junction or access located in the vicinity of the Council’s counter.
- 3.23 The counter is some distance from the proposed site access, however, and the road at that location is relatively straight, with good forward visibility and little traffic coming the other way. At the site access, the road bends, and traffic cannot negotiate the bend at those same speeds.
- 3.24 Speeds have not been measured statistically at the proposed site access. Instead, a series of “vehicle-follow” measurements have been taken, as well as observations when driving the road with an appropriate level of caution. Based on these observations, it is considered that traffic does not negotiate the bend any faster than 30 miles per hour, with some drivers slowing to 25 mph or thereby.
- 3.25 It is appropriate, therefore, to examine junction visibility splays for those actual vehicle speeds. Reference to Table 3.1 earlier indicates that the Design Manual for Roads and Bridges specifies a visibility distance of 70 metres for this design speed (50 kph or 31.1 mph).
- 3.26 With regard to the “x-distance” from which this visibility should be available, DMRB specifies a set-back distance for new junctions, on new roads, of 9 metres, but acknowledges that *“In difficult circumstances, the “x” distance may be taken as a relaxation from 9 metres to 4.5 metres for lightly trafficked simple junctions, and in exceptionally difficult circumstances, to 2.4 metres”*. The Council have specified a set-back distance of 2.4 metres.

## **1. Existing Private Access**

- 3.27 Photograph 2 shows the visibility available looking east along the route from the existing private access, with the measuring tape at 2.4 metres. Photograph 3 shows the visibility towards the junction, from a point 70 metres to the east of the centreline of the existing access.
- 3.28 Visibility past the boundary wall is adequate, but is restricted by vegetation growing in the verge, which is part of the public road. Maintenance of the verge is, of course, the responsibility (indeed, the duty) of the council as roads authority, so the Applicant has no control over the provision of the necessary visibility splay.



**Photo 2 – Existing Access Visibility to east from 2.4 metres back**



**Photo 3 –Visibility to Existing Access from 70 metres east**

- 3.29 It would be incongruous for the Council to state that the visibility splay is inadequate, when it is the Council, and not the Applicant, who controls the visibility splay that can be made available.
- 3.30 Photograph 4 shows the visibility splay to the west, from that same existing access. It can be seen that traffic approaching from that direction would be clearly visible as it leaves the bend, 70 metres to the west.





**Photo 4 – Existing Access Visibility to west from 2.4 metres back**

## **2. Proposed New Access**

- 3.31 Photograph 5 shows the visibility available looking east along the route from the proposed access. It is evident that visibility extends for some distance in that direction.



**Photo 5 –Visibility to east of Proposed New Junction**

- 3.32 Photograph 6 shows the visibility towards the junction, from a point 70 metres to the east.



**Photo 6 – Proposed Access Junction from a Point 70 metres east of Junction**

- 3.33 Photograph 7 shows the visibility splay to the west, from the centreline of the proposed new access. The vehicle driving away, is approximately 90 metres from the junction. It can be seen that traffic approaching from that direction would be clearly visible as it comes over the crest in the road, beyond Wester Bonhard.





**Photo 7 – Visibility to north from proposed new access**

- 3.34 Photograph 8 shows the visibility available from that point, approximately 90 metres west of the junction.



**Photo 8 – Junction Visibility from 90 metres north of Junction**

- 3.35 These visibility splays are shown in more detail on Drawing No G120/SK/01, which is included as Appendix B of this report.

### **Accident Record**

- 3.36 The record of injury accidents indicates that there has been one injury accident, recorded as slight, along the whole length of the road in the last 5 years (2010 to 2014). This accident occurred in July 2013 at Kinglass Cottages, just as the road enters Borrowstoun. There have been two slight injury accidents on the A904 at or near the junction, but no other injury accidents

along the intervening road length, or along the north-south road which intersects it.

- 3.37 This accident record suggests that road users are exercising appropriate care in negotiating the historic road layout.
- 3.38 While local and government policy aims to reduce the occurrence of injury accidents all over the road network, this accident record is not indicative of a particular road safety difficulty at this location, and confirms that this route has now operated for some years with no apparent road safety difficulties.
- 3.39 It cannot be denied that, as the number of users of any length of road increases, there is a greater likelihood that one or more of them will make an error, which may lead to an accident. It would be unreasonable to assume otherwise. That in itself, however, does not constitute grounds to refuse any application which might lead to increased traffic flows, however marginal – if it did, it would effectively create a presumption against any increase in traffic or pedestrian flows, at any junction, anywhere. The test that must be applied, sensibly, is to ask whether any change in risk to road safety is real and / or significant. The next section of this report therefore examines existing traffic flows, and the likely impact of the proposed dwelling house.